

Forstall, Scott (Vol. 01) - March 8, 2021

1 CLIP (RUNNING 01:03:58.057)

82 SEGMENTS (RUNNING 01:03:58.057)

1. PAGE 13:13 TO 13:15 (RUNNING 00:00:03.000)

13 SCOTT FORSTALL,
14 having been administered an oath, was examined and
15 testified as follows:

2. PAGE 14:05 TO 14:06 (RUNNING 00:00:04.273)

05 Please state your full name for the record.
06 A. Scott James Forstall.

3. PAGE 22:02 TO 22:05 (RUNNING 00:00:09.750)

02 Q. And so going back to the date I mentioned
03 earlier, your departure from Apple was publicly
04 announced in late October 2012; is that right?
05 A. Correct.

4. PAGE 37:23 TO 38:01 (RUNNING 00:00:07.715)

23 Q. Understood. So let me clarify. Was Xcode
24 an integrated development environment when it was
25 released in 2003?
00038:01 A. Yes.

5. PAGE 38:06 TO 38:08 (RUNNING 00:00:09.027)

06 Q. And was Xcode used internally at Apple to
07 develop applications for the Mac?
08 A. Yes.

6. PAGE 40:08 TO 40:09 (RUNNING 00:00:03.915)

08 Did Apple ever charge third party developers
09 for OS X?

7. PAGE 40:12 TO 40:15 (RUNNING 00:00:18.096)

12 So while I was there, you're asking was the
13 IDE a free download?
14 Q. Yes, that's what I'm asking.
15 A. Yes, I believe it was.

8. PAGE 40:24 TO 41:04 (RUNNING 00:00:23.060)

24 Q. And you understood at the time that the
25 more -- the better applications that developers could
00041:01 offer for Mac, that would help Apple make its
02 customers, its Mac customers, happier and hopefully
03 enlarge the number of Mac -- Mac customers that Apple
04 has, correct?

9. PAGE 41:06 TO 41:13 (RUNNING 00:00:24.598)

06 THE WITNESS: Having more robust platform
07 with nominal applications from Apple and third party
08 developers is good for the platform, the customers
09 and the developers.

10 BY MR. EVEN:

11 Q. And when you say it's good for the platform,
12 it's good for Apple it's going to sell more
13 computers, right?

△ DEFENDANT △	United States District Court Northern District of California Case No. <u>4:20-cv-05640-YGR</u> Case Title <u>Epic Games, Inc. v. Apple, Inc.</u> Exhibit No. <u>DX-3027</u> Date Entered _____ By: _____, Deputy Clerk Susan Y. Soong, Clerk
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10. PAGE 41:15 TO 41:18 (RUNNING 00:00:07.937)

15 THE WITNESS: It would likely sell more
16 computers. It also may make customers who've already
17 bought a computer happier because they have that
18 application.

11. PAGE 52:21 TO 53:23 (RUNNING 00:02:05.600)

21 Q. When did you become involved with
22 development of the iPhone?
23 A. You're asking when I became or when Apple
24 started or the year, part of the project, what --
25 Q. I'm asking when you became, that was my
00053:01 question. When did you become involved?
02 A. Well, I helped start the project itself. So
03 from day one.
04 Q. And what year was that?
05 A. I think it would -- it's hard to capture
06 exactly when you consider the iPhone piece of it,
07 'cause we actually started by developing for a tablet
08 and then we shifted to developing a phone and put the
09 tablet on hold and then came back and developed the
10 iPad post iPhone.
11 I think it was around 2003, 2004, when that
12 work began.
13 Q. When you say "that work began," you're
14 referring to the early work on a tablet?
15 A. Correct.
16 Q. And when did that work morph into a work --
17 into work on a phone?
18 A. 2004, 2005, I think.
19 Q. And were you tasked with creating the
20 operating system for that phone?
21 A. Yes. I was tasked with creating the
22 operating system and the user interface for all the
23 software.

12. PAGE 54:06 TO 54:13 (RUNNING 00:00:44.285)

06 Q. And was macOS 10 used as the basis for that
07 operating system that you oversaw building?
08 A. Broadly speaking, yes. There's many aspects
09 of macOS 10. Some of those code bases were modified
10 to be used as the basis of iPhone OS 1.0. Some of
11 the code bases were cleaved. Some of the code bases
12 were replaced. It was on a functionality and module
13 basis.

13. PAGE 57:02 TO 57:05 (RUNNING 00:00:11.899)

02 Q. And who was the main proponent of using the
03 macOS 10 as the basis for the operating system for
04 the phone?
05 A. I was.

14. PAGE 58:07 TO 58:17 (RUNNING 00:00:50.406)

07 What did you view as the main advantage of
08 using macOS 10 as the basis for a phone operating
09 system?

10 A. We built macOS 10 specifically to be a
11 modern operating system as different from, as we
12 talked earlier, macOS 7, macOS 8, macOS 9. So many
13 of the facilities for protected memory, preemption
14 are available in macOS 10.

15 So it had exactly the modern operating
16 system facilities we would want to use in any
17 project.

15. PAGE 62:11 TO 62:14 (RUNNING 00:00:09.940)

11 Q. Mr. Forstall, let me mark as Exhibit 869 a
12 document Bates stamped APL-EG 00422472.
13 (Exhibit 869 was marked for identification
14 and is attached hereto.)

16. PAGE 63:02 TO 63:05 (RUNNING 00:00:17.341)

02 Q. Mr. Forstall, do you see this is a December
03 31, 2006 e-mail from Ms. Meriko Borogove to you and
04 copying some others?
05 A. Yes.

17. PAGE 64:19 TO 64:21 (RUNNING 00:00:12.623)

19 Q. Was the ultimate phone released with an
20 operating system that's based on macOS 10?
21 A. Yes.

18. PAGE 65:18 TO 66:10 (RUNNING 00:01:04.590)

18 Who was Ms. Borogove?
19 A. She was an engineering manager in my team.
20 Q. And she writes in the second paragraph
21 (as read):
22 Our security model around
23 preventing third parties from
24 installing and running their own
25 code ...
00066:01 And she continues. Do you see that
02 sentence?
03 A. I do.
04 Q. And so at that time, the security approach
05 taken by Apple was to not allow any third party apps
06 to be installed on the phone, correct?
07 MS. MOYE: Object to the form.
08 THE WITNESS: Our plan for the first release
09 of the iPhone was not to enable native compiled third
10 party apps to install and run on the iPhone.

