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IN THE UNITED STATES DISTRICT COURT
DISTRICT OF UTAH
CENTRAL DIVISION

NOVELL, INC.,)
Plaintiff,)
vs.) CASE NO. 2:04-CV-1045 JFM
MICROSOFT CORPORATION,)
Defendant.)
_____)

BEFORE THE HONORABLE J. FREDERICK MOTZ

October 20, 2011

Jury Trial

Volume IV

A P P E A R A N C E S

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I N D E X

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| Witness | Examination By | Page |
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(No exhibits received.)

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1 October 20, 2011

8:00 a.m.

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

3
4 THE COURT: I am not going to say anything about
5 the instructions, because I don't think that frankly the
6 differences -- this really is an issue between Mr. Tulchin
7 and me and not the jury, and I think for me to say
8 something, I don't think the jury is going to pick up on the
9 distinctions.

10 You all can be seated.

11 The more I think about this the angrier I am. I
12 could not have been more clear in the instructions I gave.
13 Mr. Tulchin I suppose would be able to establish the
14 contrary if it had just been orally given and might have
15 made a misstatement. That was printed out. You had to know
16 there is a difference between what I did and what I said and
17 what you said. I don't like it. I am not going to say
18 anything to the jury, because I don't want to -- I am going
19 to comment on the statute of limitations, because I don't
20 want to put my thumb on the scales.

21 Don't you ever do that again. If you do, if you
22 make a statement like you said yesterday about the subtle
23 distinction between acquiring and maintaining a monopoly is
24 absolutely crazy. You're too good a lawyer and you know
25 this case too well. This case is about maintaining a

1 monopoly. I don't like it. I am not going to say anything
2 to the jury, because frankly I think it would get lost in
3 the mix. I don't want to put my hand on this, but don't you
4 ever do that to me again. Maybe your client has a -- it
5 just goes a bit too far.

6 MR. TULCHIN: Your Honor, I apologize.

7 THE COURT: Okay. Apology accepted.

8 Let's get the jury.

9 MR. SCHMIDTLEIN: Judge, you're not going to give
10 anything on the timing --

11 THE COURT: On the timing, yes.

12 MR. SCHMIDTLEIN: You are. Thank you.

13 THE COURT: The other I think is just going to get
14 lost in the mix. The --

15 MR. SCHMIDTLEIN: Thank you, Your Honor.

16 (WHEREUPON, the jury enters the proceedings.)

17 THE COURT: Good morning, everybody.

18 Thank you for being so prompt.

19 I am trying to connect to my office. I think my
20 office is interested in what I am doing out there. I think
21 they want to make sure that I am actually not out here
22 skiing.

23 The other thing is we have a live witness.

24 Normally if we start a witness we like to finish them, but
25 this witness is from out of town and is now a private

1 citizen and we're going to try to finish him today. We'll
2 finish Mr. Silverberg's deposition another time.

3 Mr. Johnson.

4 MR. JOHNSON: Your Honor, were you going to give
5 that instruction?

6 THE COURT: In terms of the opening statements,
7 there was one statement made by Microsoft's counsel about
8 this case not having been filed for a certain number of
9 years, nine or ten years after the event, to reflect or put
10 the suggestion that, look, if this was a problem why didn't
11 you file suit earlier. It is fair game to say why didn't
12 you comment earlier, why didn't you criticize it earlier,
13 and that is a matter of evidence for you all to decide.

14 Don't worry about when the suit was filed. They
15 acted within their rights. It is a long time, but there are
16 reasons and limitations were tolled and they acted within
17 their rights in not filing a suit for whenever they filed
18 the suit. Just disregard that part of the opening
19 statement.

20 MR. JOHNSON: Thank you, Your Honor, very much.

21 THE COURT: Good morning.

22 Let's get started.

23 MR. JOHNSON: Your Honor, if I could approach, we
24 have a binder of the exhibits we'll be using this morning
25 for you.

1 The plaintiff, Novell, Inc., calls Mr. Adam Harral
2 to the stand.

3 THE COURT: Come on up.

4 MR. TULCHIN: Your Honor, is it possible for us to
5 get the same exhibits?

6 THE COURT: I would think so.

7 MR. JOHNSON: Yes. We are going to be giving them
8 exhibits as we use them.

9 THE COURT: Give them to them all at the same
10 time.

11 ADAM LEE HARRAL

12 Having been duly sworn, was examined

13 and testified as follows:

14 THE WITNESS: My name is Adam Lee Harral.
15 A-d-a-m, L-e-e, H-a-r-r-a-l.

16 MR. JOHNSON: Your Honor, may I approach with the
17 binder for the witness?

18 THE COURT: Sure.

19 MR. JOHNSON: Thank you.

20 THE COURT: What are we going to do about the
21 jury? Are they going to be up on the screen?

22 MR. JOHNSON: Up on the screen when we use the
23 exhibits, yes, Your Honor.

24 Thank you very much.

25 DIRECT EXAMINATION

1 BY MR. JOHNSON

2 Q. Mr. Harral, good morning.

3 A. Good morning.

4 Q. Can you tell us where you currently live, sir?

5 A. I live in Highland, Utah.

6 Q. How long have you lived in Utah?

7 A. I have lived in Utah for about 27 years.

8 Q. Are you currently employed?

9 A. I am.

10 Q. And where do you work?

11 A. I work for a company, a software company called Best
12 Practice Systems in Denver, Colorado.

13 Q. What is your position with that company?

14 A. I am the software architect for that company.

15 Q. What does it mean to be the software architect?

16 A. In software development we have developers and I do
17 that often, but a software architect is also supposed to
18 know how -- what are the best practices in developing
19 software, such that they can develop the software as quickly
20 as possible, avoiding as many pitfalls as possible from past
21 experience and from what are accepted industry standards for
22 whatever company that you're writing software for.

23 Q. How long have you worked with that company in Denver?

24 A. A year and a half.

25 Q. Let's take a step back in time.

1 Can you please tell the jury were you attended college?

2 A. I attended college at Brigham Young University.

3 Q. When did you graduate?

4 A. I graduated in May of 1989.

5 Q. What was your degree?

6 A. A bachelor's of science in computer science.

7 Q. Now, before obtaining a degree in computer science from
8 BYU in 1989, did you have any practical experience in
9 computer programming?

10 A. Yes. I was a consultant for a software firm in Colton,
11 California starting at age 14.

12 Q. Did you say age 14?

13 A. Yes, 14.

14 Q. Did you do any programming while at BYU?

15 A. I did do programming at BYU.

16 Q. Can you describe generally what that programming
17 involved?

18 A. The first programming job that I had was working in the
19 education department, the college of education doing
20 computer tutorials and graphics for teaching students. And
21 then a year after that I found a job with the department of
22 instructional science. They were working on a program that
23 would search texts of documents. Currently they were
24 working on the scriptures program, although they had other
25 documents as well, and it was to be able to type words that

1 you were looking for and have it retrieve them and the
2 context of those words and present them.

3 Q. What platform were you working on in connection with
4 that programming work?

5 A. We were working on Windows 2.3.

6 Q. What did you do after graduation from BYU?

7 A. I sought employment at different companies and eventually
8 was hired by WordPerfect Corporation in May of 1989.

9 Q. Why did you choose WordPerfect?

10 A. I had had some exposure to WordPerfect beforehand in my
11 other duties in the offices of people that I had dealt with
12 in those departments at Brigham Young University and in some
13 other companies, and WordPerfect had a variety of products.
14 They had them for Macintosh, they had them for the P.C., and
15 so they seemed like a company that was aware of the breadth
16 of the industry and the different needs that people had, and
17 it would be a good opportunity -- many opportunities to both
18 work on a product that was moving the industry, and at the
19 same time there would be a diversity of tasks that could be
20 done, so it wouldn't be boring from year to year.

