VOLUME 3

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UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

Before The Honorable YVONNE GONZALEZ ROGERS, Judge

EPIC GAMES, INC.,	)	
	)	
Plaintiff,	)	NO. C-20-5640 YGR
	)	
vs.	)	Wednesday, May 5, 2021
	)	
APPLE, INC.,	)	Oakland, California
	)	
Defendant.	)	BENCH TRIAL
_____	)	
APPLE, INC.,	)	
	)	
Counterclaimant,	)	
vs.	)	
	)	
EPIC GAMES, Inc.,	)	
	)	
Counter-Defendant.	)	
_____	)	

REPORTER'S TRANSCRIPT OF PROCEEDINGS

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                          (Appearances continued.)

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                          Official Court Reporter

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        TRANSCRIPT PRODUCED BY COMPUTER-AIDED TRANSCRIPTION

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1	WEDNESDAY, MAY 5, 2021 8:00 a.m.

2   P R O C E E D I N G S

3   o0o

4   **THE CLERK:**   Remain seated. Court is in session.

5   Come to order.

6   **THE COURT:**   Good morning. Okay. Well,

7   unfortunately, we're all inside and we're having incredibly

8   nice weather. Sorry about that for all you East Coast people

9   who are used to being in the freezing rain and then incredible

10   heat on the East Coast. Our temperatures here are a bit more

11   mild. But at least we get out to see the sun at some point.

12   All right. Let's call your case, and we'll get started.

13   **THE CLERK:**   Calling Civil Action 20-5640, Epic Games,

14   Inc., vs. Apple, Inc.

15   Counsel, please state your appearances.

16   **MS. FORREST:**   Good morning, Your Honor. It's

17   Katherine Forrest for Epic.

18   **THE CLERK:**   The mics are on on the table.

19   **MR. EVEN:**   Good morning, Your Honor. Yonatan Even

20   for Epic.

21   **THE COURT:**   All right. So I think I asked for this

22   the other day. I really would like a comprehensive list, and

23   I don't -- I think I received one from Apple's folks. I

24   didn't receive it from Epic's.

25   Ms. Forrest, I obviously know your name. I know others,

1   but if we could get that.

2   **MS. FORREST:**   Okay. We will get that to you today,

3   Your Honor.

4   **THE COURT:**   All right. Thank you.

5   So, again, sir, your name?

6   **MR. EVEN:**   Yonatan Even, Your Honor.

7   **THE COURT:**   Even?

8   **MR. EARNHARDT:**   Good morning, Your Honor. Wes

9   Earnhardt for Epic.

10   **MR. NIU:**   Good morning, Your Honor. Jin Niu for

11   Epic.

12   **THE COURT:**   Mr. Niu, good morning.

13   Okay. The other side.

14   **MS. DUNN:**   Good morning, Your Honor. Karen Dunn for

15   Apple. I would like to introduce Apple's head of commercial

16   litigation, Heather Grenier, who is joining us at the table

17   this mornings.

18   **THE COURT:**   Good morning.

19   **MR. DOREN:**   Good morning, Your Honor. Richard Doren.

20   **MS. DANSEY:**   Good morning, Your Honor. Lauren

21   Dansey.

22   **MS. YANG:**   Good morning, Your Honor. Betty Yang.

23   **MR. DETTMER:**   Good morning, Your Honor. Ethan

24   Dettmer from Gibson Dunn.

25   **THE COURT:**   Good morning. Good morning, sir. And

1   then obviously good morning to Mr. Sweeney, good morning to

2   Mr. Schiller.

3   Let's see. In the audience I think we have Leah Nylen

4   Lynn from *Politico*.

5   **MS. NYLEN:**   Good morning, Your Honor.

6   **THE COURT:**   And then Joshua Sisco from *The*

7   *Information*.

8   **MR. SISCO:**   Good morning, Your Honor.

9   **THE COURT:**   We have --

10   **MR. RODRIGUEZ:**   Alberto Rodriguez from Sperling &

11   Slater representing the Developer class plaintiffs.

12   **THE COURT:**   Yes. Good morning, again, sir.

13   And the who else?

14   **MS. DERRINGER:**   Vickie Derringer.

15   **THE COURT:**   Hi, Vickie. Good morning.

16   Who else?

17   **MR. PETERS:**   Good morning, Your Honor. Mark Peters

18   of Turner Boyd for Nvidia.

19   **THE COURT:**   Okay. Mr. Peterson.

20   **MR. PETERS:**   Peters.

21   **THE COURT:**   Mr. Peters for Nvidia, which is one of

22   the witnesses we have up.

23   **THE CLERK:**   It dropped. I have to redial it.

24   **THE COURT:**   We are going to redial the public line.

25   While we are doing that, let's go ahead and get your list

1   of issues, to the extent you have any.

2   Ms. Forrest, we'll start with you.

3   **MS. FORREST:**   Your Honor, we don't have any issues

4   apart from just --

5   **THE COURT:**   Mic, mic, mic.

6   **MS. FORREST:**   We don't have any issues but are

7   prepared to talk about the exhibits that have been received,

8   and Jin Niu will be handling that from the Epic side.

9   **THE COURT:**   Okay.

10   **MR. DOREN:**   And, your Honor, no issues. And

11   Ms. Lauren Dansey will be handling the exhibits from our side.

12   **THE COURT:**   If the two of you will come to the mics,

13   I will tell you what I have, and you can tell me whether or

14   not it's consistent with what you have.

15   Why don't you go ahead and state your appearances. We

16   will start plaintiffs always.

17   **MR. EARNHARDT:**   Good morning, Your Honor. Jin Niu

18   for Epic Games.

19   **THE COURT:**   Good morning.

20   **MS. DANSEY:**   Good morning, Your Honor. Lauren Dansey

21   for Apple.

22   **THE COURT:**   All right. Good morning.

23   So as you know, our exhibits number from 1 to 5500. I

24   will go through these in numerical order, and then again, let

25   me know if you have something different.

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1   Thus far, I have admitted the following, and some of these

2   have not been uploaded because we're still dealing with some

3   of the sealing requests, but in the 100 series: 41, 42, 46,

4   47, 79, 80, 98, and 99.

5   **MS. DANSEY:**   Yes.

6   **MR. EARNHARDT:**   No objections.

7   **THE COURT:**   In the 100 series: 102, 104, 111, 113,

8   114, 115, 116, 119, 131, 140, 144, and 176.

9   **MS. DANSEY:**   We have the same.

10   **MR. EARNHARDT:**   No objections.

11   **THE COURT:**   All right.

12   In the 200 series: 250, 251, 252, 53, 54, 55, and 76.

13   **MR. EARNHARDT:**   No objections.

14   **MS. DANSEY:**   The same, Your Honor.

15   **THE COURT:**   All right. Nothing in the 300 series.

16   In the 400 series, I have 403, 404, 406, 407, 408, 411,

17   413, 14, 15, 16, 17, 18, 420, 421, 438. Yes?

18   **MS. DANSEY:**   Yes, Your Honor.

19   **THE COURT:**   Okay. And then we jump to 721. And then

20   I jump to the 800 series: 863, 64, 65, 69, 75, 77, 80, 82,

21   86, and 88.

22   **MS. DANSEY:**   Yes Your Honor.

23   **MR. EARNHARDT:**   That's consistent with our notes.

24   **THE COURT:**   Okay. I jump then to 2374 and then 2421,

25   2455, 56, and 2463.

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1   **MR. EARNHARDT:**   That is consistent with our notes,

2   too.

3   Epic will note that in the minutes printed yesterday,

4   Exhibit 2421 was omitted, but as Your Honor has pointed out,

5   that exhibit is now in.

6   **THE COURT:**   Okay.

7   So, Ms. Stone, I've got 2421 is admitted.

8   **THE CLERK:**   Okay.

9   **THE COURT:**   All right.

10   Yes, Ms. Dansey?

11   **MS. DANSEY:**   Yes.

12   **THE COURT:**   Did I say that right?

13   **MS. DANSEY:**   Ms. Dansey.

14   **THE COURT:**   Then we go to 2776, 77, 78, and 90.

15   **MR. EARNHARDT:**   No objections.

16   **MS. DANSEY:**   Correct, Your Honor.

17   **THE COURT:**   And we jump then to the 3000 series:

18   3068, 69, 3083, 94, and 98. Yes?

19   **MR. EARNHARDT:**   Correct.

20   **MS. DANSEY:**   Yes.

21   **THE COURT:**   Then 3125, 29, 66, 93 and 99, and 3293.

22   Yes?

23   **MR. EARNHARDT:**   No objection.

24   **MS. DANSEY:**   Yes, Your Honor.

25   **THE COURT:**   3359, 64, and 93.

1   **MR. EARNHARDT:**   Correct.

2   **MS. DANSEY:**   Yes, Your Honor.

3   **THE COURT:**   3433, 37, 48, 51, 64, 67, and 78.

4   **MR. EARNHARDT:**   That is also consistent with our

5   notes.

6   **MS. DANSEY:**   Yes, Your Honor.

7   **THE COURT:**   Great. 3500 series, so 3519, 36, 56, and

8   82.

9   **MR. EARNHARDT:**   Yes, Your Honor.

10   **MS. DANSEY:**   Yes, Your Honor.

11   **THE COURT:**   3620, 57, and 60.

12   **MR. EARNHARDT:**   Yes, Your Honor.

13   **MS. DANSEY:**   Yes, Your Honor.

14   **THE COURT:**   3700 series: 3712, 24, 43, 56, 64, 68,

15   74, 77, and 82.

16   **MR. EARNHARDT:**   Yes, Your Honor.

17   **MS. DANSEY:**   Yes, Your Honor.

18   **THE COURT:**   Okay. 3818 and 3822.

19   **MR. EARNHARDT:**   Yes, Your Honor.

20   **MS. DANSEY:**   Yes, Your Honor.

21   **THE COURT:**   3901 and 3951.

22   **MS. DANSEY:**   Yes, Your Honor.

23   **MR. EARNHARDT:**   Correct.

24   **THE COURT:**   And 4000 series, we have 10, 11, 18, 22,

25   36, and 72.

1   MR. EARNHARDT: Confirmed.

2   MS. DANSEY: Yes, Your Honor.

3   THE COURT: And then 4136, 42, 49, and 4270.

4   MR. EARNHARDT: Yes, Your Honor.

5   THE COURT: A lot of exhibits.

6   MS. DANSEY: Yes, Your Honor.

7   THE COURT: All right. 4300 series: 4304, 08, 22,

8   25, 33, and 61.

9   MR. EARNHARDT: Yes, Your Honor. Confirmed.

10   MS. DANSEY: Yes, Your Honor.

11   THE COURT: 4400 series: 19, 35, 57, 63, 77, and 93.

12   MS. DANSEY: Yes, Your Honor.

13   MR. EARNHARDT: Yes, Your Honor.

14   THE COURT: 4519, 4579.

15   MR. EARNHARDT: Confirmed, Your Honor.

16   MS. DANSEY: Yes, Your Honor.

17   THE COURT: Okay. And then I think the last one I

18   have is 5535.

19   MR. EARNHARDT: Confirmed, Your Honor.

20   MS. DANSEY: Yes, Your Honor.

21   THE COURT: Okay. Do you have anything else, Mr.

22   Niu?

23   MR. EARNHARDT: No, Your Honor.

24   MS. DANSEY: Your Honor, I believe the minutes were

25   also missing DX4036.

1   **THE COURT:**   4036?

2   **MS. DANSEY:**   Which you identified as an admitted

3   exhibit.

4   **THE COURT:**   Yes. Okay. So I have that.

5   So, Ms. Stone, we need to add 4036 to the minutes.

6   **THE CLERK:**   4306.

7   **MS. DANSEY:**   4036.

8   **THE CLERK:**   Thank you.

9   **THE COURT:**   Okay. So what we'll do now that we know

10   we're aligned on these, every day or every other day, I'll go

11   through the list, and we'll just update what the daily list is

12   or what the two days are. At the end of the trial then we

13   will go through everything again.

14   **MS. DANSEY:**   Yes, Your Honor.

15   **MR. EARNHARDT:**   Yes, Your Honor.

16   **THE COURT:**   So terrific. Thank you very much.

17   **MR. EARNHARDT:**   Thank you.

18   **MS. DANSEY:**   Thank you.

19   **THE COURT:**   Okay. Let's talk about the expert

20   reports.

21   **MR. DOREN:**   Your Honor, one other procedural matter

22   was brought to my attention. I just wanted to update the

23   Court on and that's the Samsung redactions since the Court

24   inquired yesterday. Apparently after the first exchange,

25   there has been a subsequent exchange, and so there needs to be

1   a bit of further discussion on the scope of redaction. We

2   will either reach an agreement today and submit it to you or

3   we will submit the dispute to you.

4   **THE COURT:**   Okay.

5   **MR. DOREN:**   Thank you.

6   **THE COURT:**   So I just need to ask my -- who is going

7   to address the expert issues?

8   **MR. EVEN:**   I am, Your Honor.

9   **THE COURT:**   At the mic, please. And from --

10   **MS. YANG:**   I will be, Your Honor.

11   **THE COURT:**   So in a trial that is not of this

12   magnitude, what we would typically do -- and let me just ask,

13   how many trials have you each tried? Mr. Even?

14   **MR. EVEN:**   This is probably my -- I want to say sixth

15   or seventh.

16   **THE COURT:**   Ms. Yang?

17   **MS. YANG:**   I believe this is my fourth, Your Honor.

18   **THE COURT:**   Okay. So assuming they were experts in

19   the trials that you tried, typically what we would do is you

20   have your reports, your depositions, the expert gets on the

21   stand, the parties typically stipulate that the rebuttal

22   expert gets to sit and listen in the audience, and then you

23   have testimony. Someone testifies, then the other one in the

24   other case puts on their opposing testimony, and then you have

25   rebuttal cases, and sometimes the expert comes back and

1   provides a rebuttal opinion.

2   Now, in typical cases, people are limited both in time and

3   money. Here that doesn't seem to be an issue. And so one

4   could imagine the ping-ponging that goes back and forth

5   between all of these experts. This isn't the typical case.

6   When I look at the objections to the reports, what I see

7   is some of this ping-ponging in written form. What I'm very

8   concerned about are experts who disavow in the first instance

9   and then attempt to try to come back. That seems to me to be

10   against the rules. And so those kinds of opinions where I

11   have a disavowal I will strike because you can't in the first

12   instance say that and then come back.

13   The mere rebuttal to the rebuttal I don't particularly

14   have an objection to, although it seems to me the appropriate

15   way to do it is to strike it in the expert report, and if you

16   have time at the end of the case and the resources and you

17   want to bring that person back to testify, that seems to be

18   the appropriate use of the rule. Otherwise, it's just not

19   fair. I mean, you know, my job is to try to make the playing

20   field fair, and people have taken liberties with the rules.

21   That's my overall perspective.

22   The other question, though, that I have with respect to

23   these experts -- and I said this before and I know I have had

24   conversations with lead counsel on the topic -- is that

25   experts do not get to opine without a factual basis for their

1   opinions. And having preread these reports, I am interested

2   and concerned about when I'm going to get the factual basis

3   for some of these opinions that seem to be reaching, I will

4   say.

5   So I'm concerned about admitting any written testimony

6   until I in fact know that the factual basis upon which the

7   experts' opinions rely is actually evidence in the case.

8   So those are my big-picture issues. I don't know if you

9   want to, at this point, argue now that you know it or if you

10   want to think about it, meet and confer, come back to tomorrow

11   and argue, but that's my big-picture approach to what your

12   current disputes are.

13   Mr. Even, we'll start with you.

14   **MR. EVEN:**   So thank you, Your Honor, first of all.

15   With respect to the first point that Your Honor raised, I

16   think where we are is I think both parties have treated these

17   not as reports but as written testimony which it's supposed to

18   be. I think both parties recognize that somebody can react to

19   things that are being said, especially if they're new, so we

20   had that I think on both sides.

21   We have some things that Apple has raised, for instance,

22   from Dr. Cragg and others. We have the same thing which we

23   actually did not object to because we thought that that is

24   fair game, Your Honor, but obviously if you look at Dr. Hitt's

25   direct testimony, for instance, he responds to Dr. Cragg, even

1   though they both -- Dr. Cragg only submitted a rebuttal

2   report, so none of that was in Dr. Hitt's rebuttal report

3   which was exchanged contemporaneously.

4   We have things like that in Dr. Rubin who addresses

5   Dr. Lee's -- Dr. Lee's opinions throughout his report, even

6   though Dr. Lee only submitted rebuttal. We have that, I

7   understand, with Dr. Hanssens. So I think both parties

8   treated that as something that can be done. I think that,

9   generally speaking, I have nothing great --

10   **THE COURT:**   If both treated it that way, then I

11   wouldn't have the objections that I have. So let's go through

12   them then.

13   With respect to Professor Athey --

14   **MR. EVEN:**   Yes, Your Honor.

15   **THE COURT:**   -- a response from Apple. I have to tell

16   you, I don't actually think this is a big deal. Her opinions

17   aren't new. She reviewed documents that Apple didn't in fact

18   unseal until afterwards, and so she added documents that

19   supported her view. Why is that so objectionable?

20   **MS. YANG:**   Your Honor, I think our view here is that

21   the disclosure requirements of Rule 26 apply not only to new

22   opinions but also the factual bases for those opinions.

23   **THE COURT:**   Right. But if you didn't disclose the

24   information, how was she supposed to respond?

25   **MS. YANG:**   She -- excuse me, Your Honor. I didn't

1   mean to interrupt.

2   I think that's an inaccuracy in the way Epic has

3   characterized the facts here. They have described the new

4   documents provided by Professor Athey as, quote, "newly

5   available evidence," and nothing could be further from the

6   truth.

7   All of the documents that are newly added by

8   Professor Athey were documents that were produced long before

9   the deadline for initial disclosures, and the only reason that

10   Professor Athey was not able to view them was because of her

11   relationship with the competitor of Apple's, an inability to

12   qualify to view that confidential information under the terms

13   of the protective order. And that is entirely an issue of

14   Epic's own creation, having first retained an expert with

15   these limitations and then failed to seek the designation

16   either through conferencing with Apple or through the Court.

17   **THE COURT:**   And how is it that there is any prejudice

18   given that her opinions don't change?

19   **MS. YANG:**   Well, Your Honor, there's an opportunity

20   for discovery about the bounds of her opinions and the ways

21   that the documents bear on those that we have not had an

22   opportunity to take discovery on. In particular,

23   Professor Athey has now been presented with a cherry-picked

24   set of eight specific documents from Apple's collection, and

25   we have not had the opportunity to depose her, for instance,

1   on how those eight documents were selected, whether she

2   considered other documents that would have -- that could bear

3   on her opinions or things of that nature that are contemplated

4   by Rule 26's requirement that an expert disclose all of the

5   bases for their opinions.

6   THE COURT: And why can't you do that on

7   cross-examination?

8   MS. YANG: Well, Your Honor, the disclosure deadlines

9   exist so that we can take an adequate deposition to have a

10   full and fair opportunity to do the cross-examination, and

11   that's why Apple has limited its objections in this case here

12   to only that narrow issue, undisclosed expert opinions to

13   which we have not had a full and fair opportunity to take the

14   discovery necessary to do a full cross.

15   THE COURT: Mr. Even, if those documents come into

16   evidence, why can't you just argue? Why do you even need her

17   to identify these -- I mean, what they seem to do is just

18   bolster her opinion.

19   MR. EVEN: I agree, Your Honor, they do bolster her

20   opinion, and I think it's important because one of the

21   critiques of her is that she did not look at any documents.

22   She was not able to look at documents --

23   THE COURT: Well, is it true that you could -- you

24   did not seek to have her authorized to -- well, let me just

25   make sure the record is clear. The documents then were

1   disclosed at an appropriate time and in advance of her

2   opinion?

3   **MR. EVEN:**   I believe most of these documents -- I'm

4   not sure about all of them. I did not scour them one by one,

5   and there were multiple productions here that went both before

6   and after so I don't have a real mapping of that.

7   **THE COURT:**   So you believe that counsel is

8   misrepresenting the record to me?

9   **MR. EVEN:**   No, Your Honor. I believe that most of

10   these documents -- that's what I was going to say. Most of

11   these documents probably were produced before. Professor

12   Athey used Word for Microsoft years ago. Under the current PO

13   she was not entitled to look at any documents that are highly

14   confidential from Apple, and all we did in the -- in her

15   testimony now is to say "I've now looked at them" because

16   there was multiple mass designation by both parties as part of

17   meet and confer towards trial, and she looked at them, and I

18   don't see how that is much different from an expert who sits

19   in the audience at trials many times and then goes up to the

20   stand and says, you know, "I have now seen or heard from so

21   and so and that confirms my testimony," but I don't think

22   there is any real surprise here. The documents are known.

23   Her opinions, as Your Honor said, have not changed at all.

24   And so I'm just not sure what the prejudice is.

25   **THE COURT:**   Why is it that you can't just argue it?

1   **MR. EVEN:**   I'm sorry, Your Honor. We can't just...?

2   **THE COURT:**   Why can't you as lawyers, if this is just

3 a bolstering and the evidence is in the record, just argue

4 what's in the documents?

5   **MR. EVEN:**   So we are arguing obviously these

6 documents. They have been -- some of them have been in the

7 opening. They are going to be -- they are in our findings of

8 fact, etc., but I think Dr. Athey is entitled to look at

9 whatever is in the record, and if there is something that she

10 finds after being critiqued for not looking at documents, she

11 is now looking at whatever documents are becoming available to

12 her, and if she finds documents that are relevant, I think

13 she's entitled to say, "I've now seen those documents," and

14 she shouldn't pretend that she hasn't.

15   **THE COURT:**   All right.

16   With respect to Professor Mickens, the objection is

17 denied. He's using a public -- he's just switching versions.

18 It's not a good objection.

19   Dr. Cragg. Comments with respect to Dr. Cragg.

20   **MS. YANG:**   Do you have a preference on who speaks

21 first, Your Honor?

22   **THE COURT:**   My earlier comments I think relate to the

23 rest of these, which is really a procedural one, which is, you

24 know, if they were sitting in the audience and they brought

25 them back on the stand, typically we would allow the testimony

1   to come in, and that applies to Dr. Cragg and Dr. Evans.

2   So why shouldn't we just allow it in terms of the written

3   testimony?

4   **MS. YANG:**   Your Honor, I think there are two

5   distinctions between having an expert react to evidence

6   sitting, you know, on rebuttal that comes in through the trial

7   versus the situation we have here, and the first one of those

8   is exactly what Your Honor pointed out in the first instance

9   which is that in the instances in which the expert is sitting

10   in the courtroom and listening to the evidence as it comes in,

11   that evidence is admitted into the record, and the witness is

12   not -- the expert is not sponsoring it, the witness has

13   considered it only in this live context, and, you know, we

14   have no dispute with that happening when these witnesses

15   testify live on the stand.

16   **THE COURT:**   But I did this as an accommodation to you

17   all. I allowed the direct testimony in writing as an

18   accommodation. So the rebuttal by including the rebuttal

19   within the -- within the word limitation that I -- that I gave

20   to you seems to me to be a benefit because you end up having

21   the testimony in writing in advance and now you can deal with

22   it. And if it would be allowed at trial, I don't understand

23   why it's so objectionable to do it in writing given the

24   accommodation and given the limitation on word count.

25   **MS. YANG:**   Thank you, Your Honor. And just to

1   clarify, you know, of course this issue only relates to a very

2   narrow subset of the written directs that are before the Court

3   right now. We certainly don't -- we have been narrow and

4   limited in the set of objections that we applied specific to

5   the opinions that are newly disclosed since the last round of

6   rebuttal reports which we think for this narrow set it is --

7   would be more efficient and give the parties additional

8   opportunity to test -- address these on a one-by-one basis.

9   **THE COURT:**   Are any of these paragraphs that are

10   listed -- is there any disavowal? That's really the only

11   thing that I think merits exclusion.

12   **MS. YANG:**   I'm sorry, Your Honor. I didn't catch the

13   last part of that. Would you mind repeating?

14   **THE COURT:**   Are there any paragraphs that you're

15   objecting to is the basis for the objection disavowal because

16   that's really the only thing that I think merits striking.

17   **MS. YANG:**   I don't believe so for Dr. Cragg,

18   Your Honor. I believe that's the focus of our arguments for

19   Dr. Lee.

20   **THE COURT:**   Okay. So tell me about Dr. Lee.

21   **MS. YANG:**   With Dr. Lee, Your Honor, it's the exact

22   circumstance you are describing where not only are we faced

23   with newly disclosed opinions that were not included in the

24   initial or rebuttal reports that -- both of which Dr. Lee

25   submitted, but in fact in his deposition, he expressly

1   disavowed knowledge of certain subjects that have now been

2   included in his written direct.

3   THE COURT: Specifically?

4   MS. YANG: Specifically, Your Honor -- and this is

5   all laid out in detail in our filing ECF 534. These fall into

6   a few different categories, the first one of which is expert

7   testimony regarding threat model, which is a term of art in

8   the industry that refers to a specific process by which

9   threats and remediations are identified.

10   In his deposition at lines 172:17 through 173:4, Dr. Lee

11   specifically said, "So, again, I never said I discussed threat

12   model in my report." And later on he testified again, "I

13   don't recall specifically discussing how to put specifically

14   enumerating threats." But in his written direct that has now

15   been -- that has now been offered, Dr. Lee comments on

16   Dr. Rubin's report and specifically discusses threat modeling

17   which is in direct contradiction to his testimony in the

18   deposition.

19   THE COURT: All right. A response.

20   MR. EVEN: So, Your Honor, I don't actually think

21   that's what Dr. Lee is doing. What Dr. Lee did was he said,

22   "I did not see anything that has to do with security in the

23   documents that were discussed" -- sorry -- "with any kind of

24   tying security to distribution" --

25   THE COURT: Mr. Even, what is "threat modeling"?

1   **MR. EVEN:**   Threat modeling, as I understand it, is

2   something that says, "Here is the exact threat that we are

3   facing, and based on that, here is what we are going to do."

4   And --

5   **THE COURT:**   Okay. I tell you what. With respect to

6   this, it sounds like I need to hear it live. So if there's an

7   industry term of art that you are battling over, then I have

8   to hear from the professionals to understand what it is that

9   they are actually saying to determine whether or not there's a

10   disavowal. Right?

11   **MR. EVEN:**   I appreciate that, Your Honor. If I may

12   just have one more word on that.

13   **THE COURT:**   Sure.

14   **MR. EVEN:**   I think all Dr. Lee is doing in his direct

15   is to say, "I've looked at these documents and they don't

16   mention threat modeling." And all he said in his deposition

17   is, "I didn't deal with threat modeling because of the same

18   issue, it's not in the documents." So I'm happy for

19   Your Honor to listen to the expert.

20   **THE COURT:**   Why do I need an expert to tell me that?

21   **MR. EVEN:**   Because -- because Professor Rubin --

22   sorry -- Dr. Rubin or Professor Rubin -- I'm not sure. I

23   apologize in advance. But Dr. Rubin says the first step is

24   doing this, and once you do this, you reach the conclusion

25   that you must have exclusive distribution. Professor Lee

1   says, "I looked at the documents of the people on the ground

2   at the time. They don't mention threat modeling as you say."

3   **THE COURT:**   Okay. Well, that's helpful.

4   Any response?

5   **MS. YANG:**   Yes, Your Honor. By even commenting on

6   the fact that Apple has not done what Dr. Lee considers to be

7   threat modeling, he is reaching judgments about what

8   constitutes threat modeling and how that affects the opinions

9   that he has rendered in his report. So we think Your Honor's

10   approach was the right one, which is to hear this live.

11   **THE COURT:**   Okay. Then with respect to the next set,

12   Epic's objections to Dr. Rubin.

13   **MS. YANG:**   I'm sorry, Your Honor. We have a couple

14   other items that fall into sort of the same category of

15   disavowals for Professor Lee. They are outlined in our brief

16   if Your Honor would prefer to consider that, but I'm also

17   happy to address any questions the Court has.

18   **THE COURT:**   No. Go ahead.

19   **MS. YANG:**   The second category for Dr. Lee,

20   Your Honor, is reference to a particular Nokia security report

21   where Dr. Lee in his deposition testified, "Did you review the

22   Nokia security report that comes out from time to time," and

23   he testified, "Again, I don't recall specific reports." But

24   then in his written direct, he now references as a specific

25   example a Nokia threat intelligence report cited by Dr. Rubin,

1   and that has been known to the parties for ages. And so we

2   viewed this as well another disavowal that Dr. Lee is

3   recanting on with his written direct.

4   **THE COURT:**   Okay.

5   Mr. Even.

6   **MR. EVEN:**   So, Your Honor, I think Professor Lee

7   probably cited 500 documents and Dr. Rubin cited more. He

8   said in his deposition and said he doesn't remember a specific

9   report. Nobody didn't put the report in front of him and

10   said, "Did you consider this? Do you recall this? What is

11   your view on this?" Or anything like that, even though Apple

12   obviously had the opportunity to do this.

13   So I don't think that by saying, "Sitting here today, I

14   don't remember a specific document," that means that he

15   disavowed the ability to then react to that document.

16   **THE COURT:**   Any response?

17   **MS. YANG:**   Your Honor, he was asked specifically

18   about the Nokia security report and said he didn't remember

19   specific reports. Had Dr.-- this was not a generic question

20   about the 500 citations. This was a reference to a very

21   specific report that was cited, and the answer that Dr. Lee

22   gave was that he didn't recall.

23   **THE COURT:**   Did Dr. Lee, though, do an analysis of

24   Dr. Rubin's analysis of the Nokia report?

25   **MS. YANG:**   He has critiques of Dr. Rubin's analysis

1   regarding the Nokia report.

2   **THE COURT:**   So how can he do that? It sounds like a

3   new opinion.

4   **MR. EVEN:**   I don't believe that's a new opinion,

5   Your Honor. I think Professor -- Dr. Rubin cited something

6   and said, "This shows X happened," and Dr. Lee essentially

7   went and said, "I don't think this report says what you think

8   it says or means what you think it means." That's about it.

9   **THE COURT:**   Okay. Anything else?

10   **MS. YANG:**   Yes, Your Honor. Two items more on

11   Dr. Lee.

12   The next one is Dr. Lee's testimony regarding his

13   disavowal of knowledge regarding software distribution in

14   China. In his deposition he testified, "You don't have an

15   understanding of software distribution in China," to which his

16   answer was, "In China specifically I don't recall."

17   But in the written direct, Dr. Lee has now opined on iOS

18   compared to Android platform in China and specifically lists a

19   number of factors that he describes as part of the Chinese

20   software distribution market, including a much more fragmented

21   Android ecosystem, much cheaper hardware, less sophisticated

22   device makers, and other factors, all of which he disavowed

23   knowledge of in his deposition.

24   **THE COURT:**   A response.

25   **MR. EVEN:**   So, again, we think this is within the

1   fair things that an expert can hear in court and go back and

2   think about, but, Your Honor, under your standards, if that's

3   beyond the scope, then we understand that.

4   **THE COURT:**   Okay.

5   All right. Now can we move to Epic's objections as to

6   Rubin.

7   **MS. YANG:**   We have just one more on Dr. Lee,

8   Your Honor, that we can cover quickly which is very similar in

9   concept so I won't belabor it, but essentially Dr. Lee

10 disavowed that he had been asked to compare any app store with

11 any other app store but then provided such comparisons in his

12 direct testimony.

13   **THE COURT:**   He said that he had not been asked?

14   **MS. YANG:**   Yes, Your Honor. He testified, "I wasn't

15 tasked to compare App Store with any other app store.

16   **THE COURT:**   And then he did.

17   **MS. YANG:**   And then he did. His direct testimony

18 reflects, "Aptoide was the safest Android marketplace, safer

19 than even the Google Play Store," and he is suggesting that

20 third parties have incentives to keep their stores secure and

21 may even do a better job than the platform operator.

22   **THE COURT:**   All right. A response.

23   **MR. EVEN:**   So I think this has something to do with

24 the sequence here and obviously with the next discussion that

25 we're going to have about Dr. Rubin and whether he can testify

1   to the incentives of other stores. But for now, what happened

2   here is that Dr. Rubin and our Professor Mickens filed their

3   opening reports. One of the arguments in the reports was that

4   other -- other stores can -- can replicate what Apple does in

5   the App Store in terms of app review. That was one of

6   Dr. Lee's statements in his rebuttal.

7   And in direct testimony, Dr. Rubin came back and said

8   well, other stores are not going to have the incentive. And

9   Dr. Lee, having seen that for the first time now, said some

10   stores have the incentives.

11   I can go back and find one if that's the issue, but that

12   was essentially a new thing that just came up.

13   **THE COURT:**   Okay. So that bleeds over to the next

14   issue.

15   **MR. EVEN:**   That bleeds over to the next issue because

16   we think, as Your Honor knows, that that opinion from

17   Dr. Rubin is probably improper.

18   **THE COURT:**   Let's discuss that issue then.

19   **MR. EVEN:**   So on that issue, Your Honor, it's not an

20   issue at all of beyond the scope or anything. We just think

21   it's beyond the expertise. We have Dr. Rubin, who is a

22   computer science person, and he's now opining on things like

23   what stores would or would not do in a hypothetical world

24   based on their business model, based on what he thinks their

25   incentives are --

1   **THE COURT:**   Isn't there just like one sentence or one

2   paragraph that we're talking about?

3   **MR. EVEN:**   I actually think it's a little more than

4   that, Your Honor. I think it's a couple of paragraphs.

5   **THE COURT:**   Okay.

6   **MR. EVEN:**   But, yeah, generally it's narrow. We're

7   not seeking to strike half his opinion or anything.

8   **THE COURT:**   So I guess you don't -- you don't quarrel

9   with the fact that Dr. Rubin is an expert in his industry;

10   right?

11   **MR. EVEN:**   In computer science?

12   **THE COURT:**   In computer science.

13   **MR. EVEN:**   No. We don't quarrel with that at all.

14   Nobody here has a quarrel on either one's experts in computer

15   science.

16   **THE COURT:**   But you think that people in the industry

17   can't comment on incentives in their industry? Only

18   economists can do that? Is that the argument?

19   **MR. EVEN:**   Well, he was not offered, as I understand

20   it, as an expert in the industry. He was an expert in

21   technology, Your Honor. That's what he does. He is not an

22   industry person. He is a professor at a university, as I

23   understand it.

24   **THE COURT:**   Well, I mean, I didn't go back and look

25   at his full report. I only looked at his written testimony,

1   but his written testimony has a paragraph about being an

2   expert in the industry. And, again, I know that the written

3   testimony is significantly shorter than your reports because

4   your reports take up my entire shelf in a bookshelf and the

5   written testimony only takes up about two-and-a-half inches.

6   **MR. EVEN:**   That goes back to Your Honor's comment

7   about limitations of money and time.

8   **THE COURT:**   Right. Exactly.

9   **MR. EVEN:**   So --

10   **THE COURT:**   So that's what I -- so that's what I

11   haven't checked, that is, is the scope of his expertise that

12   was disclosed -- I just have to say, you know, economists do

13   what economists do but industry people have an understanding

14   of their industry, so I --

15   **MR. EVEN:**   Absolutely, Your Honor. If somebody

16   brought an opinion from Mr. Sweeney about what the incentives

17   of app stores are, I would say that that's probably fair game.

18   **THE COURT:**   Or at least with respect to game app

19   stores because he has testified that he doesn't have an

20   understanding of others.

21   **MR. EVEN:**   That's fine, Your Honor. I actually think

22   we have a different view about what the store sells, but

23   that's okay.

24   But the point here is just that if somebody can come in

25   and talk about stores, that's fine, if that's what they do in

1   life. I'm not aware of anything in Dr. Rubin's background

2   that has to do with stores or distribution of apps or anything

3   like that. I believe he is a university professor who knows

4   technology and security, just like our experts are.

5   **THE COURT:**   I see the distinction you're making.

6   That's not the distinction I was understanding.

7   Go ahead, counsel. Respond.

8   **MS. YANG:**   Well, Your Honor, first of all, I would

9   note that that is an unduly narrow characterization of

10   Dr. Rubin's expertise, but more importantly, I think

11   Your Honor really hit the nail on the head. Dr. Rubin has not

12   performed any sort of economic analysis or financial modeling.

13   His testimony regarding security in app stores is based on his

14   knowledge in the industry of existing app stores and how they

15   have addressed or failed to address security threats that

16   plagued those stores, which are well within his industry

17   knowledge.

18   **MR. EVEN:**   May I, Your Honor?

19   **THE COURT:**   You may, but ultimately the question is

20   whether it helps the Court understand the issues. I think

21   that's all an expert is. An expert is only here to assist the

22   trier-of-fact with making decisions that perhaps the

23   trier-of-fact doesn't have the breadth of knowledge of the

24   expert. That's why we say frequently that -- and I think even

25   with respect to some of these, you know, it goes to -- it goes

1   to weight, not necessarily admissibility.

2   **MR. EVEN:**   And I appreciate that, Your Honor. But I

3   think in this case, what happened here is we had an opinion

4   from Dr. Rubin who said what Apple does is the secret sauce.

5   Nobody can replicate. Dr. Lee in his rebuttal said actually

6   people can replicate it. Here are the steps that you need to

7   do to replicate it, and then --

8   **THE COURT:**   He said that in a rebuttal, Mr. Even?

9   **MR. EVEN:**   In his rebuttal report.

10   **THE COURT:**   But then why is that? You have all known

11   since Project Liberty began, right, what the -- what Apple's

12   arguments are, so why didn't you have an expert opine on that

13   topic in the first instance?

14   **MR. EVEN:**   We did, Your Honor. That's Dr. Mickens

15   that Your Honor already ruled about an objection to him. So

16   Dr. Mickens did it --

17   **THE COURT:**   Why isn't that sufficient?

18   **MR. EVEN:**   I'm not saying that's not sufficient,

19   Your Honor. I'm saying that what happened here in terms of

20   the sequence is that Dr. Mickens opined on that in his

21   opening. Dr. Rubin said it's the secret sauce in his opening.

22   Dr. Rubin saw Dr. Mickens's opinion and came back in his

23   rebuttal and essentially said, "Here are a couple of things

24   that I think are unique to Apple, and, by the way, there is

25   another thing. Even if people could replicate it, we don't

1   think that they would replicate it." And that's what we think

2   is now beyond the scope because the "would" part is not -- is

3   not something that's in his expertise as to what people would

4   think and what their opinions are.

5   Your Honor is going to hear from fact witnesses that

6   obviously know the market. Your Honor is going to hear from

7   Steve Allison on our side who runs the store. Your Honor is

8   going to here from Mr. Schiller and others who are running

9   stores and know what stores do and don't do, but that's

10   just -- it seems odd for a computer science professor to come

11   in and say what are the incentives in a case that is full of

12   people who understand stores better.

13   **THE COURT:**   Okay. I understand.

14   Any comment?

15   **MS. YANG:**   No, Your Honor.

16   **THE COURT:**   All right. I will go back and check in

17   light of your arguments, and we'll try to get an order out.

18   **MR. EVEN:**   Thank you, Your Honor.

19   **MS. YANG:**   Thank you, Your Honor.

20   **THE COURT:**   Okay. I think we're -- we're ready to

21   move on to witnesses.

22   **AASHISH PATEL**,

23   called as a witness for the Plaintiff, having been previously

24   duly sworn, testified further as follows:

25   **THE COURT:**   Sir, you may be seated. Mr. Patel, I

1   will remind you that you are still under oath.

2   **THE WITNESS:**   Yes.

3   **THE COURT:**   Good morning.

4   **THE WITNESS:**   Good morning.

5   **THE COURT:**   Counsel, you may proceed.

6   **MS. DANSEY:**   Thank you, Your Honor. Good morning.

7   **CROSS-EXAMINATION**   **(resumed)**

8   **BY MR. SRINIVASAN:**

9   **Q.**   Good morning, Mr. Patel.

10   **A.**   Good morning.

11   **Q.**   Mr. Patel, do you recall that in March of 2020, one of

12   your colleagues notified Mr. Sweeney that Nvidia had figured

13   out how to make *Fortnite* work on iPhones outside of the App

14   Store?

15   **MR. EARNHARDT:**   Objection, Your Honor. Lack of

16   foundation.

17   **THE COURT:**   So it's -- he is just asking him if he

18   recalls. Overruled.

19   **MR. EARNHARDT:**   Can I also make a hearsay objection?

20   He is asking if he knows what someone else said to

21   Mr. Sweeney.

22   **THE COURT:**   Overruled.

23   Do you recall that conversation?

24   **THE WITNESS:**   I don't recall that conversation or the

25   date. If the question was did I read an email during the

1   deposition, there was some email, if that's what you are

2   referring to.