19. PAGE 66:12 TO 66:20 (RUNNING 00:00:50.833)

12 Q. And Ms. Borogove then described some of the
13 steps that were taken by Apple to make sure that
14 native compiled apps cannot be installed on the
15 phone, correct?
16 A. Correct.
17 Q. And Apple needed to take many steps to
18 prevent such installation because macOS 10 was built
19 in part to allow native compiled applications to be
20 installed on it, correct?

20. PAGE 66:22 TO 66:23 (RUNNING 00:00:09.042)

22 THE WITNESS: MacOS 10 enabled developers to
23 compile, install, and run applications.

21. PAGE 77:16 TO 77:20 (RUNNING 00:00:28.671)

16 And so my question was: With respect to
17 third party applications, was there a difference of
18 view among executives at Apple as to whether Apple
19 will or will not open the iPhone for such
20 applications after it had released the first iPhone?

22. PAGE 77:22 TO 77:23 (RUNNING 00:00:04.390)

22 THE WITNESS: On this particular question,
23 it's a great example where the specificity matters.

23. PAGE 77:24 TO 78:12 (RUNNING 00:00:58.365)

24 There were executives at Apple that thought we should
25 never release the ability for third parties to do any
00078:01 natively compiled applications.
02 There were executives who thought -- and
03 they thought we should just have web applications
04 and -- and then websites running with web standards
05 inside of the browser or browsers on the platform,
06 the browser.
07 There were executives who thought we should
08 have a hybrid model of some web technologies and some
09 native abilities. And then there were executives who
10 thought we should provide a platform to enable third
11 parties to build fully native applications on the
12 platforms.

24. PAGE 78:16 TO 79:06 (RUNNING 00:01:08.107)

16 Who are the executives who fell into the
17 first bucket that you mentioned that felt that Apple
18 should never open up the platform to third party
19 native applications?
20 A. Steve Jobs was the most prominent of those.
21 I don't remember specifically who else argued that
22 point. But Steve -- Steve thought that we should not
23 enable third party app development at all, as needed
24 app development.
25 Q. And is it fair to say that you stood on the
00079:01 other side of this, the other end of the spectrum on
02 that particular issue?
03 A. I was probably the -- the most vocal
04 advocate for enabling third party app development in
05 an App Store, and this is discussions Steve and I had
06 multiple times, heated ways.

25. PAGE 81:02 TO 84:06 (RUNNING 00:05:25.230)

02 Q. And you believed that native apps are going
03 to, as you say here, provide a better experience for
04 iPhone users, correct?
05 A. Correct.
06 Q. And looking back 15 years later, do you have
07 any doubt that you were right at the time?
08 A. No.
09 Q. And why did you think that native apps will
10 provide a better experience?
11 A. There are many, many reasons. If you build
12 a native app, you get to use the built-in frameworks
13 as they were intended, as they were designed for a
14 touch interface. You have all the facilities we
15 built to quickly build, iterate, debug these native
16 applications.
17 I mean, I can go on and on and on for the
18 benefits of native application versus a web
19 application, and they are voluminous. They -- they
20 are faster. They use less memory. They can take
21 advantage of the native graphics, libraries, in a way
22 that is either not available or would have to be
23 shoehorned in for a web app or a different kind of
24 application.
25 So you can go -- you can go through and we
00082:01 can go through for hours the advantages, but I would
02 say the most telling reason is when we were building
03 the original iPhone, we were building most of the
04 built-in apps as native apps. So mail, calendar, we
05 were building these as native apps. And they
06 performed fantastically, the behavior felt right.

07 They loaded quickly. They -- you could switch
08 between applications quickly. It was an exceptional
09 experience.

10 We wanted web applications, because Steve
11 had not agreed with me to enable third party apps in
12 the first version, I still had the team building it
13 as a platform so that we could quickly enable third
14 party apps. This was part of my direction to the
15 team the whole time, even though Steve had said no.

16 But we wanted to make it so third party apps
17 that were based on web technologies and would be
18 enabled in version 10 would work as -- as best as we
19 could possible make them, because I still wanted
20 these to be a good experience, the best experience
21 they could be.

22 So we built a few of our own apps. I think
23 it was like weather, stocks, maybe the calculator, I
24 think there was like three of those that we built as
25 web technology apps, and they were similar to what a
third party could have built when we shipped.

00083:01 02 And, in fact, in January of 2007 when we had
03 the keynote and launched the iPhone, those were
04 web-based apps at the time of that launch, and they
05 did not perform well. We could tell using it that
06 they were not as good as performing as the built-in
07 apps.

08 Now, you can always through software start
09 to try to improve things, make its launch a little
10 better, use a little less memory, get a faster
11 processor, get more memory in the next iteration of
12 the iPhone. You can do things to try to make it can
13 better.

14 But because of the architecture, it sits as
15 an extra layer on top of the native layer, and
16 therefore, it's never going to be faster than the
17 native layer. There might be some advantages about
18 how the code loads in a modular fashion or something
19 else. But it just, for us, it wasn't as good as the
20 native ones.

21 And therefore, after we announced the iPhone
22 and demonstrated the iPhone between that and June 29,
23 we rewrote all those apps as native apps and they --
24 they shipped as native apps on the first version of
25 the iPhone.

00084:01 00084:01 So even though there are arguments people
02 can and did make for using web technologies as the
03 sole way for third parties to build apps, my
04 experience was very clear that those apps would not
05 be as good as native apps, and I wanted to have the
06 best possible apps in the platform we could.

26. PAGE 85:01 TO 85:09 (RUNNING 00:00:42.650)

00085:01 Q. Fair to say that pretty quickly after the
02 launch of the iPhone, it became pretty clear that
03 there was huge demand from developers for the ability
04 to build native apps for the iPhone?

05 A. Yes.

06 Q. And one of the ways that this became clear
07 was that third party developers approached you and
08 asked whether they could do that; is that right?

09 A. Yes.

27. PAGE 85:19 TO 85:24 (RUNNING 00:00:28.145)

19 Q. And was one indicator that there were
20 constant attempt by hackers to essentially remove all
21 the protections that Ms. Borogove presented to us

22 awhile -- in the e-mail we read a little bit ago and
23 start loading third party applications, native
24 applications on to jail broken phones?