21 Q. What was your initial position at WordPerfect?

22 A. I was hired to work on printers for their O.S.2
23 development on the P.C.

24 Q. You mentioned O.S.2. You will have to tell the jury
25 what that is.

1 A. Okay. O.S.2 was an operating system, that when the
2 P.C. came out the disk operating system or DOS that it ran
3 on was evolving, and I.B.M. wanted to have a new version of
4 the operating system and so they wrote O.S.2. It rewrote
5 the fundamentals of the operating system as well as put new
6 features on top, because businesses had been demanding those
7 features for awhile and had them on other computer
8 platforms, and so this was a chance for the P.C. to make a
9 leap forward in what it could do.

10 Q. If we could just go through your work experience
11 generally at WordPerfect that would be helpful. You first
12 were working on this preview display for O.S.2.

13 What did you do next?

14 A. So after working on print preview, within about six
15 months I was moved into O.S.2 to help with the graphical
16 interface because of my experience with Macintosh before
17 then and my experience in Windows.

18 In WordPerfect they have some code that is made to take
19 the application and marry it to the particular platform
20 you're on and then they have code that is independent. The
21 independent code is important, because then it can be
22 deported between the different computer programs and
23 operating systems that were used by WordPerfect.

24 So what they wanted me to do was to work on the code
25 that marries the engine, so to speak, or the core of

1 WordPerfect to that operating system. So I was doing the go
2 between code that put the engine on top of what was O.S.2.

3 Q. Are you familiar with the term shared code?

4 A. I am. That is what we called the code that would do
5 that, but it was shared because it would go -- WordPerfect
6 had multiple products, and at WordPerfect they had taken
7 that code and had one person write it so that they could
8 move it between the products, and that way the efforts of
9 one developer was leveraged across three or four products.
10 So it is like having three or four developers, one on each
11 team. So WordPerfect had spent much time in trying to find
12 pieces that would qualify for being shared code so that it
13 could be written once and leveraged across.

14 The other advantage is that anything that was not
15 shared code, the engine was then built on top of that and
16 that engine was allowed to move between products or between
17 platforms because of the shared code. So they were a matrix
18 of -- you're either moving it across the different computer
19 systems, like a mainframe or a Macintosh or an Amika
20 computer or a P.C., and you're also moving it across these
21 products, the presentations product for graphics or the word
22 processing product or the document management product or the
23 spreadsheet.

24 Those different products then would have code that was
25 shared across them, and that would give the products -- that

1 would give the people who use the products the same
2 experience with them. The behaviors would be the same, so
3 if you learned one product you would know how to operate all
4 of the other products in a similar way so you didn't have to
5 relearn each product individually.

6 Q. Going back a little bit, you mentioned that you were
7 working before on the O.S.2 with respect to a graphical
8 interface product.

9 Can you explain to the jury what you meant by graphical
10 interface?

11 A. Okay. That was one of the reasons for going to
12 WordPerfect. When I worked at Brigham Young University most
13 of the programs that we worked on were what we called
14 character interfaces, and the screen has no ability to draw
15 images that represent what you would print, or maybe if you
16 had pictures of things they were not able to be represented
17 on the computer in most programs.

18 Graphical interface -- people are commonly familiar
19 with the Macintosh, and it has always had a graphical
20 interface so that you could represent more than just the
21 hundred plus characters and a few symbols that are available
22 on a character interface. An example of a graphical
23 interface would be -- versus a character interface -- if I
24 wanted to do a wedding announcement and I wanted to put a
25 script hand on the characters that I was doing, in a

1 character interface it would just be able to put the text up
2 and I wouldn't be able to see what it was going to look
3 like.

4 If I had a picture of the couple that I wanted to put,
5 you know, on the invitation, I could maybe represent where
6 the picture was going to go, but I couldn't display the
7 picture. In a graphical interface I could actually show the
8 actual flowing script as it is supposed to be represented,
9 and I could actually position the pictures in there so that
10 I can give people a representation on the screen of what
11 they are actually going to get when they print that or
12 distribute that. That is where the term WYSIWYG comes from,
13 which we use in the industry, which is what you see is what
14 you get. It is a term that says that you basically have a
15 graphical interface underlying your program.

16 Q. Mr. Harral, are you familiar with something called
17 Premiere Support?

18 A. From which company?

19 Q. Microsoft.

20 A. Yes, I am.

21 Q. Can you tell the jury about that?

22 A. Premiere Support, from my understanding not having been
23 the one that actually paid the bill for that, it was -- as
24 an architect WordPerfect Corporation purchased Premiere
25 Support from Microsoft. It was a program where there was a

1 representative of Microsoft assigned to our company, and
2 WordPerfect had three Premiere Support representatives, and
3 they would be a liaison between WordPerfect to get detailed
4 help and support on either issues that we were having
5 problems with or maybe even working out ways that we could
6 solve tasks that we had in dealing with the Windows
7 operating system.

8 These were experts that could help us in moving our
9 development forward, or if we had discovered problems that
10 were not generally known they would enable us to, even if we
11 needed to, to get to the actual developers that had written
12 Windows so that we could work with them to resolve issues
13 that we had come across whether they were ours or the
14 operating system.

15 Q. Following your work on the O.S.2 platform and GUI, what
16 did you start doing at WordPerfect?

17 A. After I was working on the GUI I was then moved to
18 working on -- you mentioned the shared code. The shared
19 code grew into all of the file handling, so how you open a
20 file in WordPerfect, how do you save it, if you want to
21 select the file to open so that the file opened, and
22 dialogue is what we called it or saving, and we would have
23 the file safe as. We did the keyboard support.

24 WordPerfect was an international product. In the
25 European Union, all of the members of the European Union and

1 their governments had standardized on WordPerfect, and so
2 they had special keyboards set up that they would use, so
3 that if you were in Switzerland you knew the three different
4 keyboards that you were going to use whether it was German
5 or Italian or French. Those abilities to tailor the product
6 to what your work environment was were important to a number
7 of people.

8 Being able to, likewise, setting up the keyboard, and
9 you could also set up what the menus were, so you could have
10 tasks that were tailored to whatever business you were
11 dealing with. We had tool bars that put up buttons that you
12 could -- that would also let you customize it. You could go
13 through and record things that you did commonly, so that you
14 would press one button and it would play them back, and that
15 way people could actually capture work that they had done
16 and it made it very easy for them to do that.

17 The shared code system did all of these things with the
18 product and, therefore, we provided it to all of
19 WordPerfect's products as we did these things. There were
20 other things, internationalization, conversion of files,
21 conversion of graphics, there is a lengthy list of things
22 that shared code did.

23 Q. We'll get into more detail in a bit.

24 Can you give us a time frame for this work, the
25 beginning of this work of the shared code?

1 A. Okay. So shared code, and inheriting what had already
2 been done at WordPerfect, and we were working on shared code
3 as early as, you know, 1991.

4 Q. Do you remember when Novell purchased WordPerfect?

5 A. I recall that it purchased WordPerfect in 1994.

6 Q. Did your position change after the merger?

7 A. No, it did not. I had exactly the same position
8 afterwards as before.

9 Q. Do you recall generally how you reacted to the
10 announcement that WordPerfect was going to be bought by
11 Novell?

12 A. Amongst the developers that we had on our team we were
13 actually excited about the opportunity. WordPerfect had a
14 history of working with other companies and trying to
15 especially do network things, and that was one of the things
16 that WordPerfect had a strength in, was being able to work
17 on different networks, and Novell was one of the strongest
18 ones that we supported and we had a good relationship with.

19 So we were excited for the possibility of being able to
20 leverage, because Novell was moving forward with their
21 efforts, with the directory that they were doing and other
22 technology, so we were excited about being able to maybe
23 have a better partnership with them and integrate better
24 with that company.

25 Q. In 1994 then after the merger you said your job didn't

1 change. Do you recall what your title was?

2 A. I was the architect of the shared code.

3 Q. Would that make you one of the lead developers within
4 shared code?

5 A. It would. The architects at WordPerfect were very
6 hands on, and so we had programming assignments that we
7 would do. My day would be both dealing with architecture
8 and fulfilling my own tasks as well as going around to the
9 other team members to keep abreast of what they were doing,
10 because I was also a liaison with the other groups in the
11 company.

