

Exhibit 2027  
Zynga, Inc. v. Personalized Media Communications, LLC  
Case IPR2013-00171 (SCM)

1 UNITED STATES PATENT AND TRADEMARK OFFICE  
2 BEFORE THE PATENT TRIAL AND APPEAL BOARD  
3  
4

5 \_\_\_\_\_ )  
6 ZYNGA INC., )  
7 )

8 Petitioner, )

9 vs. )

10 PERSONALIZED MEDIA )  
11 COMMUNICATIONS, LLC, )  
12 )

13 Patent Owner. )  
14 \_\_\_\_\_ )

15 Case Nos:

16 IPR2013-00162 (SCM)

17 Patent 7,908,638

18 and

19 IPR2013-00164 (SCM)

20 Patent 7,797,717 B1

21 DEPOSITION OF CHARLES J. NEUHAUSER, PH.D.

22 Menlo Park, California

23 Tuesday, October 1, 2013

24 Volume I

25 Reported by: SUZANNE F. BOSCHETTI

CSR No. 5111

Job No. 1740599

PAGES 1 - 246

Page 1

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE PATENT TRIAL AND APPEAL BOARD

_____		)
ZYNGA INC.,		)
		)
	Petitioner,	) Case Nos:
		) IPR2013-00162 (SCM)
vs.		) Patent 7,908,638
		) and
PERSONALIZED MEDIA		) IPR2013-00164 (SCM)
COMMUNICATIONS, LLC,		) Patent 7,797,717 B1
		)
	Patent Owner.	)
_____		)

Deposition of CHARLES J. NEUHAUSER, Ph.D.,  
Volume I, taken on behalf of the Patent Owner, at  
Goodwin Procter LLP, 135 Commonwealth Drive, Menlo Park,  
California, beginning at 9:17 a.m. and ending at 6:59  
a.m., on Tuesday, October 1, 2013, before SUZANNE F.  
BOSCHETTI, Certified Shorthand Reporter No. 5111.

1 APPEARANCES:

2

3 For Petitioner:

4 JONES DAY

5 BY: LOUIS L. TOUTON, ESQ.

6 555 South Flower Street, 50th Floor

7 Los Angeles, California 90071-2300

8 (213) 4893939

9 lltouton@jonesday.com

10

11 For the Patent Owner:

12 GOODWIN PROCTER LLP

13 BY: STEPHEN T. SCHREINER, ESQ.

14 901 New York Avenue, NW

15 Washington, D.C. 20001

16 (202) 346-4000

17 sschreiner@goodwinprocter.com

18

19 Also Present:

20 ROB McHENRY, ZYNGA INC.

21

22

23

24

25

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

INDEX		
WITNESS:	EXAMINATION	PAGE
CHARLES J. NEUHAUSER, PH.D.		
Volume I		
	BY MR. SCHREINER	6
ZYNGA EXHIBITS (Previously marked)		
NO.	DESCRIPTION	PAGE
Exhibit 1001	United States Patent 7,908,638 B1, March 15, 2011	54
Exhibit 1008	United States Patent 4,572,509, February 25, 1986	55
Exhibit 1009	United States Patent 4,204,206, May 20, 1980	55
Exhibit 1010	United States Patent 5,270,922, December 14, 1993	55
Exhibit 1011	Declaration of Charles J. Neuhauser, Ph.D., Under 37 C.F.R. Section 1.68 regarding U.S. Patent No. 7,908,638	56
Exhibit 1011A	Curriculum Vitae for Dr. Charles Neuhauser	18

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

PMC EXHIBITS

NO.	DESCRIPTION	PAGE
Exhibit 2001	Westlaw citation 2006 WL 1373227: Declaration of Charles J. Neuhauser in Finisar v. Directv	35
Exhibit 2002	Westlaw citation 2006 WL 2032937: Declaration of Charles Neuhauser in Finisar v. Directv Group	36
Exhibit 2003	Westlaw citation 2006 WL 6200664: Partial testimony of Charles Neuhauser in U.S. Philips v. Eastman Kodak	36
Exhibit 2004	PMC demonstrative exhibit listing claims of Patent 7,908,638	55
Exhibit 2005	Petition for Inter Partes Review Under 37 C.F.R. Section 42.100	56
Exhibit 2006	Preliminary Patent Owner Response to Petition For Inter Partes Review Pursuant to 37 C.F.R. Section 42	56
Exhibit 2007	Board decision on Patent 7,908,638, July 25th, 2013	56

1 Menlo Park, California; Tuesday, October 1, 2013

2 9:17 a.m.

3 ---o0o---

4 CHARLES J. NEUHAUSER, Ph.D.,

5 having been administered an oath, was examined and  
6 testified as follows:

7

8 DIRECT EXAMINATION

9 BY MR. SCHREINER:

10 Q Good morning, Dr. Neuhauser.

11 A Good morning.

12 Q How are you today?

13 A I'm fine.

14 Q Please state your name and current residential  
15 address.

16 A My name is Charles Joseph Neuhauser, and I live  
17 at 1018 Celilo Drive in Sunnyvale, California. And I'm  
18 going to spell that for you. That's C-e-l-i-l-o Drive.

19 Q And how long have you lived at that address?

20 A My goodness. At least 30 years. Since 1981.

21 Q Okay. I'm going to be asking you a series of  
22 questions today. You know, my intention is not to  
23 confuse you in any way. If there's a question that I  
24 ask that you don't understand or that you'd like  
25 clarification on, please ask -- just please ask me.

Page 6

1           Are you under any -- the influence of any  
2 medication or suffering any illness that is an  
3 impediment to you testifying truthfully and completely  
4 today?

5           A     No.

6           Q     Roughly how many times have you been deposed in  
7 the past in connection with legal proceedings?

8           A     Oh, I don't know. Certainly someplace between  
9 a dozen and two dozen times.

10          Q     Okay. How many times would you say you've been  
11 deposed as a technical expert?

12          A     As opposed to what?

13          Q     Lay witness.

14          A     Oh, oh, oh. I can -- all of the times would be  
15 as a technical expert.

16          Q     And have you ever testified at trial?

17          A     Yes.

18          Q     How many times have you testified at trial?

19          A     Perhaps -- perhaps between six or eight and ten  
20 times. Sometimes I testified at the same trial several  
21 times.

22          Q     Just focusing it on a trial-by-trial basis, how  
23 many trials have you testified at?

24          A     Probably six or eight.

25          Q     And was that trial testimony always in the



1 capacity as a technical expert?

2 A Yes, it was.

3 Q Would you have submitted expert reports in  
4 connection with each of those trials at which you  
5 testified?

6 A I'm pretty sure the majority of them that I  
7 did.

8 Q Have you ever testified on behalf -- strike  
9 that.

10 Have you ever testified -- strike that.

11 Have you ever been engaged as an expert in a  
12 legal proceeding on behalf of a patent holder?

13 A Yes.

14 Q And what case or cases was that?

15 A Well, I know that one of the first trials I  
16 worked on I was -- that was Intel versus -- boy, it was  
17 a long time ago. I can't remember. It was Intel -- it  
18 might come back to me when I think about it, but --

19 Q Was Intel the plaintiff in that case?

20 A They were the plaintiff and the patent holder.  
21 And then recently I testified in a trial. The patent  
22 holder was a company called GTT. I think that stands  
23 for Global Traffic Technologies. And they were the  
24 patent holder and the plaintiff. And there's probably,  
25 you know, others that I testified in, but I just can't

1 remember. It's been a number of years since I've  
2 testified at a trial.

3 Q Roughly how many times would you say that  
4 you've been engaged as a technical expert in connection  
5 with a legal dispute?

6 A Technical expert.

7 Q In other words, let me clarify. You may not  
8 have actually been deposed in a case, you may not have  
9 actually testified in the case, but you were actually  
10 engaged by a client that had a legal dispute involving  
11 patents.

12 A Well, I'd have to give you some very vague  
13 estimate here. I've been working more or less in this  
14 field for at least 20 or 25 years, and probably in any  
15 given year I'm engaged maybe six times, seven times.  
16 Sometimes they come to nothing. Okay? But -- so it  
17 would be someplace in that neighborhood. A hundred  
18 times over -- over that period of time.

19 Q So you said you've been acting as an expert for  
20 20 to 25 years; is that correct?

21 A That would be correct.

22 Q And you said typically you'd be engaged  
23 somewhere in the neighborhood of six to seven times per  
24 year?

25 A That seems about right.

1 Q Okay. So would a fairer range be a hundred to  
2 150 as an estimate?

3 A Yeah, I think that's about right.

4 Q What percentage of your engagements as an  
5 expert would you estimate are on behalf of a patent  
6 holder?

7 A I would say over that period of time it's  
8 probably in the range of -- on behalf of the patent  
9 holder, it's about half and half, I'd say.

10 Q What about over the last ten years, what  
11 would -- what would you estimate to be the percentage of  
12 cases where you've been engaged on behalf of a patent  
13 holder?

14 A I think it's somewhat less, and my intuition is  
15 that probably on behalf of the patent holder now is  
16 probably in the range of maybe a quarter of the cases.

17 Q And over the last five years --

18 A Let's just go back to one thing, too. You  
19 know, that doesn't mean that all of those cases that I  
20 worked on, those -- you know, where I was engaged, they  
21 might not be patent cases, too. Okay. Just so you're  
22 not confused there.

23 Q Okay. Would the -- would the numbers change if  
24 we -- would you -- strike that.

25 Would your estimates change if we removed trade

1 secrets and other types of IP disputes from the  
2 universe?

3 A No, I don't think so.

4 Q In the last five years, what percentage of your  
5 patent-related engagements have been on behalf of the  
6 patent holder?

7 A Probably in that same range, 25 percent.

8 Q So if you average six to seven engagements a  
9 year, then over five years that would be somewhere in  
10 the neighborhood of 30 to 35 engagements. Does that  
11 sound about right?

12 A Yes.

13 Q So would it be correct that in the last five  
14 years, you would have had seven to eight engagements in  
15 a patent dispute on behalf of a patent holder?

16 A Well, based on that calculation, seems like it  
17 would have been more than seven to eight, but, you know,  
18 without really -- I'm not sure I could do it sitting  
19 here, you know.

20 Q Can you -- strike that.

21 This is not intended to be a memory test.

22 A Sure.

23 Q Off the top of your head, can you identify for  
24 me the names of patent holders that you've represented  
25 as an expert over the last five years in patent matters?

1           A       Well, certainly this recent one was GTT. I  
2 believe that Samsung was in there someplace. I just  
3 can't think of any others right now. It may come back  
4 to me.

5           Q       Okay.

6           MR. TOUTON: Taking a little liberty here. If  
7 you're reluctant to tell the details of any confidential  
8 engagements, you know, you can just say that. I think  
9 he recognizes that that could be a problem here.

10          THE WITNESS: So far it hasn't been a problem,  
11 so --

12          BY MR. SCHREINER:

13          Q       Typically in connection with litigations in  
14 civil courts, federal district courts, an expert will  
15 provide a CV that includes a listing of cases for the  
16 last four years. Do you have a CV like that?

17          A       I do, yes.

18          Q       Okay. Do you have it -- do you have it  
19 available? Do you have it with you?

20          A       No, I don't.

21          Q       Is that something that you could provide?

22          A       I could provide it, sure.

23          MR. SCHREINER: Mr. Touton, in the interest of  
24 saving time, would it be possible to have Dr. Neuhauser  
25 make a call during a break just to find out the names of

1 patent holding entities that he's represented in the  
2 last five years as opposed to having him deliver a CV  
3 and us having to somehow figure out how to do it the  
4 best way?

5 MR. TOUTON: Yeah, let's -- at the break we'll  
6 try to work that out. I mean, he said -- I did not -- I  
7 was not involved in the GTT matter in any way, but  
8 perhaps there's a document from that case that he could  
9 provide, and I think that's fairly recent.

10 MR. SCHREINER: And do you think that's  
11 something we might be able to get during the break?

12 MR. TOUTON: Well, I'm not sure we can get it,  
13 but we can take steps to get it.

14 MR. SCHREINER: Okay. What I would ask in the  
15 interest of time is that perhaps you could make a call  
16 and just get the information from that CV, and then you  
17 can provide it to me. And then I can ask my -- close  
18 out my questioning on the issue.

19 MR. TOUTON: We'll have to explore whether  
20 there's anybody to call in that regard because I wasn't  
21 involved and my firm wasn't involved, but perhaps Dr.  
22 Neuhauser can --

23 MR. SCHREINER: Okay.

24 BY MR. SCHREINER:

25 Q In the GTT case, have you submitted an expert

1 report?

2 A Yes.

3 Q And what issues did you opine on in that expert  
4 report? What legal issues?

5 A I don't opine on legal issues, I --

6 Q Okay. On what --

7 A For sure.

8 Q On what issues did you give opinions on in  
9 that -- in the GTT case?

10 A Well, I'll have to give you some background.  
11 So I represented GTT, which was the patent holder. They  
12 sued another company over infringement, and so basically  
13 the opinions I gave were that the product of this other  
14 company infringed and that the patent was valid in light  
15 of the prior art that had been presented to me.

16 There were a couple other opinions. I don't  
17 remember them clearly. But basically the patent had --  
18 was -- had some method claims in it, so it was a  
19 question of whether or not the device would have -- if  
20 it was turned on, would it perform the function or were  
21 there other opportunities -- were there other  
22 applications of the device other than infringing  
23 applications.

24 Q Okay. And who was the other party, the  
25 defendant, in the GTT case?

1           A       Well, I'm not sure I remember all the  
2 defendants, but the main defendant was a company called  
3 Entrac. And then there was another company called STC  
4 that made the devices. And then there were some  
5 individuals who had been part of the company, but their  
6 corporate papers had lapsed, and so they were in the  
7 trial as individuals. I think one of them -- the man  
8 was named Chris Morgan.

9           Q       And is that an ongoing dispute? In other  
10 words, is it still at a district court?

11          A       The trial is over. I don't know whether that  
12 means it's an ongoing dispute or not.

13          Q       Your role is complete with respect to the GTT  
14 matter?

15          A       As far as I know.

16          Q       Was there a jury verdict in that case?

17          A       Yes, there was.

18          Q       Okay. And what was the jury verdict with  
19 respect to infringement and validity of the patents?

20          A       I assume -- I'm going to make the assumption  
21 this must be public. They found that the patents were  
22 valid and infringed.

23          Q       What was the nature of the technology at issue  
24 in the GTT case?

25          A       It has to do with the technology called traffic



1 signal preemption and how traffic signal preemption is  
2 performed.

3 Q And the -- the Samsung suit that you  
4 represented, that involved mobile phones?

5 A I just don't remember. There was one other --  
6 now that you talk about it, I also represented -- let me  
7 think about this a minute. I believe it was Broadcom.  
8 They were a patent holder. That did involve mobile  
9 phones. Well, the accused device were mobile phones.

10 Q What was the nature of your engagement in the  
11 Samsung matter? Were you a consulting expert, a  
12 testifying expert, or something else?

13 A I believe I was going to be a testifying  
14 expert.

15 Q And what happened in that case with respect to  
16 your involvement?

17 A As far as I know, they settled it.

18 Q Do you remember studying any patents in  
19 connection with the Samsung case?

20 A I'm sure I did, but I -- I don't remember much  
21 about the case.

22 Q How long ago was that case?

23 A Well, I think it was within the five-year  
24 period, but it could have been longer ago than that.

25 Q And you don't remember what the accused

1 products were in that case?

2 A I seem to think it had something -- I remember  
3 it had something to do with caching, but I could be  
4 confusing it with another case.

5 Q Do you remember who the defendant was in that  
6 case?

7 A No, I don't.

8 Q Have you ever failed to -- strike that.

9 Has a court ever declined to qualify you as an  
10 expert in whole or in part?

11 A No.

12 Q Have you ever had an expert report excluded in  
13 part or in whole?

14 A No.

15 Q So you've never had a situation where a court  
16 decided that some portion of your expert report could  
17 not be used?

18 A No, I've never had that situation. I can  
19 remember another patent holder. I also represented a  
20 company called Medisim, M-e-d-i-s-i-m.

21 Q That was a patent holder?

22 A Yes, they owned the patent.

23 Q And Medisim, did that come to mind because I  
24 was asking you about exclusion of expert reports or did  
25 that --

1 A Yes, it did.

2 Q Okay. What happened in that case in connection  
3 with exclusion of any evidence that you might provide?

4 A Well, nothing with evidence that I provided.

5 Q What was it about my question about exclusion  
6 of evidence that made you think of Medisim?

7 A Because they had -- okay. So in this case I  
8 did technical work, but I didn't write an expert report.  
9 Okay? And eventually they used an expert, not -- not  
10 me, Medisim used an expert, and the other side -- I  
11 can't remember the -- BestMed was the name of the -- the  
12 defendant. And they had an expert, and both experts had  
13 parts of their testimony excluded by the judge.

14 Q Have you ever had any -- any part or the  
15 entirety of an expert declaration excluded by a court or  
16 other type of tribunal?

17 A No.

18 Q Have you ever had any testimony that you  
19 provided in a court or other tribunal stricken or  
20 otherwise excluded?

21 A No.

22 Q You've had a pretty good run for 25 years.

23 Let's go ahead and admit as Zynga Exhibit 1011,  
24 the CV of Dr. Neuhauser.

25 (Zynga Exhibit 1011A previously marked by

1 the court reporter.)

2 BY MR. SCHREINER:

3 Q Can you briefly give me your educational  
4 background.

5 A Yes, I'm an electrical engineer with a  
6 background in computer science. I have a Bachelor's in  
7 Electrical Engineering from Notre Dame, and I received  
8 that in 1968. And then I have a Master's in Electrical  
9 Engineering from Northwestern University, 1971, and I  
10 have a Ph.D. from Johns Hopkins in a combined program,  
11 electrical engineering and computer science, and that  
12 was in 1980.

13 Q During the last 20 years, what percentage of  
14 time in your professional capacity -- strike that.

15 During the last 20 years, what percentage of  
16 your work life has related to legal consulting in  
17 connection with litigations or other types of legal  
18 disputes?

19 A Well, I think taking the broadest view of that,  
20 probably it's 95 percent of my time.

21 Q What is the other five percent of your time  
22 spent on?

23 A Oh, I don't know. Sometimes people call me  
24 about business licensing types of things to give them  
25 advice about that. That would be included. You know, I

1 don't know whether that's legal. It's not usually  
2 litigation, it's usually something else.

3 Q Would it be fair to characterize that as expert  
4 advice on licensing?

5 A It's probably expert advice on technical  
6 things, technical matters of some sort.

7 Q Have you ever taught any courses at  
8 universities or colleges?

9 A No, I haven't.

10 Q Recognizing that you've been extremely busy in  
11 the last 20 years, this question is with all due  
12 respect: Have you taken any college courses in the last  
13 20 years?

14 A I don't believe so. 20 years?

15 Q Yes, sir. Since you started your consulting  
16 business.

17 A Well, probably not. Not since 1994.

18 Q As an engineer -- strike that.

19 What would you consider yourself, an engineer  
20 or a computer scientist in terms of your technical  
21 specialty?

22 A I call myself an engineer generally.

23 Q As an engineer, have you -- have you designed  
24 anything -- strike that.

25 In your capacity as an engineer, have you

1 designed anything in the last 20 years?

2 A Well, I haven't designed any products, but  
3 the -- some of the cases I work on involve, you know,  
4 real hands-on technical analysis, so I've done designs  
5 of, say, test equipment or test setups and things like  
6 that in order to test equipment. So the answer I think  
7 is yes.

8 Q So you -- in connection with your work as a  
9 technical expert, you've conducted tests of various  
10 products over the last 20 years; is that correct?

11 A That's correct.

12 Q And in some instances you've designed the test  
13 equipment or test setup for those tests; is that  
14 correct?

15 A That's correct.

16 Q But you haven't designed any actual products or  
17 devices in the last 20 years; is that correct?

18 A Well, I mean, I -- I've worked with some people  
19 on designs of devices, but I don't know that any of them  
20 became products.

21 Q Can you give me an example of a product that  
22 you designed as an engineer in the last 20 years?

23 A Something that was sold or something that --

24 Q Something that was sold or intended to be sold.

25 A Well, I've worked with a group on a wireless

1 product. They didn't pay me. But it was a -- a  
2 wireless product that was basically related to the  
3 Internet. I also worked with a fellow on a sprinkler  
4 controller. There was one other thing that I looked at.  
5 Maybe it will come back to me.

6 Q What was the wireless product that you worked  
7 on?

8 A Well, the basic idea was that -- let me see if  
9 I can remember how this worked. There was a wireless  
10 demonstration board, and I worked with these folks on  
11 getting the demonstration board to work and then how  
12 that demonstration board might be packaged up and used  
13 in kind of a product setting.

14 And the actual device itself was basically  
15 something that could connect sensor points to the  
16 Internet in a kind of hands-off way so it would  
17 automatically connect wirelessly. And then, you know,  
18 go to a central server and you could then transmit  
19 information to the central server and then use that to  
20 perform other functions.

21 Q And did you design this wireless board or you  
22 gave input on these specifications for this wireless  
23 board?

24 A Well, the wireless board was based on a design  
25 that had already been done, and basically I was giving

1 these folks advice on how that might be taken forward  
2 and what they would need to do to turn that into at  
3 least a first level product.

4 Q Okay. Setting aside the sprinkler controller,  
5 have you designed any product intended for commercial  
6 use in the last 20 years?

7 A Probably not.

8 Q Zynga Exhibit 1011A, which is your CV, on  
9 page 3 lists your publications.

10 A Yes, sir.

11 Q There are three publications, one in 1975, one  
12 in 1979 and one in 1988. Is that correct?

13 A That's correct.

14 Q Have you published any other technical articles  
15 besides the three listed here?

16 A No, I haven't.

17 Q Okay. So you haven't published any technical  
18 articles since 1988, 25 years ago; is that correct?

19 A That's correct.

20 Q You're familiar with the IEEE?

21 A That's correct.

22 Q Are you on any IEEE committees?

23 A Well, I'm not on -- I think you mean like  
24 technical committees?

25 Q Yes, sir.



1           A       The answer is no. I do run a conference for  
2 them in various capacities every year.

3           Q       What do you mean by run a conference?

4           A       Well, there's a conference called Hot Chips,  
5 and I've held various roles in that ranging from, you  
6 know, sort of volunteer coordinator to conference chair  
7 to registration chair.

8           Q       You're aware of various groups that were  
9 setting up Internet standards in the early 1990s such as  
10 HTTP protocols?

11          A       Various groups, you mean within IEEE or  
12 anyplace?

13          Q       Let me withdraw that and rephrase it.

14          A       Okay.

15          Q       Do you have an understanding that there were  
16 certain groups in the early '90s that were working  
17 together to establish Internet standards such as HTTP  
18 protocols?

19          A       Yes, I have an understanding of that.

20          Q       Did you have any involvement in those -- in  
21 those groups working on those standards?

22          A       I did not.

23          Q       When you -- explain for me what was Palyn &  
24 Associates, and later I believe it was called Palyn  
25 Gould Group. What was that company?

1 A What was that company?

2 Q Yes, sir.

3 A Well, Palyn -- and good work on the  
4 pronunciation there.

5 Palyn was a general kind of very generic  
6 consulting organization. We had about someplace between  
7 ten and 20 people depending on the time period, and we  
8 did a very wide range of consulting activities for a  
9 very wide range of clients.

10 Q And can you elaborate for me what you mean by  
11 consulting activities?

12 A Well, I think there were at least several --  
13 remember, I worked there for 20 years, and technology  
14 changed quite a bit. We -- a part of our business was  
15 advising large companies about mainframe structure. How  
16 -- when I talk about structure, I mean the internal  
17 structure of mainframe computers.

18 We also advised companies on midrange computers  
19 and their structures. We advised companies on software.  
20 We advised companies on security. We built products  
21 for -- for companies. We gave them advice about those  
22 products. We proposed products. We evaluated business  
23 plans. We did a very wide range of things, including  
24 venture capital and some other things like that.

25 Q Did Palyn design any products for its clients?

1           A     Yes, we did.

2           Q     Was there a difference between Palyn &  
3 Associates and Palyn Gould Group other than the name?

4           A     Well, I don't know that there was -- they sort  
5 of worked into each other continuously, but at some  
6 point the Palyn Gould Group became more oriented towards  
7 management consulting. And by management consulting I  
8 mean advising managers about technical things, but at a  
9 very high level. So that would probably be the main  
10 difference. The Palyn organization was really primarily  
11 a technical organization, and the Palyn Gould Group was  
12 more of a management technical organization.

13          Q     So in your capacity as vice president of  
14 engineering at Palyn Gould Group between 1980 and 1993,  
15 is it fair to say that your role was to provide  
16 oversight on -- strike that.

17                   So if I understood the answer to your last  
18 question, is it correct that the main role of Palyn  
19 Gould Group in the 1980 to 1993 time frame was to  
20 provide management input to its clients relating to  
21 technical products?

22          A     I missed the time frame, 1980 to 19 --

23          Q     '93.

24          A     And then your -- I've got to hear the question  
25 again, I guess.

1 Q Sure.

2 A I lost the thread of it.

3 Q Sure. You were at Palyn Gould Group from 1980  
4 to 1993 according to your CV, this Zynga Exhibit 1011A.  
5 Is that correct?

6 A I don't think that's a correct statement about  
7 it. I didn't mean to give that impression. I can tell  
8 you what -- so Palyn was founded in 1972. Okay? And I  
9 don't remember exactly when it became Palyn Gould Group,  
10 but it was someplace towards the 1990s. So when I --  
11 when I joined full time in 1980, it was still Palyn, and  
12 it was still doing the activities I described with  
13 respect to Palyn.

14 Q I see. So you were a consultant, not an  
15 employee of Palyn Associates from 1975 to 1980; is that  
16 correct?

17 A That's correct.

18 Q You were hired by Palyn Associates as an  
19 employee in 1980?

20 A That's correct.

21 Q When did Palyn Associates become Palyn Gould  
22 Group?

23 A I don't remember. I believe it was sometime  
24 towards the end of the '80s or in the early '90s.  
25 Possibly in the early '90s, actually.

1 Q When did you -- strike that.

2 Setting aside the -- strike that.

3 Would you agree with me that the sprinkler  
4 controller device that you mentioned earlier is outside  
5 of the technical field at issue in this case?

6 A Yes, I think so.

7 Q So I'm going to ask you some questions about  
8 what you've done in the last 25 years --

9 A Sure.

10 Q -- with the understanding that the sprinkler  
11 controller is not part of the inquiry.

12 What year did you last design a commercial  
13 product?

14 A Well, it probably would have been towards the  
15 end of my career there at Palyn. So many of the things  
16 we designed were never sold, okay, even though the  
17 clients asked for them to be designed. But, you know,  
18 the last thing that -- that I really worked heavily on  
19 would have been probably towards 1990, someplace in that  
20 time frame.

21 Q Okay. So it would be roughly about 20,  
22 23 years since you last designed a commercial product?

23 A That would be about right.

24 Q And if my question was when was the last time  
25 you built or constructed a commercial product, is your

1 answer the same?

2 A It would be the same.

3 Q When you -- when you worked at Palyn in the  
4 late 1980s, did any of the work involve the download or  
5 transmission of data from central computers to remote  
6 devices?

7 A I think so, yes.

8 Q What were the download speeds that were  
9 feasible in that time frame for the transmission of data  
10 between a central computer and a remote device in the  
11 late '80s?

12 A I don't know that I can really answer that  
13 question. It would depend on the configuration of  
14 the -- of the system. For instance, some of the  
15 downloads were done between devices on a computer and  
16 other parts of the computer, for example. Maintenance  
17 systems worked like this. Maintenance and what's called  
18 RAS support systems -- RAS is R-A-S. So those could be  
19 quite high. I mean those would be at bus speeds, which  
20 would be megabytes per second or multiple megabytes per  
21 second.

22 Q What about the transmission of information  
23 between a central computer and a remote device at a  
24 different location such that there had to be a  
25 transmission using a carrier wave or something akin to

1 that?

2 A Well, again, there's a whole range of -- of  
3 possibilities there. I mean, some of the systems used  
4 T1, for example, which is megabits per second. Some  
5 systems used phone line, you know, unenhanced -- un- --  
6 there's -- there's a technical name for it that I can't  
7 remember right now.

8 Q DSL?

9 A No, no. There's a name for when you enhance a  
10 phone line --

11 Q Okay.

12 A -- physically. Those would have been limited  
13 to 56 kilobits and in that range. You're asking about  
14 things that I did -- that I worked on, I think in the  
15 19- -- 1990s or while I was still at Palyn, in the Palyn  
16 Gould Group. So they would have used those kinds of  
17 things. That was the typical kind of -- again, it's  
18 not -- it's not that kind of bright line because  
19 sometimes remote systems are, you know, located in  
20 another building, for example, and they use coaxial  
21 cable to multiplex the signals over. This was very  
22 common with one of our clients, IBM. Used very high  
23 speed lines for that to multiplex it.

24 Q Excluding coaxial cables or similar direct line  
25 connections, can you provide me an estimate of the range

1 of download speeds that were available in the late '80s  
2 or early '90s, ballpark?

3 A I just -- your question almost doesn't make a  
4 lot of sense to me. You can buy from the phone company  
5 T1 and then they tier it up into things that are -- I  
6 can't remember the technical names, but like D3 is, for  
7 example, what's called a channel group. Very high  
8 capacity, in the, you know, multiple, tens or hundreds  
9 of megabits per second. I mean this is a data  
10 transmission.

11 There's television transmission capability  
12 that's digital at that time frame -- in that time frame,  
13 which was very high speed. There's fiberoptic. I  
14 worked on a system that was -- I can't remember the name  
15 of it, fibre net, f-i-b-r-e. Those were very high speed  
16 systems. They're not -- they're not switch systems,  
17 they're -- or some of them weren't, but some of them  
18 are -- they're like point-point systems. So even in the  
19 late '90s there were still -- there were very high speed  
20 capabilities. Fiberoptics was readily available then.

21 Q Did any of those systems involve consumer  
22 terminals or consumer user terminals?

23 A In any way?

24 Q Yes.

25 A Well, I mean, that was the way that that --



1 using high speed transmission was a way of moving  
2 information around. And consumer terminals could be at  
3 the end of that, not necessarily at the end of the high  
4 speed transmission, but, you know, like a -- think about  
5 a grocery store or a drugstore or something like that.  
6 They get their information by some high speed  
7 transmission and break it down within the store to the  
8 cash registers. There's all kinds of systems based on  
9 that. Satellite transmission, fiberoptic transmission,  
10 wire transmission, coax transmission.

11 Q In the late '80s or early -- strike that.

12 Let's take an Apple personal computer in the  
13 late '80s. For an average consumer in the late '80s,  
14 what kinds of download speeds were available for the  
15 speed of the data coming into that Apple Computer in the  
16 consumer's home?

17 A Oh, my goodness. I'm not sure I can answer  
18 that question, and I'll tell you why. Okay? So in the  
19 late '80s and the early '90s, our company Palyn, I spoke  
20 to you about they were involved in venture capital. So  
21 one of the companies they worked with was a company  
22 called Synoptics. Synoptics was making wired Ethernet,  
23 so Ethernet we already know has capacity ten megabits  
24 per second. Okay?

25 Now, that -- Synoptics was just one of many

1 companies. Hewlett-Packard was working on wired ten  
2 megabit per second and wired hundred megabit per second  
3 speeds. Now, you know, that's --

4 Q I'm asking -- but I'm not asking you about the  
5 infrastructure around the central computer. I'm trying  
6 to focus on the user device, in this case an Apple  
7 Computer in a consumer's home. What kind of download  
8 speeds into that Apple Computer were feasible in that  
9 time frame? I don't think your average consumer had an  
10 Ethernet connection into his house. Is that fair to  
11 say?

12 A Well, we've now reached a point where I'm not  
13 sure I can understand your question anymore. An average  
14 consumer might not have a lot of things, but there's no  
15 reason why, you know, you couldn't have a T1 connection  
16 to your house if you wanted. Okay? And I'm not sure  
17 when DSL first became available. It was developed by  
18 Bell Labs initially, but, you know, I certainly had  
19 access to DSL in the mid -- mid '90s, like around '94, I  
20 believe.

21 Q Okay. But our time frame is the late '80s,  
22 1987 time frame.

23 A Right. And you've limited it to being  
24 somebody's house?

25 Q Somebody's house.

1           A     Okay.  So that person -- well, I mean, they  
2     could have had -- certainly could have been T1.  They  
3     could have had any kind of thing they wanted at their  
4     house really.

5           Q     Okay.

6           A     I mean, you know, some people probably did have  
7     T1s.  It was not unusual for a small office to have a T1  
8     line.

9           Q     Did you know anybody in 1987 to have a T1  
10    connection to their home?

11          A     To their home?  I can't think of any individual  
12    right off, but I'm pretty sure at that time that I knew  
13    some people that did things like that because money  
14    wasn't an object to them, having high speed capability  
15    was -- was a possibility.

16          Q     So --

17          A     Something they wouldn't -- you know.

18          Q     I'm not asking whether it's possible.  I'm  
19    asking you can you name an individual in 1987 that had a  
20    T1 connection to his or her home?

21          A     No, I can't.

22          Q     Can you name an individual in 1987 that had  
23    a --

24          A     Oh, 19 -- okay, 1987.  Okay.

25          Q     Can you name an individual in 1987 that had a

1 DSL connection to his or her home?

2 A No, I can't.

3 Q In 1987 -- strike that.

4 Next we're going to enter a couple of exhibits  
5 from some of your prior engagements.

6 A Mm-hmm.

7 MR. SCHREINER: They don't teach in law school  
8 that the biggest challenge in depositions is often the  
9 logistics.

10 MR. TOUTON: Indeed.

11 MR. SCHREINER: I found that out on my first  
12 deposition. It didn't go well.

13 Okay. I'd like to mark first as exhibit -- PMC  
14 Exhibit 2001, a Westlaw publication which was the expert  
15 report of Dr. Charles J. Neuhauser in a case between  
16 Finisar Corporation and the DIRECTV Group. The citation  
17 is 2006 Westlaw 1373227. It's the Eastern District of  
18 Texas.

19 (PMC Exhibit 2001 marked by the court  
20 reporter.)

21 MR. SCHREINER: The second document that we're  
22 going to mark is a declaration of Charles J. Neuhauser  
23 in connection with the Finisar versus DIRECTV case. It  
24 bears Westlaw citation 2006 WL 2032937, and we will mark  
25 that as PMC Exhibit 2002.

1 (PMC Exhibit 2002 marked by the court  
2 reporter.)

3 MR. SCHREINER: Then the third document we're  
4 going to mark as PMC 2003 is a deposition transcript  
5 published on Westlaw's 2008 WL 6200664 involving Philips  
6 Corporation versus Eastman Kodak.

7 (PMC Exhibit 2003 marked by the court  
8 reporter.)

9 BY MR. SCHREINER:

10 Q Dr. Neuhauser, I'd like to refer your attention  
11 to PMC Exhibit 2002 --

12 A Okay.

13 Q -- which is 2006 Westlaw 2032937, and it  
14 appears to be a declaration that you submitted in  
15 connection with that case. Is that correct?

16 A Now, I've never seen this document before, so  
17 I'm going to have to take a few minutes and review it.

18 Q Certainly.

19 A Okay. Now ask your questions. I'll do my best  
20 to remember.

21 Q Do you recall being an expert in the Finisar  
22 versus DIRECTV case in the Eastern District of Texas in  
23 the 2006 time frame?

24 A Are you saying Finstar or Finisar?

25 Q Finisar.

1 A Finisar, okay.

2 Q So let me repeat my question.

3 A Yeah.

4 Q Do you recall being an expert in the Finisar  
5 versus DIRECTV case in the 2005-2006 time frame in the  
6 Eastern District of Texas?

7 A I do.

8 Q And do you recall that you submitted expert  
9 reports in connection with that engagement?

10 A At least this expert report.

11 Q Okay. And you were an expert for DIRECTV; is  
12 that correct?

13 A That's correct.

14 Q And you've had a chance to skim this. You see  
15 on the first page -- page of this PMC Exhibit 2002 that  
16 it indicates that this -- this printout is of a  
17 declaration that you apparently submitted?

18 A Yes, I see that.

19 Q And you see on the right-hand side of page 1 it  
20 refers to two expert reports you submitted, one in  
21 March 2006 and a second one in -- later in March 2006?

22 A Yes, I see that.

23 Q And the first expert report was called  
24 "Neuhauser I," according to this; do you see that?

25 A I see that.

1 Q On the -- if I can refer you to the second page  
2 of this -- of this exhibit, do you see paragraph 10?

3 A Yes, sir.

4 Q Does paragraph 10 indicate that some portion of  
5 your expert report was excluded?

6 A I don't know that it indicates that or not.

7 Q I'm going to quote from paragraph 10. Since --  
8 strike that.

9 You agree that this -- this document is a  
10 declaration setting forth your words?

11 A Correct.

12 Q Okay. So in paragraph 10, in your words you  
13 state, quote:

14 "Since Neuhauser I, the Court has  
15 determined that only principal prior art  
16 charted in Exhibit E will be allowed."

17 A Correct.

18 Q Doesn't that indicate that the court was  
19 disallowing or excluding certain portions of your expert  
20 report, Neuhauser I?

21 A I -- to be honest with you, I just don't  
22 remember enough about the case. I don't know whether  
23 that was -- as far as I remember, it had nothing to do  
24 with my expert report. It just had to do with whether  
25 or not those things were going to be considered prior

1 art or not, but I just don't remember anything about the  
2 case beyond what I could read here.

3 Q But you agree that this indicates in your words  
4 that portions of your expert report would not be  
5 allowed?

6 A I just don't get that from this.

7 Q What do you get from this?

8 A All I understand is that only principal prior  
9 art charted in Exhibit E will be allowed. I just don't  
10 even -- you know, quite frankly I don't remember the  
11 circumstances about that and whether that represents  
12 exclusion of something from my expert report or not.

13 Q Okay. Do you see in paragraph 6 --

14 A Mm-hmm.

15 Q -- you say in this declaration, which is PMC  
16 Exhibit 2002:

17 "I referred to the anticipating prior  
18 art (charted in Exhibits D-M) as 'principal  
19 prior art.'"

20 Do you see that?

21 A I see that.

22 Q To the best of your recollection, is that  
23 correct? Do you have any reason to doubt what you said?

24 MR. TOUTON: You want him to answer the most  
25 recent question, right?



1 MR. SCHREINER: Yes, sir.

2 BY MR. SCHREINER:

3 Q The question was pretty straightforward, I  
4 think.

5 A I know I'm going to ask you to repeat it in a  
6 second or have it read back.

7 Just give me a moment to --

8 Q The question was simply in paragraph 6 you  
9 state that in your expert report, quote:

10 "I referred to the anticipating prior  
11 art (charted in exhibits D-M) as 'principal  
12 prior art.'"

13 Does the document say that?

14 A Yes, it does.

15 Q And those are your words?

16 A I wrote those.

17 Q And you have no reason to doubt the accuracy of  
18 those words as we sit here today?

19 A No, I don't. I just don't remember enough  
20 about the case to remember what -- what they were  
21 referring to.

22 Q Sure. That's part of the reason we write  
23 things down, right, is because we can't remember them  
24 all in our head.

25 In paragraph 7 you state, quote:

1           "I recognized, however, that Finisar  
2           might challenge the existence of one or more  
3           claim elements in the principal prior art.  
4           Therefore, Neuhauser I also includes a  
5           number of 'supplemental' prior art  
6           references."

7           Do you see that?

8           A     I see that.

9           Q     Those are your words, correct?

10          A     That's correct.

11          Q     Do you have any reason to doubt the accuracy of  
12          what you said as we sit here today?

13          A     All I can tell you is it was -- it was accurate  
14          at the time I wrote it.

15          Q     Okay. Do you have any reason to believe it's  
16          not accurate as we sit here today?

17          A     I just don't remember enough about the case. I  
18          mean I wrote it. That's all I can tell you.

19          Q     I'm not asking you to remember the case.

20          A     Sure.

21          Q     I'm asking you do you have any particular  
22          reason as we sit here today to doubt the accuracy of  
23          what is written in this document?

24          A     I -- I wrote it. It's what I wrote. I assume  
25          it was taken down and copied properly, so I don't have

1 any reason to doubt that that's what occurred.

2 Q Can you think of any -- any reason why this --  
3 what was written in paragraph 7 by you was incorrect?

4 A No, I can't think of any reason why it would be  
5 incorrect.

6 Q Okay. Now, paragraph 10 states:

7 "Since Neuhauser I, the Court has  
8 determined that only the principle prior art  
9 chart" -- strike that.

10 "Since Neuhauser I, the Court has  
11 determined that only principal prior art  
12 charted in Exhibit E will be allowed."

13 Do you see that?

14 A I see that.

15 Q Doesn't that indicate to you that the  
16 supplemental prior art that was included in your expert  
17 report was not allowed?

18 A That's -- that's what it says, yes.

19 Q Do you have any reason to doubt the accuracy of  
20 what you said in paragraph 10 of this exhibit?

21 A No, I wrote it.

22 Q Still looking at this exhibit, PMC  
23 Exhibit 2002, the -- your declaration from the  
24 Finisar/DIRECTV case, in paragraph 34 of the document  
25 you make reference to an article called the Crowther

1 article related to teletext transmission. Do you see  
2 that?

3 A I do.

4 Q Can you explain for me what teletext was?

5 A In that article or in general?

6 Q In general.

7 A In general, teletext -- okay. In general,  
8 teletext is a -- makes use of the -- I have to preface  
9 this by saying there's a very wide range of teletext and  
10 teletext-like systems. So I'm only going to give you  
11 general description, but there's many ways that it can  
12 be done besides what I'm going to tell you about.

13 Teletext is a way of transmitting information  
14 in the vertical blanking interval of conventional analog  
15 television signals. That information typically is used  
16 to display character and mosaic data on the screen of  
17 the television set.

18 Now, there are other types of systems that make  
19 use of that capability. Not all of them use the  
20 vertical blanking interval. Some of them use wire lines  
21 or wireless and that sort of thing.

22 Q What kind of information would be -- strike  
23 that.

24 In teletext, what kind of information would be  
25 transmitted in order to deliver characters to a

1 television at a consumer location?

2 A Can I just -- can you just have it read back?

3 Q Sure. I'll tell you what, I'll withdraw the  
4 question.

5 A I might have to listen to it once or twice  
6 because when they get long like that, I have to go over  
7 it again.

8 Q Let me rephrase. That wasn't a good question.

9 A Sure.

10 Q You said there was information transmitted in  
11 the vertical blanking interval in order to deliver  
12 characters at a consumer location. Is that fair to say?

13 A That's correct.

14 Q How was that information delivered -- strike  
15 that.

16 How was that information transmitted? Was it  
17 analog or was it digital?

18 A Well, it's both.

19 Q Okay. How was it digital?

20 A Okay. How was it digital?

21 Q Yes, sir.

22 A The signal is an analog signal. Okay? Because  
23 it's a television analog signal. It's digital because  
24 the form of the waveform provide -- basically transmits  
25 bits, if you will, and those bits can be combined

1 together into characters or other types of information.

2 Q How are the bits combined into characters?

3 A Well, it depends on the -- it depends on the  
4 particular flavor, if you will, of teletext, but in  
5 general, bits that are sequential are in -- in  
6 character -- I don't know what the right technical word  
7 is -- like a cell or a character group.

8 And they would indicate, for instance, an ASCII  
9 character or some other kind of character. There are  
10 other modes of transmission that will -- that will  
11 transmit characters, like mosaic can represent  
12 characters, and there's even bitmap capability, but all  
13 of those kind of things are possible in teletext.

14 Q Okay. Were -- were characters in teletext  
15 transmitted as character codes?

16 A I suspect there's some documents that put it in  
17 that -- in that -- in those words. I assume you mean  
18 character codes similar to what ASCII has as character  
19 codes?

20 Q Fortunately we're trying to test your knowledge  
21 here, not mine.

22 A Okay.

23 Q Let me rephrase.

24 A Okay.

25 Q Let me rephrase the question.

1           Let's -- let's use U.S. teletext in the mid  
2 '80s as our time frame.

3           A     Okay.

4           Q     Is it correct that --

5           MR. TOUTON: I'm sorry, what kind of teletext?  
6 I just didn't hear the word.

7           MR. SCHREINER: Teletext in the United States  
8 in the mid '80s time frame.

9           MR. TOUTON: Okay.

10 BY MR. SCHREINER:

11          Q     Is it correct that characters were transmitted  
12 using character codes made up of one or more bytes of  
13 information?

14          A     I don't know about the term character code.  
15 This is why I was asking you the question. I just don't  
16 know whether you have in mind a particular technical  
17 term or whether you're talking in a general sense. A  
18 group of bits, usually sequential, would form a -- a  
19 group that could be -- you could say it's a character  
20 code because it might be similar to like ASCII codes  
21 that are transmitted over RS-232 links, for example.

22                So that was kind of the basis of some U.S.  
23 teletext -- there are a number of U.S. -- okay. I don't  
24 remember all the different teletext systems. There were  
25 several different systems of teletext used in the United

1 States in the 1980s. Some of them used ASCII codes or  
2 something equivalent to ASCII codes to transmit  
3 character data.

4 Q Do you consider yourself to have an expert  
5 level of understanding of teletext?

6 A Well, I don't know that I have an expert level  
7 today as we're sitting here, but I have looked at  
8 teletext in considerable detail. And so, you know,  
9 throughout the '80s and '90s -- in fact, even since its  
10 inception, I was familiar, quite familiar with it. I  
11 don't think I'd call myself an expert on teletext today,  
12 but I have a pretty good level -- I used to have a  
13 pretty good level of knowledge of the different systems.

14 Q Crowther was a teletext system deployed in what  
15 country?

16 A I believe it was deployed in England.

17 Q Okay.

18 A But that's just my memory.

19 Q I want to take a -- a scenario. You want to  
20 transmit the letters A, B, C from a transmitting station  
21 to a consumer receiving station at a consumer's house.  
22 Do you understand the scenario?

23 A Not really.

24 Q What don't you understand about it?

25 A Well, you're using -- okay. Your question



1 contains terms, claim terms from the patent itself,  
2 "transmission station," "receiver station." Okay? It  
3 contains consumer -- you know, do you want me to finish  
4 my answer or do you want to ask a question?

5 Q I don't think it's a proper basis to refuse to  
6 answer a question because there's common terms. For  
7 example, the term "computer" is going to come up all day  
8 long, today, tomorrow, and the next day. You can't  
9 decline to answer questions because "computer" is a term  
10 in the patents. So I'll try to phrase my questions in a  
11 way that --

12 A Sure.

13 Q -- I'm not trying to game your answer, but I  
14 need you to cooperate with me so that we can move the  
15 deposition forward.

16 MR. TOUTON: I think, you know, he is  
17 cooperating, and I think it's appropriate if there's  
18 some term that can have multiple meanings for him to ask  
19 you to clarify it. And I think that's all I heard him  
20 do.

21 THE WITNESS: And let me just respond to you.  
22 I'm not declining to answer the question. What I'm  
23 pointing out to you is that the question is complex and  
24 contains terms that you may have in mind something  
25 different than I have in mind. So I'm going to ask for

1 clarification of certain of these questions. That's all  
2 I'm saying to you.

3 BY MR. SCHREINER:

4 Q Okay.

5 A So ask -- ask your question, and I'll do my  
6 best with it.

7 Q Tell me in Crowther --

8 A Mm-hmm.

9 Q -- what transmitted teletext letters to what  
10 receiver devices?

11 A I'm going to do my best because I don't have  
12 Crowther with me unless you have it. I'll just do this  
13 from memory. You want to know what transmitted from  
14 what -- I can tell you what I think Crowther did, and  
15 then you can ask me again, and maybe we can clarify it.

16 Q Okay.

17 A I believe -- and again, I'm just doing this  
18 from memory -- that Crowther was a system that used  
19 transmissions from a conventional analog television  
20 transmitter, and transmitted them in vertical blanking  
21 interval and received them at a conventional television  
22 set that was enhanced to include the teletext decoder.  
23 And the main aspect of Crowther -- it says here it's a  
24 define -- what they call dynamically redefineable  
25 character sets, DRCS. The main aspect of his paper was

1 about how to encode character sets that could be  
2 redefined and downloaded. At least that's what I  
3 remember from it.

4 Q And in Crowther, how would you encode  
5 characters?

6 A I'm not sure I completely remember, but I can  
7 tell you what I do remember.

8 Q Please.

9 A If I remember correctly, Crowther had codes  
10 that referenced a table, and that the table could be  
11 downloaded from wherever the transmission was coming  
12 from. Those characters could be downloaded into a local  
13 memory, and then codes that came after that download  
14 could then be used to access that local memory to  
15 display the character. So I think your question was  
16 how -- how was the character displayed or --

17 Q In your answer you referred to the main aspect  
18 of his paper was about how to encode character sets that  
19 could be redefined and downloaded. So my question was:  
20 What was meant by encoding character sets?

21 A Right, so the encoding was the downloading of  
22 the -- at least what I had in mind was that he  
23 pre-downloaded information into a RAM. And each area of  
24 that RAM had a particular code associated with it. So  
25 later he could send a code like, say, 001, and that

1 would access a particular area of that RAM and display  
2 that character.

3 Q And 001 would be digital bits; is that correct?

4 A Yeah, I'm -- I was thinking more in terms of  
5 hex bits when I said that or octal bits, but it's a  
6 code.

7 Q A sequence of digital bits; is that correct?

8 A That's correct.

9 Q So going back to my hypothetical scenario --

10 A Mm-hmm.

11 Q -- you have a television transmitter on one  
12 end. You've got a TV set with a teletext decoder on the  
13 other end.

14 A Okay.

15 Q Do you understand the scenario?

16 A Mm-hmm.

17 Q How does the television transmitter transmit  
18 information representing A, B and C as teletext to the  
19 consumer location?

20 A Well, in two ways. Because first it has to  
21 transmit the bits that represent the pattern on the  
22 screen, which is why he says it's definable. And then  
23 the second way to get a particular character displayed,  
24 you have to transmit a code that accesses that character  
25 from memory.

1 Q And the code is a sequence of digital bits as  
2 we discussed before, correct?

3 A That's correct.

4 Q And so for the television transmitter to  
5 transmit A, B and C, it would transmit three sets of  
6 digital codes to the consumer location; is that correct?

7 A I think generally that's -- that's correct in  
8 Crowther. Crowther is a very flexible system, so they  
9 might be able to transmit a character that represents A  
10 and B, for instance, which is not unusual in some other  
11 language as that might be transmitted as one code.

12 Q But let's just stick with my scenario. So the  
13 codes for A, B and C are received at Crowther's consumer  
14 site. Do you understand that?

15 A Mm-hmm, sure.

16 Q Is it correct then that the teletext decoder  
17 would take each of those codes and look up in RAM the  
18 corresponding letter that's going to be displayed, A, B  
19 and C?