28. PAGE 86:01 TO 86:05 (RUNNING 00:00:21.761)

00086:01 THE WITNESS: After we shipped, developers
02 started jailbreaking phones and writing native
03 applications and I took that as an indication of
04 their passion to build applications, native
05 applications, for the iPhone.

29. PAGE 87:13 TO 88:14 (RUNNING 00:02:10.071)

13 Q. Fair to say that at the time you understood
14 that the attempts to block this tsunami of attempt
15 of -- of third party obligations was futile and
16 better for Apple to join in, rather than fight these
17 attempts?

18 MS. MOYE: Object to the form.

19 THE WITNESS: So I would not say it that
20 way.

21 BY MR. EVEN:

22 Q. How would you --

23 A. I would say we were very concerned about
24 people building viruses or malware for the phone, and
25 so any activity that I saw that involved jailbreaking
00088:01 and then trying to create malicious code, we would
02 vigilantly respond to and were not concerned, even if
03 it were a tsunami that we would give up on that.

04 We were going to be vigilant for all time as
05 protecting people in the security and the privacy of
06 their phones. I thought as I'd argued a year earlier
07 and -- and beyond that, that we should be creating a
08 platform and both enable and encourage developers to
09 build native apps for the phones.

10 So I did not see this as a bad thing that
11 developers wanted to dedicate their time and energy
12 and lives to building something cool for our
13 platform. If that cool thing was not malware or a
14 virus or something problematic.

30. PAGE 89:02 TO 89:25 (RUNNING 00:01:32.960)

02 Q. And one concern with jailbreaking I take it
03 was that just like the mechanisms that Ms. Borogove
04 wrote about that were not discriminating between
05 malware and so-called good applications, once a phone
06 is jail broken, all third party applications can go
07 on it without any distinguishing between malware or
08 malicious applications and good applications,
09 correct?

10 MS. MOYE: Object to the form.

11 THE WITNESS: The danger with jailbreaking
12 is, it breaks down, depending on how it's done,
13 potentially all of the consumer protections build
14 into the operating system.

15 Now, jailbreaking in general like this can't
16 be done accidentally. So consumers are still
17 protected in general, but if you do these certain
18 things which involve plugging into a computer and --
19 and going through a set of machinations, it does not
20 only allow maybe some positives the consumer might
21 believe or the developer might perceive of installing
22 an application, a game in this case, but it has the
23 very dangerous and significant downsides for
24 consumers of opening their phone up to potential
25 viruses or malware.

31. PAGE 90:19 TO 90:22 (RUNNING 00:00:09.891)

19 Q. Got it. What was your official title at the
20 time?
21 A. Senior vice-president of software, iPhone
22 software something.

32. PAGE 98:15 TO 103:15 (RUNNING 00:09:40.910)

15 Q. Mr. Forstall, let me mark as Exhibit 873 a
16 document Bates stamped APL-EG_00460878, and this is
17 an October 1 chain between yourself and Mr. Lamiriaux,
18 if I'm pronouncing that right, and the subject is:
19 Re: Cocoa Touch apps.
20 (Exhibit 873 marked for identification and is
21 attached hereto.)
22 BY MR. EVEN:
23 Q. My first question is, is this an e-mail
24 chain you exchanged with Mr. Lamiriaux in early
25 October 2007 in the ordinary course of your work at
00099:01 Apple?
02 A. Give me a minute to look it over.
03 Q. Sure.
04 A. Okay. Yes, this is an e-mail I received
05 during the normal course of business.
06 Q. This is an e-mail you received and an e-mail
07 that you sent, right, it's an exchange of e-mails
08 between you and Mr. Lamiriaux, correct?
09 A. There is an e-mail that I sent to Henri and
10 there is his response as well.
11 Q. So let's start with the subject. What is
12 Cocoa Touch?
13 A. Cocoa Touch is a name we used for the frame
14 works, notably normally the high level frame works
15 for Cocoa on the iPhones, the native frame works.
16 Now, it's used in multiple ways, sometimes
17 it's used to mean all the frame works, sometimes it's
18 used just to mean the user interface level.
19 Q. Okay. And when you wrote here: Cocoa Touch
20 apps as the subject of your e-mail, that pertains to
21 native apps, third party apps on the iPhone, correct?
22 A. Right. I'm distinguishing here between web
23 apps which we had and continue to have and this is
24 talking about natively compiled iPhone apps for third
25 parties using the Cocoa Touch frame works.
00100:01 Q. And -- you're writing (as read):
02 I'm trying to capture the issues
03 with taking Cocoa Touch public.
04 What am I missing.
05 Do you see that?
06 A. I do.
07 Q. And so -- and below, you try to capture the
08 issues with, that you've identified with opening up
09 the -- the iPhone for third party native apps,
10 correct?
11 A. Correct.
12 Q. And what was the role of Mr. Lamiriaux?
13 A. Henri led the team, the engineering team, he
14 was an engineering director, reporting directly to
15 me. He was responsible for some of the native
16 frameworks and many of the native apps.
17 Q. When you say "the native apps" you mean
18 Apple developed native apps, correct?
19 A. The apps that shipped on the iPhone as part
20 of iPhone OS, correct.
21 Q. And first you point to several risks in
22 making Cocoa Touch public, correct?
23 A. Correct.