12 So if I knew that one group was working on something
13 that was interesting, I might find another group that would
14 want to use that, and so I was also conveying that
15 information between the developer groups.

16 Q. And the shared code that you worked on, was that also a
17 part of the Perfect Office suite?

18 A. It was. Shared code -- when Perfect Office released
19 shared code shipped with Perfect Office as well.

20 Q. Do you remember when Corel later purchased WordPerfect
21 from Novell?

22 A. I think it was in 1996.

23 Q. Did your position change after the sale to Corel?

24 A. No, it did not.

25 Q. Did you change offices?

1 A. No, I did not.

2 Q. How long did you continue to work for Corel?

3 A. I was there for about a year, as I recall, maybe a
4 little more.

5 Q. What happened next?

6 A. I was hired by Novell to go and work in their advanced
7 development group.

8 Q. What was your position when you returned to Novell?

9 A. I was in -- the advanced development group was an
10 entire group of people and they were all architects, so I
11 was a software engineer consultant. I was an architect that
12 would go out to other groups and even other divisions and
13 work with them for awhile with the interests of Novell in
14 general interjected into that group for the time that I was
15 working there.

16 That meant that I would not even know what office I
17 would be in from month-to-month potentially or even what
18 country, I guess.

19 Q. When did you leave?

20 A. Novell? In 2003.

21 Q. What were the circumstances of your departure?

22 A. They had layoffs, for which Novell is almost known for
23 in this valley, but they had layoffs and they had let go a
24 number of people, including the division that I was in at
25 the time, and so I left at that time.

1 Q. Let's go back and talk a bit about the evolution of
2 shared code. You told us earlier while you were working at
3 BYU that you were working on the DOS and the Windows
4 platforms.

5 MR. JOHNSON: Can we put up, Mr. Goldberg, figure
6 one, please.

7 BY MR. JOHNSON

8 Q. Mr. Harral, this image should display on the screen in
9 front of you, and the jury gets to see it on that big board
10 behind you, but you can look at it on the screen there in
11 front of you.

12 Can you tell us what this image is?

13 A. This looks like the command prompt for DOS on a P.C.

14 Q. Does it accurately represent a screen shot of the DOS
15 operating system?

16 A. It is one screen shot of the DOS operating system,
17 probably waiting for somebody to do something.

18 Q. Do you have any experience working with Windows 3.1?

19 A. At WordPerfect I did have experience working with
20 Windows 3.1.

21 Q. And was Windows 3.1 a character based operating system
22 like DOS shown on the screen?

23 A. It is not. It runs on top of DOS, but it is not a disk
24 character based operating system.

25 MR. JOHNSON: Can we put up, Mr. Goldberg, figure

1 two.

2 BY MR. JOHNSON

3 Q. Mr. Harral, what is this image?

4 A. This is Windows. We have the program manager here
5 where it is showing us different programs in Windows that we
6 could launch and then use.

7 Q. Would this program manager be something that was
8 present in Windows 3.1?

9 A. Yes. Actually, in looking at the little buttons in the
10 upper right-hand corner, because they are shaded in
11 different shades of gray, that would make me think this is
12 Windows 3.1.

13 MR. JOHNSON: Mr. Goldberg, could we see those
14 images side by side for a moment?

15 BY MR. JOHNSON

16 Q. You already described the differences between the
17 graphical user interface and DOS.

18 Did you earlier?

19 A. Yes.

20 Q. I think we'll just move on.

21 What was the acronym you used to describe the graphical
22 user interface?

23 A. One thing you can do in graphical interface, is if
24 you're trying to display something -- trying to present
25 something that would be like a printed document, and we call

1 it WYSIWYG, which means that you're seeing what you're going
2 to get when you print it or when you produce it.

3 Q. When you first started working in WordPerfect, can you
4 tell us how many different operating systems that
5 WordPerfect was written for?

6 A. I can't tell you how many, but I know there were over a
7 dozen.

8 Q. Can you name a few for the jury?

9 A. They ran on Deck computers, P.D.P., they ran on
10 Macintosh, on the Amika, on the P.C. and DOS and in Windows
11 and in O.S.2. I am talking about in general the company,
12 not a particular time period. I know that WordPerfect was
13 originally written for a mainframe for the City of Orem and
14 they maintained that version of it as well. So they were
15 not constrained to one platform or one computer. They had a
16 number of clients and they maintained -- NeXT was another
17 one that they worked on, which was a successor with Steve
18 Jobs and his efforts at Apple.

19 Q. Are you familiar with a process of deporting
20 WordPerfect code from one operating system to another?

21 A. Yes, I am.

22 Q. Can you explain to the jury generally how that works?

23 A. So when we wanted to move to a new platform, because
24 WordPerfect had made efforts to isolate its engine from the
25 code that would need to be there to run on the operating

1 system on the computer, the deporting process would be to
2 take the marrying code or the shared code and go and produce
3 that on the new operating system.

4 So if I were going to move from DOS to the NeXT, which
5 was a graphical computer, I would first have to take the
6 shared code and I would have to retool that and figure out
7 on the NeXT how do I allocate memory? How do I -- what kind
8 of Windows do they want to put up? How does the programming
9 in that environment want to open a document? How does it
10 want to save it? In trying to learn in and out what is
11 going on in that system, and then we would deport all that
12 code and reproduce it on that other platform.

13 Once we had reproduced that code, then we would take
14 the engine and the engine would hook into the code that we
15 produced so we didn't have to rewrite the engine. It was a
16 very efficient way to move product across operating systems.

17 Q. So when WordPerfect decided to support a new operating
18 system, did the developers have to start from scratch when
19 writing a new version of the product?

20 A. No, they never started from scratch. If they did start
21 from scratch it was for the design of that particular
22 entity. It was never -- it was never mandated by a move to
23 an operating system to do that.

24 Q. In terms of percentages, can you give us a percentage
25 of how much of WordPerfect and the word processing

1 application was shared code versus the engine?

2 A. The shared code would have been about one third of the
3 product.

4 Q. Did the engine code actually talk to the operating
5 system or was that solely the business of the shared code?

6 A. It was not solely, but it was rare -- it was rare for
7 the engine to talk directly -- the reason that it might do
8 it, is if there was a feature that the engine needed
9 specific to that product, where it was not in the interest
10 of shared code to bring that across all of the products,
11 then that product might go directly to the operating system
12 to get that feature or that capability.

13 But most of the features in dealing with the operating
14 system were the shared code and the engine did not do that.
15 We call that in architecture -- we call them layers or
16 tiers. We call that violating the layer if you go down past
17 a layer that you have defined, if you go directly to some
18 layer below you that you are not usually supposed to talk
19 to. There are reasons to do that, but it was not -- it was
20 hardly ever done.

21 Q. Are you familiar with the term Perfect Fit?

22 A. Yes.

23 Q. What was Perfect Fit?

24 A. Perfect Fit was -- one of the things that we did with
25 shared code is that WordPerfect Corporation had partner

1 companies. Because we had built up this abstraction, an
2 abstraction and basically taking the operating system and
3 presenting something that the program could write to that
4 was the same across all of these different platforms, we had
5 a number of partners that had multiple computer systems and
6 it was useful to them to be able to write to one code base,
7 the shared code, and that was not changing as they moved
8 between these different computers or as they brought in new
9 computers.

10 WordPerfect had always published some portion of the
11 shared code, and as Windows moved on all of the shared code,
12 as a resource that other companies could use. When Novell
13 acquired WordPerfect they productized the shared code and
14 turned it in and branded it Perfect Fit.

15 Q. So it was just a name for shared code?

16 A. It was just a name for shared code.

17 MR. JOHNSON: Mr. Goldberg, can we put up figure
18 three, please.

19 BY MR. JOHNSON

20 Q. Mr. Harral, can you tell us what this image is?

21 A. This has some of the elements of three of the products
22 of WordPerfect.

23 Q. What are these things called?

24 A. Well, each one of them is a window, and so we have
25 WordPerfect, QuatroPro Presentations, and we have the menu,

1 which is the white bar right underneath the blue banner, and
2 we have underneath that the tool bar, which was the buttons
3 that I had mentioned earlier that you could invoke. And
4 then there is a status bar underneath that. We have three
5 products here represented with the Windows.