20 A I believe that was generally how -- how  
21 Crowther worked.

22 Q When you -- when you gave these expert reports  
23 in 2005, 2006 where you opined on teletext systems, you  
24 were qualified as an expert in that case, correct?

25 A What do you mean, qualified as an expert?

1           Q     You were submitted as an expert on behalf of  
2 DIRECTV and the court allowed you to submit expert  
3 reports?

4           A     Oh, I think that happened, yes.

5           Q     Okay. And did you consider yourself to have  
6 expertise on teletext at that time, 2005, 2006?

7           A     Well, I think all I can tell you is again, it  
8 was five or six years ago, right? Or seven years ago.  
9 So I don't write an expert report unless I can act as an  
10 expert, so at that time, whatever the technology was  
11 covered, I felt completely comfortable with that  
12 technology.

13                    You asked me whether I'm an expert -- I don't  
14 know that that makes me an expert on teletext in some  
15 absolute sense, but I was certainly qualified to opine  
16 about all of those patents or I wouldn't have put them  
17 in my report.

18           Q     As we sit here in 2013, seven years later, do  
19 you consider yourself an expert in teletext now?

20           A     Well, I think I answered that before. I don't  
21 remember a lot about the various teletext systems, but  
22 if somebody asked me to go back and research it and to  
23 tell them about teletext systems, I probably would be  
24 able to speak about those, you know, in what would be an  
25 expert manner.

1 MR. SCHREINER: How long have we been going?

2 THE REPORTER: An hour and a half.

3 MR. SCHREINER: We'll take ten minutes.

4 (Recess 10:45 a.m. to 11:08 a.m.)

5 BY MR. SCHREINER:

6 Q We made a correction to the record. There was  
7 a duplicate between exhibit -- Zynga Exhibit 1011, and  
8 so all references up until now to Exhibit 1011 will be  
9 replaced with Exhibit 1011A.

10 We're now going to enter a number of exhibits,  
11 and I'll do them as a group. The first exhibit is Zynga  
12 Exhibit 1001. It is United States Patent 7,908,638,  
13 "Signal Processing Apparatus and Methods" to John C.  
14 Harvey.

15 MR. TOUTON: Just for completeness, that also  
16 appears to include a certificate of correction.

17 MR. SCHREINER: Yes, sir.

18 (Zynga Exhibit 1001 marked by the court  
19 reporter.)

20 MR. SCHREINER: The second -- or the next  
21 exhibit is a demonstrative that PMC prepared. It is  
22 marked PMC Exhibit 2004, and it lists the claims of the  
23 '638 patent. It has four unnumbered pages. What I'd  
24 like to do is actually number the pages since that is a  
25 requirement of the rules. So I'm putting in the bottom

1 right-hand corner 1, 2, 3, 4, 5.

2 MR. TOUTON: Hold on a moment.

3 MR. SCHREINER: Excuse me, 4.

4 MR. TOUTON: And 4 is completely blank?

5 MR. SCHREINER: 4 is completely blank.

6 MR. TOUTON: Well, okay.

7 (PMC Exhibit 2004 marked by the court  
8 reporter.)

9 MR. SCHREINER: The next exhibit is Zynga  
10 Exhibit 1009. It is a patent to Bakula, B-a-k-u-l-a,  
11 U.S. Patent No. 4,204,206.

12 (Zynga Exhibit 1009 marked by the court  
13 reporter.)

14 MR. SCHREINER: The next exhibit is Zynga  
15 Exhibit 1008, a patent to Sitrick, S-i-t-r-i-c-k,  
16 entitled "Video Game Network," U.S. patent  
17 No. 4,572,509.

18 (Zynga Exhibit 1008 marked by the court  
19 reporter.)

20 MR. SCHREINER: The next exhibit is Zynga  
21 Exhibit 1010 to Higgins, H-i-g-g-i-n-s, System For  
22 Distributing, Processing, and Displaying Financial  
23 Information. U.S. Patent No. 5,270,922.

24 (Zynga Exhibit 1010 marked by the court  
25 reporter.)



1 MR. SCHREINER: The next exhibit is PMC  
2 Exhibit 2005, which corresponds to paper No. 3 in this  
3 IPR. And it is entitled "Petition for Inter Partes  
4 Review Under 37 C.F.R. Section 42.100."

5 (PMC Exhibit 2005 marked by the court  
6 reporter.)

7 MR. SCHREINER: The next exhibit is exhibit --  
8 is Zynga Exhibit 1011. This is the "Declaration of  
9 Charles J. Neuhauser, Ph.D. Under 37 C.F.R. Section  
10 42.100 regarding U.S. Patent No. 7,908,638.

11 (Zynga Exhibit 1011 marked by the court  
12 reporter.)

13 MR. SCHREINER: The next exhibit is PMC  
14 Exhibit 2006, which is paper No. 10 in this proceeding.  
15 And this is "Preliminary Patent Owner Response to  
16 Petition for Inter Partes Review."

17 (PMC Exhibit 2006 marked by the court  
18 reporter.)

19 MR. SCHREINER: And lastly is PMC Exhibit 2007,  
20 which is paper No. 12 in this proceeding, which is the  
21 board decision on Patent 7,908,638 dated July 25th,  
22 2013.

23 (PMC Exhibit 2007 marked by the court  
24 reporter.)

25 BY MR. SCHREINER:

1 Q We'll go through them one by one.

2 A Let me take a moment to review these. When it  
3 comes up, I'll look at it.

4 Q Exhibit -- Zynga Exhibit 1001 is the patent at  
5 issue in this proceeding, which is Patent No. 7,908,638,  
6 which I will refer to as the '638 patent. You  
7 understand that?

8 A Yes, I do.

9 Q Okay. How much time did you spend reviewing  
10 the '638 patent as part of this proceeding?

11 A It's going to be hard to answer that question  
12 because the -- so there's four patents that we're  
13 dealing with here, but my understanding is the  
14 specifications is essentially the same if not identical  
15 for all four of them. So, you know, aside from general  
16 review, because I've looked at this patent or one of the  
17 similar patents, but the same specifications several  
18 times. As far as the actual things that I took out of  
19 here specifically for my declaration, I probably spent  
20 two or three hours looking at the particular example  
21 that I used in the declaration.

22 So that -- that would have been specific to the  
23 '638 because I used a particular example, but beyond  
24 that -- so that that might have been two or three hours.  
25 Beyond that I've spent quite a number of hours in this

1 case looking at the -- the specification with respect to  
2 all of the patents probably at least -- in February when  
3 I worked on this, probably at least 12 hours, maybe  
4 more.

5 Q What -- what about the upper bound of time you  
6 spent studying the specification that, as you noted, is  
7 common to the four patents at issue?

8 A In this particular case?

9 Q Let me rephrase. I think you indicated --  
10 strike that.

11 There's four separate IPR proceedings --

12 A That's correct.

13 Q -- between PMC and Zynga. Is that your  
14 understanding?

15 A That's correct.

16 Q And each of those IPRs involves Zynga  
17 challenging one PMC patent; is that correct?

18 A That's correct.

19 Q And each of those four patents shares the same  
20 specification; is that your understanding?

21 A That's my understanding.

22 Q And you've submitted -- strike that.

23 You've worked on the IPRs as an expert for  
24 Zynga in all four of those separate proceedings,  
25 correct?

1 A That's correct.

2 Q How much time have you spent studying -- strike  
3 that.

4 Including your work for all four patents, how  
5 much time have you spent studying the specification that  
6 is common to these patents?

7 A I'd ask you, you mean in this case, in this  
8 particular case?

9 Q What do you mean by "this case"?

10 A Okay. I started to work on this particular  
11 matter in February earlier this year. In producing  
12 those four reports, I probably spent looking at the  
13 specification overall probably someplace between -- you  
14 asked me the high end. It might be as much as 20 hours.

15 Q I think you indicated the low end is about  
16 12 hours?

17 A Yes, that would be about right, I think. It's  
18 someplace in that range.

19 Q So in total you spent somewhere between 12 and  
20 20 hours studying the specification that is common to  
21 these four patents?

22 A Since February, that's correct. Maybe a little  
23 more actually, considering that I, you know, I was -- I  
24 was just thinking in terms of writing the report. It  
25 could be a couple more hours in there because I -- you

1 know -- you know, in preparing for today, I went back  
2 and looked at the specifications of the various patents,  
3 too. Particularly the examples.

4 Q I want to focus just on the work you did  
5 leading up to your declarations.

6 A Okay.

7 Q And I want to have a clear record.

8 A Sure.

9 Q So is it correct that you spent between 12 and  
10 20 hours studying the specification that is common to  
11 the patents at issue between PMC and Zynga?

12 A That's correct, since February.

13 Q And the specification -- I'm going to focus on  
14 the '638 patent here.

15 A Sure.

16 Q Of course the specification is the same in each  
17 of the patents. You understand that?

18 A That's -- that's my understanding.

19 Q The specification is voluminous, correct?

20 A That would be one word I would use.

21 Q For the '638 the specification is 290 columns  
22 long; is that correct?

23 A Yes, that's correct.

24 Q So you spent no more than 20 hours studying a  
25 specification that's 290 columns long?

1           A       Since February of this year.

2           Q       Is that a yes?

3           A       Well, I have to qualify it because your  
4 question assumes that I've not studied this patent any  
5 other time. Is that what you're asking me?

6           Q       Okay. Have you ever studied this specification  
7 other than in connection with the dispute between PMC  
8 and Zynga?

9           A       Yes, sir.

10          Q       And in what case was that?

11          A       DIRECTV.

12          Q       The Delaware case?

13          A       I have no idea whether it's the Delaware case,  
14 but DIRECTV has been sued on these patents, and I've  
15 studied these patents for a number of years. Not -- not  
16 these particular patents, but that particular  
17 specification. DIRECTV hasn't been sued as far as I  
18 know on these patents, but this specification was the  
19 basis for a suit -- several suits.

20          Q       So you started your work -- for this dispute  
21 you started your work sometime in February; is that  
22 correct?

23          A       That's not correct.

24          Q       When did you start your work?

25          A       I -- I worked on -- so when you say "this

1     dispute," do you mean the IPR or do you mean the dispute  
2     between PMC and Zynga?

3           Q     The overall -- the overall dispute between PMC  
4     and Zynga.

5           A     I started before that.

6           Q     When did you start?

7           A     Probably at least a year ago. I don't know  
8     when your -- the suit occurred, but, you know, I've  
9     been -- I believe I've been working on this for about a  
10    year.

11          Q     And what is your understanding of your role in  
12    connection with the civil litigation in the Eastern  
13    District of Texas?

14          A     My role?

15          Q     Yes, sir.

16          A     I think we're talking about the same thing. I  
17    believe that it's in the Eastern District of Texas. I  
18    was asked with respect to that to locate prior art and  
19    people.

20          Q     And so your -- strike that.

21                    When was it decided that you would work as an  
22    expert on these IPRs?

23          A     You mean when did they contact me?

24          Q     When were you -- when were you told by -- by  
25    Zynga that we want you to help us on these IPRs as an

1 expert?

2 A I believe I was contacted in January, late  
3 January of this year.

4 Q Did you participate in the -- in the  
5 preparation of the expert reports that were submitted in  
6 that case, in the litigation?

7 A I think the answer to that is -- is no.

8 Q Okay.

9 A I mean I located prior art, but I don't think  
10 that's what you have in mind when you say "participated  
11 in."

12 Q You didn't help draft the expert reports or  
13 review the expert reports that were submitted by Zynga  
14 in the litigation?

15 A No, I did not.

16 Q Okay. So before when you told me you had spent  
17 12 to 20 hours studying the specification specifically  
18 in connection with these IPRs, is it correct that that  
19 was from late January until the time you submitted your  
20 declaration?

21 A That's correct.

22 Q Do you think 20 hours is an adequate amount of  
23 time to study a specification that is as lengthy and  
24 detailed as this one?

25 A Was it adequate for me to study that or



1     adequate for some individual?

2           Q     Adequate for you as an expert.

3           A     Certainly, because I have a deep background in  
4     this particular specification.

5           Q     And can you explain for me in a little more  
6     detail, how did you spend those 20 hours?  What did you  
7     do?  Did you look at particular sections?  Did you --  
8     how did you decide what to read?  I assume -- strike  
9     that.

10           I assume that you didn't read the specification  
11     from the front page until the last page; is that  
12     correct?

13           A     Well, that that's -- yeah, I think that's --  
14     that's correct.  Your question was how did I spend that,  
15     that time?

16           Q     Yes, sir.

17           A     I will tell you how I -- what I remember.  You  
18     know, given that I've been exposed to the specification  
19     quite a bit, I would say a good deal of my time was  
20     spent locating -- so in each of these declarations I  
21     gave an example.  So I locate an example that I thought  
22     was relevant to the -- to help the board out, and so I'd  
23     say a good deal of the time was spent in two areas.

24           One was locating and understanding the  
25     examples, and the other was refreshing my memory of the

1 basic preferred embodiment or the basic -- well, there  
2 was more than one preferred embodiment -- the basic  
3 preferred embodiments of the -- of the system trying to  
4 remember what they were and how they worked and what was  
5 going on there. That was the two things that I think I  
6 did.

7 Q As -- as you know, there was a number of  
8 different embodiments in the specification; is that  
9 correct?

10 A That's correct.

11 Q Is it correct that the specification describes  
12 several scenarios, including what is called the Wall  
13 Street Week scenario, the Exotic Meals of India  
14 scenario, and the Farm Plans of Europe scenario?

15 A That's correct.

16 Q Do you recall that the Wall Street Week  
17 scenario has a number of specific examples or  
18 embodiments, at least 12 or 13? Do you recall that?

19 A I -- I know that there's several different ways  
20 that it's presented. I just don't recall all of them as  
21 we're sitting here.

22 Q Do you agree that there are at least ten  
23 examples of the Wall Street Week scenario that are  
24 disclosed in the specification?

25 A I don't know that I agree or disagree with

1 that. I've never enumerated them.

2 Q Okay. Can I direct your attention to Zynga  
3 Exhibit 1001, the '638 patent, and refer you to column  
4 275.

5 A Okay.

6 Q And you see on the top of column 275 it says "A  
7 Summary Example No. 11"?

8 A Right, I see that.

9 Q Okay. Does that refresh your recollection as  
10 to whether there was more than ten different examples  
11 described in the specification?

12 A There certainly -- that wasn't the question you  
13 asked me before. There are ten or 11 examples shown in  
14 the specification. I don't know that they're  
15 necessarily examples of Wall Street Week, which I think  
16 was the question you asked me before.

17 Q Okay. So you agree that there were ten or so  
18 examples of different embodiments described in the '638  
19 specification?

20 A At least that many, yes sir.

21 Q Did you study those ten or so examples in the  
22 specification as part of your work for these IPRs?

23 A I don't think I studied all of the examples. I  
24 studied some of the examples that I thought were  
25 relevant.

1 Q So if you spent 12 to 20 hours across these  
2 four IPRs studying the specification, am I right that  
3 you spent somewhere between three and five hours  
4 studying the specification for each of the four patents?

5 A Yes, something like that on average.

6 Q How did you -- strike that.

7 Since you've said you didn't read the  
8 specification cover to cover, how did you decide what to  
9 read?

10 A I didn't say that.

11 Q Did you read the specification cover to cover  
12 since you started working on these IPRs in late January,  
13 early February of 2013?

14 A Probably not. I don't think I did since I  
15 started, but that doesn't mean I didn't read it many  
16 times prior to this.

17 Q That wasn't my question.

18 A Okay. I just want to make sure because that  
19 was the question I heard from you. So ask -- ask it  
20 again, and I'll say yes or no to it.

21 Q Please tell me whether you read the  
22 specification cover to cover from when you started  
23 working on these IPRs in late January until the time you  
24 submitted your declarations in late February, 2013?

25 A The answer to that is no.

1 Q Okay. So if you didn't read the specification  
2 cover to cover, how did you decide which portions to  
3 read?

4 A Okay. When you say read the specification  
5 cover to cover, okay. I did not sit down and do what I  
6 would do with, say, a piece of prior art, read every  
7 single word. I'm talking about from February, which is  
8 your question. From -- you know, I didn't do that in  
9 this particular case, okay, because I'd already read  
10 this thing cover to cover several times. Okay. This  
11 specification. Not this thing, this specification.

12 But when I did my work in -- in -- in February,  
13 I went back over some of the examples and looked at them  
14 briefly to see if I thought they would fit. Okay? And  
15 so I probably looked at different examples of different  
16 configurations briefly until I found one that I thought  
17 might have -- have some relevance, and that's why I  
18 included it in there. But I didn't read every -- I  
19 didn't do with this what I would do with the prior art  
20 between February and the start of February and the end  
21 of February, even though I have read the specification  
22 cover to cover a number of times prior to this.

23 Q Why didn't you give the specification the same  
24 treatment you would give prior art in deciding not to  
25 read it cover to cover?

1           A       Because I'd already done that a number of times  
2 before, and I knew what was in there in general and what  
3 the general notions were. And because it's 300 columns,  
4 a detailed read-through -- I mean even reading, for  
5 example, example 11, Farm Plans of Europe, it's a  
6 significant piece of work timewise to do it properly and  
7 to chart it all out and work it all out. There just  
8 wasn't time to do that detailed type of analysis on all  
9 of the examples in February.

10           Q       In connection with your work for Zynga in  
11 connection with the lawsuit, did you read the patent  
12 specification cover to cover?

13           A       Probably pretty close to it. But I don't  
14 remember sitting down and going through it cover to  
15 cover in one sitting, but I certainly looked at various  
16 parts of it in depth.

17           Q       How many hours did you put into reviewing the  
18 specification in connection with the litigation?

19           A       Including this or just --

20           Q       Excluding this?

21           A       Excluding this.

22           MR. TOUTON: You're referring to the Zynga  
23 litigation here?

24           MR. SCHREINER: Yes.

25           THE WITNESS: I don't know. It would probably

1 be in the same neighborhood. I'd say 15 to 20 hours.

2 BY MR. SCHREINER:

3 Q So you're saying that in the -- strike that.

4 How many hours do you normally work in a day  
5 when you're --

6 A It depends what day it is. Well --

7 Q Let me -- let me withdraw that. Let me  
8 withdraw that question.

9 Am I correct -- am I correct that if you sat  
10 down and read the specification for eight hours each  
11 day, then you testified that you read this specification  
12 in the span of something just over two days of work; is  
13 that correct?

14 A That doesn't sound like what I said at all.

15 Q Okay. You said you spent approximately the  
16 same amount of time reading the specification in the  
17 litigation as you did in connection with the IPRs,  
18 correct?

19 A Correct.

20 Q And that was 15 to 20 hours, correct?

21 A Correct. Okay.

22 Q Okay. How many days of work would it take you  
23 to -- strike that.

24 I'll just withdraw that question. When you  
25 reviewed the specification -- strike that.

1           When you studied the specification in  
2 connection with the litigation, how did you go about  
3 that?

4           A     I'm just confused about litigation. Do you  
5 mean -- are you talking about everything including the  
6 IPR? Just the IPR? Just the prior art search?

7           Q     I'm sorry, I'll try -- I'll try to be clearer.  
8 So when I refer to the litigation, I'm referring to the  
9 district court litigation where Mr. Fox and Mr. Koonan  
10 submitted expert reports. When I'm talking about this  
11 proceeding or the IPRs, I'm talking about where --

12          A     Okay.

13          Q     -- these proceedings where you submitted the  
14 expert declaration.

15          A     Okay.

16          Q     So in the -- in connection with the civil  
17 litigation between PMC and Zynga, you indicated that you  
18 read the specification cover to cover, correct?

19          A     Don't know that I said that. I said I spent  
20 20 hours on it. I tried to read it pretty much cover to  
21 cover, but I don't know if I -- even then I did the same  
22 thing I would do with the four-page piece of prior art,  
23 for example, where I, you know, I go over every word,  
24 right, you know, every single word.

25          Q     So you didn't read -- in connection with the



1 litigation, you didn't read the specification cover to  
2 cover?

3 A Probably not. Probably not every word.

4 Q Okay. How much time did you spend preparing  
5 for this deposition? By this deposition, I mean the one  
6 that's taking place this week.

7 A This week or this week and next week?

8 Q Just this week.

9 A Just the '638.

10 Q And the '717.

11 A Give me a minute to think about this.

12 Probably in the neighborhood of 40, or maybe a  
13 little more than 40 -- somewhat more than 40 hours.

14 Q And did those 40 hours encompass consecutive  
15 days? What days did you read?

16 A Yeah, I'm not even sure it's going to be 40.  
17 It might be more than that. What was your question,  
18 what days or how many days?

19 Q Yeah, you indicated that you spent in the  
20 neighborhood of 40 hours preparing for the deposition  
21 that's taking place this week on the '717 and '638  
22 patents, correct?

23 A Correct.

24 Q Okay. On what days did you spend that time  
25 preparing and involving some 40 hours?

1           A     I can tell you what I remember.  So I spent  
2 probably several days -- so this is why -- I'm not sure  
3 the numbers are going to come out right here, but I  
4 spent several days on my own just reviewing my report,  
5 just reviewing decisions, you know.  That must have been  
6 three or four or five days.  So right there that's  
7 probably 40 hours, and then I spent -- and that  
8 included, you know, looking at this patent, looking at  
9 the prior art, a lot of different things.

10                 And then I met with attorneys for Jones Day,  
11 and it seems like we met twice, two days each.  And we  
12 covered all of the patents during that period of time.  
13 Okay?  So that's why it's going to be difficult to say  
14 what related to what.  But you could think that there's  
15 four patents, maybe an equal amount of time is spent on  
16 each patent, let's say, just as a rule of thumb.  And  
17 then I spent an additional two to three days just on  
18 this particular deposition, the '638 and the '717.

19           Q     Okay.  So we have three to five days on your  
20 own?

21           A     Covering all of the different patents.

22           Q     And then we have two days with Jones Day, and  
23 then another two-day session with Jones Day, correct?

24           A     That's correct.  Covering all of the patents.

25           Q     And then you spent another two to three days

1 preparing just for this specific deposition that's  
2 taking place this week?

3 A That sounds about right.

4 Q When you met with Jones Day, typically how long  
5 did those days go?

6 A I think they were about eight hours.

7 Q Okay. In doing any of your preparation, did  
8 you consult any of the expert reports or declarations  
9 submitted by the experts in the litigation?

10 A No.

11 Q So tell me if I've got this math right.

12 A We'll see.

13 Q So first we have three to five days on your  
14 own, so that would be roughly 40 hours, I think you  
15 said?

16 A Something like that.

17 Q Just ballpark. Forty hours sounds like in the  
18 ballpark?

19 A Yeah.

20 Q And two two-day sessions with Jones Day; if  
21 each of those is eight hours, that's another 32 hours,  
22 is that right?

23 A That sounds about right.

24 Q And two to three days on your own. That would  
25 be another 20 hours?

1 A Sounds about right.

2 Q So the total amount of time you spent preparing  
3 up until now for both sets of depositions --

4 A Mm-hmm, mm-hmm.

5 Q -- is somewhere in the neighborhood of  
6 90 hours; is that correct?

7 A It sounds about right for both weeks, for both.

8 Q Right.

9 A Yeah.

10 Q Do you expect to do more preparation before  
11 next week's deposition?

12 A Certainly. Certainly on my own.

13 Q Let's -- let's refer to your declaration. This  
14 is Zynga Exhibit 1011. Describe for me the drafting  
15 process for this declaration.

16 A I wrote it. I'm going to qualify that just a  
17 small bit. So there's a section in here that -- that  
18 relates to my understanding of the law, and I don't  
19 remember exactly how this came into being completely,  
20 but my normal practice would be to say okay -- normally  
21 I'd say give me something like jury instructions,  
22 something a layman can understand.

23 And so somebody at Jones Day went off and put  
24 together something like that section, and I went over it  
25 and said okay, you know, I understand this, and I

1 probably recast some of it in my own words, but I  
2 certainly didn't put intellectual knowledge about the  
3 law into that section because that's not my expertise.  
4 So other than that, I wrote everything in here.

5 Q Sitting at a desk with a word processor?

6 A That's the way I did it.

7 Q Okay. The prior art had already been  
8 identified before you started writing your declaration;  
9 is that correct?

10 A That's correct.

11 Q And who identified that prior art?

12 A Well, I mean, the only answer I can give you is  
13 Jones Day identified that prior art to me. Beyond that  
14 I don't know.

15 Q Did Jones Day give you claim charts comparing  
16 the claims to the prior art?

17 A I -- I -- quite frankly, I don't remember. I  
18 don't think so, because I don't believe that I have  
19 anything like that, that I've seen anything like that  
20 other than their -- they have a petition, and that has  
21 kind of like claim charts in it, but I don't believe  
22 they gave me any claim charts.

23 Q Did you look at claim charts of any kind when  
24 you were drafting your declaration for the '638 patent?

25 A I don't believe so.

1 Q So you prepared the first draft, correct?

2 A That's correct.

3 Q And what happened then?

4 A Oh, well, I gave it -- I mean, you're talking  
5 about this particular document, yes, being 1011.

6 Q Yes, sir.

7 A I think -- I mean, I don't know that I -- that  
8 it was quite like that. Okay? I prepared it, but I  
9 don't know that I wrote it all at once. I might have  
10 done sections of it like about a particular patent, and  
11 then I would give that to Jones Day, and they would look  
12 at it, you know, they would critique it.

13 Q How many complete drafts would you estimate  
14 that you circulated for this declaration for the '638  
15 patent?

16 A Probably one.

17 Q Who came up with the distinctions between  
18 the -- strike that.

19 Who decided how the references would be applied  
20 to the claims in the '638 patent?

21 A I did.

22 Q You originated those, those reads?

23 A That's certainly my recollection. That's  
24 certainly my practice.

25 Q But you said Jones Day identified the

1 references for you, correct?

2 A They gave me a set of references and just asked  
3 me to do what I could do with them.

4 Q So they just gave you the references and said  
5 apply these references to the claims in the '638 patent  
6 and see what you can come up with? Is that in essence  
7 what happened?

8 A Pretty much. And, you know, we had a  
9 preliminary discussion, and I -- I think we went over  
10 all of the references, because I hadn't seen -- I've  
11 probably seen some of the references before, because  
12 I've seen lot of different art in different cases, but  
13 it seems like they might have gone over the references,  
14 what is this reference, what's in here. But I think  
15 pretty much any application of the reference to the --  
16 to the '638 was my work directly.

17 Q Did you ever -- before your declaration was  
18 prepared, did you ever meet with the Jones Day attorneys  
19 to talk in a conference room or to mark up on a  
20 chalkboard or something like that how the references  
21 related to the claims?

22 A I -- about all I can tell you is I met with  
23 them one time before we -- before we started, kind of  
24 like -- I'm trying to think here. It's possible it was  
25 two times. It seems like there was a preliminary

1 meeting where they just wanted to see, you know, whether  
2 I was a real person. But I don't think we did anything  
3 about -- I mean, they just explained to me what an IPR  
4 was at that meeting.

5 And then I think I had one other meeting, and  
6 it might have been like the next day where I -- we  
7 talked about each of the references. I'm saying we  
8 talked about each of the references because probably we  
9 would have done that, but I don't know whether we talked  
10 about each and every reference.

11 I think we tried to go over the -- the  
12 different -- but primarily we were going over, I think,  
13 and again I'm trying to remember, we were going over the  
14 claims that were at issue. And we talked about them,  
15 the references, what was the reference, okay, because I  
16 hadn't seen it before. I hadn't even read it. Okay?  
17 You know, what was XYZ reference, and that's about the  
18 most I remember. It was about a day, I think.

19 Q You understand what I mean when I say reading a  
20 reference against the claim?

21 A I think so. It's what I've done --

22 Q Okay.

23 A -- here in this report, I think.

24 Q Sure. What's your understanding of what is  
25 meant by reading a reference against a claim?



1           A       Well, I can tell you what I did in the report.  
2       You know, I'm not trying to quibble with you.

3           Q       I want to get our terminology straight so  
4       there's no ambiguity on the record.

5           A       Sometimes I just get confused with these kind  
6       of -- sounds like terms of art, right, from your field.  
7       You know, basically what I did in the report was I tried  
8       to see if a particular reference -- so I took a  
9       particular claim from, say, the '638, and I tried to see  
10      whether I could identify in one -- one reference all of  
11      the elements of that claim in that one reference. And  
12      so that's what I would do for the references that  
13      anticipate. And then in some cases I took two  
14      references and combined them and, you know, attempted to  
15      do the same thing.

16          Q       And so you examined the reference to determine  
17      if the claim limitations were found in the reference; is  
18      that correct?

19          A       That's correct.

20          Q       Okay. Were there any -- strike that.

21                    When you drafted your report -- strike that.

22                    Before you actually drafted your report, did  
23      you have a discussion with Jones Day about what your  
24      initial conclusions were regarding the prior art they  
25      had provided?

1           A     I don't think so.

2           Q     So you started drafting your declaration before  
3 you had communicated to Jones Day that hey, references  
4 A, B, C and D that you gave me really do invalidate this  
5 patent?

6           A     I'm trying to remember back from February. It  
7 seems like I just started right in on the task. I -- I  
8 just took one of the patents and, you know, one -- like  
9 the '717, for example. And I just started in on the  
10 claims, and I picked up a reference that had been  
11 presented to me. And they probably told me this might  
12 apply to the '717 or the '638, for example. But, you  
13 know, I just picked it up, and I read the reference all  
14 the way through, and then started to work up something  
15 like a claim chart, and I worked that back into the --  
16 the narrative that I gave.

17                     (Mr. McHenry leaves room.)

18 BY MR. SCHREINER:

19           Q     When you say you worked up something like a  
20 claim chart, can you elaborate on that?

21           A     Well, typically what I'll do is -- is, you  
22 know, make a kind of an informal drawing of what I think  
23 the claim is like. And then I'll try to label it or I  
24 might write down -- I might identify individual claim  
25 elements and -- and, you know, put, say, I think this is

1 like item 90 or something like that and such and such.  
2 I do -- I work like that. I don't think that I  
3 actually -- actually drafted the claim chart as such in  
4 this, you know, a standalone claim chart, but of course  
5 the narrative is a kind of claim chart, isn't it? I  
6 mean, the way I wrote it, so --

7 Q Okay. Were there any -- strike that.

8 In analyzing the prior art against the claims,  
9 were there any issues where you disagreed with Zynga's  
10 counsel?

11 A I never had -- oh, you mean Jones Day?

12 Q Yes.

13 A Yeah, I'm sorry. There was another fellow  
14 here. He's Zynga counsel too. I never met him until I  
15 walked in the room today. Did I disagree with them?

16 Ask the question again. I just want to make  
17 sure I have it clearly.

18 Q In the course of analyzing the prior art  
19 against the claims, was there ever an occasion where you  
20 disagreed with Jones Day on an issue?

21 A Well, I think something like that happened, but  
22 I'm not sure quite in that -- I certainly think that  
23 I've looked at some particular piece of prior art and  
24 say this won't work. Say, for example, and I don't have  
25 a particular example in mind, but I probably said

1 something like this won't work as an anticipating  
2 reference, but that doesn't mean that they had any  
3 particular thing that they told me and I disagreed with.  
4 It was more the other way around, I said this isn't  
5 going to work, you know, because XYZ.

6 Q Were there places where Jones Day disagreed  
7 with conclusions in your report that led you to making  
8 changes to your report?

9 A Probably not. When I tell the client this is  
10 what I'm going to say, that's the way it is, and they  
11 can try and convince me, but, you know, it's up to me  
12 to -- to write it in my report truthfully.

13 Q Okay. And exhibit -- PMC Exhibit 2005, which  
14 is paper No. 3 in this proceeding on the '638 patent, is  
15 the actual petition filed by Zynga requesting the  
16 parties' review of the '638 patent.

17 Do you see that one?

18 A Again, I don't have them in order, so let's do  
19 this. Here it is.

20 Right.

21 Q Do you recall this document?

22 A Yes, I've seen this document.

23 Q Your declaration, which was Exhibit 1011, was  
24 in fact an attachment to this petition that Zynga filed;  
25 is that correct?

1           A     I -- I assume it was 'cause I think they  
2     referenced me in here, but I don't remember.

3           Q     Okay. Did you -- strike that.

4                     The petition says on the last page that it was  
5     filed on February 26th. Do you see that on the last  
6     page of the petition which is PMC Exhibit 2005?

7           A     Yes, sir.

8           Q     And you signed your declaration four days  
9     earlier on February 22nd, which is on the last page of  
10    Zynga Exhibit 1011?

11          A     That's correct.

12          Q     Did you review the petition that Zynga filed,  
13    this PMC Exhibit 2005, before it was submitted to the  
14    patent office?

15          A     I don't believe so. I don't remember doing  
16    that.

17          Q     You understood that Zynga was -- strike that.

18                     You understood that in its petition Zynga was  
19    primarily relying on you as the expert in support of its  
20    petition, correct?

21          A     I -- that's my assumption, but I -- I mean,  
22    I've read the petition, but --

23          Q     I'm focusing on before it was filed.

24          A     Before it was filed?

25          Q     Yes, sir.

1           A       Well, I think I had an understanding that they  
2 were developing this petition, but I -- I didn't have  
3 any time to look at it, quite frankly.

4           Q       So before the petition was filed, is it fair to  
5 say you never did a comparison between what it said  
6 about your opinions and what your declaration said about  
7 your opinions?

8           A       That's -- that's probably -- I -- I don't  
9 remember seeing their petition before it was filed, so I  
10 think that's a fair statement.

11          Q       In your -- in your -- so in terms of what was  
12 in Zynga's petition -- strike that.

13                   Have you reviewed Zynga's petition for the '638  
14 patent, this PMC Exhibit 2005 since it was filed?

15          A       I've looked through it. I didn't go through it  
16 word by word.

17          Q       Did you check to see whether it was consistent  
18 with the statements and opinions you made in your  
19 declaration?

20          A       I don't think I was asked to do anything like  
21 that, and I don't think I did anything like that.

22          Q       So if I asked you whether you agree with the  
23 analysis and statements that were made in Zynga's  
24 petition that was filed for the '638 patent, you  
25 wouldn't be able to answer that question; is that

1 correct?

2 A I think the only answer I could give is that I  
3 signed my declaration. You know, the development of  
4 these arguments before the court is something the law  
5 firms do. I don't generally -- sometimes I offer to  
6 check it over, but I don't think in this case I reviewed  
7 it, so I think -- yeah, I think that's correct. I --  
8 it's up to them.

9 Q So just to make sure we have a clear record --

10 A Sure.

11 Q -- because you didn't review Zynga's petition  
12 before it was filed, you were -- you were not able to  
13 say whether that petition is or is not consistent with  
14 the declaration you submitted?

15 A Right. Just with respect to what they wrote in  
16 Exhibit 2005, I -- yes, I think that's correct.

17 MR. TOUTON: Just so it's clear, we're not  
18 preventing you from asking him to read things in here  
19 and give opinions about them in the deposition. If you  
20 want it -- want to spend your time having him review  
21 this document and asking about it, go ahead.

22 MR. SCHREINER: I don't think I'll open that  
23 door.

24 BY MR. SCHREINER:

25 Q How did you sign your declaration to the '638,

1 do you recall? Did somebody fax you a page? Did  
2 somebody stop by your house with a notary? How did that  
3 work?

4 A I'm pretty sure that -- you know, it's been  
5 seven months, so I don't remember, but generally I -- so  
6 I wrote it. Okay. And, you know -- so the one thing I  
7 didn't do, for example, is I didn't do paragraph  
8 numbering. They did that, you know. Somebody at Jones  
9 Day cast it into this -- this format.

10 So at some point I got that back, and I looked  
11 it over, and, you know, once I'd squeezed out as many  
12 things out of it, typos and things like that as I could,  
13 at some point I said well, this is final. And I printed  
14 out the page from what they had sent me, printed it out,  
15 signed and scanned it and sent it back to them.

16 Q So that we save time in the other deposition,  
17 is it fair to say that for the other three IPRs, the  
18 IPRs for the '717 patent, the '251 patent, and the '131  
19 patent, that you never reviewed the petitions that Zynga  
20 submitted to the patent office to ensure that those  
21 petitions were consistent with your declarations?

22 A That's correct. I wasn't asked to and I didn't  
23 do that.

24 Q In your declaration, which is Zynga  
25 Exhibit 1011 on page 8, you state at the bottom of



1 page 8, this is paragraph 24, you refer -- you describe  
2 the Harvey '638 patent, you state:

3 "What they do not show is any unusual  
4 circuitry or interconnection of components.  
5 That is also true of the text of the Harvey  
6 '638 patent. Although the text of the  
7 patent is extensive it does not describe the  
8 use of any unusual technology beyond what is  
9 shown in the figures. For example, there  
10 are no formulae, computer programs,  
11 descriptions of circuitry or the like."

12 Do you see that?

13 A That's correct.

14 Q Okay. And you wrote that?

15 A I did.

16 Q Do you know that the term "formula" is used in  
17 the '638 patent more than 70 times?

18 A Yes. I mean, I don't know that it's used more  
19 than 70 times, but I know that the word is used in  
20 there.

21 Q You understand the word "formula" is used many,  
22 many times in the '638 specification; is that fair to  
23 say?

24 A Well, I think it's used a number of times. I'm  
25 just going to rely on what you've said. I've never

1 searched the specification for formula, the word  
2 "formula."

3 Q And there's a number of embodiments in the  
4 specification that actually set forth numerical  
5 formulas. Are you aware of that?

6 A Yes.

7 Q I'm going to give you some examples of formulas  
8 and see if they jog your memory so that we can avoid the  
9 laborious task of paging through the specification.

10 A Give me a second to read the -- yes. Go ahead.

11 Q In connection with the Exotic Meals example --

12 A Correct.

13 Q -- do you recall there being a numerical  
14 formula for the cost of a local supermarket product?

15 A Right, there's some linear equations there.  
16 But they're -- I mean they're very simple algebraic  
17 equations.

18 Q It's a formula, correct?

19 A That's correct.

20 Q In fact, Mr. Harvey, the inventor, calls it a  
21 formula, correct?

22 A I'm -- I'm taking your word for it, but yes, I  
23 think that's correct.

24 Q So let's take column 248.

25 A Mm-hmm.

1 Q Line 54. Actually, lines 51 through 55.

2 A Right.

3 Q It says -- this is the '638 patent, Exhibit  
4 1001 it states:

5 "As described above, the information of  
6 said segment includes formula-and-item-  
7 of-this-transmission information of the  
8 higher language line of program code:  $Y =$   
9  $1000.00 + 62.21875 + (2.117 \text{ times } X)$  compiled  
10 and linked to other compiled information."

11 Do you see that?

12 A I see that.

13 Q Is that a formula?

14 A It's a formula.

15 Q Column 249, lines 1 through 6.

16 A Mm-hmm.

17 Q It states:

18 "Said instructions so executed include  
19 formula-and-item-of-this-transmission  
20 information of the higher language line of  
21 program code:  $Y = 1000.00 + 132.2362 + (2.0882$   
22  $\text{times } X)$  compiled and linked to other  
23 compiled information."

24 Is that a formula?

25 A Yes, it is.

1 Q Okay. Later on in that column, lines 41  
2 through 46, it states then:

3 "Then automatically, on a machine  
4 language basis and in a fashion well known  
5 in the art, said microcomputer 205,  
6 substitutes the value 4.3 for the variable X  
7 in the equation:  $Y = 1000.00 + 62.21875 +$   
8  $(2.117 \text{ times } X)$  computes the value of Y that  
9 is specific" -- that -- I think it means "to  
10 the station of FIGS. 7 and 7F to be:  
11 1071.32" and so forth.

12 Do you see that?

13 A I do.

14 Q Is that a formula?

15 A The part that's set out in the middle is a  
16 formula, yes.

17 Q Column 250, lines 15 through 17, there's  
18 another formula with the variable -- the independent  
19 variable, excuse me, the dependent variable being Y and  
20 several constants, and the independent variable being X.  
21 Is that a formula?

22 A That is a formula.

23 MR. TOUTON: So the record is clear, it may  
24 just be a typo. Do you see an equal sign there? It  
25 doesn't show up as an equal sign on mine.

1 MR. SCHREINER: What column?

2 MR. TOUTON: 250.

3 THE WITNESS: I can see it.

4 MR. TOUTON: Do you see an equal sign?

5 THE WITNESS: I do.

6 MR. TOUTON: Okay. Must be something about my  
7 printout. Looks like a minus sign.

8 MR. SCHREINER: It's known as Freudian  
9 eyesight.

10 MR. TOUTON: Okay. Not a major matter.

11 BY MR. SCHREINER:

12 Q Do you see in column 252 through 253, this is  
13 part of the discussion of the Exotic Meals of India  
14 commercial that you discussed in your declaration; is  
15 that correct?

16 A That's correct.

17 Q And you see in column 253 it states that the  
18 commercial can have audio stating the percent of the  
19 discount, quote "forty-six," quote "forty-five," quote  
20 "forty-three." Do you see that in column 253?

21 A From 1 down to about 32, yes, I do.

22 Q Okay. Is that the result of a formula?

23 If you're not sure, it's fine to say you're not  
24 sure.

25 A Yeah, I mean it seems like it is, but really

1 without going back over the example again to see a  
2 direct connection between the calculation of the  
3 percentage and the actual presentation of that  
4 percentage, it could be.

5 Q Okay. And column 255 and 256 of the '638  
6 patent, Zynga Exhibit 1001, shows user specific coupons  
7 printed out with prices. The first coupon says  
8 \$1,071.32 and the second one says \$1,000.80 -- \$1080.64.  
9 Do you see those?

10 A I do.

11 Q Is it your understanding that those were  
12 computed as a result of a formula? And again, if you're  
13 not sure, it's okay to say that.

14 A I don't see the connection here, but it's  
15 computed someplace in the station. Could be using the  
16 formula. I don't know that the formula is laid out  
17 here.

18 Q Okay. From the standpoint of a person of  
19 ordinary skill viewing this patent, would you expect  
20 that that parameter would be determined in accordance  
21 with the formula?

22 A The parameter -- which parameter?

23 Q To be honest with you --

24 MR. TOUTON: I think you were on columns 255  
25 and 256.

1 BY MR. SCHREINER:

2 Q We took so long that I -- that's all right.

3 All right. So columns 255 and 256 show user  
4 specific coupons --

5 A Correct.

6 Q -- with specific discounts for specific  
7 products, in this case untrimmed pork bellies. Do you  
8 see that?

9 A I see that.

10 Q And there are numbers, 1071.32 is the cost for  
11 the first consumer, and it's \$1,080.64 for the second  
12 consumer. Do you see that?

13 A I see that.

14 Q Would you expect that the computation of  
15 figures such as those would be accomplished using some  
16 kind of formula?

17 A Well, I think they're -- the patent tells you  
18 that they're accomplished using code that's executed.  
19 Code is typically based on formula. Whether that  
20 formula is actually shown here or not, I couldn't  
21 determine in my review, but --

22 Q Okay. You recall we looked at the other  
23 formulas, the mathematical formulas?

24 A Correct.

25 Q We looked at four or five. Do you recall that?

1 A Yes.

2 Q And so let's look at column 249, column 249 and  
3 line 45. There's a formula:

4 "Y = 1000+62.21875+(2.117 times X)  
5 computes the value of Y that is specific to  
6 the station" -- I added "to" -- "to the  
7 station of FIGS. 7" to "and 7F to be  
8 1071.32."

9 Do you see that?

10 A I see that.

11 Q Okay. The dollar figure 107. -- strike that.

12 The dollar figure 1071.32 is the same dollar  
13 figure as the personalized coupon on column 255,  
14 correct?

15 A That's correct.

16 Q So do you agree now, having reviewed those  
17 columns, that the personalized figure in the coupon,  
18 column 255, is the result of a formula?

19 A Let me just review this -- this section here  
20 'cause the problem in the example is there's two  
21 examples, if I remember correctly. There's two examples  
22 that are kind of interleaved at this part in the patent.  
23 Not two examples, but two ideas about computation.

24 Q Tell you what, in the interest of time, you'd  
25 agree that column 249, line 45 sets forth a mathematical



1 equation?

2 A I do.

3 Q And it states that the subscriber station  
4 computes the value of Y and goes on to say to be  
5 1071.32. Do you see that?

6 A I see that.

7 Q Okay. And reading this patent from the  
8 standpoint of a person of ordinary skill, do you  
9 understand that to be saying that a formula is used to  
10 compute the value which is 1071.32?

11 A Yes, that's what that says here in this column,  
12 249.

13 Q And in column 255, do you agree that a  
14 personalized coupon is printed out?

15 A I do.

16 Q And the personalized coupon that is printed out  
17 makes an offer for the sum of 1071.32, which is the  
18 exact same number that is computed in the formula on  
19 page 249; is that correct?

20 A The two numbers are the same. The only thing  
21 is, you know, not having read this example in quite a  
22 while, I'd have to go back and read it in order to  
23 determine the linkage -- it doesn't say dollars 1071.32,  
24 right? It just says this number. And so what I was  
25 doing was just going back to try and understand in the

1 example the linkage between that computation and the  
2 presentation of that coupon.

3 Q Okay. Just so we have a clean record, okay,  
4 column 249 has the equation, and then on line 53 it says  
5 information of quote "\$1071.32." Do you see that?

6 A I see that.

7 Q That dollar figure is the same dollar figure  
8 that's in the coupon that's on page -- the column 255,  
9 \$1,000 -- \$1,071.32, correct?

10 A That's correct.

11 Q Okay. In your declaration you also state in  
12 paragraph 24 that:

13 "These figures show components that  
14 were very well known in 1987. What they do  
15 not show is any unusual circuitry or  
16 interconnection of components."

17 Do you see that?

18 A 24, right?

19 Q Yes, sir.

20 A I remember the words, but I'm just going to  
21 check it because you asked me did I see it, so --

22 Q That's page -- paragraph 24 of Zynga  
23 Exhibit 1011, which is Dr. Neuhauser's declaration on  
24 the '638 patent.

25 A "What they do not show is any unusual

1 circuitry or connection of components."

2 Q Yes, sir.

3 A Yes, I see that.

4 Q And you wrote that, correct?

5 A I did.

6 Q Figure -- now referring to the '638 patent,  
7 Zynga Exhibit 1001, I'd like to refer you to Figure 3A.

8 A Okay. Okay.

9 Q Figure 3A is described as being an embodiment  
10 of a preferred controller. And I'll find that reference  
11 for you.

12 A Okay.

13 Q Tell you what, I will represent to you that  
14 Figure 3A describes a preferred controller.

15 MR. TOUTON: Okay. To move things along,  
16 column 10, lines 3 through 4.

17 MR. SCHREINER: Thank you, Mr. Touton.

18 BY MR. SCHREINER:

19 Q Do you --

20 A Okay. And okay. And I have to hear the  
21 question.

22 Q Sure. Do you see a Figure 3A showing the  
23 controller?

24 A 39?

25 Q Yes, sir.

1           A     I see that.

2           Q     And that controller that's depicted has  
3 switches, internal control processor, ROM, connection to  
4 data networks, decrypters, buffers? Isn't that correct?

5           A     Yes.

6           Q     Is Figure 3A describing a circuit? You agree  
7 it's a pretty complicated diagram?

8           A     Well, it's a block diagram. I don't know that  
9 it's a -- you're referring back to 24 here, and I think  
10 I said unusual circuitry. It's -- it's --

11          Q     Actually you said a -- you said the:

12                     "...figures do not show any unusual  
13 circuitry or interconnection of components."

14                     And you also said, for example, in reference to  
15 the figures:

16                     "...there are no descriptions of  
17 circuitry or the like."

18                     Do you see that in paragraph 24?

19          A     Right, I see that, yeah.

20          Q     And I'm asking you is -- is Figure 3A a  
21 circuit?

22          A     Well, when I wrote that, the circuit I had in  
23 mind would be something at a -- at a lower level. It's  
24 what we would refer to as a block diagram. So some  
25 might consider that to be a circuit. But you can't

1 build something with circuitry directly from a block  
2 diagram. You have to go find the pieces such as they  
3 are, and connect them up and -- you know, they -- block  
4 diagrams show information flow. They don't -- they  
5 don't really show wires in the strict sense.

6 So certainly -- you said -- I think you said is  
7 it circuitry? Some -- some people would say that's  
8 circuitry and others might not depending on the context.  
9 But in the context of what I said here, that's not a  
10 circuit.

11 Q It shows inputs, correct?

12 A That's correct.

13 Q It shows outputs, correct?

14 A That's correct.

15 Q It shows communication between different  
16 components within the controller, correct?

17 A That's correct.

18 Q And your position is that a person of ordinary  
19 skill in the art in 1987 would not consider Figure 3A to  
20 disclose a circuit?

21 A I don't think they would. They'd say it's not  
22 a schematic. It's not a schematic of circuitry. It's a  
23 block diagram is what they would say.

24 Q You need a schematic to manufacture something,  
25 correct?

1 A Well, that's part of what you would need.

2 Q But you would need a schematic to actually  
3 manufacture something?

4 A Well --

5 Q I'm not saying it's sufficient --

6 A No, no, no. Without more detail I can't tell  
7 you that. Many things are manufactured today,  
8 electronic, not done from a schematic, they're done from  
9 something else.

10 Q But remember, our point in time is 1987. So --

11 A Mm-hmm.

12 Q -- are you telling me that in 1987 you would  
13 need a schematic to manufacture an electronic device?

14 A It would depend on the electronic device.

15 Q A controller. Would you need a schematic to  
16 manufacture a controller?

17 A It would depend on -- it would depend -- it  
18 would depend on the technology. I can give you an  
19 example if you'd like.

20 Q No, let's stick to Figure 3A.

21 A Okay.

22 Q Would you need a schematic to manufacture the  
23 controller that's depicted in Figure 3A?

24 A Well, I can certainly think of instances where  
25 you would need a schematic to -- to manufacture. You'd

1 need a lot more than that, but that would be one way of  
2 manufacturing what's shown here in 3A.

3 Q Okay. Sounds like you're saying you might need  
4 a schematic to manufacture the controller in Figure 3A,  
5 or in other circumstances you might not need one; is  
6 that correct?

7 A Well, controller of 3A is -- okay. The  
8 controller of 3A is a block diagram. There's no details  
9 about what's in that block diagram. So a particular  
10 implementation of that block diagram might use  
11 schematics and it might not.

12 Q Okay. I believe that was the question I just  
13 asked. So let's --

14 A Okay.

15 Q I'm trying to make a clean record.

16 A Sure.

17 Q You said it sounds like you're saying you might  
18 need a schematic to manufacture the controller in Figure  
19 3A, and in other circumstances you might not need one.  
20 Is that correct?

21 A That's correct.

22 Q You have a general understanding that the  
23 patent law doesn't require the specification to be a  
24 manufacturing specification; is that correct?