24 Q. And you say, for example, the risks of
25 viruses. That's one you identify, correct?
00101:01 A. Correct.
02 Q. Another one is: Harder to switch
03 processors.
04 Why is it harder to switch processors?
05 A. Yeah, this is a really big deal. When you
06 have a native app, it is compiled into the
07 instruction set of a specific processor. For
08 instance, if you're on a Windows machine now-a-days,
09 it's probably compiled into an Intel instruction set.
10 And what we had found when I -- you know,
11 I've worked at NeXT and we had actually switched
12 processors and then at Apple we had switched
13 processors again, if you have natively compiled apps
14 out there, that native binary will not just run on
15 your new processor. You have multiple options for
16 this.
17 And so we talked earlier about this when we
18 brought up macOS 10 that we had, you know, like
19 Classic, but that's this, this blue box Classic
20 emulation mode that tries to take those processor
21 instructions and convert them into one that can run
22 on the new processor.
23 So in this case when I'm talking about was a
24 risk, well, if Apple is building only natively
25 compile applications and third parties are building
00102:01 web applications, a huge advantage to those third
02 parties of those web apps is no matter what Apple
03 does with the processor, those keep running, because
04 they're interpreted.
05 So each time you get a new, if Apple
06 switches iPhone -- this is true today. If Apple
07 switches to a new processor those web apps have this
08 big advantage that they just keep running going
09 forward, because interpreted on the -- on the
10 processor.
11 And if Apple is running all -- all native
12 apps come from Apple, then to introduce a new phone
13 with a new processor, all you need to do is Apple
14 will recompile every one of those apps, the source
15 code to those apps, to the new processor and then
16 release it.
17 The liability here is if you now have third
18 party natively compiled apps and you want to bring
19 out a new processor which you think will be faster,
20 more security, whatever, and there will be advantages
21 this new processor might have, and there are third
22 party native apps in the marketplace that customers
23 are relying upon, you have to find some solution for
24 those customers.
25 The solution could be convince the
00103:01 developers to take that source code and recompile it
02 for the new processor. Which might work. But if
03 that, let's say that company is out of business or no
04 longer is staffing that app any more, doesn't want to
05 put in the amount of money and time and effort it
06 would take to recompile that, you get stuck.
07 So then you -- look, do you simulate it also
08 or do you have customers now who are left not being
09 able to buy a new iPhone because doing so would then
10 disable functionality in the form third party apps
11 they've come to rely upon for their business.
12 Q. So essentially you get breakage with some of
13 the third party apps potentially if you switch
14 processors?
15 A. Correct?

33. PAGE 108:22 TO 108:24 (RUNNING 00:00:10.324)

22 Q. Let me now mark Exhibit 875, APL-EG_0098292.
23 (Exhibit 875 was marked for identification
24 and is attached hereto.)

34. PAGE 109:12 TO 109:23 (RUNNING 00:00:30.342)

12 Q. First question was, what is "MacOS X
13 Embedded"?
14 A. I think the authors of this document took it
15 to mean iPhone OS which would be used on the iPhone
16 and it was to be used to iPod Touch at the time, but
17 I think they're taking it to mean the same thing.
18 Q. Okay. And is this a document you had
19 received in the ordinary course of your work at
20 Apple?
21 A. Likely. I mean, I don't see a e-mail trail
22 anything, but this -- I would have expected to have
23 received this document.

35. PAGE 110:08 TO 110:13 (RUNNING 00:00:15.971)

08 Q. And the document is prepared by three
09 people, Mitch Adler, John Wright, and Dallas
10 De Atley.
11 Do you see that?
12 A. Well, it says "et al." So it's prepared by
13 more than just them, but three named authors.

36. PAGE 111:02 TO 111:09 (RUNNING 00:00:33.826)

02 Q. And were they -- was part of their -- was
03 part of their job to oversee security?
04 A. Part of their job was to oversee security.
05 Q. And did they oversee security on both
06 macOS 10 and iPhone or just one of them?
07 A. I believe they were in groups that oversaw
08 security on both platforms and I do believe they
09 oversaw security on both platforms.

37. PAGE 111:10 TO 112:20 (RUNNING 00:02:19.911)

10 Q. So going to the first page, do you see that
11 the document begins by saying (as read):
12 The transition from a closed
13 system to one with a more open
14 developer model demands answers to
15 questions of control and security.
16 Do you see that?
17 A. I do.
18 Q. Going further down under applications, they
19 say they assume the (as read):
20 Existence of a robust sandbox to
21 contain applications and developers.
22 Do you see that?
23 A. By the way, I would not have characterized
24 the way they characterized that first statement, for
25 the record.

00112:01 So what's your second question.
02 Q. What do you mean by you would not have
03 characterized the way they characterized, sorry?
04 A. The statement you read said: The transition
05 from a closed system to one with more open
06 developer -- a more open developer model demands
07 answers to questions of control and security.
08 Q. Got it.
09 A. And I would characterize ours as not a
10 closed system, because we did have both a web

11 browser. So all web applications ran, and we
12 supported these web apps. I don't remember if the
13 web apps by this time could be placed on the home
14 screen as well, which I thought was important enough
15 that I think I'm the lead patent holder on that
16 patent. So that was an important thing.
17 So -- so calling it a closed system, which
18 is their words, not mine, I would not say that. I
19 would say that we were going to a -- more developer
20 opportunities with native apps.

38. PAGE 117:13 TO 117:18 (RUNNING 00:00:09.016)

13 Q. And they say (as read):
14 Distribution through the web
15 should be supported, but Apple will
16 provide no transfer protection.
17 Do you see that?
18 A. I do.

39. PAGE 117:25 TO 118:02 (RUNNING 00:00:09.934)

25 Q. And "through the web" here means through a
00118:01 website operated by the developer or through a store
02 operated by a third party, correct?

40. PAGE 118:04 TO 118:05 (RUNNING 00:00:05.019)

04 THE WITNESS: Well, it doesn't say, but it
05 would be through a mechanism that is not iTunes.

41. PAGE 118:07 TO 118:08 (RUNNING 00:00:06.753)

07 Q. And not the App Store, correct?
08 A. And not the App Store. The Apple App Store.

42. PAGE 118:25 TO 119:17 (RUNNING 00:00:53.803)

25 Q. And if you go to appendix C, developer
00119:01 scenarios, the first one is: Guy in his basement.
02 Do you see that?
03 A. I do.
04 Q. And I gather this is their speak for small
05 time developers, stand alone developer, correct?
06 A. Yes.
07 Q. And under 3: Decide you have final version
08 to deploy, do you see that they say what the
09 developer needs to do, A -- or 3.1, sorry (as read):
10 Submit to Apple for signing and
11 then get signed image and deploy as
12 you wish.
13 Do you see that?
14 A. I do.
15 Q. And deploy as you wish here again, means
16 distribute in whichever way you believe best serves
17 your interests, correct?

43. PAGE 119:19 TO 119:24 (RUNNING 00:00:14.296)

19 THE WITNESS: I could define it as you wish,
20 but you get assigned image and you deploy it
21 yourself.
22 BY MR. EVEN:
23 Q. And "deploy" here means distribute, correct?
24 A. Correct.

44. PAGE 125:12 TO 125:12 (RUNNING 00:00:01.979)

12 Exhibit 877. And tab 877 -- sorry, PX877 is

45. PAGE 125:13 TO 125:15 (RUNNING 00:00:05.791)

13 APL-EG_01025133.
14 (Exhibit 877 was marked for identification
15 and is attached hereto.)

46. PAGE 127:03 TO 127:08 (RUNNING 00:00:34.474)

03 Q. And this, too, came from your files, fair to
04 assume that this, too, is a document that you would
05 have received back in 2007?
06 A. If you're correct about the date it was
07 created, I would have received it sometime around
08 when it was created, I'll expect.