6 Q. Is this an accurate representation of the types of tool
7 bars your shared code team was responsible for?

8 A. Yes, it is.

9 Q. Is this a part of what was called at Novell Perfect Fit
10 technology?

11 A. Yes. Actually the menus, the button bar, the status
12 bar, all of these things were provided to the applications
13 by shared code.

14 MR. JOHNSON: Mr. Goldberg, could we see figure
15 four, please.

16 BY MR. JOHNSON

17 Q. Mr. Harral, can you tell us what this image is?

18 A. This looks like WordPerfect, and it looks like that we
19 are editing a document in it.

20 Q. Is it an accurate representation of the WordPerfect
21 application for Windows 3.1?

22 A. Yes. Actually I was going to say it looks like 3.1,
23 again, because of the gray buttons up in the corner. Yes,
24 it is.

25 Q. Can you explain generally looking at this image what

1 aspects of this product were shared code's responsibility?

2 A. Starting at the top going down, the menu is -- I talked
3 about how businesses could customize the menu to their
4 needs. The menu was provided by shared code, as far as its
5 layout and how it is tied to the keyboard. In the white box
6 that is new, open, close, et cetera, that is placed over the
7 top of the document is a menu drop down. You can see on the
8 right-hand side some of the keyboard keys that are tied to
9 those. That is shared code.

10 Managing the keyboard underneath, the controlled --
11 then underneath the tool bar, the tool bar is managed by
12 shared code. Some of the features on the tool bar like cut,
13 copy and paste would be managed by shared coded. Underneath
14 that the little drop down that ways full 1.0 tables, those
15 controls would also be shared code that were provided to the
16 different applications. So when they wanted to present like
17 how do you pick a color or how do you type in text for a
18 search? Every product has the same international character
19 capabilities and the same way to pick colors and so it is a
20 consistent look across them.

21 On the bottom there is the status bar, and that status
22 bar would also have been maintained by shared code. Those
23 are some of the visual elements here that are maintained by
24 shared code.

25 Q. In terms of a typical development schedule, can you

1 please describe for the jury the relationship between the
2 shared code and the individual applications?

3 A. Because the shared code was the foundation for them
4 being able to move their application, the shared code would
5 be scheduled out six months to a year in advance of the
6 regular applications to be able to establish its footprint
7 or its workings on that platform, so that the engines could
8 then move and have a way to test and to be able to track
9 their progress on top of it.

10 And also in that time frame it would give shared code
11 some time to harden so that they could learn about the
12 operating system and how it was supposed to work, and being
13 able to recommend to the product -- so like to WordPress
14 when they were to move over, to recommend to them, oh, you
15 don't want to have the scroll bars on this platform, you
16 don't want to have them on the side like you have them here.
17 You want to have them on the left-hand side or whatever the
18 standards were for that platform.

19 Q. You mentioned that the shared code team would do their
20 work first, and then they would provide this shared code to
21 the applications for their development?

22 MR. TULCHIN: Objection, leading.

23 THE COURT: Don't lead.

24 MR. JOHNSON: Thank you, Your Honor.

25 BY MR. JOHNSON

1 Q. During the time that the applications would be --
2 people would be working on the product, what would the
3 shared code team be doing during that period?

4 A. Okay. So while the team was working on that same
5 platform, the shared code would be -- many times when we
6 would move shared code in anticipation of the product coming
7 over, the shared code also had other responsibilities. They
8 had relationships with the different groups. Not all of the
9 shared code was owned by the shared code team. We had a
10 standalone spell checker. We had a standalone thesaurus.
11 We had a grammar checker. We had the quick finder, the
12 technology that would search documents for you, similar to
13 the work that I had mentioned I had done at BYU.

14 We had converters that could take any kind of -- most
15 any kind of competitor's document or our own from previous
16 versions and convert them to WordPerfect's current format
17 and convert them back. We had the same for graphical
18 formats. And so all of these other features were things
19 that we provided when we put our program down but were not
20 necessarily tied to applications. So we would be working on
21 these other outlying pieces to make sure that they were up
22 and going. They were not necessary for the other products
23 to move over, so it allowed us to do a dualism of
24 development, where we could finish out what shared code was
25 on the platform and do our development, and at the same time

1 helping the application to come up on the platform, but that
2 way it allowed us to do parallel development of the
3 products.

4 Q. Have you ever heard of the term critical path?

5 A. Many times.

6 Q. What does that mean in the software development
7 context?

8 A. When you schedule out the development you look at the
9 tasks that you have, and you then take the people that need
10 to do those tasks, and you chart out how much time they have
11 on those tasks versus other tasks, when they have time off,
12 and you are looking at what are peoples' availability and
13 how much work they can get done. The critical path is the
14 connection through the timeline of the people that if they
15 change the dates and need more time everything will move
16 with it.

17 For example, if to get WordPerfect to run I needed to
18 have a display engine to show the WYSIWYG before I could
19 test the find and replace feature, then all of a sudden the
20 display mechanism for the WYSIWYG is required before I can
21 get to the other tasks. You look at all of these required
22 tasks, and the ones that make the date the longest, in
23 looking at who is doing it and how long it will take, if any
24 date changes in that timeline that is the critical path
25 because one day added there will move everything out a day.

1 Q. Based upon your years of experience would it be unusual
2 or usual for shared code to be critical path for releasing a
3 product?

4 A. It would not be usual. It would come in -- they would
5 have time to do it, but it would not be usual.

6 Q. You told me earlier that shared code was given a
7 marketing name Perfect Fit. Are you familiar with a program
8 called Perfect Fit Partners?

9 A. I am familiar with the program.

10 Q. Can you tell the jury about that?

11 A. Perfect Fit Partners -- I am aware of it because of
12 shared code providing it with what Perfect Fit did. It was
13 the outside marketing for it. Perfect Fit Partners were
14 people who had licensed or agreed to use the shared code
15 outside of the company for whatever reason they had.

16 Q. Are you talking about third party developers here?

17 A. Yes, I am.

18 Q. How did that work vis-a-vis the shared code?

19 A. Shared code -- we were aware that we were providing our
20 resources not only to people inside of WordPerfect and
21 Novell but to companies outside. The only real difference
22 that we had is that we had a documentation team that would
23 work with the shared code team and work out what would be
24 the public documentation that we would present.

25 We also had support people that would help these

1 partners. If they had like Premiere Support, which was for
2 Microsoft, we had support people that could be called upon
3 to help them in using Perfect Fit or shared code. So the
4 shared code team itself didn't have anymore -- we were in
5 the mode of providing for applications so it didn't impact
6 us a lot, but there was this other part of the organization
7 that interfaced with us commonly to be able to support the
8 Perfect Fit Partners.

9 Q. What type of functionality was available to these third
10 party developers through shared code?

11 A. The short answer is everything that shared code did,
12 file viewers, file converters, all of the interface pieces
13 that you are seeing with the button, bars and the keyboards,
14 and the macro system and being able to capture commands and
15 play them back, and being able to write inside a WordPerfect
16 document. People could write their own applications and use
17 the WordPerfect document format, and then do what they
18 wanted to with it, so everything shared code had was
19 available to them.

20 Q. You mentioned that these third party developers could
21 write their own applications as you said. How did they use
22 the shared code to do that?

23 A. The shared code is a -- in software development you
24 have applications and sometimes you'll write what are called
25 libraries. A library is a piece of an application and it is

1 intended to go side of some other application. So the
2 shared code wrote libraries, and whatever was necessary for
3 either our own application or somebody outside of the
4 company to give them a description of what that application
5 is are called the APIs, the application programming
6 interface.

7 Those APIs, then, enable either our products or some
8 other product to be able to understand what we were giving
9 them to the computer, and so by describing what we were
10 giving them to the computer and the associated documentation
11 for the developer, they would be able to then write their
12 applications and compile it against our libraries and use
13 them in their products.