3   **BY MR. SRINIVASAN:**

4   **Q.**   Okay. Let's -- I would like to introduces DX3815. I

5   think Your Honor has it.

6   May I approach, Your Honor?

7   **THE COURT:**   You may. Let me figure out where...

8   **MR. SRINIVASAN:**   Your Honor, we also have a binder.

9   It's for you.

10   **THE COURT:**   You can hand it over in that direction.

11   Go ahead.

12   **BY MR. SRINIVASAN:**

13   **Q.**   Mr. Patel, do you recall this email exchange?

14   **A.**   I recall seeing this email during the deposition.

15   **Q.**   Do you recall testifying about this email?

16   **MR. EARNHARDT:**   Your Honor, I just renew the

17   objection. He has testified he has only seen this email. It

18   was shown to him during the deposition. And it's an email

19   from someone from Nvidia.

20   **THE COURT:**   First of all, stop. My rule is you give

21   me the legal objection. I don't want to hear argument.

22   **MR. EARNHARDT:**   Apologies, Your Honor.

23   **THE COURT:**   So why do I care if he recalls testifying

24   about the email? Sustained.

25

1   **BY MR. SRINIVASAN:**

2   **Q.**   Mr.-- let me ask you --

3   **THE COURT:**   Where is his deposition transcript?

4   **MR. SRINIVASAN:**   We can get you a copy of that,

5   Your Honor.

6   **THE COURT:**   Thank you.

7   **BY MR. SRINIVASAN:**

8   **Q.**   Let me make it simple for you, Mr. Patel. Does this

9   refresh your recollection as to the date of when you learned

10   that one of your colleagues at Nvidia informed Mr. Sweeney

11   that Nvidia had figured out a way to bring *Fortnite* to

12   iPhones?

13   **A.**   From my memory of the deposition, yes.

14   **Q.**   And do you recall that that was in March of 2020?

15   **A.**   The email says March of 2020, yes.

16   **Q.**   Okay. And let me just ask if you know who Mr. Fredrik,

17   Liljegren is?

18   **A.**   Yes.

19   **Q.**   Who is Mr. Liljegren?

20   **A.**   Nvidia has a Developer Relations Team who works with game

21   publishers. I believe Fredrik works with Epic.

22   **Q.**   Any reason why you don't believe this email exchange

23   between Mr. Liljegren of your company is not authentic?

24   **A.**   No. I have no reason to believe it is not authentic.

25   **Q.**   And do you recall that as corporate representative for

1   Nvidia, you testified that in fact this email chain did occur

2   and that Mr. Liljegren informed Mr. Sweeney that Nvidia had

3   figured out a way to bring *Fortnite* to iOS in March of 2020?

4   **A.**   I recall my -- my memory of the deposition is I recall

5   saying yes, that's what the email looked like.

6   **THE COURT:**   Did he testify as a 30(b)(6) witness?

7   **MR. SRINIVASAN:**   He did, Your Honor.

8   **THE COURT:**   So he testified on behalf of the

9   corporation?

10   **MR. SRINIVASAN:**   That's correct, Your Honor.

11   **THE COURT:**   Okay. Thank you. It would be helpful

12   for me when I know that.

13   **MR. SRINIVASAN:**   I'm sorry, Your Honor. We talked

14   about it yesterday. I should have reminded him today.

15   **Q.**   And Mr. Patel, in the middle of that email, did I read it

16   correctly where Mr. Liljegren informs Mr. Sweeney that, "I'd

17   like to demonstrate to you and your team two new upcoming ways

18   of playing *Fortnite* on GeForce Now." Did I read that

19   correctly?

20   **A.**   Yes.

21   **Q.**   The first thing he says there is, "*Fortnite* PC version

22   running on GeForce Now servers streamed using WebRTC protocol

23   on Safari on an iPhone. No app store." Did I read that

24   correctly?

25   **A.**   Yes.

1   **Q.**   That was March of 2020. Since that time, a number of Epic

2   games have become available on the iOS version of GeForce Now;

3   correct?

4   **A.**   Yes. I'm trying to understand Epic Games, games that are

5   on the Epic store and maybe some games that Epic publishes. I

6   don't know what your distinction there was.

7   **Q.**   Thank you for that. Games that Epic publishes. Some

8   games that Epic publishes are now on the GeForce Now servers

9   for iOS; correct?

10   **A.**   I believe so. I don't have a running list exactly, but I

11   believe there may be Rocket League.

12   **Q.**   And *Fortnite*, which is your most popular game on the

13   platform, though, is still not among those titles; right?

14   **A.**   That's correct.

15   **Q.**   And the plan currently is to offer the game in October of

16   this year; is that right?

17   **A.**   That was in an email -- in a meeting I think that was the

18   discussed date as a potential date of release.

19   **Q.**   Okay.

20   Your Honor, I would like to move DX3815 into evidence at

21   this point.

22   **THE COURT:**   Any objection?

23   **MR. EARNHARDT:**   No objection, Your Honor.

24   **THE COURT:**   3815 is admitted.

25   (Defense Exhibit 3815 received in evidence)

1   **MR. SRINIVASAN:**   Thank you, Your Honor.

2   Thank you, Mr. Patel. I would like to pass the witness.

3   **THE COURT:**   Okay.

4   Redirect?

5   **MR. EARNHARDT:**   Thank you, Your Honor. Wes Earnhardt

6   for Epic.

7   **REDIRECT EXAMINATION**

8   **BY MR. EARNHARDT:**

9   **Q.**   Mr. Patel, you were asked some questions about the playing

10   a game locally versus playing a game through a streaming

11   service like GeForce Now. I just want to ask a few clarifying

12   questions about that.

13   So if a user wants to play a game locally, the device the

14   user is using of course has to be working; correct?

15   **A.**   Yes.

16   **Q.**   But if a user is streaming a game, the data needs to take

17   an additional round trip to the data centers and back;

18   correct?

19   **A.**   The button presses from the user have to go to the data

20   center and the video has to come back, yes.

21   **Q.**   And that's different from what happens when a user is

22   playing a game locally?

23   **A.**   Yes.

24   **Q.**   Just to make sure I understand the sequence, does this

25   accurately describe the round trip that has to happen with the

1 data? The signal from the device is sent over the internet to

2 the data center; is that correct?

3 **A.** Yes.

4 **Q.** And then that data center, which can be hundreds of

5 thousands of miles away, processes what that signal means on

6 its computers; is that right?

7 **A.** Hundreds of thousands is large but maybe hundreds of miles

8 to thousands of miles, yes.

9 **Q.** I mean hundreds or thousands.

10 **A.** Sorry. I didn't hear you correctly.

11   **THE COURT:**   Gentlemen, one at a time, please.

12 **BY MR. EARNHARDT:**

13 **Q.** And then the PC and the Cloud interprets that signal and

14 performs the function in the game on the Cloud; correct?

15 **A.** That's correct.

16 **Q.** And then it converts that into a video feed; correct?

17 **A.** That's correct.

18 **Q.** And then that video feed is sent back over the internet to

19 the mobile device; correct?

20 **A.** That's correct.

21 **Q.** And then the mobile device has to decode that signal

22 correct?

23 **A.** That's correct.

24 **Q.** And then display that signal as a video to the user?

25 **A.** That's correct.

1 **Q.** And all of that has to happen for every action that's

2 taken in a game when it's streamed; correct?

3 **A.** That has to happen -- the majority of that has to happen

4 for every frame independent of actions. Those games will

5 generate frames without action happening.

6 **Q.** How many frames per second happen in -- does GeForce Now

7 support?

8 **A.** We support two modes. The majority is 60 frames per

9 second, but there is a competitive mode that is 120 frames per

10 second.

11 **Q.** So when a user is streaming, every step along the way of

12 that process has to be working well for the streaming service

13 to work well; correct?

14 **A.** Yes.

15 **Q.** And it's possible when a user is streaming that a poor

16 internet service could cause latency; correct?

17 **A.** Yes.

18 **Q.** Or the server being down could prevent the data from being

19 processed in the Cloud at all; correct?

20   **MR. SRINIVASAN:** Objection. Form.

21   **THE COURT:** You need to speak into the mic. Thank

22 you.

23   **THE CLERK:** Okay. The mic is on.

24   **THE COURT:** The objection is overruled.

25

1   **BY MR. EARNHARDT:**

2   **Q.**   There could be problems with the decoder which is what

3   transforms the video feed into something the mobile device can

4   see that could cause frame-rate interruptions; correct?

5   **A.**   There could be, yes.

6   **Q.**   Now, are those problems, potential problems of streaming

7   exacerbated when the streaming is done through a web

8   application as opposed to a native application?

9   **A.**   There are less control over web streaming, so, yes, you

10   could argue that in some instances, it's worse than a native

11   application decoding.

12   **Q.**   So, for example, with a web application, you are stuck

13   with the decoder that comes with the web browser; correct?

14   **A.**   That is correct.

15   **Q.**   And that can increase the latency, for example?

16   **A.**   It could, yes.

17   **Q.**   Now --

18   **THE COURT:**   And, remember, he is your witness.

19   Open-ended questions.

20   **MR. EARNHARDT:**   Okay.

21   **THE COURT:**   All of those, the objections as to form

22   is probably appropriate.

23   **MR. EARNHARDT:**   Thank you, Your Honor.

24   **Q.**   Was it your choice that GeForce Now be on iOS devices only

25   as a web application as opposed to a native application?

1   **A.**   No. We would have preferred a native application.

2   **Q.**   Does your web page provide an option for anyone with a

3   browser to navigate to it and operate GeForce Now?

4   **A.**   Yes.

5   **Q.**   But did you nevertheless put in the time and the money and

6   the effort to build native applications for Android, for PC,

7   for macOS and for set-top boxes?

8   **A.**   Yes. Nvidia invested in that.

9   **Q.**   And why did you do that?

10   **A.**   Because it gives us more control and helps provide a

11   better experience to the end user.

12   **Q.**   And you also put in the time and the money and the effort

13   to build a native application for iOS; correct?

14   **A.**   Yes, we did.

15   **Q.**   And why did you do that?

16   **A.**   Again, to have more control and a better experience for

17   the end user.

18   **Q.**   And is that native application available on iOS?

19   **A.**   No.

20   **Q.**   Why not?

21   **A.**   It was initially approved by Apple and then Apple pulled

22   or revoked the approval.

23   **MR. EARNHARDT:**   No further questions, Your Honor.

24   **THE COURT:**   Recross limited to the scope of redirect?

25

1   **RECROSS-EXAMINATION**

2   **BY MR. SRINIVASAN:**

3   **Q.**   Mr. Patel, just a few questions.

4   You described the process by which a streaming app

5   operates in terms of going from the user's device to the Cloud

6   and back. That process that you described is true whether the

7   streaming service is a native app or a web-based app; correct,

8   sir?

9   **A.**   That's correct. The majority of the process is the same.

10   **MR. SRINIVASAN:**   Thank you, Your Honor. No more

11   questions for Mr. Patel.

12   **THE COURT:**   Anything on that one question?

13   **MR. EARNHARDT:**   No, Your Honor. Thank you.

14   **THE COURT:**   All right, sir. You're excused. You may

15   step down.

16   **THE WITNESS:**   Thank you very much.

17   **THE COURT:**   Next witness.

18   **MR. EARNHARDT:**   Thank you, Your Honor. Epic calls

19   Lori Wright.

20   **THE COURT:**   Ms. Wright, is that you?

21   **THE WITNESS:**   Yes.

22   **THE COURT:**   Please come forward.

23   Thank you. Good morning.

24   **THE WITNESS:**   Good morning, Your Honor.

25

1   **LORI WRIGHT**,

2   called as a witness for the Plaintiff, having been duly sworn,

3   testified as follows:

4   **THE CLERK:**   Please be seated, and then would you pull

5   the microphone up and please state your full name and spell

6   your last name.

7   **THE WITNESS:**   Lori Wright, W-R-I-G-H-T.

8   **THE COURT:**   Good morning.

9   **THE WITNESS:**   Good morning.

10   **THE COURT:**   You may proceed.

11   **DIRECT EXAMINATION**

12   **BY MR. EARNHARDT:**

13   **Q.**   Good morning, Ms. Wright.

14   **A.**   Good morning.

15   **Q.**   Where are you currently employed?

16   **A.**   I am currently employed at Microsoft.

17   **Q.**   What is your position?

18   **A.**   I am the vice-president of business development for

19   gaming, media, and entertainment.

20   **Q.**   And how long have you held that position?

21   **A.**   Two years in October.

22   **Q.**   And how long have you been with Microsoft?

23   **A.**   A little over four years.

24   **Q.**   What are your responsibilities?

25   **A.**   I am responsible for our business and technology

1   partnerships for gaming, media, and entertainment with the

2   exception of our content partnerships which I do not have

3   responsibility for.

4   **Q.**   And when you say "content partnerships," what do you mean?

5   **A.**   I mean licensing our games through creators.

6   **Q.**   In your job, have you gained an understanding of

7   Microsoft's Xbox console business?

8   **A.**   I do have an understanding of it. I'm not directly

9   responsible for the console business.

10   **Q.**   And same question with respect to Microsoft's Xbox store

11   business. Do you have an understanding of how that business

12   operates?

13   **A.**   Yes. To varying degrees, depending on the question.

14   **Q.**   And have you gained an understanding in your role as

15   business development -- in business development as to the

16   markets in which those businesses participate?

17   **A.**   Yes. Again, depending on the question.

18   **Q.**   You mentioned partnerships. Have you worked with Apple in

19   your role at Microsoft?

20   **A.**   I have worked with Apple, yes.

21   **Q.**   In what context?

22   **A.**   I worked with Apple in this role in the context of an

23   attempt for us to bring our game streaming technology into the

24   Apple App Store.

25   **Q.**   Was that attempt successful?

1   **A.**   It was not.

2   **Q.**   At a very high level -- we will get into the details

3   later -- but why not?

4   **A.**   There were multiple policies that were in place in the App

5   Store that prevented game streaming from being possible to

6   deliver through the App Store. We were able to work through

7   some of the policy issues, and so all the policies changed,

8   but the broadest issue we were not able to resolve.

9   **Q.**   We'll come back to that later, but first let's just cover

10   from basics about Xbox.

11   So, first of all, what is an Xbox?

12   **A.**   Well, Xbox in its broadest sense is our products and

13   services for gaming. If you refer to Xbox as a piece of

14   hardware, that console is a box that delivers a gaming

15   experience to a community.

16   **Q.**   Okay. Is that an Xbox console?

17   **A.**   Yes. That's our series X.

18   **Q.**   What is the Xbox console marketed to consumers as being?

19   **A.**   A gaming experience.

20   **Q.**   Is the Xbox console designed to optimize any particular

21   functionality?

22   **A.**   It is designed to optimize the game experience.

23   **Q.**   Can A user take a picture on an Xbox console?

24   **A.**   No.

25   **Q.**   Could a user order an Uber through the Uber application on

1 an Xbox console?

2 **A.**   No.

3 **Q.**   Could you get driving directions while you were driving on

4 an Xbox console?

5 **A.**   No.

6 **Q.**   Can you do anything at all with an Xbox console if it's

7 not plugged into a power outlet?

8 **A.**   No.

9 **Q.**   If a user only owned an Xbox and not a smartphone, could

10 the user do any of the things I just asked you about: Take a

11 picture, order an Uber, get driving directions?

12 **A.**   They could not.

13 **Q.**   To be clear, does the Xbox console have a battery?

14 **A.**   No.

15 **Q.**   Does it have a screen?

16 **A.**   No.

17 **Q.**   How do you see the games?

18 **A.**   You have to plug it into a monitor or a PC, some display

19 screen.

20 **Q.**   Does the Xbox have speakers?

21 **A.**   It does not.

22 **Q.**   How do you hear the games?

23 **A.**   Through the display device or auxiliary sound.

24 **Q.**   Does the Xbox have touchscreen functionality to control

25 the games?

1   **A.**   The Xbox console does not have touch controls.

2   **Q.**   How do you control the games?

3   **A.**   Through a controller.

4   **Q.**   Can the Xbox console connect to the internet?

5   **A.**   Yes.

6   **Q.**   How?

7   **A.**   Over ethernet or WiFi.

8   **Q.**   Does it have a cellular chip?

9   **A.**   It does not.

10   **Q.**   Would it be possible for a user to play the Xbox console

11   without owning other equipment such as a TV, speakers,

12   ethernet connection?

13   **A.**   No.

14   **Q.**   What products, if any, compete with the Xbox console for

15   hardware sales?

16   **A.**   The most direct competitor for hardware sales would be the

17   Sony PlayStation.

18   **Q.**   Are there any others?

19   **A.**   There is the Nintendo Switch but to a much lesser extent.

20   **Q.**   Any others?

21   **A.**   No.

22   **Q.**   Okay. What about the iPhone?

23   **A.**   The iPhone as a competition?

24   **Q.**   Yes.

25   **A.**   We certainly don't view iPhone as a competing device.

1   **Q.**   What about the iPad?

2   **A.**   We do not view the iPad as a competing device.

3   **Q.**   In your role in business development at Xbox, do you try

4   to convince users to buy an Xbox console rather than an

5   iPhone?

6   **A.**   No.

7   **Q.**   Why not?

8   **A.**   Because we view the opportunity for gamers to -- they make

9   a choice to have the game experience with a console or they

10   play on a PC. Sometimes that's an "and." And they also want

11   to play on mobile devices. So they are additives. They are

12   not replacements.

13   **Q.**   That was going to be my next question. Do you view the

14   Xbox console as a replacement or substitute for the iPhone?

15   **A.**   No. I'm not aware of.

16   **Q.**   Do you view the Xbox console as a replacement or

17   substitute for the iPad?

18   **A.**   No.

19   **Q.**   Based on your experience, do Xbox users also have

20   smartphones?

21   **A.**   Yes.

22   **Q.**   So let's talk about the games available to play on Xbox.

23   First of all, does a video game have to be programmed

24   specifically for the Xbox for the Xbox console to be able to

25   run it?

1   **A.**   Yes.

2   **Q.**   And is there -- do you have a name for the type of games

3   that are typically developed for Xbox consoles?

4   **A.**   In its broadest sense, there are AAA games which are kind

5   of major blockbuster titles that get built for the Xbox or

6   individual developers who build games to be played. You know,

7   we typically refer to them just as console games.

8   **Q.**   And can you -- well, can you compare AAA or console games

9   to games that are available and written for mobile devices?

10   **A.**   For the most part, no. Mobile device games are typically

11   more casual. They're -- the vast majority are free to play

12   and then have in-app purchase mechanisms as part of them. So

13   there are certainly exceptions where a game can be played -- a

14   different version of the game but the same title can be played

15   on mobile and console. But, no, it is -- as a majority rule,

16   no.

17   **Q.**   Can you just describe the characteristics of what you call

18   AAA games or console quality games?

19   **A.**   These are games that, you know, have been -- the

20   developers have taken a design choice to build an experience

21   that they want to have rendered on, you know -- with all the

22   compute power, graphic fidelity, that this box provides. And

23   so there are a lot of immersive games, you know, very, you

24   know, thoughtful, long storyline games that are traditionally

25   the type of games that we have on console.

1   **Q.**   And relative to games that are designed for iOS, how do

2   those games compare in terms of the computing power required

3   to run them?

4   **A.**   They're just much, much larger size games. Like, you

5   know, 150 gig, 250, 450 gigabyte games. These are massive

6   game size files that run on the console. And so they take a

7   lot of graphics intensity and all sorts of other technical

8   requirements in order to render that experience on a console,

9   and you can't just move that over to an iPhone.

10   **Q.**   Just to level set for -- to make one thing clear, can

11   games that are specifically written to run on the Xbox console

12   run on the iOS operating system?

13   **A.**   The vast majority of those games cannot be run on the

14   iPhone natively. They cannot be downloaded onto the iPhone.

15   What I imagine we'll talk about later is there is an ability

16   to stream those games to an iPhone.

17   **Q.**   We will get into that later, and my question really is, if

18   a game is coded to run on the Xbox console, can that code

19   unchanged be imported to iOS and run?

20   **A.**   No. You have to rewrite the game.

21   **Q.**   And are there some games that by the very nature of there

22   size and complexity cannot be even recoded to run on mobile

23   once they've been designed for Xbox?

24   **A.**   Yes.

25   **Q.**   Can you give me -- can you give me an example?

WRIGHT – DIRECT / EARNHARDT

1   **A.**   Halo.

2   **Q.**   What is Halo?

3   **A.**   Halo is a game that is developed by our -- by Microsoft

4   Studios, and it is a game that cannot run -- that has been

5   built for the console. A large game. It could not run on

6   mobile.

7   **Q.**   Approximately how many gigabytes are required to download

8   the game Halo?

9   **A.**   I haven't looked. I think it's some -- if I remember, I

10   think it's about 150 gigabytes.

11   **Q.**   And what is the typical download size supported by an iOS

12   device?

13   **A.**   I think the biggest games are in the 3-to-4 gigabyte range

14   with an average of 35, 45 meg, if I remember correctly.

15   **Q.**   So roughly Halo is 50 times too large to run on iOS?

16   **A.**   Yeah.

17   **Q.**   Are there other examples like Halo that are too big or too

18   intensive to run natively on iOS?

19   **A.**   A lot of -- many, many of our titles would either consume

20   the entire storage capacity or not run at all on those, so,

21   you know, we have a long list of titles.

22   **Q.**   Okay. Looking at it from the other direction, are there

23   games available on iOS that are not available to play on the

24   Xbox console?

25   **A.**   Sure.

1 **Q.**   And what types of games are those?

2 **A.**   They're typically casual games that have been written for

3 mobile or someone has taken a choice to write a core mobile

4 game that will work well on an iPhone.

5 **Q.**   So in your experience, why does a developer choose to

6 develop a game simply for the iPhone and not for the Xbox?

7   **MR. SRINIVASAN:**   Objection. Foundation.

8   **THE COURT:**   Lay some foundation.

9   Sustained.

10 **BY MR. EARNHARDT:**

11 **Q.**   Do you have an understanding as to the process that

12 developers go through in deciding how to design their games or

13 for which console?

14 **A.**   I don't have a depth understanding. I know that there are

15 design choices and platform choices that have to be made on

16 these, and there are games that again you take a choice to go

17 and write this game to run on console or you're just going to

18 do like an easier game and put in, you know, free-to-play

19 hooks throughout it for monetization or you are going to do a

20 sandbox game where like a Roblox game where it's a single app

21 with lots of games inside of it.

22 **Q.**   Let me actually just show you one document.

23   **THE COURT:**   Ms. Wright, while he is getting that, let

24 me ask, do you -- how many of the games are developed by your

25 in-house Microsoft folks versus third parties?

1   **THE WITNESS:**   That's a great question. I don't know

2   the exact split. I would venture a guess, and that would be

3   probably there is roughly 3500 games in -- that we play on an

4   Xbox and there are probably I would say less than a hundred

5   that are developed by Microsoft.

6   **THE COURT:**   Okay. So principally third party?

7   **THE WITNESS:**   Yes.

8   **THE COURT:**   Okay. Go ahead.

9   **MR. EARNHARDT:**   Your Honor, would you like a binder

10   of these exhibits?

11   **THE COURT:**   Sure. I mean, I think we pulled them

12   before.

13   **BY MR. EARNHARDT:**

14   **Q.**   If you could turn in your binder to Exhibit PX2476. Just

15   let me know when you're there.

16   **A.**   Okay. I'm there.

17   **Q.**   What is the title of this presentation?

18   **A.**   "GGPD Portfolio Team, Executive Portfolio Update."

19   **Q.**   And GGPD is Global Gaming Partnership and Development?

20   **A.**   That's correct.

21   **Q.**   What is it date of this presentation?

22   **A.**   August of 2020.

23   **MR. EARNHARDT:**   Your Honor, I move to admit PX2476.

24   **THE COURT:**   Is there objection?

25   **MR. SRINIVASAN:**   No objection.

1   **THE COURT:**   2476 is admitted.

2   (Plaintiff's Exhibit 2476 received in evidence)

3   **BY MR. EARNHARDT:**

4   **Q.**   If you could turn to the first page. Now, be very

5   careful. There is information that has been redacted from

6   this, so don't read any of the information here. Just try to

7   listen carefully to my questions, and I will be very careful

8   in what I ask you about.

9   **A.**   I'm sorry. Are we on the 76.4, "Worldwide Xbox One

10   Releases"?

11   **Q.**   Yes. Where it says "Worldwide High Profile Xbox One

12   Releases." Do you see that?

13   **A.**   I do.

14   **Q.**   Do you see there are different columns on this chart for

15   third quarter, fourth quarter, and first quarter?

16   **A.**   I do.

17   **Q.**   Each column shows the Xbox One releases in that quarter or

18   expected for that quarter?

19   **A.**   Correct.

20   **Q.**   So I just want to take an example. If you look at the

21   second quarter -- I'm sorry -- the fourth -- withdrawn.

22   If you look at the second column, the fourth quarter for

23   calendar year 2020, and you take a look at the second title,

24   FIFA 21?

25   **A.**   Uh-huh.

1   **Q.**   Do you see under that, there are a series of -- there's a

2   series of information?

3   **A.**   Uh-huh.

4   **Q.**   October 2020. What -- that's the anticipated release

5   date; is that right?

6   **A.**   I'm sorry. You are asking the fourth quarter? Is that

7   the anticipated release date?

8   **Q.**   Well, under FIFA 21, it has the month October 2020. Do

9   you see?

10   **A.**   Yes.

11   **Q.**   Next to that it says "Electronic Arts." What is that?

12   **A.**   Electronics Arts is the publisher of FIFA 21.

13   **Q.**   Next to that it has a series of two-letter acronyms. Do

14   you know what those are?

15   **A.**   Yes. Those are the countries that will release them.

16   **Q.**   What are those countries for FIFA 21?

17   **A.**   U.S., Europe, Australia, Latin America.

18   **Q.**   Next to that there are a series of three or two digit

19   acronyms. Do you see those?

20   **A.**   I do.

21   **Q.**   What do those those show?

22   **A.**   Those show the platforms that the games will release on.

23   **Q.**   What are those platforms for FIFA 21?

24   **A.**   Xbox One, PlayStation 4, Nintendo Switch, and PC Xbox

25   version post launch.

1   **Q.**   And iOS is listed there?

2   **A.**   It is not.

3   **Q.**   Okay. Just look, if you can, through all the games listed

4   on this chart and tell me if you see iOS listed for any of

5   them.

6   **A.**   I do not.

7   **Q.**   If you turn to the page 2476.6. Do you see this chart

8   "Titled High Profile Competitive Console Exclusives"?

9   **A.**   I do.

10   **Q.**   Which video game platforms are listed on this slide?

11   **A.**   PlayStation and Nintendo Switch and then competitive

12   stores, which would be PC stores.

13   **Q.**   Such as the Epic Games Store and Google?

14   **A.**   Epic Games or Stadia. I only see Epic and Stadia here.

15   Yes. Epic and Stadia.

16   **Q.**   Is IOS listed anywhere on this page?

17   **A.**   It is not.

18   **Q.**   You can put that away.

19   So let's focus on where consumers can buy Xbox games.

20   Where can a consumer buy a video game to run on an Xbox

21   console?

22   **A.**   On an Xbox console, you can buy a disk from a retailer, so

23   you can go out to Wal-Mart, Best Buy, by a physical disk that

24   can run, or you can -- from the Xbox console, there is the

25   Xbox Store where you can sign up to the Game Pass subscription

1   to get access to a broad set of titles, a hundred-plus titles,

2   or you can download any of those individual titles to be

3   played on the Xbox.

4   **Q.**   Okay. So let's focus on the Xbox Store. Can you explain

5   in just a bit more detail what is the Xbox Store?

6   **A.**   The Xbox Store is a curate store for the Xbox console that

7   gives you the option to see the titles, buy the titles, or

8   sign up to a subscription, as well as, you know, get other --

9   I guess not in the stores, so I'll leave it at that.

10   **Q.**   How can a user access the Xbox Store?

11   **A.**   You access the Xbox Store through -- if we're speaking

12   purely on console, you access the Xbox Store -- it's part of

13   the integrated experience, so when you go in to load up

14   your -- your Xbox, you see your community, you see your store,

15   you see the games you may already own.

16   **Q.**   And who shops at the Xbox Store?

17   **A.**   People who own an Xbox.

18   **Q.**   Does the Xbox Store offer games that can be run on any

19   platform other than the Xbox?

20   **A.**   In the Xbox Store for console, no, not that I'm aware of.

21   **Q.**   Can a user buy a game from the Xbox Store and based on

22   that purchase, run that game natively on the iPhone?

23   **A.**   No.

24   **Q.**   Could the user go to the iPhone and purchase a game and

25   based on that purchase, run it natively on an Xbox console?

1   **A.**   No.

2   **Q.**   Does the Xbox Store compete for transactions with the

3   Apple App Store?

4   **A.**   No.

5   **Q.**   In your role in business development at Xbox, do you have

6   a preference for whether a potential user buys a game on iOS,

7   or are you agnostic as to whether that user buys a game on

8   iOS?

9   **A.**   I -- given that they're not many at all of our games that

10   run on iOS that are competing games, then we don't -- we're

11   agnostic. If you want to buy a game on iOS, wonderful.

12   **Q.**   And how does that compare to whether a user buys a game on

13   the PlayStation?

14   **A.**   I think if you've made a choice to buy a game on -- if you

15   made a choice to buy a PlayStation, then you're buying games

16   from Sony. That is taking away from you being an owner of an

17   Xbox for the most part and buying games through the Xbox

18   Store.

19   **Q.**   And that's different from iOS?

20   **A.**   It is. Sony is our direct competitor.

21   **THE COURT:**   I want to remind you again, open-ended

22   questions.

23   **MR. EARNHARDT:**   Okay. Thank you, Your Honor.

24   **Q.**   Are there some specific games that are available on both

25   the Xbox system and iOS in different forms? The same game

1   title but in different forms?

2   **A.**   Xbox system and iOS in different forms, yes. There is

3   several games that have been -- that have an iOS version of

4   them written.

5   **Q.**   So, for example, Minecraft?

6   **A.**   Correct.

7   **Q.**   Or Roblox?

8   **A.**   Correct.

9   **Q.**   Used to include *Fortnite*?

10   **A.**   Correct.

11   **Q.**   For those types of games, do you view sales on iOS as a

12   substitute for sales on the Xbox platform?

13   **A.**   No.

14   **Q.**   Do you believe the Xbox Store competes with the Apple App

15   Store for transactions in even those types of games?

16   **A.**   I don't believe so. I don't believe it's an either/or

17   choice. I believe if you're playing Minecraft on your mobile

18   phone, then you're buying, you know, things within iOS, you --

19   that, you know, is valuable to the Microsoft business. At the

20   same time if you are choosing to play Minecraft on the Xbox

21   console at that point in time, that's fine as well.

22   **Q.**   If a user buys a game on the iPhone, does Microsoft

23   believe that makes it unlikely that the user will buy the same

24   game on the Xbox if the user owns an Xbox?

25   **A.**   No.

WRIGHT – DIRECT / EARNHARDT

1   **Q.**   And what are some reasons why Microsoft believes that

2   users would be likely to buy games on both platforms?

3   **A.**   If you look at the market data, the data that I have seen,

4   there are roughly three billion gamers in the world.

5   Ninety-six percent of those gamers play games on a mobile

6   device. Also more than 50 percent of those gamers play on

7   another device, and so what you have to believe from that is

8   that people are playing games on mobile, but they are also

9   playing on a complementary device. So if you are buying games

10   on one, you are buying stuff on another, that it's additive.

11   **Q.**   Could a user play a game on her Xbox console while she's

12   waiting in line at the DMV?

13   **A.**   No.

14   **Q.**   Could she potentially do that with an iPhone?

15   **A.**   Of course.

16   **Q.**   One final question on this topic and then we'll change

17   topics.

18   When you're planning your business development strategy at

19   Xbox, do you factor in the following scenario:

20   A user is playing a game on a device, on a non-Xbox

21   platform. They see something in the game that they want to

22   purchase. They choose not to make the purchase then and there

23   from the device that they're playing on; instead, they stop

24   playing the game, close out of the game, move to wherever

25   their Xbox is, turn it on, boot it up, log into the game on

1   their Xbox console or their friend's Xbox console, make the

2   purchase for the item in the game that they were playing,

3   power down the Xbox, go back to the other device, and then

4   play the game with the item they just purchased. Do you

5   factor that in?

6   **A.**   No. That's a very unlikely scenario.

7   **Q.**   Switching topics a bit.

8   For apps purchased through the Xbox Store, games purchased

9   through the Xbox Store, does Microsoft charge developers a

10   commission?

11   **A.**   Yes.

12   **Q.**   And what is Microsoft's standard commission on the Xbox

13   Store?

14   **A.**   Our published commission is 30 percent.

15   **Q.**   Does Microsoft capture a meaningful share of the revenue

16   anywhere else in the Xbox ecosystem?

17   **A.**   I'm not sure I understand the question.

18   **THE COURT:**   Me either.

19   **BY MR. EARNHARDT:**

20   **Q.**   Let me clarify.

21   **THE COURT:**   Ask open-ended questions and then I can

22   get an answer. Go ahead.

23   **BY MR. EARNHARDT:**

24   **Q.**   Does Microsoft -- how much margin does Microsoft earn on

25   the sale of the Xbox consoles?

1   **A.**   We don't. We sell the consoles at a loss. We subsidize

2   every console.

3   **Q.**   If Microsoft sells hardware consoles at a loss, why does

4   Microsoft keep selling them?

5   **A.**   Because our business model is set up so that we can

6   deliver an end-to-end gaming experience. The hardware is

7   critical to us delivering that gaming experience, and

8   therefore we know we need to -- for gamers to be able to have

9   a console. And we subsidize that and then we make money over

10 the long run on the game sales or the game subscriptions.

11 **Q.**   Just to be clear, does Microsoft ever earn a profit on the

12 sale of an Xbox console.

13 **A.**   No.

14 **Q.**   How does that compare to whether Apple earns a profit on

15 the sale of an iPhone?

16   **MR. SRINIVASAN:**   Objection. Foundation.

17   **THE COURT:**   Sustained.

18 **BY MR. EARNHARDT:**

19 **Q.**   How does the fact that you testified to, that Microsoft

20 loses money on the sale of its consoles, relate to the 30

21 percent commission that Microsoft charges in the Xbox Store?

22 **A.**   Our business model is such that we subsidize the console.

23 We charge a 30 percent commission for the games to be able to

24 run in that community so that the players can access the

25 games, and in the long run, that pays for the console.

1   **Q.**   If Microsoft did not charge a commission on the Xbox

2   Store, would it make money or lose money in its Xbox business?

3   **A.**   We would lose money. It would -- yeah. It would be an

4   unprofitable business.

5   **Q.**   Now, Microsoft also runs something called the Windows

6   Store on PC; correct?

7   **A.**   That's correct.

8   **Q.**   What is the Windows Store on PC?

9   **A.**   It is a Windows Store that runs on PC that is -- has

10   applications and games and other things that you might expect

11   in a PC store.

12   **Q.**   So what sort of apps does Microsoft sell on the Windows

13   Store?

14   **A.**   All sorts of apps. We have productivity apps, we have

15   game apps, we have, you know, other media and entertainment

16   apps for download, so a variety.

17   **Q.**   What is the current commission that Microsoft charges on

18   the Windows Store?

19   **A.**   The commission has been 30 percent on the Windows Store.

20   We just announced reducing that to 12 percent.

21   **Q.**   And when will that become effective?

22   **A.**   August, I believe.

23   **Q.**   And why is Microsoft changing the commission it charges on

24   the Windows Store?

25   **A.**   There are multiple stores that compete on Windows. There

1   are, you know -- there is the Epic Games Store, there is the

2   Steam Store, there is the ability to download the games

3   directly from the publishers themselves, which happen to be

4   the vast majority. And so for our, you know, Windows Store,

5   in order for it to be competitive and relevant, we needed to

6   reduce the commission.

7   **Q.**   Are you aware of any plans to change the commission

8   charged by Microsoft on the Xbox Store?

9   **A.**   No.

10   **Q.**   Does Microsoft allow competing app store on its Xbox

11   platform like it does on Windows?

12   **A.**   No.

13   **Q.**   Does Microsoft allow developers to distribute their games

14   directly to consumers on its Xbox platform like it does on

15   Windows?

16   **A.**   No.

17   **Q.**   Can you explain to me then the ways the Xbox ecosystem is

18   different from the Windows ecosystem?

19   **A.**   The Xbox ecosystem is much, much smaller. I could share

20   the numbers but would prefer to do that in a closed setting,

21   but the numbers are, you know, materially smaller versus the

22   billions of PC or Windows devices, I should say, that are out

23   there.

24   And so, you know, the way that they are different in the

25   gaming world is that the Xbox Store is this curated,

1   custom-built, end-to-end hardware-to-software experience. The

2   Windows world is, you know, an open platform with lots of

3   different scenarios that people use these devices for with

4   the, you know, open browser where you can go access anything

5   that you may want, download it onto the device or use

6   alternative stores beyond Microsoft's.

7   **Q.**   Have you heard the terms "special purpose platform" and

8   "general purpose platform"?

9   **A.**   I've heard those. I think the deposition was one of the

10 times that I first heard them.

11 **Q.**   Do you have an understanding of what those terms mean?

12 **A.**   Sure.

13 **Q.**   Which is the Xbox ecosystem, special purpose or general

14 purpose?

15 **A.**   Special purpose.

16 **Q.**   Which is the Windows ecosystem, special purpose or general

17 purpose?

18 **A.**   General purpose.

19 **Q.**   Now, you testified --

20   **THE COURT:**   What are they? What is your

21 understanding? It's not really relevant if I don't understand

22 your understanding.

23   **THE WITNESS:**   Sure.

24   So a special purpose platform is where you are basically

25 building a hardware, a piece of hardware to do a specific

1   thing, right, just like you would, I guess, in the Apple

2   scenario, you would talk about the iPod was designed to play

3   music. That was really what it did.

4   The Xbox is designed to give you a gaming experience.

5   People buy an Xbox because they want to play games.

6   **THE COURT:**   So does it have to be just one thing?

7   **THE WITNESS:**   Typically. I think so. It's like

8   serving a special -- a very targeted, special intent.

9   **THE COURT:**   Okay. So anything beyond one is general?

10   **THE WITNESS:**   I think -- I can't think of an example

11   not, but I think if it's a genre, games, music, you know,

12   things that you're like I'm buying this to do this particular,

13   like, very targeted theme, that's how I -- that would be my

14   definition of "special purpose."

15   **THE COURT:**   And then how would you define "general"?

16   **THE WITNESS:**   General is where you're buying

17   something because it can do a wide variety of things and that

18   changes every day. As new ideas are getting created, new

19   types of use cases are happening, you know, a new type of

20   technology gets invented, you can go and now expand to that

21   general purpose platform to go into that thing, so I think a

22   general purpose in the sense of like it can do a bunch of

23   things already, and it has the aperture to do a bunch more

24   things.

25   **THE COURT:**   Okay. Thank you.

1   Proceed.

2   **MR. EARNHARDT:**   Thank you, Your Honor.

3   **Q.**   You testified earlier that you attempted to partner with

4   Apple to bring Microsoft's Cloud gaming service to iOS;

5   correct?

6   **A.**   That's correct.

7   **Q.**   Did you gain knowledge of, at least at a general level,

8   how the iOS ecosystem works from that experience?

9   **A.**   I did.

10   **Q.**   Okay. Is the iOS ecosystem a special purpose ecosystem or

11   a general purpose ecosystem?

12   **A.**   The iOS ecosystem to me is a general purpose ecosystem

13   because there is a variety -- a wide, wide variety like

14   millions of different ideas and applications that can come

15   through it.

16   **Q.**   In your understanding, does Apple operate a model whereby

17   it needs to subsidize its hardware sales in the iOS ecosystem?

18   **MR. SRINIVASAN:**   Objection. Foundation.

19   **THE COURT:**   Sustained.

20   **BY MR. EARNHARDT:**

21   **Q.**   Compared to the Xbox ecosystem, how many users does the

22   iOS ecosystem have?

23   **MR. SRINIVASAN:**   Objection. Foundation.

24   **THE COURT:**   Sustained. If you want her to answer

25   those kinds of questions, you have to lay a foundation;

1   otherwise, this comes in through different witnesses.

2   **MR. EARNHARDT:**   Okay. Let me just try to lay a

3   foundation quickly. I won't spend much time on it. I can

4   move on, Your Honor.

5   **THE COURT:**   It's not that -- it's your time. I'm

6   just saying I don't know how a Microsoft person is going to

7   have the foundation to answer those questions.

8   **MR. EARNHARDT:**   Well, let me ask this.

9   **Q.**   Again, when you were trying to bring the xCloud gaming

10   service to iOS and partner with Apple, did that require you to

11   understand how Apple operates its iOS ecosystem?