47. PAGE 129:08 TO 129:24 (RUNNING 00:00:49.273)

08 Q. Under Distribution Method, on page 2 you see
09 that it says (as read):
10 We will distribute third party
11 applications through the iTunes
12 Music Store. However, our model
13 will allow for third parties to
14 distribute their own applications
15 and for enterprise customers to
16 deploy to their own devices.
17 Do you see that?
18 A. I do.
19 Q. And do you recall that there was a time
20 around October or November of -- of 2007, sorry,
21 where that was the plan of record at Apple, that
22 third parties could sign their applications as we've
23 seen before and then distribute as they wish, as this
24 last document we saw --

48. PAGE 130:05 TO 131:12 (RUNNING 00:01:28.868)

05 THE WITNESS: Let me start with the first.
06 This statement says (as read):
07 We will distribute third party
08 applications through the iTunes
09 Music Store.
10 Okay. Second sentence says (as read):
11 However, our model will allow for
12 third parties to distribute their
13 own applications ...
14 It does not say our policy is to allow that.
15 This is a technical document from a technical team
16 who is building the security infrastructure, and so
17 their statement here is that the model -- the
18 technical infrastructure they're building will allow
19 for other distribution mechanisms.
20 BY MR. EVEN:
21 Q. Good. Thank you.
22 And then it goes -- if you go further below,
23 do you see it says (as read):
24 Signing does not imply a specific
25 distribution method, and it's left
00131:01 as a policy decision as to whether
02 Apple signed application are posted
03 to the online store, or we allow
04 developers to distribute on their
05 own.
06 Do you see that?
07 A. I do.
08 Q. And do you recall that there was a time
09 around October or November 2007 when that policy
10 decision has not yet been made, it is up in the air?
11 A. There was a time when that decision had not

12 yet been made.

49. PAGE 142:24 TO 145:08 (RUNNING 00:05:36.701)

24 Q. Do you recall that there was a debate within
25 Apple about whether Apple should allow distribution
00143:01 only through the App Store or whether it should allow
02 developers to distribute native apps through other
03 means?

04 A. So there were discussions about what the
05 distribution mechanisms could be, and as you pointed
06 out in one of the white papers we looked at, it
07 talked about potential mechanisms in the operating
08 system for how to make each of these secure in
09 different ways.

10 And then there were discussions about how
11 effective those different mechanisms could be and
12 what mechanisms we should enable for our customers.

13 Q. Fair to say that there was a contingent
14 within Apple that thought that developers should be
15 able to distribute their apps through a different
16 mechanism than the App Store?

17 MS. MOYE: Objection to the form.

18 THE WITNESS: There were discussions about
19 how we could enable developers to distribute their
20 apps, one being the App Store, another being
21 distribute them sort of directly the way, say, people
22 do on Windows. Although, I think Windows might have
23 an App Store also now. But distribute, you know,
24 through Windows. Back in the day, you had to
25 distribute through shrink wrap at a physical store.

00144:01 So we had discussions about the merits and
02 dangers of distributing in different ways, within a
03 company, and then beyond the company.

04 BY MR. EVEN:

05 Q. And you don't recall arguments about whether
06 Apple should or should not allow distribution through
07 the web, for example?

08 A. I remember going through the various
09 options. I can't point to a specific conversation
10 about some of these mechanisms, but I can recall my
11 thinking on the reasons for doing certain ways and
12 why certain mechanisms might be better or worse than
13 others, and why we came to the conclusion that we
14 did.

15 And I'm certain there were people giving
16 input and opinions on the merits for each of these
17 different mechanisms, and that's just responsible to
18 consider different mechanisms and the pros and cons
19 of them.

20 MR. EVEN: Jessica, can you bring up 478,
21 please.

22 Q. Who were the main proponents of distribution
23 only through the App Store?

24 A. Sorry. Is there a document I'm supposed to
25 be looking at?

00145:01 Q. Nope.

02 A. Okay. Sorry. I thought you said -- who
03 were the proponents? After we had gone through the
04 discussion, I think basically all of the execs were
05 proponents of the App Store, plus our enterprise
06 distribution models as being the two best mechanisms
07 to protect our mutual customers and get wide
08 distribution for developers.

50. PAGE 161:20 TO 162:04 (RUNNING 00:00:42.406)

20 Q. Do you recall you gave a presentation, I

21 think we discussed that earlier, in March 2008,
22 introducing the SDKs for the iPhone?
23 A. In 2008, we had an event where we launched
24 and publicly announced the iPhone SDK, in App Store.
25 Q. And you personally presented in that -- in
00162:01 that event and specifically the portion about the
02 SDK, correct?
03 A. Correct.
04 Q. If you look at Exhibit 880.

51. PAGE 162:05 TO 162:12 (RUNNING 00:00:18.729)

05 (Exhibit 880 was marked for identification
06 and is attached hereto.)
07 BY MR. EVEN:
08 Q. Do you recognize this as a transcript
09 prepared by Apple of the event on March 6, 2008,
10 launching the iPhone SDK?
11 A. Yeah. This appears to be a transcript of
12 that event.

52. PAGE 162:13 TO 162:16 (RUNNING 00:00:12.098)

13 Q. After you were done introducing the SDKs,
14 you turned the -- the baton over to Mr. Jobs to
15 present the App Store; is that right?
16 A. Yes.

53. PAGE 163:14 TO 164:11 (RUNNING 00:01:17.544)

14 Q. If you go to the page ending in 075.
15 A. Okay.
16 Q. And you see that in the fourth paragraph
17 beginning: "Now, developers."
18 Do you see that paragraph?
19 A. I do.
20 Q. And in the middle of the paragraph, Mr. Jobs
21 says (as read):
22 When we sell the app through the
23 App Store, the developer gets
24 70 percent of the revenues right off
25 the top. We keep 30 to pay for
00164:01 running the App Store.
02 Do you see that?
03 A. I do.
04 Q. And going to the next paragraph he says,
05 second full sentence after the second question mark
06 (as read):
07 So when a developer wants to
08 distribute their app for free, there
09 is no charge for free apps at all.
10 Do you see that?
11 A. Followed by "applause." Yep.