25 A I can tell you what my understanding is. I --

1 generally I believe that that's correct, but you have to  
2 be able to build something, make it from the  
3 specification.

4 Q Patent law doesn't state that you need  
5 schematics to satisfy the enabling requirement of a  
6 patent; is that correct?

7 A As far as I know, yes, my -- my understanding  
8 as a layman.

9 Q Now, you state that the figures don't show any  
10 unusual circuitry or interconnection of components?

11 A Mm-hmm.

12 Q In 1987, had -- had you seen a diagram of a  
13 controller like this?

14 A I'm not sure I understand your question.

15 Q Well, you said that the figures don't show any  
16 unusual circuitry or interconnection of components. So  
17 I'm asking you, Figure 3A, had -- strike that.

18 Do you regard Figure 3A as being unusual  
19 circuitry?

20 A Well, I've already said I didn't think it was  
21 circuitry in the sense that I was using the term in the  
22 report.

23 Q Okay. Let's -- let's back up.

24 A Okay.

25 Q You say -- let's make this easier.



1 A Okay.

2 Q You say what they -- what they do not show,  
3 that meaning the figures, is any unusual connection of  
4 components. You say that in paragraph 24, correct?

5 A That's correct.

6 Q Is Figure 3A an ordinary or common connection  
7 of components circa 1987?

8 A Just let me tell you what my -- my confusion  
9 is. You just want to know about the particular thing  
10 here or generically about? Or maybe that's the same  
11 question and I'm just confusing it.

12 Q I'm trying -- I'm trying to test your  
13 characterization of the patent --

14 A Okay.

15 Q -- where you say that you said there was no  
16 formulas. We identified many formulas. You say the  
17 figures and their -- and their configuration don't  
18 reflect any unusual circuitry or interconnection of  
19 components.

20 A Correct.

21 Q Okay. So I'm focusing on the interconnection  
22 of components, and you say that with regard to the  
23 figures in the patent?

24 A Correct.

25 Q Okay. So I'm looking at one of the figures in

1 the patent, Figure 3A, and I'm asking you: From the  
2 standpoint of a person of ordinary skill in the art in  
3 1987, would that be considered a typical or common  
4 interconnection of components --

5 A Oh.

6 Q -- in 1987?

7 A I'd say generally, yes.

8 Q You were -- you were working in the field in  
9 1987, correct?

10 A Yes, sir.

11 Q You saw figures like this?

12 A Not like this particular figure, okay, but I've  
13 seen figures similar to this with respect to  
14 controllers, if that's what you're asking.

15 Q Can you --

16 A Block diagrams, yes, I've seen that.

17 Q Block diagrams of a controller that has --  
18 strike that.

19 Give me an example of a controller, block  
20 diagram for a controller from your experience circa 1987  
21 that was configured similar to this -- this Figure 3A?

22 A Oh. Well, we worked on -- I'm trying to think  
23 about 1987. Well, I don't know if I'm going to be able  
24 to nail the date down for you, but to give you an  
25 example of something that I worked on was a -- a system

1 called the AS400 system, and it had controllers with  
2 these -- these kinds of elements in it organized in a  
3 similar manner: Buffers, you know, between processors,  
4 processors connected to RAM and ROM. Some of them had  
5 something that probably would be a matrix switch. I  
6 don't know within the definition of matrix switch for  
7 this particular patent, but they had capabilities like a  
8 matrix switch. Certainly had a control processor.

9 I don't know that any of the things I worked on  
10 particularly had decrypters in them, but many of them  
11 had error correctors. And, of course, EOFs valve is  
12 a -- basically just a kind of recognition circuit. It's  
13 a term technically -- it's a term of art in the patent,  
14 but not as far as I know in 1987 in the industry.

15 Digital detectors -- so something like the  
16 controller in the AS400 which we worked on several  
17 different ones, communications controller would have had  
18 a structure similar to this and would have had these  
19 kind of components hooked up in a manner very similar to  
20 this.

21 Q So it's -- it's called the communications  
22 controller?

23 A Would be a -- yeah, they would call it -- it's  
24 the AS400. They had -- IBM had a particular term --  
25 adapter I think is their -- their term of art.

1 Q And the AS400 was a mainframe computer?

2 A It was a -- it depended on what time period.  
3 It was a departmental computer.

4 Q Translate that into --

5 A It's kind of like a -- you know, it was like a  
6 mainframe, but it wasn't the raised floor kind of thing.  
7 It was something that would be running -- you know,  
8 might be in the back end of a store someplace running  
9 the cash registers in a store, for example.

10 Q And was there a -- a part number or a  
11 particular name for this communication controller you  
12 have in mind?

13 A From 1987, no, I -- the AS400 was the series.  
14 I don't remember the communications controller.

15 Q And that was in 1987 or a later point in time?

16 A I think that would have been 1987. But  
17 remember, some of the things that I worked on never  
18 turned into actual products with part numbers, right,  
19 they were still something that we proposed to build or  
20 that, you know, we would build a prototype of.

21 Q And you testified that your recollection is  
22 that you saw block diagrams in 1987 of a controller that  
23 was identical or substantially the same as what's shown  
24 on this Figure 3A?

25 A Well, I don't think identical, but I would say

1 many controllers had structures that were similar to  
2 this with some sort of digital detector on the input  
3 buffer separating, you know, components, computational  
4 components, controller, you know, control processor.  
5 Very common approach. And I said I didn't work on  
6 anything with a decrypter that I remember. But then  
7 some sort of switching mechanism on the output.

8 Q I think you're saying that lots of the  
9 components within this controller were -- were known in  
10 that time frame, correct?

11 A That's correct.

12 Q Okay. What I'm asking you is, is it your  
13 personal recollection that you saw block diagrams of a  
14 controller having the components and arranged in  
15 relation to each other as shown in Figure 3A of the '638  
16 patent?

17 A I've seen many diagrams that have these kind of  
18 relationships as shown in here in this -- not labeled  
19 the same way, but this is a very common structure from  
20 input to output with buffers.

21 Q Now you're saying many diagrams. Are we still  
22 talking about the AS400?

23 A Well, the AS400 would be one example. Series 1  
24 would be another. Now I can't remember -- that was  
25 probably a little bit before 1985 that I worked on

1 Series 1 controllers. Adapters.

2 Q So -- so Figure 3A has a decrypter?

3 A Mm-hmm.

4 Q I think you -- I think you conceded that  
5 controllers that you recall did not have a decrypter.  
6 Is that correct?

7 A I don't believe I worked with any decrypters.

8 Q So you didn't see any controllers in 1987 that  
9 had a decrypter, correct?

10 A That's probably correct. I just don't  
11 remember.

12 Q Okay. The inputs to the controller in Figure  
13 3A are -- include television and radio transmission  
14 inputs.

15 A Mm-hmm.

16 Q Do you see that?

17 A 38, 34, 37. Yes, sir, I see that.

18 Q Do you recall seeing any block diagrams of  
19 controllers in 1987 that looked like the diagram shown  
20 in Figure 3A that had television and radio inputs?

21 A Certainly -- in that time frame I certainly had  
22 seen some controllers that had -- well, I don't know  
23 that they had television inputs. They had coaxial  
24 inputs, and they used television like transmission  
25 techniques to move information around, but I don't know

1 that they had television inputs, so probably no.

2 Q Okay.

3 A Although this is basically what teletext is.

4 Q Let's take Figure 3. It's the figure right  
5 before the one we were just discussing.

6 A Okay.

7 Q And this is Figure 3 of Exhibit 1001, Zynga  
8 Exhibit 1001. It's the '638 patent. And Figure 3 shows  
9 a consumer receiver station including a number of  
10 different components. And it shows communication paths  
11 for signals and programming as well as control  
12 information.

13 Do you recall in 1987 seeing a -- seeing block  
14 diagrams or circuits identical to what's shown in Figure  
15 3?

16 A Certainly not identical, but this is basic kind  
17 of electrical circuitry or electrical block diagram, if  
18 you will.

19 Q When are you saying -- I understand you're  
20 saying it's basic, but your statement when you discussed  
21 the patent at the very beginning is that there's no  
22 unusual circuitry or interconnection of components.

23 A Correct.

24 Q And by implication, that's saying that all  
25 these figures are showing, you know, just typical or

1 ordinary connections of components.

2 A Mm-hmm.

3 Q If they're typical or ordinary, then I would  
4 have expected you would have seen diagrams essentially  
5 identical or substantially the same as this.

6 A Well, when you're saying identical -- I mean,  
7 I've seen many diagrams, for instance, the 2, 3, 40, 6,  
8 this is standard front end to a television set.  
9 Buffer -- decrypter, controller, buffer/comparator,  
10 standard kind of organization of these components,  
11 autodialer, the pram controller.

12 Q Pardon me.

13 A Just ordinary things.

14 Q Okay. Signal processor 200 on Figure 3, you  
15 see that? There's a radio signal decoder and TV signal  
16 decoder; do you see that?

17 A I see that.

18 Q Is that part of a standard front end to a  
19 television set in 1987?

20 A Teletext would have had exactly this. Radio --  
21 their radio digital setups would have had this. I mean  
22 a standard television set covers a huge range. There  
23 are television sets that had this, exactly like that.

24 Q Do you understand that radio signal decoder and  
25 TV signal decoder detect digital signals in radio



1 transmissions and TV transmissions respectively?

2 A Mm-hmm, sure.

3 Q Name me a TV, a television in 1987 that had  
4 those two interfaces.

5 A Oh, had both of those interfaces in the same --

6 Q Yes, sir.

7 A I don't know one that had both of them, but I  
8 know of the -- well, I mean in the United States there  
9 was a Motorola television that had exactly TV decoder  
10 that -- oscillators that -- frequency stuff, the buffer/  
11 comparator, controller, pram controller, exactly that in  
12 it.

13 Q That's not -- that wasn't my question.

14 A Sure.

15 Q My question was: What I'm hearing you say is  
16 that a lot of these components, you know, were -- could  
17 be found over here or in this device or in this device,  
18 and therefore putting together -- putting them together  
19 in a single device in a specific manner is -- in a  
20 specific manner is nothing magical. And I'm just trying  
21 to test that.

22 A Sure, sure.

23 Q Okay? So for Figure 3, you told me the  
24 standard TV interface would have the element shown in  
25 Figure 3, which include a radio signal decoder and a TV

1 signal decoder to detect digital signals on incoming  
2 radio and TV transmissions. First, do you agree that  
3 that's what that figure shows?

4 A That's what's shown there, yes.

5 Q Can you name me a television in 1987 that had  
6 that, those features?

7 A I can't think of a television that had a TV  
8 signal decoder and a radio signal decoder where radio  
9 would mean like an FM signal decoder. And obviously a  
10 TV signal decoder is the same thing as a radio signal  
11 decoder, isn't it? I mean, there's no fundamental  
12 difference between them.

13 Q Just so we have a clear record, the answer is  
14 no?

15 A I did not see a diagram that had those elements  
16 in it. Or I can't -- I can't remember a television set  
17 that had those specific elements in it. Okay?

18 Q Okay. Thank you.

19 You also indicate figure -- let's just take the  
20 simple Figure 1, which I believe this is Figure 1 of the  
21 '638 patent, which I believe you used in your  
22 declaration.

23 A As an example.

24 Q Yes, sir.

25 A Sure.

1 Q Describe for me what Figure 1 discloses?

2 A Okay. And I'll do it at a high level so that I  
3 don't run your clock down too much. Okay. So Figure 1,  
4 215 is a television tuner that turns out audio and video  
5 signals. The video just goes straight to the TV  
6 monitor, okay, which is 202M.

7 The path in the video -- and I describe this in  
8 my report. The video path goes to a divider 4, so  
9 basically it makes two copies of the video. The  
10 video -- one copy of the video goes to a TV signal  
11 decoder, and the output of that box is what are called  
12 signals, it says "signals only." I took that to mean  
13 that just whatever the -- was encoded on that TV signal  
14 was coming out, but not the video.

15 The other side of the video goes to the  
16 microcomputer 205, and then microcomputer 205 composes  
17 the video for the TV monitor.

18 So what's not shown in the figure but described  
19 in the -- in the patent is that 205 is basically a PC  
20 and has a particular card in it. And this particular  
21 card can take digital signals, generate character images  
22 or graphic images and overlay them with the video signal  
23 that comes in from divider 4 and produce the final  
24 result, which is the video in the TV monitor 202M.

25 Q And is it correct that the -- the text

1 describes that there are instructions that cause the  
2 microcomputer to generate images and then instructions  
3 that cause those images to be output so that they are  
4 properly synchronized with the broadcast video?

5 A I think that's generally a fair description of  
6 what -- what one circumstance can be there.

7 Q Okay. That's what's described in the very  
8 basic Wall Street Week example, correct?

9 A This -- this is kind of the base of the Wall  
10 Street Week example, that's correct.

11 Q Okay.

12 Does -- did that sort of service exist in 1987  
13 commercially?

14 A Service?

15 Q Yes, sir. The service that's provided in  
16 Figure 1 --

17 A What service?

18 Q Do you agree that Figure 1 describes a way to  
19 deliver personalized television, including common  
20 content and locally generated user specific content that  
21 is properly synchronized and delivered to the consumer?

22 A I have to hear it again. Yeah, there were a  
23 whole bunch of new terms there. If you'd just read it  
24 back.

25 MR. SCHREINER: Can you read it back, please?

1 (Record read as follows:

2 "QUESTION: Do you agree that Figure 1  
3 describes a way to deliver personalized  
4 television, including common content and  
5 locally generated user specific content that  
6 is properly synchronized and delivered to  
7 the consumer?")

8 THE WITNESS: Figure 1 plus the context of the  
9 patent, right, I assume you mean.

10 BY MR. SCHREINER:

11 Q Correct. So my question stands.

12 A Right.

13 Q And what's your answer?

14 A I think the Wall Street Week example, if I  
15 understand your question correctly, would probably meet  
16 that notion that you have. There's an awful lot of  
17 undefined terms there, but Wall Street Week example  
18 would have some generically broadcast information and  
19 then some information that was unique to the station in  
20 some sense. And then those two would be overlaid in  
21 some way. So --

22 Q Many of the terms I'm using are terms that you  
23 used in your declaration.

24 A Mm-hmm, mm-hmm, sure.

25 Q And so I'm having a little bit of difficulty

1 understanding why you -- why you're unable to give me  
2 direct answers to questions that for the most part are  
3 using terminology that is either from your declaration  
4 or from the patent.

5 A Sure.

6 Q Now, we can -- I can take that question and I  
7 can break it up into ten pieces and ask each --

8 A Sure.

9 Q -- each piece as we go through it one through  
10 ten, and then I can ask the whole question again at the  
11 end, you know, but we're going to end up spending a lot  
12 of unnecessary time here.

13 A Sure.

14 Q So I'm going to ask the question again, and I  
15 would ask you to please try to work with me on this  
16 because we're going to get through this deposition. And  
17 I'm not going to go anywhere, and you're not going to go  
18 anywhere until we get these questions answered.

19 All right. So -- I mean, it's a pretty simple  
20 question, really. Okay. I'll break it up. Okay.

21 Does the Wall Street Week describe a service  
22 that can provide personalized television? I think this  
23 is right out of your dec.

24 A "Personalized television." Would you point me  
25 to it in my declaration or would you like me to search

1 for it? I just want to make sure that's the term.

2 Q Yeah.

3 A Remember I wrote this in February. I reviewed  
4 it, of course, but --

5 MR. TOUTON: Maybe if you could just direct him  
6 to the stuff about Figure 1 --

7 MR. SCHREINER: Mm-hmm.

8 MR. TOUTON: -- to sync up with what you're  
9 trying to get at.

10 BY MR. SCHREINER:

11 Q Okay. So -- so you describe in -- on page 10  
12 through -- 10 through 14 you talk about the Wall Street  
13 Week example.

14 A Okay.

15 Q Do you see that?

16 A I do.

17 Q And you talk about on page 12 that the consumer  
18 sees a:

19 "...presentation...that is a composite  
20 of broadcast information (i.e., information  
21 that is available at every receiver) and  
22 information that is specific to a particular  
23 receiver."

24 A I'm sorry, did you say page 12?

25 Q Yes, sir.

1           A     You said -- I just didn't see where you were  
2 reading from.

3           MR. TOUTON:   It's the second sentence of  
4 paragraph 32.

5           THE WITNESS:   Oh, okay.

6 BY MR. SCHREINER:

7           Q     It's actually -- yeah, the second sentence,  
8 correct.

9           A     I have to hear the question again because you  
10 said "the consumer sees" and I just thought you were  
11 reading from --

12          Q     Sure. I'm going to quote paragraph 32.

13          A     Sure.

14          Q     Your sentence:

15                "In this case the basic notion is to  
16 generate a presentation on the TV monitor  
17 202M which is composite of broadcast  
18 information (i.e. information that is  
19 available at every receiver) and information  
20 that is specific to a particular receiver."

21          A     Right.

22          Q     Is what you said there accurate?

23          A     Yes.

24          Q     Okay. And is it correct that in the Wall  
25 Street Week example, instructions are processed at the



1 microcomputer to create graphical overlays combined with  
2 the broadcast information?

3 A I think that's correct.

4 Q And, in fact, Figure 1A through 1C of the '638  
5 patent, which is Zynga Exhibit 1001, shows a combined  
6 presentation of the broadcast content and the locally  
7 generated graphical overlays, correct?

8 A I think that's correct, yes.

9 Q Okay. So now looking at Figure 1 and  
10 considering the supporting text, did that service exist  
11 in 1987?

12 A Wall Street Week or the generic service?

13 Q The generic service.

14 A Well, I think this isn't something that I had  
15 in my report, I don't believe, but --

16 Q Well, you said in your report that there's no  
17 unusual circuitry and that the narrative --

18 A Sure.

19 Q -- really adds nothing. I'm paraphrasing  
20 obviously.

21 A No.

22 Q What I'm asking is --

23 A Yeah, go ahead.

24 Q You say it in your report that Figure 1 and the  
25 accompanying narrative disclose a system where broadcast

1 content is combined with locally generated content in  
2 the form of graphics by processing local user specific  
3 data to produce a combined presentation.

4 A Correct.

5 Q Did that exist, that service, that kind of  
6 combined presentation exist in 1987?

7 A Sure. Without getting too far outside of my  
8 expert report, this is basically what various teletext  
9 services did. They overlaid locally generated  
10 information with generic information from a broadcast  
11 service that was a particular given viewer that that's  
12 what they did.

13 Q So -- so you're saying that Figure 1 and the  
14 accompanying text is -- is a diagram of a teletext  
15 system?

16 A It's very similar to a teletext system. It  
17 could be a teletext system.

18 Q Well, I'm not asking if it's similar. I'm  
19 asking is it described as a teletext system?

20 A In some ways, yes, sir. Yes, that's what he's  
21 talking about with TV signal decoder. That's exactly  
22 what it is.

23 Q And the -- and the combined presentation that's  
24 shown in Figures 1A through 1C of broadcast content  
25 overlaid with locally generated content created based on

1 user specific information processed at the receiver  
2 station, you're saying that existed in 1987?

3 A That generic statement that you made, yes.  
4 That's what teletext is.

5 Q Okay.

6 MR. TOUTON: I see you're flipping pages.  
7 We've been going a little over two hours, and I think  
8 everybody is suffering a little bit from it.

9 MR. SCHREINER: Yes.

10 MR. TOUTON: So we ought to -- it would be a  
11 good time for a lunch break, but I don't want to  
12 interrupt the flow of the question.

13 MR. SCHREINER: Let me just see. There was one  
14 additional area in this paragraph 24 that just kept me  
15 up at night. So --

16 BY MR. SCHREINER:

17 Q So the figures that are shown in the '638  
18 patent there, there are -- there are eight figures of  
19 varying complexity, and -- and your view is that none of  
20 those show any unusual connection of components?

21 A Yeah, that's my view, and I just -- just to  
22 make it clear. You know, this was said in the -- you  
23 know, I'm not trying to say that -- you know, that my  
24 purpose in saying that there wasn't is to somehow  
25 denigrate the '638 patent. Okay?

1           What I was saying that in was in the context of  
2 one of ordinary skill in the art, what would they need  
3 to understand -- to understand this patent in that  
4 section, right? That's -- that's what I'm trying to say  
5 there. There's nothing -- no skill level that involves,  
6 you know, circuitry. There's no skill level that  
7 involves unusual -- anything unusual at all. So, you  
8 know, that's what I'm trying to relate.

9           Q     Okay.

10          A     Just to be clear, I'm not trying to say the  
11 patent is, you know, a hodgepodge or something like  
12 that. I'm just saying that if you're one of ordinary  
13 skill in the art, what would you need to understand to  
14 be that person of ordinary skill in the art.

15                 Now, that's not an answer to your question, but  
16 if you ask it again, I just want to give you that  
17 context.

18          Q     So you're saying you said it to convey an idea  
19 of what a person of ordinary skill in the art would need  
20 to understand the disclosed inventions?

21          A     Correct.

22          Q     And to carry out the disclosed inventions,  
23 correct?

24          A     To build it, perhaps, if that's what they  
25 wanted to do. Make use of it.

1 Q You also state that there's -- "although the  
2 text of the patent is extensive" -- this is paragraph 24  
3 of your declaration, Exhibit Zynga Exhibit 1011:

4 "Although the text of patent is  
5 extensive it does not describe the use of  
6 any unusual technology beyond what is shown  
7 in the figures. For example, there are no  
8 formulae, computer programs."

9 So is it your position that there's no  
10 description of the use of computer programs in this '638  
11 specification?

12 A There's certainly description of various  
13 computer programs of unknown content. I mean, we don't  
14 have a listing of any computer program that I'm aware of  
15 or a figure of any -- I mean, certainly things are  
16 named, but they're just names of something that's  
17 described in the specification. They're not a -- you  
18 know, not something that you can take off the shelf.  
19 And maybe in the case of the operating system or  
20 something like that you could take that off the shelf,  
21 but they're not described or anything in any detail.

22 Q Does a patent need to have a computer program  
23 listing to be valid?

24 A No, of course not.

25 Q Okay. Does the patent talk about the use of

1 computer programming to accomplish various tasks?

2 A Computer programming or computer programs?

3 Q Either one.

4 A Either one. I think it does.

5 Q Does the patent talk about downloading computer  
6 programs from transmitter stations to consumer receiver  
7 stations to be executed?

8 A Yes, in some places it does.

9 Q Does the patent talk about the transmission of  
10 instructions that cause existing computer programs in  
11 the receiver stations to perform specified functions?

12 A They talk about a signal called instruct signal  
13 that in some cases does that.

14 Q And in figures -- '638 patent, Figures 2A  
15 through 2K, is it correct that these describe various  
16 message formats?

17 MR. TOUTON: All of those or some of them? I  
18 don't mean to interfere. I just think you misspoke.

19 MR. SCHREINER: I'll let the gentleman answer  
20 the question.

21 MR. TOUTON: All right.

22 THE WITNESS: Did you say 2E through 2K I  
23 think?

24 MR. TOUTON: No. Maybe I misheard him.

25 BY MR. SCHREINER:

1 Q 2E through 2K.

2 A 2E, K.

3 MR. TOUTON: Okay. I heard 2A, that is why.

4 THE WITNESS: Yeah, I did too. That's fine.

5 BY MR. SCHREINER:

6 Q Let the record reflect I was referring to 2E  
7 through 2K.

8 A Just ask it again and I'll --

9 Q Sure. Do you agree that Figures 2E through 2K  
10 disclose various message formats or messages that can be  
11 transmitted to receiver stations?

12 A I think that's -- that's fair. I think that's  
13 correct.

14 Q Okay. Figure 2E, for example, as a segment  
15 marked command. Do you see that?

16 A I see that.

17 Q And do you recall reading in the Harvey  
18 specification that these messages can include code  
19 that's downloaded and then executed at the receiver  
20 station?

21 A That's -- that's one -- I don't know if -- the  
22 2E example conforms to that, but one of -- one of the  
23 things that Harvey talks about is the possibility of  
24 transmitting instructions to a station for later  
25 execution. So it would cover that. I don't know if

1 this format really will -- is related to that without  
2 going back and reviewing this.

3 Q Sure. And you -- you state in your declaration  
4 at page 95, paragraph 152 --

5 A Paragraph 95.

6 Q I'm sorry, page 95, paragraph 152. Do you see  
7 that you say:

8 "One of ordinary skill in the art would  
9 understand that a computer program is  
10 composed of instructions..."

11 A I'm sorry, I don't see where you're reading  
12 from. Ah, I see it. I see it. At the end of the  
13 paragraph -- at the end of the first part. Okay.

14 Q You see that section?

15 A I see that.

16 Q And that's your -- that's your view, correct?

17 A That's correct.

18 Q So if the Harvey specification discloses  
19 various types of instructions, doesn't it follow that  
20 the specification is disclosing the use of computer  
21 programs?

22 A I'm sorry. Maybe we do need to take -- just  
23 repeat it. I just --

24 Q Let me -- let me go to a different example.

25 Do you recall at the end of the specification



1 there was a disclosure of updating operating systems in  
2 personal computers such as updating an operating system  
3 in an Apple Computer versus updating an operating system  
4 in an IBM PC?

5 A I vaguely recall that.

6 Q Okay. I can point you to it.

7 A Yeah, but maybe we won't need to.

8 Q Yeah. Do you agree that that involves the use  
9 of software?

10 A That -- that particular aspect? Yes, that  
11 would involve software.

12 Q Okay. Okay.

13 (Lunch recess 1:25 p.m. to 2:21 p.m.)

14 BY MR. SCHREINER:

15 Q Good afternoon, Dr. Neuhauser.

16 A Good afternoon.

17 Q We're going to pick up with your declaration  
18 for the '638 patent which has been marked as Zynga  
19 Exhibit 1011.

20 A Mm-hmm.

21 Q And I'm going to ask you a series of questions  
22 about your -- about the statements in your declaration.  
23 First if I can refer you to paragraph 134 of your  
24 declaration on page 83.

25 A 134.

1 Q Yes, paragraph 134, page 83 it states that --  
2 paragraph 134 states:

3 "Bakula discloses a multiterminal  
4 editing system. One preferred embodiment is  
5 a newspaper editing system where reporters  
6 and editors can interactively edit news  
7 articles and submit them for opposition."

8 Citing Bakula, which is exhibit -- Zynga  
9 Exhibit 1009. That's patent No. 4,204,206, which I'll  
10 refer to as Bakula going forward.

11 Do you have the Bakula patent in front of you,  
12 Dr. Neuhauser?

13 A I'm getting it. Just give me one minute here  
14 before you -- just so I can flip through it and bring it  
15 back into my head.

16 Okay. I have Bakula. I call it Bakula  
17 (pronunciation). Whatever.

18 Q One of us is right.

19 A Maybe neither.

20 Q At column 117 -- excuse me, column 1, line 17  
21 through 23 in Bakula, that describes the background of  
22 the art or the state of the art; is that correct?

23 A Yes, that's correct.

24 Q So that passage is not describing a preferred  
25 embodiment of Bakula, correct?

1           A     That sentence, that's correct. Right below  
2 that, of course, it talks about Figure 1.

3           Q     I'm sorry, where is Figure 1? Oh, you're  
4 talking about --

5           A     It's right below. When you said that passage,  
6 the sentence is -- the citation is referring to the  
7 background. The passage is talking about the  
8 embodiment. Figure 1 is the embodiment.

9           Q     Let's make sure that we're clear with one  
10 another. The statement in the declaration is that:

11                     "One preferred embodiment of the Bakula  
12 is a newspaper editing system where  
13 reporters and editors can interactively edit  
14 news articles."

15                     And it cites Bakula at column 1, lines 17  
16 through 23. Do you see that?

17           A     I do.

18           Q     Column 1, line 17 through 23 describes the  
19 background prior art, correct?

20           A     That's correct.

21           Q     Column 1, line 17 through 23 is not describing  
22 a preferred embodiment of Bakula, correct?

23           A     I think that's correct.

24           Q     It's in the background of the invention  
25 section?

1           A     Right, but it's describing -- it's not  
2 describing the structure of the preferred embodiment, 17  
3 through 23, but it is describing the environment of the  
4 preferred embodiment because it's the same environment  
5 here as it is in the statement. People editing and so  
6 forth.

7           Q     It is column 1, line 17 through 23. It is  
8 under the section of the patent entitled "Background and  
9 Field of the Invention," correct?

10          A     That's correct.

11          Q     And column 1, line 17 through 23, doesn't state  
12 that that is an embodiment of the Bakula invention,  
13 correct?

14          A     That's correct.

15          Q     And column 136 of your declaration on the '638  
16 patent --

17                   MR. TOUTON: Paragraph 136?

18                   MR. SCHREINER: Yes, sir.

19 BY MR. SCHREINER:

20          Q     -- you state the purpose of the terminals --  
21 strike that.

22                   Referring to the Bakula system you state:

23                   "The purpose of the terminals is to  
24 allow reporters to enter news stories, or  
25 perhaps develop news stories from news wire

1 reports."

2 Do you see that?

3 A I do.

4 Q Okay. Can you show me in Bakula where it  
5 discloses that the terminals can be used for reporters  
6 to originate stories?

7 A You mean just where reporters originate stories  
8 at the terminal by perhaps entering information? Is  
9 that --

10 Q Any way that you can find in Bakula.

11 A I may not be answering your question, but I  
12 mean the passage we looked at before, say in column 1  
13 where it talks about the background, it said:

14 "These terminals may be employed by  
15 writers who originate stories by entering  
16 text through the terminal's keyboard."

17 Okay. And then it goes on to say down below:

18 "It would further be desirable in such  
19 a dual screen mode of operation that the  
20 editor have the facilities at the terminal  
21 to scroll or otherwise edit one of the  
22 stories without acting upon the other  
23 story."

24 So there's a linkage -- what's stated in 1 --  
25 say the part that I just read, 21 through -- column 1,

1 19 through 22 is the current state of things, and all  
2 they're saying is further down, and then when they get  
3 into the discussion of the Bakula, that you might  
4 have -- do things better by having this dual mode  
5 display and do all the things that you used to do, but  
6 just do them better because it's a dual mode display.  
7 So I mean that seems to me to tell you that these  
8 terminals can be used to originate stories.

9 Q But in the actual disclosure of Bakula's  
10 invention starting with the "Summary of Invention"  
11 column 1, line 63, through the end of the patent, isn't  
12 it correct that Bakula does not describe that his editor  
13 terminal can be used to originate a story?

14 A To one of ordinary skill in the art?

15 Q Yes, sir.

16 A I just don't agree with that.

17 Q Well, I'd like you to show me -- I think you're  
18 confusing -- with all due respect --

19 A Maybe I'm missing your question. Yeah.

20 Q Okay. Column 1, line 17 through 27 describes  
21 the state of the prior art, correct?

22 A That's correct.

23 Q Okay. And as is the usual case in a patent,  
24 the disclosure of the invention starts with the summary  
25 of the invention and proceeds through the detailed

1 description. Is that your general understanding of the  
2 organization of a patent?

3 A Generally. I mean, patents don't fall into  
4 neat categories in my experience, but yeah, generally  
5 that's the case.

6 Q Show me in the Bakula patent which has been  
7 marked as Exhibit 1009 where in the summary of the  
8 invention or the detailed description that its editor  
9 terminals that are specially programmed for editor  
10 functionality can be used to originate stories.

11 A Let me take for an example -- let me just read  
12 a little more of this.

13 Q Sure.

14 A I'm just going to point you to a section, and  
15 then I'm going to read it, and I'm going to promise to  
16 read it slowly.

17 If you look at column 2 (sic) at line 54 down  
18 to say line through 67, it says here:

19 "Also associated with the system is a  
20 plurality of editing terminals T1, T2,  
21 through TN. Each editing terminal takes the  
22 form of a processor driven video display  
23 terminal having a keyboard and a display  
24 screen. With such a system, a news writer  
25 may use an editing terminal to create a

1 story which is displayed on the display  
2 screen. Once the writer is satisfied with  
3 the story, he will actuate a send key and  
4 coded data representative of the story will  
5 be supplied through the system multiplexor  
6 MX to the host computer HC which will then  
7 store the story in a particular storage  
8 location at the database storage DBS for  
9 subsequent retrieval."

10 Q Which -- I'm sorry. Which column was that?

11 A That was column 1, and that was -- I was  
12 reading from 56 down to 67.

13 Q Column 1?

14 A I'm sorry, column 3.

15 Q Column 3?

16 A I had column 1 in my head, and I just couldn't  
17 let go of it.

18 Q Column 3?

19 A So just to make it clear, column 3, 56 down to  
20 66.

21 Q I apologize for the delay. I'm trying to find  
22 that passage of the sports editing terminal.

23 A That might be in my declaration actually.

24 Q Yes, I think it is. Here you go. Column 5,  
25 lines 12 through 14, let me make my question a little



1 bit more precise.

2 A Okay.

3 Q The -- the terminals that are disclosed in  
4 Bakula are variable function terminals whose function  
5 can be controlled by downloading different programs to  
6 the terminal from the host; is that correct?

7 A That's correct.

8 Q Okay. So in column 5 where it states, column 5  
9 of Bakula, it states -- this is lines 10 through 16:

10 "The host computer will now download  
11 program instructions to the terminal for  
12 storage in the main memory M. The terminal  
13 is now programmed to perform its intended  
14 operation, i.e., such as a sports editor  
15 terminal."

16 Do you see that?

17 A I see that.

18 Q Okay. So the person of ordinary skill would  
19 understand that these terminals are specially used  
20 terminals depending on the software that's been  
21 downloaded, correct?

22 A Yeah, I think that's correct. I don't know  
23 about the term "special use." I mean they're programmed  
24 for a particular use, but --

25 Q The language says "to perform its intended

1 operation"?

2 A Yeah, sure. Whatever that intended operation  
3 is may not be restricted in any real way.

4 Q And the focus of Bakula is downloading a  
5 terminal control program that is for use by an editor  
6 for perform editing operations on a story, correct?

7 A I don't really quite agree with that statement  
8 for a couple of reasons. Do you want me to explain  
9 them?

10 Q Please.

11 A Okay. So you said the focus of Bakula. Bakula  
12 has a number of ideas in it. One of the ideas is this.  
13 So it would be a focus if there is such a thing. And it  
14 says it's an editing terminal, not an editor's terminal.  
15 So it's just a terminal for editing. They give an  
16 example of a sports editor, for example, or other type  
17 of editor, but it just says it's an editing terminal.

18 Now, I don't know if I've really answered your  
19 question, but I thought I heard a couple things in there  
20 that just didn't sound right to me.

21 Q The software control program -- excuse me. The  
22 terminal control program disclosed explicitly in Bakula  
23 is for editing news stories, correct?

24 A They talk about it in that context certainly,  
25 but I don't think -- we may be on a different -- two

1 different tracks here. Do you mean editing like for  
2 exclusive use by an editor to correct a story, or do you  
3 mean --

4 Q Indeed, yes.

5 A I don't think one of ordinary skill in the art  
6 would get that at all from --

7 Q Okay.

8 A It says editing terminal. It's for editing.  
9 It doesn't say an editor's terminal.

10 Q Since we're in the realm of anticipation, there  
11 needs to be explicit disclosure of the claim limitations  
12 or disclosure through inherency, correct? Is that your  
13 understanding of the law?

14 A My understanding is it has to be disclosure to  
15 one of ordinary skill in the art, what they read within  
16 the four corners of this document and relying upon their  
17 skills, right to interpret, to understand it.

18 Q Right. But as you note in your statement of  
19 the law, you're correct that it's from the standpoint of  
20 a person of ordinary skill?

21 A I'm sorry, I missed one word there that you --

22 Q You're correct --

23 A Oh, correct.

24 Q -- that it's from the standpoint of a person of  
25 ordinary skill, but the test for anticipation is that

1 the reference explicitly discloses or discloses through  
2 inherency the claim element at issue; do you agree with  
3 that?

4 A Well, now you're getting -- you're getting  
5 beyond my ability to really -- I mean you're asking  
6 me --

7 Q I mean I'm -- I'm citing, I'm not trying to get  
8 you off track here.

9 A No, sure.

10 Q I'm citing what's disclosed as your  
11 understanding of the law. So let's look at your  
12 declaration at --

13 A I apologize. There was no time to put an index  
14 in the declaration, which would have made the job much  
15 easier. 3 -- 5 -- 5 is where it starts.

16 Q Take a look at actually page 6 of your  
17 declaration, paragraph 17.

18 A Right.

19 Q Okay. Is that statement correct?

20 A As far as I know, it's correct as it was given  
21 to me.

22 Q And that's your understanding of the law of  
23 anticipation, that you are to apply as an expert --

24 A Right.

25 Q -- in this case?

1           A     Yes, with this notion that it has to be what  
2 one of ordinary skill in the art would see in that, but  
3 yes, that's -- that's the best understanding I have of  
4 that.

5           Q     And then kind of layperson's terms, does that  
6 mean to you that a person of ordinary skill in the art,  
7 reviewing the document, would see that the element at  
8 issue is expressly disclosed or it's inherent to this  
9 system that's disclosed?

10          A     Yes, that's correct.

11          Q     So going back to Bakula, Exhibit 1009, first  
12 let's set the stage. Bakula describes downloading  
13 programs to terminals so that they can perform  
14 particular functions, correct?

15          A     Yes, that's correct.

16          Q     And, in fact, those programs are stored in a  
17 main memory M that is volatile; correct?

18          A     Yes, that's correct.

19          Q     So when the computer is turned off or its state  
20 changes, that program is going to disappear, correct?

21          A     Certainly -- well, it could -- it could be  
22 correct. It doesn't cover all the possibilities.

23          Q     From the standpoint of a person of ordinary  
24 skill, if a program is stored in volatile memory such as  
25 RAM and the computer is turned off, would a person of

1 ordinary skill expect that that program would no longer  
2 be in memory?

3 A It would depend on the system. RAM -- RAM,  
4 they're battery backed-up systems for example. There's  
5 all kinds of variance.

6 Q We're not talking about --

7 A Okay.

8 Q We're talking about what's in Bakula.

9 A Okay.

10 Q Bakula discloses a main memory M?

11 A Mm-hmm.

12 Q Well, a main memory M and its RAM, random  
13 access memory, correct?

14 A That's correct.

15 Q And a person of ordinary skill would understand  
16 that to be volatile memory; is that correct?

17 A I think generally speaking someone looking at  
18 this would -- without other input, would imagine that  
19 it's going to be implemented with some sort of  
20 nonvolatile memory, so I think that's correct. They  
21 might imagine other types of things in place of RAM that  
22 have RAM-like characteristics.

23 Q I'm not talking --

24 A Okay.

25 Q Remember, we're not talking about obviousness.

1 We're talking about would a person of ordinary skill  
2 read this disclosure to actually say. Okay?

3 A All right, yeah.

4 Q So the programs that are downloaded to -- to  
5 program the editor terminals in Bakula are stored in  
6 RAM, correct?

7 A But they're stored in a block labeled RAM,  
8 that's correct.

9 Q Is there anything in this reference Bakula that  
10 talks about backing up RAM M with some sort of  
11 nonvolatile memory?

12 A There's nothing in Bakula that says one way or  
13 another what block -- what the RAM is. It doesn't say  
14 that it's nonvolatile memory. It doesn't say that it's  
15 volatile memory. It just says that it's RAM.

16 Q That wasn't my question.

17 A Okay.

18 Q Since we're dealing with anticipation, you  
19 know, I'd ask you to resist the urge to speculate  
20 because -- because we're looking at -- the question at  
21 hand is what does this reference actually say.

22 A Sure.

23 Q Okay. I'll tell you what I think this  
24 reference actually says and --

25 A Okay.

1 Q -- perhaps you can disabuse me or agree with  
2 me. This reference appears to disclose essentially dumb  
3 terminals that are downloaded with special purpose  
4 programming on an as-needed basis.

5 A I don't agree with that statement.

6 Q Why not?

7 A They're not dumb terminals. In the terminology  
8 of that time these would be intelligent terminals.  
9 But --

10 Q Okay.

11 A Okay. So, I mean, I just don't agree with that  
12 part of the statement.

13 Q Okay. Is it correct that what is disclosed in  
14 Bakula is a terminal control program that allows an  
15 editor to perform his editing function in a newspaper?

16 A It certainly discloses that. It certainly  
17 discloses more than that.

18 Q Okay. And am I correct that Bakula as a whole,  
19 including its background of prior art, draws a line  
20 between the functions performed by people working at a  
21 newspaper, the writers who write or originate, and  
22 there's editors who edit the stories written by others.  
23 Do you agree with that?

24 A No, I don't agree with that.

25 Q Why not?



1           A     I just don't think that anyone reading this of  
2 ordinary skill in the art would think that the editing  
3 terminal is -- oh, you're saying the functions? Maybe I  
4 didn't understand your question. Ask it again and let  
5 me -- let me think about it a bit.

6           Q     Okay. Let's -- let's -- let's set aside the  
7 system. And let's think about a newspaper operation  
8 that is the kind that Bakula is thinking about. Is  
9 it -- is it correct that that newspaper operation would  
10 have writers that originate stories, that would be  
11 one -- one type of employee, and then there would be  
12 another type of employee who would be an editor that  
13 edits stories written by others?

14          A     I don't think there's a suggestion of that in  
15 there, but I don't think that Bakula is saying anything  
16 about the structure of newsroom operations.

17          Q     Okay. Show me -- show me -- show me where in  
18 Bakula it discloses that the -- well, strike that.

19                    You agree that the terminal -- the terminal  
20 control program is a piece of software downloaded from  
21 the host to the editor terminal, correct?

22          A     Yes, there is such a thing. That's correct.

23          Q     That's disclosed in Bakula?

24          A     Yes.

25          Q     Show me where Bakula states that an editor can

1 use that program to originate a story?

2 A That's what I quoted at 36.

3 Q That was writers.

4 A This is a person of ordinary skill in the art.  
5 I mean editors might be news writers, wouldn't they? I  
6 mean your -- I just really don't understand the  
7 question.

8 Q I'm asking you to show me -- a person of  
9 ordinary skill in the art doesn't make up for what's not  
10 found in a reference. It may help on obviousness, but  
11 it doesn't help fill gaps in a reference for purposes of  
12 anticipation. I'm asking you a very simple question,  
13 and that's where in this reference does it disclose that  
14 an editor can use the terminal control program to  
15 originate a story?

16 A I mean, if you just look at column 4,3  
17 through -- 3 through 14, let's say. Without reading it,  
18 and I'm just going to paraphrase it, and you can read  
19 it. The editor calls up a news story. They will now  
20 view the story on his display screen and make whatever  
21 editing corrections he requires using proper editing  
22 controls at his keyboard. That could include completely  
23 erasing the story and rewriting it. That would be  
24 originating.

25 Q With all due respect, I think that would be

1 conjecture. I'll read the passage.

2 A Sure.

3 Q Passage column 4, lines 3 through -- 3 through  
4 14 states:

5 "An editor, through the use of his  
6 editing terminal, may call up a story  
7 entered into the database storage from  
8 either one of his writers or from one of the  
9 data input sources DIS. In this case, the  
10 proper keys on the terminal's keyboard will  
11 be actuated and the" storage -- "and the  
12 story will be retrieved from the database  
13 storage and supplied under the control of  
14 the host computer HC to the terminal  
15 requesting the story. The editor will now  
16 view the story on his display screen and  
17 make whatever editing corrections he  
18 requires, using the proper editing controls  
19 on the keyboard."

20 A That's the passage I had in mind.

21 Q Now, where in that passage does it say that an  
22 editor originates a story?

23 A "Whatever editing corrections he requires." He  
24 can erase the story and rewrite it with anything that he  
25 wishes. That's -- that would certainly be within

1 whatever editing -- maybe he doesn't like the story at  
2 all. He says I can do a better job.

3 Q So -- so your -- your position as an expert in  
4 this case is that editing -- editing a news story  
5 equates to originating a news story?

6 A I don't agree with that statement.

7 Q I think that's what you just said.

8 A No, it's one of the possibilities.

9 MR. TOUTON: Why don't you ask him questions  
10 rather than commenting on his testimony. Just trying to  
11 avoid getting into an argument.

12 MR. SCHREINER: I'd like some direct answers.

13 MR. TOUTON: I think he's given you direct  
14 answers.

15 MR. SCHREINER: No, no.

16 MR. TOUTON: Just ask questions and he'll give  
17 you answers.

18 THE WITNESS: Ask it again then.

19 BY MR. SCHREINER:

20 Q Okay. Let's go ahead and let's pull up Bakula,  
21 and let's -- okay, let's -- let's start with the word  
22 "originate."

23 A Okay.

24 Q Column 1, lines 19 through 21. This is in the  
25 background section. States:

1           "These terminals may be employed by  
2           writers who originate stories by entering  
3           text through the terminal's keyboard."

4           Do you see that?

5           A     I see that.

6           Q     Column 3, lines 60 through 62, state:

7           "With such a system, a news writer may  
8           use an editing terminal to create a story  
9           which is displayed on the display screen."

10          Do you see that?

11          A     I see that.

12          Q     Okay. So that says that a news writer may  
13          create a story, correct?

14          A     That's correct.

15          Q     So, so far we've got a writer can originate a  
16          story and a writer can create a story, correct?

17          A     I see that.

18          Q     Show me in Bakula where it discloses that an  
19          editor can create or originate a story as is described  
20          with respect to writers.

21          A     Okay. I'll answer it as best I can. It says  
22          the editor -- at column 4 in 10:

23                 "The editor will now view the story on  
24                 his display screen and make whatever editing  
25                 corrections he requires, using the proper

1 editing controls on the keyboard."

2 So if he edits a story, he's clearly creating a  
3 story. I don't think -- I mean, I think one of ordinary  
4 skill in the art would understand that. It's just  
5 English. You're creating something, you're editing  
6 something, you're creating something new. I take this  
7 and I think one of ordinary skill in the art would take  
8 it, that this passage here, if you're asking the editor  
9 himself or herself, that person, it's the same thing  
10 here, they can make whatever editing changes they --  
11 they desire. That could include creating a story from  
12 scratch by erasing the previous story and writing  
13 something completely different. And I don't see any  
14 difference between what's in column 4 and what news  
15 writers are doing.

16 Q Okay. Two questions: Does the Bakula patent  
17 say anywhere in these words that an editor can create a  
18 story or that an editor can originate a story?

19 A Your question is limited to --

20 Q -- those two words. Does -- does the reference  
21 state that using those words, either of those words,  
22 that an editor can create a story or that an editor can  
23 originate a story? I understand your position on column  
24 4.

25 A Again, I know you understand or I think you

1 understand my position, but --

2 Q My question is straightforward, and I'll break  
3 it up. Is there anywhere in the Bakula patent where it  
4 states that an editor can create using that word, can  
5 create a story?

6 A I think at this point you're asking me is there  
7 a specific word attached to another specific word.  
8 You're not asking anymore for my -- what one of ordinary  
9 skill in the art would understand or what I understand  
10 or what common sense would --

11 Q Common sense doesn't enter into this.

12 A Well, but it does.

13 Q It doesn't mean you can't --

14 A Well, sir, let me finish my answer here. And  
15 why I'm having difficulty with your question, you know,  
16 if you parse things down to individual words, and you  
17 don't look at them in context, you lose the meaning of  
18 anything. And I'm happy to look through here, and I  
19 suspect you've already looked through here and see that  
20 the editor -- the word editor and create doesn't appear  
21 in the same sentence. That doesn't change what I've  
22 said about what one would understand.

23 So if you want me to look through this and find  
24 out whether -- the way I understand your question now,  
25 I'm down to looking to see whether it says "editor" and

1 "create" in the same sentence. Those words, not -- not  
2 whether an editor can create or is capable of creating  
3 or does create, but whether an editor has that exact  
4 word. If that's what you're looking for, I'll look for  
5 it and say yes or no, but it just -- it's beyond my  
6 ability to really comprehend the question anymore.

7 Q I feel like you're trying to avoid the question  
8 by saying well, I'm looking at it from -- to see what a  
9 person of ordinary skill would understand.

10 A Mm-hmm.

11 Q Okay? I'm asking you: What does the document  
12 say. And we've established that the document says that  
13 writers can create stories, and it also says writers can  
14 originate stories. Do you agree that both of those  
15 statements are explicit in Bakula?

16 A They certainly are.

17 Q Okay. Now, I'm asking you the same question  
18 for editors. Does Bakula explicitly say that an editor  
19 can create a story?

20 A Isn't that what 4 is saying? Just right there  
21 in 4 it says that the editor can do any -- whatever  
22 editing he or she desires to this story. That clearly  
23 creates and it clearly could originate. For instance,  
24 the -- the -- the person takes the story. They make a  
25 change to it. They save it away. They've originated a



1 story.

2 Q The passage you're referring to in column 4  
3 says:

4 "The editor will now view the story on  
5 his display screen and make whatever editing  
6 corrections he requires, using the proper  
7 editing controllers on the keyboard."

8 A Mm-hmm.

9 Q Do you see that?

10 A And it goes on to say:

11 "Once the edited story has been  
12 completed, the editor will actuate a send  
13 key on the keyboard and the edited story  
14 will now be stored at the database but in a  
15 different location from the unedited story."

16 Something's been originated.

17 Q That passage says that, quote:

18 "The editor...can make whatever editing  
19 corrections he requires" --

20 That's a quote from that passage.

21 A That's correct.

22 Q "...using the proper editing controls  
23 on the keyboard."

24 That's a quote also from the passage, right?

25 A That's correct.

1 Q Does it say in that passage explicitly that an  
2 editor can create his own story? I'm not asking for  
3 inferences or suppositions. I'm asking does it say that  
4 an editor could create his own story?

5 A Explicitly, yes.

6 Q Where?

7 A It says right there:

8 "The editor will now view the story on  
9 his...screen and make whatever editing  
10 corrections he requires, using the proper  
11 editing controls on the keyboard."

12 That is creating something.

13 Q I see. So your view is that when an editor  
14 edits a story that he's creating a story?

15 A That seems pretty obvious to me.

16 Q Well, it wasn't obvious to me. And so when an  
17 editor edits a story, he's originating a story?

18 A That's -- that's what it says in the very next  
19 thing. He makes some changes. He sends it someplace  
20 and it's a new story. May be based on an old story, but  
21 he's originated that story.

22 Q Since -- since you're saying -- since your view  
23 as an expert and from the standpoint of a person of  
24 ordinary skill is that an edited story is an originated  
25 story, please tell me what term we should use to refer

1 to the creation of a story from ground up.

2 A You'd probably have to say -- I don't know if  
3 there's a term, but you might have to say something like  
4 you just said, you know, creation of a story from the  
5 ground up.

6 Q Okay. So for purposes of our discussion here,  
7 we're going to refer to the preparation of an entirely  
8 new story as the creation of a story from ground up.

9 A Okay.

10 Q Well, I'm asking you, do you understand the  
11 phrase so that we can have a conversation about it?

12 A The creation of an entirely new story?

13 Q Yes, sir.

14 A Or maybe something like a different story. I  
15 mean -- well, that won't work either, will it? It  
16 has -- you want something that -- you'll have to --  
17 yeah, explain to me again what you're looking for.