12   **A.**   Yes. And how many users it has, yes.

13   **Q.**   Was it important to you in trying to bring the xCloud

14   gaming system to iOS to know how many users that might reach?

15   **A.**   Absolutely.

16   **Q.**   Was it important to you to know how many applications

17   there might be on iOS competing with your service?

18   **A.**   Yes.

19   **Q.**   On that basis, do you know how many iOS users there are?

20   **MR. SRINIVASAN:**   Objection. Foundation.

21   **THE COURT:**   Sustained. I mean, do you have -- did

22   Apple share information -- their proprietary information with

23   you?

24   **THE WITNESS:**   It's well-published in the press, so --

25   **THE COURT:**   So this is from external resources

1   like -- I'm -- sustained. Just because something is in the

2   press doesn't make it true.

3   **THE WITNESS:**   I think it's part of their financial

4   reporting.

5   **THE COURT:**   Okay.

6   **MR. EARNHARDT:**   Okay. I'll move on, Your Honor.

7   **Q.**   Let me show you another document. If you could look at

8   your binder. Actually -- look at your binder. Turn to tab

9   DX5523.

10   **THE COURT:**   And to the point, if you want to show her

11 a financial statement, that's -- that is admissible evidence.

12   **MR. EARNHARDT:**   Yeah, of course, Your Honor. We can

13 do that with a different witness.

14 **Q.**   This is another document that has redactions so we will go

15 very slowly, and I will be careful not to ask inappropriate

16 questions, and don't volunteer information that you see

17 because it may be redacted.

18 **A.**   Okay.

19 **Q.**   My first question is do you recognize this document?

20 **A.**   I do.

21 **Q.**   What is it?

22 **A.**   It is a report that is built by our Business Planning and

23 Strategy Team, and it does a market look at where profits come

24 from in the game industry.

25 **Q.**   And did you receive this document in the ordinary course

1   of business?

2   **A.**   I did.

3   **MR. EARNHARDT:**   Move to admit DX5523, Your Honor.

4   **THE COURT:**   Any objection?

5   **MR. SRINIVASAN:**   No objection, Your Honor.

6   **THE COURT:**   Admitted.

7   (Defendant's Exhibit 5523 received in evidence)

8   **BY MR. EARNHARDT:**

9   **Q.**   If you could turn to slide 31. This is a circumstance in

10   which we are going to be very careful.

11   **A.**   Okay.

12   **Q.**   So don't say any numbers.

13   At a very, very high level, what does this slide show?

14   **A.**   The profit breakdown on consoles.

15   **Q.**   And, again -- well, do you see section 7 near the bottom

16   that says "total hardware"?

17   **A.**   I do.

18   **Q.**   And, again, I don't want you to say it out loud, but do

19   you see the number that has been blotted out on the screen but

20   is clear in your book next to Microsoft under the margin

21   percentage?

22   **A.**   I do.

23   **Q.**   And does that number state the Xbox console operating

24   margin as of 2019?

25   **A.**   It does.

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1   **Q.**   And if you can turn to slide 17.

2   This is another slide in which a lot of information has

3   been redacted, so please don't read any specific numbers on

4   the page, but do you see the title of this slide as "PC Client

5   Revenues by Sales Channel"?

6   **A.**   Yes.

7   **Q.**   And do you see near the top where it says, "In PC client,

8   direct to consumer captured more than 83 percent of spend

9   while platforms generated approximately 15 percent of sales"?

10   **A.**   Yes.

11   **Q.**   What does that mean?

12   **A.**   This means that for people buying games on PCs, that they

13   are going directly to the publisher or developer to get that

14   game on PC and spending the money with them. The platforms,

15   whether it's a subscription or through a store only, generated

16   15 percent of the sales.

17   **Q.**   On PC?

18   **A.**   Correct.

19   **Q.**   So just to make sure I understand, publishers are able to

20   distribute their apps directly to consumers on Windows PC?

21   **A.**   That's correct.

22   **Q.**   And based on this, what percentage of the revenue in the

23   PC ecosystem is derived from that method of distribution?

24   **A.**   83 percent.

25   **Q.**   On iOS, can developers distribute their apps directly to

1   users?

2   **A.**   They cannot.

3   **Q.**   If you could please turn to slide 11. And, again, there

4   is information that's been sealed here so we will be very

5   careful.

6   What does this slide show?

7   **A.**   The publisher versus platform share of profit by segment.

8   **Q.**   And based on this, what is the percentage of the profit

9   share that app publishers retain on PC?

10 **A.**   On PC, app publishers retain 95 percent of the profit.

11 **Q.**   And what is that percentage on mobile?

12 **A.**   61 percent.

13 **Q.**   Do you see near the top of this slide it says,

14 "Platform-holders in closed device ecosystems and networks

15 capture meaningful profit share, 39 to 46 percent, while open

16 ecosystems favor publishers"?

17 **A.**   I do.

18 **Q.**   What is a closed ecosystem?

19 **A.**   A closed ecosystem would be Xbox as a console or iOS.

20 **Q.**   And what makes that closed?

21 **A.**   Because you cannot distribute games through any other

22 method.

23 **Q.**   And then what is an open ecosystem?

24 **A.**   You can -- you have competing ways to distribute games.

25 **Q.**   How does competition for distribution of games compare in

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1 an open ecosystem to a closed ecosystem?

2 **A.**   An open ecosystem is much more profitable for developers

3 and publishers.

4 **Q.**   If you can turn to slide 3. Bullet 2 there reads,

5 "Publishers captured the majority of total industry profit, 66

6 percent. Platforms in closed ecosystems/networks, e.g.,

7 console, mobile, browser, generated 39 to 46 percent of

8 segment profits while platforms in open ecosystems, i.e., PC

9 client, generated only 5 percent of segment profit."

10   Do you see that?

11 **A.**   I do.

12 **Q.**   And then the next bullet reads, "Platforms relatively low

13 share of PC client segment profit, 5 percent, reflects revenue

14 flowing directly from consumers to publishers. 83 percent of

15 worldwide PC client revenue"?

16 **A.**   Yes, I see that.

17 **Q.**   Is that consistent with your understanding of how the

18 market dynamics are?

19 **A.**   Yes, it is.

20 **Q.**   And then if you turn back to slide 11, under the --

21 there's a big heading, sub-heading, then a tiny sub-heading.

22 Focusing on the tiny sub-heading, it says, "U.S. dollar

23 billions" redacted. Don't say the number. "Software and

24 services profit only excludes five billion in game video

25 profit and dedicated hardware profit." Do you see that?

1   **A.**   I do.

2   **Q.**   Does that mean that the bars on this chart exclude profits

3   from the sale of iPhones in the mobile column?

4   **A.**   I'm sorry. I'm reading this again.

5   Yes, it does.

6   **Q.**   And if you could turn to slide 9 for me, please. And,

7   again, I don't want you to read this out loud. But do you see

8   where footnote 1 is located?

9   **A.**   I do.

10 **Q.**   And can you read footnote 1 to yourself. Do not read it

11 out loud.

12 **A.**   (Witness reads document.)

13   Yes. I see it.

14 **Q.**   Is that consistent with your understanding?

15 **A.**   Yes, it is.

16 **Q.**   Okay. You can put that aside.

17   **THE COURT:**   So with respect to this, I suspect I

18 won't remember -- I said with respect to this, what I have

19 appropriately is the unredacted version. What I don't have is

20 the highlighted redacted version, and in order to make sure

21 that I don't inadvertently mention something in an order that

22 has been redacted, I need you all to give me a highlighted

23 version of this.

24   **MR. EARNHARDT:**   We will do that, Your Honor.

25   **THE COURT:**   Thank you. Proceed.

1   **BY MR. EARNHARDT:**

2   **Q.**   Okay. I would like to come back to a topic you mentioned

3   right at the beginning of your testimony, Microsoft's Cloud

4   gaming service.

5   **A.**   Uh-huh.

6   **Q.**   We've heard some testimony on this, but what is Cloud

7   gaming?

8   **A.**   It is the ability to take games that were built for -- you

9   can think about it -- most specifically if a game was built --

10   actually, let me back up and think about the category as a

11   whole.

12   Cloud gaming is the ability to distribute games over the

13   internet without requiring any hardware.

14   **Q.**   And how does that work?

15   **A.**   You can run the games through data centers in other

16   locations and be able to send a feed down to any device that

17   has a screen internet connection and then send a command that

18   controls the game back up to the Cloud, so effectively you are

19   playing the game in a remote data center.

20   **Q.**   And has Microsoft developed its own Cloud gaming service?

21   **A.**   Yes, we have.

22   **Q.**   What's it called?

23   **A.**   The technology, the code name for the technology was

24   called xCloud. When we released it to market commercially,

25   it's a feature capability of our Game Pass Ultimate

1   Subscription.

2   **Q.**   Will you understand what I mean if I call it xCloud?

3   **A.**   I will.

4   **Q.**   And do you typically call it xCloud at Xbox?

5   **A.**   We do.

6   **Q.**   Why did Microsoft -- well, step back. What did Microsoft

7   have to do to develop the xCloud product?

8   **A.**   We had to effectively go and use -- find data centers

9   around the world that were already, you know -- as part of our

10   Azure operations. We went into many of our existing data

11   centers, but we had to go and a way that it's architected,

12   which I'm a little bit cautious about -- talking about here

13   publicly --

14   **Q.**   Yeah. We don't need specifically. Just generally what

15   were the steps that had to be taken?

16   **A.**   We had to find data centers, make it capable through

17   hardware and equipment for those games to be run natively out

18   of those data centers, and then we, you know, effectively had

19   to make our global streaming stack, update our client, you

20   know, do all the sorts of things that would be necessary in

21   order to deliver those games over the internet.

22   **Q.**   And did you develop a native application that would allow

23   a user to access xCloud?

24   **A.**   We developed a Game Pass Ultimate native -- I'm sorry -- a

25   Game Pass application that is a native mobile app, if that's

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1   what we are talking about is mobile, that could access xCloud

2   that would have all the games then and be able to play those

3   games remotely.

4   **Q.**   What platforms is Xbox Cloud gaming currently available on

5   as a native application?

6   **A.**   As a native application, it is available on Android.

7   **Q.**   Did you build -- well, withdrawn.

8   Is it available as a native application on iOS?

9   **A.**   No.

10   **Q.**   Is it available in any form on iOS?

11   **A.**   Today it is not available on iOS, except a couple of weeks

12   ago, we released a beta version to distribute it to iOS

13   customers through the browser.

14   **Q.**   And what does it mean to be "in beta"?

15   **A.**   It is your early testing period before you release

16   something commercially.

17   **Q.**   And was Xbox Cloud gaming available on Android before it

18   was available on iOS?

19   **A.**   Yes.

20   **Q.**   And why did you make the decision to also make it

21   available on iOS?

22   **A.**   We tried very hard to get it onto iOS but were not able,

23   and so our strategy for xCloud was to release first on mobile,

24   and Android was the platform we were able to do so on.

25   **Q.**   And just even more generally, if you have an app on

PX6000-081

1   Android, why do you need an app on iOS?

2   **A.**   They're different apps.

3   **Q.**   And how does that relate to the users that may access

4   them?

5   **A.**   I'm not sure I understand the question.

6   **Q.**   Could a user with an iPhone access the Android app?

7   **A.**   No.

8   **Q.**   Could a user with the Android app access the iOS app?

9   **A.**   No.

10   **Q.**   Did that factor into your decision to develop apps for

11   both platforms?

12   **A.**   Yes.

13   **Q.**   Okay. Did you attempt to bring a native app of xCloud to

14   iOS?

15   **A.**   Yes, we did. Over a long period of time.

16   **Q.**   At the beginning of that process, did you seek direction

17   from Apple about how to do that?

18   **A.**   Yes, we did.

19   **Q.**   And what did Apple tell you?

20   **A.**   The conversations had started before I began in the

21   business. The very first meeting I had with Apple was

22   understanding what are the iOS policies that are likely to

23   prevent -- that would prevent this from coming to iOS, and we

24   went to Cupertino to meet with Apple to talk through those

25   policies and understand whether there was intention to change

1   them because other forms of media and entertainment were able

2   to deliver the Cloud streaming service, and games was the

3   exclusion. So we weren't clear if that was intentional or if

4   it was in the middle of the policy being changed.

5   And we also wanted help and direction from Apple to -- for

6   them to see the product, to understand how it would run, and

7   to help us think about the way that we could be compliant or

8   do what was necessary to meet their policies.

9   **Q.**   And did you receive direction from Apple?

10   **A.**   The very first meeting we received direction to go and

11   follow the Netflix model or the audible model which would have

12   been great, quite frankly, for us. And then shortly after, we

13   heard that was not the right model for us, and we needed to go

14   a different direction with a model called Game Club where

15   every single game had to be individually downloaded onto the

16   phone.

17   **Q.**   And do you have an understanding why that would have been

18   required under Apple's policies?

19   **A.**   No. We -- we were seeking to understand why that was the

20   case, why there was a special carve-out for all other types of

21   media and entertainment, and gaming was not included in that,

22   but we did not get an answer, other than you must break out

23   every game into an individual executable.

24   **Q.**   Did you change your app to comply with the way that Apple

25   said it would need to be broken out to be acceptable on iOS?

1 **A.**   We spent a good bit of time just trying to understand why.

2 If you think about there are games like Roblox, right, that

3 are a single app that have many games in them, and so we were

4 looking at the parallel and saying gosh, we just don't

5 understand because this is a single app with many games. You

6 know, you think about Netflix, Spotify, they are single app

7 with many songs and movies. You think about YouTube. It's a

8 single app with many videos. Why could we not have a single

9 app with many games? And so we spent a lot of time, probably

10 three or four months, trying to understand what this was.

11   At that point, we -- we explained what would happen from a

12 user experience perspective if we tried to break out every

13 game. You would have to put the streaming stack, according to

14 Apple's policies, into every single game. And what that would

15 mean is if you think about a Netflix or Spotify, every time

16 you make any update to your streaming technology, which

17 happens all the time, it would push that same update out to

18 your phone, and all your apps would just be constantly

19 spinning. And then if a game needed -- you know, it's a

20 catalog, so we move games in, we take games out. If we wanted

21 to remove a game, there would be a dead app sitting on the

22 phone. And we thought gosh, this is a really an inelegant way

23 for players to experience this.

24   And so we went back with a solution that said okay, we

25 think we know how to do this in a way that we can meet the

1   spirit of Apple's policies with breaking out every game as an

2   individual executable so that there would be the metadata,

3   there would be all the discovery, everything that they were

4   seeking, but we would have a reference app that contained the

5   streaming tech so the streaming tech didn't have to go out

6   into every app, and then we wrote told we triggered another

7   policy that said you can't have dependent apps, and so at that

8   point in time, we didn't see a path forward.

9   **Q.**   Just a couple questions about that.

10   You mentioned Roblox.

11   **A.**   Uh-huh.

12   **Q.**   Is that available natively on iOS?

13   **A.**   Yes.

14   **Q.**   And can you explain what you mean when you say it has

15   games within that game?

16   **A.**   There are --

17   **MR. SRINIVASAN:**   Objection. Foundation.

18   **THE COURT:**   Is it a game that -- well, lay some

19   foundation.

20   Sustained.

21   **BY MR. EARNHARDT:**

22   **Q.**   Have you seen Roblox played?

23   **A.**   I have.

24   **Q.**   Have you played it?

25   **A.**   I have.

1   **Q.**   Can you explain what you mean when you say Roblox has

2   games within a game?

3   **A.**   I can. Roblox is a publisher who makes a single game

4   called Roblox, but there is a community of creators who build

5   micro versions of that game that exist as individual games

6   within that container, and that all sits in the same app and

7   sits natively on the app store.

8   **Q.**   Another question about your conversations with Apple.

9   Did you have conversations as to how Microsoft would --

10   would pay Apple for commissions that it would earn in your

11   app?

12   **A.**   We were very open to finding a way. There was a technical

13   challenge in -- you think about a game catalog, right, where

14   you have lots of these game titles. We've negotiated the

15   rates already with third-party publishers to be in that

16   catalog. Each of those games, in order to plumb into Apple's

17   in-app purchase system, you would have to go back and rewrite

18   all the connection links any time something was to be

19   purchased, so it would require us to go back to all of our

20   game developers and ask them to rewrite these links, and so

21   with Apple, we weren't seeking to negotiate the rev share

22   percent. We were seeking a way that we could not have to

23   rewrite all of these links and give some sort of aggregate way

24   in order to pay the store commissions.

25   **Q.**   Let me show you one more document. If you can turn to

1   Exhibit PX2311 in your binder. If you can just take a minute

2   to flip through that, and let me know when you have had a

3   chance to familiarize yourself with it. You may want to stop

4   at the back and move forward because that's how it happens

5   chronologically.

6   **A.**   I see, 2311.1. That one?

7   **Q.**   It starts at 2311.1 and then it has several pages behind

8   it.

9   **A.**   Right.

10   **Q.**   Do you recognize that document?

11   **A.**   Yes, I do.

12   **Q.**   What is it?

13   **A.**   It is on the first page -- it's an email correspondence

14   between myself and the Developer Relations Team at Apple.

15   **Q.**   And the date at the top is April 3rd, 2020?

16   **A.**   That's correct.

17   **MR. EARNHARDT:**   Your Honor, I would move PX2311 into

18   evidence.

19   **THE COURT:**   Any objection?

20   **MR. SRINIVASAN:**   No objection, Your Honor.

21   **THE COURT:**   Admitted.

22   (Plaintiff's Exhibit 2311 received in evidence)

23   **BY MR. EARNHARDT:**

24   **Q.**   If you could turn to the bottom of page PX2311.10.

25   **A.**   I have 2311.1. Is that it?

1   **Q.**   If you -- there should be multiple pages. The bottom

2   Bates stamp is --

3   **A.**   Got it.

4   **Q.**   Ends in 7956.

5   Do you see there is an email to you to someone named Shawn

6   and Trystan?

7   **A.**   Correct.

8   **Q.**   I don't need you to read the whole email, but can you

9   explain to me what you were trying to convey to Apple in this

10   email you wrote?

11   **A.**   So this page that I'm looking at is a response back from

12   Trystan to me. Is that where --

13   **Q.**   No. Keep reading the next page, and it will be your

14   email.

15   **A.**   Okay. So there are two things going on in this email.

16   The first one was us explaining again why breaking out every

17   game into individual binaries, executables, individual apps --

18   why that was such a bad experience for us, for consumers.

19   Like it just wasn't a great scenario. And so we laid out the

20   reasons why we were concerned about that.

21   And the other thing going on in this email is that Apple

22   has a process called TestFlight where you can move stuff into

23   test before it goes into the mainstream App Store, and we, I

24   think in this one -- let me just read it. We were sharing the

25   observations that we had gotten back from the community on

PX6000-088

1   being able to deliver the application into TestFlight and the

2   excitement in the market from that.

3   **Q.**   And then if you turn back to PX2311.10.

4   **A.**   Uh-huh.

5   **Q.**   Do you see the response from Trystan at Apple?

6   **A.**   I do.

7   **Q.**   Who is Trystan?

8   **A.**   Trystan is one of the senior leaders in the Publisher

9   Relations Team.

10   **Q.**   And --

11   **A.**   Or the Dev Relations Team, I should say.

12   **Q.**   And in the second paragraph you see that Trystan -- what

13   does Trystan tell you in the second paragraph of his email?

14   **A.**   So Trystan effectively tells me in this the same thing,

15   that even though it's in TestFlight, it's not compliant and

16   that we need to find a way to break out every game, and we

17   cannot have a catalog of games.

18   **Q.**   You can put that aside.

19   **THE COURT:**   Can you explain to me, Ms. Wright, on

20   your email, the paragraph that he was referencing, so at .11,

21   the second paragraph when you reference "Shadows, PC games,

22   streaming service, and Netflix is interactive," what were you

23   trying to communicate there?

24   **THE WITNESS:**   We were showing them two examples where

25   games that were allowed -- where either a game, or in

1   Netflix's case, another application, was able to exist, and we

2   didn't understand why we couldn't. And I believe they ended

3   up pulling Shadow out of the App Store based off this email

4   that we sent until they could make some changes. And that was

5   not our intention of course. It was a byproduct of us

6   pointing to other examples.

7   **THE COURT:**   And Netflix's interactive content, is

8   that -- what were you referring to there?

9   **THE WITNESS:**   So you know how in Netflix, if you have

10   Netflix on your phone or Netflix on your TV, you sign in and

11   you see all your movies and all your TV shows?

12   **THE COURT:**   Right.

13   **THE WITNESS:**   Game Pass is exactly the same thing.

14   It's a single application just like Netflix where you see all

15   your different game titles and you can play them without

16   downloading them onto your device.

17   **THE COURT:**   Okay. Thank you.

18   **BY MR. EARNHARDT:**

19   **Q.**   Are there movies on Netflix where you can choose your own

20   adventure?

21   **A.**   No.

22   **Q.**   Are there movies -- well, have you seen --

23   **A.**   I'm sorry. I know what you mean.

24   **Q.**   Have you seen movies on Netflix where the user gets to

25   choose which way the story goes?

1   **A.**   Yeah. I think that does exist. I think it's a smaller

2   part of Netflix service.

3   **Q.**   You mentioned that xCloud is currently available on iOS in

4   beta?

5   **A.**   It is.

6   **Q.**   Through what mechanism again?

7   **A.**   It is available to iOS customers who choose to access it

8   over the browser that's on the phone.

9   **Q.**   How does streaming xCloud through a web browser compare to

10   streaming xCloud through a native app?

11   **A.**   A web browser is a much more challenged experience, both

12   to build and to maintain than a native app, and it also lacks

13   much of the functionality and benefits that you get through a

14   native app.

15   **Q.**   Could you give me some examples?

16   **A.**   So first on browser, on iOS -- and iOS is the only place

17   I'm aware of this where you have to use their engine, Apple's

18   engine called WebKit so no matter what browser you're using,

19   you're using the WebKit engine provided that, you know, is

20   Apple's engine and most frequently used on the iPhone.

21   I think the data I've seen from the industry leading

22   source on this is three quarters of users are using Safari on

23   mobile devices with WebKit.

24   WebKit, I think, is well-understood to be lacking in some

25   of the features behind other browsers, but because on mobile

1   phones you can only use WebKit, you don't get the browser

2   competition to move things along. And then once you're there

3   and you do get it to work, you know, specifically if you think

4   about gaming, you know, there's been very core elements of

5   gaming. There's things like WebRTC, right, and the Gamepad

6   controller that WebKit doesn't -- hadn't historically

7   supported so it's just catching up and doing those sorts of

8   things.

9   Now, even when you go and do all of this, you have to

10   maintain this very complicated matrix of test cases across all

11   these different scenarios, and then specifically -- like the

12   easiest example I would give you is if you're on Uber, if you

13   order an Uber and your car shows up, you get a push

14   notification on your phone that says your car is out front.

15   You do get that if you go over a browser through WebKit.

16   **Q.**   Are there differences in an experience of playing a game

17   through xCloud on a native app as compared to through a web

18   browser?

19   **A.**   I think the -- the -- there are experience differences. I

20   think there's -- there is pros and cons to both.

21   The challenge in -- I think, again, this is something that

22   the data just reflects is that people don't play games over

23   browser on the iPhone. If you look at the data, all the games

24   are played through the App Store; right? So no one -- people

25   are not playing games over browser on iPhone.

1   **Q.**   Do you view having the xCloud available on iOS through

2   Safari instead of as a native app a good outcome or a bad

3   outcome?

4   **A.**   It was our only outcome in order to reach mobile users on

5   iOS.

6   **Q.**   Is it the outcome you would have preferred?

7   **A.**   No.

8   **Q.**   What would you have preferred?

9   **A.**   A native app in the app stores where users know to get

10 their apps for iOS.

11   **MR. EARNHARDT:**   Your Honor, I have about five minutes

12 of questions for which I would like to -- for which I need to

13 ask the Court to be closed.

14   **THE COURT:**   Okay. Well, then we will wait on those.

15   Do you want to get started with the cross?

16   **MR. SRINIVASAN:**   Sure.

17   **THE COURT:**   We will take a break in about five

18 minutes.

19   **MR. EARNHARDT:**   Thank you, Your Honor.

20   **THE COURT:**   You're welcome.

21   **CROSS-EXAMINATION**

22 **BY MR. SRINIVASAN:**

23 **Q.**   Good morning, Ms. Wright. My name is Jay Srinivasan. I'm

24 a lawyer for Apple, and I wanted to ask you some questions.

25   Your position at Microsoft, I think you said, is currently

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1   Vice-President of Xbox Business Development; is that right?

2   **A.**   That's correct.

3   **Q.**   And you took on this position about 18 months ago; is that

4   right?

5   **A.**   18, 19 months ago, yes.

6   **Q.**   And before this position, you had no responsibilities for

7   the Xbox or the gaming business; correct?

8   **A.**   I did not.

9   **Q.**   And, in fact, you were entirely new to the gaming industry

10   as of 18 months ago?

11   **A.**   That's correct.

12   **Q.**   So you have had no professional exposure to the games

13   market until 18 months ago; correct?

14   **A.**   That's correct.

15   **Q.**   Now, isn't it also true, Ms. Wright, that you don't know

16   who competes with the Microsoft Store?

17   **A.**   I think I -- I certainly know there is an Epic Games

18   Store. I would say in terms of -- and there is a Steam Store.

19   In terms of who competes, because it is the vast majority of

20   things are -- games are coming from direct downloads, and I

21   don't know how those stat rank out.

22   **Q.**   I'm sorry. Is that a yes or no? You don't know who

23   competes with the Microsoft Store or you do?

24   **A.**   I don't know where the downloads are coming from for that

25   earlier stat of 86 percent is direct to consumer. I don't

1   know that.

2   **Q.**   Okay. And isn't it true that you don't think about

3   competition in the store space at all when it comes to the

4   Xbox?

5   **A.**   I have not focused my time and energy. It's not part of

6   my business remit to think about competition in the store

7   space.

8   **Q.**   And so you don't think about competition among -- with

9   respect to the Xbox; is that right?

10   **A.**   It's not part of my core job.

11   **Q.**   And in fact that is somebody else in your group, not you,

12   who deals with competition for the Xbox line of business at

13   Microsoft; correct, ma'am?

14   **A.**   That's not what I said. What I said was the store space

15   on Windows is not my direct responsibility.

16   **Q.**   Okay. And what do you mean by the "store space"?

17   **A.**   So Microsoft has a store on Windows. There are other

18   stores like the Steam Store, the Epic Games Stores, and there

19   are the ability for publishers and developers to get their

20   games directly on the devices. So when it comes to those

21   stores, that is a different team that handles what goes into

22   the store, how it gets into the store, what the store policies

23   are, all of those things.

24   **Q.**   Okay. And but with respect to the Xbox Store in

25   particular, isn't it true that you said that you don't

1   compete -- you don't look at competition in the space at all?

2   **A.**   No. I said that for the PC version, the Windows, that I

3   do not look at competition in the Windows Store.

4   **Q.**   Okay. Let's talk a little bit about you did express some

5   opinions about competition.

6   Let's start first with you talked about the Xbox itself;

7   right? You had some definitional terms about the Xbox

8   yourself. And one of the things you said is that a

9   multipurpose platform would have a wide variety of things that

10   changes every day. Did I get that right?

11   **A.**   I said it could change every day. New things can come and

12   go. There are certain things that are static that exist into

13   perpetuity.

14   **Q.**   So if a platform has things that come and go and provide

15   users experience that change, you would agree that that might

16   be an open platform?

17   **A.**   If it's different types of genres of usage that comes and

18   goes, yes, I would.

19   **Q.**   And it's true, right, ma'am, that the Xbox currently, the

20   console, offers Spotify for users to stream and enjoy music;

21   correct?

22   **A.**   It's an option.

23   **Q.**   That's something they can use and your users do use those,

24   right, that service?

25   **A.**   They don't buy an Xbox to listen to Spotify. It's a thing

1   that is on there for users.

2   **Q.**   That wasn't my question. It was that it's available to

3   users to enjoy?

4   **A.**   Sure.

5   **Q.**   And that's not a gaming experience. You would agree with

6   that; right?

7   **A.**   Right.

8   **Q.**   And right now with an Xbox you can stream movies on

9   Netflix and Hulu and other services; right?

10   **A.**   Yes, you can.

11   **Q.**   And that's not games. You wouldn't characterize those as

12   games, would you?

13   **A.**   No.

14   **Q.**   Right. And also, much to my chagrin with my children,

15   YouTube you can watch by Xbox; right?

16   **A.**   I have the chagrin. Yes, you can.

17   **Q.**   Also not a game?

18   **A.**   Not a game.

19   **Q.**   Right.

20   And just to clarify some testimony you gave a bit ago, I

21   just wanted to make sure, you're not contending that Netflix

22   offers games, are you?

23   **A.**   There is some small niche of Netflix. I was trying to be

24   complete. That I know they were testing some interactive

25   experiences, but for the most part, just like Xbox is a game

1   console, Netflix is a movie and TV show application.

2   **Q.**   You also mentioned that out the 30 -- I may have gotten

3   the number wrong but something north of 3,000 games are

4   offered on the Microsoft Xbox; is that right?

5   **A.**   That's correct.

6   **Q.**   And I think your testimony was only about a hundred are

7   Microsoft first party games?

8   **A.**   My testimony was I wasn't sure. I was guessing on that,

9   but, yes, that would be my best guess.

10   **Q.**   That's a ballpark. The vast majority of games offered on

11   the Xbox are not Microsoft's games but other developer's;

12   games correct?

13   **A.**   If my understanding is correct.

14   **Q.**   Right. And so in that sense, you have third-party games

15   that aren't yours that you are selling to your consumers

16   correct?

17   **A.**   (Witness nods head.)

18   **Q.**   Okay.

19   **THE COURT:**   Okay. We are going to go ahead and take

20   our break.

21   Ms. Wright, I take it you must have a lawyer here with

22   you?

23   **THE WITNESS:**   I do.

24   **THE COURT:**   Okay. That's the only person you can

25   speak to during the break. You may not speak to any of the

1   parties, any of their representatives.

2   And you are here as a 30(b)(6) corporate representative;

3   right?

4   **THE WITNESS:**   I don't know what that means.

5   **MR. EARNHARDT:**   No, Your Honor. We have called her

6   in her personal capacity.

7   **THE COURT:**   In her personal capacity?

8   **MR. EARNHARDT:**   Correct, Your Honor.

9   **THE COURT:**   All right. Then I will just leave it at

10 that.

11   We will stand in recess. For purposes of the public who

12 are listening in, we are going to take a 20-minute recess.

13 When we get back from our recess, you still have to wait

14 because we will move into closed session for just a few

15 minutes to finish off the direct sealed questions and then a

16 cross on those questions. That seems to be the more efficient

17 way to do things. So for those of you listening in, it will

18 be longer than 20 minutes.

19   We will stand in recess. Thank you.

20   (Recess taken at 10:17 a.m.)

21   (Proceedings resumed at 10:38 a.m.)

22   (Under seal proceedings continued on next page.)

23

24

25

1   (Proceedings held in open court.)

2   **THE COURT:**   Okay. The courtroom then will be

3   unsealed. Ms. Stone, if you will let me know when we have the

4   public back in. If someone can let -- thank you, Ms. Dunn.

5   If you will let people know they can come back.

6   **THE CLERK:**   The public is back in online.

7   **THE COURT:**   We will wait until the press comes back

8   in.

9   I need a law clerk to go on over to make sure people can

10   come back in. The press needs to be told people can come back

11   in.

12   Thank you, Ms. Dunn.

13   The public lines are open. I see now members of the press

14   coming into the courtroom, including the attorney for the

15   developer class and the consumer class. The proceeding now

16   unsealed. All right you may proceed.

17   **CROSS-EXAMINATION**   **(resumed)**

18   **BY MR. SRINIVASAN:**

19   **Q.**   Ms. Wright, you understand you were called here today on

20   behalf of Epic; correct?

21   **A.**   I don't know that I understand that.

22   **Q.**   Okay. And is it your view, by the way, that Microsoft

23   would benefit if Epic wins this case?

24   **A.**   I don't know that to be true either.

25   **Q.**   And is Microsoft a developer who monetizes apps on the app

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1   store. They are; right?

2   **A.**   Yes, they are.

3   **Q.**   You have dozens of apps on the app store?

4   **A.**   Yes.

5   **Q.**   And Microsoft earns roughly 6- to $700 million in net

6   revenue per year from its relationship with Epic; right?

7   **A.**   That's correct. I don't know if that's correct, actually.

8   It might be the other way around where Epic earns 6- or 700

9   million, and we earn 3- or 400 million.

10   **Q.**   Okay. Do you recall that you gave a deposition in this

11   case on April 16th?

12   **A.**   I do.

13   **Q.**   Okay. And during the deposition, a lawyer for Apple asked

14   you questions and gave you answers?

15   **A.**   Yes.

16   **Q.**   The court reporter took down all those questions and

17   answers?

18   **A.**   Yes.

19   **Q.**   And you were placed under oath at the beginning of that

20   deposition?

21   **A.**   That's right.

22   **Q.**   You swore to tell the truth; right?

23   **A.**   Yes.

24   **Q.**   Okay. Can I --

25   **THE COURT:**   So I need the page and line number.

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1   **MR. SRINIVASAN:**   We will give you the transcripts.

2   **THE COURT:**   I have the transcripts. Page and line

3   number is what I'm looking for.

4   **MR. SRINIVASAN:**   So it's page 80, line 16 to 23.

5   **THE COURT:**   Hold on.

6   **MR. CHIAPPETTA:**   Your Honor, if I may be heard?

7   **THE COURT:**   Page 80, line 16 to 23. And was this a

8   30(b)(6) deposition?

9   **MR. SRINIVASAN:**   This was in her individual capacity

10   as she is here today, Your Honor.

11   **THE COURT:**   Okay.

12   **MR. CHIAPPETTA:**   Your Honor, this entire deposition

13   transcript is under seal, Attorneys' Eyes Only, or designated

14   as Attorneys' Eyes Only currently, and so I would just -- to

15   the extent that counsel intends to ask questions, I would ask

16   that those be previewed first.

17   **THE COURT:**   Hold on. So do you know what the lines

18   are that he's talking about?

19   **MR. CHIAPPETTA:**   Unfortunately I haven't had time to

20   bring it up yet because I had to run up here.

21   **THE COURT:**   Go ahead.

22   **MR. SRINIVASAN:**   Your Honor, on this issue, we

23   understand that that presumptive designation is only through

24   the protective order before trial and -- sorry.

25   **THE COURT:**   Now I've read it. So what would you --

1   what are you asking?

2   **MR. SRINIVASAN:**   I'm asking if I can just impeach on

3   that basis and her answer right now -- the question was is

4   does Microsoft earn 6- to 700 million in revenue from Epic, I

5   think her answer was "I don't know," and in the deposition she

6   seemed to provide that information.

7   **MR. CHIAPPETTA:**   Your Honor, to the extent that is

8   not public information, we would --

9   **THE COURT:**   She just made it public. Overruled.

10   You can read.

11   **MR. SRINIVASAN:**   Thank you, Your Honor.

12   "Q. Do you know how much revenue Microsoft earns each year

13   from its relationship with Epic?

14   "A. I do not for certain.

15   "Q. I will take a ballpark if you have a ballpark.

16   "A. My understanding is there is a net revenue in the 6-

17   to 700 million range.

18   **A.**   Yes. And then the deposition, if I remember keeps going

19   where we weren't clear on what we were talking, which way it

20   was split.

21   **Q.**   Thank you, ma'am. And your counsel will have or Epic's

22   counsel will have an opportunity to raise that if you're right

23   about that memory.

24   In terms of revenue, Epic is in Microsoft's top ten of

25   developers who distribute games on the Xbox; correct?

1   **A.**   Yes. May I answer the previous question, though?

2   **Q.**   You will have an opportunity later.

3   **THE COURT:**   That's not the way it works.

4   **THE WITNESS:**   Okay.

5   **BY MR. SRINIVASAN:**

6   **Q.**   And Microsoft has a financial incentive to keep Epic

7   happy; right, Ms. Wright?

8   **A.**   Microsoft earns a commission on Epic's sales, so we try

9   and keep all of our developers and publishers happy, yes.

10   **Q.**   So the answer is you have a financial incentive to keep

11   Epic happy?

12   **A.**   Sure. I think that's probably a fair statement.

13   **Q.**   Okay. And you understand that one of your colleagues at

14   Microsoft submitted a declaration on behalf of Epic in this

15   very proceeding; correct?

16   **A.**   As I said in my deposition, I'm aware that it happened. I

17   was not party to it or in the depth conversations on it.

18   **Q.**   But you're aware that that happened; correct?

19   **A.**   Yes.

20   **Q.**   Are you aware that a former economist from Microsoft and

21   current Microsoft consultant named Susan Athey is testifying

22   in this case on behalf of Epic?

23   **A.**   No.

24   **Q.**   Do you know a that former member of Microsoft research,

25   James Mickens, is also testifying on behalf of Epic in this

1   case?

2   **A.**   No. I did not know that.

3   **Q.**   Those are not people you know?

4   **A.**   They are not.

5   **Q.**   Have you ever met them?

6   **A.**   I have not.

7   **Q.**   And you're aware that Microsoft is a vocal critic of

8   Apple's App Store; right?

9   **A.**   I would like to caveat that by saying that we -- it was

10   certainly followed in the media on what was happening with our

11   efforts to get xCloud available on the iOS, and when we were

12   unsuccessful in that, we were critical of the policies and

13   the -- the unfair treatment relative to what we were seeing

14   happening elsewhere.

15   **Q.**   Right. And independent of just the xCloud, you're aware

16   that the president of Microsoft, Brad Smith, has made public

17   comments more generally critical of the App Store; correct?

18   **A.**   Not close to those conversations, no. I see comments from

19   time to time.

20   **Q.**   Right. So it's your testimony that you are not aware that

21   the president of the company that you work at has been making

22   public comments critical of the App Store; is that your

23   testimony?

24   **A.**   No. My testimony is that I am -- I don't know what Brad

25   has said in that. I'm aware that Brad has been testifying on

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1   it. I don't know what his statements are.

2   **Q.**   You're not aware whether the general nature of those

3   statements are criticisms or not?

4   **A.**   Well, I assume they're not favorable, but I don't know

5   what the direct criticisms that Brad is making are.

6   **Q.**   Why do you assume they're not favorable?

7   **A.**   Because of our experience in trying to get an application

8   into the App Store.

9   **Q.**   Is it your testimony that Mr. Smith's -- the focus of his

10   criticisms relate to the xCloud streaming service and that's

11   it?

12   **A.**   Again, I don't know what Brad's statements are.

13   **Q.**   Okay. Do you recall -- switching gears, do you recall

14   that in advance of your deposition, you had an understanding

15   of what topics you would be discussing; correct?

16   **MR. CHIAPPETTA:**   Your Honor, objection to the extent

17   the question calls for attorney-client communications.

18   **THE COURT:**   Overruled. You were -- was a subpoena

19   issued?

20   **THE WITNESS:**   A subpoena was issued, yes.

21   **THE COURT:**   Did you read the subpoena?

22   **THE WITNESS:**   It was sent to me. I looked at it.

23   Yes.

24   **THE COURT:**   Okay. Answer the question.

25   **MR. CHIAPPETTA:**   Your Honor, for clarification, the

1   subpoena did not have any topics since she is not a 30(b)(6)

2   deponent.

3   **THE COURT:**   I don't need you to testify. She can

4   answer the question to the extent that she knows. If she has

5   had conversations with counsel, then she can testify to that,

6   too.

7   If you -- if you and your attorney had private

8   conversations, that I'm not interested in --

9   **THE WITNESS:**   Yes. I have had no conversations with

10   Epic counsel. I know there were a set of things that they

11   showed me in the deposition that said "you're going to testify

12   to these topics," and then I saw somewhere, I cannot recall

13   where, where those topics changed coming into today.

14   **BY MR. SRINIVASAN:**

15   **Q.**   In fact, you prepared for the deposition over the course

16   of two days; right?

17   **A.**   We, on two separate days -- we had preparation sessions of

18   different lengths of time.

19   **Q.**   I think you had at least seven lawyers from Microsoft to

20   help prepare you in that deposition; correct?

21   **A.**   There were multiple lawyers present in that because there

22   were the -- our internal legal counsel as well as outside

23   counsel.

24   **Q.**   So I think it was at least seven, though?

25   **A.**   I can try and count, if that's helpful.

1   **Q.**   No. That's okay.

2   And you prepared for your deposition by searching your

3   personal files over issues that you thought you might be asked

4   about; right?

5   **A.**   Yes. As I said in my deposition, I went back and searched

6   for the sequence on the xCloud conversations to refresh my

7   memory.