54. PAGE 164:12 TO 164:25 (RUNNING 00:00:36.304)

12 Q. And do you see that in the next paragraph,
13 Mr. Jobs said -- talks about some apps that will not
14 be allowed. And then he says (as read):
15 ... we have exactly the same
16 interest as the vast majority of our
17 developers, which is to get a ton of
18 apps out there for the iPhone and we
19 think we've invented an incredibly
20 great way to do it ...
21 Do you see that?
22 A. Yes.
23 Q. You were there and heard all that being said
24 at the time, right?

25 A. Yes.

55. PAGE 165:01 TO 166:14 (RUNNING 00:02:04.050)

00165:01 Q. Now, if you go to the page ending in 079.
02 A. Okay.
03 Q. And Mr. Jobs is being asked what sorts of --
04 the bottom half of the page (as read):
05 What sorts of safeguards have you
06 built in to make sure that all these
07 apps and applications that are going
08 to be coming on to the iPhone are
09 secure?
10 Do you see that?
11 A. I do.
12 Q. And Mr. Jobs says how are we going to do
13 that, and first he explains the way we're going to do
14 it is that developers have to register with us, and
15 for that \$99 that they paid to join the program they
16 actually get an electronic certificate, and that
17 tells us who they are, and so if they write a
18 malicious app we can track them down, we can tell
19 their parents.
20 Do you see that?
21 (Reporter clarification.)
22 BY MR. EVEN:
23 Q. Do you see that?
24 A. I do.
25 Q. And that is a version of the same signing
00166:01 mechanism that we have discussed now over multiple
02 documents, correct?
03 A. That is part of this, yes.
04 Q. And then on the next page, Mr. Jobs says
05 (as read):
06 The other thing we can do since
07 the distribution of their
08 applications is going to be through
09 the App Store, if we're alerted to a
10 malicious app that we didn't catch,
11 we'll turn off the spigots so no
12 more people download it.
13 Do you see that?
14 A. Yes.

56. PAGE 171:05 TO 171:16 (RUNNING 00:00:37.901)

05 Q. So let's look at that question, and that's
06 on page 081. And the question is at the top third --
07 third sort of bullet, third paragraph (as read):
08 Isn't the fact that Apple is
09 going to be the exclusive
10 distributor for all these
11 applications raise some questions
12 about monopolies and so forth? What
13 if a developer doesn't want to
14 distribute through the App Store?
15 Do you see that question?
16 A. I do. I didn't realize that you attended

57. PAGE 173:05 TO 174:07 (RUNNING 00:01:25.966)

05 Q. Mr. Forstall, going down the page, you see
06 that there's some back and forth, and then Mr. Jobs
07 said (as read):
08 Also, just to make it a little
09 clearer, we don't intend to make
10 money off the App Store.
11 Do you see that statement?

12 A. I see that statement on the page.
13 Q. And do you see that then Mr. Jobs then
14 explained that Apple doesn't make a lot of money off
15 of iTunes. Do you see that?
16 A. I do.
17 Q. And then he says -- I'm reading (as read):
18 ... in the case of the iTunes
19 Music Store, we give all the money
20 to the content owners and we are
21 basically giving all the money to
22 the developers here and if that 30
23 percent of it pays for running the
24 store, well that will be great.
25 Do you see -- did I read that correctly?
00174:01 A. Yes.
02 Q. And the 30 percent that Mr. Jobs is alluding
03 to is the 30 percent commission that Apple keeps when
04 there's a distribution of a paid app through the
05 store, correct?
06 A. It's 30 percent of the gross revenue of an
07 app through the App Store.

58. PAGE 174:08 TO 174:10 (RUNNING 00:00:12.992)

08 Q. You understand that for the past decade or
09 so, the 30 percent that Apple keeps does much more
10 than pay for running the store, correct?

59. PAGE 174:12 TO 174:13 (RUNNING 00:00:06.450)

12 THE WITNESS: I understand that app -- the
13 30 percent is making Apple a profit.

60. PAGE 183:22 TO 184:01 (RUNNING 00:00:12.132)

22 Q. So with that, Mr. Forstall, if you can go to
23 Exhibit 882, which is APL-EG_00260094.
24 (Exhibit 882 was marked for identification
25 and is attached hereto.)
00184:01 MR. EVEN: This document is a e-mail

61. PAGE 184:02 TO 184:07 (RUNNING 00:00:21.793)

02 correspondence between Mr. Forstall and Mr. Schiller,
03 dated January 21, 2008.
04 Q. Mr. Forstall, is this an e-mail chain that
05 you sent and received as part of the ordinary course
06 of your employment at Apple?
07 A. Yes.

62. PAGE 187:21 TO 188:07 (RUNNING 00:00:42.051)

21 Q. Okay. And I think you mentioned earlier
22 today when talking about, for instance, something
23 like HTML5, you mentioned that HTML5 is sort of
24 agnostic to the underlying processor because you --
25 the developers write for HTML5, right? And so HTML5
00188:01 is a cross-platform platform in that sense?
02 A. HTML5 standards are interpreted code so they
03 are agnostic to the specific processor on which they
04 run.
05 Q. And in that sense they serve as a
06 cross-platform platform for web app developers,
07 correct?

63. PAGE 188:09 TO 188:12 (RUNNING 00:00:12.655)

09 THE WITNESS: For web app developers and web
10 developers in general, they can serve as a
11 cross-platform development platform, which sometimes

12 can work very well.

64. PAGE 188:13 TO 189:03 (RUNNING 00:01:00.060)

13 Now, they run inside of a browser generally,
14 and browsers have been built up with an enormous
15 amount of security over time. I mean, even though
16 you see viruses sometimes come through web browsers,
17 but the more mature ones are getting better and
18 better at it.

19 Just as an aside, sometimes that works
20 really great and it's interesting like today we're
21 doing this deposition and we are using a native app,
22 which is Zoom so we can see each other, and then
23 we're using a web app to exchange documents.

24 Well, those documents, you know, that's an
25 important way to go and they're secure and that's
00189:01 being done through an app inside of a web browser,
02 too, HTML5 and beyond standards, so both mechanisms
03 of building can work well.

65. PAGE 189:21 TO 190:08 (RUNNING 00:00:27.436)

21 Q. And so back then, too, you thought that what
22 they're planning is really a cross-platform platform
23 as you called it?