14 Q. Mr. Harral, would you like to pour yourself a glass of
15 water there?

16 A. Yeah.

17 Q. I thought that might be the case.

18 A. My wife will think I'm over my quota.

19 Thank you.

20 Q. You're welcome.

21 Are you familiar with the term Perfect Fit Tools?

22 A. That is kind of vague for me.

23 Q. How about Perfect Script?

24 A. Perfectly Script I am definitely familiar with.

25 Q. Can you tell the jury about Perfect Script?

1 A. WordPerfect back clear into its days on DOS, and
2 WordPerfect had the ability to when you did work to capture
3 that work how you did it so that it could replay that work
4 for you. And basically it was like making the computer run
5 automatically with things that you had done before. It
6 learned, in a way, from what you had told it that you were
7 doing and then it could do that again, you know, a number of
8 times or you could change how it was done. This we called
9 scripting, because you're capturing what it is doing and you
10 are treating it like a script that it should do again.

11 In WordPerfect, one of the powerful elements of it is
12 that not just for programming, but this allows for somebody
13 who was not technically intense to also be able to use the
14 product to capture what they had done and then to replay
15 that. And WordPerfect was very meticulous about allowing
16 every feature that it had to be what we called scriptable so
17 that it could participate in this, so that people could be
18 very complex and very precise about what they were doing,
19 and they could produce in high fidelity what they had asked
20 it to do.

21 Q. And could those third party developers use this Perfect
22 Script?

23 MR. TULCHIN: Objection, leading.

24 MR. JOHNSON: Could, Your Honor?

25 THE COURT: Overruled.

1 MR. JOHNSON: Thank you.

2 BY MR. JOHNSON

3 Q. Mr. Harral --

4 A. Yes.

5 THE COURT: You don't have to thank me for my
6 rulings. I will make then one way or the other.

7 THE WITNESS: Perfect -- the recording facility,
8 the scripting facility was part of shared code, and that
9 scripting facility was made available to every developer
10 like every other piece of shared code.

11 BY MR. JOHNSON

12 Q. Are you familiar with WordPerfect's open interface
13 APIs?

14 A. Yes, I am.

15 Q. Can you tell the jury about that?

16 A. From an architecture -- for a software perspective we
17 had talked to the WordPerfect applications -- in moving the
18 product forward we caused the product to have a division.
19 For example, if you wanted to do a search for a word inside
20 of the document, you would be presented with an interface
21 and you would then tell it what is the word I want to find.
22 You might say I want to skip this so many times and you
23 might be looking for a particular place in a paragraph for
24 that word.

25 The presentment of that question to you is what we call

1 the view. It is where it asks the question and collects the
2 information. This is a key to how scripting and other
3 technologies would work. It would then capture that
4 information, and then it would go to the engine and it would
5 tell it, okay, here is what they said to do, now do it.

6 One of the things that we allowed in our WordPerfect
7 product, is that means that there is a clean division, those
8 tiers, there is a clean tier there between collecting the
9 information and telling the engine to do it. We built a way
10 for somebody to be able to come in and intercept that
11 request to do that work. So if you wanted to -- let's say
12 somebody said do the grammar check. If you wanted in a
13 company to impose a totally separate set of rules and a
14 totally different artificial intelligence of how to do the
15 grammar check, you could insert your own piece of code in
16 there and capture the request to do the grammar check and do
17 whatever you wanted to.

18 Having had access to all of the shared code and all of
19 the other scripting interfaces, you could then totally redo
20 what WordPerfect would do with that request. So this open
21 API basically lets you capture anything that WordPerfect
22 could ask the user to do, and you could rewrite what it
23 would actually do at that point when it crossed that tier.

24 Q. You have talked about the various technologies and the
25 Perfect Fit and Perfect Script and WordPerfect's open

1 interface APIs. Were these technologies a part of
2 WordPerfect?

3 A. They were included in WordPerfect.

4 Q. And were these technologies then also included within
5 the Perfect Office suite?

6 A. Yes, they were.

7 Q. Have you heard the term where users lived used in the
8 software industry?

9 A. Yes.

10 Q. And what does that mean?

11 A. When somebody uses a computer the question is one of
12 what are the things that they use to do their work and what
13 are they comfortable doing? I work in developing software
14 so I have a software debugger and a software compiler and I
15 have those things up. I might have mail up. That is where
16 I live.

17 My brother, he works on designing ads for a telephone
18 book company. He lives inside of an Adobe product where he
19 is building graphics and he is laying out text for an ad.
20 Somebody else who is doing research on the Internet and
21 interacting on Facebook to look at, you know, how is my
22 married daughter doing in North Carolina, you know, okay,
23 that person is -- where you live are the programs that you
24 are comfortable with and what gives you the ability to do
25 what you want and where you can easily do that.

1 If you get into areas and pieces that are uncomfortable
2 you feel like you're lost. You feel like you're -- at least
3 I do -- I feel like I'm lost, and I guess I won't impose
4 that on you, and so I tend to use what is easy for me and
5 stay away from things where I can get confused or I feel
6 like it is not working for me like I want it to. So where
7 you live are the things that you are comfortable doing on
8 the computer.

9 Q. Was WordPerfect historically designed to be one of
10 these places where users lived?

11 MR. TULCHIN: Objection, leading.

12 THE COURT: Rephrase it, if you can.

13 BY MR. JOHNSON

14 Q. Was or was not WordPerfect historically designed to be
15 a place where users lived?

16 A. It was designed -- I can say from DOS before I joined
17 WordPerfect, my experience was I had seen many people use
18 WordPerfect in just this way, that it would be the only
19 program that they would start up at the beginning of the day
20 when they came into their office, and they would do
21 everything that they did -- they would not go out to DOS and
22 manage their files there, which is what DOS was intended to
23 do in the run application, and they would start at
24 WordPerfect and they would stay there. There would work on
25 their documents and they would save them and they would

1 print them, and they would correspond through whatever
2 e-mail capabilities they had, but they would live in
3 WordPerfect.

4 Q. Did you have any conversations with Microsoft's
5 Premiere Support about living in WordPerfect?

6 A. I guess the answer is yes, because everything that we
7 did was about that. And so, yeah, we talked to Microsoft
8 about the fact that our interests and the technologies that
9 we had, and that those technologies for our users were about
10 a holistic environment. Everything that they did -- they
11 came to expect a lot from us, not just in the word
12 processor.

13 Q. Are you familiar with the term middleware?

14 A. Yes, I am.

15 Q. What is middleware?

16 A. Well, simply put, shared code is middleware. It is
17 something that is produced either with the intent to bridge
18 technologies -- an example nowadays would be Adobe Flash.
19 It is a product that you can run presentations in or do
20 graphics in. When you go out to the Internet there are
21 games that are written in this. It can't run without the
22 operating system, but it is not intended for me to use
23 directly. Somebody else is going to use it to produce what
24 they have as their purpose in writing that application, so
25 it as a tool that they are using.

1 So middleware is something that is produced that sits
2 in the middle that people would use usually because it
3 either saves them time or is more powerful than what they
4 could do with the expertise that they have to be able to
5 write the product that they want.

6 So, for example, with shared code we had a long history
7 of internationalization and being able to represent eastern
8 characters, middle eastern characters, and how do you type
9 those in when you're trying to do a search? How do you
10 display those? What does it mean when I am in Switzerland
11 and I am on a Swiss keyboard trying to search for something
12 in an Arabic document?

13 In shared code there was a whole set of features that
14 would help programs figure that out and work through that
15 problem, and so somebody would want to purchase shared code
16 or license it as middleware, because they could use all of
17 that internationalization instead of having to figure all
18 that out and hire the people that would have the expertise,
19 you know, for years to do that.

20 Q. Have you ever heard of the term appware?

21 A. I have heard of the term appware.

22 Q. What was appware generally.

23 A. Appware was -- in the computer industry when we write
24 with languages there is a term they use called forth
25 generation languages. A fourth generation language is a way

1 to hopefully let real people, as opposed to developers, to
2 let real people do something with programming. You give a
3 person -- I guess a way to describe it is building blocks.
4 The only thing that comes to mind is my 12 year old. She is
5 writing programs with Legos right now, but she doesn't know
6 how to program, so what she does is -- they give her an
7 environment and they say, oh, here is something that will
8 make your little robot go forward. Here is something that
9 will make your little robot turn, and so they take these and
10 you start dragging them and connecting them.