8   **Q.**   And in fact that's right, you testified that you in fact

9   looked specifically to refresh your memory on certain topics;

10 correct?

11 **A.**   Correct.

12 **Q.**   And you in fact have documents in your files about the

13 xCloud streaming service, the Xbox video game console, and

14 other operations related to those businesses; correct?

15 **A.**   I'm sorry. Is the question do I have emails on those

16 topics? Yes, of course.

17 **Q.**   Emails, PowerPoints, anything else, documents; correct?

18 **A.**   On our Xbox business, yes, of course.

19 **Q.**   And in fact, you also testified that among the Xbox

20 business documents you have, you have were -- are P&L

21 statements specific to Xbox; correct?

22 **A.**   That's correct, yes.

23 **Q.**   And you also have documents in your files relating to your

24 interactions with Apple; correct?

25 **A.**   The same ones that Apple has, yes.

1   **Q.**   But you also said you had some internal documents. Don't

2   you also have internal Microsoft documents relating to your

3   dealings with Apple on the streaming business?

4   **A.**   Sure. There is emails on -- on the correspondence. Most

5   of it culminated in what we shared with Apple, yes.

6   **Q.**   I think you said you even have notes taken by your team at

7   Microsoft regarding at least one meeting you had with Apple.

8   That was shared with you; correct?

9   **A.**   There was an email, I believe, that summarized our meeting

10   in Cupertino the first time.

11   **Q.**   And in fact those kind of notes -- nobody at Apple would

12   have those notes. Those are internal to Microsoft; right?

13   **A.**   They would reflect the -- it truly was a sequence of the

14   conversation that Apple was part of, yes.

15   **Q.**   Okay. And you didn't produce any of these documents in

16   advance of your deposition, did you, ma'am?

17   **A.**   I don't know what was produced.

18   **Q.**   Okay. Well, did you provide the documents to anybody?

19   **A.**   Did I provide them? No -- ah, no.

20   **Q.**   Nobody even asked you for them; correct?

21   **A.**   No.

22   **Q.**   Okay. And you also said you might have -- you also have

23   files potentially regarding communications you have had with

24   Epic; right?

25   **A.**   I have not had communications with Epic. Personally it's

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1   not part of my job responsibility.

2   **Q.**   The question was whether you have any documents, not

3   necessarily communications from you, but communications with

4   Epic from anybody at Microsoft?

5   **A.**   I don't know that to be true.

6   **Q.**   Okay. But you didn't look for those?

7   **A.**   I did not.

8   **Q.**   Okay. And who is Phil Spencer?

9   **A.**   Phil is the Executive Vice-President of Gaming at

10   Microsoft.

11   **Q.**   And you have spoken -- you have had at least one

12   conversation with Mr. Spencer about a conversation he had with

13   Mr. Sweeney about Apple's App Store; correct?

14   **A.**   I did not have a conversation with Phil about that, no. I

15   remember I think the question was asked in the deposition on

16   do I recall any conversations, and I said while I don't have

17   direct knowledge or email on it, I remember at one point in

18   some forum Phil mentioning he had gotten a note from

19   Mr. Sweeney.

20   **Q.**   So you had some communication with Mr. Spencer on it;

21   correct?

22   **A.**   I was involved in a forum where Mr. Spencer had mentioned

23   it.

24   **Q.**   Okay. And did you look for any emails regarding that

25   interaction with -- between Mr. Spencer and Mr. Sweeney?

1   **A.**   No.

2   **Q.**   And again nobody asked you to look for those, did they?

3   **A.**   They did not.

4   **Q.**   You didn't produce any of these documents since your

5   deposition; right?

6   **A.**   I did not.

7   **Q.**   Okay. And are you aware that the Court urged Microsoft to

8   produce to Apple documents regarding the subject of your

9   testimony in advance of your deposition?

10   **A.**   No, I'm not aware of that.

11   **Q.**   Nobody told you?

12   **A.**   No.

13   **Q.**   Okay. And are you aware that specifically the Court said

14   that, quote, "the failure to produce relevant documents,

15   including documents relevant to the individual testifying

16   witness, to both parties, here to Apple, will be factored into

17   the individual witness's credibility and, if necessary, may

18   warrant the striking of the testimony." Did anybody tell you

19   that?

20   **A.**   No.

21   **Q.**   Okay. And you're not aware of that -- you didn't

22   otherwise become aware of that issue?

23   **A.**   I did not, no.

24   **Q.**   And are you aware that the Court said to the extent that

25   the third-party witnesses are concerned with an adverse

1   credibility determination at the bench trial, they should

2   ensure that they adequately and timely produce such documents

3   in advance of their deposition. Was that ever conveyed to

4   you?

5   **A.**   I'm sorry. What was the question?

6   **Q.**   The question is whether you understood that the Court said

7   the following: "To the extent that the third-party witnesses

8   are concerned with an adverse credibility determination at the

9   bench trial, they should ensure that they adequately and

10 timely produce such documents in advance of their deposition."

11 Did you ever come to understand that the Court had made that

12 request?

13 **A.**   No. I am not aware of that.

14 **Q.**   Would you have produced your documents had you known that?

15 **A.**   Probably not because I don't -- I did not come into this

16 feeling like my credibility would be questioned.

17 **Q.**   Okay. Well, I'm saying to you now that the Court has said

18 that that's an issue, now that you have learned that, would

19 you have done something differently?

20 **A.**   I don't know. Honestly, I haven't thought enough about

21 it. It seems like something that I would have to take time

22 and think about.

23 **Q.**   Okay. Fair enough.

24   Okay. Let's move on. You aware, ma'am, that Apple has

25 App Store guidelines; correct?

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1   **A.**   I am.

2   **Q.**   And part of your role at Microsoft is to know that the

3   Apple App Store -- what the rules are and understand how the

4   app review process goes; right?

5   **A.**   That's correct.

6   **Q.**   And you know that any app that seeks to be on the App

7   Store must comply with the App Store guidelines; right, ma'am?

8   **A.**   Yes.

9   **Q.**   And at some point, you approached Apple about getting

10 Microsoft's Cloud gaming streaming service on the App Store;

11 right? You just testified about that this morning?

12 **A.**   Right. That's correct.

13 **Q.**   You made an initial request of Apple. You talked about

14 that; correct? That happened.

15   And when you submitted that first proposal to Apple, Apple

16 responded that the proposed app violated Apple's app review

17 guidelines; right?

18 **A.**   Yes, but they invited us to a meeting in Cupertino to

19 discuss ways that we could look for ways to solve them.

20 **Q.**   Absolutely. In fact, they engaged you in further

21 conversation; correct?

22 **A.**   Uh-huh.

23 **Q.**   And --

24   **THE COURT:**   That's a "yes"?

25   **THE WITNESS:**   Yes.

1   **BY MR. SRINIVASAN:**

2   **Q.**   And, in fact, if you recall, Apple identified three

3   specific reasons for why they object -- why the app was

4   rejected; right?

5   **A.**   Can you state the three because I can probably name more

6   than three.

7   **Q.**   Sure. But we -- well, let's take them one at a time. You

8   can tell me if there is more.

9   **A.**   Okay.

10   **Q.**   The first one was that the proposed xCloud app used remote

11   streaming which the App Store guidelines did not permit;

12   right?

13   **A.**   That's correct.

14   **Q.**   And Apple worked --

15   **A.**   I'm sorry. Let me correct that.

16   Prevent for gaming because they do -- they do allow that

17   for all other forms of media and entertainment.

18   **Q.**   Right. You mentioned that earlier. If you could just

19   stick to my questions, and you will have a chance to say those

20   things again, perhaps with Epic's counsel.

21   But Apple then worked with you on the remote streaming

22   issue, and eventually they amended their App Store guidelines

23   for everybody to allow streaming services; right?

24   **A.**   Yes. That that one particular policy they did amend

25   roughly six or eight months later.

1   **Q.**   Okay. So it was amended?

2   **A.**   Correct.

3   **Q.**   Okay. And then -- by the way, for its part, Microsoft

4   doesn't allow other streaming services on the Xbox Store, does

5   it?

6   **A.**   No. It's a closed ecosystem.

7   **Q.**   So under no circumstances could another streaming service

8   be on the Xbox; is that right?

9   **A.**   Generally available today, no, that's accurate.

10   **Q.**   Whereas with Apple now with the amendment, a streaming

11   service of some type could in fact be put on the App Store;

12   right?

13   **A.**   That being said, to my earlier point, Apple has

14   historically allowed many streaming services on --

15   **Q.**   So that's a "yes," ma'am?

16   **A.**   It's a "yes," that they were changing it to include gaming

17   for the first time.

18   **Q.**   Okay. Good.

19   And then let's go back to the xCloud proposal itself. A

20   second issue that Apple flagged as an App Store guideline

21   violation had to do with Microsoft publishing third-party

22   content; correct?

23   **A.**   That's correct.

24   **Q.**   Right. And Apple solved that issue for Microsoft as well;

25   right?

1   **A.**   Yes. They did allow -- they permitted later down our

2   discussions for third-party content to come into a catalog.

3   **Q.**   Terrific.

4   And then the third and final issue was that, quote, "the

5   catalog for games would have to be individually separated one

6   by one to comply with the Xbox guideline." That was the third

7   issue; correct?

8   **A.**   That was the third issue in the order that you said them.

9   It's the first issue in terms of delivering the service at

10   all.

11   **Q.**   And that's the one issue that the two companies couldn't

12   overcome; correct?

13   **A.**   That's correct.

14   **Q.**   And so you understood very clearly what the reason Apple

15   was telling you for why the streaming service that you were

16   offering wasn't compliant; correct?

17   **A.**   We understood that Apple, as you are suggesting, often

18   amends policies as they take in new information and as time

19   progresses and they see what is happening, and this was a case

20   where they amended, too, but they did not amend the primary

21   issue.

22   **Q.**   You're not contending here that Apple somehow misapplied

23   its guidelines or treated you unfairly but that they weren't

24   willing to amend this particular guideline for Microsoft;

25   correct?

1   **A.**   I won't say for Microsoft. They weren't willing to amend

2   this for any gaming company.

3   **Q.**   Sure. For anybody. But that was the sticking point that

4   you had with Apple; correct?

5   **A.**   Yes. Which fundamentally breaks down the service we were

6   trying to deliver.

7   **Q.**   And would you agree that Apple tried to meet you halfway

8   to fix the problem for Microsoft?

9   **A.**   In what sense?

10   **Q.**   In terms of trying to work with Microsoft? They amended

11   two out of the three rules; correct?

12   **A.**   But they are not relative importance. The first issue --

13   the third issue in your list is the main issue and the other

14   two are relevant if you can't get through the first -- the --

15   the -- being able to give a game catalog.

16   **Q.**   Right. And it was in the context of this discussion you

17   had with Apple that you had one of your meetings with Apple

18   folks; correct?

19   **A.**   We had several meetings with Apple folks, yes.

20   **Q.**   It was in the context of one of those meetings that one of

21   your colleagues took notes of that meeting to understand what

22   occurred in that meeting; correct?

23   **A.**   No. The meeting that a colleague took notes in was the

24   very first meeting that took place in Cupertino where there

25   were five or six Apple members present as well as five or six

1   people from Microsoft from Xbox.

2   **Q.**   And that meeting was about trying to get xCloud on the

3   service; correct?

4   **A.**   Correct.

5   **Q.**   Yeah. Okay.

6   And those are the notes that you didn't turn over; right?

7   **A.**   But the notes are a recap of the discussion that everyone

8   in that conversation was privy to. They did not contain any

9   other commentary.

10   **Q.**   So that's a yes, you didn't turn them over?

11   **A.**   It's a yes, I did not supply that email to anyone.

12   **Q.**   Right. You didn't send it to Apple either?

13   **A.**   I don't know that. It's actually a good question. I

14   haven't gone back to say did that email -- it very likely

15   could have gone to Apple.

16   **Q.**   And did you have internal discussions with your colleagues

17   about this whole process?

18   **A.**   Oh, sure.

19   **Q.**   And at some point, Microsoft switched gears, correct, and

20   you decided to try to bring the streaming service to iPhone

21   users via the web Safari platform; correct?

22   **A.**   When we realized that after the attempts that we had made

23   that -- in proposing many different ways to be -- to comply

24   with the spirit of what they were asking us to do, that we

25   could not -- we saw no alternative to reach the iOS mobile

1   base of customers without basically starting over and spending

2   the last year, an entire year of an entire organization to

3   rewrite the technology to be delivered over browser.

4   **Q.**   So the answer to my question is yes, you started engaging

5   with Apple to get the service on through the Safari web?

6   **A.**   We reached out to get some understanding on WebKit to

7   point out some issues that were not working with our

8   controller in order to enable us to go over browser, that's

9   right.

10   **Q.**   Okay. And you in fact -- the Microsoft team and you

11   included enlisted the Apple team's help to get the xCloud

12   server working on Apple Safari browser; right?

13   **A.**   I don't know the extent of help. I know that we supplied

14   a list of bugs that we had found and asked for help in fixing

15   the issues to enable it, if that's help.

16   **Q.**   Right. In fact, you -- do you recall that it was a wish

17   list of things that you asked for Apple's web browser team to

18   work with you on to get the xCloud app to work through the

19   Safari browser?

20   **A.**   Yes. But we would have needed none of that if we had just

21   built a native app for the App Store, so based off their

22   direction to go build for browser, we had to start over, and

23   there were material bugs that we needed help to work through

24   in order for that to be possible.

25   **Q.**   So my question was did you provide them a wish list to

1 help you get the app to work over the Safari browser?

2 **A.**   Someone on my team may have. I did not. I will assume if

3 you say a wish list was provided, I know there were a set of

4 issues we had. I don't know how they were provided.

5 **Q.**   Right. And you have not provided us any documents to

6 indicate what you might -- in your view you might have

7 provided Apple. I think you called it a list of bug fixes; is

8 that right?

9 **A.**   That's correct. I don't know how they relate to Apple.

10 **Q.**   Now -- and did you in fact engage throughout with others

11 at Apple while this -- while this process was going on?

12 **A.**   This was about the time we started the parallel tracks of

13 pivot the team to try and rebuild the entire streaming stack,

14 front end, all of the capabilities to go and try and see if we

15 could deliver this over browser. Meanwhile, I kept trying to

16 work with Apple to get the app in the store. A few additional

17 months went by. Apple published the updates to those couple

18 of policies that you mentioned but still left --

19 **Q.**   Ma'am, I'm sorry to cut you off, but I'm actually on a

20 clock, so if you could limit your answers to answering my

21 question.

22   My question was simply whether you met with folks from

23 Apple throughout this process?

24 **A.**   Yes. To answer that I have to give you context to say

25 what meetings was I in and what meetings were others in. I

1   was meeting with Apple still trying to get into the App Store

2   because we know that's how people use mobile applications.

3   **Q.**   And I'm sorry to interrupt there.

4   Did you in fact meet with Shawn Pudden of Apple during

5   this to work with you on the website as well?

6   **A.**   Shawn and I spent most of our time together on the App

7   Store. I -- someone on my team engaged Apple on the Safari

8   work, and I don't know if that went to Shawn or not.

9   **Q.**   And in fact, Apple did in fact respond to the wish list

10   and solved the problems that Microsoft identified; right?

11   **A.**   I don't know if they were solved. I know it's continued.

12   There is always a set of issues we have to engage with as

13   we're trying to go over browsers so I imagine that's

14   continuing to go. It's not like a "here's one set of things

15   we need solved."

16   **Q.**   Did they solve any of the items? They in fact solved a

17   number of the items; right?

18   **A.**   Again, I was not in those conversations so that a

19   different part of my team started that work, and I assumed

20   since we are in beta, that some portion of those got solved.

21   **Q.**   Yeah. Well, in fact that was my next question. The

22   service is available currently in beta on the web browser

23   on -- for iOS users; correct?

24   **A.**   It is available. It's in beta. We're in the learning

25   mode. We're fixing a lot of things. We're learning a lot of

1   things. We're trying to get things to a place that we feel

2   comfortable releasing it commercially.

3   **Q.**   And so they -- Apple helped you get to this place;

4   correct?

5   **A.**   I -- as I said, someone on my team had been working to get

6   the bug fixes solved. If that is helping us to get to this

7   place, sure.

8   **Q.**   Okay. And in fact the beta is now out. Have you read any

9   of the reviews of the service yet?

10   **A.**   I have not read a ton of the reviews. I've seen some of

11   the headlines. I've seen more of the internal reports on it.

12   **Q.**   And that surprises me because this is a project obviously

13   you have been working on for a long time. You haven't

14   bothered to look at what the public is saying about this

15   service?

16   **A.**   My focus shifted elsewhere after we hit the impasse on the

17   App Store, and, like, I still am very much looking at the --

18   the overall gaming business, but I am not as close to xCloud

19   as I once was based off of an expanded scope of things I'm

20   looking at.

21   **Q.**   Okay. And so you're not aware that, among other things,

22   press reviews have said the xCloud gaming service -- sorry --

23   the xCloud gaming is already a super-solid experience on PC

24   and iOS. Have you heard that?

25   **A.**   Yes. I've seen some press headlines that are very

1   positive on it, that's for sure.

2   **Q.**   Do you disagree with that?

3   **A.**   No.

4   **Q.**   Have you heard that "The overall performance of every game

5   I tried on the Xbox" -- "xCloud streaming platform was smooth

6   and stable"?

7   **A.**   Nope. But I believe -- yeah, that could have certainly

8   been the experience.

9   **Q.**   You agree with it?

10   **A.**   Sure.

11   **Q.**   Have you heard that even the beta -- it was described as

12   "a remarkably polished one"? Does that surprise you?

13   **A.**   No. But you have to remember what we had to go do. We

14   had to go buy professional license rights to a company in

15   order to give us certain protocols to help with this. We had

16   to rewrite the entire front end, so a lot of this is work that

17   we had to go do to deliver that polished.

18   **Q.**   Certainly. You had to expand your resources to deliver a

19   good product; right?

20   **A.**   To -- yes.

21   **Q.**   That's the gaming world, isn't it?

22   **A.**   To deliver this product in this way, we had to start from

23   scratch and deliver it, yes.

24   **Q.**   Right. And are you heartened by the fact that even the

25   beta has been called a remarkably polished experience for

1   users?

2   **A.**   No. I think it's fantastic.

3   **Q.**   In fact, you expanded the beta just a few days ago. Are

4   you aware that the beta program was expanded by Microsoft to

5   include even more users?

6   **A.**   We did expand the beta program. I'm also aware that we

7   are working through quite a few issues on iOS as well.

8   **Q.**   Do you agree that expanding the beta program suggests that

9   the beta program to begin with has already been successful and

10   is now becoming more successful?

11   **A.**   Yeah. I think that's a great sign that the beta is

12   expanding.

13   **Q.**   And I think you mentioned, Ms. Wright, that with respect

14   to the native app, when you were trying to get the native app

15   on, the issue of commissions wasn't really a problem for

16   Microsoft. In other words, I think you said that you were

17   okay with the revenue share. Was that -- was I right about

18   that?

19   **A.**   It was sort of a tertiary issue in that we knew it would

20   be problematic because of the way our commission splits work,

21   that being able to pay that over the long run to Apple would

22   be challenging. It was not the issue we focused on. We were

23   more focused on how could we instrument this to even be able

24   to pay the commission.

25   **Q.**   Okay. And but you were willing to pay -- you were willing

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1   to work out some sort of monetary arrangement with Apple;

2   correct?

3   **A.**   Yes. Absolutely.

4   **Q.**   That was not the problem?

5   **A.**   That's correct.

6   **Q.**   Right. And so if -- if the xCloud app, the native app,

7   was available on the App Store, which I know you didn't get,

8   but if it was, you would have been paying -- Apple would have

9   made money off of that service correct?

10   **A.**   That's right.

11   **Q.**   Right. And with it being on Safari now, Apple makes no

12   money on that; correct?

13   **A.**   That's correct. It also -- what we had asked Apple to do

14   is potentially just do a consumption app where they also --

15   like many of their services, you don't make money on that in

16   the App Store either. It's for -- an existing subscriber can

17   go and sign in with their existing credentials and play games

18   they already have access to.

19   **Q.**   My question was simpler than that. It was just that Apple

20   does not make money currently on xCloud given that xCloud is

21   streaming on the web and not through the App Store; correct?

22   **A.**   Yes, but I was also answering your question on what they

23   have made money on the App Store and --

24   **Q.**   You had already answered that question, and I appreciate

25   that. Thank you.

1   By the way, you had said in the earlier questioning with

2   the Epic lawyer that publishers cannot distribute directly to

3   consumers on iOS. Do you recall that testimony?

4   **A.**   No. They can distribute to -- directly to iOS through the

5   App Store. They cannot over browser.

6   **Q.**   I think you reversed that. Publishers can distribute

7   directly to consumers through the web browser; correct?

8   **A.**   They can't download the application onto through the

9   browser.

10   **Q.**   But they're playing xCloud streaming directly through the

11   browser; right, ma'am?

12   **A.**   Yes.

13   **Q.**   And Apple does not control that in any way; correct?

14   **A.**   Aside from their engine is what's required to run that

15   experience. Yes. But they control it that way.

16   **Q.**   I don't understand what you mean by the "engine."

17   **A.**   So their browser engine is for Safari and for any other

18   browser that may be running requires Apple WebKit to support

19   that -- to support that browser experience.

20   **Q.**   I'm sorry to -- I keep jumping in.

21   What you are saying is you have to engineer it for the

22   Apple platform; correct?

23   **A.**   Yes. I was just answering your question on does Apple

24   control that. You don't have the same browser you have on PC

25   or macOS on iOS. It's a different browser experience.

1   **Q.**   Right. Understood.

2   And, in fact -- and Apple didn't block Microsoft from

3   allowing the distribution of xCloud through the web browser,

4   did they?

5   **A.**   No.

6   **Q.**   No. They helped you; right?

7   **A.**   They did.

8   **Q.**   Yeah. Okay.

9   **A.**   But we also know that people don't play games over browser

10   traditionally. They play on PC.

11   **MR. SRINIVASAN:**   Your Honor, I don't know if it makes

12   sense in a bench trial, but I move to strike that last piece

13   of the answer.

14   **THE COURT:**   It's stricken. Testimony is struck.

15   **MR. SRINIVASAN:**   Thank you.

16   **Q.**   Let's talk about streaming a little bit, Ms. Wright, just

17   because I'm interested in that, and you were involved in that.

18   And a game streaming service is a model where the games

19   are accessed by the users from whatever device they're using;

20   right?

21   **A.**   Yes.

22   **Q.**   And that would be -- all they need is an internet

23   correction; right, ma'am?

24   **A.**   Correct.

25   **Q.**   And the game is not stored locally on the device?

1   **A.**   Correct.

2   **Q.**   And just -- I can kind of bottom line this, but you talked

3   about a native app for the xCloud, and you talked about a

4   streaming -- over-the-web streaming app for the xCloud. In

5   both cases, you need an internet connection, right, ma'am, to

6   use that service?

7   **A.**   That's correct.

8   **Q.**   And, by the way, you mentioned now for the iPhone to

9   access the xCloud streaming service, you would go to the

10   browser; is that right? The Safari browser?

11   **A.**   If you -- if you don't have an app in the store, you would

12   today go to the browser, that's correct.

13   **Q.**   Okay. And is that how it's accessed on PC, too? Do you

14   know?

15   **A.**   On PC, you can download the client. There's a PC game

16   pass client or you can go over browser.

17   **Q.**   And so whether -- I asked -- I asked a question just a bit

18   ago about the native app or the web app. In both cases you

19   need an internet connection, and you agreed with me; correct?

20   **A.**   Yes. That's correct.

21   **Q.**   And that's true whether you are playing -- if you are

22   playing the streaming service on an Xbox Two; correct?

23   **A.**   If you are playing the streaming service on an Xbox Two,

24   that -- that's correct.

25   **Q.**   And the same for Android and same for PC? It's not unique

1   to Apple, in other words?

2   **A.**   Any game delivered over the internet needs an internet

3   connection.

4   **Q.**   Would you say -- would you agree that Microsoft is

5   investing millions of dollars in xCloud?

6   **A.**   Yes.

7   **Q.**   And Microsoft plans to continue doing so?

8   **A.**   Yes.

9   **Q.**   There are a number of companies who also investing in

10   streaming services; correct?

11   **A.**   That's correct.

12   **Q.**   Google is; correct?

13   **A.**   Yes, although -- yes.

14   **Q.**   Amazon is; correct?

15   **A.**   Correct.

16   **Q.**   Okay. And are you aware of an in-service Nvidia called

17   GeForce Now?

18   **A.**   Yes.

19   **Q.**   And they are also investing; correct?

20   **A.**   Yes.

21   **Q.**   By the way, none of these services need to be on the App

22   Store for users to enjoy them; correct?

23   **A.**   Umm, I think many of -- I certainly know that there were

24   attempts by those to get into the App Store, but they do not

25   for different reasons. Stadia is focused on a different

1   device form factor and -- and Amazon, I think, saw what was

2   happening and built a web app.

3   **Q.**   Okay. I -- let's switch gears and talk about the console

4   business for a second, Microsoft's console business.

5   You -- I think you mentioned you're generally aware of the

6   console business; is that right?

7   **A.**   Yes.

8   **Q.**   And you understand, ma'am, that the only way to digitally

9   download a game on the Xbox platform is through the Microsoft

10   store, correct, the Xbox Store?

11   **A.**   Correct.

12   **Q.**   And the only way you can do an in-app purchase is through

13   the Xbox Store; correct?

14   **A.**   Correct.

15   **Q.**   And Microsoft does not allow users to directly download

16   games from a developer's website onto their Xbox machine;

17   right?

18   **A.**   That's correct.

19   **Q.**   And have you heard any developer ever complain about this?

20   **A.**   I would not be the one they would complain to, so no.

21   **Q.**   But you haven't?

22   **A.**   No.

23   **Q.**   You don't think it's unfair for Microsoft to have this

24   requirement?

25   **A.**   I -- it goes back to the earlier conversation of we

1   subsidize the console. It's a closed ecosystem for a gaming

2   device, so, no, I don't in this scenario.

3   **Q.**   So the answer is no, you don't think it's unfair?

4   **A.**   No.

5   **Q.**   You don't think it's an antitrust violation; right?

6   **A.**   I don't. And also given the relative small number of

7   consoles to phones.

8   **Q.**   Just so I can get a clear answer for the world, you don't

9   believe it's an antitrust violation for Microsoft to have this

10   rule?

11   **A.**   I'm not an antitrust expert.

12   **Q.**   So you don't know?

13   **A.**   I don't know.

14   **Q.**   And Microsoft does not allow third-party apps stores on

15   the Microsoft store either; right?

16   **A.**   With the exception of the EA Play.

17   **Q.**   And what about the Epic Games Store? Do you allow the

18   Epic Games Store in the Xbox Store?

19   **A.**   No.

20   **Q.**   And do you think it's unfair for Microsoft to prohibit the

21   Epic Games Store to be able to be on the Xbox?

22   **A.**   No, because people's behavior on PC is -- the standard

23   behavior is to go out to a URL and access other stores and so

24   there's no need to do that. It's -- it's -- it's very

25   standard behavior for users to access it through other means.

1   **Q.**   So the answer is you don't think it's unfair?

2   **A.**   No, I do not think it's unfair.

3   **Q.**   And you don't think it's an antitrust violation, do you?

4   **A.**   Again, I'm not antitrust expert.

5   **Q.**   Not sure. It could be?

6   **A.**   Don't know.

7   **Q.**   And Microsoft -- I think we covered this already, but you

8   don't allowed third-party streaming services on the platform

9   either; right?

10   **A.**   On which platform?

11   **Q.**   On the Xbox.

12   **A.**   On the console or the PC?

13   **Q.**   On the console.

14   Is there a PC version of the Xbox? I thought there was

15   just an Xbox console --

16   **A.**   Xbox is our master brand for all our of products and

17   experiences. There is an Xbox console.

18   **Q.**   So for the console?

19   **A.**   What was the question again?

20   **Q.**   Sure. I actually should ask a question because I think in

21   your prior testimony you often just said "Xbox," and by saying

22   "Xbox," did you mean to include potentially an Xbox PC in

23   those answers?

24   **A.**   When we were speaking on Xbox -- and I tried to narrow

25   that directly to the console -- I meant the console. It would

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1   depend on the question.

2   **Q.**   Okay. So we'll keep that in mind.

3   So just for the Xbox console, you do not allow third-party

4   streaming services on the platform; correct?

5   **A.**   That's correct.

6   **Q.**   Okay. And Microsoft does not allow developers of Xbox

7   games to use their own payment processing solution on the

8   console; correct?

9   **A.**   That is correct.

10   **Q.**   And you've never heard a developer complain about that,

11   have you, ma'am?

12   **A.**   Again, developers would not complain to me.

13   **Q.**   But you've never heard any complaints?

14   **A.**   No.

15   **Q.**   You were the witness we have for Microsoft. You're not

16   aware of any Epic complaint to Microsoft about this

17   requirement, are you?

18   **A.**   Epic complaint to Microsoft about this, no, I'm not aware

19   of it.

20   **Q.**   You're not aware of it?

21   **A.**   No.

22   **Q.**   Do you think it's unfair for Microsoft to require

23   developers to use Microsoft's commerce system through the Xbox

24   console?

25   **A.**   No, for the reasons I stated earlier, that we pay for the

1   console and that is how our business model is -- works in

2   order for us to maintain any profitability.

3   **Q.**   Okay. Do you think it's anticompetitive for Microsoft to

4   have this requirement on the Xbox?

5   **A.**   I do not know based on my antitrust experience.

6   **THE COURT:**   You are going to have to keep your voice

7   up please.

8   **THE WITNESS:**   Okay.

9   **THE COURT:**   Thank you.

10   **BY MR. SRINIVASAN:**

11   **Q.**   Ma'am, I think you testified earlier -- you just

12   referenced it again -- it's okay for Microsoft to charge a 30

13   percent commission on Xbox because you don't make money on the

14   console. Did I get that right?

15   **A.**   Our model -- I don't set our commission structures. There

16   is a consideration that we have to fund the console in order

17   to produce the experience that we do for gamers, and part of

18   that commission goes to make it possible for us to build a

19   console.

20   **Q.**   And so is part of the justification for the 30 percent is

21   that Microsoft doesn't make money on the console. Am I just

22   understanding that's your view?

23   **A.**   My justification is it's required in order for us to be

24   able to even build the console.

25   **Q.**   Okay. And so -- so you agree, though, that the Xbox

1   business when you consider both the hardware and the software

2   side, that that is profitable? Am I right about that?

3   **A.**   Yes.

4   **Q.**   Okay. And do you think that's the -- that's the holistic

5   way in which you have to look at it?

6   **A.**   Yes.

7   **Q.**   Now, isn't it true, ma'am, that over the life of a

8   particular -- let me back up and lay some foundation.

9   I think you pointed to what's in the courtroom here. Is

10   that the current iteration of the Xbox console?

11   **A.**   Yes. That's our current Series X model.

12   **Q.**   That Series X. Before that, was it Xbox One? Am I right

13   about that?

14   **A.**   We have another smaller version of that called a Series S

15   and there is a 360, an Xbox One.

16   **Q.**   Those are successive generations of the Xbox; am I right

17   about that?

18   **A.**   Correct. Except the X and S were the last generation that

19   came out.

20   **Q.**   Got it.

21   **A.**   Together, roughly.

22   **Q.**   The X and S are the current generation, two flavors, but

23   they were the 360, the Xbox One, and the original console.

24   Those are prior generations?

25   **A.**   Yes. Correct.

1   **Q.**   I just want to set that up because isn't it true that over

2   the generation -- excuse me -- over the lifespan of a single

3   generation of the hardware console, Microsoft ends up

4   eventually making money on the console?

5   **A.**   I -- we don't make money on the console. We have a

6   profitable business at the end. The console economics don't

7   change. It just means the business becomes profitable.

8   **Q.**   Doesn't the cost of making the console drop over time such

9   that over the life cycle of the particular generation,

10   Microsoft makes money on the console itself?

11   **A.**   No.

12   **Q.**   Okay. And how do you know that?

13   **A.**   It's my understanding of how the business works.

14   **Q.**   In fact, you received the P&L for the Xbox business;

15   right?

16   **A.**   Yes.

17   **Q.**   And you've looked at the P&L of the Xbox business; right?

18   **A.**   Yes.

19   **Q.**   And, again, they're in your files; right?

20   **A.**   Correct.

21   **Q.**   And if we had produced them, we could ask you about it and

22   test your opinion on this; correct? Isn't that fair?

23   **A.**   Sure.

24   **Q.**   Okay.

25   And, by the way, do you understand that Mr. Sweeney of

1   Epic has also repeatedly used the line that the reason it's

2   okay for the consoles to charge 30 percent or for Microsoft to

3   do so is because they lose money on the console?

4   **A.**   No.

5   **Q.**   You're not aware that he said that also?

6   **A.**   No.

7   **Q.**   Okay. And do you have any idea of how he would know that?

8   **A.**   I -- I have not talked to Mr. Sweeney so I don't know, no.

9   **Q.**   As far as you aware, nobody shared the P&L with him;

10   right?

11   **A.**   No. I have no knowledge of it.

12   **Q.**   Ms. Wright, let's move on to another subject.

13   You are familiar with Microsoft's ten principles for the

14   App Store; correct?

15   **A.**   No. It was when -- I understand that it exists, but I

16   don't -- am not closely familiar with it.

17   **Q.**   You remember looking at those rules at your deposition,

18   though; right?

19   **A.**   Yes.

20   **Q.**   And -- well, let's introduce, if we may, 5518, and I will

21   hand you a binder in a second, Ms. Wright.

22   May I approach, Your Honor?

23   **THE COURT:**   You may.

24   **THE WITNESS:**   Thank you.

25

1   **BY MR. SRINIVASAN:**

2   **Q.**   If you can tab over to 5518, Ms. Wright. And do you

3   recognize this as a document that your company produced in

4   this litigation?

5   **A.**   I recognize it only because it was showed to me at the

6   deposition.

7   **Q.**   And so you do recognize testifying about this document at

8   the deposition?

9   **A.**   I do.

10   **Q.**   Do you have any doubt that this is a document created by

11   Microsoft?

12   **A.**   No.

13   **Q.**   Okay.

14   Your Honor, I would like to move 5518 into evidence.

15   **THE COURT:**   Any objection?

16   **MR. EARNHARDT:**   No objection.

17   **THE COURT:**   Counsel, hold on.

18   Counsel for Microsoft, any objection?

19   **MR. CHIAPPETTA:**   Your Honor, I don't believe I have a

20   copy of this document here. Could I please be provided one?

21   **THE COURT:**   What I show is a redacted version.

22   **MR. CHIAPPETTA:**   No objection, Your Honor.

23   **THE COURT:**   All right. Proceed. Admitted. 5518 as

24   redacted.

25   (Defense Exhibit 5518 received in evidence)

1   **MR. SRINIVASAN:**   Thank you, Your Honor.

2   **Q.**   If you could tab -- I'm sorry. If you could tab to the

3   second page of this document. It's also on the screen in

4   front of you.

5   Do you recognize these as the ten app store principles as

6   being -- from Microsoft?

7   **A.**   On this document, I recognize that it is a document showed

8   to me in the deposition and it -- I have no reason to believe

9   it's not from Microsoft.

10   **Q.**   Okay. And the Microsoft console business, the Xbox

11   business, does not abide by these very rules that Microsoft

12   has proposed for the Windows business; correct?

13   **A.**   I believe that to be true, yes.

14   **Q.**   Right. If we can just look, for instance, at the first

15   principle on here, and that principle says, to quote, "not

16   block competing app stores," end quote, so that developers,

17   quote, "have the freedom to choose," end quote, whether to

18   distribute their apps through your store. That's principle

19   number one. Did I distill that correctly?

20   **A.**   I believe so. I'm reading it with you.

21   **Q.**   And you agree that the Microsoft App Store does not --

22   excuse me -- that the Xbox Store on the console does not abide

23   by that rule; correct?

24   **A.**   Yes.

25   **Q.**   Second principle is that, "We will not block an app based

1   on a developer's business model or how it delivers content and

2   services."

3   And that's also not how Xbox works; correct?

4   **A.**   I mean, I'm parsing these sentences with you for the first

5   time. I -- I don't know that it is about a developer's

6   business model or how it delivers content and services being a

7   deciding factor of what goes on to the Xbox console.

8   **Q.**   Well, you won't allow competing streaming services on the

9   console; correct?

10   **A.**   We don't today.

11   **Q.**   Okay. And so fair to say that this is a -- number two is

12   not a policy that has been adopted for the Xbox Store?

13   **A.**   That's correct, yes. To the extent that it's about

14   business model or how it's delivering content or services.

15   **Q.**   In fact, you don't allow other streaming stores on the

16   Xbox; correct?

17   **A.**   That's correct.

18   **Q.**   Or streaming services. I misspoke, as well.

19   **A.**   That's correct. But there is other types of content that

20   doesn't get on there as well.

21   **Q.**   Right. And the third principle is "not to block an app

22   based on a developer's choice of which payment system to use

23   for processing purchases made." And, again, Microsoft does

24   not comply -- the Xbox console business does not comply with

25   that principle either; correct?

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1 **A.**   That's correct.

2 **Q.**   And while Microsoft reduced its commissions -- speaking of

3 commissions on the Windows Store to 12 percent, I think you

4 testified, you have not done so for the Xbox console; correct?

5 **A.**   That's correct.

6 **Q.**   You can put that aside, ma'am.

7   And I think you -- you talked earlier about users using

8 different types of devices, either a console, PC, or phones.

9 And you agree that people who play games on iOS are also

10 likely to play on a console; correct?

11 **A.**   No. I think that the opposite is true. I think people

12 who are playing on a console are likely to play on their

13 phone, but given the size of the phone market and the -- the

14 relative small size of the console market, I don't believe

15 it's true that people playing on a mobile are also playing on

16 a console.

17 **Q.**   Let me just make sure I'm asking this question clearly.

18   So people who play on the iOS platform through the App

19 Store are likely to also be playing on a console platform that

20 might well be a Sony or could be an Xbox; correct?

21 **A.**   No. There are 1.65 billion iOS devices. The total

22 console market is 150 million devices, so, no.

23   **MR. SRINIVASAN:**   Your Honor, 97, 13 to 18.

24   **THE COURT:**   Go ahead. You can read it.

25   **MR. SRINIVASAN:**   Thank you, Your Honor.

1 **Q.**   Ms. Wright, the question from your deposition was:

2   "Q. So the people who play on say iOS's platform on the

3 App Store are, in your mind, likely to also be playing on a

4 console platform that might well be Sony, it might be as well

5 Xbox?"

6   And the answer was "correct."

7   Let me --

8 **A.**   If I could just -- that's seven hours of testimony

9 where -- but, yes.

10   **THE COURT:**   It's stricken.

11   **THE WITNESS:**   Thank you.

12   **THE COURT:**   When you said something inconsistent

13 before, they are entitled to mention that in trial, and if

14 someone wants to allow you to rehabilitate yourself, they

15 will.

16   **THE WITNESS:**   Thank you.

17   **THE COURT:**   Proceed.

18   **MR. SRINIVASAN:**   Thank you, Your Honor.

19 **Q.**   And, Ms. Wright, the majority of people who play games on

20 console platforms also play on mobile platforms, the other way

21 around; correct?

22 **A.**   That is correct.

23 **Q.**   And, in fact, people who play games on console platforms

24 also play often on a PC; correct?

25 **A.**   That is -- yes. Some portion of people play console and

1   PC.

2   **Q.**   And so wouldn't you agree that developers have multiple

3   avenues to reach these consumers? Multiple platforms?

4   **A.**   Yes, but there is a caveat in the -- just the sheer

5   numbers we talked about earlier, 95 percent of people on

6   mobile versus the relative size of PC and console gamers.

7   **Q.**   And developers have the option to reach all of those

8   people; correct?

9   **A.**   Not if they can't get into the App Store on mobile.

10   **Q.**   But you testified earlier that they can in fact get on --

11   they can get on iPhones through the web Safari browser;

12   correct?

13   **A.**   They can. The majority don't. The vast -- 90-plus

14   percent go through the App Store.

15   **Q.**   But going back to what your testimony was, that the folks

16   who are on iOS are also playing on other devices such as

17   yours; correct? That was what we were just read?

18   **A.**   Will you repeat the question, please?

19   **Q.**   I will move on. It's fine.

20   So I want to get back to your testimony about competition.

21   You had testified that -- you made some broad comments about

22   competition in -- as Microsoft sees it; right? And it was

23   also your testimony that you don't look at certain segments of

24   the market as being competitors; right?

25   **A.**   Sure.