24 A. Yes.

25 Q. And you then say (as read):

00190:01 While I would prefer developers
02 use web standards -- you mention a
03 couple -- or go native if they want
04 more, I'm not sure we shouldn't take
05 the high ground and let them build
06 it and complete.
07 Do you see that?
08 A. I do.

66. PAGE 192:23 TO 193:02 (RUNNING 00:00:17.436)

23 Q. And Mr. Schiller has taken -- upon hearing
24 it has taken the initial opposite view to yours,
25 correct?

00193:01 A. It sounds like his initial opinion is very
02 different from mine.

67. PAGE 193:03 TO 194:08 (RUNNING 00:01:23.379)

03 Q. And at the end of the day, Mr. Schiller also
04 says (as read):

05 In the grand scheme of things --
06 of APIs we could choose to support
07 beyond our own, if we ever did
08 support another (which I don't
09 recommend), Yahoo's Widget API is
10 not even close to the most important
11 one we would pick, some of the other
12 ones I listed above (like Flash) are
13 way more important ...
14 Do you see that?

15 A. I do.

16 Q. Flash was another cross-platform platform?

17 A. In some ways. I mean, Flash is a pretty big
18 conversation in and of itself.

19 Q. I understand. I'm not trying to hear the
20 entire Flash story.

21 A. Well, there's a long Flash story in here
22 which is -- I mean, yeah. 'Cause we tried to work
23 with them also. Yes. Flash can be used as a
24 cross-platform platform as well.

25 Q. And then Mr. Schiller (as read):
00194:01 Besides, we have a way to do
02 Widgets that competes with theirs,
03 so who cares?
04 Do you see that?
05 A. I do.
06 Q. And did Apple end up supporting the Yahoo
07 widget engine?
08 A. We did not.

68. PAGE 194:09 TO 194:20 (RUNNING 00:00:44.060)

09 Q. Did you end up supporting Flash?
10 A. We did not ship Flash. We tried to make
11 Flash work. We helped Adobe. We -- we definitely
12 were interested. Again, this is one where I thought
13 if we could help make it work, this could be great.
14 Flash has been such a problem because it -- the way
15 that it hooks into systems, it's been a virus
16 nightmare on -- on Windows, even on the Mac.
17 And when we got it running on iOS, the
18 performance was just abysmal and embarrassing and it
19 could never get to something which would be consumer
20 value add.

69. PAGE 194:21 TO 194:22 (RUNNING 00:00:03.632)

21 Q. And so you never shipped with Flash either?
22 A. We did not.

70. PAGE 195:01 TO 195:10 (RUNNING 00:00:26.039)

00195:01 Q. Did you support Java?
02 A. We did not.
03 Q. And he also mentioned Adobe's Air. Do you
04 support Adobe Air?
05 A. I do not believe so.
06 Q. What about Microsoft Silverlight?
07 A. We did not support that. I don't even know
08 if that exists anymore, but we did not support that.
09 Q. And Qualcomm's Brew?
10 A. We did not support that.

71. PAGE 195:22 TO 196:03 (RUNNING 00:00:26.779)

22 Q. I wasn't suggesting that. I asked whether
23 you recall that there were cross-compilers available
24 from third parties that allowed people to develop
25 apps that would run on iOS.
00196:01 A. I think people were trying to create
02 cross-compilers. I don't remember if any of those
03 were used in the real world.

72. PAGE 196:04 TO 196:07 (RUNNING 00:00:14.590)

04 Q. Do you recall that Apple at some point
05 decided to ban the use of cross-compilers for
06 developing apps for the -- for iOS?
07 A. Yes.

73. PAGE 198:10 TO 198:14 (RUNNING 00:00:14.132)

10 Q. Cross-compilers are used for cross-platform
11 development, right?
12 A. In general they can be used for a couple
13 things, but yes, they can be used for cross-platform
14 development.

74. PAGE 206:14 TO 206:21 (RUNNING 00:00:12.042)

14 (Exhibit 886 was marked for identification

15 and is attached hereto.)
16 BY MR. EVEN:
17 Q. Do you see this is an e-mail from Philip
18 Schiller to yourself, copying Mr. Jobs on July 16,
19 2011?
20 A. Give me a minute. There's a lot of e-mails
21 in here, so I'm going to scan through it briefly.

75. PAGE 207:01 TO 207:06 (RUNNING 00:00:14.197)

00207:01 Q. Mr. Forstall, is this an e-mail that you
02 received?
03 A. Yes.
04 Q. And is in an e-mail that you received as
05 part of the ordinary course of your work at Apple?
06 A. Yes.

76. PAGE 208:02 TO 208:03 (RUNNING 00:00:03.628)

02 And Mark here again is Mr. Zuckerberg?
03 A. Yep.

77. PAGE 208:04 TO 208:06 (RUNNING 00:00:18.353)

04 Q. And so Facebook wanted to have either an
05 embedded web view or links to web apps in its iPad
06 native app, correct?

78. PAGE 208:08 TO 208:15 (RUNNING 00:00:23.502)

08 THE WITNESS: Facebook was looking in their
09 iPad app to enable embedded apps with inside of that
10 app.
11 BY MR. EVEN:
12 Q. And you told them they can't do that,
13 correct?
14 A. We said they should not include embedded
15 apps inside of the native app.

79. PAGE 209:25 TO 210:11 (RUNNING 00:00:57.300)

25 Q. And the concern is that if Facebook did
00210:01 this, if it did include these links, then it would
02 operate as a storefront for web apps, correct?
03 MS. MOYE: Objection to the form.
04 THE WITNESS: The idea is if they were doing
05 this -- I mean, there's many issues, it could be very
06 confusing to users if they're making it appear to be
07 an app store, but it's not taking you to the native
08 apps you can download on to a platform. It's unclear
09 exactly what the point of that directory of links
10 with inside of an application would -- would present
11 itself as.

80. PAGE 211:08 TO 212:01 (RUNNING 00:01:07.900)

08 Q. Mr. Forstall, what you told Mr. Zuckerberg
09 is not to include embedded apps in the Facebook iPad
10 app either in an embedded web view or as a directory
11 of links that would redirect to Safari. This speaks
12 to HTML5 web apps, correct?
13 A. No --
14 MS. MOYE: Objection to the form.
15 THE WITNESS: This speaks to what Facebook
16 would do in its native iPad app. Facebook when using
17 HTML, HTML5, all web standards, as a website which
18 is, you know, how you probably access Facebook when
19 you're sitting on your Windows machine or your Mac,
20 that uses web standards and works exactly how they
21 built Facebook from day one.