11 If I put the go forward ones for ten steps and then the
12 turn right one in there, she is actually programming but the
13 interface, the graphical interface that she has is
14 presenting the programming concept in a way that she
15 understands what her task is and how to do it. Programmers
16 and traditionally what they do is they have to learn about
17 the computer. They change themselves to it.

18 Fourth generation language goes the other way, which is
19 it says, no, I'm going to change the way I talk to you and
20 give you things that you can deal with, and then that will
21 let it understand and then write a program for you. Appware
22 was a way to take shared code and other WordPerfect
23 technologies and present them in a conceptual fourth
24 generation way that other people could write programs and
25 you wouldn't have to employ a programmer to write programs

1 for your business.

2 Q. So was appware or was not appware middleware?

3 A. Appware is middleware and it enables -- because it
4 provided the libraries, which are the middleware, and it
5 provided the interface as well, which let them use the
6 middleware.

7 Q. Was appware a part of the Perfect Office suite?

8 A. It was part of the Perfect Office suite.

9 Q. You previously told us that you were the software
10 architect on the shared code team from 1991 to Novell's sale
11 of its business applications to Corel in 1996.

12 MR. TULCHIN: Objection, Your Honor. He didn't
13 provide any dates.

14 MR. JOHNSON: Well, he did, Your Honor. He said
15 he started there in 1991 and he told us when he went to
16 Corel.

17 THE COURT: Overruled.

18 MR. JOHNSON: Thank you, Your Honor.

19 Sorry for thanking you.

20 BY MR. JOHNSON

21 Q. Were you involved in developing the shared code
22 utilized by WordPerfect and the other office productivity
23 applications within the Perfect Office 3.0 suite?

24 A. Yes.

25 Q. Was that suite released after Novell bought

1 WordPerfect?

2 A. Yes, it was.

3 Q. Do you recall generally how the Perfect Office 3.1
4 suite was reviewed in the industry press at the time?

5 A. I remember that it was well received. As with any
6 product there are different publications that are looking at
7 different parts of the product. A review in a law firm
8 magazine might be looking at the document management
9 capability and think it is really good. Another one is
10 looking at graphical capabilities and may think that there
11 are things that they wish that it had more of. But the
12 feeling that we had is generally that it was received very
13 well.

14 Q. If you would take a look at Plaintiff's Exhibit 390 in
15 that binder that you have up there and holding in your lap,
16 and --

17 A. Yes. My lap is very warm because of it.

18 Q. If you would turn to the last two pages of that
19 exhibit, which is a list of excerpts of reviews of Perfect
20 Office 3.0.

21 A. Okay.

22 MR. TULCHIN: Objection if these are being offered
23 for the truth, Your Honor.

24 MR. JOHNSON: Your Honor, there was no objection
25 to this exhibit whatsoever. It is simply being offered to

1 show what the industry was saying about Perfect Office.

2 THE COURT: It is what the industry was saying --
3 I mean, it is a very subtle distinction. It is not the
4 truth of what is in here, it is being introduced for what
5 the industry was saying about it.

6 MR. JOHNSON: Thank you.

7 THE COURT: If you can understand that
8 distinction, you're better than I am.

9 BY MR. JOHNSON

10 Q. Were these some of the reviews that you were talking
11 about?

12 A. Can I have a second to read them?

13 Q. Sure. Go ahead. Take your time.

14 THE COURT: Just to clarify, the reason that there
15 is a distinction is that what the industry was saying may
16 affect other people. So obviously you can read the review
17 and you may think it is good, but that really is where --
18 you know, the reviewer is not here and he can't be
19 cross-examined or she can't be cross-examined as to why they
20 thought it was good, so it really can't be introduced for
21 the truth of the evaluation, but people may respond to
22 reviews, and that really is why it is admissible.

23 THE WITNESS: To answer your question, yes, these
24 are some of the -- some of these are actually some that I do
25 remember, so they seem to be a selection of the reviews that

1 were there.

2 BY MR. JOHNSON

3 Q. For Perfect Office 3.0?

4 A. Yes.

5 Q. Did Novell's business applications compete with
6 applications built by Microsoft?

7 A. Yes.

8 Q. Are you familiar with Microsoft Word?

9 A. I am.

10 Q. And was that a competitor of WordPerfect?

11 A. We felt that it was at WordPerfect, yes.

12 Q. And are you familiar with a product called Microsoft
13 Office?

14 A. I am familiar with Microsoft Office.

15 Q. What was Microsoft Office?

16 A. At the time that we were working at WordPerfect we were
17 concerned with Office having Word, word processor and Excel,
18 which allowed people to manipulate numbers and type in data,
19 and there were other products that they had as well that
20 might come and go, but we were concerned with the ones that
21 we had. Powerpoint, which would do presentations.

22 Q. Did Perfect Office 3.0 compete with Microsoft Office?

23 A. Yes.

24 Q. Did Novell try and differentiate its products, its
25 application products in the marketplace?

1 A. I am not understanding the question. Did we
2 differentiate ourselves from Office?

3 Q. Yes.

4 A. We felt that there were things that made us different
5 than Office did and that we -- okay. When you write
6 applications you feel like, based upon your legacy and the
7 markets that you want to go to, that there are things that
8 you feel you want to meet.

9 So, for example, if I am writing a product on
10 Macintosh, the graphical environment and being able to
11 present it well is a bigger deal to those users than it
12 might be if I'm working on a DOS product where it is
13 character based. The expectation is different. The reason
14 people move to Microsoft is different. One product you
15 might write to take advantage of certain features to certain
16 users. We felt at WordPerfect that our users -- our
17 scripting capability and being able to reduce work, that
18 those were key reasons why people had made an investment, so
19 we felt that there were some features about our product that
20 would differentiate us from the other products that we were
21 competing with.

22 So if somebody felt like that Word had a really cool
23 way to be able to navigate their pictures, that might be
24 important to somebody so that may tip them towards that
25 product, where if somebody felt like that our ability to be

1 able to transact documents in an international forum, that
2 if we had strength in that area that might tip them to us.
3 So, yes, we felt that we had features that differentiated us
4 from our competition.

5 Q. What were some of those features that you felt did
6 differentiate you at WordPerfect?

7 A. Differentiate. Some of the features that we had are
8 that we felt that our international capabilities were very
9 important to our users. We felt that not only could you
10 script our product, but then you could take the scripts and
11 you could modify them. So you might use the scripts to
12 build a product framework, and then you might go in and say,
13 well, I didn't really mean just that word. I want to be
14 able to enter in a word when I run this and have it, you
15 know, search for that word through these 500 documents and
16 change it.

17 So you might go in and with, you know, fourth
18 generation language you might just tweak it a little bit.
19 This customized ability we felt that we had since back in
20 the -- actually in the mid 1980s we had been working on
21 these technologies, and that we had a superior offering in
22 that regard. The spell checking and the thesaurus -- the
23 spell checker was the most comprehensive in the industry we
24 felt at the time. We had grammar checkers. So many of the
25 tools that we had -- we also were pushing the interface

1 area, and so customizability -- a lot of the things with the
2 shared code were held to be things that were leading in the
3 industry.

4 Q. Was there any differentiation with respect to the
5 document management system offered by WordPerfect?

6 A. The document management system that they acquired was
7 Soft Solutions. The document management system -- okay. We
8 felt that having a document management system included in
9 the product was a keen offering in being able to manage
10 documents in businesses. When we talk about document
11 management it is -- I guess there are two pieces to that.
12 One is that I can manage the documents through the file
13 system, and WordPerfect -- back in the DOS days WordPerfect
14 had put what we call long names. It is names of files that
15 you actually like to read as opposed to some of the things
16 that you can find when you get lost and go searching around
17 on the hard disk in your computer.