1   **Q.**   Okay. And before we get into that, I think you talked

2   about AAA games as something that you feature on the Xbox; is

3   that right?

4   **A.**   That's correct.

5   **Q.**   And AAA -- would you include *Fortnite* as a AAA game?

6   **A.**   There is, I think, varying definitions of what an AAA game

7   is. I think *Fortnite* started as an independent game, grew

8   into what is inarguably an AAA game so, yes.

9   **Q.**   Is that a "yes"?

10   **A.**   Yes. But there is differing standards, but, yes. We will

11   call it an AAA game.

12   **Q.**   And *Fortnite* is also available on mobile devices; correct,

13   ma'am?

14   **A.**   A version of *Fortnite* has been written for mobile devices,

15   yes.

16   **Q.**   You said repeatedly earlier in your testimony about

17   versions that are written for different platforms. I mean,

18   you would agree with me to introduce a game on different

19   platforms, they have to be separately written for the

20   different platforms; correct? They have to separately be

21   coded for the specific platform?

22   **A.**   Yes. And the reason why I keep making an emphasis on that

23   is because it's often believed well, it's easy, just move that

24   game over to iOS. It's not like it's asking Steven Spielberg

25   to go reshoot Jurassic Park so it will run on iOS. It's a

1   different effort and different version of a game.

2   **Q.**   I'm not interested in any of those things or Steven

3   Spielberg. I'm just asking, not the back story to it, but

4   just it's just a fact of life that an engineer has to

5   separately program a particular game for each different

6   platform; correct?

7   **A.**   That is correct. And it is no small effort.

8   **Q.**   Right. It's not a small effort, but you were drawing a

9   distinction this morning about how the game has to be

10   separately engineered for Xbox versus iOS as a distinction

11   between the two products. Do you recall that?

12   **A.**   Yes.

13   **Q.**   But that's true whether it's for the Xbox or the Sony

14   PlayStation or Nintendo or Android; correct?

15   **A.**   That's correct.

16   **Q.**   Right. So that's just -- you have to port it to the

17   different platforms?

18   **A.**   No. It's not just a porting exercise. There is a rebuild

19   of some of these games, and it just won't run. You can't just

20   port Halo onto iOS.

21   **Q.**   Understood. But you have to engineer it for the platform.

22   That's all I'm trying to get at here.

23   **A.**   Correct.

24   **Q.**   When I say the game is available for the user on these

25   different platforms, the game is the same. For instance,

1   *Fortnite* is the same for an iOS user versus an Android user

2   versus an Xbox or a Sony PlayStation; correct?

3   **A.**   There are differences in the way that it shows up, how the

4   game plays. There are differences.

5   **Q.**   Okay. Would you defer to Mr. Sweeney's testimony on that

6   over yours?

7   **A.**   No. I think he would certainly be able to testify on

8   *Fortnite*. I'm making more generalities about other games in

9   the category aside from *Fortnite*.

10   **Q.**   Sure. And there are plenty of other games in addition to

11   *Fortnite* where users on a particular platform like a mobile

12   device will play against a user on your Xbox; correct?

13   **A.**   Correct.

14   **Q.**   Is there any doubt in your mind that that's true?

15   **A.**   No. I was processing your question.

16   **Q.**   And there are a lot of games like that; right?

17   **A.**   Where you are doing cross-platform play from a console to

18   iOS? Is that your question?

19   **Q.**   Sure. Let's start there.

20   **A.**   There's -- there's some games like that.

21   **Q.**   Okay. And then there are other games where there may not

22   be cross-platform play, but the same title is offered on the

23   different platforms; correct?

24   **A.**   In many cases, it's a different title. It's the same

25   franchise brand, but it's titled differently. For instance,

1   we have to write a mobile version. For instance, one of our

2   console versions, we have to go write a mobile-friendly

3   version by which we rename it for street so it can run on iOS.

4   **Q.**   You have made that point that it has to be separately

5   engineered, but the game is available on iOS; right?

6   **A.**   A different game that uses that franchise brand is

7   available on iOS.

8   **Q.**   So it's a different game but with the same title?

9   **A.**   A different game oftentimes with a different title that

10   ties into the master franchise brand.

11   **Q.**   Is that part of the marketing campaign, is to not have the

12   same title for the same game even though it feels like the

13   same game?

14   **A.**   No. Many times they're different games. They feel

15   different. They operate different. They're just leveraging

16   the marketing brand of that, but it is a different version of

17   the game that is written to run on iOS.

18   **Q.**   Okay.

19   **A.**   Or on mobile platforms or any mobile platform.

20   **Q.**   Thank you, ma'am.

21   If you could turn back to DX -- it's in the black binder

22   there -- 5523 that you testified with Epic's counsel.

23   Do you recall testifying earlier today to this document,

24   Ms. Wright?

25   **A.**   I do.

1   **Q.**   And I guess I'm -- I will be mindful of the

2   confidentiality. I don't think it will be an issue.

3   This --

4   **THE COURT:**   Do you have a copy?

5   **MR. CHIAPPETTA:**   Yes, Your Honor. This has been

6   admitted previously.

7   **THE COURT:**   Okay.

8   **BY MR. SRINIVASAN:**

9   **Q.**   And this is called "Game Industry Profit," is the name of

10   this deck; correct?

11   **A.**   Correct.

12   **Q.**   Okay. And this is a Microsoft document that you testified

13   about that you're gaming division made; correct?

14   **A.**   Correct.

15   **Q.**   And you testified about several slides on this deck;

16   correct?

17   **A.**   Correct.

18   **Q.**   And let's turn to slide 11, which is 5523.011. And in

19   this slide where you are talking about the gaming industry,

20   you have a whole column here for mobile; right?

21   **A.**   That's correct.

22   **Q.**   So this is an example of Microsoft looking at the mobile

23   space in evaluating the gaming industry?

24   **A.**   Correct.

25   **Q.**   And I won't belabor this point, but the evaluation of the

1   mobile segment is all over this slide; correct, ma'am?

2   **A.**   Yes. I see mobile on this slide or on the deck or this

3   particular slide.

4   **Q.**   I'm sorry. In the deck.

5   **A.**   Yes.

6   **Q.**   And, in fact, so at least in this example, Microsoft was

7   looking very closely at mobile in evaluating its console

8   business; correct?

9   **A.**   No. I don't think that's a fair statement. I think we

10   were looking at mobile as a segment of the game industry as a

11   whole. It wasn't about evaluating our console business

12   per se.

13   **Q.**   But mobile is a factor and is a major consideration in how

14   you are evaluating your console business; right?

15   **A.**   No, that's not correct. This is -- mobile is a big

16   portion of where games in the industry are played, and so you

17   must look at the mobile market to look at the industry

18   overall, but it was not used in relation to how we think about

19   our console business.

20   **Q.**   Okay. And so I'm kind of confused by that question, but

21   I'll just skip it and just say you would agree with me that

22   starting on page 9, 10, 11, 12, 13 and so on, there is a

23   discussion of the mobile business in talking about the gaming

24   business in which Microsoft operates; correct?

25   **A.**   The gaming business, that's right. Yes. As we talked

1   about earlier, that, you know, mobile operates differently

2   today, but it's a vast part of the overall gaming industry

3   that has to be considered in any industry analysis.

4   **Q.**   Okay. Thank you.

5   And I wanted to introduce a document. Your Honor, this

6   is --

7   **THE COURT:**   You need to stay by the mic, sir.

8   **MR. SRINIVASAN:**   Yes. Sorry, Your Honor.

9   Your Honor, this is an exhibit that has not yet been

10   marked. And do we have a sticker?

11   **THE COURT:**   Okay. I think -- well, I don't know what

12   the last in order is off the top of my head. Hold on.

13   **MR. SRINIVASAN:**   I understand, Your Honor. And we

14   can get the number.

15   There was a stipulation that Microsoft provided to

16   authenticate and establish business record foundation that was

17   submitted and that this is part of that submission. I

18   apologize that we don't have the number, but this is a

19   reaction to what happened in direct examination.

20   **THE COURT:**   I'm looking at 5536 is next in order.

21   **MR. SRINIVASAN:**   Actually, I misspoke, Your Honor. I

22   understand that this is actually 5363. It has been marked as

23   an exhibit. I just don't have a sticker on it.

24   **THE COURT:**   That's fine. If you will hand it to

25   Ms. Stone. 5363?

1   **MR. SRINIVASAN:**   And just for the record -- I

2   apologize. The number is 5363, and the reason it is not

3   stamped, I am told, is that it's -- it came in as a native

4   document.

5   **THE COURT:**   Okay.

6   **MR. SRINIVASAN:**   May I approach, Your Honor?

7   **THE COURT:**   You may. Proceed.

8   **BY MR. SRINIVASAN:**

9   **Q.**   Ms. Wright, have you had a chance to look at Exhibit 5336?

10 **A.**   No. I'm sorry. Where would I even find 5363?

11   **MR. EARNHARDT:**   Your Honor, counsel doesn't have a

12 copy for me. Can you give me one second to try to see if we

13 have one?

14   **MR. SRINIVASAN:**   It's on the exhibit list,

15 Your Honor. And I apologize for this, Your Honor. This came

16 up as a result of her direct examination. We made as many

17 copies as we could.

18   **THE COURT:**   Here. Take this one. Let's keep going.

19   Ms. Stone, you can give them mine? I will get one later.

20 Let him use that.

21   **MR. SRINIVASAN:**   I apologize, Your Honor.

22   **THE COURT:**   We have about 150 binders in here and not

23 a single copy, extra copy.

24   **MR. SRINIVASAN:**   I apologize, Your Honor. I think we

25 won't be long with this document.

1 **Q.**   Ms. Wright, have you seen this document before?

2 **A.**   No. It's dated 2011. So 2011. Ten years ago.

3 **Q.**   So that was before you took the role as -- as head of

4 Xbox; correct?

5 **A.**   Yes.

6 **Q.**   Do you see that the title of the document is "Xbox Live

7 Marketplace Future Strategy"?

8 **A.**   I do, but, again, this is a ten-year-old document.

9 **Q.**   I appreciate that. Thank you, ma'am.

10 **A.**   Uh-huh.

11 **Q.**   Let's turn to slide 18, and do you see there that the

12 slide 18 is titled, "On the whole, technology trends point

13 expanding options for delivery of high quality games."

14 **A.**   Yes, I do.

15 **Q.**   And do you see that in the various categories of games

16 that are listed there, listed even as early as 2011 is console

17 and PC games as one category; correct, ma'am?

18 **A.**   That's correct.

19 **Q.**   And then the next category there is mobile games?

20 **A.**   That's correct.

21 **Q.**   And then the next category is streaming games?

22 **A.**   Correct.

23 **Q.**   Let's move to page 32. And am I right in reading the

24 heading on page 32 is, "Over the next three years, mobile and

25 handhelds will lead the growth in gaming devices"?

1   **A.**   That's what the headline says, yes.

2   **Q.**   So would you agree with me that as early as ten years ago

3   Microsoft was viewing the mobile space as a potential

4   competitor in gaming?

5   **MR. EARNHARDT:**   Object to the form of the question.

6   **THE COURT:**   Overruled. If you know.

7   **THE WITNESS:**   Well, it talks about handheld. A

8   switch can be a handheld as a gaming device. There is all

9   sorts of form factors. When it talks about mobile, yes, I

10   assume from this title it's saying that -- I'm reading it as

11   we go -- that there will be a growth in mobile and you can

12   play games on them, yes.

13   **BY MR. SRINIVASAN:**

14   **Q.**   You agree with me Microsoft was looking at this as early

15   as ten years ago, looking at the mobile side of the gaming

16   business?

17   **A.**   I agree with that, but to the point that you can play

18   games on mobile, right. That's -- it's --

19   **Q.**   The question was, ma'am, was -- your testimony earlier

20   today is that Microsoft does not look at mobile in evaluating

21   competition in the games business. My question is simply to

22   you, do you agree with me that this slide references mobile as

23   a competitor in the gaming space?

24   **A.**   My testimony was that people play on multiple devices,

25   right, mobile being one of them, the most prevalent device.

1   In any industry analysis, mobile would have to be part of the

2   consideration. So, yes, 10 years ago were we looking at

3   mobile market share, that is absolutely a fair statement.

4   **Q.**   And you still are; right, ma'am?

5   **A.**   Of course. And every industry report would.

6   **Q.**   Let's look at one more slide, slide 37. Do you see in

7   slide 37 it has again the title, "The availability and

8   popularity of games on app stores is driving consumer wireless

9   game adoption"? Did I read that right?

10   **A.**   You did read it right.

11   **Q.**   Right. And there is some graphs and there is a little

12   Apple icon for one of the graphs and there is a Microsoft icon

13   right next to it, isn't there, ma'am?

14   **A.**   I'm looking at this document at the same time. Yes. I

15   see that.

16   **Q.**   This was ten years ago? Again, I hate to belabor it --

17   **A.**   Yes.

18   **Q.**   So Microsoft, as early as ten years ago, was in fact

19   looking at app stores on mobile devices as competition for the

20   games market?

21   **A.**   We have games in the app store today. Of course we would

22   look at the app store. When I talk about competition, though,

23   it is not that either/or scenario. You're not playing one at

24   the expense of another.

25   **Q.**   Okay. If we can then turn to another exhibit, and I

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1   hate -- this is another one, Your Honor, that we only have

2   three copies. I apologize.

3   THE COURT: Just give it to opposing counsel. Can

4   you give me a number?

5   MR. SRINIVASAN: Yes, Your Honor. It's 5532.

6   And if I can approach?

7   THE COURT: You may.

8   Is there the same stipulation that this is an authentic

9   business record?

10   MR. SRINIVASAN: That is correct, Your Honor.

11   MR. CHIAPPETTA: Your Honor, for the record, I do not

12   have a copy.

13   MR. SRINIVASAN: I'm sorry?

14   MR. CHIAPPETTA: I'm saying I do not have a copy of

15   the document, so --

16   MR. SRINIVASAN: It's the 10-K.

17   MR. CHIAPPETTA: That's fine. Thank you.

18   THE COURT: Okay. You now do, for the record.

19   MR. SRINIVASAN: By the way, I think I forgot to move

20   5363 in. Can I move that into evidence now?

21   THE COURT: You can move.

22   Any objection?

23   MR. EARNHARDT: No objection.

24   THE COURT: Admitted.

25   (Defense Exhibit 5363 received in evidence)

1   **BY MR. SRINIVASAN:**

2   **Q.**   And, Ms. Wright, have you had a chance to look at 5532?

3   **A.**   I have not.

4   **Q.**   Okay. You have not?

5   **A.**   I have not looked -- I mean, I'm -- I have not looked at

6   it.

7   **Q.**   Do you recognize what it is?

8   **A.**   It's a 10-K.

9   **Q.**   For what year?

10   **A.**   It looks like it is --

11   **Q.**   Do you see at the top it says June 30, 2020?

12   **A.**   Yes, I do.

13   **Q.**   And do you recognize this as Microsoft Corporation's 10-K?

14   **A.**   Yes, I do.

15   **Q.**   From just about a year ago?

16   **A.**   Yes, I do.

17   **Q.**   And that's the company you work for?

18   **A.**   That's correct.

19   **Q.**   Can you turn to page 11 of this document, please, ma'am,

20   the bottom of 11. It's going to come up on the screen.

21   Hopefully we will blow it up.

22   Do you see the heading that says "Competition"?

23   **A.**   Uh-huh, I do.

24   **THE COURT:**   Yes?

25   **THE WITNESS:**   Yes.

1   **BY MR. SRINIVASAN:**

2   **Q.**   Let me read that and you can tell me if I do it correctly.

3   "Windows faces competition from various software products and

4   from alternative platforms and devices, mainly from Apple and

5   Google. We believe Windows competes effectively by giving

6   customers choice, value, flexibility, security, an easy-to-use

7   interface, and compatibility with a broad range of hardware

8   and software applications, including those that enable

9   productivity." Did I read that accurately?

10 **A.**   Yes. This is not a gaming statement. This was a

11 Windows --

12 **Q.**   That was not my question, ma'am. Did I read that

13 accurately?

14 **A.**   I believe so.

15 **Q.**   Do you agree with that statement?

16 **A.**   Which statement?

17 **Q.**   The one I just read.

18 **A.**   Do I agree with it?

19 **Q.**   Yes.

20 **A.**   I don't -- sure. I mean, its --

21 **Q.**   Okay.

22 **A.**   Yes.

23 **Q.**   Let's turn to page -- at the bottom, the number, and the

24 control number is 5532.012. I'm sorry. Point 011.

25 **A.**   Okay.

1   **Q.**   I'm sorry. It is 12. We were on 11. I apologize.

2   If I can direct you to the second paragraph there, and I'm

3   just going to read it, and you let me know if I read it

4   correctly. This is from the second paragraph of the 10-K on

5   page 12: Quote, "Xbox Live and our Cloud gaming services face

6   competition from various online gaming ecosystems and game

7   streaming services, including those operated by Amazon, Apple,

8   Facebook, Google, and Tencent. We also compete with other

9   providers of entertainment services such as Netflix and Hulu."

10   Do you -- did I read that correctly, ma'am?

11   **A.**   You did.

12   **Q.**   Do you disagree with that statement?

13   **A.**   No, I don't disagree with it. No.

14   **Q.**   Thank you, ma'am. Okay.

15   Just almost finished here.

16   **A.**   The one thing I would like to make sure is understood, is

17   there is detail in this around game streaming services --

18   **THE COURT:**   So, again, it's not the way this works.

19   You don't get to just talk. You have to answer his questions.

20   **THE WITNESS:**   Okay.

21   **MR. SRINIVASAN:**   Thank you, Your Honor.

22   **Q.**   You are familiar with Minecraft, Ms. Wright?

23   **A.**   I am.

24   **Q.**   Minecraft is a Microsoft game; right?

25   **A.**   Yes, it is.

1   **Q.**   It's supported on Xbox One?

2   **A.**   I believe so.

3   **Q.**   And it's supported on your most recent generation here?

4   **A.**   Yes.

5   **Q.**   And Minecraft has its own in-game currency, correct,

6   Minecoins; is that right?

7   **A.**   Yes.

8   **Q.**   And Minecoins are available for purchase on both the

9   Microsoft Store for the Xbox and also on the App Store for

10   iOS; correct?

11   **A.**   Correct.

12   **Q.**   And they can be used interchangeably in both platforms?

13   **A.**   I don't know the answer to that.

14   **Q.**   You don't know whether the Minecraft game --

15   **A.**   I don't know if the coins transfer across platforms, no.

16   **Q.**   Thank you, Ms. Wright.

17   I'm finished.

18   **THE COURT:**   All right. Cross -- I mean redirect?

19   **MR. EARNHARDT:**   Thank you, Your Honor.

20   **REDIRECT EXAMINATION**

21   **BY MR. EARNHARDT:**

22   **Q.**   Good afternoon, Ms. Wright.

23   **A.**   Hi.

24   **Q.**   I'm going to ask you some questions about the testimony

25   you just gave.

1   Does Microsoft believe users buy an Xbox console to listen

2   to music?

3   **A.**   No.

4   **Q.**   Does Microsoft believe users buy an Xbox console to watch

5   Netflix videos?

6   **A.**   No.

7   **Q.**   Why does Microsoft believe users buy an Xbox console?

8   **A.**   To play games.

9   **Q.**   At the beginning of Apple counsel's questioning, he asked

10   you about some deposition testimony relating to net revenues

11   associated with Epic.

12   **A.**   Yes.

13   **Q.**   And you said there was confusion about that, and at that

14   time given the way this process works, you are now allowed to

15   explain the confusion. Can you explain to me what the

16   confusion was?

17   **A.**   Sure. It wasn't very clear in the deposition transcript

18   what we were talking about, and we were sort of going back and

19   forth between gross and net, and today it was stated that

20   the -- not exactly correct, which is there is about a --

21   again, I don't know if -- do we talk about this publicly?

22   **MR. CHIAPPETTA:**   Again, Your Honor, we would renew

23   this objection to this being spoken about outside of a sealed

24   courtroom.

25

1   **BY MR. EARNHARDT:**

2   **Q.**   Without revealing the --

3   **THE COURT:**   I'm not sealing the courtroom. If she

4   needs me to seal it to say something that she hasn't already

5   said in the public domain, then she can let me know.

6   **THE WITNESS:**   Yes. My testimony is that it's the

7   70/30 share that you would imagine, and the 600- to $700

8   million is not Microsoft's cut.

9   **BY MR. EARNHARDT:**

10 **Q.**   There was questioning about the difference between what

11 Apple asked Microsoft to do with the native app of its xCloud

12 game service versus the way Microsoft designed it. Do you

13 remember that questioning?

14 **A.**   I do.

15 **Q.**   And you testified but weren't able to finish that what

16 Apple asked you to do would fundamentally break down the

17 product that you created? Do you remember that testimony?

18 **A.**   I do.

19 **Q.**   What did you mean by that?

20 **A.**   That the core requirement to take every game and separate

21 it out into an individual app, the easiest equivalent is

22 asking Netflix to break out every single TV show or every

23 single movie and run them as a separate streaming app, and so

24 even if the other issues were able to be solved around our

25 ability to publish third-party content similar to the way

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1   other streaming catalogs do, as well as the ability to stream

2   at all, both of those issues were solved. But the core issue

3   of needing to take and separate out every single game title

4   was untenable, and it would fundamentally break the service,

5   and, you know, it -- it just is not something we could

6   reasonably do.

7   **THE COURT:**   I want to understand this. Netflix -- I

8   can use Netflix with a native app?

9   **THE WITNESS:**   Correct.

10   **THE COURT:**   And I can see lots of different movies?

11   **THE WITNESS:**   Yeah.

12   **THE COURT:**   Or TV shows or whatever?

13   **THE WITNESS:**   That's right.

14   **THE COURT:**   So is it that you didn't want to use a

15   subscription model because Netflix obviously is operating.

16   You just didn't want to use that model?

17   **THE WITNESS:**   No. We wanted to use the Netflix

18   model, so we wanted to, just like Netflix, have a service

19   called Game Pass and have a collection, a subscription of

20   games, just like movies and TV shows would be in that service.

21   But the fundamental issue was the policy. It allows Netflix

22   to do what Netflix does, but it would not allow us to do what

23   Netflix does, and instead, it required making a separate

24   application for every game title that would have to be

25   individually downloaded and put onto your phone.

1   **THE COURT:**   Okay. So you wanted to charge a

2   subscription service fee for the 3,000 titles you have or some

3   portion of that?

4   **THE WITNESS:**   Really a curated set of a hundred-plus

5   titles.

6   **THE COURT:**   And that's what was not allowed?

7   **THE WITNESS:**   That's correct.

8   **THE COURT:**   Okay. Thank you.

9   **BY MR. EARNHARDT:**

10   **Q.**   To continue the analogy, what would Netflix have to do if

11   the policy that Apple applied to you were applied to it?

12   **A.**   Netflix wouldn't exist today because they would

13   effectively not have a catalog of services that could be

14   delivered on mobile. Every game -- or every movie and every

15   TV show would be an individual application.

16   **Q.**   There has been a lot of testimony that xCloud is now

17   available on iOS through Safari in beta; correct? Do you

18   remember that testimony generally?

19   **A.**   Correct.

20   **Q.**   To use that service, what platform or what mechanism would

21   a user have to go through to access xCloud?

22   **A.**   You would have to go through a browser and you would

23   presumably go through the Safari browser. You would have to

24   go out to Xbox.com and you would have to decide to play the

25   games there over the internet.

1   **Q.**   What percentage of users actually -- withdraw.

2   What percentage of iOS users actually play video games on

3   a browser?

4   **MR. SRINIVASAN:**   Objection. Foundation.

5   **THE COURT:**   Sustained.

6   **BY MR. EARNHARDT:**

7   **Q.**   Have you seen data that calculates the percentage of iOS

8   users that play video games through a browser?

9   **A.**   I have seen data that says that --

10   **THE COURT:**   Hold on.

11   **THE WITNESS:**   Yes, ma'am.

12   **THE COURT:**   The question was have you seen data, so

13   the answer is "yes"?

14   **THE WITNESS:**   The answer is yes, but it's not data.

15   It's a conclusive point that says people don't play video

16   games on browser. They play over browser on PC.

17   **THE COURT:**   And were those documents produced in this

18   litigation?

19   **THE WITNESS:**   It potentially is in the profit

20   segment, but I'm not entirely certain.

21   **BY MR. EARNHARDT:**

22   **Q.**   Let me ask you some questions about that.

23   Ms. Wright, do you have any knowledge whatsoever regarding

24   what conversations took place between your lawyers at

25   Microsoft and Apple's lawyers regarding what the scope of the

WRIGHT – REDIRECT / EARNHARDT

1   Microsoft production would be?

2   **A.**   No, I do not.

3   **Q.**   Do you have any knowledge what conversations took place

4   between Epic's lawyers and Microsoft's lawyers regarding what

5   the scope of the Microsoft production would be?

6   **A.**   I do not.

7   **Q.**   Do you know whether Microsoft gave Epic exactly the same

8   documents that Microsoft gave Apple?

9   **A.**   I have no idea.

10   **Q.**   Is it possible that someone may have searched your files

11   at Microsoft without knowing it?

12   **A.**   Sure.

13   **Q.**   Your IT department has access to your emails?

14   **A.**   All of them, yes.

15   **Q.**   Your IT department has access to the PowerPoints that you

16   serve on your share drive?

17   **A.**   Yes.

18   **Q.**   Do you know whether those documents were searched for and

19   produced?

20   **A.**   Yes, I do.

21   **Q.**   Were they?

22   **A.**   Yes. My understanding is that there were documents

23   searched for because they were shown to me, and I did not give

24   them to anyone.

25   **Q.**   If you could pull back the black binder that you have,

1   please.

2   **A.**   There's two.

3   **Q.**   The first one that I gave you.

4   **A.**   The big one or the little one?

5   **Q.**   The big one.

6   If you could turn to tab DX5523, please. Do you have it?

7   **A.**   I do.

8   **Q.**   Do you recall that Apple's lawyer asked you to flip

9   through this and asked you whether the word "mobile" appeared

10   on several slides?

11   **A.**   Yes.

12   **Q.**   Does Microsoft sell games through the Apple App Store?

13   **A.**   Yes.

14   **Q.**   Is that a separate business from its Xbox console

15   business?

16   **A.**   Yes.

17   **Q.**   Is it relevant to Microsoft that -- the profits that it

18   makes in selling games through the App Store?

19   **A.**   Yes.

20   **Q.**   Do you have the 10-K that Apple's counsel showed you?

21   **A.**   I do.

22   **Q.**   Can you turn to the paragraph that Apple's counsel asked

23   you about on page 12 beginning "Xbox Live"?

24   **A.**   Okay.

25   **Q.**   During the questioning by Apple's lawyer, you were

1   beginning to explain how there were technical points about

2   streaming here, but you weren't able to. Can you explain what

3   the technical points about streaming in this paragraph are?

4   **A.**   Yes. I was making this point around on Xbox Live that

5   game streaming services are very new. They are coming to

6   market. And so there are competitors who are building their

7   own game streaming services as well as their own subscription

8   services. And so Apple or Amazon is building a game streaming

9   service. Apple has its own arcade game service. And others

10   are also along this list building their own services.

11   So while this is a nascent category, this is just

12   representing the fact that there are -- each one of these

13   players, each one of these major companies have some sort of

14   gaming interest or ambitions.

15   **Q.**   Okay. Now, Apple makes smartphones in its iOS

16   environment; right?

17   **A.**   Right.

18   **Q.**   Does Facebook have a smartphone?

19   **A.**   No.

20   **Q.**   Does Apple have business lines other than iOS?

21   **A.**   Yes.

22   **Q.**   Does it make macOS, for example?

23   **A.**   It does.

24   **Q.**   I would like to read to you the sentence after the

25   sentences that Apple's lawyer read to you --

1   **THE COURT:**   Are we -- 5532 wasn't offered. No

2   objection?

3   **MR. EARNHARDT:**   No objection.

4   **THE COURT:**   All right. 5532 is admitted.

5   (Defense Exhibit 5532 received in evidence)

6   **THE COURT:**   Now you can read it.

7   **BY MR. EARNHARDT:**

8   **Q.**   I want to read you the sentence that you didn't read. It

9   reads, "Our gaming platform competes with console platforms

10   for Nintendo and Sony."

11   **A.**   Correct.

12   **Q.**   Does it say iOS?

13   **A.**   It does not.

14   **Q.**   I will put that aside.

15   You were asked a series of questions about whether certain

16   restrictions that Microsoft imposes on its Xbox business are

17   fair. Do you remember those questions?

18   **A.**   I do.

19   **Q.**   Do you believe those restrictions would be fair if

20   Microsoft imposed them on its Windows business?

21   **A.**   No, I don't.

22   **Q.**   And what's the difference between Microsoft's Windows

23   business and Microsoft's Xbox business?

24   **A.**   I think it goes back to how -- how those devices are used

25   and how many people they reach.

1   **Q.**   Is there a difference between those two systems in respect

2   to whether they are an open system or a closed system?

3   **A.**   I'm sorry. Which systems?

4   **Q.**   Comparing Windows to Xbox.

5   **A.**   Yes. Xbox is closed. Windows is open.

6   **Q.**   And what is iOS?

7   **A.**   IOS is closed.

8   **MR. EARNHARDT:**   No further questions, Your Honor.

9   **THE COURT:**   All right. Any recross limited to the

10   scope of redirect.

11   **MR. SRINIVASAN:**   Just a little bit, Your Honor.

12   **RECROSS-EXAMINATION**

13   **BY MR. SRINIVASAN:**

14   **Q.**   I want to just goat back to the Netflix example you were

15   talking about. I understand, for instance, Netflix is

16   available on the Xbox console itself; correct?

17   **A.**   That's correct.

18   **Q.**   And Netflix streams movies and TV shows generally;

19   correct?

20   **A.**   That's right.

21   **Q.**   And that's what Netflix does on the iPhone as well; right?

22   **A.**   Correct.

23   **Q.**   And then for game streaming companies, they are streaming

24   games that could be a collection of a large number of games

25   underneath the main service; correct?

1   **A.**   That's right.

2   **Q.**   That type of a service is not allowed on the Xbox; right?

3   **A.**   That's correct.

4   **Q.**   So Microsoft itself draws a distinction between a game

5   streaming service with a number of underlying games versus

6   something like Netflix; correct?

7   **A.**   That's correct.

8   **Q.**   Okay.

9   No further questions, Your Honor?

10   **THE COURT:**   Anything on that question?

11   **MR. EARNHARDT:**   No, Your Honor. Thank you.

12   **THE COURT:**   Okay. Ms. Wright, you are excused.

13   Next witness.

14   **MS. FORREST:**   Your Honor, Epic calls Mr. Andrew Grant

15   to the stand, please.

16   **THE COURT:**   Andrew --

17   **THE CLERK:**   Could you say it again, please?

18   **MS. FORREST:**   Andrew Grant.

19   **THE CLERK:**   Thank you.

20   **<u>ANDREW GRANT</u>**,

21   called as a witness for the Plaintiff, having been duly sworn,

22   testified as follows:

23   **THE CLERK:**   Please be seated and then please pull the

24   mic up to you and then please state your full name and spell

25   your last name.

1   **THE WITNESS:**   My full name is Andrew James Grant. My

2   last name is spelled G-R-A-N-T.

3   **THE COURT:**   Good afternoon, sir.

4   **THE WITNESS:**   Good afternoon.

5   **THE COURT:**   You may proceed.

6   **<u>DIRECT EXAMINATION</u>**

7   **BY MS. FORREST:**

8   **Q.**   Mr. Grant, by whom are you employed?

9   **A.**   Epic Games.

10   **Q.**   And what is your current position?

11   **A.**   I am an engineering fellow.

12   **THE COURT:**   A little bit of mumbling so let's try to

13   get your voice right there. Okay. Try again. So you said a

14   what?

15   **THE WITNESS:**   An engineering fellow.

16   **THE COURT:**   Okay. Thank you.

17   **BY MS. FORREST:**

18   **Q.**   For how long have you been in that position?

19   **A.**   A few months.

20   **Q.**   And what was your prior position with Epic?

21   **A.**   I was a technical director in engineering.

22   **Q.**   And what are your current job responsibilities at Epic?

23   **A.**   I provide engineering leadership, management, oversight,

24   support for projects at Epic.

25   **Q.**   Can you give some examples of the kinds of projects that

1   you have worked on?

2   **A.**   Yes. I was the engineering lead on Paragon which is one

3   of first free-to-play games. I worked on anti-cheat

4   technology for a while. I was the engineering lead on the

5   ports of *Fortnite* to the mobile platforms. I have worked on

6   various initiatives for virtual production in the movie and TV

7   industries. That would be a good selection.

8   **Q.**   To whom do you currently report at Epic?

9   **A.**   Kim Libreri, our CTO.

10   **Q.**   What is your professional background?

11   **A.**   Prior to Epic I worked at Lucasfilm. I have been at

12   Epic -- this is my sixth year. Prior to Epic, I was at

13   Lucasfilm for six years. Before that I worked at Activision

14   Studio in the U.S. in L.A. and then various other developers

15   going back to 1998.

16   **Q.**   And in any of those many jobs, did your responsibilities

17   relate at all to interacting with Apple?

18   **A.**   For mobile development, yes. Interacting with Apple

19   platforms and tools and SDKs would be a better description.

20   **Q.**   What is Epic's business?

21   **A.**   Epic creates industry software, software we create and

22   software other people create.

23   **Q.**   And does Epic create any things called apps?

24   **A.**   Yes.

25   **Q.**   Is Epic -- have you heard of the phrase "developer"?

1   **A.**   I have, yes.

2   **Q.**   And a developer of apps?

3   **A.**   We are a developer of apps, yes.

4   **Q.**   Is Epic in that business?

5   **A.**   Yes, it is.

6   **Q.**   Is Epic the developer of any other kinds of software apart

7   from apps?

8   **A.**   Yes. We develop software libraries that developers can

9   incorporate into their applications to provide additional

10   functionality. Epic Online Services would be the best example

11   of that.

12   We provide on *Unreal Engine,* which is both an application

13   and a digital content creation tool. We have some similar

14   tools such as Quixel, Q-U-I-X-E-L, and Metahuman Creator.

15   Metahuman, m-E-T-A-H-U-M-A-N, Creator. Both of those are

16   apps, but they are also digital content creation tools. And

17   then we have the Epic Games Store which is an app but also a

18   distribution method for other developers.

19   **Q.**   Now, you mentioned something called Epic Online Services

20   as one of the software tools; is that right?

21   **A.**   Yes.

22   **Q.**   Does that sometimes go by an acronym?

23   **A.**   Yes. EOS.

24   **Q.**   EOS?

25   **A.**   Yes.

1   **Q.**   And let's talk for a moment about apps.

2   In your current role at Epic, do you have any role in

3   connection with the development of apps?

4   **A.**   I do, yes.

5   **Q.**   Can you describe for the Court, please, what an app is?

6   **A.**   App is the short form word for "application." It would

7   describe a piece of software that you could download, put onto

8   an operating system or platform, and it would provide

9   additional functionality.

10   **Q.**   And you talked about something called an operating system

11   and something called a platform. Let's take those one at a

12   time.

13   What is your definition of an operating system, sir?

14   **A.**   An operating system is a piece of software that is on a

15   device and will manage the hardware components of that device.

16   It would be fair to say that most modern devices have an

17   operating system.

18   **Q.**   And how about platform? What is your definition of

19   platform?

20   **A.**   A platform in the software sense -- a platform would be a

21   piece of software that is designed to host content and

22   experiences by developers or people who are not associated

23   with the platform owner. It could be an OS or it might not

24   be. IOS would be an example of an OS that is a platform.

25   Facebook would be an example of just software. There's a

1   platform.

2   **Q.**   What types of devices, if any, use apps?

3   **A.**   Smartphones, computers, game consoles. You could describe

4   games and things like Netflix as apps. They're narrowed to

5   entertainment apps. Those would be the most common examples

6   today.

7   **Q.**   Okay. You said that Epic develops apps. What kinds of

8   apps does Epic develop?

9   **A.**   So we have game apps such as Battle Break --

10   **Q.**   We will take the names of the game apps slowly for those

11   people who may not be familiar.

12   **A.**   Sure.

13   So we have some game apps such as Battle Breakers,

14   Spyjinx. We have *Fortnite*, which is -- it's a game but it's

15   also an entertainment and social experience. We have a social

16   app called Houseparty. We have *Unreal Engine* which is an

17   application but also a digital content creation tool and

18   similar to Quixel and Metahuman that I mentioned earlier. We

19   have the Epic Game Store, which is an app that distributes

20   other apps. We have -- yeah. Those would be the main ones.

21   **Q.**   Have you heard of an app called Live Link Face?

22   **A.**   I have, yes.

23   **Q.**   What is that?

24   **A.**   Live Link Face would be one of our mobile apps that is

25   designed to work in conjunction with *Unreal Engine*. It

1   provides a means for people who work in the movie or TV

2   industry to capture performances and view them on *Unreal*

3   *Engine*. We have an additional app that known as Unreal Remote

4   that provides similar functionality. It is a mobile app, but

5   it is works in conjunction with *Unreal Engine*.

6   **Q.**   Is Live Link Face a game?

7   **A.**   No.

8   **Q.**   Is Unreal Remote a game?

9   **A.**   No.

10 **Q.**   Where is -- are you familiar with the App Store?

11 **A.**   I am.

12 **Q.**   Do you know one way or the other whether Live Link Face is

13   available through the App Store?

14 **A.**   Yes, it is.

15 **Q.**   And how about Unreal Remote? Is Unreal Remote available

16   through the App Store?

17 **A.**   It is, yes.

18 **Q.**   Now, you mentioned apps that utilize *Unreal Engine* such as

19   Live Link Face and Unreal Remote. Can you industry any gaming

20   apps that utilize the *Unreal Engine*?

21 **A.**   Yes. There is a large number of gaming apps. We could

22   look at things like PUBG, Batman, Days Gone, Years of War. So

23   there is -- I mean, there would be hundreds.

24 **Q.**   And does Epic have any -- strike that.

25   Does the *Unreal Engine* support any non-game apps other

1   than the two that you've mentioned already, which were Live

2   Remote and -- Unreal Remote and Live Link Face?

3   **A.**   Yes. Developers who wish to have sophisticated realtime

4   graphics will often rely on *Unreal Engine* to provide those

5   even though it may not be in a gaming context.

6   **Q.**   Do you know of any non-game apps that rely upon the *Unreal*

7   *Engine*?

8   **A.**   Yes. On -- on desktop there is a Cine Tracer that is used

9   in movie production. On mobile there are a number of real

10   estate apps such as Goldfields, Comstock Homes, Home By Me.

11   There are some -- some companies will use Unreal for apps they

12   don't necessarily distribute. McLaren used *Unreal Engine* as

13   part of their car configuration for high-end sports cars.

14   Apple themselves used *Unreal Engine* to build an AR experience

15   for the Apple Park Visitor Center.

16   **Q.**   Just so the record is clear, what was the McLaren app that

17   you just described?

18   **A.**   I believe it is called a Car Configurator. They have a PC

19   version and then a mobile version that a salesperson can make

20   changes with and see them reflected while they're presenting

21   customers with different options.

22   **Q.**   And it in terms of the phrase "AR experience" that you

23   just mentioned, what does the acronym AR stand for?

24   **A.**   It stands for augmented reality which is a term people

25   take to having a view on the world that people see, largely

1   provided by camera and then overlaying computer-generated

2   elements.

3   **Q.**   All right. And does Epic, with regard to the apps that

4   are made relying on *Unreal Engine* -- does Epic have any

5   arrangements with the developers of those apps?

6   **A.**   There would just be our end user license agreements that a

7   developer would agree to when they download *Unreal Engine*.

8   **Q.**   Do you know one way or the other whether Epic is able to

9   obtain compensation in connection with the distribution of

10   apps made using the *Unreal Engine*?

11   **A.**   Yes.

12   **Q.**   Let's go on now to some other terms that might help us

13   here.

14   Are you familiar with the term iOS?

15   **A.**   I am, yes.

16   **Q.**   What does the term "iOS" refer to?

17   **A.**   IOS is Apple's operating system for mobile platforms. It

18   would be an example of a piece of software that is both an OS

19   and a platform.

20   **Q.**   How about the term macOS. What does that refer to?

21   **A.**   It would be Apple's operating system for had Mac

22   computers, also work OS on a platform.

23   **Q.**   And the term "Android," do you no he what that refers to?

24   **A.**   Yes.

25   **Q.**   What does it refer to?

1   **A.**   It is Google's operating system for mobile devices.

2   **Q.**   And how about PC?

3   **A.**   PC would stand for personal computer. People will usually

4   associate that with Microsoft Windows, but it would be

5   accurate to say Mac is a PC.