18 Q I'm having a little difficulty understanding  
19 how a person of ordinary skill -- in fact, even a  
20 layperson wouldn't understand that in newspaper  
21 organizations, there's writers whose job is to create  
22 new stories and there's editors whose job is to receive  
23 those stories from writers and edit them so that they  
24 read better. Is that not your understanding of what the  
25 job functions in a newspaper organization would be?

1           A     I think it could be that, and it could be many,  
2 many other things. You know, just to give you an  
3 example, you said a writer creates a story. They might  
4 create a story by copying parts of another story. Is  
5 that creating or originating or is that one and not the  
6 other?

7           Q     I don't think --

8           A     Your questions just don't -- when they're  
9 parsed down to that level, they don't make sense  
10 anymore.

11          Q     Does Bakula disclose that an editor can create  
12 a story from the ground up?

13          A     I think so, yes.

14          Q     Where?

15          A     In 4, the passage that we've --

16          Q     Where does it say that?

17          A     It says:

18                 "The editor will now view the story on  
19 his display screen and make whatever editing  
20 corrections he requires, using the proper  
21 editing controls on his keyboard."

22                 So it doesn't limit, be it kind of -- at least  
23 Bakula doesn't seem to edit -- limit the kind of editing  
24 that that person could do. They could erase that story.  
25 They could -- they could erase everything except one

1 word of that story, create a new story. It's --

2 Q But Bakula doesn't say that, though. You're  
3 speculating about what Bakula's software could do?

4 A No, not at all. It says "whatever editing  
5 corrections he requires."

6 Q So I want to make sure I understand your  
7 scenario here. You agree that column 4 is -- this is  
8 lines 3 through 27, is generally dealing with an editor  
9 who has retrieved a story written by another writer and  
10 who is going to edit that story; is that correct?

11 A I agree with that.

12 Q As a general proposition?

13 A That is generally what is spoken about there.

14 Q And you are saying that column 4 also discloses  
15 that that editor could delete all the material from the  
16 story from the writer and then write a brand new story?

17 A That -- that's certainly disclosed there.

18 Q Okay. We discussed earlier that Bakula  
19 describes the downloading of special software for  
20 special functions performed at a terminal such as the  
21 sports editor example. Do you recall that?

22 A I do.

23 Q Is it possible -- strike that.

24 Did general purpose word processing programs  
25 exist in 1977 when Bakula was filed?

1 A General purpose word process- -- yes.

2 Q Give me an example. 1977?

3 A 1977. I'm going to say Vi was a type of --  
4 well, Vi might have been. Let me think here. Yeah,  
5 '77. Vi, I believe, was available. There were  
6 certainly word processing programs like -- I'm trying to  
7 think about -- Display Writer was an example. And I  
8 believe that was available in 1977.

9 Q Vi is V-i?

10 A Vi, yeah. Victor indigo.

11 Q And what sort of computers did it run on?

12 A Vi, it might have -- Vi might have been a  
13 variant of Emac, E -- Echo, Mike, Alpha, Charlie,  
14 Emacs -- maybe "s" on the end. So Emacs or Vi I believe  
15 were available in 1977.

16 Q I'm sorry, what type of computers would they  
17 run on?

18 A Well, there were variants I believe of Emac  
19 that ran on PDP-11.

20 Q And what is a PDP-11?

21 A PDP-11 is a DEC, Digital Equipment Corporation  
22 computer.

23 Q Is that a PC, a mini computer?

24 A It's a mini computer.

25 Q Is it possible -- recognizing that Bakula

1 discloses the downloading of software so that a terminal  
2 can perform its intended operation --

3 A Mm-hmm.

4 Q -- isn't it possible that the editor program  
5 that is downloaded in Bakula has a limited functionality  
6 only allowing for editing and not allowing for the  
7 creation of a story from ground up?

8 A I can't discard that possibility, but that  
9 would be a very unusual kind of system that didn't allow  
10 you to -- you know, quite frankly, the editing systems  
11 that I've seen, and I've used a lot of them, I've never  
12 seen one that limits your ability to change things  
13 unless there's a protected field or some such thing like  
14 that. There are those kind of systems that that  
15 wouldn't be an editing terminal for -- necessarily for a  
16 newsroom.

17 Q Okay. But it's possible that Bakula's editing  
18 software would only allow for editing and wouldn't allow  
19 for other things such as creating an entirely new story?  
20 It's possible; is that not true?

21 A I'm going to have to -- yes, I think it's  
22 possible. And the reason I say it's possible is because  
23 Bakula uses a CPU. I can't remember the particular one  
24 right off. 8080 or something like that. And it has  
25 this RAM that has programmable capability. So

1     theoretically, any kind of program could be loaded in  
2     there that could operate within the confines of the  
3     machinery attached to the terminal.  So if somebody  
4     could conceive of such a program and it was useful, they  
5     might be able to write such a program.  I -- I  
6     personally have never seen such a program, but maybe I  
7     don't completely understand the one you have in mind.

8           Q     But Bakula is disclosing the download of  
9     programs with distinct types of functionality, correct,  
10    like one program is to program the terminal as a sports  
11    editor terminal, correct?

12           A     Correct.

13           Q     So doesn't that imply that the program that  
14    that gentleman would be using would not likely be usable  
15    to edit the style section of the newspaper?

16           A     I don't see any implication like that because  
17    Bakula doesn't really tell you what the limitations of  
18    the sports editing terminal are, and I've thought about  
19    this issue.  Is there some limitation -- you know, what  
20    would a sports editing terminal be.  Bakula doesn't tell  
21    you anything about what the limitations or capabilities  
22    of the sports editing terminal are.  It's just an  
23    example.

24           Q     Isn't that the real nut of all of this, that  
25    Bakula doesn't say one way or another whether the



1 terminal control program downloaded for the editor would  
2 or would not allow that editor to actually create his  
3 own story from ground up? It doesn't say one way or  
4 another?

5 A Well, it does say that you can do whatever  
6 editing -- I can't remember the exact words -- whatever  
7 editing corrections he -- he requires. So when you say  
8 something like that, that -- that's just, you know, just  
9 use common sense. Ordinary skill in the art would say  
10 that's editing. It could require complete deleting. It  
11 could require corrections. You know, it might be any  
12 and all of those things.

13 Q What does editing mean to you as a -- from the  
14 standpoint of a person of skill in the art?

15 A Edit- -- I assume you mean editing -- I think  
16 I've got to ask a question here. You mean editing that  
17 an editor does or editing that I would do or editing  
18 that someone else would do or --

19 Q Let me rephrase the question. And let's try to  
20 avoid you asking me questions.

21 A Yeah, no, no.

22 Q In the context of the Bakula patent, what would  
23 the person of ordinary skill in the art understand the  
24 operation of editing to mean?

25 A I think in the context of the patent, they

1 would at least understand that it meant creating  
2 something from nothing and changing something that  
3 existed and creating something new from that  
4 nontechnical, that something that existed. I mean,  
5 these are very general notions. And beyond that that  
6 there's some very specific things that are clearly  
7 taught in the patent, like being able to change the --  
8 the italics, bolding, underscoring, so forth and so on.  
9 So all of that, the person would understand at least  
10 that much.

11 Q Am I correct in understanding from your answer  
12 that editing refers to an operation that's performed on  
13 something that already exists?

14 A No, I think in the context of the Bakula  
15 patent, no, I think it could also include creating  
16 something from nothing or creating something from  
17 something that exists.

18 Q Okay. Are you familiar with the newspaper  
19 business, generally familiar with it circa mid-1980s?

20 A Only -- 1980s? Only to the extent of things  
21 you see on television, you know, things you read about  
22 in the newspaper. That's kind of what a layperson would  
23 have.

24 Q And would you agree with the general  
25 proposition that writers write and editors edit?

1           A     I don't know how to evaluate that statement.

2           Q     Okay. That's fine.

3                     What would make an editor get up one day and  
4 say, you know, I'm not going to edit any stories today,  
5 I'm going to write my own story under my own name?

6           A     I mean, there could be a thousand motivations.  
7 I -- it seems quite reasonable to me that editors would  
8 do that. They do, in fact, write opinion things under  
9 their own name presumably.

10          Q     Do you have knowledge either in your personal  
11 capacity or as an expert that in 1987 it was a practice  
12 for editors to get up on a day and decide to write their  
13 own story under their own name instead of doing their  
14 usual job?

15          A     Well, I can only say that I've seen in the  
16 newspaper, for instance, editorials signed by a  
17 particular person with a byline, if you will, by a  
18 person who's an editor of a newspaper. I don't know if  
19 I saw that in 1997.

20          Q     Can you give me a specific example in 1987?

21          A     Not that I can remember from 30 years ago, but  
22 I think certainly in the Mercury News I've seen it, the  
23 paper I read, and probably in some of the news  
24 magazines. After all, that -- in some sense, that's  
25 what the editorial -- you know, in the Mercury News on

1 the left-hand side today -- I don't know if it was still  
2 in 1977 -- there would be an editorial with somebody's  
3 name at the bottom. They were the editor of the  
4 newspaper, so -- or one of the editors. There were many  
5 people, different types of editors.

6 Q But focusing again on the 1987 time frame --

7 A '87.

8 Q 1987 time frame. Strike that.

9 Let's try to focus on the 1987 time frame, not  
10 today's time frame. Is it correct that you can't say as  
11 a layperson, based on your personal knowledge, or as an  
12 expert, that it was practiced in 1987 for an editor to  
13 get up one day and decide to write his own article under  
14 his own name instead of performing his editing function?

15 A I've certainly seen examples. For example --

16 Q Please give me one from 1987.

17 A And I cannot give you an example that you could  
18 go look up, but I will give you an example of something  
19 I've seen. An editor of a magazine, like, for instance,  
20 like -- like IEEE.

21 Q I move -- I move to strike if you're talking  
22 about something that is outside of the time frame that  
23 we're talking about.

24 A Sure, sure. I'm doing my best -- and you said  
25 '87, not '77, right?

1 Q I said 1987.

2 A '87. The patent date, not the -- not the  
3 Bakula date.

4 Q Right.

5 A Okay.

6 Q Let's just take a pause for a moment.

7 A Yeah, yeah.

8 Q We've agreed on -- let's go off the record.

9 (Discussion off the record.)

10 (Recess 3:28 p.m. to 3:32 p.m.)

11 BY MR. SCHREINER:

12 Q In paragraph 136 of your declaration, on  
13 page 85 --

14 A Yes, sir.

15 Q -- it states the purpose -- this is at the end  
16 of the passage.

17 "The purpose of the terminals is to  
18 allow reporters to enter news stories, or  
19 perhaps develop new stories from newswire  
20 reports. The terminals also allow editors  
21 to download articles, modify the articles,  
22 and send them for typesetting at one of the  
23 data output devices DOD."

24 Do you see that passage?

25 A I do.

1 Q Is that accurate?

2 A Yes, it is.

3 Q In paragraph 140 of your declaration, which we  
4 marked as Zynga Exhibit 1011, you discuss the  
5 transmission of a data word and an enhancement word to  
6 represent characters.

7 Do you see that in paragraph 140?

8 A Let me just read this for a minute. Yes, okay.  
9 And I may have lost the thread of your question.

10 Q The question was: In paragraph 140 you discuss  
11 the transmission of a data word and an enhancement word  
12 to represent characters. Is that correct?

13 A That's correct.

14 Q And is data word made up of 8 bits?

15 A In Bakula?

16 Q Yes, sir.

17 You say -- and I'll try to help you here -- you  
18 say in paragraph 140 of your declaration:

19 "Each character on the screen is  
20 represented by two bytes (i.e., two 8-bit  
21 quantities stored in RAM M)."

22 A Right. And your question had something to do  
23 with transmission and something to do with the  
24 character. The characters are in this store, and  
25 they're 8 bits in the store. And if you want to know

1     how they're transmitted, I'd probably have to look  
2     through the patent some more to understand it.  They're  
3     probably in the same form, but -- but data code for the  
4     character is 8 bits as far as I can see from this when  
5     it's in the RAM.

6           Q     So RAM has an 8-bit code representing a  
7     particular character; is that fair?

8           A     Yeah, yeah.  It represents like the letter A,  
9     but remember, there's another code that changes that to  
10    be something else, perhaps strike through or blinking or  
11    -- so if that's -- I don't know whether that's a  
12    different character, but the letter A would be  
13    represented by one code, and then this enhancement or  
14    attribute word would modify that.

15          Q     For the sake of simplicity, or seeking  
16    simplicity, how about if we just focus on the data word  
17    designating the character, and let's not get into the  
18    second byte which describes modifications as you just  
19    alluded to.

20          A     Okay.

21          Q     Does that seem like a fair approach?

22          A     Sure.

23          Q     So the RAM has a data word made up of 8 bits  
24    that designates a particular character, correct?

25          A     That's correct.

1 Q And is it your understanding that that data  
2 word would be used to look up the actual bit pattern for  
3 that character so that it can be displayed?

4 A Yes. That's correct.

5 Q And is it your understanding that the -- strike  
6 that.

7 Is it your understanding that -- that in Bakula  
8 there would a transmission -- strike that.

9 Let's take the scenario where a writer is --  
10 strike that.

11 Let's take the scenario where an editor is  
12 retrieving a story to edit.

13 A Okay.

14 Q And that story would be made up of, among other  
15 things, a sequence of characters, correct?

16 A That's correct.

17 Q Is it your understanding that that transmission  
18 would include a series of data words corresponding to  
19 the sequence of characters?

20 A That's -- that's what I visualize when I look  
21 at this, yes.

22 Q And so then what happens at Bakula's terminal  
23 is that a received 8-bit data word would be compared to  
24 find a matching data word in RAM so that the terminal  
25 could identify that it's letter A or letter B?



1           A     I don't think it quite works like that, but if  
2 we go much deeper -- I'm going to really have to go back  
3 and read it carefully.

4           Q     Yeah. I don't think we need to. I think we're  
5 okay.

6           A     Okay.

7           Q     Referring to Bakula at Figure 21a -- Bakula is  
8 Zynga Exhibit 1009 actually. Let's refer to Figures 20  
9 and 21a.

10          A     Okay.

11          Q     Is it your -- strike that.

12                 Bakula calls the -- the images that are stored  
13 at the device corresponding to the characters, he calls  
14 them picture elements or dot patterns. Do you recall  
15 that?

16          A     Yes.

17          Q     Okay. Is it correct that those are all stored  
18 at the editor terminal in memory as we discussed?

19          A     Which memory that we discussed? There's a  
20 disconnect here.

21          Q     Bakula. These images for letters alpha  
22 numerics are stored at the user terminal in Bakula,  
23 correct, so that they can be looked up and then  
24 presented onto the display?

25          A     Right, right, right. I was a little confused

1 by the word -- yes, you're -- you're correct. They're  
2 stored in a PROM, and then the PROM is accessed to  
3 generate the dot pattern which then becomes the image on  
4 the screen.

5 Q So just to take an example, if -- if a -- if a  
6 code comes in that represents zero, then that code would  
7 be used to look up the image for zero such as shown in  
8 Figure 21a, so that zero could be displayed on the  
9 display?

10 A That's generally correct.

11 Q Okay. Does Bakula disclose transmitting  
12 photographs? And when I say transmitting, I mean from  
13 the host to the editor terminal.

14 A I -- I don't believe it does. Without really  
15 looking through here, I wouldn't want to exclude the  
16 possibility, but generally it's about dot-generated  
17 characters.

18 Q Okay.

19 A And they're displayed in fixed positions, so I  
20 don't really think they're going to transmit  
21 photographs.

22 Q Your declaration at page 90, paragraph 142  
23 states that each -- that the terminals are, quote,  
24 "programmable at startup."

25 A Are you reading from -- yes, I see it.

1 Q And then:

2 "This allows each terminal to be  
3 personalized to the activities it supports."

4 Do you see that?

5 A I do.

6 Q Can you --

7 MR. TOUTON: Typo and all.

8 THE WITNESS: It, yeah, "is" -- "is supports."

9 BY MR. SCHREINER:

10 Q 240 pages.

11 A I'm not going to change the exhibit here.

12 Q Can you explain what you meant in paragraph 142  
13 that Bakula's editor terminals are, quote:

14 "...programmable at startup" and that  
15 "each terminal is personalized to the  
16 activities it supports."

17 A I think in general what I was trying to relate  
18 there was that they talk about editing terminals in  
19 Bakula, the so-called terminal T, and it's the -- well,  
20 let me answer it at a general level.

21 The notion is that at startup that there's a  
22 way to download a program so that that terminal will  
23 perform a specific function. And the example they give  
24 is a sports editing terminal, but I think the notion is  
25 that it could be a generalized function even for news

1 writers and other types of editors, is the -- is the  
2 notion that they have there. So it has some specific  
3 function.

4 Q And that's what you mean when you say that the  
5 terminal is personalized to the activities it supports,  
6 and at the end of your paragraph 142:

7 "Thus, each terminal can be  
8 personalized for its particular use or  
9 user."

10 That's what you're referring to, is that  
11 correct?

12 A That's -- that's the notion that it's -- the  
13 user requests that the terminal be configured in a  
14 certain way and for a certain use.

15 Q I want to take us -- I want to take a scenario  
16 of an editor editing a story on Bakula's terminal. So  
17 he has the dual -- the dual column display up.

18 A Okay.

19 Q You recall that from the patent, correct?

20 A Yes.

21 Q So he's editing a story on the left-hand side  
22 and he has an AP story on the right-hand side of the  
23 display.

24 A Okay.

25 Q As he's making edits to the story on the

1 left-hand side, is it correct that the display is  
2 showing those edits stroke by stroke, change by change?

3 A That -- that seems like a reasonable assumption  
4 from the notion of editing.

5 Q In other words, the display would be more or  
6 less updated in realtime with his edits?

7 A That's correct.

8 Q Now, the -- the claim -- and I entered an  
9 exhibit with the claim to make our task a little easier.  
10 Unfortunately, I don't recall what exhibit number it  
11 was.

12 MR. TOUTON: You're talking about the claim for  
13 the '638 patent?

14 MR. SCHREINER: Yes, sir.

15 MR. TOUTON: So if you can't find it, we can  
16 work off that exhibit.

17 THE WITNESS: Is this it, 2004? Is that --

18 MR. SCHREINER: Yeah, I think that's right.  
19 Let me -- let me find it.

20 MR. TOUTON: Is that the demonstrative, you  
21 mean?

22 MR. SCHREINER: Yes, sorry.

23 MR. TOUTON: Yeah, it's the demonstrative.

24 MR. SCHREINER: I appreciate you second  
25 chairing me on this.

1 MR. TOUTON: Aim to please. This one, right?

2 MR. SCHREINER: Yes, sir. So this is PMC  
3 Exhibit 2004.

4 BY MR. SCHREINER:

5 Q So in Claim 1 of the '638 patent, is your  
6 opinion that the third step of computing second data at  
7 said subscriber station by processing said first data  
8 corresponds to an editor editing -- making edits to a  
9 story?

10 A I have to take a minute here and go back.

11 Q Sure. Actually, I can point you -- point you  
12 to your dec. That may speed things up here.

13 A I'm getting -- I'm getting closer.

14 Q I think page 93.

15 MR. TOUTON: So actually 97.

16 THE WITNESS: We're talking about the third  
17 element.

18 BY MR. SCHREINER:

19 Q Yes, page 97, as Mr. Touton pointed out.

20 A Okay. And if you could just read the question  
21 back and let me -- actually, before you do that, let me  
22 just read this, and maybe that will help.

23 Okay.

24 Q So -- so the question is: Is your read of step  
25 3 of Claim 1 of the '638 patent that it corresponds to

1 the editor making edits to a story he retrieved from the  
2 host computer?

3 A That's -- that's my notion, yes, sir.

4 Q And as we just discussed, as the editor is  
5 making his edits, those edits are reflected on the  
6 left-hand side of the screen that's on his display?

7 A In -- in this -- yes, I think that's what you  
8 had in mind.

9 Q Okay. In fact --

10 A I just don't remember right and left, but --

11 Q Sure, sure.

12 A -- he works on one side, for example, at a  
13 time. There's a hot side and a cold side basically.

14 Q So when he's editing a story on one of the  
15 sides, the edits he's making are going to be shown on  
16 the display for that side, correct?

17 A That's correct.

18 Q Okay.

19 And recall our scenario was he's editing the  
20 story on the left-hand side. He's got the AP story on  
21 the right-hand side. Now, the claim states in step 4  
22 that -- it states:

23 "Processing said one or more instruct  
24 signals to cause at least a portion of the  
25 combined medium presentation to be"

1           output -- "outputted at an output device..."

2           Do you see that?

3           A     I do.

4           Q     So the claim recites one step of computing the  
5 second data, which is the editor editing the story, and  
6 then the claim recites a separate step of processing to  
7 create a combined presentation, correct?

8           A     That's correct.

9           Q     What corresponds to the second step, that's  
10 step 4, processing to create the combined presentation,  
11 in our scenario?

12          A     Well, that's the operation, the word -- the  
13 editing program at the terminal.

14          Q     So as he's editing, the changes are being  
15 shown, and the display is being updated?

16          A     That's correct.

17          Q     My -- my question is: Isn't Bakula simply  
18 updating the display as edits are made, and there's no  
19 separate processing operation as called for in the claim  
20 for creating the combined presentation?

21          A     I don't think that's correct. I mean, the  
22 processing is the execution of these instructions at the  
23 terminal. That's how the mechanism updates.

24          Q     The execution of what instructions at the  
25 terminal?



1           A     Well, okay.  The -- the instructions are the  
2     downloaded program that does this personalization of the  
3     terminal, so those are the -- the instruct signals  
4     according to the way I set this up here.  And the  
5     processing is the execution of those instructions by the  
6     processor in this terminal.

7           Q     But isn't that already being done in step 3?  
8     I'm looking at page 97 of your declaration:

9                     "Computing second data at said  
10                    subscriber station."

11          A     Well, there's two different things here, the  
12     computing of the second data and then there's also the  
13     processing.  So you compute the second data in  
14     accordance with said one or more instruct signals and  
15     then process said one or more instruct signals to cause  
16     a portion of the combined medium presentation to be  
17     presented at the output.  So that's all under program  
18     control, different -- different instructions in the  
19     program obviously doing this, but --

20          Q     Sometimes -- you know the saying reasonable --  
21     it's an issue that reasonable minds can -- on which  
22     reasonable minds can differ, right?

23          A     Correct.

24          Q     Would you say that sometimes that applies in  
25     reading patents?  One person might read a patent one way

1 and it's reasonable, not crazy, another person may read  
2 it in the a different way that is also reasonable, even  
3 though they differ?

4 A As a general principle, I definitely think  
5 that's a possibility.

6 Q Is it possible that in Bakula that when the  
7 editor is making his edits, that the total display is  
8 being updated immediately so that there's no actual  
9 separate processing operation to create the combined  
10 presentation?

11 A I never thought about it that way. Seems to me  
12 that they're two separate things, at least the way it's  
13 explained, the notion that you would change something  
14 and then it would be displayed. I can't exclude the  
15 possibility of something like that might -- you might be  
16 able to design something that way, but it seems to me  
17 that the notion here is that you're making these edits,  
18 and then there's also this processing that puts things  
19 up on the screen to make this combined medium  
20 presentation.

21 Q Let's take our scenario and say now there's a  
22 story being edited on the left-hand side and on the  
23 right-hand side it's blank.

24 A Okay.

25 Q If the -- am I correct that -- strike that.

1 Do you agree that if the editor is making edits  
2 to the story as he was before, that the processing  
3 operations in terms of editing the story and updating  
4 the display would be the same?

5 A I lost the thread of what you're saying. The  
6 editor was -- say it one more time.

7 Q Sure. So we'll take our prior scenario where  
8 the editor is editing a story on the left-hand side.

9 A Okay.

10 Q On the right-hand side there's nothing being  
11 displayed.

12 A Okay.

13 Q When the editor makes his edits, will the  
14 processing that's being performed by that terminal be  
15 identical as in the prior case?

16 A What was the prior case? That's where I  
17 just -- I see what the editor is doing now. What was  
18 the prior case?

19 Q The prior case was the -- you mentioned hot and  
20 cold sides --

21 A Right.

22 Q -- to the screen. Hot being the side where the  
23 editor is --

24 A Working.

25 Q -- doing work. So our first scenario was

1 there's a story being edited on the left-hand side. On  
2 the right-hand side there's an AP story just sitting  
3 there, it's not hot.

4 A Okay.

5 Q That was what we just talked about.

6 A Okay.

7 Q Now, our new scenario is the AP story is not  
8 there.

9 A Okay.

10 Q Same editor making the same edits to the same  
11 story on the left-hand side. Do you follow that so far?

12 A I do.

13 Q Would the operations performed by the terminal  
14 be the same as the ones that were performed in the prior  
15 scenario?

16 A While the editor is doing the editing?

17 Q Correct.

18 A I suspect that that's the case. They would be  
19 the same.

20 Q The display processing in terms of the updating  
21 of the display, would that also be the same in both  
22 cases?

23 A When you refer to updating the display, you're  
24 referring to which part of the process here?

25 Q So -- so we've got an editor. He's making

1 edits. And those are reflected with -- by changes on  
2 the display or updates to the display.

3 A Correct.

4 Q Okay. So my question is: The display has two  
5 sides, right?

6 A Correct.

7 Q A left-hand side and a right-hand side. In the  
8 two scenarios I described, is it correct that the  
9 updates to the display resulting from the editor making  
10 his changes would be the same in each case?

11 A I -- I think that's probably the case, that  
12 there's two kinds of updating here. One is the updating  
13 from the RAM to the display. The other is the updating  
14 of the RAM by the editor's actions. But if I understand  
15 your scenario, I think if you put the same key strokes  
16 in, what would happen would be the same.

17 Q So the display itself will be updated in the  
18 same manner in both cases?

19 A It seems that way, yes.

20 Q Okay.

21 MR. TOUTON: When you come to a break, it would  
22 be great to do one.

23 MR. SCHREINER: Okay.

24 BY MR. SCHREINER:

25 Q Claim 6 of the '638 patent should be shown on

1 PMC Exhibit 2004. Claim 6 recites "generating one or  
2 more instruct signals at said transmission station."

3 Do you see that in the second step?

4 A I do.

5 Q And then the claim goes on to recite that those  
6 instruct signals are effective at the receiver stations  
7 to do what was discussed with respect to Claim 1?

8 A Yes.

9 Q Is that your understanding?

10 A Yes, that's the general notion here.

11 Q In paragraph 191 of your declaration for the  
12 '638 patent --

13 A I always appreciate a page number here because  
14 the paragraphs get really long towards the --

15 Q Page 124.

16 A I got it.

17 Q Am I correct that in paragraph 191 you're  
18 referring to the downloading of programs from Bakula's  
19 central processor to the user terminals?

20 A With -- with respect to instruct signals, yes,  
21 that's correct.

22 Q And the instruct signals are the individual  
23 pieces of software that are downloaded; is that correct?

24 A Or, for example, individual instructions even.

25 Q Bakula focuses on pieces of software, though,

1 isn't that correct? I withdraw --

2 A I don't remember exactly how -- how they put  
3 it.

4 Q Bakula does disclose downloading a terminal  
5 control program to the user terminal. Is that correct?

6 A You might have to point me to the place in  
7 the -- that you have in mind.

8 Q In your paragraph 191 on page 124, you state  
9 "facilities," quoting the patent --

10 A I'm sorry, 191?

11 Q Yes, sir.

12 A Ah, okay. Yes.

13 Q "Facilities are provided so that each  
14 editing terminal" may power up -- "may on  
15 power-up communicate with the host computer  
16 which then downloads a control program into  
17 the terminal and is stored in the terminal's  
18 main memory such as read/write random access  
19 memory."

20 A That's correct.

21 Q Does Bakula disclose generating that program at  
22 the host computer or --

23 A What do you mean by generating?

24 Q Am I correct that Bakula discloses that these  
25 programs are stored in a local database?

1 A Yes.

2 Q Would your understanding of the reference be  
3 that the host terminal would retrieve the program out of  
4 the database and download it to a requesting terminal?

5 A Well, that's generally what happens. It's  
6 probably more the case that -- that the control signal  
7 goes up to the host and then the host transmits these  
8 instructions down to the terminals on request.

9 MR. SCHREINER: Okay. Okay. Take a break.

10 (Recess 4:13 p.m. to 4:31 p.m.)

11 BY MR. SCHREINER:

12 Q Dr. Neuhauser, I'd like to go ahead and  
13 transition from Bakula to Sitrick, which is another  
14 reference you analyzed in your declaration, which has  
15 been marked -- which was previously marked as Zynga  
16 Exhibit 1011, and your analysis of Sitrick starts on  
17 page 143 of your declaration beginning with paragraph  
18 214.

19 A Okay.

20 Q In -- in your application of Sitrick to Claim 1  
21 of the '638 patent, I'd like to explore which as- --  
22 which portions of Sitrick you identify as disclosing the  
23 various claim elements. So if you have the claim handy,  
24 Claim 1, step 1 refers to, referring to -- I'm going to  
25 paraphrase here, first subscriber specific data. Do you



1 see that?

2 A Yes, I do.

3 Q And in the opinion you rendered in your  
4 declaration, what in Sitrick did you identify as, quote,  
5 being the "subscriber specific data"?

6 A I think I said the first data, so it's the  
7 first subscriber specific data. It's the -- the user's  
8 distinguishable representation that -- it's a term they  
9 use in Sitrick. So it would be like an image of the  
10 person or the image of the craft that they're -- they're  
11 controlling.

12 Q So it's some sort of image or graphic that  
13 represents that person in the game that they're playing?

14 A Uniquely.

15 Q And is it fair to, for discussion purposes, if  
16 we refer to that as the subscriber's avatar instead of  
17 distinguishing representation?

18 A I think that -- that's okay. I use that word.

19 Q Now, Sitrick describes that the avatar can be  
20 created by the user at his game terminal; is that  
21 correct?

22 A That's correct.

23 Q And how does Sitrick describe that the user can  
24 create an avatar for himself? I think it's in column  
25 11.

1           A     It is. I just have to scan through here  
2 because they had several different -- you asked how  
3 could the user do it, and there's several different  
4 ways. And I may have missed one, but -- okay.

5                     So one way is to digitize using the camera of  
6 Sitrick. Then they talk about visual recognition  
7 intelligence to kind of create it, so maybe there's some  
8 artificial intelligence type program. And then they  
9 talk about creating it using the joystick or the  
10 keyboard or the switch. Let's see.

11           Q     Okay.

12           A     I think that -- I think that's captured them  
13 all. Let me just read a little bit further.

14                     I think that's the three basic ways, camera,  
15 some sort of visual intelligence system, and then direct  
16 creation from the input devices.

17           Q     Okay. And is your general understanding of  
18 Sitrick as being a gaming system where in the  
19 peer-to-peer embodiment there's a plurality of gaming  
20 terminals that essentially are synchronized in what  
21 Sitrick calls the single identity mode?

22           A     Generally that -- that's the case. There's  
23 several different modes, but that's one of the modes.

24           Q     Okay. And it's the single identity mode that  
25 you focused on in your analysis; is that correct?

1           A       Pretty much. The peer-to-peer operation in the  
2 single identity mode. Let me just -- let me just check  
3 that for a second here because I -- I did talk about  
4 that.

5                   I think that's correct.

6           Q       Okay. And is it correct that in the  
7 peer-to-peer mode, what is transferred between different  
8 game stations is game state change data, if you will?

9           A       That's kind of the global term that Sitrick  
10 uses. He also describes other things that are  
11 transferred, specifically like score and other types of  
12 information, but that's the general kind of notion he  
13 has.

14          Q       So your read of Sitrick as an expert in this  
15 case and from the standpoint of a person of ordinary  
16 skill in the field is that Sitrick discloses for the  
17 peer-to-peer embodiment the sharing of game change --  
18 game state change data?

19          A       Mm-hmm.

20          Q       And certain other specific information such as  
21 game scores and the like?

22          A       Mm-hmm. Yeah, they give as examples.

23          Q       And I think in your -- strike that.

24                   In your declaration you refer to column A of  
25 Sitrick. Sitrick U.S. Patent No. 4,572,509 is Zynga

1 Exhibit 1008.

2 Can you read the passage from column 8, line 19  
3 through 29?

4 A Sure.

5 "Each game individual console then  
6 periodically communicates signals  
7 representing, for example, game I.D., game  
8 type, game data, etc., representing changes  
9 to its I/O structure affecting game visuals,  
10 score, game play, etc. Each individual game  
11 console can communicate with all others, by  
12 any of the above described communications  
13 schemes, or other communications schemes."  
14 "Thus, all games individual" -- "Thus, all  
15 games individual consoles simultaneously  
16 adapt to the changed data, and the need for  
17 a master controller can be functionally  
18 distributed back to each of the individual  
19 game consoles."

20 Q And does that passage capture your  
21 understanding of what Sitrick discloses regarding the  
22 sharing of data between different gaming terminals in  
23 the peer-to-peer example?

24 A I think that's certainly an important passage.  
25 I cited several others here about other places where he

1 talks about it. But I wouldn't want to say that's the  
2 only -- the only description of this, but that is the  
3 primary description of what Sitrick is talking about.

4 Q Does Sitrick disclose the transmission of  
5 avatars between different game stations?

6 A Yes.

7 Q Okay. Can you direct me to where that is in  
8 Sitrick?

9 A I think the notion is this, before I dig into  
10 it. So you have a number of different ways things can  
11 be displayed in Sitrick, and one of those cases is that  
12 people look at a common display. Each terminal sees a  
13 common display, and all people are playing from a common  
14 display. It might be at their terminal and also it  
15 might be at what Sitrick refers to as an arena display.

16 In that case, each terminal would have to have  
17 an avatar from the other players in order for that to  
18 show up as that player. All the displays are going to  
19 be the same. If it has an avatar in it, that avatar is  
20 going to show up on all the screens.

21 Q Does Sitrick actually -- strike that.

22 Does Sitrick expressly disclose the  
23 transmission of avatars from one game station to  
24 another?

25 A Let me take a minute here and look.

1 Q Sure.

2 A Well, for example, in the abstract it says:

3 "As a single identity game system, each  
4 display, or the master display, can display  
5 the composite data, the composite display  
6 resulting from the totality of peer game  
7 interaction."

8 So that -- that would be each individual sees  
9 essentially the same thing or does see the same thing,  
10 or they see it on the master display. So in order for  
11 that avatar to appear on the master display, it would  
12 necessarily be transmitted, say, to the master display  
13 or to each of the individual terminals.

14 Q Does Sitrick say that -- strike that.

15 Composite -- what does the composite display  
16 mean to you as a person of ordinary skill in the art  
17 with Sitrick?

18 A I think composite -- it says the composite  
19 display, the result -- I'm reading from the abstract:

20 "...the composite display resulting  
21 from the totality of peer game interaction."

22 So I -- I take that to mean the complete image  
23 of the game that's -- that's happening right now;  
24 composite from all of the actions all across the  
25 terminals.

1 Q There could be a scenario where nobody --  
2 where -- where players -- strike that.

3 There could be a scenario where there's a  
4 number of players engaged in a game and none of them  
5 have created avatars, correct?

6 A I don't think an avatar is a requirement of the  
7 game, so that seems like a possibility.

8 Q Does Sitrick say anywhere that the composite  
9 display is identical at each of the player's stations,  
10 identical including all avatars? Or would you submit  
11 that's a fair inference?

12 A Again, at column 12 it talks about somewhat the  
13 same wording as 34, as the single identity game system,  
14 each display or master display is capable of displaying  
15 the composite display results resulting from the  
16 totality of peer game interaction.

17 So there's that. And then it again talks about  
18 arena displays, which is the notion that everybody would  
19 see the same thing.

20 So, you know, when it talks about the master  
21 display, that would be showing all of the peer game  
22 interaction. And the implication here is that -- that  
23 the individual games might be copies of that master  
24 display, so they would be showing everything in the game  
25 simultaneously to all users.

1 Q And the passage that you refer to as in the  
2 abstract, it refers to the composite display, quote,  
3 "resulting from the totality of peer game interaction,"  
4 is it possible that that's simply referring to composite  
5 display as being a display that reflects all the  
6 activity of the different players but not necessarily  
7 their self-created avatars?

8 A I assumed it was a composite display of  
9 everything that the -- that the players are doing.  
10 Okay. That's -- that's given to each of the terminals  
11 so they all see the same thing. At least that part of  
12 the display is all the same thing. And if -- if you're  
13 looking at something, presumably you can see your avatar  
14 on your display, somebody else can see your avatar on  
15 their display because the implication here is they're  
16 all the same.

17 Q In the passage where -- in column 11 of this  
18 Sitrick patent where it talks about creating the avatar  
19 using the three different approaches we discussed  
20 earlier --

21 A Mm-hmm.

22 Q -- does it say anywhere there that the avatar  
23 is transferred to other game stations?

24 A You said within which area? From 11, 7 to --

25 Q The entire column 11.



1 A Oh, column 11.

2 Q Yes. Yes, sir.

3 A Well, I think -- okay. I think I still have  
4 your question in mind. Right below that it says:

5 "The user created visual display,  
6 either of the user or of the user created  
7 visual imagery" -- so it means either the  
8 picture of the user or the spacecraft --  
9 "can then represent that user in the video  
10 game audiovisual presentation, either for  
11 the stand-alone game, or for a multiuser  
12 video game."

13 Then it goes on to say:

14 "Thus, the user can create his or her  
15 own spacecraft, race car, or other  
16 preselected character functions (e.g.,  
17 subimage identifier segments) which can then  
18 be incorporated into the overall video game  
19 audiovisual representation in combination  
20 with a predefined set of complimentary  
21 audiovisual imagery segments according to  
22 predefined set of game rules."

23 So that tells you that it's going to be  
24 incorporated into the overall game visual imagery. We  
25 already know that might be the same for every station.

1 Q Is it -- I believe you've indicated your belief  
2 that there could be a composite display that would show  
3 multiple avatars, correct?

4 A That's correct.

5 Q Can you show me -- strike that.

6 I believe Sitrick is a little bit ambiguous on  
7 this whole issue. Can you -- strike that.

8 Does Sitrick explicitly disclose transmitting  
9 avatars between game stations?

10 A Well, we know each individual user can create  
11 an avatar. We know from the passage that I read at 11,  
12 from 41 to 51, that these can be incorporated into the  
13 entire game display that would be common to each  
14 individual station. So from that, transmission has to  
15 occur --

16 Q But --

17 A -- 'cause --

18 Q -- when we talk about the composite display, in  
19 Sitrick it's talking about the composite display  
20 reflecting all of the activity of the users. It doesn't  
21 say anything specifically about avatars; is that  
22 correct?

23 A It just says right here:

24 "...the user can create his or her own  
25 spacecraft, race car, or other preselected

1 character functions (e.g., subimage  
2 identifier segments) which can then be  
3 incorporated into the overall video game  
4 audiovisual presentation in combination with  
5 a predefined set of complimentary  
6 audiovisual imagery segments according to  
7 predefined...game rules."

8 Q What I understand you to be saying -- tell me  
9 if this is correct --

10 A Sure.

11 Q -- that Sitrick discloses that users can create  
12 avatars. Sitrick discloses that there can be a  
13 composite display seen by multiple users.

14 A Correct.

15 Q And it's your belief that a composite display  
16 means an identical display at each of the user's  
17 stations; is that correct?

18 A That's correct. Well, not identical, but it's  
19 a common display at each station. There's more to it  
20 than that, because Sitrick, you can add other things at  
21 your -- to the composite display. You can have like  
22 your own radar function, for example, or your own  
23 quadrant function.

24 Q But let's just focus on --

25 A All right.

1 Q -- Sitrick has multiple different types of  
2 displays, but let's focus on the composite display --

3 A Okay.

4 Q -- which is what you focused in on in your dec.

5 A That's correct.

6 Q So we said that -- you've noted that a user can  
7 create an avatar in Sitrick, and the composite display  
8 can be presented on multiple game stations in Sitrick  
9 for players playing the same game.

10 A That's correct.

11 Q And it is your belief that the composite  
12 display would not merely -- would not only reflect  
13 composite activity, but it would also show the avatars  
14 for all of the players; is that correct?

15 A That -- that's what I'm trying to relay to you,  
16 yes.

17 Q Okay. And therefore, it's your inference from  
18 that that the avatars must be transmitted between the  
19 gaming stations?

20 A That's correct, because they're created at the  
21 user's station. They appear at other stations. They  
22 must be transmitted.

23 Q Is it possible that the composite display of  
24 Sitrick would show the activity of all users but only  
25 the avatar for the player for that station? Is that

1 technically possible?

2 A That would be outside of what would be -- you  
3 know, the -- what's the term here?

4 Q Well, if you -- if no users had avatars, you'd  
5 still have composite display available, correct?

6 A That's one possibility I expect. But if a user  
7 has an avatar, it would -- if the displays are  
8 identical, and he could see it on his display, it would  
9 be on all the displays.

10 Q Okay. Let's start with -- let's start with the  
11 game where no users have created avatars.

12 A Okay.

13 Q We have ten players playing the game. Each one  
14 is looking at a composite display.

15 A Okay.

16 Q Because no avatars have been created, no  
17 avatars are displayed on these ten composite displays,  
18 correct?

19 A In this hypothetical situation.

20 Q Yes, sir.

21 A That would be correct.

22 Q Now, a first user decides to create an avatar.

23 A Okay.

24 Q And it's a photograph of himself. Is it your  
25 understanding that that photograph, according to

1 Sitrick, would be scanned in and stored in that player's  
2 game station?

3 A Well, that's certainly one of the approaches  
4 that Sitrick describes.

5 Q Okay. And when that player plays a standalone  
6 game, he should see his photograph avatar on the game  
7 display, correct?

8 A The standalone where the player is just playing  
9 with himself, yes.

10 Q Yes.

11 A They would presumably see their avatar on the  
12 display.

13 Q Now, as far as the composite display, isn't it  
14 technically possible that the user's avatar would only  
15 be shown on his composite display and not on the others  
16 so as to avoid the need for transmitting avatars between  
17 game stations?

18 A Doesn't seem like it would be a composite  
19 display anymore. It would be a different kind of  
20 display. It wouldn't be the same at all stations or all  
21 stations that are playing a particular game.

22 Q So your interpretation of Sitrick is that a  
23 composite display is more than composite activity of the  
24 players, but it must also mean all of the avatars for  
25 all of the players?

1           A       Well, I think a composite display is the same  
2 thing for all of the players, so if a player shows his  
3 avatar on his screen, other players will see it.

4           Q       So let me ask my question again. I think you  
5 answered yes, but I just want to have a clean  
6 question/answer.

7           A       Sure, sure.

8           Q       So your interpretation of Sitrick is that a  
9 composite display is more than a composite activity of  
10 the players, but it also means that all of the avatars  
11 for those players would be shown on each display?

12          A       I think the answer is yes. The only part of it  
13 that I might have to address a little bit is that as you  
14 said, if a player doesn't generate an -- you said all of  
15 the avatars of all of the players. You propose that,  
16 say, some player doesn't generate an avatar. If he  
17 doesn't generate an avatar, it can't be shown. But if a  
18 single player generates an avatar, it would be on all of  
19 the displays.

20          Q       So if there was a thousand players playing on  
21 these game stations, there's going to be a thousand  
22 avatars that are transmitted amongst these game  
23 stations. That's your read of Sitrick?

24          A       No, I don't -- I don't know that I would read  
25 Sitrick as being scalable to a thousand stations, but

1 that -- that would be the notion if it was possible to  
2 show a thousand people playing.

3 Q Okay. Setting aside your -- your  
4 interpretation of the phrase composite display, would it  
5 be possible to have a peer-to-peer game where each  
6 player sees the activity of the other players but only  
7 sees his avatar?

8 A I don't think that would be a composite game.  
9 That would be some other kind of game. I --

10 MR. TOUTON: Just to advance things, you're  
11 taking this out of context of this Sitrick thing  
12 exactly; is that right? I'm trying to --

13 MR. SCHREINER: Yeah, yeah.

14 MR. TOUTON: I'm not sure I know exactly what  
15 you're asking.

16 BY MR. SCHREINER:

17 Q How does -- if your position is that Sitrick  
18 transfers the avatars between all these game stations,  
19 where -- how does that happen? Where is that shown in  
20 Sitrick? I know that's your inference. But where does  
21 Sitrick describe how he is going to transfer, let's say,  
22 images between all these different game stations?

23 Let me -- let me withdraw and rephrase the  
24 question.

25 A Okay.



1 Q Where does Sitrick show how he transfers these  
2 avatars among all these game stations?

3 A Okay. Well, generally, what Sitrick shows, the  
4 notion -- again, you'll recognize Sitrick has a number  
5 of different embodiments. But Figure 3 is an example of  
6 a -- of a one -- one configuration. So the avatars  
7 would be transferred on through the CAM layer, the  
8 communications -- I can't remember, I think it's  
9 communications access method layer. So that line, for  
10 example, in 3 -- 3 is just one example -- would be the  
11 mechanism for transferring it. In 5 it might be, say,  
12 the operational data outlines through the master and  
13 back in.

14 Q Okay. Figure 3 is showing essentially layers  
15 of hardware and software for each of the game terminals,  
16 right?

17 A That's correct.

18 Q And there's a single line between each of the  
19 three layers in Figure 3, correct?

20 A That's correct.

21 Q Does Figure 3 show specifically how avatars  
22 would be transferred among game stations?

23 A Well, without going back and referencing the  
24 patent, the notion is -- for example, with respect to  
25 Figure 3, that all game data is communicated between the

1 stations on these lines. So if you're making a  
2 composite display, you're getting the information for  
3 that display across these lines that -- if you want to  
4 know more about these lines, you'd have to go look at --  
5 for instance, Sitrick has a whole -- Sitrick has a whole  
6 host of references in the front that talk about how you  
7 would set up a network of various kinds.

8 Q In column 8 where Sitrick describes the type of  
9 data that's transferred between the game stations, he  
10 says --

11 A Which line?

12 Q Column 8, line 19 through 29, he refers to:

13 "...game I.D., game type, game data,  
14 etc., representing changes to its I/O  
15 structure affecting game visuals, score,  
16 game play, etc."

17 Don't you find it a little odd that Sitrick  
18 nowhere, not here and nowhere else, specifically talks  
19 about transferring avatars from one game station to  
20 another?

21 A I don't find it odd at all. I mean, Sitrick is  
22 trying to tell you about his system, and, you know,  
23 sometimes there's just a limit to how much a patent  
24 person can actually write. It's all there.

25 Q He describes in detail how the avatar can be

1 created and stored in the user's game station, correct?

2 A That's correct.

3 Q Then in column 8 he describes in detail the  
4 different types of data that can be transferred,  
5 correct?

6 A Well, he gives examples of different types of  
7 data. He doesn't -- it doesn't -- he doesn't list all  
8 of the data that can be transferred.

9 Q And he doesn't list the transfer of the  
10 avatars?

11 A Well, he says etc., and you already know that  
12 if -- if images are going to be in common -- for  
13 instance, he doesn't talk about radar data either in  
14 there, but we know that that can appear on individual  
15 screens. Must be transferred across this link.

16 So yes, the answer to your question is he did  
17 not talk about avatar data specifically there in that --  
18 in that citation.

19 Q In the -- in your application of Sitrick to  
20 Claim 1 of the '638 patent, is it correct that the  
21 combined presentation is the composite display that  
22 we've been talking about?

23 A Yes, that's correct. The combined media  
24 presentation?

25 Q Yes, sir.

1           A     Yes, that's correct. Let me just check, but --  
2                     Yes, that's correct.

3           Q     And if the user or player makes a move with his  
4 joystick, that's going to result in change data being  
5 transferred to the other game stations; is that correct?

6           A     That's correct.

7           Q     So let's say we -- strike that.

8                     And after the user makes his move with his game  
9 stick, his own display will be updated to reflect his  
10 movement, correct?

11          A     That's correct.

12          Q     So we've got image 1 that the player is looking  
13 at. And image 1 is the combined media display. That's  
14 our scenario, okay?

15          A     Okay.

16          Q     The user moves his joystick. What is sent to  
17 the other game stations?

18          A     Well, it doesn't say in detail, but it's game  
19 change data. It's whatever is necessary to update the  
20 other game stations so that they provide the same  
21 display.

22          Q     Anything from the original image that didn't  
23 change is not going to be transmitted to other game  
24 stations, correct?

25          A     Sitrick doesn't say one way or the other. That

1 would be one possibility.

2 Q Well, he -- he does say that it's only the game  
3 data -- the game change data that's transmitted,  
4 correct?

5 A Correct.

6 Q So by inference, he's not transmitting the rest  
7 of the data; would you say that's a fair inference --  
8 fair reading?

9 A Well, it's whatever game change data includes  
10 that's important to the other stations to make the same  
11 display everywhere. I mean, certainly that's one  
12 possibility that they don't change it. And I think  
13 that's kind of the general implication here, that you --  
14 you send different -- the changes that you make to  
15 everybody, and then they compute their own display from  
16 that that might send some data that doesn't change.

17 Q Why would they send some data that doesn't  
18 change if Sitrick says that he's only transmitting  
19 the -- the delta change data?

20 A Well, he says game change data. So that  
21 certainly is whatever you need to make the displays work  
22 everywhere. I'm just pointing out that it might include  
23 some other information that didn't change for whatever  
24 reason Sitrick, you know, the game designer might have  
25 in mind.

1 Q Does -- it seems like Sitrick could be  
2 implemented in many ways; do you agree with that?

3 A That there's different embodiments of Sitrick,  
4 so that's certainly true.

5 Q Does Sitrick show in the peer embodiment that  
6 information that didn't change after a player moves his  
7 stick is transmitted to other game stations?

8 A Well, you know, the column -- the reference  
9 that we were reading at 8,19, it says that, for example,  
10 game I.D. is transmitted. Game I.D. might be something  
11 you transmit even if it doesn't change. I mean, he says  
12 after that: "Representing" -- "etc., representing  
13 changes to its game type" -- "to its I/O structure  
14 affecting..." Okay. Let me just make sure I've got  
15 where the sentence is ending here.

16 So it talks specifically about "representing  
17 changes to its I/O structure affecting game visuals,"  
18 but then it goes on to talk about game I.D.  
19 periodically transmitted score. Okay. So if the score  
20 didn't change, maybe they still transmit or the game  
21 I.D. -- there would be good reasons to do it. He  
22 doesn't say one way or the other.

23 Q Doesn't that passage say:

24 "Each game individual console then  
25 periodically communicates signals

1           representing, for example, game I.D., game  
2           type, game data, etc., representing changes  
3           to its I/O structure"?

4           Isn't -- isn't an ordinary English reading of  
5           that that Sitrick is saying that parameters like game  
6           I.D., game type and game data will be transmitted to the  
7           extent that they represent changes to the I/O structure?