18 In DOS, in the versions back before Windows, the file
19 system didn't have much of an ability to have nice names or
20 names that you would like for your documents. Macintosh
21 would be an example that from its beginning had nice names
22 and things that you would recognize and that I would
23 recognize as names. WordPerfect in the DOS environment,
24 they actually did their files so that you can include nice
25 names, so when you went and looked for your documents inside

1 of WordPerfect it showed nice names for you. So it is
2 trying to speak to the users in ways of trying to bridge
3 this barrier, so that you didn't have to deal with the
4 computer and its quirks, but the way that you wanted to deal
5 with it.

6 It would help you. The quick finder technology it had,
7 if you didn't know where you had put that document, where it
8 had put it, and sometimes it puts it away and you don't know
9 where, with the Quick Finder you could go and you could type
10 some of the information or a word that you had in it and it
11 would go out and search out through the machine and try to
12 locate that document for you.

13 It would let you move documents and groups of
14 documents, so things that we think of as common in the
15 operating systems that we deal with today, WordPerfect was
16 doing back on DOS, which was one of the things that people
17 really liked, because they felt like they were not having to
18 fight with the computer to do their business as opposed to
19 its business.

20 Later on with document management WordPerfect even
21 acquired a document management system so you could get even
22 get different versions of documents. So when you wrote your
23 document -- and then my wife, and we are in the same
24 company, and she writes the next version, because she found
25 my spelling errors in it, then she writes in it, and if I

1 want to go back and see what she had changed, I can in the
2 document management system and I can go between them.

3 WordPerfect kept both in the file system and in its product
4 and in the offering it made to people, was trying to keep
5 abreast and ahead of what people were wanting to do in their
6 companies to solve their problems.

7 Q. Was there any differentiation with respect to
8 WordPerfect's printing capabilities?

9 A. Yes, there was. You know, as was said before, I was
10 hired into the printing group. WordPerfect -- one thing
11 that was unique about it -- now days when you put a printer
12 on a computer, especially like a Macintosh, and Windows has
13 gotten very good at that too, where it says I know what this
14 printer is and it hooks it up.

15 When I was back working, back on computers when I was
16 14, 15, 16, when you wanted to hook up a printer you had to
17 actually go get the printer and you had to figure what the
18 printer wanted to talk to, and I would have to go in and
19 make a cable. I would have to solder it together and put it
20 together, because there was just so little support for doing
21 those kinds of things.

22 What I found very interesting when I got to
23 WordPerfect, was that they had a relationship with, from
24 what I could tell, all of the major printer manufacturers.
25 And those manufacturers would deliver printers to

1 WordPerfect. Whenever a new printer was coming out they
2 would deliver a printer to WordPerfect, so that WordPerfect
3 could -- because WordPerfect wrote the drivers for those
4 printers. It was not the manufacturer that did that. So
5 they had accumulated a huge set of drivers that they had
6 written for. My understanding is that it was over 400
7 printers that they had worked with.

8 Most of the operating systems out there didn't have
9 support for a tenth of that that we had defined. And so
10 WordPerfect was really known that -- it was known that --
11 you were not buying this at the time to transmit it
12 electronically because that form really didn't exist. You
13 were buying this to print stuff. You can do all the editing
14 in the world, but if can't print the document and mail it
15 off to somebody, and if it does not look the way you wanted
16 it to look then, you know, it does not do you any good. If
17 you bought a printer and it wouldn't work with your product,
18 then you just wasted money.

19 And so WordPerfect had a huge investment in printing
20 and they carried that forward into Windows. It was one of
21 the reasons that people stayed with WordPerfect, is that
22 when we moved into Windows we kept that printing system,
23 because we could print to many more printers with a higher
24 fidelity than other Windows applications could by using
25 those print drivers and bringing them ever into Windows. So

1 you could go into the print dialogue and say use Windows
2 printing or use WordPerfect printing. That feature was very
3 important to our customers.

4 Q. And you mentioned that operating systems at the time
5 had a tenth of the capability?

6 A. That was what we felt. In fact, there was a quip going
7 around amongst developers, because I had access to --

8 MR. TULCHIN: Objection, hearsay.

9 THE COURT: Sustained.

10 THE WITNESS: Okay.

11 BY MR. JOHNSON

12 Q. Would those operating systems include Windows that had
13 a tenth of the capability?

14 A. Yes, it would.

15 MR. JOHNSON: Mr. Goldberg, would you put up
16 figure five, please.

17 BY MR. JOHNSON

18 Q. Mr. Harral, can you please tell us what this image is.

19 A. This appears to be the file open dialogue box from
20 Windows 3.1.

21 Q. Does this image accurately depict the Windows 3.1
22 common file open dialogue?

23 A. Yes, it does.

24 MR. JOHNSON: Mr. Goldberg, could we have figure
25 six, please.

1 BY MR. JOHNSON

2 Q. Mr. Harral, can you please tell us what this image is.

3 A. This would appear to be a file open dialogue box from
4 WordPerfect on 3.1.

5 Q. For WordPerfect that worked on Windows 3.1?

6 A. Yes.

7 MR. JOHNSON: Mr. Goldberg, could you put these
8 images side by side.

9 BY MR. JOHNSON

10 Q. Mr. Harral, looking at these images, can you please
11 help the jury understand why WordPerfect's custom file open
12 dialogue was different, if it was, from the Windows common
13 file open dialogue?

14 A. So when WordPerfect, in trying to work with what its
15 customers felt were important in getting their work done,
16 there are some pieces here that were significant. On
17 WordPerfect -- I guess going through the open dialogue for
18 Windows first, you can type in the name of the file that you
19 want, and it is showing you in the middle there there is a
20 view of different what are called directories. They are
21 places where you can store files that you want. You can
22 switch what drive you are on below that list, so the drives
23 pull down. You can constrain it to what kind of files
24 you're looking at, so over on the left-hand side are file
25 types.

1 So if I was looking for a graphical file I could go in
2 there and I could --

3 Q. Mr. Harral, excuse me for interrupting you. I am going
4 to give you a laser printer -- pointer.

5 I have printers on my mind.

6 A. I promise not to shoot anyone.

7 Q. You can point to things that you want to talk about.
8 You just press that red button there.

9 MR. TULCHIN: Your Honor, as long as there is a
10 minute, I wonder if at some convenient point I would get
11 copies of these figures that are being shown to the witness?

12 THE COURT: Of course.

13 MR. JOHNSON: Sure.

14 THE COURT: You're entitled to them.

15 THE WITNESS: This will be easier. Okay.

16 Here we have what we call folders. There are
17 directories and there are locations. This up here, the C
18 colon, they are drives, and you can see that drive down
19 here. Drives are physical devices. Usually on a computer
20 you can have multiple drives. In fact, over here this is an
21 A drive, and that is usually a floppy drive, where the C
22 drive is usually a hard drive. We're looking at something
23 on the C drive here, and we are looking at documents in the
24 Windows directory.

25 Down here is the list of files. We have directed

1 it to look at only text files, so I am not seeing program
2 files or graphic files or anything like that.

3 Up here is a little box where I can tell it what
4 file I might want to look for. If I only wanted files that
5 started with S I could tell it up here that. That is about
6 the capabilities of this dialogue. So with WordPerfect's
7 history we had some of the same elements. We have the
8 files -- thank you.

9 We have some of the files here. We have where I
10 can type in what name I'm looking for. Down here it is
11 saying I want to see all files, so this is similar to the
12 files and the drives were similar.

13 So then there are some differences that
14 historically WordPerfect came by with what its users wanted
15 to do. They didn't like going out to the file system and
16 looking for these cryptic names. In DOS the names
17 traditionally were confined to eight characters. You had to
18 name your whole file within eight characters, and the back
19 end of the file could have at most three characters, which
20 is why it only has three there.

21 WordPerfect -- a couple of things. It knew from
22 experience that people had places that they commonly
23 visited, and so this quick list over here are places like,
24 oh, this is where I keep my documents. This is where I
25 print things. Here is where I keep my sound clips that I am

1 going to put inside of my document if I am doing a
2 presentation. You can jump to those places.