6   **Q.**   Are you familiar with the term "consoles"?

7   **A.**   Yes.

8   **Q.**   And do you have -- can you name for the Court some

9   examples of some consoles?

10   **A.**   Yes. PlayStation, both PlayStation 4 and PlayStation 5,

11   Xbox, Nintendo Switch. They would be the common platforms.

12   **Q.**   And does a PlayStation have an OS?

13   **A.**   Yes.

14   **Q.**   Does the PlayStation OS have a particular name?

15   **A.**   I think we just call it PlayStation OS.

16   **Q.**   Does the Xbox have an OS?

17   **A.**   Yes.

18   **Q.**   And does it have a particular name?

19   **A.**   I would also just refer to it as Xbox OS.

20   **Q.**   Does the Nintendo have a OS?

21   **A.**   Yes.

22   **Q.**   Does it have a particular name?

23   **A.**   Switch OS is how I would refer to it.

24   **Q.**   And when you are using the term "OS" here, you are

25   referring generally to operating system?

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1   **A.**   Yes.

2   **Q.**   All right. How do these different types of platforms

3   relate at all to app development?

4   **A.**   So a user who wishes to develop an app will pick a

5   platform. They will download the SDK for that platform, and

6   then they will create the software using the tools that the

7   SDK provides and incorporating what is known as APIs that the

8   SDK makes available.

9   **Q.**   And what is an SDK?

10   **A.**   SDK standards for "software development kit." It would be

11   the items necessary to create an app for a platform. It will

12   have a selection of tools. It will have documentation. It

13   will -- it will contain the means of accessing APIs.

14   **Q.**   And what is an API?

15   **A.**   API stands for "application programming interface." It is

16   effectively a command that you can make to a platformer OS to

17   ask it to perform a task. A very simple example would be to

18   play an audio file. Platforms have APIs and you would use

19   their API to request that the OS plays an audio sound through

20   the speakers that are attached to the device.

21   **Q.**   We will get more into that in a moment.

22   Do you know whether or not an app that is developed for

23   iOS will run on the Android platform?

24   **A.**   It will not, no.

25   **Q.**   Do you know whether or not an app that is developed for

1   Android would run on the iOS platform?

2   **A.**   No, it will not.

3   **Q.**   What implications, if any, does that have for an app

4   developer who is trying to distribute apps to both Android and

5   iOS users?

6   **A.**   So for an app developer who wishes to distribute to both

7   users, they will have to redo and recreate some portion of

8   their application. Usually around the portions that use the

9   APIs for one platform, they will have to rewrite that for

10   another platform.

11   **Q.**   And what is involved, if you can describe the process, in

12   an app being written for different platforms?

13   **A.**   You will -- you will identify the portions of your

14   application that use APIs for one platform and then you will

15   have a developer recreate that using APIs for another

16   platform.

17   **Q.**   Are there any time or monetary costs involved in that

18   effort?

19   **A.**   Yes. Depending on the complexity of your app, it can be

20   quite significant. It wouldn't be unusual for an application

21   to have multiple developers who purely work on a specific

22   version for a specific platform. It's both an upfront cost to

23   get the application to work on the additional platforms and

24   then it's an ongoing consideration. Every feature that you

25   add that relies on APIs will have to be recreated or modified

1   to work on other platforms.

2   **Q.**   Is there a term for the costs of writing apps for multiple

3   platforms?

4   **A.**   Porting or across pattern development would be the most

5   common ones.

6   **Q.**   You mentioned or we talked about a number of platforms

7   earlier including iOS, Mac, OS, Android, PC Windows, consoles.

8   Does Epic write apps for each of these platforms?

9   **A.**   Yes, we do.

10   **Q.**   Why?

11   **A.**   All of the platforms you listed, they are only available

12   to a subset of the users we might wish to make apps available

13   to. So, for example, on PC we have a version on *Unreal Engine*

14   and that is great for users who have a PC, but if we wish it

15   to be available to Mac users, we have to rewrite portions of

16   Unreal Engine that use platform APIs for Mac. It's the only

17   way we can access a hundred percent of them or at least have

18   the option of accessing a hundred percent of that market. And

19   that applies for game consoles, mobile devices, and personal

20   computers.

21   **THE COURT:**   Mr. Grant, can you tell me what

22   percentage has to be rewritten? One would think that the core

23   of it, the actual graphics and everything for the game and how

24   the game works and all of those instructions is the same if

25   it's the same game, and that what we are talking about are the

1   portions of it that have to access these various operating

2   systems; right? Or no?

3   **THE WITNESS:**   Yes. People usually think about an

4   application as having both business logic and then interface

5   component. So something like the business logic of a game

6   that evaluates like wind conditions, the code that singulates

7   gravity, that would work on all platforms.

8   When you look at how a program interfaces with the user,

9   perhaps the method of input, playing audio, notifications,

10   those tend to be very platform specific.

11   **THE COURT:**   Okay. And so what is the relative

12   percentage in terms of coding?

13   **THE WITNESS:**   It would really vary. It varies

14   greatly based on the application. It's not unusual for

15   applications such as Slack to have entirely separate apps for

16   both platforms because they have such a reliance on something

17   like the user interface APIs.

18   Similarly for a game, the overlap is reduced because we --

19   we need to render -- we need to draw the picture, and we would

20   just use the different APIs for drawing the picture and

21   drawing the sound.

22   **THE COURT:**   Of all these platforms, the interfaces --

23   if the business logic is basically the same, the interfaces

24   with all these various platforms, are they -- are some easier

25   than others?

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1   **THE WITNESS:**   Some can be easier than others. And

2   certain -- for certain APIs. For example, Xbox and PC, they

3   have a common API for drawing graphics and for playing sound.

4   MacOS and iOS are -- many of the APIs are virtually identical

5   even for audio for file systems so you wouldn't have to

6   recreate between those two platforms.

7   **THE COURT:**   Are any of them kind of easier to access

8   than others just in the industry? Do some have a reputation

9   for being, you know --

10   **THE DEFENDANT:**   Difficult, yes. Some do, for sure.

11   **THE COURT:**   Which are those? Which are easier, which

12 are harder?

13   **THE WITNESS:**   Linux platforms have a reputation for

14 being difficult. Beyond that, it's fairly on par. Some

15 people definitely have their preference how certain things may

16 be expressed. Sometimes things just click for you the

17 developer more than other contexts, but it would be hard to

18 describe them as being substantially more difficult than

19 others.

20   **THE COURT:**   Thank you. You may proceed.

21 **BY MS. FORREST:**

22 **Q.**   Mr. Grant, a moment ago you mentioned that there is some

23 overlap between iOS and macOS. Can you describe that further

24 for us?

25 **A.**   Yes. Many of the APIs on those platform are identical

1   both in terms of availability and functionality. Of all the

2   platforms we have talked about, there it would be reasonable

3   for a developer to expect not just the business logic to

4   function but also many of the APIs used for communicating with

5   devices.

6   In more recent versions of the Apple SDKs it's even been

7   possible to simply take a box and have an application that

8   will work on both iOS and macOS and more modern Mac card, but

9   even that is not necessary. Modern -- the latest Macs can

10   quite happily run many iOS applications with no additional

11   work or even changes to the quota of the application.

12   **Q.**   Are you familiar with something called Xcode integrated

13   development environment?

14   **A.**   I am, yes.

15   **Q.**   Does that sometimes go by an acronym?

16   **A.**   IDE.

17   **Q.**   IDE?

18   **A.**   IDE.

19   **Q.**   If somebody refers to Xcode, are they referring to the

20   whole Xcode integrated development environment or something

21   else?

22   **A.**   Typically, yes. Xcode will be an application. It will

23   provide access to other tools either because they are built

24   into Xcode or you can launch them from a menu in Xcode.

25   **Q.**   What is the Xcode integrated development environment?

1   **A.**   It is Apple's primary application for authoring a source

2   code and to compile and test it and run it on their devices.

3   **Q.**   Is there any relationship between Xcode and iOS?

4   **A.**   Yes.

5   **Q.**   What is it?

6   **A.**   Xcode would be Apple -- Xcode would be the primary method

7   of a developer who wished to create an app for iOS.

8   **Q.**   Is there any relationship between Xcode and macOS?

9   **A.**   Yes. It would be the same. It would be the primary

10   application to develop an app for macOS.

11   **Q.**   We talked a little while ago about APIs. Do operating

12   systems have API?

13   **A.**   Yes, they do.

14   **Q.**   Are you familiar with the term "public API"?

15   **A.**   I am.

16   **Q.**   What is a public API?

17   **A.**   A public API is an API that the creator of an operating

18   system or platform exposes and wishes a developer to call. It

19   will be documented, listed. It is something that they intend

20   somebody to use.

21   **Q.**   When you say "somebody to use," who is the "somebody"?

22   **A.**   A developer working on the platform.

23   **Q.**   When you use the phrase "to call," what are you referring

24   to?

25   **A.**   To -- to -- to add the necessary steps in your program to

1   use the API, to reference it, to instruct it, to perform a

2   certain operation. Again, like playing a piece of audio.

3   **Q.**   So if a developer wanted to instruct within an app that

4   there would be a moment that audio got played, the developer

5   could then call on the API; is that correct?

6   **A.**   Exactly, yes.

7   **Q.**   Would that involve writing some source code that then

8   pulled in or called on that API?

9   **A.**   Yes. You would write a line of source that called the

10   API. Depending on what parameters, what information the API

11   took, you might have to have a couple of additional lines that

12   prepared a piece of data in a certain way and then you would

13   pass that data to the API in the call.

14   **Q.**   And you mentioned the phrase "source code." What does

15   that phrase mean?

16   **A.**   Source code is the human readable instructions that

17   somebody would write to form the basis of a computer

18   application.

19   **Q.**   We will come back to that in a moment, but let's talk

20   about the phrase "private API." Are you familiar with that

21   phrase?

22   **A.**   I am, yes.

23   **Q.**   What does a private API mean?

24   **A.**   It is an API that is part of a platform or operating

25   system, but the provider of that platform does not wish

1   developers to use it, so they will not document it. They will

2   not call -- they will not make reference to it, but the nature

3   of software just means that they are discoverable and people

4   on the internet will discover and document them.

5   **Q.**   And is it the case that -- well, let me strike that.

6   Are you generally familiar with the types of APIs that are

7   associated with iOS?

8   **A.**   There is a very large set, but I'm familiar with many of

9   them, yes.

10   **Q.**   All right. Are you generally familiar with the APIs

11   associated with macOS?

12   **A.**   Yes.

13   **Q.**   Does iOS have an API that is associated in any way with

14   payment processing?

15   **A.**   It does.

16   **Q.**   Does it have a name?

17   **A.**   StoreKit would be the one I'm familiar with.

18   **Q.**   Does the macOS have an API that is associated in any way

19   with payment processing?

20   **A.**   Yes. It also has StoreKit.

21   **Q.**   Is it the same StoreKit?

22   **A.**   It is the same set of APIs, and to my knowledge, they are

23   identical.

24   **Q.**   Are there certain situations in which developers are

25   required to use StoreKit on iOS or macOS?

1   **A.**   Yes.

2   **Q.**   Why don't you describe it first for iOS. Are there

3   situations in which a developer is required to use StoreKit on

4   iOS?

5   **A.**   Yes. If your application involves the purchase of digital

6   products or services such as an audio book, a comic book,

7   tokens in a game, then the Apple would require that you use

8   StoreKit to perform the payment functions.

9   **Q.**   Is that a requirement to the best of your understanding?

10   **A.**   Yes.

11   **Q.**   Let's talk about macOS. Are developers required to use

12   StoreKit on macOS?

13   **A.**   They are not, no.

14   **Q.**   Are developers allowed to have an API -- to call on the

15   StoreKit API in a macOS app?

16   **A.**   Yes. If you decide to distribute your Mac app through the

17   Mac App Store, you are free to use StoreKit. In fact, in that

18   situation, a developer is also required to use StoreKit for

19   the same class of digital purchases.

20   **Q.**   Are you aware of any technical reason why StoreKit would

21   be required for an app written on iOS?

22   **A.**   No. There is no technical reason.

23   **THE COURT:**   Okay. I'm sorry. It's -- finish off

24   this line. It's time for the break. I want you to finish.

25   **MS. FORREST:**   Okay. Actually, Your Honor, that is a

1   good -- this is a good stopping point, if you would like to

2   stop here.

3   **THE COURT:**   I thought that -- I thought it might be,

4   but I interrupted you. Are you sure?

5   **MS. FORREST:**   Let me just make sure that I got a

6   clear question.

7   **Q.**   Are you aware of any technical reason why StoreKit would

8   be necessary for iOS?

9   **A.**   No. There is no technical reason.

10   **Q.**   Is there any -- does Epic -- well, I think that is then a

11   good place to stop, Your Honor.

12   **THE COURT:**   Okay. We will stand in recess for 40

13   minutes. We will be back at 115. You may step down. Thank

14   you.

15   (Recess was taken at 12:36 p.m.; resumed at 1:15 p.m.)

16   **THE CLERK:** Court is in session. You may be seated.

17   **THE COURT:** All right. We are back on the record.

18   The record will reflect that the parties are present and

19   Mr. Grant is on the stand. I will remind you you are still

20   under oath, sir.

21   Now I have some of my staff listening in on the phone

22   lines. And they -- we're going to try to make sure -- you

23   weren't as clear as we would like you to be. So let's take a

24   couple of questions, Ms. Forrest, as you continue your Direct,

25   and we will see if that seems to work better.

1   **DIRECT EXAMINATION RESUMED**

2   **BY MS. FORREST:**

3   **Q.** Let's try this.

4   Mr. Grant, does Epic distribute apps on macOS?

5   **A.** Yes, we do.

6   **Q.** How?

7   **A.** We distribute them by the Epic Games Store, and the Epic

8   Games Store would distribute via a website.

9   **Q.** And what payment processing API does Epic use for its

10   macOS apps that are distributed in that manner?

11   **A.** We use our own APIs. We call them Epic Direct Pay.

12   **Q.** Has Epic, to your understanding, completed financial

13   transactions using that payment processing system?

14   **A.** Yes. Yes, many of them.

15   **Q.** Are you aware of any security issues with Epic's payment

16   processing solution for those apps that Epic has written for

17   macOS?

18   **A.** No, nor with any platform.

19   **Q.** How do developers -- well, we talked earlier about Epic

20   Online Services that goes by the acronym EOS.

21   How do developers acquire EOS?

22   **A.** They would go to our website and they would download it.

23   **Q.** Do developers pay for EOS?

24   **A.** No, they do not.

25   **Q.** We've talked also a little bit about *Unreal Engine*. How

1   do developers acquire *Unreal Engine*?

2   **A.**   They would download *Unreal* through the Epic Games Store.

3   **Q.**   Do developers pay for *Unreal Engine*?

4   **A.**   They don't pay to access it, but if they choose to

5   monetize their creations, then we ask that they pay -- the

6   default agreement is 5 percent once they reach a million

7   dollars in revenue.

8   **Q.**   And what platforms does the *Unreal Engine* support?

9   **A.**   Android, iOS, PC, Microsoft Windows, macOS,

10   PlayStation, Sony, Sony PlayStation, Xbox, Nintendo Switch,

11   Magic Leap, HoloLens. There's a very large number of

12   platforms.

13   **Q.**   Are you familiar with the term "cross-platform?"

14   **A.**   Yes.

15   **Q.**   What does the term "across-platform" mean?

16   **A.**   It would describe something that is available on more than

17   one platform.

18   **Q.**   Does Epic create any cross-platform specific features for

19   the *Unreal Engine*?

20   **A.**   Yes, we do.

21   **Q.**   Can you describe them please?

22   **A.**   Yes.

23   It could be simple features such as ability to draw

24   graphics, to play audio for platforms that have more advance

25   capabilities such as AR. We will have cross-platform ways of

1   doing AR on multiple platforms should they support that.

2   **Q.** And does Epic create any cross-platform features for

3   iOS?

4   **A.** Yes.

5   **Q.** And can you describe that?

6   **A.** Yes. It would be the ones I listed. The ability to play

7   audio, the ability to do AR, to open files, to read files, to

8   write files, to draw graphics.

9   **Q.** Let's talk for a moment about the process of writing an

10 app.

11   **MS. FORREST:** And, Your Honor, are the questions

12 going all right in terms of being able to hear the witness?

13   **THE CLERK:** Yes.

14   **MS. FORREST:** All right. Thank you.

15 **BY MS. FORREST:**

16 **Q.** Let's talk for a moment about the process of writing an

17 app. And you'd mentioned something earlier called human

18 readable code.

19   Do you recall that?

20 **A.** I do, yes.

21 **Q.** Can you remind us what human readable code is?

22 **A.** It would be code that somebody familiar with the English

23 language could look at and make out, to some degree, what was

24 involved. Certain clauses such as "if," "else," "while,"

25 would be recognizable.

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1 **Q.** So there would be certain, say, English language words in

2 a piece of source code that was written by somebody speaking

3 the English language; is that right?

4 **A.** Exactly. Yes.

5 **Q.** And that would be the form of human readable code?

6 **A.** It would be, yes.

7 **Q.** Are there any steps that have to be taken before code that

8 is in human readable form can be processed by an operating

9 system?

10 **A.** Yes. It would have to be translated into a form that the

11 processor for the operating system recognizes. It is usually

12 referred to as compilation, and it takes the human readable

13 version and it crunches it down into an optimized form for the

14 processor.

15 **Q.** You called it compilation?

16 **A.** Yes.

17 **Q.** Does the word "compiled" mean anything in that regard?

18 **A.** That would be -- yes, that would be a similar term.

19 **Q.** So when human readable code is compiled, is there then a

20 different word for that code at that point in time?

21 **A.** It would be machine optimized, machine language.

22 **Q.** Is the phrase "machine readable code" sometimes used?

23 **A.** That would be a perfect reasonable way to refer to it,

24 yes.

25 **Q.** What does a developer need in order to write an app?

1   **A.**   So to write an app, you would need a means of authoring

2   the human readable code. It could be an IDE such as Xcode or

3   it could be another text editor. You really are just typing

4   statements into a text file.

5   You would need a compiler that would turn your human

6   readable code into a machine optimized version. You would

7   need a way to put the piece of code that you generated on a

8   device to execute it.

9   At that point you kind of have everything you would need

10   to create an app. If your app is complicated or exhibits

11   problems, you would use a debugger that allows you to examine

12   the behavior of the app as it's executing and to try and

13   troubleshoot any issues you were seeing.

14   If you desired, you could use what's known as a profiler

15   to look at the performance of your app and see how it might be

16   improved or to investigate any poor performance you were

17   observing.

18   **Q.**   Now you've mentioned a number of different things involved

19   in a developer writing an app. Is there any relationship

20   between those things and the word "tool?"

21   **A.**   Yes. Generally you would refer to things like debugger, a

22   compiler, profiler as tools that were specific to a platform.

23   The platform specific tools for Nintendo Switch, for example.

24   **Q.**   We talked a little bit earlier about APIs.

25   Approximately how many APIs are generally associated with

1   an OS as an order of magnitude?

2   **A.**   Tens to hundreds of thousands would be a common number.

3   **Q.**   And you mentioned that iOS is an operating system?

4   **A.**   Yes.

5   **Q.**   I take it iOS has APIs?

6   **A.**   It does, yes.

7   **Q.**   Does iOS have an SDK?

8   **A.**   Yes.

9   **Q.**   Do developers use the iOS SDK at all in connection with

10   writing apps for iOS?

11   **A.**   They do.

12   **Q.**   How do developers receive information about what APIs are

13   available for an app that they want to write for iOS?

14   **MR. DOREN:**   Your Honor, objection, just to foundation

15   to other developers.

16   **MS. FORREST:**   I'm sorry about that. Let me reword

17   that.

18   **BY MS. FORREST:**

19   **Q.**   How do the Epic developers -- how about you. Let's just

20   take you. Let me reword this all together once again. Strike

21   everything I've said in this question.

22   Mr. Grant, how do you receive information about the APIs

23   that are available for writing an app for iOS?

24   **A.**   The SDK, the software development kit, will come with

25   documentation that list the APIs available. They may have an

1   index where you can put in a keyword search, such as camera.

2   They may have sections or categories that are devoted to

3   certain types of APIs. That would be my first protocol, to

4   search for an API that I needed based on the context.

5   The documentation may be online, it maybe in the SDK.

6   Some platforms you can simply perform a Google search to try

7   and find information that people have written, such as

8   articles or tutorials, that type of thing.

9   **Q.** Is there typically a cost associated, in your experience,

10   with the use of an API?

11   **A.** No, there is not.

12   **Q.** Is there typically a cost, in your experience, associated

13   with the use of an SDK?

14   **A.** No, there isn't.

15   **Q.** Are you aware of any platform that charges more than a

16   nominal cost for the use of an API or SDK?

17   **A.** I can't think of any platforms that even have a nominal

18   cost.

19   **Q.** Let's talk about a different area right now.

20   Are you familiar with the term "mobile phone"?

21   **A.** Yes.

22   **Q.** What's a mobile phone?

23   **A.** It would be a telephone -- it would be a device that you

24   can take with you outside the house and expect to make and

25   receive phone calls and perhaps SMS messages on it.

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1   **Q.** Are there different types of mobile phones?

2   **A.** Yes. There's two major categories: One would be a

3   feature phone and one would be a smartphone.

4   **Q.** Let's start with smartphone. How would you define a

5   smartphone?

6   **A.** A smartphone would be a mobile phone that likely has a

7   touchscreen. It will have internet access available. It will

8   have a web browser that you can put a common website address

9   or search engine to access the internet that way. It will

10   have an App Store that you can download and install additional

11   apps to extend the functionality of your phone.

12   I think those would be the main differentiating factors.

13   **Q.** Do smartphones have operating systems?

14   **A.** They do, yes.

15   **Q.** Can you describe or name for the Court certain of the

16   operating systems that are associated with smartphones?

17   **A.**   iOS and Android would be the two I would pick.

18   **Q.** Will an app that is written for iOS run on Android?

19   **A.** No, it will not.

20   **Q.** Will an app written for Android work on iOS?

21   **A.** It will not, no.

22   **Q.** Who makes Android, to the best of your knowledge?

23   **A.** Google.

24   **Q.** Are you familiar with the term OEM, that acronym?

25   **A.** Yes, I am.

1 **Q.**   What does that acronym stand for?

2 **A.**   OEM stands for original equipment manufacturer. It's a

3 term used to refer to companies who produce physical hardware.

4 **Q.**   Can you list for the Court some examples of OEMs.

5 **A.**   Google themselves would be an OEM. Samsung, Nokia,

6 Microsoft, LG, HTC, OnePlus, Apple for an OEM.

7 **Q.**   What types of devices -- let's just take the -- is Apple

8 an OEM?

9 **A.**   I would describe them as an OEM for their own devices.

10 **Q.**   Does Apple make any devices other than the one that runs

11 on its iOS platform?

12 **A.**   Mobile devices, no, but they have Macintosh and other

13 pieces of hardware.

14 **Q.**   Does Apple manufacture telephone devices, for instance,

15 for Android, to the best of your knowledge?

16 **A.**   Not for Android, no.

17 **Q.**   You mentioned some OEMs. To the best of your knowledge,

18 what platform or platforms do those OEMs work on?

19 **A.**   Other than Apple, all the OEMs I listed produce hardware

20 devices for Android.

21 **Q.**   You mentioned earlier, I think, the term "PC" in

22 connection with PC Windows.

23   What's a PC?

24 **A.**   It stands for personal computer.

25 **Q.**   In your job, do you work on software and products for

1   personal computers?

2   **A.**   I do, yes.

3   **Q.**   Are you aware of any functional differences between

4   personal computers and smartphones?

5   **A.**   Yes.

6   **Q.**   Can you please list them for the court or describe them

7   for the court?

8   **A.**   Yes.

9   A smartphone would be compact, it would be portable. You

10   would be able to use it around the house freely or outside the

11   house. There is no wires associated with either power or

12   internet access. It would have a touchscreen. The user may

13   be expected to carry it with them throughout the day.

14   Conversely, a PC would be located in the home. It would

15   have power for internet, for wires. It would be attached to a

16   screen. It would have a keyboard or mouse as the main

17   methods. And we'd typically expect a user to sit at a PC for

18   a period of time to perform a task.

19   **Q.**   What is the typical power source for a PC?

20   **A.**   Just to be plugged into the wall.

21   **Q.**   Does Epic develop apps for PCs?

22   **A.**   We do, yes.

23   **Q.**   Does Epic take into account any of the functionality

24   differences that you have just mentioned when working on

25   software for PCs and smartphones?

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1 **A.** Yes. Absolutely.

2 **Q.** Can you describe in what way Epic would take that into

3 account?

4 **A.** We would take into account the type of applications that a

5 user would be interested in. It would be very different for a

6 mobile phone than a PC.

7   We would take into account the input method. On a mobile

8 phone the user is going to be using touch and touching the

9 screen which is less accurate than a keyboard or mouse. On a

10 PC, we can expect the user to have a keyboard or mouse and

11 perform high precision tasks.

12   PCs, because they are powered by the wall, there is really

13 no concern about battery life. On a mobile phone, we would be

14 conservative in how much processing power we use. We would

15 want the user to be able to not only use an application

16 through the day, but have enough battery life left to get 'em

17 to the end of the day until they got home or were able to

18 charge it.

19   Whereas with a PC, if we need to, we could use a hundred

20 percent of the processing power for extended periods of time.

21 **Q.** Are you familiar with the application *Fortnite*?

22 **A.** I am, yes.

23 **Q.** Are some of these differences that you've just described

24 with regard to taking into account differences between PCs and

25 mobile devices applicable to the writing of the application

1   *Fortnite*?

2   **A.**   Yes.   Those are all factors that we've considered many

3   times while creating versions of *Fortnite* for mobile platforms

4   and for PC platforms.

5   **Q.**   Is the version of *Fortnite* that Epic has written for the

6   PC the same or different from that written for the mobile

7   device?

8   **A.**   They share many common aspects of code, the business logic

9   that I referred to earlier, but they have very distinct code,

10   for example, to handle input.   On a mobile device, we'll

11   expect touch, so we have -- spend a lot of time engineering

12   user interface that is specifically geared for touch.   We

13   spend a lot of attention on mobile devices for performance.

14   It's very important that our code is even more optimized than

15   on a PC for the reasons of battery live.

16   **Q.**   Have you played *Fortnite* on a PC?

17   **A.**   I have, yes.

18   **Q.**   Have you played *Fortnite* on a smartphone?

19   **A.**   Yes.

20   **Q.**   Are there any differences in your view as to how *Fortnite*

21   performed on the PC platform versus the smartphone platform?

22   **THE COURT:**   I take it you mean Android?   Or the web

23   version of iOS?   Or the app?   Can you --

24   **MS. FORREST:**   Why don't I rephrase that, Your Honor.

25   And we'll get into web apps in a moment, and I can rephrase it

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1   altogether.

2   **BY MS. FORREST:**

3   **Q.**   Have you had occasion to play *Fortnite* on iOS?

4   **A.**   I have, yes.

5   **Q.**   Have you had occasion to play *Fortnite* on a personal

6   computer?

7   **A.**   Yes.

8   **Q.**   In your view, are there any differences between how

9   *Fortnite* performed on the mobile device version of a native

10   app of iOS and a personal computer?

11   **A.**   Yes. On a -- PCs have a wide range of specifications but

12   a mid- to high-level PC, the graphic performance would be more

13   fluid, it would be faster. The graphic quality would be

14   higher. The resolution would be higher. The control method

15   is a keyboard or mouse so it's a little more precise and a

16   little more accurate.

17   Audio quality would be better, particularly if the user

18   has a -- at home, for example, I have stereo and surround

19   sound, so I would have surround sound compared to like an

20   iPad.

21   **Q.**   When you say you have surround sound, do you mean with

22   your PC?

23   **A.**   Yes.

24   **Q.**   And you mean that in contrast to what you would have with

25   your iOS device?

1   **A.**   Yes.

2   **Q.**   You mentioned earlier, we talked very briefly about

3   consoles. Can you -- we talked about, I think, Xbox,

4   PlayStation, and Nintendo?

5   **A.**   Yes, those are the ones I listed.

6   **Q.**   Are you familiar with the Nintendo Switch?

7   **A.**   I am, yes.

8   **Q.**   I don't remember if we mentioned the word Switch or not,

9   but is that a console?

10   **A.**   I would describe it as a console, yes.

11   **Q.**   Can you describe what a console is?

12   **A.**   Yes.

13   A console is usually a short-term word for game console.

14   It is a piece of hardware that is tailored specifically for

15   games of entertainment. The manufactures will make certain

16   choices about how they tailor the specifications for those

17   markets.

18   It will be in the user's home. And the apps, while it

19   will have apps, the apps will effectually be different types

20   of games or perhaps entertainment apps like Netflix or Hulu.

21   **Q.**   Have you ever heard of the phrase single purpose device?

22   **A.**   Yes.

23   **Q.**   How do you -- what do you understand that phrase to mean?

24   **A.**   It is a device that has one single purpose. I think I

25   would describe a game console as being a single purpose device

1   for entertainment.

2   **Q.**   You mentioned a moment ago in your answer that developers

3   can make certain kinds of choices with regard to writing for

4   the console.

5   Do you recall that?

6   **A.**   I do, yes.

7   **Q.**   Can you please describe what kinds of choices might be

8   involved by a developer when writing for a console?

9   **A.**   So when writing for a console, you will -- the choices you

10   make will be based on the level of fidelity, the performance

11   the console can offer. It will have a controller for input so

12   that will guide the type of application you might create.

13   The APIs in a console will be significantly lower than you

14   would find on an operating system. All of those will

15   effectively act to limit the scope of application you might

16   create. You could create a very good game or a video

17   platform, such as Netflix, but you wouldn't find yourself

18   creating an application to answer email, for example, or to

19   manage a to-do list.

20   **Q.**   Can you compare any differences or similarities between

21   consoles and smartphones?

22   **A.**   The similarities would be that they both have operating

23   systems. They both have APIs. They are both platforms that

24   developers can create software for. They will have internet

25   access for the most part. Those would be the similarities.

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1   **Q.**   And can you describe any differences between consoles and

2   smartphones?

3   **A.**   The differences, yes. Consoles will -- they will be

4   located in the house. They will have a power source. The

5   user will be interacting through a controller using thumb

6   sticks and buttons.

7   They will have the same characteristics of a PC where you

8   can reasonably utilize most of the performance with -- or all

9   of the performance with no concern for battery life.

10   The APIs and the features the iOS provides are much more

11   limited so they will guide you towards a certain class of

12   application.

13   **Q.**   All right. You are talking -- in those last answers you

14   were talking about consoles and distinguishing them from

15   smartphones?

16   **A.**   Yes. The differences between a console and a smartphone.

17   **Q.**   You mentioned earlier that you are familiar with the

18   Nintendo Switch.

19   **A.**   I am.

20   **Q.**   Is that right?

21   **A.**   Yes.

22   **Q.**   Can you compare the Nintendo Switch to a smartphone in

23   terms of any differences that you perceive as a developer?

24   **A.**   So the Switch will -- the screen size will be

25   approximately the same as a smartphone and it will be

1   portable. We can expect the user to carry it with 'em. Maybe

2   not to the same degree as a mobile phone --

3   **THE COURT REPORTER:** I'm sorry?

4   **THE WITNESS:** I'm sorry?

5   **BY MS. FORREST:**

6   **Q.** Why don't you start again. Start the answer again, if you

7   could.

8   **A.** So the differences, if I recall you asked, a Nintendo

9   Switch, it will, you know, it will be portable the same way a

10   phone is but slightly less portable. The user can take it

11   with them, put it in a bag, perhaps a pocket.

12   It will not have internet access. It has WiFi, but

13   there's no cellular capability so the user will not be able to

14   do online gaming unless they are at a hot spot.

15   The user will interact with it through a controller, thumb

16   sticks and buttons, again, which will guide the application

17   you might choose to make for the Switch.

18   And, again, the API set is much more limited that you

19   would find on a smartphone. Again, it's all based around

20   entertainment-type applications where you're displaying video

21   or a game, and the user is interacting that way. There is --

22   the APIs that has is not sufficient for creating a web

23   browser, an email client, or a spreadsheet to do things like

24   that.

25   **Q.** Are you familiar with the word "tablet?"

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1   **A.**   I am, yes.

2   **Q.**   And can you describe for the Court what a tablet is?

3   **A.**   I would describe a tablet as really a large smartphone.

4   The difference might be you wouldn't be able to receive

5   telephone calls on it. It might be associated with a mobile

6   phone.

7   The screen might be slightly larger. It may or may not

8   have cellular connectivity, but it is very similar to a

9   smartphone, just in a larger form.

10   **Q.**   All right. Can you name some types of tablets?

11   **A.**   Yes. Apple's iPad, Samsung Galaxy Tab. Kindle Fire, LG

12   have a range of tablets. I don't recall the brand name they

13   have.

14   **Q.**   Are there any differences that you are aware of between

15   tablets and consoles?

16   **A.**   I would say the differences are very similar to the ones I

17   listed for a smartphone in terms of having -- in terms of the

18   tablets and smartphones having more general APIs, more

19   portability; consoles being in the single purpose

20   entertainment side of things.

21   **Q.**   Can you compare any differences that you perceive between

22   tablets and PCs?

23   **A.**   They would be similar to the differences between a

24   smartphone and a PC in terms of the type of application a

25   developer might choose to make, the input methods a developer

1   would expect a user to have, the ability to freely use all

2   resources and power in a PC.

3   Q.   Can you compare a tablet to a Nintendo Switch?

4   A.   Again, I'd probably refer to my comparison of Switch with

5   a smartphone. Switch has -- it's more portable. It does not

6   have cellular connectivity. The user would be interacting

7   with using thumb sticks and joysticks. The APIs it has are

8   much more limited. Again, it is intended to be a

9   single-purchase device that entertains the user.

10   Q.   Have you played *Fortnite* on a console?

11   A.   I have, yes.

12   Q.   And you said before that you have played *Fortnite* on an

13   iOS device off using a native application; is that right?

14   A.   That's correct. Yes.

15   Q.   Can you compare the experience of playing *Fortnite* that

16   you had on a console versus playing it on an iOS device off

17   of a native application?

18   A.   Yes. When I played on an iOS device, it was a much more

19   portable experience. I would be able to just play a couple of

20   games sometimes at work, sometimes just in the kitchen at

21   home.

22   When I played on a console, it was much more going and

23   sitting down and playing for a period of time. The graphic

24   fidelity would be higher. I would have the benefit of

25   surround sound audio.

1   It would be wired to the wall for power and internet so

2   the performance was higher in terms of graphic fidelity and

3   also the latency was lower for playing games.

4   **Q.**   And let's talk about web apps. Are you familiar with the

5   term web app?

6   **A.**   I am, yes.

7   **Q.**   What's a web app?

8   **A.**   A web app is an application that runs inside a web page or

9   a web browser. It would be created using the same language

10   and features that somebody would use to author a web page, but

11   it would be in a more sophisticated way that made it appear

12   more application like than a page that might just have content

13   to read.

14   **Q.**   Are you familiar -- you actually used the term native app.

15   What is a native app?

16   **A.**   A native app would be an application that's created using

17   the SDK for a platform.

18   **Q.**   Can you describe for the court how a person would access

19   an app that is a web app?

20   Just walk through the various parts of that process.

21   **A.**   Yes. You would likely start with a web browser. You

22   would put the address of the application or use a search

23   engine to find the address of the application. It would take

24   you there.

25   Once you had gone there once, you may add it as a bookmark

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1   that you go to in the future. But at that point, you know,

2   the application itself is served by a website. The browser

3   executes the logic in the web app and presents it to you.

4   **Q.**   You mentioned the word "browser." What's a browser?

5   **A.**   Browser is the short word for web browser. It is an

6   application that can fetch websites from the internet and

7   display them to you.

8   **Q.**   Does browser have any relationship to software?

9   **A.**   Yes. A browser would be a piece of software.

10   **Q.**   And when a user uses a web app, do they then have to go

11   through the browser?

12   **A.**   Yes. A web app will always be running in a web browser.

13   **Q.**   Are you familiar with something called Webkit?

14   **A.**   I am, yes.

15   **Q.**   What is WebKit?

16   **A.**   A WebKit is Apple's set of libraries that they used to

17   build the Safari browser on iOS and Mac.

18   **Q.**   Does the WebKit have a certain relationship to APIs?

19   **A.**   It does.

20   So WebKit itself will use APIs in a device to perform

21   certain operations and it will have its own set of APIs that

22   it provides for web apps to access. They may have some

23   overlapping functionality with the limited APIs, but it will

24   be a different set of APIs.

25   **Q.**   So WebKit has a set of APIs; is that right?

1 **A.** That's correct.

2 **Q.** And a native app might be able to call on a potentially

3 different set of APIs?

4 **A.** Yes. There would be different sets of APIs. They may

5 have some similar functionality. You would expect a native

6 app and SDK to have access to a far wider range of APIs.

7 **Q.** All right.

8   Are there any APIs that you are familiar with that one can

9 access in an iOS native environment that cannot be accessed

10 through WebKit?

11 **A.** Yes. Access to things like push notifications, to Siri,

12 to health data. Advanced audio features or -- even I should

13 not advance audio features -- just certain audio features,

14 ARKit would be another example. So those would be at APIs

15 available to native apps but web apps have no -- no matching

16 access.

17 **Q.** Did you mention -- are you familiar with something called

18 push kit?

19 **A.** I think I mentioned push notifications. I don't recall if

20 that is the term for the collection of APIs.

21 **Q.** All right. What is a push notification?

22 **A.** A push notification is the ability of an application or

23 the developer of an application to alert you to an event while

24 the application itself is not running or perhaps while the

25 phone is even not open and actively being used.

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1 **Q.** Is there any particular role that push notifications would

2 play in connection with the development of an app?

3 **A.** Yes. For many class of applications they can be extremely

4 important.

5 **Q.** Why?

6 **A.** There are classes of applications that rely on you being

7 alerted about a change within a reasonable amount of time that

8 you would wish to respond.

9   Examples might be an email client. If I receive an email

10 from somebody, I would like to know about it.

11   Instant messaging apps, for example, are heavily based on

12 inquiring push notifications. Sometimes it might be a

13 convenience; like if you have used an online food or drink, or

14 ride-hailing app, you will get a notification telling you the

15 driver is on their way, or the drive driver is approaching.

16   So all the situations, apps, benefit greatly from the

17 ability to assert the user to something while the user may be

18 doing something else on their phone or not using it.

19 **Q.** You've mentioned ARKit. I think earlier you said it was

20 augmented reality API; is that right?

21 **A.** Set of APIs for augmented realities, yes.

22 **Q.** Are you aware of whether WebKit has any API that allows

23 the developer to call on the augmented reality functionality

24 for iOS?

25 **A.** No. It has no analogy to the native AR.

1   **Q.**   So WebKit does not have ARKit; is that right?

2   **A.**   It does not have ARKit or any other means of creating AR

3   applications.

4   **Q.**   And a native -- an app written for the native iOS

5   environment, does have ARKit?

6   **A.**   Yes.

7   **Q.**   Do you have any understanding of the technical

8   characteristics of *Fortnite* in terms of size and graphics

9   capability?

10   **A.**   I do, yes.

11   **Q.**   Can you describe those for the court?

12   **A.**   So *Fortnite* is a game that we strive for a very high level

13   of graphical quality. It's what users with devices really

14   expect.

15   So we -- and we require a modern API that's capable of

16   drawing high quality graphics. The graphics themselves

17   require us to have storage available to store the assets that

18   are displayed. So that's kind of the relationship, that the

19   higher the quality of graphics the more storage we would like

20   to have access to.

21   **Q.**   When you say "assets" what do you mean in that regard in

22   your answer?

23   **A.**   Things like -- the technical word would be textures,

24   effectively pictures that we can display to the user. We put

25   them into 3D space and moved them around a lit bit, but

1   ultimately they are effectively images.

2   Q. And approximately how much storage does *Fortnite* require

3   when written for a console?

4   A. On a console, we require around about 27 gigabytes of

5   space which would be akin to a blu ray movie.

6   Q. And how much storage does *Fortnite* require on iOS?

7   A. So on iOS we have two categories that we look at.

8   For older phones that may have been 2017 or before, we

9   require about 5 gigabytes of space. Again, similar to a

10   two-hour movie that you might download.

11   For newer devices, we go up to like 90 gigabytes because

12   the users of those devices, they wish to see high quality

13   graphics and that takes additional space.

14   Q. And is there any reason why as a developer for the iOS

15   version of the *Fortnite* app, you could not make an app that

16   had 27 gigabytes for iOS?

17   A. No. If we needed to make an app that was 27 gigabytes, I

18   believe we could do that on iOS if the user's device had

19   sufficient storage space available to us.