8           A     I think that's -- that's one reading.  But  
9           Sitrick also has embodiments that are like the --  
10          they're -- okay.  There's several things going on here.

11          Sitrick has embodiments that you can have two  
12          separate sets of peer games being played in two separate  
13          sets of terminals.  So you might have three playing one  
14          game over here, two playing a game over here, so game  
15          I.D. would make some -- would be important, right, in  
16          that situation so that this doesn't -- you know, that  
17          might not be something that changes.  And you might have  
18          to send that with everything to say this is for that  
19          game I.D.

20          The other thing is, is that Sitrick talks about  
21          networks, and so Sitrick also transmits information on  
22          that network.  There's different kinds of networks, like  
23          ring network and daisy chain network, they talk about.  
24          In his -- in his introduction he talks about all these  
25          references that have networks in them of all various

1 types. And they transmit information that might be  
2 static like the I.D., right, the source and the  
3 destination I.D., because I looked at these references.  
4 Not every one of them because I couldn't obtain some of  
5 them, but they all talk about general approaches to  
6 transmitting information. And that's what he's talking  
7 about for that CAM layer.

8 Q Okay. But the prior art that you applied here  
9 was Sitrick, and you applied a specific embodiment of  
10 Sitrick which was the peer-to-peer example, correct?

11 A That's correct.

12 Q So the stuff about, you know, multiple games  
13 and multiple players and rings and all of that, that  
14 wasn't part of the analysis that you put to paper as  
15 part of your declaration; is that correct?

16 A I don't -- I don't think I addressed the issue  
17 that you're speaking about in my declaration, but you  
18 asked me about it, and I'm just telling you what Sitrick  
19 says.

20 Q Okay. And I'm trying to -- what I'm trying to  
21 do, and it's my obligation, is to stay within the scope  
22 of your actual opinion. And your opinion was focused on  
23 the peer-to-peer scenario.

24 A That's correct.

25 Q And -- and peer-to-peer scenario -- strike



1 that.

2 If a person of ordinary skill examines Sitrick,  
3 focusing on the peer-to-peer scenario, and concluded  
4 that only game change data was transmitted between the  
5 game stations, would that be an unreasonable  
6 interpretation of Sitrick?

7 A That only game change data?

8 Q Correct.

9 A Now I just want to hear the question again.  
10 You can read it back, if you want, and make sure I --

11 Q Sure. If a person of ordinary skill reviewed  
12 Sitrick, focusing on the peer-to-peer scenario, and  
13 concluded that only change data was transmitted between  
14 gaming stations, would that be an unreasonable  
15 interpretation of this reference?

16 A I don't think I can answer that question  
17 because there might be other data that's being  
18 transmitted between the stations just to set them up,  
19 for instance, or -- maybe I'm missing your question  
20 here. Maybe I just missed the --

21 Q Your answer to my question was: "I don't think  
22 I can answer that question because there might be other  
23 data that's being transmitted between the stations just  
24 to set them up, for instance."

25 Okay. That's -- that's you -- that's you

1 thinking about or speculating about what could happen in  
2 Sitrick, and that wasn't my question, and I'd ask you  
3 not to do that.

4 A Okay.

5 Q My question was: If another person, a person  
6 of ordinary skill reviewed this reference and said for  
7 the peer-to-peer embodiment, only change data is being  
8 transmitted amongst these game stations, would that be  
9 an unreasonable interpretation?

10 A I don't think I can answer because I don't know  
11 what that person of ordinary skill in the art would  
12 think -- I may not be thinking about game change.  
13 There's certainly game change data transmitted here, but  
14 I don't think one of ordinary skill in the art would  
15 imagine that's the only thing transmitted, because it  
16 wouldn't make any sense unless they included these other  
17 things in game change data, for example. That's why I'm  
18 having trouble with your -- your question.

19 Q I'll ask the question again.

20 A Okay.

21 Q If a person reviewed this reference and said,  
22 you know, it's pretty black and white to me, this  
23 reference only discloses the transmission of delta data  
24 or change data between game stations, if that person  
25 came to that conclusion, would that be an unreasonable

1 conclusion, a completely unsupportable conclusion?

2 A I think it probably would.

3 Q Okay. When -- so what we're talking about  
4 here, of course, is the claim limitation that talks  
5 about transferring -- this is element 6 of Claim 1 of  
6 the '638 patent.

7 "Transferring said portion of second  
8 data from said subscriber station to one or  
9 more remote stations based on said  
10 subscriber input."

11 Do you see that?

12 A I do.

13 Q And am I correct that that -- let's go back to  
14 your scenario. There's an image, a composite display  
15 being shown to a player.

16 A Okay.

17 Q The player makes a move with his joystick. Now  
18 you have image 2, correct?

19 A At some point you'll have image 2, yes.

20 Q Image 1 player moves the joystick. Now we have  
21 image 2.

22 A Correct.

23 Q In that scenario, what portion of image 1 would  
24 be transmitted to the other game stations as a result of  
25 the player moving his stick?

1           A       So the second data is the -- the data between  
2       350 and 360, between the application layer and the video  
3       layer. And so when you push the -- the joystick, let's  
4       say, you're transmitting information about that. But  
5       that activity is also generating the information so that  
6       the second data at these other stations corresponds to  
7       that data at the video display. Okay? So you're --  
8       let's see, the fifth --

9           Okay. So subscriber input is the joystick  
10       input. And then you transfer portion of second data  
11       from subscriber station to said one or more. Okay. So  
12       you're -- you're transferring this -- this changed data,  
13       but that changed data is resulting in the same  
14       generation of data at the other station. Okay. So  
15       that -- that's what's happening. They're all being  
16       updated exactly the same way, and that might include,  
17       for example, the update of the score.

18          Q       So let's go back to the original question. So  
19       we have the player. And he's viewing image 1, composite  
20       display.

21          A       Right.

22          Q       Moves his joystick. Now we have image 2.

23          A       Correct.

24          Q       In that scenario, what portions of image 1  
25       would be transmitted to the other game stations as a

1 result of the player moving his stick?

2 A Whatever portions have changed as represented  
3 by the stick movement.

4 Q So the things that have changed from image 1  
5 would be transferred, correct?

6 A In this scenario, yes.

7 Q And so does it follow that by the time data is  
8 transferred from that game station to the other game  
9 stations, that player is seeing a new image, namely  
10 image 2?

11 A Which -- which is that player?

12 Q The player that moved his joystick.

13 A You said "by the time" -- let me hear it again  
14 because I lost it and I didn't understand.

15 Q Let me withdraw that one. Let me withdraw that  
16 question.

17 In your application of Sitrick to Claim 1 of  
18 the '638 patent, is it correct that the claimed second  
19 data is the overall display in Sitrick?

20 A It's -- it's the data that passes between the  
21 350 and 360.

22 Q 350 and 360?

23 A 3050 and 3060. So what I said here was -- what  
24 I said here on page 156 in paragraph 239 -- let me just  
25 read the whole thing and make sure I'm -- so I said

1 that:

2 "...the application layer 3050 to the  
3 video manager layer 3060 is the 'second  
4 data' because it is formed by processing the  
5 user specific distinguishable representation  
6 with 'instruct signals' from other consoles  
7 to produce data to drive the video manager  
8 layer...that is unique to the player's own  
9 console."

10 Q So the second data is the -- the data  
11 corresponding to the entire display; is that correct?

12 A That passes between the -- so there's --

13 Q I understand that there's layers of software --

14 A Yeah.

15 Q -- between which this information is passed.  
16 Is it correct that the -- your read of the second data  
17 is the data that corresponds to the entire display once  
18 it's generated by the VDU?

19 A Yeah, I just want to make sure I'm focused on  
20 the right thing here. Right. Okay.

21 So application layer generates the data that  
22 passes between 3050 and 3060. And the video manager  
23 takes that data and actually produces a display from it.  
24 It might not be in -- so when it goes between the  
25 layers, the notion is that it's not really a display at

1 that point, it's the data that's going to make that  
2 display. And then the video manager does some other  
3 interpretation to actually put it up on the screen, put  
4 the dots up on the screen.

5 Q But second data is the data that's used to  
6 create the overall display?

7 A That's correct.

8 Q Okay.

9 So is it your view that the -- step 4 of  
10 Claim 1 which provides for processing to create the  
11 combined media presentation, is it your view that's  
12 simply the processing of the second data we just talked  
13 about and presenting -- presenting it on the display  
14 using the video manager and the VDU?

15 A I'm, sorry, I was still tracking the question,  
16 and then you stopped, and I wasn't -- I wasn't sure  
17 there was a question there.

18 Q Sure, sure, sure.

19 I'm having difficulty understanding what --

20 A Sure.

21 Q -- what the difference is between what you are  
22 calling the second data in Sitrick and what you are  
23 calling the combined present- -- combined media  
24 presentation.

25 A Okay.

1 Q I'll ask the question this way: Is the  
2 combined media presentation, according to your read, the  
3 overall display that's shown on the display?

4 A Is the -- just ask it again.

5 Q Sure. So you've said that the computed second  
6 data in step 3 is the data for the overall display in  
7 Sitrick, correct?

8 A Correct.

9 Q In step 4 of Claim 1 of the '638 patent where  
10 it recites the combined media presentation --

11 A Mm-hmm.

12 Q -- is it your view that that corresponds to the  
13 overall display?

14 A That's correct. It's the overall display.

15 Q Okay.

16 The -- the claim provides that the instruct  
17 signals cause the processing of the first subscriber's  
18 specific data. Do you recall that in the claim?

19 A Yes.

20 Q It's step 1. Excuse me, step 2.

21 A Step 2?

22 Q Yes, sir.

23 MR. TOUTON: Step 3, actually.

24 MR. SCHREINER: Let me withdraw the question.

25 THE WITNESS: Yeah, yeah, because I was running



1     aground.

2     BY MR. SCHREINER:

3           Q     You deserve a raise.  I'm very -- very junior  
4     to this man.

5                     Do you recall the step in Claim 1 of the '638  
6     patent that provides for the instruct signals causing  
7     the processing of the subscriber specific data?

8           A     This is the third element?

9           Q     Yes, sir.

10          A     Yes, I recall that.

11          Q     And in reviewing your declaration, the instruct  
12     signals is the updated game data exchanged in Sitrick;  
13     is that correct?

14          A     The change data, yes.

15          Q     And the subscriber specific data is the user's  
16     avatar; is that correct?

17          A     That's correct.

18          Q     And would it be your understanding that that  
19     user's avatar would be stored somewhere in the user's  
20     terminal?

21          A     That -- that seems correct, yes.

22          Q     How does game change data -- strike that.

23                     How does game change data cause the processing  
24     of a user's avatar in Sitrick?

25          A     Okay.  So the game change data produces this --

1 this combined medium display based on the -- the data  
2 from all of these terminals plus this user avatar. It's  
3 processed and displayed up there.

4 Maybe I'm not answering your question. Say it  
5 one more time.

6 Q Sure. The -- the claim requires that -- let me  
7 withdraw it and rephrase.

8 The claim recites processing said first data in  
9 accordance with the instruct signals.

10 A Okay.

11 Q First data is your -- the user's -- the avatar?

12 A That's correct.

13 Q The instruct signals is game change data that's  
14 coming into that game station?

15 A That's correct.

16 Q How can it be that a user's avatar is processed  
17 in accordance with game change data coming from other  
18 game stations?

19 A You're referring to claim element 4 here?

20 Q 3,3.

21 A 3 is computing, isn't it?

22 Q Yes, sir.

23 A He's correct. It says:

24 "Computing second data...by processing  
25 the first data in accordance with said one

1 or more instruct signals."

2 And your question is how is it --

3 Q My question --

4 A Yeah, say it again because of that  
5 interruption.

6 Q How can it be in Sitrick that a user's avatar  
7 is processed in accordance with game change data  
8 received from other game stations?

9 A Because it has to be positioned on the -- to  
10 produce the -- the display, the user's avatar has to be  
11 positioned on that -- that -- that display.

12 Q But if the game change data is coming from  
13 other game stations reflecting movement of other  
14 players --

15 A Mm-hmm.

16 Q -- how can that possibly cause the processing  
17 of this user's avatar?

18 A Because the display at every station is the  
19 same. And if you just talk about the station where the  
20 user put his or her avatar in, okay. It's got the same  
21 display as all these other stations. That avatar has to  
22 be placed someplace on the screen in response to the  
23 other game data.

24 Q Let's take -- let's go back to our scenario,  
25 image -- image 1 and image 2.

1 A Okay.

2 Q Okay. So image 1 is a composite display  
3 showing all of the players. And it includes the avatar  
4 for player A playing the game.

5 A Okay.

6 Q Game change data comes in from other game  
7 stations reflecting their activity.

8 A Correct.

9 Q How does that game change data cause the  
10 processing of the user's avatar?

11 A Because you're processing the game change data  
12 to present a new display. I could give you an example,  
13 but there might be a lot -- so suppose somebody over  
14 here -- I'm losing track of which station. You're at  
15 the station with your own avatar on it?

16 Q Yes, sir.

17 A Okay. That's the scenario. Okay. So that  
18 image that you're getting on the screen shows your  
19 avatar. It also shows all the global activity of the  
20 game which everybody has seen. To get that up there,  
21 that first data has to be processed to produce the image  
22 that's going to appear up on the screen.

23 Q But -- but isn't the avatar already on the  
24 screen, and isn't the whole point here to only be  
25 processing delta data from the other stations?

1           A       Just because the avatar is on the screen  
2 doesn't mean you're not doing that.  You're -- the  
3 application layer is generating the new scene in some  
4 sense.  Not -- there's two layers here.  Okay?  One  
5 layer, the application layer, is evaluating this  
6 information that's coming up from the -- the  
7 communication -- the CAM layer.  It's producing a new  
8 image.

9                       Then the video manager takes that image and  
10 puts that image up on the screen.  The notion is that  
11 you're always processing this stuff into that  
12 intermediate layer, and the video manager takes that new  
13 scene and puts that up on the -- on the screen.

14           Q       What you're saying in essence is that every  
15 time the display is updated, a new -- a new display is  
16 painted, if you will, on the monitor; is that correct?

17           A       Well, that's what the video manager does based  
18 on what's happening in the application layer.  I mean  
19 maybe nothing changed in the application layer at all.  
20 But that's the -- that's why there's two separate layers  
21 here.  One generates the scene and the other renders the  
22 scene.

23           Q       You agree that the claim says in step 3:  
24                       "Computing second data by processing  
25                       said first data in accordance with said one

1 or more instruct signals. It does not say  
2 computing second data at said subscriber  
3 station by processing said first data and  
4 said one or more instruct signals"?

5 A I've got to hear the question again because I  
6 just can't -- I don't get the benefit of having a  
7 display. I can understand the reason why that is, but  
8 just ask it again and/or have it read back.

9 Q I'm going to paraphrase -- paraphrase the  
10 claim. The claim says that the first data is processed  
11 in accordance with the instruct signal. It does not say  
12 the first data and the instruct signals are processed.

13 A I mean, all I can say is it doesn't say what  
14 you said, but it says computing the second data by  
15 processing said first data in accordance with the  
16 instruct signals. So the instruct signals -- you know,  
17 the application layer has lots of code or whatever  
18 inside of it working away, and it receives instruct  
19 signals, and then it processes that first data as part  
20 of computing the second data.

21 Q You say the first data is the user's avatar,  
22 correct?

23 A That's correct.

24 Q In your read, what does processing the avatar  
25 mean in this context?

1           A       Well, I mean, I can give you an example of what  
2       it would mean, is it has to be placed in a particular  
3       position on the screen, so that would be processing.  
4       Instruct signals might change the background, they might  
5       change the image of the screen. In order to get your  
6       second data for display, you have to process in that  
7       user -- that avatar.

8           Q       Okay. I'm trying to follow. You said that  
9       the -- the location of the avatar in the screen could  
10      change that?

11          A       That would be one possibility.

12          Q       And you mentioned the background, but the  
13      background is not the avatar, correct?

14          A       No, but if you change the background, it might  
15      require reprocessing all of the data, including the  
16      avatar, to get the new image. There's lots of  
17      possibilities here. The lighting might change, for  
18      example.

19          Q       You've -- you've been working as an expert in  
20      the patent field for many years. I think we talked 20,  
21      25 years, correct?

22          A       Well, I mean, not in the patent field, in the  
23      field of systems and structures and their operation and  
24      software and that sort of thing related to patents. I'm  
25      not an expert on patents as such.

1 Q Okay. But you've been a technical expert in  
2 patent cases over the last several decades; is that  
3 correct?

4 A That's correct.

5 Q And part of your job is to read and apply  
6 claims from patents to prior art in this case, correct?

7 A Yes, that's correct.

8 Q And recognizing you're not an expert in patent  
9 law, you have an understanding of basic principles of  
10 how to read a claim and how to apply a claim; is that  
11 correct?

12 A That's correct. It's sort of like a layman's  
13 understanding. A juror's understanding.

14 Q And are you familiar with a general principle  
15 that different words -- strike that.

16 Are you familiar with a principle that  
17 different words are normally presumed to have different  
18 meanings?

19 A I'm -- I don't know if that was one of the  
20 instructions that I received, but this -- I mean, I  
21 really can't go very far on commenting on that.

22 Q In your analysis, element 3 says process- --  
23 processing first data in accordance with the instruct  
24 signals, correct?

25 A Yeah, hold on a second. There it is. No. Oh,



1 computing -- yeah.

2 Q The question was --

3 A Yeah, go ahead. Oh, I see what happened.  
4 Okay. I couldn't -- I'm not used to the double-sided  
5 pages, so -- yeah, go ahead.

6 Q So Claim 3 basically says processing first data  
7 in accordance with instruct signals; is that correct?

8 A That's correct.

9 Q Did you assign any significance to the phrase  
10 "in accordance with the instruct signals"?

11 A Did I -- I don't think -- without searching the  
12 thing, I don't think I put that word down and said in  
13 accordance means, but certainly I assigned significance  
14 to it because it's part of the claim.

15 Q And what would the ordinary understanding of a  
16 person of skill in this art understand "in accordance  
17 with" to mean in a claim like this?

18 A You mean in this claim or -- I assume you mean  
19 just within this claim?

20 Q Yeah, in this claim.

21 A Yeah, okay. Well, you have instruct signals.  
22 You're processing the instruct signals, tell you how to  
23 process that -- that data that -- that processing is  
24 controlled in some sense by the instruct signals.

25 Q And the instruct signals is the change data

1 exchanged between gaming stations, correct?

2 A That's correct.

3 Q The first data is the user's avatar, correct?

4 A That's correct.

5 Q And so your conclusion is that the change data  
6 is telling you how to process the avatar?

7 A That's correct.

8 Q Does that always happen in the way the  
9 peer-to-peer games work in Sitrick?

10 A That seems to be the basis of the peer-to-peer  
11 games in Sitrick, so I would say yes.

12 Q Let's say I've got -- I've got image 1 again.  
13 I have a player and he's playing and he's seeing image  
14 1. And his avatar is in location 5 on the display.

15 A Okay.

16 Q And change data from player B comes in  
17 reflecting player B's movement in the game.

18 A Okay.

19 Q Do you follow that?

20 A Yeah.

21 Q And is it correct that your analysis is that  
22 the change data for player B's movement would instruct  
23 the processing of that user's avatar, correct?

24 A That's -- that's what I'm saying here, yes.

25 Q Now, let's go to a second scenario. This time

1 it's player C. Player C moves, and change data from  
2 player C comes into our gamer's gaming terminal.

3 A Okay.

4 Q And it's your position that that delta movement  
5 data for player C instructs the processing of the user's  
6 avatar?

7 A That's correct.

8 Q Would the avatar be processed differently in  
9 those two scenarios?

10 A It depends on what the instruct signal is  
11 saying.

12 Q Okay. The instruct signal says in the -- our  
13 player is player A. He hasn't moved.

14 A Right.

15 Q Player B moves. Delta data is sent over for  
16 player B.

17 A Okay.

18 Q That causes processing of player A's avatar  
19 according to you. Player C moves.

20 A Okay.

21 Q The delta data for player C is sent over to our  
22 player A's terminal. Is the processing of player A's  
23 avatar in those two scenarios any different?

24 A Because player A didn't move, is that what  
25 you're saying or --

1 Q Well, in this scenario player A did not move,  
2 correct?

3 A Is the processing any different? Well, I  
4 assume there's some difference in the processing because  
5 it's two different instruct signals. The processing --  
6 oh, I see the player's --

7 Q Avatar.

8 A -- avatar. In that hypothetical -- well, the  
9 answer is it might be the same or it might be different.  
10 I think you asked me whether -- the question was whether  
11 it's processed or was it different processing?

12 Q You said in both instances that -- strike that.

13 The question was is the avatar of player A  
14 processed differently in those two scenarios?

15 A Well, the total computation --

16 Q No, that's not my question.

17 A I know. The total computation obviously could  
18 be different. The processing of the avatar could be --  
19 could be the same or different. It would depend on what  
20 the instruct signals were.

21 Q Well, recall our original -- original  
22 assumption was player A was in position 5.

23 A Mm-hmm.

24 Q That's where his avatar is. When player B and  
25 player C move in two separate events, is the processing

1 of player A's avatar at position 5 any different?

2 A It would depend on the instruct signals because  
3 the instruct signal might instruct -- from player B  
4 might be something that covers up part of that avatar.  
5 It might have to be processed differently in that  
6 scenario, or it might go behind that avatar. It might  
7 shadow that avatar. There's a lot of possibilities.

8 Q There's -- there's -- there are a lot of  
9 possibilities. Are any of those possibilities  
10 explicitly discussed in Sitrick?

11 A You mean like shadowing or --

12 Q Any of the scenarios that -- that you mentioned  
13 as possibilities for a player's avatar being processed  
14 based on delta data coming from other game terminals?

15 A Well, what is sent by Sitrick is that this  
16 image is computed, and it's based on the player's avatar  
17 and these instruct signals. So part of that computing  
18 is presumably the processing of that -- that data's  
19 avatar. That's what it's talking about.

20 Q Okay. Let me put it a different way. It is  
21 true that in all instances the user's avatar is going to  
22 be processed in the sense that it has to be processed  
23 for display, for whatever display is shown, correct?

24 A This is what Sitrick is telling you, yes.

25 (Discussion off the record.)

1 BY MR. SCHREINER:

2 Q The difficulty I'm having here is understanding  
3 how -- is how change data from other game stations  
4 impacts how a user's avatar is processed. It seems from  
5 reading Sitrick that a user's avatar is processed by  
6 determining its location, formatting it for display, and  
7 putting it into the overall display that's generated at  
8 the video layer. None of that seems to be affected by  
9 the delta data coming from other stations.

10 A None of what?

11 Q The processing of the user's avatar. In other  
12 words --

13 A It says in accordance with these instruct  
14 signals. So what happens to that user's avatar is -- I  
15 mean, the signals that are coming in are computing this  
16 display. And part of computing that display is  
17 processing this -- this avatar, and those instruct  
18 signals are directly controlling that -- that display.

19 Q Except for the hypotheticals that you offered  
20 about avatars covering other avatars, how would a user's  
21 avatar be displayed differently -- excuse me. How would  
22 a user's avatar be processed in a different manner based  
23 on the nature of the change data being received?

24 A Different -- different from what?

25 Q Different from other change data coming in.

1           A     I've lost the question here.

2           Q     Does the phrase "in accordance with" in step 3  
3 of the '638 patent indicate to you that different  
4 instruct signals will cause the first data to be  
5 processed in different manners?

6           A     Not necessarily. It just says "in accordance  
7 with." It might be the same processing or no  
8 processing.

9           Q     So -- so the first -- the first data could be  
10 processed in the very same manner regardless of the  
11 instruct signals that are being received?

12          A     Well, those -- those instruct signals might  
13 indicate processing in the same manner. And that would  
14 be one possibility.

15          Q     Does Sitrick disclose that the instruct signals  
16 cause processing of the user's avatar in the same manner  
17 in all cases?

18          A     Does it disclose -- I don't think it does, if I  
19 understand your question. The answer is no.

20          Q     Show me -- show me somewhere in Sitrick where  
21 the -- where there's an example of an instruct signal  
22 meaning change data to cause the user's avatar to be  
23 processed in one way, and some other change data would  
24 cause that user's avatar to be processed in a different  
25 way. Can you provide one example of that?

1           A       Just read it again.  Now that I'm thinking  
2 about it, it escapes my --

3           Q       Can you just give me one example in Sitrick  
4 where the incoming change data causes the user's avatar  
5 to be processed in one way and some other change data  
6 causes that user's avatar to be processed in a different  
7 way?

8           A       Maybe we're going around in a circle here.  Let  
9 me see if I can --

10                    Maybe I'm just not following, but it seems like  
11 what we talked about in 8, where it talks about this  
12 level change data and starting at 19, each game  
13 individual console periodically communicates signals  
14 representing, for example, game I.D., game type, game  
15 data.  Changes to the I/O structure affecting game  
16 visuals.  So it affects the game visuals on all of  
17 these.

18                    And the user's representation is part of that.  
19 It has to be processed as part of that -- those instruct  
20 signals.  For instance, if it were to move, it might  
21 move in two different ways based on the instruct signal.  
22 Two different signals might mean it moves in two  
23 different directions.

24           Q       Might mean what moves in two different  
25 directions?



1           A       The image of the user, the avatar.

2           Q       But the change data is not going to affect the  
3 movement of his avatar; isn't that right?

4           A       Well, the individual's change data certainly  
5 would. It's the same change data going to everybody  
6 else.

7           Q       Right. But remember, our instruct signal is  
8 the incoming change data from another game station.

9           A       But that data also affects the complete  
10 display; that this is the basis of Sitrick, that the new  
11 display was presented including your avatar in response  
12 to these instruct signals.

13          Q       Isn't it the case that your avatar is going to  
14 be processed in the exact same manner every time a new  
15 display is painted? You're going to receive the change  
16 data from other game stations, and you're going to  
17 update your display, but your avatar is going to be  
18 processed in the very same way?

19          A       No, I don't believe that at all. The instruct  
20 signals -- I mean, it wouldn't be a game otherwise. It  
21 doesn't make sense to me. The instruct signals are to  
22 tell you about how to present that game data, including  
23 how to present your avatar.

24          Q       Is your position essentially that it's inherent  
25 in Sitrick that the incoming game change data is going

1 to determine how the user's avatar is processed?

2 A Well, we -- yeah. Yes. I mean it's -- it's  
3 not really inherency. It's expressly there. But the  
4 notion -- okay.

5 Q It doesn't say that. You're explaining why,  
6 and that's okay. I think that's an inherency argument.

7 A But --

8 Q If it's -- if it's in the reference, you know,  
9 if it's stated in the reference -- you know, if the  
10 reference says if the incoming game data is A, then the  
11 user's avatar is going to be processed this way; and if  
12 the incoming game data is B, the user's avatar is going  
13 to be processed in this different way.

14 A Right.

15 Q But that's not stated in the reference, is it?

16 A That's exactly what Sitrick is saying. So  
17 maybe this will help. All of these displays, we've  
18 determined at least in some embodiments, they're all the  
19 same. The avatar is -- so just step over to an adjacent  
20 terminal. Now the incoming data is from the user that  
21 owns that avatar. Clearly it's changing something about  
22 that avatar because he's moving the joystick or tapping  
23 the keyboard. Now at that station, okay, now this one  
24 is transmitting the game change data from that user.  
25 This station over here is changing that avatar. This is

1 what Sitrick is all about, changing the presentation of  
2 that avatar.

3 Q Focusing on the avatar, the user's avatar, how  
4 is it processed? I understand you've told me about  
5 creating the entire display and passing it up through  
6 the software layers. Okay. But the avatar is -- it's  
7 stored in the game terminal, correct?

8 A In every game terminal.

9 Q All right. So tell me for a given game  
10 terminal, how is it processed? What does it mean to say  
11 that the avatar is processed?

12 A If you're sitting at game terminal B and game  
13 terminal A moves his joystick, his avatar will change on  
14 these other -- it has to be processed.

15 Q I'm sorry, I wasn't clear. I'm focusing on my  
16 avatar. Okay. So it says player A at game station A,  
17 and player A has avatar A. How is player A's avatar  
18 processed at his game station?

19 A How is his avatar?

20 Q Yes.

21 A By -- by whatever the instruct signals say to  
22 do.

23 Q Give me an example.

24 A Well, you know, I think it's pretty clear from  
25 Sitrick. So you're trying to limit it to -- to -- to

1 the player A with his avatar on the screen, but it could  
2 just as easily be the player B with player's A's avatar  
3 on the screen. The instruct signals are clearly telling  
4 that presentation how to work, how to perform.

5 Q Here's the issue. The issue is that the claim  
6 talks about a receiver station. And the receiver  
7 station has first subscriber's specific data.

8 A Right. Oh, I see what you're getting at, yeah.

9 Q And there's incoming transmissions with  
10 instruct signals that are causing the processing of that  
11 subscriber's specific data at that game station.

12 A Okay. I see what you're getting at.

13 Q Okay. So how --

14 A Okay. Ask it again.

15 Q Okay. Can incoming game data from other game  
16 terminals affect the manner in which the subscriber's  
17 own avatar is processed?

18 A Can it? Yes.

19 Q How?

20 A Because it -- it has to be placed on the  
21 screen. The screen is a composite of everything that's  
22 happening in the system.

23 Q But the delta data coming from other players  
24 reflects their movement, not this player's movement,  
25 correct?

1           A     Sure.  But that player may overlap this player,  
2     may bump that player, may displace that player, might  
3     shoot that player.  There's all kinds of possibilities  
4     here.

5           Q     And your position is that that is disclosed in  
6     this column 8 of Sitrick?

7           A     Well, that's -- that's it, plus the notion that  
8     all of these displays are the same.  Your avatars -- you  
9     know, your display, what you see is a result of  
10    everything coming in from these other games.

11          Q     And your position is that that is explicit  
12    expressed in Sitrick?

13          A     That's correct.  That's what -- that's what you  
14    read when you read 8.

15          Q     And your position is -- that is your position,  
16    that even though Sitrick doesn't say anything explicitly  
17    about -- well, withdraw that.

18                Let's do one more hypothetical on this.

19          A     Is it getting time for a break?

20          Q     Probably, yes.

21          A     Because we've been going for a couple of hours,  
22    I think.  I don't know how long, but my legs are  
23    starting to get --

24          Q     Sure.

25          A     It would be better if it wasn't for this big

1 pillar.

2 Q You did testify earlier that there could be  
3 scenarios where two different transmissions of change  
4 data might cause the user's avatar to be processed in  
5 the same way?

6 A Yeah. It seems like a possibility.

7 Q Okay.

8 MR. SCHREINER: Okay. Let's take a break.  
9 Thanks for bearing with me.

10 (Discussion off the record.)

11 BY MR. SCHREINER:

12 Q In the claim, Claim 1 of the '638 patent, it  
13 talks about a combined presentation that includes either  
14 an image or a sound.

15 Do you see that in element 4 of Claim 1 of the  
16 '638 patent?

17 A Can I just ask one question?

18 Q Sure.

19 A This Exhibit 2004, is this just something  
20 that -- is it a real exhibit, or did you cook this up  
21 for this deposition, or is it --

22 Q It is -- it is something that we created for  
23 this deposition, and I'm representing to you that it  
24 contains a, you know, exact copy of the claim.

25 A It's accurate?

1 Q Yes, sir.

2 A Okay. Okay. I just -- I'd never seen it  
3 before. And now go on with your question.

4 Q And the question was in step 4 of the combined  
5 presentation, it indicates that you can have an image  
6 and/or a sound that's received from a remote transmitter  
7 station. Do you see that?

8 A I do.

9 Q In Sitrick there's a capability for audio to be  
10 transmitted among the players. Is that correct?

11 A That's correct.

12 Q And that's done in realtime; is that correct?

13 A I assume that it is. It seems like the notion  
14 is you would push a button and be able to speak to other  
15 players in whatever accounts for realtime here.  
16 Remember, these things could be over networks. Maybe  
17 even big networks, so -- "these things" meaning the  
18 terminal.

19 Q Right. Is it correct that the -- that the  
20 audio is not processed in such a manner that it is  
21 synchronized with the image that is displayed in the  
22 game terminal in Sitrick? In other words, the audio is  
23 independent of the processing that takes place for the  
24 game displays?

25 A Well, I don't know that I can answer that

1 question one way or the other. The -- the notion is  
2 that -- that you would push a button and be able to  
3 communicate with another terminal. But the substrate  
4 for -- for Sitrick is really these sort of networked  
5 terminals.

6 Now, Sitrick has in mind other kinds of things  
7 like -- so say Figure 5, there's a notion of this sort  
8 of direct connection between the terminals, but if you  
9 look at Figure 3, you see that there's this -- this CAM  
10 layer. So I think one of ordinary skill in the art  
11 would say well, you know, embodiment would be Figure 3,  
12 in which case the audio would be transferred on this CAM  
13 layer.

14 Q Okay. I'm sorry, I should have been clearer.  
15 When I say audio, I mean a player speaking.

16 A That's what I'm talking about. The player's  
17 communication with another terminal surely in, say,  
18 something like Figure 3, that -- that's one of the  
19 possibilities.

20 Q Okay. And you're saying it's a possibility  
21 because Figure 3 shows lines between the terminals, not  
22 because Figure 3 says anything specific about audio,  
23 correct?

24 A It shows that that's the substrate or the  
25 platform for communicating between terminals, and so



1 audio could be part of that.

2 Q The -- what you call the instruct signal, which  
3 is the game change data, does Sitrick anywhere say that  
4 the game change data causes the outputting of audio in  
5 combination with the display?

6 A Just ask -- ask it one more time.

7 Q Is there any place in Sitrick where it  
8 indicates that the game -- incoming game change data  
9 drives the outputting of audio in combination with the  
10 display?

11 A Well, you know, again, going back to column 8,  
12 it says make -- and I know you'll ask it again if I  
13 don't answer it. I think I'm answering your question.  
14 So it talks about representing changes to its I/O  
15 structure affecting game visuals. But the audio is part  
16 of the I/O structure, so it doesn't say explicitly that  
17 the audio affects the game visuals.

18 But it does suggest that -- I mean the push  
19 button for the audio is -- I don't know if there was a  
20 push button, but the fact that audio is present clearly  
21 is a change to the game at that terminal, so that  
22 certainly could be part of the game change data.  
23 Sitrick just doesn't elaborate on certain game change  
24 data.

25 Q Do you agree that the -- the general test for

1 anticipation is a reference -- it's not what a  
2 reference -- strike that.

3 Do you agree that the general test for  
4 anticipation is what the reference discloses the system  
5 to actually do and not what the system might be able to  
6 do or might be capable of doing? Do you agree with that  
7 as a general proposition?

8 A Sure.

9 Q In column 3 where you -- column 3 of -- excuse  
10 me, the Sitrick patent, Exhibit 1008. You cited this  
11 for the audio. And it states:

12 "As illustrated, the communication  
13 switch 105 allows for bidirectional voice  
14 communications via the speaker/microphone to  
15 other selected user stations and consoles."

16 Do you see that?

17 A Page which?

18 Q Oh, I'm sorry.

19 A Yeah, I thought I should have asked you after  
20 you started reading it, but --

21 Q Column 3 of the Bakula patent, lines -- excuse  
22 me. In my defense, you guys put "kula" -- you got a  
23 typo here.

24 A Yeah, yeah, there is a typo.

25 Q Okay. So let -- let me withdraw the question

1 and we'll rephrase.

2 MR. TOUTON: I think he's asking about this,  
3 244.

4 BY MR. SCHREINER:

5 Q Yes, the Sitrick patent --

6 A Okay. 244.

7 Q -- which is 1008 of Zynga.

8 A Right. Oh, yeah, yeah, there's another. Don't  
9 touch it. Don't change it on the exhibit.

10 Q It states in column 3 starting with line 10:

11 "As illustrated, the communication  
12 switch 105 allows for bidirectional voice  
13 communication via the speaker/microphone to  
14 other selected user stations and consoles."

15 Do you see that?

16 A I do.

17 Q Okay. And in your report -- in your  
18 declaration in paragraph 244, page 163, you cited that,  
19 correct?

20 A That's correct.

21 Q Would a person of ordinary skill interpret that  
22 to mean that there is conventional bidirectional -- let  
23 me withdraw that and rephrase it.

24 Would it be fair to say that that passage would  
25 be consistent with one embodiment, the embodiment being

1 speakers at each game station where players can talk to  
2 other selected players?

3 A It would be an embodiment -- sorry, say it  
4 again. I lost the thread of the --

5 Q Sure. Would it be fair to say that one example  
6 of what's described in column 3 would be a conventional  
7 speaker system where players would press a button, speak  
8 into a microphone, take their finger off the button, and  
9 hear responses from other players?

10 A What -- I don't understand what you mean by  
11 conventional speaker system or conventional whatever you  
12 said.

13 Q Okay. That passage refers to voice  
14 communication to other selected user stations and  
15 consoles, correct?

16 A That's correct.

17 Q Okay. That -- that would indicate that this  
18 audio data is not part of the single identity composite  
19 presentation that all the players see, correct?

20 A It might be and it might not be. It says  
21 selected. It could be all of them.

22 Q Well, if it says selected, it could be -- it  
23 could be just individuals, correct?

24 A That's correct. It could be.

25 Q Okay. Does that passage state that audio could

1 be processed by the user terminal and synchronized with  
2 the composite display?

3 A Well, I mean, if you think of this passage,  
4 communication switch 105 clearly in part of the I/O  
5 structure. You go back to 8, it talks about game change  
6 being related to changes in the I/O structure.

7 Q Okay.

8 A Doesn't that -- isn't that what you're saying?  
9 I mean --

10 Q No, it's not. I'm asking whether this passage  
11 states that audio could be synchronized with the  
12 composite display, synchronized by the user station?

13 A I don't think that that's in this particular  
14 passage, but it certainly, combined with 8, for example,  
15 gives that notion to one reading it.

16 Q Okay.

17 MR. SCHREINER: I think that's -- I think we  
18 should wrap it up unless anybody objects.

19 MR. TOUTON: Let's -- let's end for today.

20 MR. SCHREINER: Yes.

21 (TIME NOTED: 6:59 p.m.)  
22  
23  
24  
25

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

I, CHARLES J. NEUHAUSER, Ph.D., do hereby declare under penalty of perjury that I have read the foregoing transcript of my deposition; that I have made such corrections as noted herein, in ink, initialed by me, or attached hereto; that my testimony as contained herein, as corrected, is true and correct.

EXECUTED this \_\_\_\_ day of \_\_\_\_\_,  
2013, at \_\_\_\_\_, \_\_\_\_\_.  
(City) (State)

\_\_\_\_\_  
CHARLES J. NEUHAUSER, Ph.D.  
Volume I

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25

I, the undersigned, a Certified Shorthand Reporter of the State of California, do hereby certify:

That the foregoing proceedings were taken before me at the time and place herein set forth; that any witnesses in the foregoing proceedings, prior to testifying, were duly sworn; that a record of the proceedings was made by me using machine shorthand which was thereafter transcribed under my direction; that the foregoing transcript is a true record of the testimony given.

I further, certify I am neither financially interested in the action nor a relative or employee of any attorney or party to this action.

IN WITNESS WHEREOF, I have this date subscribed my name.

Dated: 10/14/13

\_\_\_\_\_  
SUZANNE F. BOSCHETTI  
CSR No. 5111

<b>&amp;</b>	<b>1009</b> 4:12 55:10,12 129:9 134:7 140:11 168:8	<b>14</b> 4:14 118:12 135:25 145:17 146:4	105:23 106:14 107:13,15,16,22 109:8,19 110:13 111:19 112:3 113:5 115:12 120:11 121:6 122:2 162:11 162:20 163:6,8,9,12 163:16 164:1
<b>&amp;</b> 24:23 26:2	<b>1010</b> 4:13 55:21,24	<b>140</b> 165:3,7,10,18	<b>1988</b> 23:12,18
<b>0</b>	<b>1011</b> 4:15 18:23 54:7,8 56:8,11 75:14 77:5 83:23 84:10 87:25 97:23 124:3 128:19 165:4 183:16	<b>142</b> 169:22 170:12 171:6	<b>1990</b> 28:19
<b>001</b> 50:25 51:3	<b>1011a</b> 4:18 18:25 23:8 27:4 54:9	<b>143</b> 183:17	<b>1990s</b> 24:9 27:10 30:15
<b>1</b>	<b>1018</b> 6:17	<b>15</b> 4:8 70:1,20 91:17	<b>1993</b> 4:14 26:14,19 27:4
<b>1</b> 1:17,25 2:19 6:1 37:19 55:1 90:15 92:21 108:23 109:1 113:20,20 114:1,3 115:16,18 116:2,8 118:6 120:9,24 121:13 129:20 130:2,3,8,15,18,21 131:7,11 132:12,24 132:25 133:11,20 135:11,13,16 147:24 173:5,25 181:7 183:20,24,24 202:20 203:12,13 210:5,20,23 211:19 211:24 212:4,17 214:10 215:9,20 216:5 218:25 219:2 225:12,14 237:12 237:15	<b>105</b> 241:13 242:12 244:4	<b>150</b> 10:2	<b>1994</b> 20:17
<b>1,000</b> 97:9	<b>107</b> 95:11	<b>152</b> 127:4,6	<b>1997</b> 162:19
<b>1,000.80</b> 93:8	<b>1071.32</b> 91:11 94:10 95:12 96:10,17,23	<b>156</b> 212:24	<b>1:25</b> 128:13
<b>1,071.32</b> 93:8 97:9	<b>1071.32.</b> 95:8 96:5 97:5	<b>16</b> 136:9	<b>1a</b> 120:4 121:24
<b>1,080.64</b> 94:11	<b>1080.64.</b> 93:8	<b>163</b> 242:18	<b>1c</b> 120:4 121:24
<b>1.68</b> 4:16	<b>10:45</b> 54:4	<b>17</b> 91:17 129:20 130:15,18,21 131:2 131:7,11 133:20 139:17	<b>2</b>
<b>10</b> 38:2,4,7,12 42:6 42:20 56:14 98:16 118:11,12 136:9 148:22 242:10	<b>11</b> 66:7,13 69:5 157:19,20,21 184:25 191:17,24 191:25 192:1 193:11	<b>1740599</b> 1:23	<b>2</b> 55:1 111:7 134:17 210:18,19,21 211:22 212:10 215:20,21 218:25
<b>10/14/13</b> 246:17	<b>117</b> 129:20	<b>18</b> 4:18	<b>2.0882</b> 90:21
<b>1000</b> 95:4	<b>11:08</b> 54:4	<b>19</b> 26:22 30:15 34:24 133:1 147:24 187:2 201:12 231:12	<b>2.117</b> 90:9 91:8 95:4
<b>1000.00</b> 90:9,21 91:7	<b>12</b> 56:20 58:3 59:16 59:19 60:9 63:17 65:18 67:1 118:17 118:24 135:25 190:12	<b>191</b> 181:11,17 182:8 182:10	<b>20</b> 4:12 9:14,20 19:13,15 20:11,13 20:14 21:1,10,17,22 23:6 25:7,13 28:21 59:14,20 60:10,24 63:17,22 64:6 67:1 70:1,20 71:20 74:25 168:8 222:20
<b>1001</b> 4:8 54:12,18 57:4 66:3 90:4 93:6 98:7 110:7,8 120:5	<b>124</b> 181:15 182:8	<b>1968</b> 19:8	<b>200</b> 111:14
<b>1008</b> 4:10 55:15,18 187:1 241:10 242:7	<b>13</b> 65:18	<b>1971</b> 19:9	<b>20001</b> 3:15
	<b>131</b> 87:18	<b>1972</b> 27:8	<b>2001</b> 5:3 35:14,19
	<b>132.2362</b> 90:21	<b>1975</b> 23:11 27:15	<b>2002</b> 5:5 35:25 36:1 36:11 37:15 39:16 42:23
	<b>134</b> 128:23,25 129:1 129:2	<b>1977</b> 156:25 157:2,3 157:8,15 163:2	<b>2003</b> 5:8 36:4,7
	<b>135</b> 2:17	<b>1979</b> 23:12	<b>2004</b> 5:11 54:22 55:7 172:17 173:3 181:1 237:19
	<b>136</b> 131:15,17 164:12	<b>1980</b> 4:12 19:12 26:14,19,22 27:3,11 27:15,19	
	<b>1373227</b> 5:3 35:17	<b>1980s</b> 29:4 47:1 161:19,20	
		<b>1981</b> 6:20	
		<b>1985</b> 108:25	
		<b>1986</b> 4:11	
		<b>1987</b> 33:22 34:9,19 34:22,24,25 35:3 97:14 100:19 101:10,12 103:12 104:7 105:3,6,9,20	



<p><b>2005</b> 5:13 52:23 53:6 56:2,5 83:13 84:6,13 85:14 86:16 <b>2005-2006</b> 37:5 <b>2006</b> 5:3,5,8,15 35:17,24 36:13,23 37:21,21 52:23 53:6 56:14,17 <b>2007</b> 5:18 56:19,23 <b>2008</b> 36:5 <b>2011</b> 4:9 <b>2013</b> 1:17 2:19 5:18 6:1 53:18 56:22 67:13,24 245:15 <b>202</b> 3:16 <b>202m</b> 114:6,24 119:17 <b>2032937</b> 5:6 35:24 36:13 <b>205</b> 91:5 114:16,16 114:19 <b>21</b> 132:25 147:24 <b>213</b> 3:8 <b>214</b> 183:18 <b>215</b> 114:4 <b>21a</b> 168:7,9 169:8 <b>22</b> 133:1 <b>22nd</b> 84:9 <b>23</b> 28:22 129:21 130:16,18,21 131:3 131:7,11 <b>232</b> 46:21 <b>239</b> 212:24 <b>24</b> 88:1 97:12,18,22 99:9,18 104:4 122:14 124:2 <b>240</b> 170:10 <b>244</b> 242:3,6,18 <b>246</b> 1:25 <b>248</b> 89:24 <b>249</b> 90:15 95:2,2,25 96:12,19 97:4 <b>25</b> 4:10 9:14,20 11:7 18:22 23:18 28:8 222:21</p>	<p><b>250</b> 91:17 92:2 <b>251</b> 87:18 <b>252</b> 92:12 <b>253</b> 92:12,17,20 <b>255</b> 93:5,24 94:3 95:13,18 96:13 97:8 <b>256</b> 93:5,25 94:3 <b>25th</b> 5:18 56:21 <b>26th</b> 84:5 <b>27</b> 133:20 156:8 <b>275</b> 66:4,6 <b>29</b> 187:3 201:12 <b>290</b> 60:21,25 <b>2:21</b> 128:13 <b>2a</b> 125:14 126:3 <b>2e</b> 125:22 126:1,2,6 126:9,14,22 <b>2k</b> 125:15,22 126:1 126:7,9</p>	<p><b>32</b> 74:21 92:21 119:4,12 <b>34</b> 42:24 109:17 190:13 <b>346-4000</b> 3:16 <b>35</b> 5:3 11:10 <b>350</b> 211:2 212:21,22 <b>36</b> 5:5,8 145:2 <b>360</b> 211:2 212:21,22 <b>37</b> 4:16 5:13,16 56:4 56:9 109:17 <b>38</b> 109:17 <b>39</b> 98:24 <b>3:28</b> 164:10 <b>3:32</b> 164:10 <b>3a</b> 98:7,9,14,22 99:6 99:20 100:19 101:20,23 102:2,4,7 102:8,19 103:17,18 104:6 105:1,21 107:24 108:15 109:2,13,20</p>	<p><b>42.100.</b> 56:4 <b>45</b> 95:3,25 <b>46</b> 91:2 <b>4893939</b> 3:8 <b>4:13</b> 183:10 <b>4:31</b> 183:10</p>
			<b>5</b>
			<p><b>5</b> 55:1 135:24 136:8 136:8 139:15,15 200:11 225:14 227:22 228:1 239:7 <b>5,270,922</b> 4:14 55:23 <b>50th</b> 3:6 <b>51</b> 90:1 193:12 <b>5111</b> 1:22 2:20 246:20 <b>53</b> 97:4 <b>54</b> 4:8 90:1 134:17 <b>55</b> 4:10,12,13 5:11 90:1 <b>555</b> 3:6 <b>56</b> 4:15 5:13,15,18 30:13 135:12</p>
			<b>6</b>
			<p><b>6</b> 4:4 39:13 40:8 90:15 111:7 139:16 180:25 181:1 210:5 <b>60</b> 148:6 <b>62</b> 148:6 <b>62.21875</b> 90:9 91:7 95:4 <b>6200664</b> 5:8 36:5 <b>63</b> 133:11 <b>638</b> 54:23 57:6,10 57:23 60:14,21 66:3 66:18 72:9,21 73:18 76:24 77:14,20 78:5 78:16 80:9 81:12 83:14,16 85:13,24 86:25 88:2,6,17,22 90:3 93:5 97:24 98:6 108:15 110:8 113:21 120:4</p>