3 The point here is that these are capable of being
4 in other places, but here is where you live and so here is
5 where they are. I may want to view a document. I don't
6 want to go out to another program and do that. I want to do
7 it here. You can bring up a viewer. Here is the find that
8 I talked about and being able to search right here, because
9 I am not out starting a program in program manager and
10 thinking about what does this document look like. I am
11 concentrating on the program first. We want to be
12 concentrated on your work. Sorry. WordPerfect wanted you
13 to be concentrating on your work. So you're trying to bring
14 all these features here.

15 Now, this is where people had to live in the
16 product. I could go and make changes to the network and, as
17 I said, WordPerfect had traditionally very strong ties to
18 the network. File options. I might want to modify the
19 file. If I couldn't save a file because it was read only,
20 where somebody had marked it and said I don't want you to
21 change it, and then I am looking at it and it is like, no, I
22 need to change it and I may need to change it. All of these
23 features -- also, I'm displaying information about the files
24 to give as much information as possible. If these files had
25 been WordPerfect files, documents, there would actually be

1 long names here like you would find on a Macintosh. So all
2 of this information and different abilities -- because we
3 had been so focused on where people lived, these things were
4 expected of the customers that we had.

5 Q. Are you familiar with the term evangelism as used by
6 Microsoft?

7 A. I am aware of the term evangelism as the industry uses
8 it with software.

9 Q. How does the industry use it with respect to software?

10 A. When you write -- going beyond writing the product you
11 aren't just going to solve the problems that are before you.
12 If I'm trying to move WordPerfect from one platform to
13 another, that is a more mechanical process. I have a set of
14 tasks. I have a set of tasks that I need to do, and I can
15 charge them out and I can figure out what is the critical
16 path. But if you're going to do something -- things will
17 happen and a customer will ask for something and they will
18 tell us I have this problem and you're like, oh, that is an
19 opportunity. There is --

20 MR. TULCHIN: Same objection, Your Honor.

21 Hearsay.

22 THE COURT: I don't think so.

23 Go ahead.

24 BY MR. JOHNSON

25 Q. Go ahead, Mr. Harral.

1 A. With a customer coming to us and telling us that they
2 have a problem to be solved, and you look at it and say that
3 is an opportunity, so we are now not moving existing code,
4 we are looking at something new that we want to solve a
5 problem with.

6 Now you have a task, or I have a task, if I were
7 evangelizing technology, I have a task of going out to the
8 people in my own company or to the partners that I have or
9 in the press and convincing them that this is something that
10 I need to do. If I convince them, then those features or
11 those projects will move forward. If I fail to convince
12 them, then it will languish or we'll go in and look for
13 something else to do.

14 That causes bad things too, because if I have to go
15 back to that customer and say -- if I go back to them and
16 say, yeah, we're going to do that and here is how we're
17 going to do that, then all of a sudden I have improved that
18 relationship and they are looking forward to that work
19 because it is going to solve their problem.

20 If I go back to them and say we are not going to be
21 able to provide that to you, then I am damaging that
22 relationship. So we were always looking for opportunities
23 to bring new technology into the product. It would be my
24 job or some of the other people who were evangelists in the
25 company to promote those new and what we felt were forward

1 looking changes to both people inside and outside of the
2 company.

3 Q. Can you bring that, what you have just been talking
4 about, in the context of Microsoft and the evangelization of
5 the operating systems being built by Microsoft?

6 A. WordPerfect, all the way from DOS going forward, and
7 for the time fame that I was at the company -- well, and
8 even before when I was working at BYU, I had access to
9 representatives at Microsoft, and as they would produce
10 their products, either operating systems or applications,
11 they would also be evangelizing those products to us. They
12 would be telling us that we should really move to O.S.2. We
13 should really move to Windows. We should really move to
14 N.T., and telling us the reasons why the things they were
15 currently talking about would be better than what we had
16 been work on before and the features and the advantages that
17 it would bring. Every company has to do that.

18 Q. Did you attend any events where Microsoft was promoting
19 application developers to write for Windows 95?

20 A. Yes, I did. I attended a developer conference with
21 Microsoft and 3,000 other developers.

22 Q. Do you recall generally what type of information
23 Microsoft would be providing to developers looking to
24 produce a product for Windows 95?

25 A. Windows 95 was in my view a significant step forward

1 for the P.C. and for Microsoft. I talked about Macintosh
2 before, and there was angst amongst our customers about
3 should they -- was going to a graphical environment, was it
4 a toy or was there real work to be done there? And probably
5 some of the early graphical environments might have seemed
6 more like toys as they matured, but as the industry tailored
7 and decided what things they thought were more significant,
8 it became more and more apparent that by having a graphical
9 environment we could communicate more information to people
10 and give them through pictures and common ways to operate
11 the computer, that they would have to learn less and they
12 could do more of their tasks and less of dealing with the
13 computer.

14 So Windows 95 had a couple of things that were very
15 interesting to us. The first was the graphical environment
16 being placed on top of the -- in place of Windows 3.1. We
17 were seeing full long names coming, so that people could
18 name things what they wanted to help them identify what they
19 had.

20 It would also -- when we were looking at the open
21 dialogue box from WordPerfect 3.1, I mentioned that we could
22 do things with a network.

23 Q. Mr. Harral, let me stop you. Perhaps I can provide a
24 teaching help here.

25 MR. JOHNSON: Mr. Goldberg, could you put up

1 figure two again.

2 BY MR. JOHNSON

3 Q. You had described this figure earlier as the Windows
4 3.1 --

5 A. Yes.

6 Q. -- graphical user interface.

7 MR. JOHNSON: Could we now show figure 7, Mr.
8 Goldberg? Can you put these two side by side?

9 BY MR. JOHNSON

10 Q. Perhaps this will help you talk about the differences
11 between 3.1 and Windows 95.

12 A. Okay. So in Windows 3.1 there are programs that I
13 could run, and so file manager, and here is where I would
14 look at files on my machine. Control panel. I have
15 different things in here. I could view my clipboard. I
16 could go out to the DOS prompt. Down here are other groups
17 of programs that I could run. I might have an application
18 here if I wanted to have Word or WordPerfect. I might have
19 another group here to run them.

20 This whole way of looking at the computer is about the
21 things that I have put on my computer. If I want to go look
22 at my files, I am going to go look at what is my stuff on
23 the computer, you know, talking about it in small terms.
24 But basically this whole thing is about running programs.

25 Can we switch over to --

1 Q. Yes. Sure.

2 A. Thank you.

3 In this view, we talked and I mentioned in WordPerfect
4 that going and getting the files that the user was after was
5 really the focus. That is why all of the features moved
6 into where people lived. We were excited about Windows 95
7 because the file browser and looking at your files is now in
8 the foreground. That is the desk top up here, and in the
9 background you see my computer and network neighborhood. I
10 could store files right on this desktop.

11 I know people who had a file and they would maintain
12 customer lists that they were contacting them in an office
13 that I worked in, and they would open that up and as they
14 were calling people they were making changes to that list.
15 It would sit on their desktop, and that is what they would
16 work in, so the things that they were working in are here in
17 the foreground.

18 We still have, you know, the other pieces that we were
19 looking at. Here is the control panel and those pieces. I
20 have a way to get a recent document, but what is surfacing
21 now is getting the work that you're doing and a diminishing
22 of the applications. We are no longer looking at -- in an
23 object oriented, in computer terms we talk about object
24 oriented, and it is basically a way to focus on -- it is a
25 way to bring what is the intended focus of the person to the

1 foreground and diminish the things that are considered
2 ancillary. I want to edit my document. I don't want to
3 know which program I want to edit my document with. My
4 document is the focus. So that is a wonderful evolution
5 that this has done.

6 MR. JOHNSON: Your Honor, we have been going about
7 an hour and 40. Should we take a short break or do you want
8 me to continue?

9 THE COURT: Well, I'm caught between two things.
10 I like to do what is reasonable, but I like to run my own
11 courtroom, but I will adopt your suggestion and we will take
12 a short break.

13 (Recess)

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