20   Q. And what is the average storage space for an iOS device

21   today to the best of your understanding?

22   A. It would -- a new device you purchased today, the minimal,

23   I think, would be 64 gigabytes. So I would expect it would be

24   north of 64 gigabytes.

25   Q. And today, typically do you have the ability on the App

1   Store to put in an app that has 27 gigabytes of storage?

2   **A.**   It's a little complicated.

3   So the size of the app you can put on the App Store would

4   be less than 27 gigabytes. But once the app was installed,

5   you can download optional data for the user. So you could

6   ship an app that was smaller, but when the user wasn't using

7   it, install additional data, test your quality, to go up to 27

8   gigabytes.

9   **Q.**   Does the size of an app have any implications --

10   **THE COURT REPORTER:**   I'm sorry, the size?

11   **MS. FORREST:**   Yes, the size.

12   **BY MS. FORREST:**

13   **Q.**   The size of an app in terms of the storage capacity have

14   any implications for its functionality as a web app?

15   **A.**   Yes. Very much.

16   **Q.**   Can you describe those for us please?

17   **A.**   Web apps have very little access to storage on a device.

18   By default, the easy amount of storage in that web app would

19   have access to it on an iOS device, would be about 50

20   megabytes. So that would be 1 percent of what we use for an

21   older iOS device and half a percent for what we would

22   ideally use for a modern iOS device.

23   It is possible to access additional storage beyond that

24   but it requires certain APIs that are not performant and are

25   problematic for games where performance is a factor. And some

1   of those APIs are a little broken and problematic as well.

2   **Q.**   How does 50 megabytes of storage for the web app compare

3   to 27 gigabytes for a console?

4   **A.**   It's much, much smaller.

5   **Q.**   Do you have any order of magnitude how much smaller?

6   **A.**   It would be about two hours magnitude smaller.

7   **Q.**   Is there any way in which one could have add-ons that

8   could increase the ability of the 50 megabytes of cache

9   storage up 27 gigabytes?

10   **A.**   There are additional APIs, but I believe they cap out at

11   just over a gigabyte. And to use those APIs for storing data,

12   it is quite processor intensive.

13   The data is stored in a very nonoptimal format, and it

14   requires the user to continually permit the application to use

15   slightly increasing amounts of data at each step. So it would

16   not be suitable for a game like *Fortnite* or any high

17   performance game that requires additional storage.

18   **Q.**   Now, you've used, I think, the word cache memory?

19   **A.**   I may have, yes.

20   **Q.**   What is the term cache memory mean?

21   **A.**   It is a portion of memory that you accept may be

22   temporary. You would not rely on it existing. It would be

23   desirable that it does exist for as long as possible, but it

24   may go away at any time and you have to be prepared to handle

25   that.

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1   Q.   What's the relationship between a cache memory and a

2   browser?

3   A.   So much of the memory that a browser would make available

4   to a web app would be cache memory. It may be there unusable

5   while the user is using a web app, but if the user were to go

6   to a different web app or go to a different application, the

7   OS would reclaim it and it would be gone.

8   Q.   So if a -- in your experience, if a user utilizes a web

9   app at one moment in time and uses, for instance, the

10   50 megabytes of cache memory and then goes to a second web app

11   that takes up 50 megabytes of cache memory, what happens?

12   A.   I mean, actually the simple answer is we don't know.

13   There is a lot of behavior in the OS that makes it very hard

14   to predict these things.

15   A user who's flipped between two web apps may still see

16   the cached out at present. When they come back, alternatively

17   it may be gone. It may be time related. The user could play

18   a web app game or a web app that used storage in the morning

19   and everything seems perfectly fine, and then later in the day

20   when they open it, the cache storage is gone and the web app

21   would have to redownload it and restore it.

22   Q.   Again, what is the, in your experience, what is the

23   limitation, if any, that a web app has in terms of access to

24   an amount of cache memory?

25   A.   50 megabytes.

1   **Q.**   50 megabytes?

2   **A.**   Yes.

3   **Q.**   We talked earlier about machine readable code, and how

4   machine readable code is translated into or compiled in terms

5   of a native app.

6   Can you describe if that process differs with regard to a

7   web app?

8   **A.**   It does differ, yes. The human readable code will

9   effectively be provided to the web browser and the web browser

10   or components of the web browser will translate or interpret

11   that code into a form that is a close approximation of the

12   machine readable form. It's closer to what the process would

13   ideally like, but less efficient than a version being

14   compiled.

15   **Q.**   So for a native app, the human readable code is compiled,

16   but for a web app, the human readable code, in order to become

17   machine readable code has to be interpreted; is that right?

18   **A.**   Yes. And it's interpreted at one time while the user is

19   using it, so it has to be a fast process, but the need for

20   that speed reduces its efficiency.

21   **Q.**   My next question, I think you've anticipated a piece of

22   it, but let me ask it this way: Is there any significance in

23   terms of the performance of a web app to the fact that the

24   human readable code has to be interpreted?

25   **A.**   Yes. Because the human readable code is interpreted as

1   the web app runs; the version that's produced will be

2   construed as less efficient than a compiler would do for a

3   native app.

4   The overhead of doing interpretation itself may include

5   additional latency that results in the application performing

6   less well.

7   **Q.**   You've used the word "latency." What does the word

8   "latency" mean?

9   **A.**   It would be the time between two events, between something

10   starting and something stopping.

11   **Q.**   Does latency have any implications with regard to the

12   performance of a web app?

13   **A.**   Yes.

14   **Q.**   Can you please describe that?

15   **A.**   I would say latency has an implication for all

16   applications. The more latency there is in operations and

17   functions that the user is performing, the less appealing the

18   app will be to users. They will perceive it as being slow and

19   sluggish and cumbersome.

20   Web apps are more prone to that because the process of

21   interpreting the code has latency and the code that is

22   produced is less efficient so it has high latency to execute.

23   **Q.**   Let's take the example of a game and let's take the

24   example of say the *Fortnite* game playing on a console in -- on

25   the native OS of the console.

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1   Are you with me so far?

2 **A.**   I am with you so far.

3 **Q.**   You've had opportunities to actually play *Fortnite* in its

4 native --

5 **A.**   Yes.

6 **Q.**   -- on a console, correct?

7 **A.**   Yes.

8 **Q.**   And how does that performance on a console compare to the

9 performance of *Fortnite* through a web app?

10 **A.**   It would be significantly better.

11 **Q.**   It would better on a console or on the web app?

12 **A.**   I'm sorry. It would be significantly better on a game

13 console, yes.

14 **Q.**   Why?

15 **A.**   The code that is being executed on the console will be

16 native code. It will have gone through a compilation step

17 that produces a very efficient version for the processor in a

18 console.

19   Additionally, because it is a game console, we can run

20 those processors at a hundred percent of their top speed with

21 no concern about battery life.

22 **Q.**   Does Epic make a commercial version or any version of a

23 web app for *Fortnite*?

24 **A.**   We do not, no.

25 **Q.**   Does Epic distribute any web app version for *Fortnite*?

1 **A.** No, we do not.

2 **Q.** Why not?

3 **A.** It would be an incredible amount of work to create it and

4 we believe the results would just be frustrating, a very poor

5 experience for users, and it would compare extremely badly to

6 other native apps.

7   It would do -- having a web version of *Fortnite* would do

8 more harm than good to the brand.

9 **Q.** In your experience as a web developer -- strike that.

10   In your experiences as an app developer, are web apps

11 substitutable for native apps?

12 **A.** They certainly can be for certain types of apps, yes.

13 **Q.** And how about for a game that has the characteristics that

14 you've described to the Court such as *Fortnite*; is the web app

15 substitutable for the native app?

16 **A.** No. The performance and storage space that *Fortnite* needs

17 and the graphic fidelity make the web app completely

18 unsuitable.

19 **Q.** Have you heard of something called a progressive web app?

20 **A.** I have, yes.

21 **Q.** Have you heard of that ever referred to with the acronym

22 PWA?

23 **A.** Yes, I have.

24 **Q.** What is a progressive web app?

25 **A.** Progressive web app is really just a web app that tries to

1   appear even more app-like. It may have some functionality for

2   working offline that may take advantage of features in the

3   operating system to display itself as more like an application

4   than a tab in a web browser.

5   For example, it may be able to put an icon on the home

6   screen rather than to have it be --

7   **THE COURT REPORTER:** I'm sorry.

8   **THE WITNESS:** It may be able to put an icon on the

9   home screen of the device for the user to access it rather

10   than having them first go to a web browser.

11   But ultimately it's still -- it's still executed by a web

12   browser and the performance characteristics would be

13   identical, the limitations of APIs and storage would be

14   identical. For all intents and purposes, it's just a web app

15   that looks a little nicer on the user's device.

16   **BY MS. FORREST:**

17   **Q.** Have you heard the term "streaming?"

18   **A.** Yes.

19   **Q.** And have you heard the phrase "streaming app?"

20   **A.** I have, yes.

21   **Q.** What is a streaming app?

22   **A.** A streaming app would be an application where the consent

23   that the user is experiencing is delivered over the internet

24   from our server.

25   **Q.** Have you heard the term "cloud gaming?"

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1   **A.**   I have, yes.

2   **Q.**   Is there any relationship between cloud gaming and the

3   streaming app?

4   **A.**   Yes. All cloud gaming apps would be streaming apps. The

5   additional factor would be that a cloud gaming app when the

6   user performs an action on the device such as touching the

7   screen, that data will be sent back to the -- through the

8   internet to the machine in the cloud, and the machine will

9   then execute that interaction as if the user had done it

10   themselves.

11   **Q.**   Are there any differences between native apps and

12   streaming apps?

13   **A.**   Yes.

14   **Q.**   Can you describe them, please?

15   **A.**   A native app will execute locally on a user's device.

16   There will be no internet connection required for certain

17   types of games. It will be very responsive because everything

18   executes locally.

19   Conversely, a streaming app will require an internet

20   connect, probably quite a good quality internet connection.

21   If you have a weak WiFi signal for example, the performance

22   will appear to suffer and be less responsive. If you have a

23   bad internet connection, the picture might break up and become

24   muddy or hard to make out.

25   Streaming apps -- streaming apps, because they are running

1   on a machine in a data center, they -- they're occupying

2   physical hardware and usually there has to be some sort of fee

3   associated with that, so you may have to join a membership

4   program to have access to streaming apps.

5   The nature of that relationship and the fact that those

6   machines have to be even higher power than a typical web

7   server means that there's often contention or access. So you

8   may regularly find when you go to play a cloud gaming app,

9   that you have to wait in a queue or pay a fee to be a -- as a

10   premium member of the service.

11   **Q.**   Do these impacts have any -- strike that.

12   Do these differences have any impact on game play for high

13   graphic games?

14   **A.**   Yes.

15   **Q.**   Can you describe those?

16   **A.**   Yes. We talked about latency earlier.

17   A game that is running on a streaming app in addition to

18   just the process of the game creating the picture, that

19   picture will have to be compressed. It will be sent over the

20   internet. It will be decompressed on the user's device and

21   displayed. So there's additional latency involved.

22   If the user has a very good internet connection, it may

23   not be particularly noticeable. It will still be there, but

24   perhaps the user would not observe it. If the user does not

25   have such a connection, again, if they have a bad WiFi

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1   connection or sometimes even just a WiFi connection versus a

2   cable, the latency will add up and eventually become quite

3   noticeable and unpleasant.

4   **Q.**   Are you familiar with any apps that have high graphics or

5   that are high graphic apps that are not gaming apps?

6   **A.**   Yes.

7   **Q.**   And do these latency issues and other issues that you just

8   mentioned have any implications for how those apps execute in

9   a streaming app environment?

10   **A.**   They would have exactly the same problems. Any

11   application, whether it's a high-performance graphic

12   application or a low performance one, there will be time

13   associated with taking that picture, compressing it, sending

14   it to the user, decompressing it, and then having the user's

15   response sent back to the server.

16   **Q.**   Have you heard of the phrase "single-player game"?

17   **A.**   Yes.

18   **Q.**   Do the latency issues that you just described for

19   streaming apps apply to single-player games?

20   **A.**   They definitely apply. They may be slightly more

21   tolerable because the context of a single-player game is

22   slightly different than a multiplayer game.

23   **Q.**   And is there a -- do the differences that you've described

24   with regard to streaming apps and native apps have any

25   particular implications with regard to multiplayer games?

1   **A.**   Yes.   Users -- because multiplayer games have an element

2   of competition, and both in terms of users wishing to perform

3   well and users wishing to outsmart each other, latency is

4   considered very problematic.   High degrees of latency in

5   multiplayer games are considered just bad.

6   **Q.**   Is *Battle Royale* part of *Fortnite*?

7   **A.**   It is, yes.

8   **Q.**   Is that a multiplayer game or a single-player game?

9   **A.**   It's a multiplayer game.

10   **Q.**   Are you familiar with the term certificate in connection

11   with app development?

12   **A.**   Yes.

13   **Q.**   What is a certificate?

14   **A.**   A certificate is a digital credential that can be used to

15   authenticate the source of -- that can be used to authenticate

16   that a piece of data came from a source.

17   **Q.**   Do certificates play any role in the distribution of an

18   app?

19   **A.**   Yes, they do.

20   **Q.**   Can you please describe that?

21   **A.**   So when a developer uploads an app to Apple for

22   distribution, they will use their certificate to sign it and

23   then Apple will use that signing information to verify that

24   the developer was the -- the developer of the account was the

25   person who submitted the application.   It prevents somebody

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1   pretending to be you and uploading an application.

2   **Q.**   And what are the steps involved in a developer obtaining a

3   certificate from Apple?

4   **A.**   You would agree to the Apple developer agreements.

5   There's a couple you would have to get through. You will then

6   download a certificate from Apple and install it onto your

7   Mac.

8   **Q.**   Are you familiar with the term "signature?"

9   **A.**   I am, yes.

10   **Q.**   What does that mean in connection with apps and app

11   distribution?

12   **A.**   Signature would be effectively a hash that is created on

13   an application. Not just like an application in the generic

14   sense, but a specific version of an application.

15   So you will take an application that you have created, the

16   specific version, and you would, using the tools, you would

17   generate a hash using your certificate and the application,

18   and then that hash is known as the signature and it can

19   identify the application that you signed.

20   **Q.**   Is a hash have any relationship to a unique identifier?

21   **A.**   You could think of a hash as a unique identifier for a

22   specific version of an application or any piece of data.

23   **Q.**   Do signatures play any role in the distribution of apps

24   on iOS?

25   **A.**   They do, yes.

1   **Q.** Can you please describe that?

2   **A.** Yes.

3   IPhones, with too narrow exceptions, iPhones will only

4   install applications that have been signed -- have a signature

5   that was generated by Apple.

6   **Q.** Are you familiar with the term "notarization" in

7   connection with app distribution?

8   **A.** Yes.

9   **Q.** What does that term mean?

10   **A.** Notarization is very similar to signing. It is the -- let

11   me step back.

12   Notarization is a process where a developer can upload a

13   version of their application, Mac application to Apple.

14   Apple's servers will check the application for signs of known

15   malware or problematic software. And if it passes, Apple will

16   notarize it, which in this case is generating another hash or

17   signature for the application.

18   Users can then distribute the application on the Mac

19   platform, and Macs will check with Apple servers to verify

20   that there's a matching signature. And if there is, it will

21   allow the application to open unimpeded.

22   **Q.** All right. You've just used the phrase "Mac" in

23   connection with notarization. You didn't use the word "iOS"

24   in connection with notarization.

25   Does iOS have a notarization procedure like the one you've

1   just described for Mac?

2   **A.**   No, there's no notarization for iOS.

3   **Q.**   Are you aware of any technical reason why iOS could not

4   employ such a process?

5   **A.**   There's no technical reason.

6   **Q.**   Are there any agreements that a developer is required to

7   sign before distributing apps on iOS to consumers?

8   **A.**   Yes.

9   **Q.**   Can you please list them for us?

10   **A.**   Yes.   There are several.   If we go through the experience

11   of a developer, they will download Xcode and have to accept

12   the Xcode agreement.

13   They will apply for Apple's developer program and have to

14   accept that agreement.   If they wish to distribute apps, there

15   will be an additional agreement that they will accept.

16   And then finally, if they wish to monetize their apps,

17   there's another agreement that they will accept around

18   monetization terms.

19   **Q.**   Have you heard of something called the Apple Developer

20   Agreement?

21   **A.**   Yes.

22   **Q.**   Is that one of the four agreements you just described?

23   **A.**   That is, yes.

24   **Q.**   And then there's the Xcode agreements?

25   **A.**   Yes.

1   **Q.**   That's one of the four?

2   **A.**   Yes.

3   **Q.**   The Apple program license agreement; is that one of the

4   four.

5   **A.**   That is one of the four, yes.

6   **Q.**   And is the last one is Schedule II?

7   **A.**   Yes. Schedule II are pay applications agreement, yes.

8   **MS. FORREST:**   Your Honor, I have a binder of just a

9   couple of exhibits that I can hand up.

10   **THE COURT:**   Okay.

11   Did you identify them before?

12   **MS. FORREST:**   They were.

13   **THE COURT:**   You head that way and I'll get mine here.

14   **MS. FORREST:**   May I approach?

15   **THE COURT:**   You may.

16 **BY MS. FORREST:**

17 **Q.**   All right. I would like to turn your attention first,

18 Mr. Grant, to what has been marked for identification PX2618.

19 **A.**   Okay.

20 **Q.**   After you've reviewed that, can you please just identify

21 what it is for us?

22 **A.**   Yes. This is the Apple Developer Agreement.

23 **Q.**   And do you know whether there was any interaction with

24 Apple over the terms of this agreement prior to its acceptance

25 by Epic?

1   **A.**   No.   It was an automated process.

2   **MS. FORREST:**   Your Honor, I would offer PX2618.

3   **THE COURT:**   Any objection?

4   **MR. DOREN:**   No objection, Your Honor.

5   **THE COURT:**   2618 is admitted.

6   (Plaintiff's Exhibit 2618 received in evidence)

7   **BY MS. FORREST:**

8   **Q.**   Let's turn, Mr. Grant, to PX2619 for identification.

9   And can you please let us know when you've had a chance to

10   review that, what that is?

11   **A.**   This is the Apple Developer Program License Agreement.

12   **Q.**   And are you familiar with this document?

13   **A.**   I am, yes.

14   **Q.**   And do you know whether there was any interaction with

15   Apple prior to the acceptance of the terms relating to those

16   terms?

17   **A.**   No.   This would be another automated process.

18   **MS. FORREST:**   Your Honor, I offer PX2619.

19   **THE COURT:**   Any objection?

20   **MR. DOREN:**   No objection, Your Honor.

21   **THE COURT:**   2619 is admitted.

22   (Plaintiff's Exhibit 2619 received in evidence)

23   **BY MS. FORREST:**

24   **Q.**   Do you know, Mr. Grant, when the last Apple Developer

25   Program License Agreement was renewed?

1   **A.**   I believe it was June 2020.

2   **Q.**   Thank you.

3   And is the Apple Developer Program License Agreement

4   sometimes referred to as the DPLA?

5   **A.**   Yes.   That's correct.

6   **Q.**   Let's turn to PX2621 for identification.   And would you

7   let us know what that is when you've had a chance to review

8   it?

9   **A.**   This is the Schedule II agreement.

10   **MS. FORREST:**   Your Honor, I would offer PX2621.

11   **THE COURT:**   Any objection?

12   **MR. DOREN:**   No objection.

13   **THE COURT:**   Admitted.

14   (Plaintiff's Exhibit 2621 received in evidence)

15   **BY MS. FORREST:**

16   **Q.**   Was there any interaction with Apple relating to the terms

17   of the Schedule II?

18   **MR. DOREN:**   I will object on foundation, Your Honor.

19   I'm not sure if he was in the process.

20   **BY MS. FORREST:**

21   **Q.**   Mr. Grant --

22   **MR. DOREN:**   Foundation, Your Honor?

23   **THE COURT:**   Mr. Doren, really?

24   **MR. DOREN:**   Well, no.   I'll ask some follow-up

25   questions.   That's fine.

1   **THE COURT:** All right. Objection is withdrawn.

2   **MR. DOREN:** Yes.

3   **THE COURT:** Admitted 2621.

4   **BY MS. FORREST:**

5   **Q.** Let's turn to the last document in your binder, which is

6   PX2622.

7   Are you familiar with this document?

8   **A.** Yes, I am.

9   **Q.** What is it?

10   **A.** It's the Xcode and Apple SDKs agreement.

11   **Q.** Do you know whether there was any interaction with Apple

12   relating to the terms of this agreement?

13   **A.** No, there was not.

14   **MS. FORREST:** Your Honor, I would offer PX22 -- I am

15   sorry, PX2622.

16   **THE COURT:** Any objection?

17   **MR. DOREN:** No objection.

18   **THE COURT:** Admitted.

19   (Plaintiff's Exhibit 2622 received in evidence)

20   **BY MS. FORREST:**

21   **Q.** When *Fortnite* was available in the App Store, in the -- in

22   the App Store, where was it available geographically?

23   **A.** It was available in all territories that Apple had an

24   actual presence with the exception of China, I believe.

25   **Q.** And did the DPLA -- was there a separate DPLA signed for

1   each of those territories?

2   **A.**   No. There was just a single agreement.

3   **Q.**   For a global agreement?

4   **A.**   Yes.

5   **Q.**   Is that true with regard to the other agreements?

6   **A.**   Yes. That would also be true.

7   **Q.**   Now let's talk about some -- about Epic.

8   Does Epic have any subsidiaries with which you are

9   familiar?

10   **A.**   Yes.

11   **Q.**   And are you familiar with a company by the name of Epic

12   Games International?

13   **A.**   Yes.

14   **Q.**   What is that?

15   **A.**   That would be the Epic company that runs *Unreal Engine*

16   Development.

17   **Q.**   And are you familiar with the company named Life On Air?

18   **A.**   I am, yes.

19   **Q.**   And what is Life On Air?

20   **A.**   That would be the company that develops the *Houseparty*.

21   **Q.**   And is Life on Air a subsidiary of Epic Games, Inc.?

22   **A.**   Yes.

23   **Q.**   And is Epic Games International a subsidiary as well?

24   **A.**   I am not sure of the exact structure, but yes, they are

25   subsidiaries of an Epic entity.

1 **Q.** Okay. How about Ka-Ra s.a.s., spelled capital K, little

2 a-Ra s.a.s., also known as Twin Motion.

3 Have you heard of that entity?

4 **A.** I have, yes.

5 **Q.** What is that entity?

6 **A.** They are a company in Europe who create architecture

7 software.

8 **Q.** And have you heard of a company called Sionics?

9 **A.** I have, yes.

10 **Q.** Have you heard of a company called Games Sweden Scanning

11 AB?

12 **A.** Yes. I think that's the official legal term for Quixel.

13 **Q.** And is Ka-Ra s.a.s. a subsidiary of Epic?

14 **A.** Yes.

15 **Q.** And is Sionics?

16 **A.** Yes.

17 **Q.** And is Game Sweden Scanning?

18 **A.** Yes.

19 **Q.** Do each of these entities have developer program accounts

20 with Apple?

21 **A.** They do, yes.

22 **Q.** Are you familiar with the app review guidelines?

23 **A.** Yes. I should state that in my career I've been very

24 familiar at times. My day-to-day no longer involves

25 submission of apps so I'm less familiar with the current

1 guidelines.

2 **Q.** All right.

3   And are you familiar with something called the app review

4 process generally?

5 **A.** Yes, I am.

6 **Q.** And in connection with your duties and responsibilities,

7 did you ever have any opportunity to be involved in the

8 submission of apps for review through the app review process?

9 **A.** Yes.

10 **Q.** Can you please describe what that process entails?

11 **A.** Yes.

12 **Q.** Actually let's be specific.

13   With regard to *Fortnite* in particular, were you involved

14 in the submission of *Fortnite* through the app review process

15 at any point in time?

16 **A.** Yes, I was.

17 **Q.** Can you please describe what that process entailed?

18 **A.** The process of app review is we would create a version of

19 *Fortnite* that was targeted for iOS. We would sign it with

20 the necessary certificates. And then we would upload it

21 through Apple's developer website or rather upload to Apple's

22 developer website and submit it for review.

23   We would monitor the status and observe as it went through

24 that process.

25 **Q.** How long, in your experience with the *Fortnite* app, did

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1   the app review process take?

2   **A.**   It was very variable. It could be under an hour. It

3   could be multiple business days.

4   **Q.**   Is there any process by which Apple can provide expedition

5   for the app review?

6   **A.**   When you submit an application, you can request that it be

7   expedited. We would often also reach out to our floor manager

8   at Apple and request that it be expedited.

9   **Q.**   Did Epic ever seek expedition?

10   **A.**   Yes.

11   **Q.**   Was it ever granted?

12   **A.**   Yes, yes it was.

13   **Q.**   Are you aware of any Epic apps having been rejected by

14   Apple after submission through its app review process?

15   **A.**   I am, yes.

16   **Q.**   And did any of those relate to *Fortnite*?

17   **A.**   Yes, they did.

18   **Q.**   And can you describe -- are you familiar with any of the

19   reasons that were provided for the rejection of the *Fortnite*

20   app?

21   **A.**   Some of them, yes.

22   **Q.**   Can you describe some of the reasons that you were given

23   for rejections?

24   **A.**   Yes. Apple would at times object to a certain way a

25   feature was phrased or described in the app notes.

1   One example I remember is that we had an early feature

2   that we described as this is an experimental feature, please

3   let us what you know, and they didn't like that. The app

4   review team did not like that and asked us to change it.

5   When we implemented sign-in with Apple, we had our app

6   approved in one version, and then the next version they

7   rejected it and requested certain changes to functionality.

8   We would at times have conditional approvals where Apple

9   would tell us if something needed to be changed, and they

10 wouldn't allow us to submit that version of the app, but

11 require us to make changes the next time.

12   I remember screenshots. One example they felt the

13 screenshots of the foreign application were not sufficient for

14 what we were submitting. Things like that. Mostly around the

15 metadata, the distributions of the app rather than

16 functionality itself.

17 **Q.** Did these rejections result in any delays in approval of

18 the app?

19 **A.** They could be, yes.

20 **Q.** And did any delays have any impact on Epic?

21 **A.** Yes.

22 **Q.** Can you describe that?

23 **A.** Yes. There was two delays related to app review that were

24 problematic to us. One was just the process being delayed.

25   We would try to submit for iOS in plenty of time knowing

1   that it might take two or three days, but if there was a

2   problem, either just because it took longer or it was

3   rejected, it would cause us to have to change our release date

4   from a version of *Fortnite*.

5   The bigger impact was the app preview process after it has

6   been approved before it's available to users, there's a

7   process called propagation. And our description would be that

8   when we release the app, there's a period of time before it's

9   available to people in all the app stores. We would

10   frequently observe propagation taking hours at a time. That

11   was particularly problematic because we had no or rejected it

12   would cause us to have to change our release date for the

13   version of *Fortnite*.

14   The bigger impact was part of the app-review process after

15   it has been approved, before it's available to users, there's

16   a process called propagation. And our description would be

17   that when we release the app, there's a period of time before

18   it's available to people in all the App Stores. And we would

19   frequently observe propagation taking hours at a time. That

20   was particularly problematic because we had no control over

21   the process or even visibility into the process.

22   And because *Fortnite* requires all users to have the same

23   version of an app, we would pass app review, say, okay, great

24   we are good to go early in the morning of the release date, we

25   would press the buttons on the Apple developer site and the

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1   Sony developer site to release the app. They would all go out

2   to users, but users in iOS would not be able to get the new

3   version of *Fortnite* which meant for a period of time they

4   weren't able to play the game.

5   There were other examples where we had to reach out to

6   Apple and ask that they investigate what was happening because

7   we had no control or visibility.

8   **Q.** Did Apple ever require Epic to make changes to the

9   *Fortnite* app prior to its getting approved?

10   **A.** Yes. Apple would frequently want to fight the app review

11   guidelines to require us to support new features in there, OS

12   or new types of hardware.

13   **Q.** Can you give us some examples of that?

14   **A.** Two of the more memorable ones were sign-in with Apple

15   where Apple required any app that supports common accounts for

16   authentication such as being able to use your Google account

17   to sign in for your Facebook account; you would sign in with

18   Apple, Apple required that you then also support their new

19   system. That was probably –- that was months of work for many

20   people, Epic probably, you know, a couple of man years of

21   work.

22   iOS 12, Apple changed how they budgeted memory for

23   applications. And as a result, we had to significantly reduce

24   the amount of memory that *Fortnite* was using. And, again,

25   that was in excess of a man year of work to meet that

1 requirement.

2 **Q.** Have there been instances when Epic has initiated

3 communications with Apple about Apple's software?

4 **A.** Yes.

5 **Q.** And can you describe some of those?

6 **A.** Yes.

7   One time we would often provide Apple with feedback,

8 things we observed in the tools, perhaps suggestions how

9 functionality could be improved based on either our experience

10 or our knowledge of other platforms.

11   The more -- the more sort of time pressed one was, we

12 would discover bugs in iOS that we believed were in Apple's

13 software and not ours. Because *Fortnite* ran on a large number

14 of devices at a great scale, we actually would be able to

15 compare the performance on many different types of iOS

16 devices. And if we observed a situation where users on an

17 iPhone 8, for example, were experiencing instability, like

18 their games would crash it would exit abnormally, we would

19 verify that it was specific to that device. We would verify

20 that to the best of our knowledge we were using the APIs

21 correctly, and after that, we would have to reach out to Apple

22 and provide them with the information we are seeing users

23 crashing in this classic hardware, you know, please help us

24 out here because we do not have any visibility beyond that.

25   **THE COURT:** So if it's so bad, why use it?

1   THE WITNESS: Sorry, Your Honor.

2   THE COURT: If it is so bad, why use it? Why do you

3   want to use Apple if it's so terrible?

4   THE WITNESS: The instance I'm referring to here is

5   where we would see a specific Apple device had problems.

6   Because all devices, they have slightly custom hardware. They

7   will have slightly different software known as a driver that

8   manages that hardware. It's not uncommon for the driver to

9   have a bug that will only represent itself on a certain type.

10   So in the case where if we saw a crash happening on all

11   iPhones, we'd believe that we did something wrong and

12   investigate on my end.

13   THE COURT: I read testimony that indicates that Epic

14   Games has had issues when it's dealing with its developers,

15   right? It's not perfect.

16   THE WITNESS: No, not at all.

17   THE COURT: I would suspect Apple's not perfect.

18   THE WITNESS: Yes.

19   THE COURT: So if it's -- I mean, how imperfect is

20   it?

21   Do you understand what I'm saying? That is, generally

22   speaking, do you have issues or do you always have problems?

23   THE WITNESS: In terms of like the hardware support,

24   I would say it is no less -- I'd say it is akin to other

25   platforms. We will run into problems that we can't explain

1   where we believe our software is correct and we'll have to

2   reach out for assistance diagnosing the problem at a deeper

3   level.

4   **THE COURT:** Okay. So when you -- you have these

5   issues with Android, too?

6   **THE WITNESS:** Yes.

7   **THE COURT:** And is it comparable? That is, is the

8   experience comparable with Apple and Android or is Apple just

9   that much worse than Android?

10   **THE WITNESS:** In terms of discovering defects and

11   problems, I would say they are very comparable. Apple

12   engineers are great. They're knowledgeable, skilled. They're

13   really motivated to make sure the developer is having a great

14   experience, and we see that with all our platforms.

15   **THE COURT:** All right. Go ahead.

16   **BY MS. FORREST:**

17   **Q.** Are you familiar with the term "sideloading?"

18   **A.** Yes.

19   **Q.** What does that term mean?

20   **A.** I would describe it as the process of putting an

21   application on the device that bypasses the store or -- the

22   official platform means of putting applications on.

23   **Q.** And is sideloading allowed on iOS?

24   **A.** There are two narrow exceptions, neither of which are

25   permitted for distribution of apps to consumers.

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1   **Q.** Are there any technical impediments to sideloading on

2   iOS that you are aware of?

3   **A.** The -- there is no technical impediment, no.

4   **Q.** Is sideloading allowed on macOS?

5   **A.** Yes.

6   **Q.** Are you familiar with the term "hotfix?"

7   **A.** I am, yes.

8   **Q.** What does that term mean?

9   **A.** At Epic, we use that term -- it has many names for

10   software development. At Epic we use that term to mean making

11   a change on our servers that alter the availability or even

12   behavior of a function in our applications without requiring

13   that the user download an update to the application.

14   **Q.** And prior to August 2020, had Epic ever engaged in a

15   hotfix?

16   **A.** Yes. Many times.

17   **Q.** Was there a hotfix that occurred in August of 2020?

18   **A.** There was many that would have occurred in August 2020.

19   **Q.** And does a -- you actually mentioned a term "server side

20   change." Can you please describe for us what that, a server

21   side change?

22   **A.** Yes. It would be changing a configuration on a server to

23   cause it to report to applications that's slightly different

24   behavior was being requested.

25   It could be as simple as making something available or

1   unavailable. It's how we might allow users in *Fortnite* to

2   have access to a specific type of game for a period of time or

3   a specific cosmetic.

4   It can also be used to change the behavior. If we see

5   something that could be improved. *Fortnite* is a competitive

6   game, and there are many aspects of the game that are balanced

7   against each other. If we see that certain type of game play

8   or a certain weapon is overly powerful, we can make a hotfix

9   change to reduce its effectiveness.

10   **Q.** Did you have occasion to make server side changes to

11   *Fortnite* in connection with feature changes from time to time

12   prior to August 2020?

13   **A.** Yes.

14   **Q.** On approximately how many occasions?

15   **A.** It would be like a weekly occasion. We would rotate

16   different types of game notes in and out. If there was a big

17   event for -- taking place during the season, that would be

18   hotfixed on at the appropriate time so users could experience

19   it.

20   **Q.** And apart from what occurred on August 13th, 2020, are you

21   familiar with what occurred on August 13th, 2020?

22   **A.** I am, yes.

23   **Q.** Apart from that event, are you aware of Apple ever

24   informing Epic that a server side change violated their rules?

25   **A.** No.

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1   **Q.**   Do you recall what occurred on August 13th, 2020?

2   **A.**   I do, yes.

3   **Q.**   And do you recall anything that occurred on that day in

4   connection with Epic Direct Payment on iOS?

5   **A.**   Yes.

6   **Q.**   Can you please describe what happened?

7   **A.**   On -- starting at the beginning in early August, we

8   submitted updates to *Fortnite* that enabled iOS users to --

9   enabled Epic Direct Pay to operate on iOS. We submitted those

10   in early August.

11   On the 13th of August, we made a hotfix to our servers

12   that informed iOS clients that they now have access to

13   the -- iOS clients should permit their users to have access

14   to two payment methods, Apple's in-app purchases and Epic

15   Direct Pay.

16   **Q.**   Did the hotfix that was implemented by Epic on

17   August 13th, 2020 that you just described, require the

18   insertion of any executable code?

19   **A.**   No. It was a simple one statement that simply specified

20   that IAP and Epic Direct Pay were two payment types available.

21   **Q.**   What happened to the *Fortnite* app on iOS after the

22   hotfix was implemented?

23   **A.**   So after the hotfix changes made on the server, iOS

24   clients would have checked and discovered that that change had

25   been made. And then they would make Epic Direct Pay available

1 to users as an alternative means for paying for in-app -- I'm

2 sorry, for paying for V-Bucks.

3 **Q.** Was there any impact on the Apple's -- Epic's Apple

4 Developer Agreement as a result of the hotfix?

5 **A.** Yeah --

6 **Q.** -- that occurred on August 13th, 2020?

7 **A.** Yes. Later that day we received notification that

8 *Fortnite*, the conversion of *Fortnite* was in violation of

9 certain terms. It was removed from sale. So users no longer

10 had access to the current version of *Fortnite* if they did not

11 already have it.

12   Later that day, I believe later that day, we received

13 another notification that our developer account would be

14 revoked if we did not upload a compliant version of Fortnite

15 within 14 days.

16 **Q.** As a technical matter, was there any impact on iOS users

17 from the delisting of *Fortnite*?

18 **A.** Yes. Once *Fortnite* was delisted on the 13th, users who

19 did not have the current version were no longer able to play

20 *Fortnite*.

21   We require that all versions of *Fortnite* -- sorry. All

22 users of *Fortnite* have the same version because people can

23 play it together. If you had not updated *Fortnite* by the 13th

24 because it was no lodger in the App Store, you could not get

25 an update, and you were locked from playing.

1   The larger impact was approximately two weeks later *when*

2   *we released Fortnite* season 14. At that point, because Apple

3   were blocking updates, we submitted version 14 and they

4   declined to take it. It meant that users on iOS were no

5   longer able to play with other platforms, and did not have

6   access to the Season 14 consent or *Fortnite* experiences.

7   **Q.** Thank you.

8   **MS. FORREST:** Your Honor, I have no further questions

9   at this time.

10   **THE COURT:** Mr. Doren, Cross.

11   **MR. DOREN:** Thank you, Your Honor.

12   **CROSS-EXAMINATION**

13   **BY MR. DOREN:**

14   **Q.** Good afternoon.

15   **A.** Good afternoon.

16   **Q.** It is a pleasure to meet you.

17   **A.** You too.

18   **Q.** I may have missed it, but when did you begin your

19   employment with Epic?

20   **A.** I believe it was September of 2015.

21   **Q.** All right. And when you were talking about -- when we

22   introduced the different contracts, were you referring to

23   those as the contracts that were renewed in June 2020?

24   **A.** The Apple developer?

25   **Q.** Yes, sir.

1   **A.**   Yes.

2   **Q.**   Thank you. Thank you.

3   And you have been writing software, developing software

4   for mobile platforms since 2008 or so?

5   **A.**   Yes.

6   **Q.**   And that would be the same year that the App Store

7   originally launch, correct?

8   **A.**   Actually, that's not quite correct what I said.

9   So if we look at all mobile platforms, the first mobile

10   platform I developed for was the Sony PlayStation portable.

11   We began development for that in 2003, I think. So that would

12   be the first mobile platform.

13   **Q.**   Sir, I'm going to ask you to listen to what I am asking,

14   and answer what I am asking.

15   You began writing software for mobile platforms in 2008,

16   correct?

17   **A.**   No.

18   **Q.**   Okay. You wrote earlier than 2008?

19   **A.**   Yes.

20   **Q.**   So when you testified it was about 2008 in your

21   deposition, was that just an oversight?

22   **A.**   I believe in the deposition I may have taken the question

23   to be specific to smartphones, but --

24   **Q.**   Fair enough. Fair enough. Let me ask you that.

25   In 2008, did you begin developing software for iOS

1   devices?

2   **A.**   Yes.

3   **Q.**   And could an iPhone in 2008 run a game as sophisticated as

4   *Fortnite*?

5   **A.**   Not today's version of *Fortnite*.   No.

6   **Q.**   It lacked the computing power?

7   **A.**   Yes.

8   **Q.**   And the graphics capabilities?

9   **A.**   Yes.

10   **Q.**   And the memory?

11   **A.**   Yes.

12   **Q.**   And the battery capabilities, the battery life?

13   **A.**   That's harder to gauge.

14   **Q.**   You might be able to play it for a very short period if

15   all the other capacities were in place?

16   **A.**   It's hard to say.

17   **Q.**   And, in fact, just a year or two before *Fortnite* was

18   launched, iOS would have still been incapable of having run

19   such a demanding game, correct?

20   **A.**   It's a little hard to say.   Our expectations of what

21   *Fortnite* would have looked like in 2010, 2012 would be very

22   different than 2020.

23   **Q.**   Well, let me ask you this: How long before, since you

24   have written software for the iOS, operating system, at what

25   point in time did it become capable of handling a game like

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1   that launched on iOS in April 2018?

2   **A.**   In April 2018 we launched *Fortnite*. I believe we

3   targeted iOS devices that were manufactured about three,

4   perhaps four years earlier. So conceivably 2014 we could have

5   released *Fortnite* on iOS.

6   **Q.**   Thank you.

7   Since 2014, Apple is consistently improved the iPhone,

8   correct?

9   **A.**   Yes.

10 **Q.**   The processing power has improved?

11 **A.**   Yes.

12 **Q.**   The graphics abilities have become more sophisticated?

13 **A.**   Yes.

14 **Q.**   The resolution of the touchscreen has improved?

15 **A.**   Yes.

16 **Q.**   It's internet connectivity has improved?

17 **A.**   Yes.

18 **Q.**   The sound has improved?

19 **A.**   Yes.

20 **Q.**   And games on iPhone can also now be played with an Xbox

21 PlayStation controller, correct?

22 **A.**   Yes.

23 **Q.**   Is it through a wireless connection?

24 **A.**   Yes.