122:17,25 124:10 125:14 128:18 131:15 172:13 173:5,25 180:25 181:12 183:21 202:20 210:6 212:18 215:9 216:5 230:3 237:12,16 <b>66</b> 135:20 <b>67</b> 134:18 135:12	<b>90s</b> 24:16 27:24,25 31:2,19 32:19 33:19 47:9 <b>93</b> 26:23 173:14 <b>94</b> 33:19 <b>95</b> 19:20 127:4,5,6 <b>97</b> 173:15,19 176:8 <b>9:17</b> 2:18 6:2	<b>activities</b> 25:8,11 27:12 170:3,16 171:5 <b>activity</b> 191:6 193:20 195:13,24 197:23 198:9 199:6 211:5 219:7,19 <b>actual</b> 21:16 22:14 57:18 83:15 93:3 107:18 133:9 167:2 177:8 207:22 <b>actuate</b> 135:3 152:12 <b>actuated</b> 146:11 <b>adapt</b> 187:16 <b>adapter</b> 106:25 <b>adapters</b> 109:1 <b>add</b> 194:20 <b>added</b> 95:6 <b>additional</b> 73:17 122:14 <b>address</b> 6:15,19 198:13 <b>addressed</b> 207:16 <b>adds</b> 120:19 <b>adequate</b> 63:22,25 64:1,2 <b>adjacent</b> 233:19 <b>administered</b> 6:5 <b>admit</b> 18:23 <b>advance</b> 199:10 <b>advice</b> 19:25 20:4,5 23:1 25:21 <b>advised</b> 25:18,19,20 <b>advising</b> 25:15 26:8 <b>affect</b> 232:2 235:16 <b>afternoon</b> 128:15,16 <b>ago</b> 8:17 16:22,24 23:18 53:8,8 62:7 162:21 <b>agree</b> 28:3 38:9 39:3 65:22,25 66:17 85:22 95:16,25 96:13 99:6 113:2 115:18 116:2 126:9	128:8 133:16 137:7 139:2 143:1,5,11,23 143:24 144:19 147:6 151:14 156:7 156:11 161:24 178:1 205:2 220:23 240:25 241:3,6 <b>agreed</b> 164:8 <b>aground</b> 216:1 <b>ah</b> 127:12 182:12 <b>ahead</b> 18:23 86:21 89:10 120:23 147:20 183:12 224:3,5 <b>aim</b> 173:1 <b>akin</b> 29:25 <b>algebraic</b> 89:16 <b>allow</b> 131:24 158:9 158:18,18 160:2 164:18,20 <b>allowed</b> 38:16 39:5 39:9 42:12,17 53:2 <b>allowing</b> 158:6,6 <b>allows</b> 143:14 170:2 241:13 242:12 <b>alluded</b> 166:19 <b>alpha</b> 157:13 168:21 <b>ambiguity</b> 80:4 <b>ambiguous</b> 193:6 <b>amount</b> 63:22 70:16 73:15 75:2 <b>analog</b> 43:14 44:17 44:22,23 49:19 <b>analysis</b> 21:4 69:8 85:23 183:16 185:25 207:14 223:22 225:21 <b>analyzed</b> 183:14 <b>analyzing</b> 82:8,18 <b>angeles</b> 3:7 <b>answer</b> 21:6 24:1 26:17 29:1,12 32:17 39:24 48:4,6,9,13 48:22 50:17 57:11 63:7 67:25 76:12
<b>7</b>	<b>a</b>		
<b>7</b> 40:25 42:3 91:10 95:7 191:24 <b>7,797,717</b> 1:8 2:8 <b>7,908,638</b> 1:7 2:7 4:8,17 5:12,18 54:12 56:10,21 57:5 <b>70</b> 88:17,19 <b>717</b> 72:10,21 73:18 81:9,12 87:18 <b>77</b> 157:5 163:25 <b>7f</b> 91:10 95:7	<b>a.m.</b> 2:18,19 6:2 54:4,4 <b>ability</b> 139:5 151:6 158:12 <b>able</b> 13:11 52:9 53:24 85:25 86:12 103:2 105:23 159:5 161:7 177:16 238:14 239:2 241:5 <b>absolute</b> 53:15 <b>abstract</b> 189:2,19 191:2 <b>access</b> 33:19 50:14 51:1 141:13 182:18 200:9 <b>accessed</b> 169:2 <b>accesses</b> 51:24 <b>accompanying</b> 120:25 121:14 <b>accomplish</b> 125:1 <b>accomplished</b> 94:15 94:18 <b>accounts</b> 238:15 <b>accuracy</b> 40:17 41:11,22 42:19 <b>accurate</b> 41:13,16 119:22 165:1 237:25 <b>accused</b> 16:9,25 <b>act</b> 53:9 <b>acting</b> 9:19 132:22 <b>action</b> 246:12,13 <b>actions</b> 180:14 189:24		
<b>8</b>			
<b>8</b> 87:25 88:1 165:14 165:20,25 166:4,6 166:23 167:23 187:2 201:8,12 202:3 231:11 236:6 236:14 240:11 244:5,14 <b>8,19</b> 205:9 <b>8080</b> 158:24 <b>80s</b> 27:24 29:11 31:1 32:11,13,13,19 33:21 46:2,8 47:9 <b>83</b> 128:24 129:1 <b>85</b> 164:13 <b>87</b> 163:7,25 164:2			
<b>9</b>			
<b>90</b> 75:6 82:1 169:22 <b>90071-2300</b> 3:7 <b>901</b> 3:14			

<p>85:25 86:2 113:13 116:13 123:15 125:19 148:21 150:14 161:11 170:20 198:6,12 202:16 208:16,21 208:22 209:10 227:9 230:19 238:25 240:13 <b>answered</b> 53:20 117:18 137:18 198:5 <b>answering</b> 132:11 217:4 240:13 <b>answers</b> 117:2 147:12,14,17 <b>anticipate</b> 80:13 <b>anticipating</b> 39:17 40:10 83:1 <b>anticipation</b> 138:10 138:25 139:23 142:18 145:12 241:1,4 <b>anybody</b> 13:20 34:9 244:18 <b>anymore</b> 33:13 150:8 151:6 155:10 197:19 <b>anyplace</b> 24:12 <b>ap</b> 171:22 174:20 179:2,7 <b>apologize</b> 135:21 139:13 <b>apparatus</b> 54:13 <b>apparently</b> 37:17 <b>appeal</b> 1:2 2:2 <b>appear</b> 150:20 189:11 195:21 202:14 219:22 <b>appearances</b> 3:1 <b>appears</b> 36:14 54:16 143:2 <b>apple</b> 32:12,15 33:6 33:8 128:3</p>	<p><b>application</b> 78:15 183:20 202:19 211:2 212:17 213:2 213:21 220:3,5,18 220:19 221:17 <b>applications</b> 14:22 14:23 <b>applied</b> 77:19 207:8 207:9 <b>applies</b> 176:24 <b>apply</b> 78:5 81:12 139:23 223:5,10 <b>appreciate</b> 172:24 181:13 <b>approach</b> 108:5 166:21 <b>approaches</b> 191:19 197:3 207:5 <b>appropriate</b> 48:17 <b>approximately</b> 70:15 <b>area</b> 50:23 51:1 122:14 191:24 <b>areas</b> 64:23 <b>arena</b> 188:15 190:18 <b>argument</b> 147:11 233:6 <b>arguments</b> 86:4 <b>arranged</b> 108:14 <b>art</b> 14:15 38:15 39:1 39:9,18,19 40:11,12 41:3,5 42:8,11,16 62:18 63:9 68:6,19 68:24 71:6,22 73:9 76:7,11,13,16 78:12 80:6,24 82:8,18,23 91:5 100:19 105:2 106:13,25 123:2,13 123:14,19 127:8 129:22,22 130:19 133:14,21 138:5,15 140:2,6 143:19 144:2 145:4,9 149:4 149:7 150:9 160:9 160:14,23 189:16</p>	<p>207:8 209:11,14 223:6 224:16 239:10 <b>article</b> 42:25 43:1,5 163:13 <b>articles</b> 23:14,18 129:7 130:14 164:21,21 <b>artificial</b> 185:8 <b>as400</b> 106:1,16,24 107:1,13 108:22,23 <b>ascii</b> 45:8,18 46:20 47:1,2 <b>aside</b> 23:4 28:2 57:15 144:6 199:3 <b>asked</b> 28:17 53:13 53:22 59:14 62:18 66:13,16 78:2 85:20 85:22 87:22 97:21 102:13 185:2 207:18 227:10 241:19 <b>asking</b> 6:21 17:24 30:13 33:4,4 34:18 34:19 41:19,21 46:15 61:5 86:18,21 99:20 103:17 105:1 105:14 108:12 120:22 121:18,19 139:5 145:8,12 149:8 150:6,8 151:11,17 153:2,3 154:10 160:20 199:15 242:2 244:10 <b>aspect</b> 49:23,25 50:17 128:10 <b>assign</b> 224:9 <b>assigned</b> 224:13 <b>associated</b> 50:24 134:19 <b>associates</b> 24:24 26:3 27:15,18,21 <b>assume</b> 15:20 41:24 45:17 64:8,10 84:1</p>	<p>116:9 160:15 224:18 227:4 238:13 <b>assumed</b> 191:8 <b>assumes</b> 61:4 <b>assumption</b> 15:20 84:21 172:3 227:22 <b>attached</b> 150:7 159:3 245:12 <b>attachment</b> 83:24 <b>attempted</b> 80:14 <b>attention</b> 36:10 66:2 <b>attorney</b> 246:13 <b>attorneys</b> 73:10 78:18 <b>attribute</b> 166:14 <b>audio</b> 92:18 114:4 238:9,20,22 239:12 239:15,22 240:1,4,9 240:15,17,19,20 241:11 243:18,25 244:11 <b>audiovisual</b> 192:10 192:19,21 194:4,6 <b>autodialer</b> 111:11 <b>automatically</b> 22:17 91:3 <b>available</b> 12:19 31:1 31:20 32:14 33:17 118:21 119:19 157:5,8,15 196:5 <b>avatar</b> 184:16,19,24 188:17,19,19 189:11 190:6 191:13,14,18,22 193:11 195:7,25 196:7,22 197:6,11 197:14 198:3,16,17 198:18 199:7 201:25 202:17 216:16,19,24 217:2 217:11,16 218:6,10 218:17,20,21 219:3 219:10,15,19,23 220:1 221:21,24</p>
--	--	---	---

[avatar - bolding]

<p>222:7,9,13,16 225:3  225:6,14,23 226:6,8  226:18,23 227:7,8  227:13,18,24 228:1  228:4,6,7,13,16,19  228:21 229:4,5,11  229:14,17,21,22  230:16,22,24 231:4  231:6 232:1,3,11,13  232:17,23 233:1,11  233:12,19,21,22,25  234:2,3,3,6,11,13,16  234:17,17,19 235:1  235:2,17 237:4  <b>avatars</b> 188:5,23  190:5,10 191:7  193:3,9,21 194:12  195:13,18 196:4,11  196:16,17 197:16  197:24 198:10,15  198:22 199:18  200:2,6,21 201:19  202:10 229:20,20  236:8  <b>avenue</b> 3:14  <b>average</b> 11:8 32:13  33:9,13 67:5  <b>avoid</b> 89:8 147:11  151:7 160:20  197:16  <b>aware</b> 24:8 89:5  124:14  <b>awful</b> 116:16</p>	<p><b>back</b> 8:18 10:18  12:3 22:5 40:6 44:2  51:9 53:22 60:1  68:13 81:6,15 87:10  87:15 93:1 96:22,25  99:9 103:23 107:8  115:24,25 127:2  129:15 140:11  168:2 173:10,21  187:18 200:13,23  208:10 210:13  211:18 218:24  221:8 240:11 244:5  <b>backed</b> 141:4  <b>background</b> 14:10  19:4,6 64:3 129:21  130:7,19,24 131:8  132:13 143:19  147:25 222:4,12,13  222:14  <b>backing</b> 142:10  <b>bakula</b> 55:10 129:3  129:8,10,11,16,16  129:21,25 130:11  130:15,22 131:12  131:22 132:4,10  133:3,12 134:6  136:4,9 137:4,11,11  137:22 140:11,12  141:8,10 142:5,9,12  143:14,18 144:8,15  144:18,23,25  147:20 148:18  149:16 150:3  151:15,18 155:11  155:23 156:2,18,25  157:25 158:5,23  159:8,17,20,25  160:22 161:14  164:3 165:15 167:7  168:7,7,12,21,22  169:11 170:19  175:17 177:6  181:25 182:4,21,24  183:13 241:21</p>	<p><b>bakula's</b> 133:9  156:3 158:17  167:22 170:13  171:16 181:18  <b>ballpark</b> 31:2 74:17  74:18  <b>base</b> 115:9  <b>based</b> 11:16 22:24  32:8 94:19 121:25  153:20 163:11  210:9 217:1 220:17  228:14,16 229:22  231:21  <b>basic</b> 22:8 65:1,1,2  110:16,20 115:8  119:15 185:14  223:9  <b>basically</b> 14:12,17  22:2,14,25 44:24  80:7 106:12 110:3  114:9,19 121:8  174:13 224:6  <b>basis</b> 7:22 46:22  48:5 61:19 91:4  143:4 225:10  232:10  <b>battery</b> 141:4  <b>bearing</b> 237:9  <b>bears</b> 35:24  <b>beginning</b> 2:18  110:21 183:17  <b>behalf</b> 2:16 8:8,12  10:5,8,12,15 11:5  11:15 53:1  <b>belief</b> 193:1 194:15  195:11  <b>believe</b> 12:2 16:7,13  20:14 24:24 27:23  33:20 41:15 47:16  49:17 52:20 62:9,17  63:2 76:18,21,25  84:15 102:12 103:1  109:7 113:20,21  120:15 157:5,8,14  157:18 169:14</p>	<p>193:1,6 232:19  <b>bell</b> 33:18  <b>bellies</b> 94:7  <b>benefit</b> 221:6  <b>best</b> 13:4 36:19  39:22 49:6,11 140:3  148:21 163:24  <b>bestmed</b> 18:11  <b>better</b> 133:4,6 147:2  154:24 236:25  <b>beyond</b> 39:2 57:23  57:25 76:13 88:8  124:6 139:5 151:5  161:5  <b>bidirectional</b> 241:13  242:12,22  <b>big</b> 236:25 238:17  <b>biggest</b> 35:8  <b>bit</b> 25:14 64:19  75:17 108:25  116:25 122:8 136:1  144:5 165:20 166:6  167:2,23 185:13  193:6 198:13  <b>bitmap</b> 45:12  <b>bits</b> 44:25,25 45:2,5  46:18 51:3,5,5,7,21  52:1 165:14,25  166:4,23  <b>black</b> 209:22  <b>blank</b> 55:4,5 177:23  <b>blanking</b> 43:14,20  44:11 49:20  <b>blinking</b> 166:10  <b>block</b> 99:8,24 100:1  100:3,23 102:8,9,10  105:16,17,19  107:22 108:13  109:18 110:13,17  142:7,13  <b>board</b> 1:2 2:2 5:18  22:10,11,12,21,23  22:24 56:21 64:22  <b>bolding</b> 161:8</p>
<b>b</b>			
<p><b>b</b> 31:15 47:20 51:18  52:5,10,13,18 55:10  81:4 167:25 225:16  226:15,16 227:24  228:3 233:12  234:12 235:2  <b>b's</b> 225:17,22  <b>b1</b> 1:8 2:8 4:8  <b>bachelor's</b> 19:6</p>			

[boschetti - change]

<p><b>boschetti</b> 1:22 2:20 246:19</p> <p><b>bottom</b> 54:25 87:25 163:3</p> <p><b>bound</b> 58:5</p> <p><b>box</b> 114:11</p> <p><b>boy</b> 8:16</p> <p><b>brand</b> 156:16</p> <p><b>break</b> 12:25 13:5,11 32:7 117:7,20 122:11 150:2 180:21 183:9 236:19 237:8</p> <p><b>briefly</b> 19:3 68:14 68:16</p> <p><b>bright</b> 30:18</p> <p><b>bring</b> 129:14</p> <p><b>broadcast</b> 115:4 116:18 118:20 119:17 120:2,6,25 121:10,24</p> <p><b>broadcom</b> 16:7</p> <p><b>broadest</b> 19:19</p> <p><b>buffer</b> 108:3 111:9,9 112:10</p> <p><b>buffers</b> 99:4 106:3 108:20</p> <p><b>build</b> 100:1 103:2 107:19,20 123:24</p> <p><b>building</b> 30:20</p> <p><b>built</b> 25:20 28:25</p> <p><b>bump</b> 236:2</p> <p><b>bunch</b> 115:23</p> <p><b>bus</b> 29:19</p> <p><b>business</b> 19:24 20:16 25:14,22 161:19</p> <p><b>busy</b> 20:10</p> <p><b>button</b> 238:14 239:2 240:19,20 243:7,8</p> <p><b>buy</b> 31:4</p> <p><b>byline</b> 162:17</p> <p><b>byte</b> 166:18</p> <p><b>bytes</b> 46:12 165:20</p>	<p><b>c</b></p>	<p><b>capital</b> 25:24 32:20</p> <p><b>capture</b> 187:20</p> <p><b>captured</b> 185:12</p> <p><b>car</b> 192:15 193:25</p> <p><b>card</b> 114:20,21</p> <p><b>career</b> 28:15</p> <p><b>carefully</b> 168:3</p> <p><b>carrier</b> 29:25</p> <p><b>carry</b> 123:22</p> <p><b>case</b> 1:6 2:6 8:14,19 9:8,9 13:8,25 14:9 14:25 15:16,24 16:15,19,21,22 17:1 17:4,6 18:2,7 28:5 33:6 35:15,23 36:15 36:22 37:5 38:22 39:2 40:20 41:17,19 42:24 52:24 58:1,8 59:7,8,9 61:10,12 61:13 63:6 68:9 86:6 94:7 119:15 124:19 133:23 134:5 139:25 146:9 147:4 178:15,16,18 178:19 179:18 180:10,11 183:6 185:22 186:15 188:16 223:6 232:13 239:12</p> <p><b>cases</b> 8:14 10:12,16 10:19,21 12:15 21:3 78:12 80:13 125:13 179:22 180:18 188:11 223:2 230:17</p> <p><b>cash</b> 32:8 107:9</p> <p><b>cast</b> 87:9</p> <p><b>categories</b> 134:4</p> <p><b>cause</b> 84:1 95:20 115:1,3 125:10 174:24 176:15 193:17 215:17 216:23 218:16 219:9 230:4,16,22 230:24 237:4</p>	<p><b>causes</b> 226:18 231:4 231:6 240:4</p> <p><b>causing</b> 216:6 235:10</p> <p><b>celilo</b> 6:17</p> <p><b>cell</b> 45:7</p> <p><b>central</b> 22:18,19 29:5,10,23 33:5 181:19</p> <p><b>certain</b> 24:16 38:19 49:1 171:14,14 186:20 240:23</p> <p><b>certainly</b> 7:8 12:1 33:18 34:2 36:18 53:15 64:3 66:12 69:15 75:12,12 76:2 77:23,24 82:22 100:6 101:24 106:8 109:21,21 110:16 124:12,15 137:24 140:21 143:16,16 146:25 151:16 156:17 157:6 162:22 163:15 187:24 197:3 204:11,21 205:4 209:13 224:13 232:4 240:22 244:14</p> <p><b>certificate</b> 54:16</p> <p><b>certified</b> 2:20 246:1</p> <p><b>certify</b> 246:2,11</p> <p><b>chain</b> 206:23</p> <p><b>chair</b> 24:6,7</p> <p><b>chairing</b> 172:25</p> <p><b>chalkboard</b> 78:20</p> <p><b>challenge</b> 35:8 41:2</p> <p><b>challenging</b> 58:17</p> <p><b>chance</b> 37:14</p> <p><b>change</b> 10:23,25 150:21 151:25 158:12 161:7 170:11 172:2,2 177:13 186:8,17,18 203:4,19,23 204:3,9</p>
--	-----------------	--	--

[change - column]

<p>204:12,16,18,19,20  204:23 205:6,11,20  208:4,7,13 209:7,12  209:13,17,24  216:14,22,23,25  217:13,17 218:7,12  219:6,9,11 222:4,5  222:10,14,17  224:25 225:5,16,22  226:1 229:3,23,25  230:22,23 231:4,5  231:12 232:2,4,5,8  232:15,25 233:24  234:13 237:3 240:3  240:4,8,21,22,23  242:9 244:5  <b>changed</b> 25:14  187:16 211:12,13  212:2,4 220:19  <b>changes</b> 83:8 140:20  149:10 153:19  166:9 175:14 180:1  180:10 187:8  201:14 204:14  205:13,17 206:2,7  206:17 231:15  240:14 244:6  <b>changing</b> 161:2  233:21,25 234:1  <b>channel</b> 31:7  <b>character</b> 43:16  45:6,7,9,9,15,18,18  46:12,14,19 47:3  49:25 50:1,15,16,18  50:20 51:2,23,24  52:9 114:21 165:19  165:24 166:4,7,12  166:17,24 167:3  192:16 194:1  <b>characteristics</b>  141:22  <b>characterization</b>  104:13  <b>characterize</b> 20:3</p>	<p><b>characters</b> 43:25  44:12 45:1,2,11,12  45:14 46:11 50:5,12  165:6,12,24 167:15  167:19 168:13  169:17  <b>charles</b> 1:15 2:15  4:3,15,19 5:4,6,9  6:4,16 35:15,22  56:9 245:8,18  <b>charlie</b> 157:13  <b>chart</b> 42:9 69:7  81:15,20 82:3,4,5  <b>charted</b> 38:16 39:9  39:18 40:11 42:12  <b>charts</b> 76:15,21,22  76:23  <b>check</b> 85:17 86:6  97:21 186:2 203:1  <b>chips</b> 24:4  <b>chris</b> 15:8  <b>circa</b> 104:7 105:20  161:19  <b>circle</b> 231:8  <b>circuit</b> 99:6,21,22  99:25 100:10,20  106:12  <b>circuitry</b> 88:4,11  97:15 98:1 99:10,13  99:17 100:1,7,8,22  103:10,16,19,21  104:18 110:17,22  120:17 123:6  <b>circuits</b> 110:14  <b>circulated</b> 77:14  <b>circumstance</b> 115:6  <b>circumstances</b>  39:11 102:5,19  <b>citation</b> 5:3,5,8  35:16,24 130:6  202:18  <b>cited</b> 187:25 241:10  242:18  <b>cites</b> 130:15</p>	<p><b>citing</b> 129:8 139:7  139:10  <b>city</b> 245:16  <b>civil</b> 12:14 62:12  71:16  <b>claim</b> 41:3 48:1  76:15,21,22,23  79:20,25 80:9,11,17  81:15,20,23,24 82:3  82:4,5 138:11 139:2  172:8,9,12 173:5,25  174:21 175:4,6,19  180:25 181:1,5,7  183:20,23,23,24  202:20 210:4,5  212:17 214:10  215:9,16,18 216:5  217:6,8,19 220:23  221:10,10 223:10  223:10 224:6,14,17  224:18,19,20 235:5  237:12,12,15,24  <b>claimed</b> 212:18  <b>claims</b> 5:11 14:18  54:22 76:16 77:20  78:5,21 79:14 81:10  82:8,19 223:6  <b>clarification</b> 6:25  49:1  <b>clarify</b> 9:7 48:19  49:15  <b>clean</b> 97:3 102:15  198:5  <b>clear</b> 60:7 86:9,17  91:23 113:13  122:22 123:10  130:9 135:19  234:15,24  <b>clearer</b> 71:7 239:14  <b>clearly</b> 14:17 82:17  149:2 151:22,23  161:6 233:21 235:3  240:20 244:4  <b>client</b> 9:10 83:9</p>	<p><b>clients</b> 25:9,25 26:20  28:17 30:22  <b>clock</b> 114:3  <b>close</b> 13:17 69:13  <b>closer</b> 173:13  <b>coax</b> 32:10  <b>coaxial</b> 30:20,24  109:23  <b>code</b> 46:14,20 50:24  50:25 51:6,24 52:1  52:11 90:8,21 94:18  94:19 126:18 166:3  166:6,9,13 169:6,6  221:17  <b>coded</b> 135:4  <b>codes</b> 45:15,18,19  46:12,20 47:1,2  50:9,13 52:6,13,17  <b>cold</b> 174:13 178:20  <b>college</b> 20:12  <b>colleges</b> 20:8  <b>column</b> 66:3,6 89:24  90:15 91:1,17 92:1  92:12,17,20 93:5  95:2,2,13,18,25  96:11,13 97:4,8  98:16 129:20,20  130:15,18,21 131:7  131:11,15 132:12  132:25 133:11,20  134:17 135:10,11  135:13,14,15,16,18  135:19,24 136:8,8  145:16 146:3  147:24 148:6,22  149:14,23 152:2  156:7,14 171:17  184:24 186:24  187:2 190:12  191:17,25 192:1  201:8,12 202:3  205:8 236:6 240:11  241:9,9,21 242:10  243:6</p>
--	---	---	--

[columns - connection]

<p><b>columns</b> 60:21,25 69:3 93:24 94:3 95:17 <b>combination</b> 192:19 194:4 240:5,9 <b>combined</b> 19:10 44:25 45:2 80:14 120:1,5 121:1,3,6 121:23 174:25 175:7,10,20 176:16 177:9,19 202:21,23 203:13 214:11,23 214:23 215:2,10 217:1 237:13 238:4 244:14 <b>come</b> 8:18 9:16 12:3 17:23 22:5 48:7 73:3 78:6 180:21 <b>comes</b> 57:3 114:23 169:6 219:6 225:16 226:2 <b>comfortable</b> 53:11 <b>coming</b> 32:15 50:11 114:14 217:14,17 218:12 220:6 228:14 229:9,15,25 235:23 236:10 <b>command</b> 126:15 <b>commenting</b> 147:10 223:21 <b>commercial</b> 23:5 28:12,22,25 92:14 92:18 <b>commercially</b> 115:13 <b>committees</b> 23:22 23:24 <b>common</b> 30:22 48:6 58:7 59:6,20 60:10 104:6 105:3 108:5 108:19 115:19 116:4 150:10,11 160:9 188:12,13,13 193:13 194:19 202:12</p>	<p><b>commonwealth</b> 2:17 <b>communicate</b> 182:15 187:11 239:3 <b>communicated</b> 81:3 200:25 <b>communicates</b> 187:6 205:25 231:13 <b>communicating</b> 239:25 <b>communication</b> 100:15 107:11 110:10 220:7 239:17 241:12 242:11,13 243:14 244:4 <b>communications</b> 1:8 2:8 106:17,21 107:14 187:12,13 200:8,9 241:14 <b>companies</b> 25:15,18 25:19,20,21 32:21 33:1 <b>company</b> 8:22 14:12 14:14 15:2,3,5 17:20 24:25 25:1 31:4 32:19,21 <b>comparator</b> 111:9 112:11 <b>compared</b> 167:23 <b>comparing</b> 76:15 <b>comparison</b> 85:5 <b>compiled</b> 90:9,10,22 90:23 <b>complete</b> 15:13 77:13 160:10 189:22 232:9 <b>completed</b> 152:12 <b>completely</b> 7:3 50:6 53:11 55:4,5 75:19 145:22 149:13 159:7 210:1 <b>completeness</b> 54:15</p>	<p><b>complex</b> 48:23 <b>complexity</b> 122:19 <b>complicated</b> 99:7 <b>complimentary</b> 192:20 194:5 <b>components</b> 88:4 97:13,16 98:1 99:13 100:16 103:10,16 104:4,7,19,22 105:4 106:19 108:3,4,9,14 110:10,22 111:1,10 112:16 122:20 <b>composed</b> 127:10 <b>composes</b> 114:16 <b>composite</b> 118:19 119:17 189:5,5,15 189:15,18,18,20,24 190:8,15 191:2,4,8 193:2,18,19 194:13 194:15,21 195:2,7 195:11,13,23 196:5 196:14,17 197:13 197:15,18,23,23 198:1,9,9 199:4,8 201:2 202:21 210:14 211:19 219:2 235:21 243:18 244:2,12 <b>comprehend</b> 151:6 <b>computation</b> 94:14 95:23 97:1 227:15 227:17 <b>computational</b> 108:3 <b>compute</b> 96:10 176:13 204:15 <b>computed</b> 93:12,15 96:18 215:5 228:16 <b>computer</b> 19:6,11 20:20 29:10,15,16 29:23 32:12,15 33:5 33:7,8 48:7,9 88:10 107:1,3 124:8,10,13 124:14,22 125:1,2,2 125:5,10 127:9,20</p>	<p>128:3 135:6 136:10 140:19,25 146:14 157:22,23,24 174:2 182:15,22 <b>computers</b> 25:17,18 29:5 128:2 157:11 157:16 <b>computes</b> 91:8 95:5 96:4 <b>computing</b> 173:6 175:4 176:9,12 217:21,24 220:24 221:2,14,20 224:1 228:17 229:15,16 <b>conceded</b> 109:4 <b>conceive</b> 159:4 <b>concluded</b> 208:3,13 <b>conclusion</b> 209:25 210:1,1 225:5 <b>conclusions</b> 80:24 83:7 <b>conducted</b> 21:9 <b>conference</b> 24:1,3,4 24:6 78:19 <b>confidential</b> 12:7 <b>configuration</b> 29:13 104:17 200:6 <b>configurations</b> 68:16 <b>configured</b> 105:21 171:13 <b>confines</b> 159:2 <b>conforms</b> 126:22 <b>confuse</b> 6:23 <b>confused</b> 10:22 71:4 80:5 168:25 <b>confusing</b> 17:4 104:11 133:18 <b>confusion</b> 104:8 <b>conjecture</b> 146:1 <b>connect</b> 22:15,17 100:3 <b>connected</b> 106:4 <b>connection</b> 7:7 8:4 9:4 12:13 16:19</p>
--	---	--	---

[connection - correct]

<p>18:2 19:17 21:8  33:10,15 34:10,20  35:1,23 36:15 37:9  61:7 62:12 63:18  69:10,11,18 70:17  71:2,16,25 89:11  93:2,14 98:1 99:3  104:3,6 122:20  239:8  <b>connections</b> 30:25  111:1  <b>consecutive</b> 72:14  <b>consider</b> 20:19 47:4  53:5,19 99:25  100:19  <b>considerable</b> 47:8  <b>considered</b> 38:25  105:3  <b>considering</b> 59:23  120:10  <b>consistent</b> 85:17  86:13 87:21 242:25  <b>console</b> 187:5,11  205:24 213:9  231:13  <b>consoles</b> 187:15,19  213:6 241:15  242:14 243:15  <b>constants</b> 91:20  <b>constructed</b> 28:25  <b>consult</b> 74:8  <b>consultant</b> 27:14  <b>consulting</b> 16:11  19:16 20:15 25:6,8  25:11 26:7,7  <b>consumer</b> 31:21,22  32:2,13 33:9,14  44:1,12 47:21 48:3  51:19 52:6,13 94:11  94:12 110:9 115:21  116:7 118:17  119:10 125:6  <b>consumer's</b> 32:16  33:7 47:21</p>	<p><b>contact</b> 62:23  <b>contacted</b> 63:2  <b>contained</b> 245:12  <b>contains</b> 48:1,3,24  237:24  <b>content</b> 115:20,20  116:4,5 120:6 121:1  121:1,24,25 124:13  <b>context</b> 100:8,9  116:8 123:1,17  137:24 150:17  160:22,25 161:14  199:11 221:25  <b>continuously</b> 26:5  <b>control</b> 99:3 106:8  108:4 110:11 137:5  137:21,22 143:14  144:20 145:14  146:13 160:1  176:18 182:5,16  183:6  <b>controlled</b> 136:5  224:24  <b>controller</b> 22:4 23:4  28:4,11 98:10,14,23  99:2 100:16 101:15  101:16,23 102:4,7,8  102:18 103:13  105:17,19,20  106:16,17,22  107:11,14,22 108:4  108:9,14 109:12  111:9,11 112:11,11  187:17  <b>controllers</b> 105:14  106:1 108:1 109:1,5  109:8,19,22 152:7  <b>controlling</b> 184:11  229:18  <b>controls</b> 145:22  146:18 149:1  152:22 153:11  155:21  <b>conventional</b> 43:14  49:19,21 242:22</p>	<p>243:6,11,11  <b>conversation</b> 154:11  <b>convey</b> 123:18  <b>convince</b> 83:11  <b>cook</b> 237:20  <b>cooperate</b> 48:14  <b>cooperating</b> 48:17  <b>coordinator</b> 24:6  <b>copied</b> 41:25  <b>copies</b> 114:9 190:23  <b>copy</b> 114:10 237:24  <b>copying</b> 155:4  <b>corner</b> 55:1  <b>corners</b> 138:16  <b>corporate</b> 15:6  <b>corporation</b> 35:16  36:6 157:21  <b>correct</b> 9:20,21  11:13 21:10,11,14  21:15,17 23:12,13  23:18,19,21 26:18  27:5,6,16,17,20  36:15 37:12,13  38:11,17 39:23 41:9  41:10 44:13 46:4,11  51:3,7,8 52:2,3,6,7  52:16,24 58:12,15  58:17,18,25 59:1,22  60:9,12,19,22,23  61:22,23 63:18,21  64:12,14 65:9,10,11  65:15 70:9,9,13,18  70:19,20,21 71:18  72:22,23 73:23,24  75:6 76:9,10 77:1,2  78:1 80:18,19 83:25  84:11,20 86:1,7,16  87:22 88:13 89:12  89:18,19,21,23  92:15,16 94:5,24  95:14,15 96:19 97:9  97:10 98:4 99:4  100:11,12,13,14,16  100:17,25 102:6,20  102:21,24 103:1,6</p>	<p>104:4,5,20,24 105:9  108:10,11 109:6,9  109:10 110:23  114:25 115:8,10  116:11 119:8,24  120:3,7,8 121:4  123:21,23 125:15  126:13 127:16,17  129:22,23,25 130:1  130:19,20,22,23  131:9,10,13,14  133:12,21,22 136:6  136:7,21,22 137:6  137:23 138:2,12,19  138:22,23 139:19  139:20 140:10,14  140:15,17,18,20,22  141:13,14,16,20  142:6,8 143:13,18  144:9,21,22 148:13  148:14,16 152:21  152:25 156:10  159:9,11,12 161:11  163:10 165:12,13  166:24,25 167:4,15  167:16 168:17,23  169:1,10 171:11,19  172:1,7 174:16,17  175:7,8,16,21  176:23 177:25  179:17 180:3,6,8  181:17,21,23 182:1  182:5,20,24 184:21  184:22 185:25  186:5,6 190:5 193:3  193:4,22 194:9,14  194:17,18 195:5,10  195:14,20 196:5,18  196:21 197:7  200:17,19,20 202:1  202:2,5,20,23 203:1  203:2,5,6,10,11,24  204:4,5 207:10,11  207:15,24 208:8  210:13,18,22</p>
--	--	--	---



[correct - days]

<p>211:23 212:5,18 213:11,16 214:7 215:7,8,14 216:13 216:16,17,21 217:12,15,23 219:8 220:16 221:22,23 222:13,21 223:3,4,6 223:7,11,12,24 224:7,8 225:1,2,3,4 225:7,21,23 226:7 227:2 228:23 234:7 235:25 236:13 238:10,11,12,19 239:23 242:19,20 243:15,16,19,23,24 245:13 <b>corrected</b> 245:13 <b>correction</b> 54:6,16 <b>corrections</b> 145:21 146:17,23 148:25 152:6,19 153:10 155:20 156:5 160:7 160:11 245:11 <b>correctly</b> 50:9 95:21 116:15 <b>correctors</b> 106:11 <b>corresponding</b> 52:18 167:18 168:13 213:11 <b>corresponds</b> 56:2 173:8,25 175:9 211:6 213:17 215:12 <b>cost</b> 89:14 94:10 <b>counsel</b> 82:10,14 <b>country</b> 47:15 <b>couple</b> 14:16 35:4 59:25 137:8,19 236:21 <b>coupon</b> 93:7 95:13 95:17 96:14,16 97:2 97:8 <b>coupons</b> 93:6 94:4 <b>course</b> 60:16 82:4 82:18 106:11 118:4</p>	<p>124:24 130:2 210:4 <b>courses</b> 20:7,12 <b>court</b> 15:10 17:9,15 18:15,19 19:1 35:19 36:1,7 38:14,18 42:7,10 53:2 54:18 55:7,12,18,24 56:5 56:11,17,23 71:9 86:4 <b>courts</b> 12:14,14 <b>cover</b> 67:8,8,11,11 67:22,22 68:2,2,5,5 68:10,10,22,22,25 68:25 69:12,12,14 69:15 71:18,18,20 71:21 72:1,2 126:25 140:22 <b>covered</b> 53:11 73:12 <b>covering</b> 73:21,24 229:20 <b>covers</b> 111:22 228:4 <b>cpu</b> 158:23 <b>craft</b> 184:10 <b>crazy</b> 177:1 <b>create</b> 120:1 134:25 148:8,13,16,19 149:17,22 150:4,5 150:20 151:1,2,3,13 151:19 153:2,4 154:21 155:4,11 156:1 160:2 175:7 175:10 177:9 184:24 185:7 192:14 193:10,24 194:11 195:7 196:22 214:6,10 <b>created</b> 121:25 184:20 190:5 191:7 192:5,6 195:20 196:11,16 202:1 237:22 <b>creates</b> 151:23 155:3 <b>creating</b> 149:2,5,6 149:11 151:2</p>	<p>153:12,14 155:5 158:19 161:1,3,15 161:16 175:20 185:9 191:18 234:5 <b>creation</b> 154:1,4,8 154:12 158:7 185:16 <b>critique</b> 77:12 <b>crowther</b> 42:25 47:14 49:7,12,14,18 49:23 50:4,9 52:8,8 52:21 <b>crowther's</b> 52:13 <b>csr</b> 1:22 246:20 <b>current</b> 6:14 133:1 <b>curriculum</b> 4:18 <b>cv</b> 12:15,16 13:2,16 18:24 23:8 27:4</p> <p style="text-align: center;"><b>d</b></p> <p><b>d</b> 17:20 39:18 40:11 81:4 <b>d.c.</b> 3:15 <b>d3</b> 31:6 <b>daisy</b> 206:23 <b>dame</b> 19:7 <b>data</b> 29:5,9 31:9 32:15 43:16 47:3 99:4 121:3 135:4 146:9 164:23 165:5 165:11,14 166:3,16 166:23 167:1,18,23 167:24 173:6,7 175:5 176:9,12,13 183:25 184:5,6,7 186:8,18 187:8,16 187:22 189:5 200:12,25 201:9,13 202:4,7,8,13,17 203:4,19 204:3,3,7 204:9,16,17,19,20 206:2,6 208:4,7,13 208:17,23 209:7,13 209:17,23,24 210:8 211:1,1,6,7,10,12,13</p>	<p>211:14 212:7,19,20 213:4,7,10,10,16,17 213:21,23 214:1,5,5 214:12,22 215:6,6 215:18 216:7,12,14 216:15,22,23,25 217:1,8,11,13,17,24 217:25 218:7,12,23 219:6,9,11,21,25 220:24,25 221:2,3 221:10,12,14,15,19 221:20,21 222:6,15 223:23 224:6,23,25 225:3,5,16,22 226:1 226:5,15,21 228:14 229:3,9,23,25 230:4 230:9,22,23 231:4,5 231:12,15 232:2,4,5 232:8,9,16,22,25 233:10,12,20,24 235:7,11,15,23 237:4 240:3,4,8,22 240:24 243:18 <b>data's</b> 228:18 <b>database</b> 135:8 146:7,12 152:14 182:25 183:4 <b>date</b> 105:24 164:2,3 246:14 <b>dated</b> 56:21 246:17 <b>day</b> 3:4 48:7,8 70:4 70:6,11 73:10,22,23 73:23 74:4,20,20 75:23 76:13,15 77:11,25 78:18 79:6 79:18 80:23 81:3 82:11,20 83:6 87:9 162:3,12 163:13 245:14 <b>days</b> 70:12,22 72:15 72:15,18,18,24 73:2 73:4,6,11,17,19,22 73:25 74:5,13,24 84:8</p>
--	---	--	---

[dbs - diagram]

<p><b>dbs</b> 135:8  <b>deal</b> 64:19,23  <b>dealing</b> 57:13  142:18 156:8  <b>dec</b> 117:23 157:21  173:12 195:4  <b>decades</b> 223:2  <b>december</b> 4:14  <b>decide</b> 64:8 67:8  68:2 162:12 163:13  <b>decided</b> 17:16 62:21  77:19  <b>decides</b> 196:22  <b>deciding</b> 68:24  <b>decision</b> 5:18 56:21  <b>decisions</b> 73:5  <b>declaration</b> 4:15 5:3  5:6 18:15 35:22  36:14 37:17 38:10  39:15 42:23 56:8  57:19,21 63:20  71:14 75:13,15 76:8  76:24 77:14 78:17  81:2 83:23 84:8  85:6,19 86:3,14,25  87:24 92:14 97:11  97:23 113:22  116:23 117:3,25  124:3 127:3 128:17  128:22,24 130:10  131:15 135:23  139:12,14,17  164:12 165:3,18  169:22 176:8  181:11 183:14,17  184:4 186:24  207:15,17 216:11  242:18  <b>declarations</b> 60:5  64:20 67:24 74:8  87:21  <b>declare</b> 245:9  <b>decline</b> 48:9  <b>declined</b> 17:9</p>	<p><b>declining</b> 48:22  <b>decoder</b> 49:22 51:12  52:16 111:15,16,24  111:25 112:9,25  113:1,8,8,9,10,11  114:11 121:21  <b>decrypter</b> 108:6  109:2,5,9 111:9  <b>decrypters</b> 99:4  106:10 109:7  <b>deep</b> 64:3  <b>deeper</b> 168:2  <b>defendant</b> 14:25  15:2 17:5 18:12  <b>defendants</b> 15:2  <b>defense</b> 241:22  <b>definable</b> 51:22  <b>define</b> 49:24  <b>definitely</b> 177:4  <b>definition</b> 106:6  <b>delaware</b> 61:12,13  <b>delay</b> 135:21  <b>delete</b> 156:15  <b>deleting</b> 160:10  <b>deliver</b> 13:2 43:25  44:11 115:19 116:3  <b>delivered</b> 44:14  115:21 116:6  <b>delta</b> 204:19 209:23  219:25 226:4,15,21  228:14 229:9  235:23  <b>demonstration</b>  22:10,11,12  <b>demonstrative</b> 5:11  54:21 172:20,23  <b>denigrate</b> 122:25  <b>departmental</b> 107:3  <b>depend</b> 29:13  101:14,17,17,18  141:3 227:19 228:2  <b>depended</b> 107:2  <b>dependent</b> 91:19  <b>depending</b> 25:7  100:8 136:20</p>	<p><b>depends</b> 45:3,3 70:6  226:10  <b>depicted</b> 99:2  101:23  <b>deployed</b> 47:14,16  <b>deposed</b> 7:6,11 9:8  <b>deposition</b> 1:15 2:15  35:12 36:4 48:15  72:5,5,20 73:18  74:1 75:11 86:19  87:16 117:16  237:21,23 245:10  <b>depositions</b> 35:8  75:3  <b>depth</b> 69:16  <b>describe</b> 75:14 88:1  88:7 114:1,7 117:21  118:11 124:5  125:15 133:12  184:23 199:21  <b>described</b> 27:12  66:11,18 90:5 98:9  114:18 115:7  121:19 124:17,21  148:19 180:8  187:12 243:6  <b>describes</b> 65:11  98:14 115:1,18  116:3 129:21  130:18 133:20  140:12 156:19  166:18 184:19  186:10 197:4 201:8  201:25 202:3  <b>describing</b> 99:6  129:24 130:21  131:1,2,3  <b>description</b> 4:7 5:2  43:11 115:5 124:10  124:12 134:1,8  188:2,3  <b>descriptions</b> 88:11  99:16  <b>deserve</b> 216:3</p>	<p><b>design</b> 22:21,24  25:25 28:12 177:16  <b>designates</b> 166:24  <b>designating</b> 166:17  <b>designed</b> 20:23 21:1  21:2,12,16,22 23:5  28:16,17,22  <b>designer</b> 204:24  <b>designs</b> 21:4,19  <b>desirable</b> 132:18  <b>desire</b> 149:11  <b>desires</b> 151:22  <b>desk</b> 76:5  <b>destination</b> 207:3  <b>detail</b> 47:8 64:6  101:6 124:21  201:25 202:3  203:18  <b>detailed</b> 63:24 69:4  69:8 133:25 134:8  <b>details</b> 12:7 102:8  <b>detect</b> 111:25 113:1  <b>detector</b> 108:2  <b>detectors</b> 106:15  <b>determine</b> 80:16  94:21 96:23 233:1  <b>determined</b> 38:15  42:8,11 93:20  233:18  <b>determining</b> 229:6  <b>develop</b> 131:25  164:19  <b>developed</b> 33:17  <b>developing</b> 85:2  <b>development</b> 86:3  <b>device</b> 14:19,22 16:9  22:14 28:4 29:10,23  33:6 101:13,14  112:17,17,19  168:13 175:1  <b>devices</b> 15:4 21:17  21:19 29:6,15 49:10  164:23 185:16  <b>diagram</b> 99:7,8,24  100:2,23 102:8,9,10</p>
--	--	--	---

[diagram - distributed]

<p>103:12 105:20  109:19 110:17  113:15 121:14  <b>diagrams</b> 100:4  105:16,17 107:22  108:13,17,21  109:18 110:14  111:4,7  <b>differ</b> 176:22 177:3  <b>difference</b> 26:2,10  113:12 149:14  214:21 227:4  <b>different</b> 29:24  46:24,25 47:13  48:25 65:8,19 66:10  66:18 68:15,15 73:9  73:21 78:12,12  79:12 100:15  106:17 110:10  127:24 136:5  137:25 138:1  149:13 152:15  154:14 163:5  166:12 176:11,18  176:18 177:2 185:2  185:3,23 186:7  187:22 188:5,10  191:6,19 195:1  197:19 199:22  200:5 202:4,6  204:14 205:3  206:22 223:15,17  223:17 226:23  227:3,5,9,11,18,19  228:1,20 229:22,24  229:24,25 230:3,5  230:24 231:6,21,22  231:23,24 233:13  237:3  <b>differently</b> 226:8  227:14 228:5  229:21  <b>difficult</b> 73:13  <b>difficulty</b> 116:25  150:15 154:18</p>	<p>214:19 229:2  <b>dig</b> 188:9  <b>digital</b> 31:12 44:17  44:19,20,23 51:3,7  52:1,6 106:15 108:2  111:21,25 113:1  114:21 157:21  <b>digitize</b> 185:5  <b>direct</b> 6:8 30:24  66:2 93:2 117:2  118:5 147:12,13  185:15 188:7 239:8  <b>direction</b> 246:8  <b>directions</b> 231:23,25  <b>directly</b> 78:16 100:1  229:18  <b>directv</b> 5:4,7 35:16  35:23 36:22 37:5,11  42:24 53:2 61:11,14  61:17  <b>dis</b> 146:9  <b>disabuse</b> 143:1  <b>disagree</b> 65:25  82:15  <b>disagreed</b> 82:9,20  83:3,6  <b>disallowing</b> 38:19  <b>disappear</b> 140:20  <b>discard</b> 158:8  <b>disclose</b> 100:20  120:25 126:10  143:2 145:13  155:11 169:11  182:4,21 188:4,22  193:8 230:15,18  <b>disclosed</b> 65:24  123:20,22 136:3  137:22 139:10  140:8,9 143:13  144:23 156:17  236:5  <b>discloses</b> 114:1  127:18 129:3 132:5  139:1,1 141:10  143:16,17 144:18</p>	<p>148:18 156:14  158:1 182:24  186:16 187:21  194:11,12 209:23  241:4  <b>disclosing</b> 127:20  159:8 183:22  <b>disclosure</b> 128:1  133:9,24 138:11,12  138:14 142:2  <b>disconnect</b> 168:20  <b>discount</b> 92:19  <b>discounts</b> 94:6  <b>discuss</b> 165:4,10  <b>discussed</b> 52:2  92:14 110:20  156:18 168:18,19  174:4 181:7 191:19  228:10  <b>discussing</b> 110:5  <b>discussion</b> 78:9  80:23 92:13 133:3  154:6 164:9 184:15  228:25 237:10  <b>displace</b> 236:2  <b>display</b> 43:16 50:15  51:1 133:5,6 134:22  134:23 135:1  145:20 146:16  148:9,24 152:5  155:19 157:7  168:24 169:9  171:17,23 172:1,5  174:6,16 175:15,18  177:7 178:4 179:20  179:21,23 180:2,2,4  180:9,13,17 188:12  188:13,14,15 189:4  189:4,4,5,10,11,12  189:15,19,20 190:9  190:14,14,15,21,24  191:2,5,5,8,12,14,15  192:5 193:2,13,18  193:19 194:13,15  194:16,19,21 195:2</p>	<p>195:7,12,23 196:5,8  196:14 197:7,12,13  197:15,19,20,23  198:1,9,11 199:4  201:2,3 202:21  203:9,13,21 204:11  204:15 210:14  211:7,20 212:19  213:11,17,23,25  214:2,6,13 215:3,3  215:6,13,14 217:1  218:10,11,18,21  219:2,12 220:15,15  221:7 222:6 225:14  228:23,23 229:6,7  229:16,16,18  232:10,11,15,17  234:5 236:9 240:5  240:10 244:2,12  <b>displayed</b> 50:16  51:23 52:18 135:1  148:9 167:3 169:8  169:19 177:14  178:11 188:11  196:17 217:3  229:21 238:21  <b>displaying</b> 55:22  190:14  <b>displays</b> 188:18  190:18 195:2 196:7  196:9,17 198:19  204:21 233:17  236:8 238:24  <b>dispute</b> 9:5,10 11:15  15:9,12 61:7,20  62:1,1,3  <b>disputes</b> 11:1 19:18  <b>distinct</b> 159:9  <b>distinctions</b> 77:17  <b>distinguishable</b>  184:8 213:5  <b>distinguishing</b>  184:17  <b>distributed</b> 187:18</p>
--	---	--	---

[distributing - electrical]