22 This is talking about what do they do in the
23 native iPhone or iOS app and iPad app, in this case.
24 BY MR. EVEN:
25 Q. I understand that, but that wasn't my
00212:01 question, Mr. Forstall.

81. PAGE 212:02 TO 212:04 (RUNNING 00:00:15.815)

02 My question was: You told Mr. Zuckerberg
03 that Facebook should not embed or link to HTML5 apps
04 from its native app, correct?

82. PAGE 212:06 TO 212:09 (RUNNING 00:00:19.344)

06 THE WITNESS: I said -- the message that I
07 delivered was that Facebook in their native app
08 should not redirect to links that would take you to
09 Safari in this directory.

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1 CLIP (RUNNING 00:07:40.616)

13 SEGMENTS (RUNNING 00:07:40.616)

1. PAGE 230:05 TO 230:11 (RUNNING 00:00:44.125)

05 Q. Mr. Forstall, do you recall that after the
06 App Store opened, there were developers who deployed
07 mechanisms for collection of payments within their app;
08 for instance, through opening an embedded web app,
09 collect payment, things of that nature?
10 A. I remember there was some sort of payment thing.
11 I don't remember the specifics. I remember generally.

2. PAGE 230:16 TO 230:18 (RUNNING 00:00:16.143)

16 Q. Okay, but you were aware that developers found
17 ways to -- to make sales within their app, and collect
18 payment for those sales?

3. PAGE 230:20 TO 230:22 (RUNNING 00:00:08.518)

20 THE WITNESS: I remember a general concept
21 that some developers were trying to collect payment
22 through their apps.

4. PAGE 230:24 TO 231:02 (RUNNING 00:00:18.824)

24 Q. And do you recall there came a time when Apple
25 decided to offer its own payment mechanism for
00231:01 applications that sold digital content?
02 A. Yes.

5. PAGE 231:06 TO 231:08 (RUNNING 00:00:12.291)

06 Q. And applications that sold physical goods remained
07 free to use whatever other mechanisms they wanted.
08 They couldn't use the Apple mechanism. Correct?

6. PAGE 231:15 TO 231:19 (RUNNING 00:00:18.786)

15 THE WITNESS: Apps could not use Apple's
16 in-app purchase for the sale of physical goods.
17 BY MR. EVEN:
18 Q. But they could use other mechanisms. Correct?
19 A. Yes.

7. PAGE 232:05 TO 232:07 (RUNNING 00:00:17.530)

05 Q. But apps that sold digital content were required
06 to do so using the IAP API. Correct?
07 A. Correct.

8. PAGE 234:08 TO 234:08 (RUNNING 00:00:02.128)

08 Q. If you look at Exhibit 888, Exhibit 888 is Bates

9. PAGE 234:09 TO 234:17 (RUNNING 00:00:43.244)

09 stamped APL-APPSTORE_10080247. And it's a cover
10 email attaching a -- what appears to be a slide deck,
11 with the tagline "App Commerce Models." Do you see
12 that?
13 A. I do.
14 Q. And is that an email that you received together
15 with its -- with its attachment on 11 December 2008 in

16 the ordinary course of your work at Apple?
17 A. Yeah.

10. PAGE 252:06 TO 252:13 (RUNNING 00:00:29.053)

06 Q. Okay. We discussed earlier that there were some
07 apps on the App Store prior to the release of IAP
08 that were using their own payment mechanisms for
09 different kinds of purchases made in the app. Correct?
10 A. Correct.
11 Q. And some of those then needed to switch over to
12 IAP once IAP was released. Correct?
13 A. At some time frame.

11. PAGE 252:16 TO 254:10 (RUNNING 00:03:25.791)

16 Do you recall, without divulging any legal advice,
17 all the reasons why Apple decided to require that all
18 digital sales must use API [sic]?
19 MS. MOYE: Do you mean to say "IAP"?
20 MR. EVEN: IAP. Sorry.
21 THE WITNESS: I mean, there are a number of
22 reasons we added IAP. It was to make it easier for
23 developers to sell digital goods.
24 If you're a game developer and you have an extra
25 level that you'd like to sell, but the customer has to
00253:01 enter a credit card, that could be a huge impediment to
02 the customer buying that extra level; whereas if it
03 just says, "Hey, click this button, and, for 99 cents,
04 you get another level," the user is much more likely to
05 click it. And Apple already has your credit card on
06 file, so it -- it really streamlines it. And it's a
07 huge win for the developer to have an easy mechanism
08 built in to -- to sell goods inside the app. So that
09 was -- that was the main reason we did it: To make it
10 much, much easier for developers to have another
11 revenue stream.
12 And, as the App Store -- as apps matured, we
13 just learned a lot more about different mechanisms for
14 how to help developers make money.
15 BY MR. EVEN:
16 Q. Any other reasons that you recall, without
17 divulging any legal advice?
18 A. Any other reasons for what?
19 Q. For requiring the use of IAP for in-app sales of
20 digital goods.
21 A. Well, another reason was to make it consistent
22 everywhere. So if users were to see a consistent
23 panel, they'd be more likely to accept that.
24 If, again, everything's different every time,
25 users might be afraid to click, you know, one -- one
00254:01 place and not another place, because they might think
02 they're going to get a credit-card form added. And so
03 if you had a standard panel across everything, that was
04 another.
05 Another was we did have this 70:30 revenue split
06 in the store for sales. And it was to avoid apps from
07 trying to basically circumvent that by having a free
08 download that wasn't actually free. It was -- Apple
09 would pay for everything for the download, and then
10 they would charge the customer.

12. PAGE 254:11 TO 254:13 (RUNNING 00:00:06.133)

11 Q. Any other reason?
12 A. I'm sure there are more that I'm not thinking of
13 right now.

13. PAGE 255:18 TO 256:02 (RUNNING 00:00:38.050)

18 Do you recall the year that the App Store was
19 launched?
20 A. 2008.
21 Q. And in 2008 what were your -- from a high level,
22 what were your general duties and responsibilities at
23 Apple?
24 A. I ran all software for the iPhone OS, so iOS,
25 plus I was responsible for macOS 10 releases, and all
00256:01 design of software user interface design, and a set of
02 other things.