25 **Q.**   And as a result of those consistent improvements and that

1   innovation, iOS devices are now capable of running games

2   like *Fortnite* and as *Fortnite* has evolved since 2018, correct?

3   **A.**   I am not sure what you mean.

4   **Q.**   Well, has *Fortnite* become even more sophisticated since

5   2018?

6   **A.**   Yes.

7   **Q.**   Has it become even more demanding on operating systems?

8   **A.**   No.

9   **Q.**   You've been engineering it to make sure that it continues

10   to work and maximize each operating system?

11   **A.**   Yes.   It's important to us that we support a wide range of

12   devices.   We expect users to have devices that can be five to

13   eight years old.

14   **Q.**   You've been working hard to make sure that *Fortnite*

15   continues to work well on the iOS devices, correct?

16   **A.**   More than many other people have.   Yes, as a company we

17   do.

18   **Q.**   Other people than you?

19   **A.**   Yes.

20   **Q.**   You are kind of a project-to-project person, as I recall?

21   **A.**   That would be a good description, yes.

22   **Q.**   And you, back before or up until August 13th, 2020, would

23   typically play *Fortnite* on your iPad, correct?

24   **A.**   Yes.

25   **Q.**   And you liked it because you could flip it open after the

1   kids went to bed, correct?

2   **A.**   Yes.

3   **Q.**   And if you were traveling for work or even at work, you

4   generally had your iPad with you, correct?

5   **A.**   Yes.

6   **Q.**   So you could play there, correct?

7   **A.**   Yes.

8   **Q.**   And clearly, sir, a man in your position is not short on

9   console hardware options, correct?

10 **A.**   I'm very fortunate, yes.

11 **Q.**   Your go-to environment would generally remain the iPad,

12 correct?

13 **A.**   For *Fortnite*, yes.

14 **Q.**   And that would even be when you were home alone when the

15 kids weren't there, correct?

16 **A.**   More often than not, yes.

17 **Q.**   And your recollection is, at least at the time you were

18 deposed, that the only times you would typically play on your

19 PlayStation was if you were playing with your cousins or your

20 friends and you wanted to make use of the superior microphone

21 on your console, correct?

22 **A.**   It would be superior microphone, higher quality graphics,

23 bigger screen, lower latency. My cousins would get upset if I

24 didn't perform well, so I would take advantage of whatever I

25 could get.

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1   Q.   Your go-to environment was your iPad?

2   A.   For myself, yes.

3   Q.   Now, the Sony PlayStation 4, just to pick an example, came

4   out in about 2013, correct?

5   A.   2013, I believe that's correct. Yes.

6   Q.   Thank you.

7   And the PlayStation 5 came out just this last fall of

8   2020. Do I have that right?

9   A.   Yes.

10   Q.   And at the time that PlayStation 4 came out in 2013, it

11   substantially outperformed mobile platforms, correct?

12   A.   Yes.

13   Q.   Mobile platforms update more frequently than consoles,

14   true?

15   A.   Yes.

16   Q.   You see that with kind of an annual upgrade on the

17   operating system as well as various updates over the course of

18   each year, correct?

19   A.   Correct.

20   Q.   Over the course of the time period between 2013 and this

21   last fall, it reached a point where mobile platforms, in your

22   view, probably exceed the raw processing power of

23   PlayStation 4, correct?

24   A.   I think that's arguable. I'm not sure it's quite correct.

25   They are very closely approximated.

1   **Q.**   That is what you stated in your deposition, isn't it?

2   **A.**   Yes.

3   **Q.**   Now one of the SDKs that Epic uses is called UI kit? Do

4   you recall that?

5   **A.**   I would describe the UI kit as a library in an SDK.

6   **Q.**   So what is UI kit?

7   **A.**   It is Apple's APIs for putting graphical elements such as

8   buttons lists pictures into an application.

9   **Q.**   And UI is user interface?

10   **A.**   That's correct.

11   **Q.**   So it's a fairly basics kit.

12   And by "basic," I mean fundamental. Like you say, buttons

13   and all for the user to literally interact with the device,

14   correct?

15   **A.**   Yes.

16   **Q.**   And Epic does not write its own UI kit for iOS, correct?

17   **A.**   No.

18   **Q.**   It uses a software that Apple developed?

19   **A.**   In certain places. We have our own UI library known as

20   UMG in Slate that we built --

21   **THE COURT REPORTER:** Sorry.

22   **THE WITNESS:** Sorry. We have our own UI libraries

23   called UMG and Slate that we build most of our user interfaces

24   in because that enables us to have the same interface on

25   multiple platforms for him to recreate it.

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1   We will use UI kit where we have to display OS specific

2   features on iOS such as a user alert or actually that's

3   probably the main one that is coming to mind.

4   **Q.** So the short answer is, Epic does make use of Apple's UI

5   kit?

6   **A.** Yes.

7   **Q.** And whether an app is downloaded or loaded directly from

8   the -- excuse me, sideloaded or downloaded from the App Store,

9   that developer would still need to use that UI kit and what it

10 provides for the user interface on iOS, correct?

11 **A.** Yes.

12 **Q.** You talked a little bit about augmented reality.

13 **A.** Uh-huh.

14 **Q.** And Epic sees augmented reality is a significant factor in

15 the future of gaming; is that fair?

16 **A.** I would say "factored" just in computing in general. But

17 yes.

18 **Q.** Thank you.

19   And game developers that Epic competes with are also

20 striving to develop games and incorporating augmented reality;

21 is that fair?

22 **A.** I believe that; fair.

23 **Q.** For example, you've seen that Microsoft has developed or

24 been developing an AR version of Minecraft, correct?

25 **A.** Yes.

1   **Q.**   And, in just the last year or two, Apple has released its

2   own ARKit for iOS developers, correct?

3   **A.**   I believe it was several years ago, yes, they have their

4   own.

5   **Q.**   And here, in 2021, we are actually up to ARKit 4, correct?

6   **A.**   That sounds right.

7   **Q.**   During the last several there was the original and then

8   there have been four different evolutionary steps, if you

9   will, in the ARKit, correct?

10 **A.**   Right.

11 **Q.**   And are you familiar with Apple's worldwide developer

12 conference?

13 **A.**   Yes.

14 **Q.**   And you recognize that that's an annual event?

15 **A.**   Yes.

16 **Q.**   Where Apple and developers make presentations about their

17 ongoing innovations and projects?

18 **A.**   Yes.

19 **Q.**   And that would include Apple hardware improvements, for

20 example?

21 **A.**   Yes. Apple feature hardware and software. That changes.

22 **Q.**   As well as SDKs and APIs and developer tools?

23 **A.**   Yes.

24 **Q.**   And Apple is actually given Epic the opportunity to

25 present at various -- I'll call them WWDC's, correct?

1   **A.**   Yes.

2   **Q.**   And your comfortable with WWDC as worldwide developer

3   conference?

4   **A.**   I'm good with that.

5   **Q.**   Have you attend WWDC's?

6   **A.**   Yes.

7   **Q.**   In 2015 Apple actually gave Epic an opportunity to

8   demonstrate *Fortnite*, correct?

9   **A.**   Yes.

10   **Q.**   And you attended the 2019 WWDC?

11   **A.**   I don't believe I personally attended that.

12   **Q.**   And do you recall a demonstration of an AR version of

13   Minecraft was presented at that event?

14   **A.**   That sounds right, yes.

15   **MR. DOREN:**   Your Honor, I just have a few documents.

16   I did not create a binder.

17   May I approach the witness, please?

18   **THE COURT:**   You may. I may have my own version if

19   you gave that to us.

20   **MR. DOREN:**   If not, I have spares. I know how you

21   feel about more paper.

22   **THE COURT:**   I try to do our little part.

23   **MR. DOREN:**   Exactly.

24   **BY MR. DOREN:**

25   **Q.**   Mr. Grant, do you have what has been marked DX4119 in

1   front of you?

2   **A.**   I do, yes.

3   **Q.**   Do you see this as an email chain with the last email in

4   the chain being the first on page 1 of that exhibit, which is

5   a June 3, 2019 email from you to various people within Epic

6   Games?

7   **A.**   Yes.

8   **Q.**   With the re line Microsoft announces Minecraft world. Do

9   you see that?

10 **A.**   I do.

11 **Q.**   Turn to the back page, the first page -- excuse me, the

12 back page of this exhibit, page 4, and, actually, make that

13 the bottom of page 3. And you'll see an email from one of

14 your colleagues at Epic Games, correct?

15 **A.**   Several of them, yes.

16 **Q.**   There's quite a few involved here actually.

17   At 9:16 A.M. on May 17, it looks like a gentleman who

18 signs his email Ozgur.

19   Do you know him?

20 **A.**   I do not know him.

21 **Q.**   He notes, this just hit Kotaku. Are you familiar with

22 that?

23 **A.**   Yes, I am.

24 **Q.**   What is that?

25 **A.**   Kotaku is a website that primarily covers gaming news.

1   **Q.** The email says with a link to that, it is an AR version of

2   Minecraft, correct?

3   **A.** Yes.

4   **Q.** Complete with a trailer it looks like.

5   **A.** I am sorry, yes.

6   **Q.** Then immediately above that, Daniel Vogel says, going

7   wider with this.

8   Mr. Vogel is the Chief Operating Officer?

9   **A.** Yes, he is.

10 **Q.** And above that, you entered the string, correct?

11 **A.** Yes.

12 **Q.** It likes like Mr. Vogel is going wider brought you into

13 the chain; is that fair?

14 **A.** That's fair.

15 **Q.** You state, or you observe puzzling and then you make some

16 observations about whether or not they may be overselling

17 things in this trailer, correct?

18 **A.** That's right. Yes.

19 **Q.** And then a little bit further up, Mr. Mark Rein steps in

20 to the discussion, correct?

21 **A.** Yes.

22 **Q.** And Mr. Rein is one of the cofounders of Epic?

23 **A.** He is, yes.

24 **Q.** And at the bottom of page 2, second note from the bottom,

25 Mr. Rein says, yes, if it works, like they show in the Verge

1 article, it is actually very cool. Love to be doing this with

2 *Fortnite* Creative and *Unreal Engine.*

3   Do you see that?

4 **A.** I do.

5 **Q.** And then a number of different people all weigh in on

6 this, Mr. Hao, Mr. Ivey, Mr. Bills, some bad jokes at the

7 bottom of page 1, and then you weigh in again at the top of

8 page 1 on June 3rd, correct?

9 **A.** Yes.

10 **Q.** And you state, they showed the first demo of this today at

11 Apple's WWDC event. Two of the most impressive features

12 (human occlusion of CG and live MOCAP are powered by tech in

13 the new version of ARKit and were described as exclusive to

14 iOS.

15   Did I read that correctly?

16 **A.** Yes, you did.

17 **Q.** How did you become aware of this on June 3rd?

18 **A.** I really do not recall. I imagine I saw a news article

19 from some source and then followed it to review the demo.

20 **Q.** You found the new version of -- excuse me.

21   You found the demo, if you will, of Minecraft using the

22 ARKit to have at least two most impressive features, correct?

23 **A.** Yes.

24 **Q.** And ARKit is specifically designed to be supported by the

25 hardware of iPhone platforms, correct?

1   **A.**   An iPad, but yes.

2   **Q.**   Thank you. IOS.

3   In other words, the ability of the iPhone or the iPad to

4   offer the augmented reality provided by ARKit requires

5   elements of both the API and the hardware on which it is used.

6   Is that fair?

7   **A.**   That's fair.

8   **THE COURT:**   Are you moving in 4119?

9   **MR. DOREN:**   Thank you, Your Honor. May I move to

10   admit 4119?

11   **THE COURT:**   4119.

12   **MS. FORREST:**   No objection.

13   **THE COURT:**   Admitted.

14   (Defendant's Exhibit 4119 received in evidence)

15   **BY MR. DOREN:**

16   **Q.**   Mr. Grant, you also discussed with counsel *Unreal Engine*.

17   Do you recall that generally?

18   **A.**   Yes.

19   **Q.**   And you also discussed briefly the commission structure

20   related to those who monetize the work they've done with

21   *Unreal Engine*, correct?

22   **A.**   Yes.

23   **MR. DOREN:**   Your Honor, if I may approach, I would

24   like to hand the witness what has been marked DX4022.

25   **THE COURT:**   You may approach.

1   **MR. DOREN:** Thank you, Your Honor.

2   **THE WITNESS:** Thank you.

3   **BY MR. DOREN:**

4   **Q.** Mr. Grant, you have before you exhibit DX4022. Do you

5   recognize this as the *Unreal Engine* End User License

6   Agreement?

7   **A.** I do.

8   **Q.** I will note for you, sir, it is dated October 2018 in the

9   bottom left. So it would be the contract in that time frame.

10 **A.** I should clarify that. I recognize this is titled *Unreal*

11 *Engine* End User License Agreement. I do not recall a time in

12 the last couple of years I've read any version of this

13 document myself.

14 **Q.** Fair enough. Are you generally familiar with the terms of

15 the license agreement used for *Unreal Engine*?

16 **A.** No. I would only have a very broad understanding.

17 **Q.** You do understand the commission structure; is that right?

18 **A.** Yes.

19 **Q.** You also understand that *Unreal Engine* requires a license

20 agreement for anyone who wishes to use *Unreal Engine*, correct?

21 **A.** Yes.

22 **Q.** And this document begins in the first paragraph with,

23 please read this agreement carefully. It is a legal document

24 that explains your rights and obligations related to your use

25 of the *Unreal Engine* and related content. By downloading or

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1   using this software or any related content, you are agreeing

2   to be bound by the terms of this agreement. If you do not or

3   cannot agree to the terms of this agreement, please do not

4   download or use this software or any related content.

5   And is that consistent with your understanding of Epic's

6   requirements related to the use of *Unreal Engine*?

7   **A.** Yes.

8   **Q.** And a license that is granted by Epic for *Unreal Engine*,

9   do you understand that to be a nonexclusive, nontransferable

10 nonsublicensable of limited license?

11 **A.** I think you are stretching my legal familiarity with those

12 terms.

13 **Q.** Let me ask you this, sir. you understand it to be a

14 license with which those who use *Unreal Engine* must comply,

15 correct?

16 **A.** Yes.

17 **Q.** And that's because *Unreal Engine* and the Epic entity that

18 owns it wish to protect and retain their IP rights, correct?

19 **A.** Yes.

20 **Q.** And, sir, if you could turn, please, to page 4022007 and

21 you'll see a provision marked "royalty."

22   Do you see that?

23 **A.** I do.

24 **Q.** And here back in 2018, it's noted that in those instances

25 in which *Unreal Engine* -- the work with *Unreal Engine* is

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1   monetized by a developer, that the 5 percent commission will

2   attach the first $3,000 in gross revenue for each product.

3   Do you see that?

4   **A.** I do.

5   **Q.** Do you recall that at this point in time, in 2018, the

6   5 percent revenue was paid after the first 3,000 -- 5 percent

7   realty was paid after the first $3,000 in gross revenue for

8   each product?

9   **A.** That is how I read it here. I don't recall what the terms

10 were.

11 **Q.** Do you recall when the threshold was raised to $1 million?

12 **A.** I do not know.

13 **Q.** Do you recall that that was May 2020?

14 **A.** That sounds about right.

15 **Q.** And if you look, please, sir, at page .008, there is a

16 statement that the royalty -- in the middle of the page -- the

17 royalty is based on gross revenue from end users regardless of

18 whether you sell your product to end users directly,

19 self-publish via the App Store, or any similar store, or work

20 with a publisher.

21   The following simplified example illustrates the

22 application of the royalty to gross sales. If your product

23 earns $10 on the App Store, Apple may pay you $7 having

24 deducted 30 percent as a distribution fee, but your royalty to

25 Epic would still be 5 percent of the ten dollars or 50 cents.

1   Do you see that?

2   **A.**   I see that.

3   **Q.**   Is that consistent with your understanding of how the

4   royalty calculations are done?

5   **A.**   Again, I'm probably reading this paragraph for the first

6   time, but it sounds correct.

7   **Q.**   Well, my question, sir, is -- independent of what's

8   written on this page, is it your understanding that by taking

9   5 percent of gross revenue, what that means in the case of for

10 example *Unreal Engine* related apps on the Apple App Store,

11 that the 5 percent commission would be taken on the full gross

12 revenue i.e., the price of the app as opposed to the net to

13 the developer.

14 **A.**   I mean that's what I'm reading here. I was not involved

15 in any of this with Epic and I can't speak to whether it's an

16 example to the App Store or applies to other platforms. What

17 you are saying here is what is described.

18 **Q.**   Now you are familiar with the rules that people must

19 comply with to be allowed to play *Fortnite*?

20 **A.**   I have awareness of them at points in time at Epic, I have

21 had more knowledge than at other times.

22 **Q.**   Sure. I won't hold you to today's specific knowledge I

23 promise. For example, we know that kids swearing at each

24 other in *Fortnite* is frowned upon, correct?

25 **A.**   Yes.

 1   **Q.**   Or any sort of --

 2   **MS. FORREST:**   Your Honor, this is beyond the scope.

 3   I don't have a particular objection with it, but I just wanted

 4   to note it was beyond the scope.

 5   **MR. DOREN:**   Your Honor, he is on our witness list as

 6   well.

 7   **THE COURT:**   I was going to say, are we calling him

 8   back?

 9   Is there an agreement between the lawyers, Ms. Forrest,

10   with respect to witnesses?   Are we calling them back?

11   **MS. FORREST:**   No, Your Honor.   But I would have

12   expected that we would have received then some of the

13   documents that they were using in advance disclosed if they

14   were going to have him on direct examination.

15   So that's all.   I don't have a problem with them having

16   him on Direct Examination.   It seemed as if because we hadn't

17   had the documents in advance for the Direct Examination that

18   they would be, in fact, that he was only going to be

19   Cross-Examined.

20   **MR. DOREN:**   The stipulation we have is that the

21   parties will produce documents for those witnesses under their

22   control as to the documents that they intend to put into

23   evidence through that witness.

24   Mr. Grant is not under our control.

25   **THE COURT:**   Is that accurate, Ms. Forrest?

1   **MS. FORREST:** I think it is, Your Honor. In terms of

2   that stipulation, it is withdrawn.

3   **THE COURT:** All right withdrawn.

4   **MR. DOREN:** Thank you, Your Honor.

5   **THE COURT:** 4022, are you offering that?

6   **MR. DOREN:** Yes, I am, Your Honor.

7   **THE COURT:** Any objection?

8   **MS. FORREST:** No objection.

9   **THE COURT:** Admitted.

10   (Defendant's Exhibit 4022 received in evidence)

11   **MR. DOREN:** Thank you, Your Honor.

12   **BY MR. DOREN:**

13   **Q.** So, by the way, Mr. Grant, what's the target audience for

14   *Fortnite*; is it kind of the 13-year-old?

15   **A.** I think we want as many people to play Fortnite as find it

16   engaging. There's a minimum age requirement just based on

17   legality. I don't recall offhand what it is.

18   **Q.** Would you agree that your audience trends towards the

19   younger side?

20   **A.** I'm not sure what you define "younger."

21   **Q.** I've used 13. Let's call it 13 to 17.

22   **A.** I don't know.

23   **Q.** All right. Fair enough.

24   And people that intentionally cheat within *Fortnite* can be

25   permanently banned, correct?

1   **A.**   Yes, I believe that's correct.

2   **Q.**   And finding cheaters within *Fortnite* is something of a cat

3   and mouse game, correct?

4   **A.**   Yes.

5   **Q.**   People are always trying to find new ways to cheat.

6   **A.**   Yes.

7   **Q.**   Some people get away with it until they are caught; is

8   that fair?

9   **A.**   That's fair.

10   **Q.**   And, in fact, Epic has an anti-cheating team; that is

11   right?

12   **A.**   Yes.

13   **Q.**   These are -- this is a team of people who make their

14   livelihood finding cheaters and finding ways that people cheat

15   within *Fortnite*?

16   **A.**   I would say they primary spend their time securing the

17   game so that they are -- the ways for people to exploit it,

18   but when we are aware there is a vulnerability, they will

19   examine it and attempt to close the vulnerability.

20   **Q.**   Sometimes you don't know about those vulnerabilities until

21   somebody runs through and causes some problems, correct?

22   **A.**   Yes.

23   **Q.**   So, among other things, there may be bugs in *Fortnite*,

24   correct?

25   **A.**   Yes.

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1   **Q.** Or someone may intercept some communications or get some

2   information that isn't out in the general public and take

3   advantage of that, correct?

4   **A.** I'm not sure what you mean in that case.

5   **Q.** Well, let me ask you if you are familiar with the phrase,

6   intercept network traffic?

7   **A.** Yes, network traffic.

8   **Q.** What does that mean?

9   **A.** Installing of some device like the computer that sits

10 between two machines and that computer can examine the traffic

11 and discern information that it contains.

12 **Q.** And Epic's brand and *Fortnite*'s success is based on people

13 having a good experience within *Fortnite*, correct?

14 **A.** Certainly *Fortnite*'s success, yes.

15 **Q.** And having an experience where everyone is on the same

16 level playing field, there aren't people capable of cheating,

17 correct?

18 **A.** Yes.

19 **Q.** And where they know they are not going to be mistreated or

20 sworn at by other players, correct?

21 **A.** Yes.

22 **Q.** And Epic's brand depends and *Fortnite*'s name depends on

23 people having a good experience, correct?

24 **A.** Certainly *Fortnite*'s name, whether Epic's –- I'm not in

25 marketing*, Fortnite* does.

1   Q.   And if people are cheating and if the integrity of the

2   game begins to fall apart and if people don't think that the

3   rules apply to them, people are going to be less inclined to

4   play that game, aren't they?

5   A.   Yes.

6   Q.   And the reputation of the game will be graded, of course.

7   A.   Yes.

8   Q.   And there will be a slow downward spiral, which is why

9   Epic is so diligent about having an anti-cheat function and

10   looking out for cheaters and people who are not performing or

11   acting properly, correct?

12   A.   Yes.

13   Q.   Now, you actually were the corporate representative on the

14   hotfix, correct?

15   A.   Yes.

16   Q.   And you testified earlier this afternoon that there were

17   lots of hotfixes in August 2020. Do you remember that?

18   A.   Yes.

19   Q.   But you know that we're here in this room talking among

20   other things about one in particular, right?

21   A.   I do, yes.

22   Q.   And Project Liberty was Epic's project to be able to offer

23   users an alternative payment source on iOS; that's how you

24   defined it, correct?

25   A.   Yes.

1   **Q.** And you were tasked with actually overseeing the technical

2   implementation of the hotfix, correct?

3   **A.** Yes.

4   **Q.** You go from project to project over the course of your

5   work at Epic, correct?

6   **A.** Yes.

7   **Q.** You were tasked with the project of implementing the

8   hotfix, correct?

9   **A.** Not specifically the hotfix. We had engineers that were

10   tasked with the actual implementation. My role was to make

11   sure that contingency planning; that if Apple was to block us

12   from updating *Fortnite* for a period of time, that we would

13   continue to be able to allow users on that version to operate

14   *Fortnite* for the foreseeable feature.

15   As a technical leader at Epic, I was also involved in

16   daily conversations with the people working on the hotfix,

17   other aspects of contingency planning, and so on.

18   **Q.** Is that what it involved, daily conversations?

19   **A.** At time, yes.

20   **Q.** Over how long a period?

21   **A.** We submitted the code to Apple in early August. Certainly

22   the last couple of weeks would have been daily conversations

23   and check-ins around the status of things.

24   Prior to this four weeks, it may have been less frequent,

25   but it would be regular.

1   Q.   And one of your tasks in overseeing the hotfix was to make

2   sure that the code that could be instructed through the hotfix

3   was not detected by Apple, correct?

4   A.   Yes.

5   Q.   And the goal was to make sure that it got through app

6   review without being detected, correct?

7   A.   Yes.

8   Q.   Because you didn't want your hotfix delayed, correct?

9   A.   No.

10   Q.   And as part of assuring that it was not detected, you and

11   your colleagues did not disclose it in the user notes

12   submitted with the app -- with the *Fortnite* build, correct?

13   A.   Correct.

14   Q.   And that was *Fortnite* build version 13.40?

15   A.   Would have been 13.40 and 13.40.1.

16   Q.   And so -- and you understood that when you were submitting

17   an app build without user notes that disclosed a fundamental

18   element of that submission, that you were breaching the

19   agreements between Apple and Epic, correct?

20   A.   I am not sure what the agreements covered in terms of

21   disclosure. So I can't really speak to that right now.

22   Q.   Let's talk about honesty. You knew you were being

23   dishonest, didn't you?

24   A.   I knew we were doing something that Apple would be unhappy

25   with. I can't say I felt dishonest about it.

1   **Q.** You knew you were acting without integrity, didn't you?

2   **A.** Again, I am not sure I would agree with that

3   characterization.

4   **Q.** Would you want to do business with a business partner that

5   would put material things by you in attempt to enrich

6   themselves and to breach their contracts with you without

7   disclosing that it was happening?

8   **A.** I would not. No.

9   **Q.** And along with simply not putting it in the user notes,

10   you also implemented a number of very specific concrete tests

11   to make sure that it wouldn't be detected, correct?

12   **A.** I don't think that's entirely correct.

13   **THE COURT:** Your Honor, I would like to hand the

14   witness what's been marked as defense Exhibit 4561.

15   Go ahead.

16   **MR. DOREN:** Thank you, Your Honor.

17   **BY MR. DOREN:**

18   **Q.** Mr. Grant, you have been handed defense Exhibit 4561. Do

19   you recognize this as a deck that the type of which was used

20   in various Project Liberty updates over the course of the

21   summer of 2020?

22   **A.** I do, yes.

23   **Q.** If you could please look at page 9 of that deck 4561.009?

24   Do you have that in front of you?

25   **A.** Yes.

1   **Q.**   And you'll note the heading is Payment System Hotfix.   In

2   general, we should be ready with the hotfix and UX flow.   Is

3   that user interface?

4   **A.**   User experience.

5   **Q.**   Thank you.   And user experience flow for 13.40 live

6   August 4, submitting July 31, correct?

7   **A.**   Correct.

8   **Q.**   And then there's a bullet point for work remaining.

9   Do you see that?

10   **A.**   I did.

11   **Q.**   The fourth bullet point is reverse engineering pass on

12   binary to gauge detectability.   Here the plan was to have your

13   team reverse engineer the code to see if it was detectable?

14   **A.**   It would have likely more specialist, people at Epic to do

15   that, but the work is as you stated.

16   **Q.**   You would have brought somebody who really knew what they

17   were doing to complete that task, correct?

18   **A.**   That's correct.

19   **Q.**   And then at the bottom it says, to allow Infosec to

20   attempt to hack the hotfix code and reveal the intent.

21   Infosec is information security?

22   **A.**   Yes.

23   **Q.**   What is the role of information security at Epic?

24   **A.**   They provide -- I would be guessing to be honest.   I don't

25   know if the former job descriptions, but they provide

1   information -- they provide security around the various

2   aspects of data management systems.

3   **Q.**   And making sure things aren't hacked, right?

4   **A.**   I believe so, yes.

5   **Q.**   Here you were going to let folks attempt to hack the

6   hotfix code to see if it can be done, correct?

7   **A.**   Yes. To see if it can be discovered.

8   **Q.**   And then to see if the true intent of it could be

9   determined through a hack -- through a hack, correct?

10   **A.**   My recollection of this last point is that it was more

11   about whether the presence of the hotfix code and the

12   additional mechanisms could be discovered by people accessing

13   or querying our web servers in certain ways rather than the

14   implementation of the hotfix itself.

15   **Q.**   So long as they could find that they couldn't be detected

16   through hacking, correct?

17   **A.**   Yes.

18   **MR. DOREN:** Your Honor, I move to admit DX4561.

19   **THE COURT:** Any objection?

20   **MS. FORREST:** No objection, Your Honor.

21   **THE COURT:** 4561 is admitted.

22   (Defendant's Exhibit 4561 received in evidence)

23   **BY MR. DOREN:**

24   **Q.**   And, in fact, the plan worked. The build was submitted,

25   correct?

1   **A.**   Well, I am not sure this plan worked. This was a list of

2   items that we wished to achieve. Many of these, just because

3   of constraints of time and prioritization were, to me

4   knowledge never done.

5   **Q.**   In other words, you all had a deadline?

6   **A.**   Yes.

7   **Q.**   August 4th?

8   **A.**   Yes.

9   **Q.**   The reason you had a deadline is because you wanted to get

10   it -- make sure it got through app review, correct?

11   **A.**   Yes.

12   **Q.**   And through plenty of time to be triggered on August 13th,

13   correct?

14   **A.**   Correct.

15   **Q.**   And the reason that you needed it triggered by August 13th

16   is so that it could be live for two or three weeks before the

17   next *Fortnite* update, correct?

18   **A.**   That sounds correct, yes.

19   **Q.**   So that people could continue to play with the two buttons

20   in play for several weeks with Apple not being able to do

21   anything about it, correct?

22   **A.**   I think the desire to have it in advance of the next

23   season was to make sure that we had sufficient time for any

24   negotiations or conversations with Apple without the impending

25   deadline of a new update being required.

1   **Q.** And you mean after the hotfix was triggered?

2   **A.** Yes.

3   **Q.** Not during the two weeks between when the code for the

4   hotfix was put in place and when the Switch was flipped on

5   August 13th, correct?

6   **A.** Correct.

7   **Q.** And after the hotfix went into place, Apple gave Epic the

8   opportunity to remain in place on the App Store, simply by

9   coming back into compliance with the contracts that had been

10   in place between the two parties for a decade, correct?

11   **A.** Yes.

12   **Q.** And Epic said no.

13   **A.** I believe so, yes.

14   **Q.** And in an email in June 2018 to Sony, Mr. Sweeney was

15   upset about the lack of cross-platform play by Sony, and he

16   said this to Mr. Rosenberg: Many *Fortnite* players are kids

17   and their friendships are being torn apart by Sony's

18   segregational players on competing platforms, but that was of

19   no concern to Epic when it didn't come back into compliance

20   and rejoin the App Store, correct?

21   **A.** I cannot speak to whether it was a concern or not.

22   **MR. DOREN:** Thank you, Your Honor. No more

23   questions. Thank you, Mr. Grant.

24   **THE COURT:** Any Redirect limited to the scope of

25   Cross and whatever apart of that was Direct. Limited to the

1   scope of the examination.

2   **MS. FORREST:** I have only have two questions, Your

3   Honor.

4   **REDIRECT EXAMINATION**

5   **BY MS. FORREST:**

6   **Q.** Mr. Grant, you were asked by Mr. Doren about certain prior

7   versions of ARKit.

8   Do you recall that?

9   **A.** I do, yes.

10   **Q.** Are any of those -- were any of those versions of ARKit

11   ever available on WebKit, the APIs?

12   **A.** No, no version has been available on WebKit.

13   **Q.** Does that have any implications for the ability to use

14   ARKit with regard to web apps?

15   **A.** Yes. Web apps can't use the ARKit. It would have to use

16   an in-app.

17   **Q.** You were shown DX4119?

18   **A.** Could you remind me.

19   **Q.** It's the email -- you're the top email, 3 June, 2019?

20   **A.** Yes.

21   **Q.** And there's a discussion in this series of emails about

22   AR, augmented reality technology?

23   **A.** Yes.

24   **Q.** Is any of that available on WebKit?

25   **A.** No. None of that is available on WebKit.

1   **Q.**   Is any of that technology described in DX4119 available

2   for use with web apps?

3   **A.**   No, none of it is.

4   **MS. FORREST:**   No further questions.

5   **THE COURT:**   Any Recross limited to the scope of that

6   examination?

7   **MR. DOREN:**   No, Your Honor.

8   **THE COURT:**   All right.   Then, Mr. Grant, you may step

9   down.   You are excused.

10   **THE WITNESS:**   Thank you.

11   **THE COURT:**   Okay.   We are at 3:07.   Let's take care

12 of a couple of housekeeping.

13   Can you tell me who is testifying tomorrow?

14   **MS. FORREST:**   Yes, Your Honor.

15   We have, I think I can do it from memory without my notes.

16 The next in line will be Mr. Ko.   And after Mr. Ko will be

17 Mr. Fischer.   After Mr. Fischer will be Mr. Kozmynka.

18   **THE COURT:**   Okay.   And who -- what are their roles?

19   **MS. FORREST:**   Mr. Ko is involved in payment

20 processing.

21   **THE COURT:**   At where?

22   **MS. FORREST:**   At Epic.   So it would be Epic Direct

23 Pay, Your Honor.

24   **THE COURT:**   Okay.

25   **MS. FORREST:**   And Mr. Fischer is head of the App

1   Store for Apple. So he is an Apple employee who we are

2   calling in our case but he's called for them, so we'll do a

3   combination.

4   And Mr. Kozmynka is head of app review for Apple, called

5   in our case but also called in Apple's case. So we will do

6   both.

7   THE COURT: You expect that to be the Thursday lineup

8   then?

9   MS. FORREST: I do, Your Honor. Although if we are

10   done, and we do have two other witnesses who we would be

11   prepared to call immediately behind them.

12   THE COURT: Okay.

13   MS. FORREST: We have Mr. Allison. He is head of the

14   Epic Games Store. And Mr. Weissinger who is -- in Epic's

15   marketing. So the -- and that would be the group, Your Honor,

16   before I think we go to experts.

17   THE COURT: Okay.

18   MS. FORREST: Let me make sure I haven't missed

19   anybody.

20   That's it, Your Honor.

21   THE COURT: Thank you, Mr. Evens. Did I get that

22   right? No.

23   I thought I saw a thumbs up.

24   MS. FORREST: That's Jin Niu.

25   THE COURT: Wrong one. See, that's why I need your

1   list.

2   Okay. Here is, in part, the reason I am asking. I know

3   originally you asked for the ability to end early on Friday,

4   if necessary. But we -- we are trying -- I am trying to get

5   this case in on the days that I allocated.

6   Again, the courthouse is -- we're under certain

7   restrictions here and I need to try to make sure that we are

8   going to finish. So what are -- what were your thoughts also

9   with respect to, at one point, Ms. Forrest, you indicated that

10 you might ask for additional deposition testimony rather than

11 in-person testimony.

12   **MS. FORREST:** Yes, Your Honor. We have two groups of

13 deposition designations, if you will, that we do intend to

14 come out of our overall time. And that is just deposition

15 designations of substantive testimony, and then the second

16 part of that, within that, there are some designation of

17 documents.

18   So that, coming out of our time, we would be prepared to

19 submit whenever Your Honor would like to have it if you wanted

20 it for, for instance, Friday, would we could that out of our

21 time for Friday.

22   **THE COURT:** Do you know how much time we are talking

23 about?

24   **MS. FORREST:** We were waiting to see a little bit if

25 we were going to carve it back to see if the testimony came in

1   and we could get rid of some of it, frankly. It's exchanging

2   one version of time for another, but we preferred to have it

3   live. We will know much better tomorrow after Mr. Kozmynka

4   and Mr. Fischer, since they are among the two witnesses who's

5   testimony we would otherwise designate.

6   **THE COURT:** Okay.

7   **MS. FORREST:** It's a couple of hours.

8   **THE COURT:** Okay. And then do you have your lineup

9   for the experts for next week?

10   **MS. FORREST:** Your Honor, we do know we are starting

11   with Mr. Evans. And then after that, I need to confer.

12   I have it Your Honor. The lineup for next week is

13   Mr. Evans, and he is expected to take a fair amount of time on

14   our end. We will use some of our time even though he's got --

15   his written direct is in.

16   And then we have after that Ms. Athey, Dr. Athey.

17   **THE COURT:** And then?

18   **MS. FORREST:** I believe at that point it would be

19   Dr. Schmalensee, Dr. Hitt, and Ms. Lafontaine or

20   Dr. Lafontaine.

21   **MR. DOREN:** And, Your Honor, those are the names.

22   I'm not sure that's the order, but I agree those are the

23   three.

24   **MS. FORREST:** After that it's Dr. Rubinfeld. And I

25   can continue if you would like.

1   **THE COURT:** I would.

2   **MS. FORREST:** After that it would be Dr. Cragg. And

3   then if necessary Dr. Evans on rebuttal. And then Doctor --

4   switching, that would be the end of the economists, Your

5   Honor, all together.

6   And then we would switch and not do a back and forth at

7   that point. After that it would be Mr. Barnes, who is our

8   accountant expert, and some of our technical experts then

9   Dr. Mickens and then we switch over to, at that point, Apple's

10   case.

11   **THE COURT:** So you expect to close that second week?

12   **MS. FORREST:** We do, Your Honor.

13   **THE COURT:** Okay.

14   I take it then with respect to Evans, by the time we get

15   to the end of this week, all of the factual basis for his

16   opinions will be in the record?

17   **MS. FORREST:** Yes, Your Honor. And also there may be

18   a couple of things -- I forgot one person. Professor Rossi.

19   He must be very small on my list. I have it timed out. But

20   we have put in the direct examination for him and we

21   anticipate that he will be cross-examined. So we've got him

22   in as well. I am sorry, Your Honor. He is a survey expert.

23   **THE COURT:** Okay.

24   Okay. Mr. Doren, anything to add?

25   **MR. DOREN:** Not to the witness order, Your Honor.

1   **THE COURT:** And then if you're starting, if you're

2   opening on the following Monday, let's say, or at the end of

3   the week, how many -- what are you thinking now in terms of

4   days?

5   **MR. DOREN:** Days?

6   **THE COURT:** Are you all going to use all the time I

7   gave you.

8   **MS. FORREST:** We, at this point in time, do expect

9   that we are likely to use all the time, though we are trying

10   to be judicious and so some things may go faster.

11   **THE COURT:** As long as you don't talk faster.

12   **MR. DOREN:** Your Honor, I would say we are in the

13   same position. We will do our best to be shorter right now we

14   are budgeting minutes.

15   **THE COURT:** Okay. All right. Well, this is helpful.

16   And it's 3:15 so we will go ahead and adjourn for the day.

17   **MR. DOREN:** Your Honor? I apologize. I wanted to

18   raise one issue before tomorrow. To expedite things in the

19   morning.

20   In today's exhibit exchange, there are two exhibits on the

21   plaintiff's witness list -- exhibit list that are subject to

22   pending motions to seal.

23   **THE COURT:** Can you identify those?

24   **MR. DOREN:** The first is PX0067, and it's pending a

25   motion to seal from Kabam.

1   THE COURT: I don't remember -- I didn't admit 0067

2   today.

3   MR. DOREN: No, Your Honor, this is in advance of

4   tomorrow to know whether they will be sealed or not.

5   THE COURT: I am sorry.   So you need rulings -- Hold

6   on just a minute.   We did just issue an order over the lunch

7   hour and at 2:00 p.m. it hit the docket.   So Kabam, I thought,

8   was in that one.

9   MR. DOREN: It may well be.

10   THE COURT: I'll just double-check too.   You have

11   0067?

12   MR. DOREN: Yes, Your Honor.   And also PX0201, which

13   is subject to motions to seal both by Apple and Lyft.

14   THE COURT: 0201 I believe Lyft was addressed on the

15   2:00 p.m. order as well.

16   MR. DOREN: Thank you, Your Honor.

17   THE COURT: So double-check that order.   It's docket

18   594.

19   MR. DOREN: Thank you.

20   THE COURT: Okay.   One other thing I might as well

21   ask you now.

22   Mr. Rodriguez, during the -- asked whether he could stay

23   for the sealed portion.   I said no because I didn't want to

24   waste time addressing that topic.   And when we go into the

25   sealed portion, all of the lawyers who were listening on the

1   line with the media are taken out of the courtroom and it is

2   sealed from them as well.

3   If there's an agreement between the parties that the

4   lawyer from the designated counsel group, if you are agreeable

5   to having them stay in the courtroom, it doesn't really matter

6   to me, but I wasn't going to allow you to do that or take

7   argument, Mr. Rodriguez, because we were in the middle of

8   trial.

9   So if there is a different protocol, just let me know and

10   I will deal with that in the future. But if you can meet and

11   confer on it so we can have some clarity for the attorney in

12   the courtroom that would probably be a useful thing.

13   **MR. DOREN:** Thank you, your honor.

14   **MS. FORREST:** We will do that, Your Honor.

15   **THE COURT:** Okay, everybody. Have a good evening.

16   Start again tomorrow at 8:00 A.M. We are adjourned.

17   (Proceedings concluded at 3:18 p.m.)

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CERTIFICATE OF REPORTERS

       I, Diane E. Skillman and Pamela Hebel, Official

Reporters for the United States Court, Northern District of

California, hereby certify that the foregoing is a correct

transcript from the record of proceedings in the

above-entitled matter.

_____

    DIANE E. SKILLMAN, CSR 4909, RPR, FCRR

       _____/s/Pamela Hebel_____

           Thursday, May 6, 2021

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