<p><b>distributing</b> 55:22  <b>district</b> 12:14 15:10  35:17 36:22 37:6  62:13,17 71:9  <b>divider</b> 114:8,23  <b>document</b> 13:8  35:21 36:3,16 38:9  40:13 41:23 42:24  77:5 83:21,22 86:21  138:16 140:7  151:11,12  <b>documents</b> 45:16  <b>dod</b> 164:23  <b>doing</b> 27:12 49:17  74:7 84:15 96:25  149:15 162:13  163:24 176:19  178:17,25 179:16  191:9 220:2 241:6  <b>dollar</b> 95:11,12,12  97:7,7  <b>dollars</b> 96:23  <b>door</b> 86:23  <b>dot</b> 168:14 169:3,16  <b>dots</b> 214:4  <b>double</b> 224:4  <b>doubt</b> 39:23 40:17  41:11,22 42:1,19  <b>download</b> 29:4,8  31:1 32:14 33:7  50:13 136:10 159:8  164:21 170:22  183:4  <b>downloaded</b> 50:2,11  50:12,19,23 126:19  136:21 142:4 143:3  144:20 158:5 160:1  176:2 181:23  <b>downloading</b> 50:21  125:5 136:5 137:4  140:12 156:19  158:1 181:18 182:4  <b>downloads</b> 29:15  182:16</p>	<p><b>dozen</b> 7:9,9  <b>dr</b> 4:18 6:10 12:24  13:21 18:24 35:15  36:10 97:23 128:15  129:12 183:12  <b>draft</b> 63:12 77:1  <b>drafted</b> 80:21,22  82:3  <b>drafting</b> 75:14  76:24 81:2  <b>drafts</b> 77:13  <b>drawing</b> 81:22  <b>draws</b> 143:19  <b>drcs</b> 49:25  <b>drive</b> 2:17 6:17,18  213:7  <b>driven</b> 134:22  <b>drives</b> 240:9  <b>drugstore</b> 32:5  <b>dsl</b> 30:8 33:17,19  35:1  <b>dual</b> 132:19 133:4,6  171:17,17  <b>due</b> 20:11 133:18  145:25  <b>duly</b> 246:6  <b>dumb</b> 143:2,7  <b>duplicate</b> 54:7  <b>dynamically</b> 49:24</p> <hr/> <p style="text-align: center;"><b>e</b></p> <hr/> <p><b>e</b> 6:18 17:20 31:15  38:16 39:9 42:12  157:13  <b>e.g.</b> 192:16 194:1  <b>earlier</b> 28:4 59:11  84:9 156:18 191:20  237:2  <b>early</b> 24:9,16 27:24  27:25 31:2 32:11,19  67:13  <b>easier</b> 103:25  139:15 172:9  <b>easily</b> 235:2</p>	<p><b>eastern</b> 35:17 36:22  37:6 62:12,17  <b>eastman</b> 5:9 36:6  <b>echo</b> 157:13  <b>edit</b> 129:6 130:13  132:21 143:22  154:23 155:23  156:10 159:15  160:15 161:25  162:4 167:12  <b>edited</b> 152:11,13  153:24 177:22  179:1  <b>editing</b> 129:4,5  130:12 131:5  134:20,21,25  135:22 137:6,14,15  137:17,23 138:1,8,8  143:15 144:2  145:21,21 146:6,17  146:18,23 147:1,4,4  148:8,24 149:1,5,10  151:22 152:5,7,18  152:22 153:9,11  155:19,21,23 156:4  158:6,10,15,17,18  159:18,20,22 160:6  160:7,10,13,15,16  160:17,17,24  161:12 163:14  170:18,24 171:16  171:21 172:4 173:8  174:14,19 175:5,13  175:14 178:3,8  179:16 182:14  <b>editor</b> 132:20  133:12 134:8,9  136:14 137:5,16,17  138:2 142:5 143:15  144:12,21,25  145:14,19 146:5,15  146:22 148:19,22  148:23 149:8,17,18  149:22,22 150:4,20  150:20,25 151:2,3</p>	<p>151:18,21 152:4,12  152:18 153:2,4,8,13  153:17 155:11,18  156:8,15,21 158:4  159:11 160:1,2,17  162:3,18 163:3,12  163:19 167:11  168:18 169:13  170:13 171:16  173:8 174:1,4 175:5  177:7 178:1,6,8,13  178:17,23 179:10  179:16,25 180:9  <b>editor's</b> 137:14  138:9 180:14  <b>editorial</b> 162:25  163:2  <b>editorials</b> 162:16  <b>editors</b> 129:6 130:13  143:22 145:5  151:18 154:22  161:25 162:7,12  163:4,5 164:20  171:1  <b>edits</b> 144:13 149:2  153:14,17 171:25  172:2,6 173:8 174:1  174:5,5,15 175:18  177:7,17 178:1,13  179:10 180:1  <b>educational</b> 19:3  <b>effective</b> 181:6  <b>eight</b> 7:19,24 11:14  11:17 70:10 74:6,21  122:18  <b>either</b> 117:3 125:3,4  146:8 149:21  154:15 162:10  192:6,7,10 202:13  237:13  <b>elaborate</b> 25:10  81:20 240:23  <b>electrical</b> 19:5,7,8  19:11 110:17,17</p>
--	---	--	--

[electronic - exhibit]

<p><b>electronic</b> 101:8,13 101:14</p> <p><b>element</b> 112:24 139:2 140:7 173:17 210:5 216:8 217:19 223:22 237:15</p> <p><b>elements</b> 41:3 80:11 81:25 106:2 113:15 113:17 168:14 183:23</p> <p><b>emacs</b> 157:13,18</p> <p><b>emacs</b> 157:14,14</p> <p><b>embodiment</b> 65:1,2 98:9 129:4,25 130:8 130:8,11,22 131:2,4 131:12 185:19 186:17 205:5 207:9 209:7 239:11 242:25,25 243:3</p> <p><b>embodiments</b> 65:3,8 65:18 66:18 89:3 200:5 205:3 206:9 206:11 233:18</p> <p><b>employed</b> 132:14 148:1</p> <p><b>employee</b> 27:15,19 144:11,12 246:12</p> <p><b>emtrac</b> 15:3</p> <p><b>enabling</b> 103:5</p> <p><b>encode</b> 50:1,4,18</p> <p><b>encoded</b> 114:13</p> <p><b>encoding</b> 50:20,21</p> <p><b>encompass</b> 72:14</p> <p><b>engaged</b> 8:11 9:4,10 9:15,22 10:12,20 190:4</p> <p><b>engagement</b> 16:10 37:9</p> <p><b>engagements</b> 10:4 11:5,8,10,14 12:8 35:5</p> <p><b>engineer</b> 19:5 20:18 20:19,22,23,25 21:22</p>	<p><b>engineering</b> 19:7,9 19:11 26:14</p> <p><b>england</b> 47:16</p> <p><b>english</b> 149:5 206:4</p> <p><b>enhance</b> 30:9</p> <p><b>enhanced</b> 49:22</p> <p><b>enhancement</b> 165:5 165:11 166:13</p> <p><b>ensure</b> 87:20</p> <p><b>enter</b> 35:4 54:10 131:24 150:11 164:18</p> <p><b>entered</b> 146:7 172:8</p> <p><b>entering</b> 132:8,15 148:2</p> <p><b>entire</b> 191:25 193:13 213:11,17 234:5</p> <p><b>entirely</b> 154:7,12 158:19</p> <p><b>entirety</b> 18:15</p> <p><b>entities</b> 13:1</p> <p><b>entitled</b> 55:16 56:3 131:8</p> <p><b>enumerated</b> 66:1</p> <p><b>environment</b> 131:3 131:4</p> <p><b>eofs</b> 106:11</p> <p><b>equal</b> 73:15 91:24 91:25 92:4</p> <p><b>equates</b> 147:5</p> <p><b>equation</b> 91:7 96:1 97:4</p> <p><b>equations</b> 89:15,17</p> <p><b>equipment</b> 21:5,6 21:13 157:21</p> <p><b>equivalent</b> 47:2</p> <p><b>erase</b> 146:24 155:24 155:25</p> <p><b>erasing</b> 145:23 149:12</p> <p><b>error</b> 106:11</p> <p><b>escapes</b> 231:2</p> <p><b>esq</b> 3:5,13</p>	<p><b>essence</b> 78:6 220:14</p> <p><b>essentially</b> 57:14 111:4 143:2 185:20 189:9 200:14 232:24</p> <p><b>establish</b> 24:17</p> <p><b>established</b> 151:12</p> <p><b>estimate</b> 9:13 10:2,5 10:11 30:25 77:13</p> <p><b>estimates</b> 10:25</p> <p><b>ethernet</b> 32:22,23 33:10</p> <p><b>europe</b> 65:14 69:5</p> <p><b>evaluate</b> 162:1</p> <p><b>evaluated</b> 25:22</p> <p><b>evaluating</b> 220:5</p> <p><b>events</b> 227:25</p> <p><b>eventually</b> 18:9</p> <p><b>everybody</b> 122:8 190:18 204:15 219:20 232:5</p> <p><b>evidence</b> 18:3,4,6</p> <p><b>exact</b> 96:18 151:3 160:6 232:14 237:24</p> <p><b>exactly</b> 27:9 75:19 111:20,23 112:9,11 121:21 182:2 199:12,14 211:16 233:16</p> <p><b>examination</b> 4:2 6:8</p> <p><b>examined</b> 6:5 80:16</p> <p><b>examines</b> 208:2</p> <p><b>example</b> 21:21 29:16 30:4,20 31:7 46:21 48:7 57:20,23 64:21,21 66:7 69:5 69:5 71:23 81:9,12 82:24,25 87:7 88:9 89:11 93:1 95:20 96:21 97:1 99:14 101:19 105:19,25 107:9 108:23 113:23 115:8,10 116:14,17 118:13</p>	<p>119:25 124:7 126:14,22 127:24 134:11 137:16,16 141:4 155:3 156:21 157:2,7 159:23 162:20 163:15,17 163:18 169:5 170:23 174:12 181:24 187:7,23 189:2 194:22 200:5 200:10,10,24 205:9 206:1 207:10 209:17 211:17 219:12 222:1,18 230:21,25 231:3,14 234:23 243:5 244:14</p> <p><b>examples</b> 60:3 64:25 65:17,23 66:10,13 66:15,18,21,23,24 68:13,15 69:9 89:7 95:21,21,23 163:15 186:22 202:6</p> <p><b>exchanged</b> 216:12 225:1</p> <p><b>exclude</b> 169:15 177:14</p> <p><b>excluded</b> 17:12 18:13,15,20 38:5</p> <p><b>excluding</b> 30:24 38:19 69:20,21</p> <p><b>exclusion</b> 17:24 18:3 18:5 39:12</p> <p><b>exclusive</b> 138:2</p> <p><b>excuse</b> 55:3 91:19 129:20 137:21 215:20 229:21 241:9,21</p> <p><b>executed</b> 90:18 94:18 125:7 126:19 245:14</p> <p><b>execution</b> 126:25 175:22,24 176:5</p> <p><b>exhibit</b> 4:8,10,12,13 4:15,18 5:3,5,8,11</p>
---	---	---	---

[exhibit - find]

<p>5:11,13,15,18 18:23 18:25 23:8 27:4 35:13,14,19,25 36:1 36:7,11 37:15 38:2 38:16 39:9,16 42:12 42:20,22,23 54:7,7 54:8,9,11,12,18,21 54:22 55:7,9,10,12 55:14,15,18,20,21 55:24 56:1,2,5,7,7,8 56:11,13,14,17,19 56:23 57:4,4 66:3 75:14 83:13,13,23 84:6,10,13 85:14 86:16 87:25 90:3 93:6 97:23 98:7 110:7,8 120:5 124:3 124:3 128:19 129:8 129:9 134:7 140:11 165:4 168:8 170:11 172:9,10,16 173:3 181:1 183:16 187:1 237:19,20 241:10 242:9 <b>exhibits</b> 4:6 5:1 35:4 39:18 40:11 54:10 <b>exist</b> 115:12 120:10 121:5,6 156:25 <b>existed</b> 122:2 161:3 161:4 <b>existence</b> 41:2 <b>existing</b> 125:10 <b>exists</b> 161:13,17 <b>exotic</b> 65:13 89:11 92:13 <b>expect</b> 75:10 93:19 94:14 141:1 196:6 <b>expected</b> 111:4 <b>experience</b> 105:20 134:4 <b>expert</b> 7:11,15 8:1,3 8:11 9:4,6,19 10:5 11:25 12:14 13:25 14:3 16:11,12,14 17:10,12,16,24 18:8</p>	<p>18:9,10,12,15 20:3 20:5 21:9 35:14 36:21 37:4,8,10,11 37:20,23 38:5,19,24 39:4,12 40:9 42:16 47:4,6,11 52:22,24 52:25 53:1,2,9,10 53:13,14,19,25 58:23 62:22 63:1,5 63:12,13 64:2 71:10 71:14 74:8 84:19 121:8 139:23 147:3 153:23 162:11 163:12 186:14 222:19,25 223:1,8 <b>expertise</b> 53:6 76:3 <b>experts</b> 18:12 74:9 <b>explain</b> 24:23 43:4 64:5 137:8 154:17 170:12 <b>explained</b> 79:3 177:13 <b>explaining</b> 233:5 <b>explicit</b> 138:11 151:15 236:11 <b>explicitly</b> 137:22 139:1 151:18 153:1 153:5 193:8 228:10 236:16 240:16 <b>explore</b> 13:19 183:21 <b>exposed</b> 64:18 <b>expressed</b> 236:12 <b>expressly</b> 140:8 188:22 233:3 <b>extensive</b> 88:7 124:2 124:5 <b>extent</b> 161:20 206:7 <b>extremely</b> 20:10 <b>eyesight</b> 92:9</p>	<p><b>facilities</b> 132:20 182:9,13 <b>fact</b> 47:9 83:24 89:20 120:4 140:16 154:19 162:8 174:9 240:20 <b>failed</b> 17:8 <b>fair</b> 20:3 26:15 33:10 44:12 85:4,10 87:17 88:22 115:5 126:12 166:7,21 184:15 190:11 204:7,8 242:24 243:5 <b>fairer</b> 10:1 <b>fairly</b> 13:9 <b>fall</b> 134:3 <b>familiar</b> 23:20 47:10 47:10 161:18,19 223:14,16 <b>far</b> 12:10 15:15 16:17 38:23 57:18 61:17 103:7 106:14 121:7 139:20 148:15 166:4 179:11 197:13 223:21 <b>farm</b> 65:14 69:5 <b>fashion</b> 91:4 <b>fax</b> 87:1 <b>feasible</b> 29:9 33:8 <b>features</b> 113:6 <b>february</b> 4:10 58:2 59:11,22 60:12 61:1 61:21 67:13,24 68:7 68:12,20,20,21 69:9 81:6 84:5,9 118:3 <b>federal</b> 12:14 <b>feel</b> 151:7 <b>fellow</b> 22:3 82:13 <b>felt</b> 53:11 <b>fiberoptic</b> 31:13 32:9 <b>fiberoptics</b> 31:20</p>	<p><b>fibre</b> 31:15 <b>field</b> 9:14 28:5 80:6 105:8 131:9 158:13 186:16 222:20,22 222:23 <b>fifth</b> 211:8 <b>figs</b> 91:10 95:7 <b>figure</b> 13:3 95:11,12 95:13,17 97:7,7 98:6,7,9,14,22 99:6 99:20 100:19 101:20,23 102:4,18 103:17,18 104:6 105:1,12,21 107:24 108:15 109:2,12,20 110:4,4,7,8,14 111:14 112:23,25 113:3,19,20,20 114:1,3,18 115:16 115:18 116:2,8 118:6 120:4,9,24 121:13 124:15 126:14 130:2,3,8 168:7 169:8 200:5 200:14,19,21,25 239:7,9,11,18,21,22 <b>figures</b> 88:9 94:15 97:13 99:12,15 103:9,15 104:3,17 104:23,25 105:11 105:13 110:25 121:24 122:17,18 124:7 125:14,14 126:9 168:8 <b>filed</b> 83:15,24 84:5 84:12,23,24 85:4,9 85:14,24 86:12 156:25 <b>fill</b> 145:11 <b>final</b> 87:13 114:23 <b>financial</b> 55:22 <b>financially</b> 246:11 <b>find</b> 12:25 98:10 100:2 132:10 135:21 150:23</p>
	<p><b>f</b></p>		
	<p><b>f</b> 1:22 2:19 31:15 246:19</p>		

[find - gaps]

<p>167:24 172:15,19 201:17,21 <b>fine</b> 6:13 92:23 126:4 162:2 <b>finger</b> 243:8 <b>finisar</b> 5:4,7 35:16 35:23 36:21,24,25 37:1,4 41:1 42:24 <b>finish</b> 48:3 150:14 <b>finstar</b> 36:24 <b>firm</b> 13:21 <b>firms</b> 86:5 <b>first</b> 8:15 23:3 33:17 35:11,13 37:15,23 51:20 54:11 74:13 77:1 93:7 94:11 113:2 127:13 128:23 140:11 173:7 178:25 183:25 184:6,7 196:22 215:17 217:8,11,25 219:21 220:25 221:3,10,12 221:15,19,21 223:23 224:6 225:3 230:4,9,9 235:7 <b>fit</b> 68:14 <b>five</b> 10:17 11:4,9,13 11:25 13:2 16:23 19:21 53:8 67:3 73:6,19 74:13 92:19 94:25 <b>fixed</b> 169:19 <b>flavor</b> 45:4 <b>flexible</b> 52:8 <b>flip</b> 129:14 <b>flipping</b> 122:6 <b>floor</b> 3:6 107:6 <b>flow</b> 100:4 122:12 <b>flower</b> 3:6 <b>fm</b> 113:9 <b>focus</b> 33:6 60:4,13 137:4,11,13 163:9 166:16 194:24 195:2</p>	<p><b>focused</b> 185:25 195:4 207:22 213:19 <b>focuses</b> 181:25 <b>focusing</b> 7:22 84:23 104:21 163:6 208:3 208:12 234:3,15 <b>folks</b> 22:10 23:1 <b>follow</b> 127:19 179:11 212:7 222:8 225:19 <b>following</b> 231:10 <b>follows</b> 6:6 116:1 <b>foregoing</b> 245:10 246:3,5,9 <b>form</b> 44:24 46:18 121:2 134:22 166:3 <b>format</b> 87:9 127:1 <b>formats</b> 125:16 126:10 <b>formatting</b> 229:6 <b>formed</b> 213:4 <b>formula</b> 88:16,21 89:1,2,14,18,21 90:6,13,14,19,24 91:14,16,18,21,22 92:22 93:12,16,16 93:21 94:16,19,20 95:3,18 96:9,18 <b>formulae</b> 88:10 124:8 <b>formulas</b> 89:5,7 94:23,23 104:16,16 <b>forth</b> 38:10 89:4 91:11 95:25 131:6 161:8 246:4 <b>fortunately</b> 45:20 <b>forty</b> 74:17 92:19,19 92:20 <b>forward</b> 23:1 48:15 129:10 <b>found</b> 15:21 35:11 68:16 80:17 112:17 145:10</p>	<p><b>founded</b> 27:8 <b>four</b> 12:16 54:23 57:12,15 58:7,11,19 58:24 59:4,12,21 67:2,4 71:22 73:6 73:15 84:8 94:25 138:16 <b>fox</b> 71:9 <b>frame</b> 26:19,22 28:20 29:9 31:12,12 33:9,21,22 36:23 37:5 46:2,8 108:10 109:21 163:6,8,9,10 163:22 <b>frankly</b> 39:10 76:17 85:3 158:10 <b>frequency</b> 112:10 <b>freudian</b> 92:8 <b>front</b> 64:11 111:8,18 129:11 201:6 <b>full</b> 27:11 <b>function</b> 14:20 136:4,4 143:15 163:14 170:23,25 171:3 194:22,23 <b>functionality</b> 134:10 158:5 159:9 <b>functionally</b> 187:17 <b>functions</b> 22:20 125:11 140:14 143:20 144:3 154:25 156:20 192:16 194:1 <b>fundamental</b> 113:11 <b>further</b> 132:18 133:2 185:13 246:11</p>	<p>189:23 190:4,7,13 190:16,21,24 191:3 191:23 192:10,11 192:12,18,22,24 193:9,13 194:3,7 195:8,9 196:11,13 197:2,6,6,17,21 198:21,22 199:5,8,9 199:18,22 200:2,15 200:22,25 201:9,13 201:13,13,15,16,19 202:1 203:5,8,17,18 203:20,23 204:2,3,9 204:20,24 205:7,10 205:10,13,17,18,20 205:24 206:1,1,2,5 206:6,6,14,14,14,19 208:4,5,7 209:8,12 209:13,17,24 210:24 211:25 212:8,8 216:12,22 216:23,25 217:13 217:14,17,18 218:7 218:8,12,13,23 219:4,6,6,9,11,20 225:17 228:14 229:3 231:12,14,14 231:14,15,16 232:8 232:16,20,22,25 233:10,12,24 234:7 234:8,9,12,12,16,18 235:11,15,15 238:22,24 240:3,4,8 240:8,15,17,21,22 240:23 243:1 244:5 <b>gamer's</b> 226:2 <b>games</b> 187:14,15 190:23 206:12 207:12 225:9,11 236:10 <b>gaming</b> 185:18,19 187:22 195:19 208:14 225:1 226:2 <b>gaps</b> 145:11</p>
		<b>g</b>	
		<p><b>g</b> 55:21,21 <b>game</b> 48:13 55:16 184:13,20 186:8,8 186:17,18,21 187:5 187:7,7,8,9,10,10,19 188:5,23 189:3,6,21</p>	

[general - he'll]

<p><b>general</b> 25:5 43:5,6 43:7,7,11 45:5 46:17 57:15 69:2,3 102:22 134:1 156:12,24 157:1 161:5,24 170:17,20 177:4 181:10 185:17 186:12 204:13 207:5 223:14 240:25 241:3,7 <b>generalized</b> 170:25 <b>generally</b> 20:22 52:7 52:20 86:5 87:5 103:1 105:7 115:5 134:3,4 141:17 156:8,13 161:19 169:10,16 183:5 185:22 200:3 <b>generate</b> 114:21 115:2 119:16 169:3 198:14,16,17 <b>generated</b> 115:20 116:5 120:7 121:1,9 121:25 169:16 213:18 229:7 <b>generates</b> 198:18 213:21 220:21 <b>generating</b> 181:1 182:21,23 211:5 220:3 <b>generation</b> 211:14 <b>generic</b> 25:5 120:12 120:13 121:10 122:3 <b>generically</b> 104:10 116:18 <b>gentleman</b> 125:19 159:14 <b>getting</b> 22:11 121:7 129:13 139:4,4 147:11 173:13,13 201:2 219:18 235:8 235:12 236:19</p>	<p><b>give</b> 9:12 14:8,10 19:3,24 21:21 27:7 40:7 43:10 68:23,24 72:11 75:21 76:12 76:15 77:11 86:2,19 89:7,10 101:18 105:19,24 117:1 123:16 129:13 137:15 147:16 155:2 157:2 162:20 163:16,17,18 170:23 186:22 219:12 222:1 231:3 234:23 <b>given</b> 9:15 64:18 121:11 139:20 147:13 191:10 234:9 246:10 <b>gives</b> 202:6 244:15 <b>giving</b> 22:25 <b>global</b> 8:23 186:9 219:19 <b>go</b> 10:18 18:23 22:18 35:12 44:6 53:22 57:1 71:2,23 74:5 79:11 85:15 86:21 89:10 96:22 100:2 117:9,17,17 120:23 127:24 135:17,24 147:20 163:18 164:8 168:2 168:2 173:10 183:12 201:4 210:13 211:18 218:24 223:21 224:3,5 225:25 228:6 238:3 244:5 <b>goes</b> 96:4 114:5,8,10 114:15 132:17 152:10 181:5 183:7 192:13 205:18 213:24 <b>going</b> 6:18,21 15:20 16:13 28:7 35:4,22 36:4,17 38:7,25</p>	<p>40:5 43:10,12 48:7 48:25 49:11 51:9 52:18 54:1,10 57:11 60:13 65:5 69:14 72:16 73:3,13 75:16 79:12,13 83:5,10 88:25 89:7 93:1 96:25 97:20 105:23 117:11,14,16,17,17 119:12 122:7 127:2 128:17,21 129:10 134:14,15,15 140:11,20 141:19 145:18 154:7 156:10 157:3 158:21 162:4,5 168:2 169:20 170:11 174:15 183:24 188:18,20 192:23 198:21 199:21 200:23 202:12 203:4,23 206:10 214:1 219:22 221:9 228:21 231:8 232:2 232:5,13,15,16,17 232:25 233:11,12 236:21 240:11 <b>good</b> 6:10,11 18:22 25:3 44:8 47:12,13 64:19,23 122:11 128:15,16 205:21 <b>goodness</b> 6:20 32:17 <b>goodwin</b> 2:17 3:12 <b>goodwinprocter.c...</b> 3:17 <b>gould</b> 24:25 26:3,6 26:11,14,19 27:3,9 27:21 30:16 <b>graphic</b> 114:22 184:12 <b>graphical</b> 120:1,7 <b>graphics</b> 121:2 <b>great</b> 180:22</p>	<p><b>grocery</b> 32:5 <b>ground</b> 154:1,5,8 155:12 158:7 160:3 <b>group</b> 5:7 21:25 24:25 26:3,6,11,14 26:19 27:3,9,22 30:16 31:7 35:16 45:7 46:18,19 54:11 <b>groups</b> 24:8,11,16 24:21 <b>gtt</b> 8:22 12:1 13:7,25 14:9,11,25 15:13,24 <b>guess</b> 26:25 <b>guys</b> 241:22</p> <hr/> <p style="text-align: center;"><b>h</b></p> <hr/> <p><b>h</b> 55:21 <b>half</b> 10:9,9 54:2 <b>hand</b> 37:19 55:1 142:21 163:1 171:21,22 172:1 174:6,20,21 177:22 177:23 178:8,10 179:1,2,11 180:7,7 <b>hands</b> 21:4 22:16 <b>handy</b> 183:23 <b>happen</b> 180:16 199:19 209:1 225:8 <b>happened</b> 16:15 18:2 53:4 77:3 78:7 82:21 224:3 <b>happening</b> 189:23 211:15 220:18 235:22 <b>happens</b> 167:22 183:5 229:14 <b>happy</b> 150:18 <b>hard</b> 57:11 <b>hardware</b> 200:15 <b>harvey</b> 54:14 88:2,5 89:20 126:17,23 127:18 <b>hc</b> 135:6 146:14 <b>he'll</b> 147:16</p>
---	--	--	--



[head - index]

<p><b>head</b> 11:23 40:24 129:15 135:16 <b>hear</b> 26:24 46:6 98:20 115:22 119:9 208:9 212:13 221:5 243:9 <b>heard</b> 48:19 67:19 126:3 137:19 <b>hearing</b> 112:15 <b>heavily</b> 28:18 <b>held</b> 24:5 <b>help</b> 62:25 63:12 64:22 145:10,11 165:17 173:22 233:17 <b>hereto</b> 245:12 <b>hewlett</b> 33:1 <b>hex</b> 51:5 <b>hey</b> 81:3 <b>higgins</b> 55:21 <b>high</b> 26:9 29:19 30:22 31:7,13,15,19 32:1,3,6 34:14 59:14 114:2 <b>higher</b> 90:8,20 <b>hired</b> 27:18 <b>hmm</b> 35:6 39:14 49:8 51:10,16 52:15 75:4,4 89:25 90:16 101:11 103:11 109:3,15 111:2 112:2 116:24,24 118:7 128:20 141:11 151:10 152:8 158:3 186:19 186:22 191:21 215:11 218:15 227:23 <b>hodgepodge</b> 123:11 <b>hold</b> 55:2 223:25 <b>holder</b> 8:12,20,22 8:24 10:6,9,13,15 11:6,15 14:11 16:8 17:19,21</p>	<p><b>holders</b> 11:24 <b>holding</b> 13:1 <b>home</b> 32:16 33:7 34:10,11,20 35:1 <b>honest</b> 38:21 93:23 <b>hooked</b> 106:19 <b>hopkins</b> 19:10 <b>host</b> 135:6 136:6,10 144:21 146:14 169:13 174:2 182:15,22 183:3,7,7 201:6 <b>hot</b> 24:4 174:13 178:19,22 179:3 <b>hour</b> 54:2 <b>hours</b> 57:20,24,25 58:3 59:14,16,20,25 60:10,24 63:17,22 64:6 67:1,3 69:17 70:1,4,10,20 71:20 72:13,14,20,25 73:7 74:6,14,17,21,21,25 75:6 122:7 236:21 <b>house</b> 33:10,16,24 33:25 34:4 47:21 87:2 <b>http</b> 24:10,17 <b>huge</b> 111:22 <b>hundred</b> 9:17 10:1 33:2 <b>hundreds</b> 31:8 <b>hypothetical</b> 51:9 196:19 227:8 236:18 <b>hypotheticals</b> 229:19</p>	<p><b>ibm</b> 30:22 106:24 128:4 <b>idea</b> 22:8 61:13 123:18 <b>ideas</b> 95:23 137:12 137:12 <b>identical</b> 57:14 107:23,25 110:14 110:16 111:5,6 178:15 190:9,10 194:16,18 196:8 <b>identified</b> 76:8,11 76:13 77:25 104:16 <b>identifier</b> 192:17 194:2 <b>identify</b> 11:23 80:10 81:24 167:25 183:22 184:4 <b>identity</b> 185:21,24 186:2 189:3 190:13 243:18 <b>ieee</b> 23:20,22 24:11 163:20 <b>illness</b> 7:2 <b>illustrated</b> 241:12 242:11 <b>image</b> 169:3,7 184:9 184:10,12 189:22 203:12,13,22 210:14,18,19,20,21 210:23 211:19,22 211:24 212:4,9,10 218:25,25,25 219:2 219:18,21 220:8,9 220:10 222:5,16 225:12,13 228:16 232:1 237:14 238:5 238:21 <b>imagery</b> 192:7,21,24 194:6 <b>images</b> 114:21,22 115:2,3 168:12,21 199:22 202:12 <b>imagine</b> 141:18,21 209:15</p>	<p><b>immediately</b> 177:8 <b>impacts</b> 229:4 <b>impediment</b> 7:3 <b>implementation</b> 102:10 <b>implemented</b> 141:19 205:2 <b>implication</b> 110:24 159:16 190:22 191:15 204:13 <b>imply</b> 159:13 <b>important</b> 187:24 204:10 206:15 <b>impression</b> 27:7 <b>inception</b> 47:10 <b>include</b> 49:22 54:16 90:18 109:13 112:25 126:18 145:22 149:11 161:15 167:18 204:22 211:16 <b>included</b> 19:25 42:16 68:18 73:8 209:16 <b>includes</b> 12:15 41:4 90:6 204:9 219:3 237:13 <b>including</b> 25:23 59:4 65:12 69:19 71:5 110:9 115:19 116:4 143:19 190:10 222:15 232:11,22 <b>incoming</b> 113:1 231:4 232:8,25 233:10,12,20 235:9 235:15 240:8 <b>incorporated</b> 192:18,24 193:12 194:3 <b>incorrect</b> 42:3,5 <b>independent</b> 91:18 91:20 238:23 <b>index</b> 4:1 139:13</p>
	<p><b>i</b></p>		
	<p><b>i.d.</b> 187:7 201:13 205:10,10,18,21 206:1,6,15,19 207:2 207:3 231:14 <b>i.e.</b> 118:20 119:18 136:14 165:20</p>		

[india - italics]

<p><b>india</b> 65:13 92:13  <b>indicate</b> 38:4,18  42:15 45:8 113:19  230:3,13 243:17  <b>indicated</b> 58:9 59:15  71:17 72:19 193:1  <b>indicates</b> 37:16 38:6  39:3 238:5 240:8  <b>indigo</b> 157:10  <b>individual</b> 34:11,19  34:22,25 64:1 81:24  150:16 181:22,24  187:5,10,14,15,18  189:8,13 190:23  193:10,14 202:14  205:24 231:13  <b>individual's</b> 232:4  <b>individuals</b> 15:5,7  243:23  <b>industry</b> 106:14  <b>inference</b> 190:11  195:17 199:20  204:6,7  <b>inferences</b> 153:3  <b>influence</b> 7:1  <b>informal</b> 81:22  <b>information</b> 13:16  22:19 29:22 32:2,6  43:13,15,22,24  44:10,14,16 45:1  46:13 50:23 51:18  55:23 90:5,7,10,20  90:23 97:5 100:4  109:25 110:12  116:18,19 118:20  118:20,22 119:18  119:18,19 120:2  121:10,10 122:1  132:8 186:12,20  201:2 204:23 205:6  206:21 207:1,6  211:4,5 213:15  220:6  <b>infrastructure</b> 33:5</p>	<p><b>infringed</b> 14:14  15:22  <b>infringement</b> 14:12  15:19  <b>infringing</b> 14:22  <b>inherency</b> 138:12  139:2 233:3,6  <b>inherent</b> 140:8  232:24  <b>initial</b> 80:24  <b>initialed</b> 245:11  <b>initially</b> 33:18  <b>ink</b> 245:11  <b>input</b> 22:22 26:20  108:2,20 141:18  146:9 185:16  210:10 211:9,10  <b>inputs</b> 100:11  109:12,14,20,23,24  110:1  <b>inquiry</b> 28:11  <b>inside</b> 221:18  <b>instance</b> 29:14 45:8  52:10 111:7 151:23  162:16 163:19  201:5 202:13  208:19,24 231:20  <b>instances</b> 21:12  101:24 227:12  228:21  <b>instruct</b> 125:12  174:23 176:3,14,15  181:2,6,20,22 213:6  215:16 216:6,11  217:9,13 218:1  221:1,4,11,12,16,16  221:18 222:4  223:23 224:7,10,21  224:22,24,25  225:22 226:10,12  227:5,20 228:2,3,3  228:17 229:13,17  230:4,11,12,15,21  231:19,21 232:7,12  232:19,21 234:21</p>	<p>235:3,10 240:2  <b>instructions</b> 75:21  90:18 115:1,2  119:25 125:10  126:24 127:10,19  136:11 175:22,24  176:1,5,18 181:24  183:8 223:20  <b>instructs</b> 226:5  <b>intel</b> 8:16,17,19  <b>intellectual</b> 76:2  <b>intelligence</b> 185:7,8  185:15  <b>intelligent</b> 143:8  <b>intended</b> 11:21  21:24 23:5 136:13  136:25 137:2 158:2  <b>intention</b> 6:22  <b>inter</b> 5:13,16 56:3  56:16  <b>interaction</b> 189:7,21  190:16,22 191:3  <b>interactively</b> 129:6  130:13  <b>interconnection</b>  88:4 97:16 99:13  103:10,16 104:18  104:21 105:4  110:22  <b>interest</b> 12:23 13:15  95:24  <b>interested</b> 246:12  <b>interface</b> 112:24  <b>interfaces</b> 112:4,5  <b>interfere</b> 125:18  <b>interleaved</b> 95:22  <b>intermediate</b> 220:12  <b>internal</b> 25:16 99:3  <b>internet</b> 22:3,16  24:9,17  <b>interpret</b> 138:17  242:21  <b>interpretation</b>  197:22 198:8 199:4  208:6,15 209:9</p>	<p>214:3  <b>interrupt</b> 122:12  <b>interruption</b> 218:5  <b>interval</b> 43:14,20  44:11 49:21  <b>introduction</b> 206:24  <b>intuition</b> 10:14  <b>invalidate</b> 81:4  <b>invention</b> 130:24  131:9,12 133:10,10  133:24,25 134:8  <b>inventions</b> 123:20  123:22  <b>inventor</b> 89:20  <b>involve</b> 16:8 21:3  29:4 31:21 128:11  <b>involved</b> 13:7,21,21  16:4 32:20  <b>involvement</b> 16:16  24:20  <b>involves</b> 58:16 123:5  123:7 128:8  <b>involving</b> 9:10 36:5  72:25  <b>ip</b> 11:1  <b>ipr</b> 56:3 58:11 62:1  71:6,6 79:3  <b>ipr2013-00162</b> 1:6  2:6  <b>ipr2013-00164</b> 1:8  2:8  <b>iprs</b> 58:16,23 62:22  62:25 63:18 66:22  67:2,12,23 70:17  71:11 87:17,18  <b>issue</b> 13:18 15:23  28:5 57:5 58:7  60:11 79:14 82:20  139:2 140:8 159:19  176:21 193:7  207:16 235:5,5  <b>issues</b> 14:3,4,5,8  82:9  <b>italics</b> 161:8</p>
--	---	---	--

[item - letters]

<b>item</b> 82:1 90:6,19	<b>kind</b> 22:13,16 25:5	107:5,7,20 108:3,4	<b>language</b> 52:11 90:8
<b>j</b>	30:17,18 33:7 34:3	109:22,25 110:25	90:20 91:4 136:25
<b>j</b> 1:15 2:15 4:3,15	43:22,24 45:9,13	112:7,8,16 117:11	<b>lapsed</b> 15:6
5:4 6:4 35:15,22	46:5,22 76:21,23	122:22,23,23 123:6	<b>large</b> 25:15
56:9 245:8,18	78:23 80:5 81:22	123:8,11 124:18	<b>lastly</b> 56:19
<b>january</b> 63:2,3,19	82:5 94:16 95:22	126:21,25 136:22	<b>late</b> 29:4,11 31:1,19
67:12,23	106:12,19 107:5,6	137:18 139:20	32:11,13,13,19
<b>job</b> 1:23 139:14	108:17 110:16	142:19 149:25	33:21 63:2,19 67:12
147:2 154:21,22,25	111:10 115:9 121:5	150:15 154:2,4	67:23,24
162:14 223:5	140:5 144:8 155:22	155:2 158:10	<b>law</b> 35:7 75:18 76:3
<b>jog</b> 89:8	155:23 158:9,14	159:19 160:8,11	86:4 102:23 103:4
<b>john</b> 54:13	159:1 161:22 185:7	161:21 162:1,4,18	138:13,19 139:11
<b>johns</b> 19:10	186:9,12 197:19	162:25 163:1	139:22 223:9
<b>joined</b> 27:11	199:9 204:13	165:25 166:11	<b>lawsuit</b> 69:11
<b>jones</b> 3:4 73:10,22	<b>kinds</b> 30:16 32:8,14	176:20 190:20	<b>lay</b> 7:13
73:23 74:4,20 75:23	106:2 141:5 180:12	192:25 193:10,11	<b>layer</b> 200:7,9 207:7
76:13,15 77:11,25	201:7 206:22 236:3	196:3 198:24	211:2,3 213:2,3,8
78:18 80:23 81:3	239:6	199:14,20 201:4,22	213:21 220:3,5,5,7
82:11,20 83:6 87:8	<b>knew</b> 34:12 69:2	202:11,14 204:24	220:12,18,19
<b>jonesday.com</b> 3:9	<b>know</b> 6:22 7:8 8:15	205:8 206:16	221:17 229:8
<b>joseph</b> 6:16	8:25 10:19,20 11:17	207:12 209:10,22	239:10,13
<b>joystick</b> 185:9 203:4	11:19 12:8 15:11,15	221:16 223:19	<b>layers</b> 200:14,19
203:16 210:17,20	16:17 19:23,25 20:1	227:17 233:8,9	213:13,25 220:4,20
211:3,9,22 212:12	21:3,19 22:17 24:6	234:24 236:9,22	234:6
233:22 234:13	26:4 28:17 29:12	237:24 238:25	<b>layman</b> 75:22 103:8
<b>judge</b> 18:13	30:5,19 31:8 32:4	239:11 240:11,12	<b>layman's</b> 223:12
<b>july</b> 5:18 56:21	32:23 33:3,15,18	240:19	<b>layperson</b> 154:20
<b>junior</b> 216:3	34:6,9,17 38:6,22	<b>knowledge</b> 45:20	161:22 163:11
<b>juror's</b> 223:13	39:10 40:5 45:6	47:13 76:2 162:10	<b>layperson's</b> 140:5
<b>jury</b> 15:16,18 75:21	46:14,16 47:6,8	163:11	<b>leading</b> 60:5
<b>k</b>	48:3,16 49:13 53:14	<b>known</b> 91:4 92:8	<b>leaves</b> 81:17
<b>k</b> 55:10,15 126:2	53:24 57:15 59:23	97:14 108:9	<b>led</b> 83:7
<b>kept</b> 122:14	60:1,1 61:18 62:7,8	<b>kodak</b> 5:10 36:6	<b>left</b> 163:1 171:21
<b>key</b> 135:3 152:13	64:18 65:7,19,25	<b>koonan</b> 71:9	172:1 174:6,10,20
180:15	66:14 68:8 69:25	<b>kula</b> 241:22	177:22 178:8 179:1
<b>keyboard</b> 132:16	71:19,21,23,24 73:5	<b>l</b>	179:11 180:7
134:23 145:22	73:8 75:25 76:14	<b>l</b> 3:5 6:18,18 55:10	<b>legal</b> 7:7 8:12 9:5,10
146:10,19 148:3	77:7,9,12 78:8 79:1	<b>label</b> 81:23	14:4,5 19:16,17
149:1 152:7,13,23	79:9,17 80:2,7,14	<b>labeled</b> 108:18	20:1
153:11 155:21	81:8,13,22,25 82:4	142:7	<b>legs</b> 236:22
185:10 233:23	83:5,11 86:3 87:4,6	<b>laborious</b> 89:9	<b>lengthy</b> 63:23
<b>keys</b> 146:10	87:8,11 88:16,18,19	<b>labs</b> 33:18	<b>letter</b> 52:18 166:8
<b>kilobits</b> 30:13	93:16 96:21 99:8	<b>laid</b> 93:16	166:12 167:25,25
	100:3 103:7 104:9		<b>letters</b> 47:20 49:9
	105:23 106:3,6,9,14		168:21

[level - marked]

<p><b>level</b> 23:3 26:9 47:5 47:6,12,13 99:23 114:2 123:5,6 155:9 170:20 231:12</p> <p><b>liberty</b> 12:6</p> <p><b>licensing</b> 19:24 20:4</p> <p><b>life</b> 19:16</p> <p><b>light</b> 14:14</p> <p><b>lighting</b> 222:17</p> <p><b>limit</b> 155:22,23 201:23 234:25</p> <p><b>limitation</b> 159:19 210:4</p> <p><b>limitations</b> 80:17 138:11 159:17,21</p> <p><b>limited</b> 30:12 33:23 149:19 158:5</p> <p><b>limits</b> 158:12</p> <p><b>line</b> 30:5,10,18,24 34:8 90:1,8,20 95:3 95:25 97:4 129:20 130:18,21 131:7,11 133:11,20 134:17 134:18 143:19 187:2 200:9,18 201:11,12 242:10</p> <p><b>linear</b> 89:15</p> <p><b>lines</b> 30:23 43:20 90:1,15 91:1,17 98:16 130:15 135:25 136:9 146:3 147:24 148:6 156:8 201:1,3,4 239:21 241:21</p> <p><b>link</b> 202:15</p> <p><b>linkage</b> 96:23 97:1 132:24</p> <p><b>linked</b> 90:10,22</p> <p><b>links</b> 46:21</p> <p><b>list</b> 202:7,9</p> <p><b>listed</b> 23:15</p> <p><b>listen</b> 44:5</p> <p><b>listing</b> 5:11 12:15 124:14,23</p>	<p><b>lists</b> 23:9 54:22</p> <p><b>litigation</b> 20:2 62:12 63:6,14 69:18,23 70:17 71:2,4,8,9,17 72:1 74:9</p> <p><b>litigations</b> 12:13 19:17</p> <p><b>little</b> 12:6 59:22 64:5 72:13 108:25 116:25 122:7,8 134:12 135:25 154:18 168:25 172:9 185:13 193:6 198:13 201:17</p> <p><b>live</b> 6:16</p> <p><b>lived</b> 6:19</p> <p><b>llc</b> 1:8 2:8</p> <p><b>llp</b> 2:17 3:12</p> <p><b>lltouton</b> 3:9</p> <p><b>loaded</b> 159:1</p> <p><b>local</b> 50:12,14 89:14 121:2 182:25</p> <p><b>locally</b> 115:20 116:5 120:6 121:1,9,25</p> <p><b>locate</b> 62:18 64:21</p> <p><b>located</b> 30:19 63:9</p> <p><b>locating</b> 64:20,24</p> <p><b>location</b> 29:24 44:1 44:12 51:19 52:6 135:8 152:15 222:9 225:14 229:6</p> <p><b>logistics</b> 35:9</p> <p><b>long</b> 6:19 8:17 16:22 44:6 48:8 54:1 60:22,25 74:4 94:2 181:14 236:22</p> <p><b>longer</b> 16:24 141:1</p> <p><b>look</b> 52:17 57:3 64:7 76:23 77:11 85:3 95:2 134:17 139:11 139:16 145:16 150:17,18,23 151:4 163:18 166:1 167:2 167:20 169:7 188:12,25 201:4</p>	<p>239:9</p> <p><b>looked</b> 22:4 47:7 57:16 60:2 68:13,15 69:15 82:23 85:15 87:10 94:22,25 109:19 132:12 150:19 168:23 207:3</p> <p><b>looking</b> 42:22 57:20 58:1 59:12 73:8,8 104:25 120:9 141:17 142:20 150:25 151:4,8 154:17 169:15 176:8 191:13 196:14 203:12</p> <p><b>looks</b> 92:7</p> <p><b>los</b> 3:7</p> <p><b>lose</b> 150:17</p> <p><b>losing</b> 219:14</p> <p><b>lost</b> 27:2 165:9 178:5 212:14 230:1 243:4</p> <p><b>lot</b> 31:4 33:14 53:21 73:9 78:12 102:1 112:16 116:16 117:11 158:11 219:13 228:7,8</p> <p><b>lots</b> 108:8 221:17 222:16</p> <p><b>louis</b> 3:5</p> <p><b>low</b> 59:15</p> <p><b>lower</b> 99:23</p> <p><b>lunch</b> 122:11 128:13</p>	<p><b>magical</b> 112:20</p> <p><b>main</b> 15:2 26:9,18 49:23,25 50:17 136:12 140:17 141:10,12 182:18</p> <p><b>mainframe</b> 25:15,17 107:1,6</p> <p><b>maintenance</b> 29:16 29:17</p> <p><b>major</b> 92:10</p> <p><b>majority</b> 8:6</p> <p><b>making</b> 32:22 83:7 171:25 173:8 174:1 174:5,15 177:7,17 178:1 179:10,25 180:9 201:1</p> <p><b>man</b> 216:4</p> <p><b>management</b> 26:7,7 26:12,20</p> <p><b>manager</b> 213:3,7,22 214:2,14 220:9,12 220:17</p> <p><b>managers</b> 26:8</p> <p><b>manner</b> 53:25 106:3 106:19 112:19,20 180:18 229:22 230:10,13,16 232:14 235:16 238:20</p> <p><b>manners</b> 230:5</p> <p><b>manufacture</b> 100:24 101:3,13,16,22,25 102:4,18</p> <p><b>manufactured</b> 101:7</p> <p><b>manufacturing</b> 102:2,24</p> <p><b>march</b> 4:8 37:21,21</p> <p><b>mark</b> 35:13,22,24 36:4 78:19</p> <p><b>marked</b> 4:6 18:25 35:19 36:1,7 54:18 54:22 55:7,12,18,24 56:5,11,17,23 126:15 128:18</p>
		<b>m</b>	
		<p><b>m</b> 17:20,20 39:18 40:11 136:12 140:17 141:10,12 142:10 165:21</p> <p><b>machine</b> 91:3 246:7</p> <p><b>machinery</b> 159:3</p> <p><b>magazine</b> 163:19</p> <p><b>magazines</b> 162:24</p>	

[marked - movement]

<p>134:7 165:4 183:15 183:15 <b>master</b> 187:17 189:4 189:10,11,12 190:14,20,23 200:12 <b>master's</b> 19:8 <b>matching</b> 167:24 <b>material</b> 156:15 <b>math</b> 74:11 <b>mathematical</b> 94:23 95:25 <b>matrix</b> 106:5,6,8 <b>matter</b> 13:7 15:14 16:11 59:11 92:10 <b>matters</b> 11:25 20:6 <b>mchenry</b> 3:20 81:17 <b>meals</b> 65:13 89:11 92:13 <b>mean</b> 10:19 13:6 21:18 23:23 24:3,11 25:10,16 26:8 27:7 29:19 30:3 31:9,25 34:1,6 41:18 45:17 52:25 59:7,9 62:1,1 62:23 63:9 67:15 69:4 71:5 72:5 76:12 77:4,7 79:3 79:19 82:6,11 83:2 84:21 88:18 89:16 92:25 111:6,21 112:8 113:9,11 114:12 116:9 117:19 124:13,15 125:18 132:7,12 133:7 134:3 136:23 138:1,3 139:5,7 140:6 143:11 145:5 145:6,16 149:3 150:13 154:15 160:13,15,16,24 161:4 162:6 169:12 171:4 172:21 175:21 182:23 189:16,22 197:24</p>	<p>201:21 204:11 205:11 220:2,18 221:13,25 222:1,2 222:22 223:20 224:17,18,18 228:11 229:15 231:22,24 232:20 233:2 234:10 239:15 240:18 242:22 243:10 244:3,9 <b>meaning</b> 104:3 150:17 230:22 238:17 <b>meanings</b> 48:18 223:18 <b>means</b> 15:12 91:9 192:7 194:16 198:10 224:13 <b>meant</b> 50:20 79:25 161:1 170:12 <b>mechanism</b> 108:7 175:23 200:11 <b>media</b> 1:8 2:8 202:23 203:13 214:11,23 215:2,10 <b>medication</b> 7:2 <b>medisim</b> 17:20,23 18:6,10 <b>medium</b> 174:25 176:16 177:19 217:1 <b>meet</b> 78:18 116:15 <b>meeting</b> 79:1,4,5 <b>megabit</b> 33:2,2 <b>megabits</b> 30:4 31:9 32:23 <b>megabytes</b> 29:20,20 <b>memory</b> 11:21 47:18 49:13,18 50:13,14 51:25 64:25 89:8 136:12 140:17,24 141:2,10 141:12,13,16,20 142:11,14,15</p>	<p>168:18,19 182:18 182:19 <b>men</b> 15:7 <b>menlo</b> 1:16 2:17 6:1 <b>mentioned</b> 28:4 178:19 222:12 228:12 <b>mercury</b> 162:22,25 <b>merely</b> 195:12 <b>message</b> 125:16 126:10 <b>messages</b> 126:10,18 <b>met</b> 73:10,11 74:4 78:22 82:14 <b>method</b> 14:18 200:9 <b>methods</b> 54:13 <b>microcomputer</b> 91:5 114:16,16 115:2 120:1 <b>microphone</b> 241:14 242:13 243:8 <b>mid</b> 33:19,19 46:1,8 161:19 <b>middle</b> 91:15 <b>midrange</b> 25:18 <b>mike</b> 157:13 <b>mind</b> 17:23 46:16 48:24,25 50:22 63:10 82:25 99:23 107:12 146:20 159:7 174:8 182:7 192:4 204:25 239:6 <b>minds</b> 176:21,22 <b>mine</b> 45:21 91:25 <b>mini</b> 157:23,24 <b>minus</b> 92:7 <b>minute</b> 16:7 72:11 129:13 165:8 173:10 188:25 <b>minutes</b> 36:17 54:3 <b>misheard</b> 125:24 <b>missed</b> 26:22 138:21 185:4 208:20 <b>missing</b> 133:19 208:19</p>	<p><b>misspoke</b> 125:18 <b>mm</b> 35:6 39:14 49:8 51:10,16 52:15 75:4 75:4 89:25 90:16 101:11 103:11 109:3,15 111:2 112:2 116:24,24 118:7 128:20 141:11 151:10 152:8 158:3 186:19 186:22 191:21 215:11 218:15 227:23 <b>mobile</b> 16:4,8,9 <b>mode</b> 132:19 133:4 133:6 185:21,24 186:2,7 <b>modes</b> 45:10 185:23 185:23 <b>modifications</b> 166:18 <b>modify</b> 164:21 166:14 <b>moment</b> 40:7 55:2 57:2 164:6 <b>money</b> 34:13 <b>monitor</b> 114:6,17,24 119:16 220:16 <b>months</b> 87:5 <b>morgan</b> 15:8 <b>morning</b> 6:10,11 <b>mosaic</b> 43:16 45:11 <b>motivations</b> 162:6 <b>motorola</b> 112:9 <b>move</b> 48:14 98:15 109:25 163:21,21 203:3,8 210:17 226:24 227:1,25 231:20,21 <b>moved</b> 212:12 226:13 <b>movement</b> 203:10 212:3 218:13 225:17,22 226:4 232:3 235:24,24</p>
--	--	---	---

[moves - okay]

<p><b>moves</b> 203:16 205:6 210:20 211:22 226:1,15,19 231:22 231:24 234:13 <b>moving</b> 32:1 210:25 212:1 233:22 <b>multiple</b> 29:20 31:8 48:18 193:3 194:13 195:1,8 207:12,13 <b>multiplex</b> 30:21,23 <b>multiplexor</b> 135:5 <b>multiterminal</b> 129:3 <b>multiuser</b> 192:11 <b>mx</b> 135:6</p>	<p><b>needed</b> 143:4 <b>needs</b> 138:11 <b>neighborhood</b> 9:17 9:23 11:10 70:1 72:12,20 75:5 <b>neither</b> 129:19 246:11 <b>net</b> 31:15 <b>network</b> 55:16 201:7 206:22,23,23 <b>networked</b> 239:4 <b>networks</b> 99:4 206:21,22,25 238:16,17 <b>neuhauser</b> 1:15 2:15 4:3,16,19 5:4,6,9 6:4,10,16 12:24 13:22 18:24 35:15 35:22 36:10 37:24 38:14,20 41:4 42:7 42:10 56:9 128:15 129:12 183:12 245:8,18 <b>neuhauser's</b> 97:23 <b>never</b> 17:15,18 28:16 36:16 66:1 82:11,14 85:5 87:19 88:25 107:17 158:11 159:6 177:11 238:2 <b>new</b> 3:14 115:23 149:6 153:20 154:8 154:12,22 156:1,16 158:19 161:3 164:19 179:7 212:9 219:12 220:3,7,12 220:15,15 222:16 232:10,14 <b>news</b> 129:6 130:14 131:24,25,25 134:24 137:23 145:5,19 147:4,5 148:7,12 149:14 162:22,23,25 164:18 170:25</p>	<p><b>newspaper</b> 129:5 130:12 143:15,21 144:7,9 154:20,25 159:15 161:18,22 162:16,18 163:4 <b>newsroom</b> 144:16 158:16 <b>newswire</b> 164:19 <b>night</b> 122:15 <b>nontechnical</b> 161:4 <b>nonvolatile</b> 141:20 142:11,14 <b>normal</b> 75:20 <b>normally</b> 70:4 75:20 223:17 <b>northwestern</b> 19:9 <b>nos</b> 1:6 2:6 <b>notary</b> 87:2 <b>note</b> 138:18 <b>noted</b> 58:6 195:6 244:21 245:11 <b>notion</b> 116:16 119:15 140:1 170:21,24 171:2,12 172:4 174:3 177:13 177:17 181:10 186:12 188:9 190:18 199:1 200:4 200:24 213:25 220:10 233:4 236:7 238:13 239:1,7 244:15 <b>notions</b> 69:3 161:5 <b>notre</b> 19:7 <b>number</b> 9:1 41:5 46:23 54:10,24 57:25 61:15 65:7,17 68:22 69:1 88:24 89:3 96:18,24 107:10 110:9 137:12 172:10 181:13 188:10 190:4 200:4 <b>numbering</b> 87:8</p>	<p><b>numbers</b> 10:23 73:3 94:10 96:20 107:18 <b>numerical</b> 89:4,13 <b>numerics</b> 168:22 <b>nut</b> 159:24 <b>nw</b> 3:14</p>
<p><b>n</b></p>			<p><b>o</b></p>
<p><b>n</b> 55:21 <b>nail</b> 105:24 <b>name</b> 6:14,16 18:11 26:3 30:6,9 31:14 34:19,22,25 107:11 112:3 113:5 162:5,9 162:13 163:3,14 246:15 <b>named</b> 15:8 124:16 <b>names</b> 11:24 12:25 31:6 124:16 <b>narrative</b> 81:16 82:5 120:17,25 <b>nature</b> 15:23 16:10 229:23 <b>neat</b> 134:4 <b>necessarily</b> 32:3 66:15 158:15 189:12 191:6 230:6 <b>necessary</b> 203:19 <b>need</b> 23:2 48:14 100:24 101:1,2,13 101:15,22,25 102:1 102:3,5,18,19 103:4 123:2,13,19 124:22 127:22 128:7 168:4 187:16 197:16 204:21</p>			<p><b>o</b> 6:18 187:9 201:14 205:13,17 206:3,7 231:15 240:14,16 244:4,6 <b>o0o</b> 6:3 <b>oath</b> 6:5 <b>object</b> 34:14 <b>objects</b> 244:18 <b>obligation</b> 207:21 <b>obtain</b> 207:4 <b>obvious</b> 153:15,16 <b>obviously</b> 113:9 120:20 176:19 227:17 <b>obviousness</b> 141:25 145:10 <b>occasion</b> 82:19 <b>occur</b> 193:15 <b>occurred</b> 42:1 62:8 <b>octal</b> 51:5 <b>october</b> 1:17 2:19 6:1 <b>odd</b> 201:17,21 <b>offer</b> 86:5 96:17 <b>offered</b> 229:19 <b>office</b> 1:1 2:1 34:7 84:14 87:20 <b>oh</b> 7:8,14,14,14 19:23 32:17 34:24 53:4 77:4 82:11 105:5,22 112:5 119:5 130:3 138:23 144:3 192:1 223:25 224:3 227:6 235:8 241:18 242:8 <b>okay</b> 6:21 7:10 9:16 10:1,21,23 12:5,18</p>

[okay - owned]

<p>13:14,23 14:6,24  15:18 18:2,7,9 23:4  23:17 24:14 27:8  28:16,21 30:11  32:18,24 33:16,21  34:1,5,24,24 35:13  36:12,19 37:1,11  38:12 39:13 41:15  42:6 43:7 44:19,20  44:22 45:14,22,24  46:3,9,23 47:17,25  48:2 49:4,16 51:14  53:5 55:6 57:9  59:10 60:6 61:6  63:8,16 66:2,5,9,17  67:18 68:1,4,5,9,10  68:14 70:15,21,22  71:12,15 72:4,24  73:13,19 74:7 75:20  75:25 76:7 77:8  79:15,16,22 80:20  82:7 83:13 84:3  87:6 88:14 91:1  92:6,10,22 93:5,13  93:18 94:22 95:11  96:7 97:3,3,11 98:8  98:8,12,15,20,20  101:21 102:3,7,12  102:14 103:23,24  104:1,14,21,25  105:12 108:12  109:12 110:2,6  111:14 112:23  113:17,18 114:2,3,6  115:7,11 117:20,20  118:11,14 119:5,24  120:9 122:5,25  123:9 124:25 126:3  126:14 127:13  128:6,12,12 129:16  132:4,17 133:20,23  136:2,8,18 137:11  138:7 139:19 141:7  141:9,24 142:2,17  142:23,25 143:10</p>	<p>143:11,13,18 144:6  144:17 147:20,21  147:23 148:12,21  149:16 151:11,17  154:6,9 156:18  158:17 161:18  162:2 164:5 165:8  166:20 167:13  168:5,6,10,17  169:11,18 171:18  171:24 173:20,23  174:9,18 176:1  177:24 178:9,12  179:4,6,9 180:4,20  180:23 182:12  183:9,9,19 184:18  185:4,11,17,24  186:6 188:7 191:10  192:3 195:3,17  196:10,12,15,23  197:5 199:3,25  200:3,14 203:14,15  205:14,19 206:10  207:8,20 208:25  209:4,20 210:3,16  211:7,9,11,14  213:20 214:8,25  215:15 216:25  217:10 218:20  219:1,2,5,17,17  220:4 222:8 223:1  224:4,21 225:15,18  226:3,12,17,20  228:20 233:4,6,23  234:6,16 235:12,13  235:14,15 237:7,8  238:2,2 239:14,20  241:25 242:6,17  243:13,17,25 244:7  244:16  <b>old</b> 153:20  <b>once</b> 44:5 77:9 87:11  135:2 152:11  213:17</p>	<p><b>ones</b> 106:17 179:14  <b>ongoing</b> 15:9,12  <b>open</b> 86:22  <b>operate</b> 159:2  <b>operating</b> 124:19  128:1,2,3  <b>operation</b> 132:19  136:14 137:1,2  144:7,9 158:2  160:24 161:12  175:12,19 177:9  186:1 222:23  <b>operational</b> 200:12  <b>operations</b> 137:6  144:16 178:3  179:13  <b>opine</b> 14:3,5 53:15  <b>opined</b> 52:23  <b>opinion</b> 162:8 173:6  184:3 207:22,22  <b>opinions</b> 14:8,13,16  85:6,7,18 86:19  <b>opportunities</b> 14:21  <b>opposed</b> 7:12 13:2  <b>opposition</b> 129:7  <b>order</b> 21:6 43:25  44:11 83:18 96:22  188:17 189:10  222:5  <b>ordinary</b> 93:19 96:8  100:18 104:6 105:2  111:1,3,13 123:2,12  123:14,19 127:8  133:14 136:18  138:5,15,20,25  140:2,6,23 141:1,15  142:1 144:2 145:4,9  149:3,7 150:8 151:9  153:24 154:19  160:9,23 186:15  189:16 206:4 208:2  208:11 209:6,11,14  224:15 239:10  242:21</p>	<p><b>organization</b> 25:6  26:10,11,12 111:10  134:2 154:25  <b>organizations</b>  154:21  <b>organized</b> 106:2  <b>oriented</b> 26:6  <b>original</b> 203:22  211:18 227:21,21  <b>originate</b> 132:6,7,15  133:8,13 134:10  143:21 144:10  145:1,15 147:22  148:2,15,19 149:18  149:23 151:14,23  <b>originated</b> 77:22  151:25 152:16  153:21,24  <b>originates</b> 146:22  <b>originating</b> 145:24  147:5 153:17 155:5  <b>oscillators</b> 112:10  <b>ought</b> 122:10  <b>outlines</b> 200:12  <b>output</b> 108:7,20  114:11 115:3  164:23 175:1,1  176:17  <b>outputs</b> 100:13  <b>outputted</b> 175:1  <b>outputting</b> 240:4,9  <b>outside</b> 28:4 121:7  163:22 196:2  <b>overall</b> 59:13 62:3,3  192:18,24 194:3  212:19 214:6 215:3  215:6,13,14 229:7  <b>overlaid</b> 116:20  121:9,25  <b>overlap</b> 236:1  <b>overlay</b> 114:22  <b>overlays</b> 120:1,7  <b>oversight</b> 26:16  <b>owned</b> 17:22</p>
---	---	---	---

[owner - paths]

<p><b>owner</b> 1:9 2:9,16 3:11 5:15 56:15 <b>owns</b> 233:21</p>	<p>129:1,2 131:17 139:17 164:12 165:3,7,10,18 169:22 170:12 171:6 181:11,17 182:8 183:17 212:24 242:18</p>	<p>80:9 82:23,25 83:3 102:9 104:9 105:12 106:7,24 107:11 114:20,20 118:22 119:20 121:11 128:10 135:7 136:24 140:14 158:23 162:17 166:7,24 171:8 197:21 222:2 244:13</p>	<p>60:14 61:4 66:3 69:11 73:8,16 76:24 77:10,15,20 78:5 81:5 83:14,16 84:14 85:14,24 87:18,18 87:19,20 88:2,6,7 88:17 90:3 93:6,19 94:17 95:22 96:7 97:24 98:6 102:23 103:4,6 104:13,23 105:1 106:7,13 108:16 110:8,21 113:21 114:19 116:9 117:4 120:5 122:18,25 123:3,11 124:2,4,22,25 125:5 125:9,14 128:18 129:9,11 131:8,16 133:11,23 134:2,6 149:16 150:3 160:22,25 161:7,15 164:2 166:2 171:19 172:13 173:5,25 176:25 180:25 181:12 182:9 183:21 186:25 191:18 200:24 201:23 202:20 210:6 212:18 215:9 216:6 222:20,22 223:2,8 230:3 237:12,16 241:10 241:21 242:5</p>
<p><b>p</b></p>	<p><b>paragraphs</b> 181:14 <b>parameter</b> 93:20,22 93:22 <b>parameters</b> 206:5 <b>paraphrase</b> 145:18 183:25 221:9,9 <b>paraphrasing</b> 120:19 <b>pardon</b> 111:12 <b>park</b> 1:16 2:17 6:1 <b>parse</b> 150:16 <b>parsed</b> 155:9 <b>part</b> 15:5 17:10,13 18:14 25:14 28:11 40:22 57:10 66:22 91:15 92:13 95:22 101:1 107:10,18 111:18 117:2 127:13 132:25 143:12 179:24 191:11 198:12 207:14,15 221:19 223:5 224:14 228:4 228:17 229:16 231:18,19 240:1,15 240:22 243:18 244:4</p>	<p><b>particularly</b> 60:3 106:10 <b>parties</b> 83:16 <b>parts</b> 18:13 29:16 69:16 155:4 <b>party</b> 14:24 246:13 <b>passage</b> 129:24 130:5,7 132:12 135:22 146:1,3,20 146:21 149:8 152:2 152:17,20,24 153:1 155:15 164:16,24 187:2,20,24 191:1 191:17 193:11 205:23 242:24 243:13,25 244:3,10 244:14 <b>passed</b> 213:15 <b>passes</b> 212:20 213:12,22 <b>passing</b> 234:5 <b>patent</b> 1:1,2,7,8,9 2:1,2,7,8,9,16 3:11 4:8,10,12,13,17 5:11,15,18 8:12,20 8:21,24 10:5,8,12 10:15,21 11:5,6,15 11:15,24,25 13:1 14:11,14,17 16:8 17:19,21,22 48:1 54:12,23 55:10,11 55:15,16,23 56:10 56:15,21 57:4,5,6 57:10,16 58:17</p>	<p><b>patents</b> 9:11 15:19 15:21 16:18 48:10 53:16 57:12,17 58:2 58:7,19 59:4,6,21 60:2,11,17 61:14,15 61:16,18 67:4 72:22 73:12,15,21,24 81:8 134:3 176:25 222:24,25 223:6 <b>path</b> 114:7,8 <b>paths</b> 110:10</p>
<p><b>p.m.</b> 128:13,13 164:10,10 183:10 183:10 244:21 <b>packaged</b> 22:12 <b>packard</b> 33:1 <b>page</b> 4:2,7 5:2 23:9 37:15,15,19 38:1 64:11,11 71:22 84:4 84:6,9 87:1,14,25 88:1 96:19 97:8,22 118:11,17,24 127:4 127:6 128:24 129:1 139:16 164:13 169:22 173:14,19 176:8 181:13,15 182:8 183:17 212:24 241:17 242:18 <b>pages</b> 1:25 54:23,24 122:6 170:10 224:5 <b>paging</b> 89:9 <b>painted</b> 220:16 232:15 <b>palyn</b> 24:23,24 25:3 25:5,25 26:2,3,6,10 26:11,14,18 27:3,8 27:9,11,13,15,18,21 27:21 28:15 29:3 30:15,15 32:19 <b>paper</b> 49:25 50:18 56:2,14,20 83:14 162:23 207:14 <b>papers</b> 15:6 <b>paragraph</b> 38:2,4,7 38:12 39:13 40:8,25 42:3,6,20,24 87:7 88:1 97:12,22 99:18 104:4 119:4,12 122:14 124:2 127:4 127:5,6,13 128:23</p>	<p><b>partes</b> 5:13,16 56:3 56:16 <b>partial</b> 5:8 <b>participate</b> 63:4 <b>participated</b> 63:10 <b>particular</b> 41:21 45:4 46:16 50:24 51:1,23 57:20,23 58:8 59:8,10 61:16 61:16 64:4,7 68:9 73:18 77:5,10 80:8</p>	<p><b>path</b> 114:7,8 <b>paths</b> 110:10</p>	



[pattern - pointing]

<p><b>pattern</b> 51:21 167:2 169:3</p> <p><b>patterns</b> 168:14</p> <p><b>pause</b> 164:6</p> <p><b>pay</b> 22:1</p> <p><b>pc</b> 114:19 128:4 157:23</p> <p><b>pdp</b> 157:19,20,21</p> <p><b>peer</b> 185:19,19 186:1,1,7,7,17,17 187:23,23 189:6,21 190:16,21 191:3 199:5,5 205:5 206:12 207:10,10 207:23,23,25,25 208:3,3,12,12 209:7 209:7 225:9,9,10,10</p> <p><b>penalty</b> 245:9</p> <p><b>people</b> 19:23 21:18 25:7 34:6,13 62:19 100:7 131:5 143:20 163:5 188:12,13 199:2</p> <p><b>percent</b> 11:7 19:20 19:21 92:18</p> <p><b>percentage</b> 10:4,11 11:4 19:13,15 93:3 93:4</p> <p><b>perform</b> 14:20 22:20 125:11 136:13,25 137:6 140:13 143:15 158:2 170:23 235:4</p> <p><b>performed</b> 16:2 143:20 156:20 161:12 178:14 179:13,14</p> <p><b>performing</b> 163:14</p> <p><b>period</b> 9:18 10:7 16:24 25:7 73:12 107:2</p> <p><b>periodically</b> 187:6 205:19,25 231:13</p> <p><b>perjury</b> 245:9</p>	<p><b>person</b> 34:1 79:2 93:18 96:8 100:18 105:2 123:14,19 136:18 138:20,24 140:6,23,25 141:15 142:1 145:4,8 149:9 151:9,24 153:23 154:19 155:24 160:14,23 161:9 162:17,18 176:25 177:1 184:10,13 186:15 189:16 201:24 208:2,11 209:5,5,11,21,24 224:16 242:21</p> <p><b>personal</b> 32:12 108:13 128:2 162:10 163:11</p> <p><b>personalization</b> 176:2</p> <p><b>personalized</b> 1:8 2:8 95:13,17 96:14,16 115:19 116:3 117:22,24 170:3,15 171:5,8</p> <p><b>personally</b> 159:6</p> <p><b>petition</b> 5:13,15 56:3,16 76:20 83:15 83:24 84:4,6,12,18 84:20,22 85:2,4,9 85:12,13,24 86:11 86:13</p> <p><b>petitioner</b> 1:6 2:6 3:3</p> <p><b>petitions</b> 87:19,21</p> <p><b>ph.d.</b> 1:15 2:15 4:3 4:16 6:4 19:10 56:9 245:8,18</p> <p><b>philips</b> 5:9 36:5</p> <p><b>phone</b> 30:5,10 31:4</p> <p><b>phones</b> 16:4,9,9</p> <p><b>photograph</b> 196:24 196:25 197:6</p> <p><b>photographs</b> 169:12 169:21</p>	<p><b>phrase</b> 48:10 154:11 199:4 224:9 230:2</p> <p><b>physically</b> 30:12</p> <p><b>pick</b> 128:17</p> <p><b>picked</b> 81:10,13</p> <p><b>picture</b> 168:14 192:8</p> <p><b>piece</b> 68:6 69:6 71:22 82:23 117:9 144:20</p> <p><b>pieces</b> 100:2 117:7 181:23,25</p> <p><b>pillar</b> 237:1</p> <p><b>place</b> 72:6,21 74:2 141:21 182:6 238:23 240:7 246:4</p> <p><b>placed</b> 218:22 222:2 235:20</p> <p><b>places</b> 83:6 125:8 187:25</p> <p><b>plaintiff</b> 8:19,20,24</p> <p><b>plans</b> 25:23 65:14 69:5</p> <p><b>platform</b> 239:25</p> <p><b>play</b> 187:10 201:16</p> <p><b>played</b> 206:12</p> <p><b>player</b> 188:18 195:25 197:5,8 198:2,14,16,18 199:6 203:3,12 205:6 210:15,17,20 210:25 211:19 212:1,9,11,12 219:4 225:13,16,17,22 226:1,1,2,5,13,13,15 226:16,18,19,21,22 226:22,24 227:1,13 227:22,24,25 228:1 228:3 234:16,17,17 235:1,2 236:1,1,2,2 236:3 239:15</p> <p><b>player's</b> 190:9 197:1 213:8 227:6 228:13 228:16 235:2,24 239:16</p>	<p><b>players</b> 188:17 190:2,4 191:6,9 195:9,14 196:13 197:24,25 198:2,3 198:10,11,15,20 199:6 207:13 218:14 219:3 235:23 238:10,15 243:1,2,7,9,19</p> <p><b>playing</b> 184:13 188:13 195:9 196:13 197:8,21 198:20 199:2 206:13,14 219:4 225:13</p> <p><b>plays</b> 197:5</p> <p><b>please</b> 6:14,25,25 50:8 67:21 115:25 117:15 137:10 153:25 163:16 173:1</p> <p><b>plurality</b> 134:20 185:19</p> <p><b>plus</b> 116:8 217:2 236:7</p> <p><b>pmc</b> 5:1,11 35:13,19 35:25 36:1,4,7,11 37:15 39:15 42:22 54:21,22 55:7 56:1 56:5,13,17,19,23 58:13,17 60:11 61:7 62:2,3 71:17 83:13 84:6,13 85:14 173:2 181:1</p> <p><b>point</b> 26:6 31:18,18 33:12 87:10,13 101:10 107:15 117:24 128:6 134:14 150:6 173:11,11 182:6 210:19 214:1 219:24</p> <p><b>pointed</b> 173:19</p> <p><b>pointing</b> 48:23 204:22</p>
---	--	---	--

[points - processing]

<p><b>points</b> 22:15  <b>pork</b> 94:7  <b>portion</b> 17:16 38:4  174:24 176:16  210:7,23 211:10  <b>portions</b> 38:19 39:4  68:2 183:22 211:24  212:2  <b>position</b> 100:18  124:9 147:3 149:23  150:1 199:17 222:3  226:4 227:22 228:1  232:24 236:5,11,15  236:15  <b>positioned</b> 218:9,11  <b>positions</b> 169:19  <b>possibilities</b> 30:3  140:22 147:8  222:17 228:7,9,9,13  236:3 239:19  <b>possibility</b> 34:15  126:23 158:8  169:16 177:5,15  190:7 196:6 204:1  204:12 222:11  230:14 237:6  239:20  <b>possible</b> 12:24 34:18  45:13 78:24 156:23  157:25 158:4,17,20  158:22,22 177:6  191:4 195:23 196:1  197:14 199:1,5  <b>possibly</b> 27:25  218:16  <b>power</b> 182:14,15  <b>practice</b> 75:20 77:24  162:11  <b>practiced</b> 163:12  <b>pram</b> 111:11 112:11  <b>pre</b> 50:23  <b>precise</b> 136:1  <b>predefined</b> 192:20  192:22 194:5,7</p>	<p><b>preemption</b> 16:1,1  <b>preface</b> 43:8  <b>preferred</b> 65:1,2,3  98:10,14 129:4,24  130:11,22 131:2,4  <b>preliminary</b> 5:15  56:15 78:9,25  <b>preparation</b> 63:5  74:7 75:10 154:7  <b>prepared</b> 54:21 77:1  77:8 78:18  <b>preparing</b> 60:1 72:4  72:20,25 74:1 75:2  <b>preselected</b> 192:16  193:25  <b>present</b> 3:19 214:23  219:12 232:22,23  240:20  <b>presentation</b> 93:3  97:2 118:19 119:16  120:6 121:3,6,23  174:25 175:7,10,20  176:16 177:10,20  192:10 194:4  202:21,24 214:11  214:24 215:2,10  234:1 235:4 237:13  238:5 243:19  <b>presented</b> 14:15  65:20 81:11 168:24  176:17 195:8  232:11  <b>presenting</b> 214:13  214:13  <b>president</b> 26:13  <b>press</b> 243:7  <b>presumably</b> 162:9  191:13 197:11  228:18  <b>presumed</b> 223:17  <b>pretty</b> 8:6 18:22  34:12 40:3 47:12,13  69:13 71:20 78:8,15  87:4 99:7 117:19  153:15 186:1</p>	<p>209:22 234:24  <b>preventing</b> 86:18  <b>previous</b> 149:12  <b>previously</b> 4:6 18:25  183:15  <b>prices</b> 93:7  <b>primarily</b> 26:10  79:12 84:19  <b>primary</b> 188:3  <b>principal</b> 38:15 39:8  39:18 40:11 41:3  42:11  <b>principle</b> 42:8 177:4  223:14,16  <b>principles</b> 223:9  <b>printed</b> 87:13,14  93:7 96:14,16  <b>printout</b> 37:16 92:7  <b>prior</b> 14:15 35:5  38:15,25 39:8,17,19  40:10,12 41:3,5  42:8,11,16 62:18  63:9 67:16 68:6,19  68:22,24 71:6,22  73:9 76:7,11,13,16  80:24 82:8,18,23  130:19 133:21  143:19 178:7,15,16  178:18,19 179:14  207:8 223:6 246:5  <b>probably</b> 7:24 8:24  9:14 10:8,15,16  11:7 19:20 20:5,17  23:7 26:9 28:14,19  34:6 53:23 57:19  58:2,3 59:12,13  62:7 67:14 68:15  69:13,25 72:3,3,12  73:2,7 76:1 77:16  78:11 79:8 81:11  82:25 83:9 85:8  106:5 108:25  109:10 110:1  116:15 154:2  162:23 166:1,3</p>	<p>180:11 183:6 210:2  236:20  <b>problem</b> 12:9,10  95:20  <b>proceeding</b> 8:12  56:14,20 57:5,10  71:11 83:14  <b>proceedings</b> 7:7  58:11,24 71:13  246:3,5,7  <b>proceeds</b> 133:25  <b>process</b> 75:15 157:1  176:15 179:24  222:6 223:22  224:23 225:6  <b>processed</b> 119:25  122:1 217:3,16  218:7 219:21  221:10,12 226:8  227:11,14 228:5,13  228:22,22 229:4,5  229:22 230:5,10,23  230:24 231:5,6,19  232:14,18 233:1,11  233:13 234:4,10,11  234:14,18 235:17  237:4 238:20 244:1  <b>processes</b> 221:19  <b>processing</b> 54:13  55:22 121:2 156:24  157:6 173:7 174:23  175:6,10,19,22  176:5,13 177:9,18  178:2,14 179:20  213:4 214:10,12  215:17 216:7,23  217:8,24 218:16  219:10,11,25  220:11,24 221:3,15  221:24 222:3  223:23 224:6,22,23  225:23 226:5,18,22  227:3,4,5,11,18,25  228:18 229:11,17  230:7,8,13,16</p>
--	---	--	---

[processing - raised]

<p>235:10 238:23  <b>processor</b> 76:5 99:3  106:8 108:4 111:14  134:22 176:6  181:19  <b>processors</b> 106:3,4  <b>procter</b> 2:17 3:12  <b>produce</b> 114:23  121:3 213:7 218:10  219:21  <b>produces</b> 213:23  216:25  <b>producing</b> 59:11  220:7  <b>product</b> 14:13 21:21  22:1,2,6,13 23:3,5  28:13,22,25 89:14  <b>products</b> 17:1 21:2  21:10,16,20 25:20  25:22,22,25 26:21  94:7 107:18  <b>professional</b> 19:14  <b>program</b> 19:10 90:8  90:21 124:14,22  127:9 136:11 137:5  137:21,22 140:20  140:24 141:1 142:5  143:14 144:20  145:1,14 158:4  159:1,4,5,6,10,10,13  160:1 170:22  175:13 176:2,17,19  182:5,16,21 183:3  185:8  <b>programmable</b>  158:25 169:24  170:14  <b>programmed</b> 134:9  136:13,23  <b>programming</b>  110:11 125:1,2  143:4  <b>programs</b> 88:10  124:8,10,13 125:2,6  125:10 127:21</p>	<p>136:5 140:13,16  142:4 156:24 157:6  159:9 181:18  182:25  <b>prom</b> 169:2,2  <b>promise</b> 134:15  <b>pronunciation</b> 25:4  129:17  <b>proper</b> 48:5 145:21  146:10,18 148:25  152:6,22 153:10  155:20  <b>properly</b> 41:25 69:6  115:4,21 116:6  <b>propose</b> 198:15  <b>proposed</b> 25:22  107:19  <b>proposition</b> 156:12  161:25 241:7  <b>protected</b> 158:13  <b>protocols</b> 24:10,18  <b>prototype</b> 107:20  <b>provide</b> 12:15,21,22  13:9,17 18:3 26:15  26:20 30:25 44:24  117:22 203:20  230:25  <b>provided</b> 18:4,19  80:25 115:15  182:13  <b>provides</b> 214:10  215:16 216:6  <b>public</b> 15:21  <b>publication</b> 35:14  <b>publications</b> 23:9,11  <b>published</b> 23:14,17  36:5  <b>pull</b> 147:20  <b>purpose</b> 122:24  131:20,23 143:3  156:24 157:1  164:15,17  <b>purposes</b> 145:11  154:6 184:15</p>	<p><b>pursuant</b> 5:16  <b>push</b> 211:3 238:14  239:2 240:18,20  <b>put</b> 45:16 53:16  69:17 75:23 76:2  81:25 139:13  180:15 182:2  207:14 214:3,3  218:20 224:12  228:20 241:22  <b>puts</b> 177:18 220:10  220:13  <b>putting</b> 54:25  112:18,18 229:7</p> <p style="text-align: center;"><b>q</b></p> <p><b>quadrant</b> 194:23  <b>qualified</b> 52:24,25  53:15  <b>qualify</b> 17:9 61:3  75:16  <b>quantities</b> 165:21  <b>quarter</b> 10:16  <b>question</b> 6:23 14:19  18:5 20:11 26:18,24  28:24 29:13 31:3  32:18 33:13 37:2  39:25 40:3,8 44:4,8  45:25 46:15 47:25  48:4,6,22,23 49:5  50:15,19 57:11 61:4  64:14 66:12,16  67:17,19 68:8 70:8  70:24 72:17 82:16  85:25 98:21 102:12  103:14 104:11  112:13,15 116:2,11  116:15 117:6,10,14  117:20 119:9  122:12 123:15  125:20 132:11  133:19 135:25  137:19 142:16,20  144:4 145:7,12  149:19 150:2,15,24</p>	<p>151:6,7,17 160:16  160:19 165:9,10,22  173:20,24 175:17  180:4 192:4 198:4,6  199:24 202:16  208:9,16,19,21,22  209:2,5,18,19  211:18 212:16  214:15,17 215:1,24  217:4 218:2,3 221:5  224:2 227:10,13,16  230:1,19 237:17  238:3,4 239:1  240:13 241:25</p> <p><b>questioning</b> 13:18  <b>questions</b> 6:22 28:7  36:19 48:9,10 49:1  117:2,18 128:21  147:9,16 149:16  155:8 160:20  <b>quibble</b> 80:2  <b>quite</b> 25:14 29:19  39:10 47:10 57:25  64:19 76:17 77:8  82:22 85:3 96:21  137:7 158:10 162:7  168:1  <b>quote</b> 38:7,13 40:9  40:25 92:19,19,19  97:5 119:12 152:17  152:20,24 169:23  170:13 184:4 191:2  <b>quoted</b> 145:2  <b>quoting</b> 182:9</p> <p style="text-align: center;"><b>r</b></p> <p><b>r</b> 29:18 31:15 55:15  <b>race</b> 192:15 193:25  <b>radar</b> 194:22 202:13  <b>radio</b> 109:13,20  111:15,20,21,24,25  112:25 113:2,8,8,10  <b>raise</b> 216:3  <b>raised</b> 107:6</p>
--	--	---	--

[ram - refreshing]

<p><b>ram</b> 50:23,24 51:1 52:17 106:4 140:25 141:3,3,12,21,22 142:6,7,10,13,15 158:25 165:21 166:5,6,23 167:24 180:13,14</p> <p><b>ran</b> 157:19</p> <p><b>random</b> 141:12 182:18</p> <p><b>range</b> 10:1,8,16 11:7 25:8,9,23 30:2,13 30:25 43:9 59:18 111:22</p> <p><b>ranging</b> 24:5</p> <p><b>ras</b> 29:18,18</p> <p><b>reached</b> 33:12</p> <p><b>read</b> 39:2 40:6 44:2 64:8,10 67:7,9,11 67:15,21 68:1,3,4,6 68:9,18,21,25 69:4 69:11 70:10,11 71:18,20,25 72:1,15 79:16 81:13 84:22 86:18 89:10 96:21 96:22 115:23,25 116:1 132:25 134:11,15,16 138:15 142:2 145:18 146:1 154:24 161:21 162:23 165:8 168:3 173:20,22,24 176:25 177:1 182:18 185:13 186:14 187:2 193:11 198:23,24 208:10 212:25 213:16 215:2 221:8 221:24 223:5,10 231:1 236:14,14 245:9</p> <p><b>readily</b> 31:20</p> <p><b>reading</b> 69:4 70:16 79:19,25 96:7 119:2</p>	<p>119:11 126:17 127:11 135:12 144:1 145:17 169:25 176:25 189:19 204:8 205:9 206:4,8 229:5 241:20 244:15</p> <p><b>reads</b> 77:22</p> <p><b>real</b> 21:4 79:2 137:3 159:24 237:20</p> <p><b>really</b> 11:18 26:10 28:18 29:12 34:4 47:23 81:4 92:25 100:5 117:20 120:19 127:1 137:7 137:18 139:5 145:6 151:6 159:17 168:2 169:14,20 181:14 213:25 223:21 233:3 239:4</p> <p><b>realm</b> 138:10</p> <p><b>realtime</b> 172:6 238:12,15</p> <p><b>reason</b> 33:15 39:23 40:17,22 41:11,15 41:22 42:1,2,4,19 158:22 204:24 221:7</p> <p><b>reasonable</b> 162:7 172:3 176:20,21,22 177:1,2</p> <p><b>reasons</b> 137:8 205:21</p> <p><b>recall</b> 36:21 37:4,8 65:16,18,20 83:21 87:1 89:13 94:22,25 109:5,18 110:13 126:17 127:25 128:5 156:21 168:14 171:19 172:10 174:19 215:18 216:5,10 227:21</p> <p><b>recast</b> 76:1</p>	<p><b>receive</b> 154:22 232:15</p> <p><b>received</b> 19:7 49:21 52:13 167:23 218:8 223:20 229:23 230:11 238:6</p> <p><b>receiver</b> 48:2 49:10 110:9 118:21,23 119:19,20 122:1 125:6,11 126:11,19 181:6 235:6,6</p> <p><b>receives</b> 221:18</p> <p><b>receiving</b> 47:21</p> <p><b>recess</b> 54:4 128:13 164:10 183:10</p> <p><b>recite</b> 181:5</p> <p><b>recites</b> 175:4,6 181:1 215:10 217:8</p> <p><b>recognition</b> 106:12 185:6</p> <p><b>recognize</b> 200:4</p> <p><b>recognized</b> 41:1</p> <p><b>recognizes</b> 12:9</p> <p><b>recognizing</b> 20:10 157:25 223:8</p> <p><b>recollection</b> 39:22 66:9 77:23 107:21 108:13</p> <p><b>record</b> 54:6 60:7 80:4 86:9 91:23 97:3 102:15 113:13 116:1 126:6 164:8,9 228:25 237:10 246:6,9</p> <p><b>redefineable</b> 49:24</p> <p><b>redefined</b> 50:2,19</p> <p><b>refer</b> 36:10 38:1 57:6 66:3 71:8 75:13 88:1 98:7 99:24 128:23 129:10 153:25 154:7 168:8 179:23 184:16 186:24 191:1</p>	<p><b>reference</b> 42:25 78:14,15 79:10,15 79:17,20,25 80:8,10 80:11,16,17 81:10 81:13 83:2 98:10 99:14 139:1 142:9 142:21,24 143:2 145:10,11,13 149:20 183:2,14 205:8 208:15 209:6 209:21,23 233:8,9 233:10,15 241:1,2,4</p> <p><b>referenced</b> 50:10 84:2</p> <p><b>references</b> 41:6 54:8 77:19 78:1,2,4,5,10 78:11,13,20 79:7,8 79:15 80:12,14 81:3 201:6 206:25 207:3</p> <p><b>referencing</b> 200:23</p> <p><b>referred</b> 39:17 40:10 50:17</p> <p><b>referring</b> 40:21 69:22 71:8 98:6 99:9 126:6 130:6 131:22 152:2 168:7 171:10 179:24 181:18 183:24 191:4 217:19</p> <p><b>refers</b> 37:20 161:12 183:24 188:15 191:2 201:12 243:13</p> <p><b>reflect</b> 104:18 126:6 195:12 203:9</p> <p><b>reflected</b> 174:5 180:1</p> <p><b>reflecting</b> 193:20 218:13 219:7 225:17</p> <p><b>reflects</b> 191:5 235:24</p> <p><b>refresh</b> 66:9</p> <p><b>refreshing</b> 64:25</p>
--	---	--	--

[refuse - right]

<p><b>refuse</b> 48:5  <b>regard</b> 13:20 103:18  104:22  <b>regarding</b> 4:17  56:10 80:24 187:21  <b>regardless</b> 230:10  <b>registers</b> 32:8 107:9  <b>registration</b> 24:7  <b>relate</b> 123:8 170:17  <b>related</b> 11:5 19:16  22:2 43:1 73:14  78:21 127:1 222:24  244:6  <b>relates</b> 75:18  <b>relating</b> 26:20  <b>relation</b> 108:15  <b>relationships</b>  108:18  <b>relative</b> 246:12  <b>relay</b> 195:15  <b>relevance</b> 68:17  <b>relevant</b> 64:22  66:25  <b>reluctant</b> 12:7  <b>rely</b> 88:25  <b>relying</b> 84:19  138:16  <b>remember</b> 8:17 9:1  14:17 15:1 16:5,18  16:20,25 17:2,5,19  18:11 22:9 25:13  27:9,23 30:7 31:6  31:14 36:20 38:22  38:23 39:1,10 40:19  40:20,23 41:17,19  46:24 50:3,6,7,9  53:21 64:17 65:4  69:14 73:1 75:19  76:17 79:13,18 81:6  84:2,15 85:9 87:5  95:21 97:20 101:10  107:14,17 108:6,24  109:11 113:16  118:3 141:25  158:23 160:6</p>	<p>162:21 166:9  174:10 182:2 200:8  232:7 238:16  <b>remote</b> 29:5,10,23  30:19 210:9 238:6  <b>removed</b> 10:25  <b>rendered</b> 184:3  <b>renders</b> 220:21  <b>repeat</b> 37:2 40:5  127:23  <b>rephrase</b> 24:13 44:8  45:23,25 58:9  160:19 199:23  217:7 242:1,23  <b>replaced</b> 54:9  <b>report</b> 14:1,4 17:12  17:16 18:8 35:15  37:10,23 38:5,20,24  39:4,12 40:9 42:17  53:9,17 59:24 73:4  79:23 80:1,7,21,22  83:7,8,12 103:22  114:8 120:15,16,24  121:8 242:17  <b>reported</b> 1:22  <b>reporter</b> 2:20 19:1  35:20 36:2,8 54:2  54:19 55:8,13,19,25  56:6,12,18,24 246:2  <b>reporters</b> 129:5  130:13 131:24  132:5,7 164:18  <b>reports</b> 8:3 17:24  37:9,20 52:22 53:3  59:12 63:5,12,13  71:10 74:8 132:1  164:20  <b>represent</b> 45:11  51:21 98:13 165:6  165:12 192:9 206:7  <b>representation</b>  184:8,17 192:19  213:5 231:18  <b>representative</b>  135:4</p>	<p><b>represented</b> 11:24  13:1 14:11 16:4,6  17:19 165:20  166:13 212:2  <b>representing</b> 51:18  166:6 187:7,8  201:14 205:12,12  205:16 206:1,2  231:14 237:23  240:14  <b>represents</b> 39:11  52:9 166:8 169:6  184:13  <b>reprocessing</b> 222:15  <b>request</b> 183:8  <b>requesting</b> 83:15  146:15 183:4  <b>requests</b> 171:13  <b>require</b> 102:23  160:10,11 222:15  <b>requirement</b> 54:25  103:5 190:6  <b>requires</b> 145:21  146:18,23 148:25  152:6,19 153:10  155:20 156:5 160:7  217:6  <b>research</b> 53:22  <b>residential</b> 6:14  <b>resist</b> 142:19  <b>respect</b> 15:13,19  16:15 20:12 27:13  58:1 62:18 86:15  105:13 133:18  145:25 148:20  181:7,20 200:24  <b>respectively</b> 112:1  <b>respond</b> 48:21  <b>response</b> 5:15 56:15  218:22 232:11  <b>responses</b> 243:9  <b>rest</b> 204:6  <b>restricted</b> 137:3  <b>result</b> 92:22 93:12  95:18 114:24</p>	<p>189:19 203:4  210:24 212:1 236:9  <b>resulting</b> 180:9  189:6,20 190:15  191:3 211:13  <b>results</b> 190:15  <b>retrieval</b> 135:9  <b>retrieve</b> 183:3  <b>retrieved</b> 146:12  156:9 174:1  <b>retrieving</b> 167:12  <b>review</b> 5:13,16  36:17 56:4,16 57:2  57:16 63:13 83:16  84:12 86:11,20  94:21 95:19  <b>reviewed</b> 70:25  85:13 86:6 87:19  95:16 118:3 208:11  209:6,21  <b>reviewing</b> 57:9  69:17 73:4,5 127:2  140:7 216:11  <b>rewrite</b> 146:24  <b>rewriting</b> 145:23  <b>right</b> 9:25 10:3  11:11 12:3 28:23  30:7 33:23 34:12  37:19 39:25 40:23  45:6 50:21 53:8  55:1 59:17 66:8  67:2 71:24 73:3,6  74:3,11,22,23 75:1  75:7,8 80:6 81:7  83:20 86:15 89:15  90:2 94:2,3 96:24  97:18 99:19 107:18  110:4 116:9,12  117:19,23 119:21  123:4 125:21  129:18 130:1,5  131:1 137:20  138:17,18 139:18  139:24 142:3  151:20 152:24</p>
---	--	---	--

<p>153:7 158:24  163:25 164:4  165:22 168:25,25  168:25 171:22  172:18 173:1  174:10,21 176:22  177:23 178:10,21  179:2 180:5,7  189:23 192:4  193:23 194:25  199:12 200:16  206:15 207:2  211:21 213:20,20  226:14 232:3,7  233:14 234:9 235:8  238:19 242:8  <b>ring</b> 206:23  <b>rings</b> 207:13  <b>rob</b> 3:20  <b>role</b> 15:13 26:15,18  62:11,14  <b>roles</b> 24:5  <b>rom</b> 99:3 106:4  <b>room</b> 78:19 81:17  82:15  <b>roughly</b> 7:6 9:3  28:21 74:14  <b>rs</b> 46:21  <b>rule</b> 73:16  <b>rules</b> 54:25 192:22  194:7  <b>run</b> 18:22 24:1,3  114:3 157:11,17  <b>running</b> 107:7,8  215:25</p>	<p><b>satisfied</b> 135:2  <b>satisfy</b> 103:5  <b>save</b> 87:16 151:25  <b>saving</b> 12:24  <b>saw</b> 105:11 107:22  108:13 162:19  <b>saying</b> 36:24 43:9  49:2 70:3 79:7 96:9  101:5 102:3,17  108:8,21 110:19,20  110:24 111:6  121:13 122:2,24  123:1,12,18 133:2  144:3,15 151:8,20  153:22 156:14  176:20 178:5 194:8  206:5 220:14  225:24 226:11,25  233:16 239:20  244:8  <b>says</b> 42:18 49:23  51:22 66:6 84:4  90:3 93:7,8 96:11  96:24 97:4 114:12  134:18 136:25  137:14,17 138:8  142:12,15,24 147:2  148:12,21 150:25  151:12,13,21 152:3  152:17 153:7,18  155:17 156:4 189:2  189:18 192:4  193:23 201:10  202:11 204:18,20  205:9,11 207:19  217:23 220:23  221:10,14 223:22  224:6 226:12  229:13 230:6  233:10 234:16  239:22 240:12  243:20,22  <b>scalable</b> 198:25  <b>scan</b> 185:1</p>	<p><b>scanned</b> 87:15 197:1  <b>scenario</b> 47:19,22  51:9,15 52:12 65:13  65:14,14,17,23  156:7 167:9,11  171:15 174:19  175:11 177:21  178:7,25 179:7,15  180:15 190:1,3  203:14 207:23,25  208:3,12 210:14,23  211:24 212:6  218:24 219:17  225:25 227:1 228:6  <b>scenarios</b> 65:12  180:8 226:9,23  227:14 228:12  237:3  <b>scene</b> 220:3,13,21  220:22  <b>schematic</b> 100:22,22  100:24 101:2,8,13  101:15,22,25 102:4  102:18  <b>schematics</b> 102:11  103:5  <b>schemes</b> 187:13,13  <b>school</b> 35:7  <b>schreiner</b> 3:13 4:4  6:9 12:12,23 13:10  13:14,23,24 19:2  35:7,11,21 36:3,9  40:1,2 46:7,10 49:3  54:1,3,5,17,20 55:3  55:5,9,14,20 56:1,7  56:13,19,25 69:24  70:2 81:18 86:22,24  92:1,8,11 94:1  98:17,18 115:25  116:10 118:7,10  119:6 122:9,13,16  125:19,25 126:5  128:14 131:18,19  147:12,15,19  164:11 170:9</p>	<p>172:14,18,22,24  173:2,4,18 180:23  180:24 183:9,11  199:13,16 215:24  216:2 229:1 237:8  237:11 242:4  244:17,20  <b>science</b> 19:6,11  <b>scientist</b> 20:20  <b>scm</b> 1:6,8 2:6,8  <b>scope</b> 207:21  <b>score</b> 186:11 187:10  201:15 205:19,19  211:17  <b>scores</b> 186:21  <b>scratch</b> 149:12  <b>screen</b> 43:16 51:22  132:19 134:24  135:2 145:20  146:16 148:9,24  152:5 153:9 155:19  165:19 169:4 174:6  177:19 178:22  198:3 214:3,4  218:22 219:18,22  219:24 220:1,10,13  222:3,5,9 235:1,3  235:21,21  <b>screens</b> 188:20  202:15  <b>scroll</b> 132:21  <b>search</b> 71:6 117:25  <b>searched</b> 89:1  <b>searching</b> 224:11  <b>second</b> 29:20,21  30:4 31:9 32:24  33:2,2 35:21 37:21  38:1 40:6 51:23  54:20 89:10 93:8  94:11 119:3,7  166:18 172:24  173:6 175:5,9 176:9  176:12,13 181:3  186:3 210:7 211:1,6  211:10 212:18</p>
<p>s</p>			
<p><b>s</b> 17:20 29:18 55:15  55:21 157:14  <b>sake</b> 166:15  <b>samsung</b> 12:2 16:3  16:11,19  <b>sat</b> 70:9  <b>satellite</b> 32:9</p>			

[second - side]

<p>213:3,10,16 214:5  214:12,22 215:5  217:24 220:24  221:2,14,20 222:6  223:25 225:25  <b>secrets</b> 11:1  <b>section</b> 4:16 5:14,17  56:4,9 75:17,24  76:3 95:19 123:4  127:14 130:25  131:8 134:14  147:25 159:15  <b>sections</b> 64:7 77:10  <b>security</b> 25:20  <b>see</b> 22:8 27:14 37:14  37:18,19,22,24,25  38:2 39:13,20,21  41:7,8 42:13,14  43:1 66:6,8 68:14  74:12 78:6 79:1  80:8,9 83:17 84:5  85:17 88:12 89:8  90:11,12 91:12,24  92:3,4,12,17,20  93:1,9,14 94:8,9,12  94:13 95:9,10 96:5  96:6 97:5,6,17,21  98:3,22 99:1,18,19  109:8,16,17 111:15  111:16,17 113:15  118:15 119:1 122:6  122:13 126:15,16  127:6,11,12,12,14  127:15 130:16  132:2 136:16,17  140:2,7 148:4,5,10  148:11,17 149:13  150:19,25 151:8  152:9 153:13  159:16 161:21  164:24 165:7 166:4  169:25 170:4 175:2  178:17 181:3 184:1  185:10 189:9,10  190:19 191:11,13</p>	<p>191:14 196:8 197:6  197:11 198:3  210:11 211:8 224:3  227:6 231:9 235:8  235:12 236:9  237:15 238:7 239:9  241:16 242:15  243:19  <b>seeing</b> 85:9 109:18  110:13,13 212:9  225:13  <b>seeking</b> 166:15  <b>seen</b> 36:16 76:19  78:10,11,12 79:16  83:22 103:12  105:13,16 108:17  109:22 111:4,7  158:11,12 159:6  162:15,22 163:15  163:19 194:13  219:20 238:2  <b>sees</b> 118:18 119:10  188:12 189:8 199:6  199:7  <b>segment</b> 90:6  126:14  <b>segments</b> 192:17,21  194:2,6  <b>selected</b> 241:15  242:14 243:2,14,21  243:22  <b>self</b> 191:7  <b>send</b> 50:25 135:3  152:12 164:22  204:14,16,17  206:18  <b>sends</b> 153:19  <b>sense</b> 31:4 46:17  53:15 100:5 103:21  116:20 150:10,11  155:9 160:9 162:24  209:16 220:4  224:24 228:22  232:21</p>	<p><b>sensor</b> 22:15  <b>sent</b> 87:14,15 203:16  226:15,21 228:15  <b>sentence</b> 119:3,7,14  130:1,6 150:21  151:1 205:15  <b>separate</b> 58:11,24  175:6,19 177:9,12  206:12,12 220:20  227:25  <b>separating</b> 108:3  <b>sequence</b> 51:7 52:1  167:15,19  <b>sequential</b> 45:5  46:18  <b>series</b> 6:21 107:13  108:23 109:1  128:21 167:18  <b>server</b> 22:18,19  <b>service</b> 115:12,14,15  115:17 117:21  120:10,12,13 121:5  121:11  <b>services</b> 121:9  <b>session</b> 73:23  <b>sessions</b> 74:20  <b>set</b> 43:17 49:22  51:12 78:2 89:4  91:15 111:8,19,22  113:16 140:12  144:6 176:4 192:20  192:22 194:5 201:7  208:18,24 246:4  <b>sets</b> 49:25 50:1,18  50:20 52:5 75:3  95:25 111:23  206:12,13  <b>setting</b> 22:13 23:4  24:9 28:2 38:10  199:3  <b>settled</b> 16:17  <b>setup</b> 21:13  <b>setups</b> 21:5 111:21  <b>seven</b> 9:15,23 11:8  11:14,17 53:8,18</p>	<p>87:5  <b>shadow</b> 228:7  <b>shadowing</b> 228:11  <b>shares</b> 58:19  <b>sharing</b> 186:17  187:22  <b>shelf</b> 124:18,20  <b>shoot</b> 236:3  <b>shorthand</b> 2:20  246:1,7  <b>show</b> 88:3 91:25  94:3 97:13,15,25  99:12 100:4,5 103:9  103:15 104:2  122:20 132:4  133:17 134:6  144:17,17,17,25  145:8 148:18  188:18,20 193:2,5  195:13,24 199:2  200:1,21 205:5  230:20,20  <b>showing</b> 98:22  110:25 172:2  190:21,24 200:14  219:3  <b>shown</b> 66:13 88:9  94:20 102:2 107:23  108:15,18 109:19  110:14 112:24  113:4 114:18  121:24 122:17  124:6 169:7 174:15  175:15 180:25  197:15 198:11,17  199:19 210:15  215:3 228:23  <b>shows</b> 93:6 100:11  100:13,15 110:8,10  113:3 120:5 198:2  200:3 219:18,19  239:21,24  <b>sic</b> 134:17  <b>side</b> 18:10 37:19  114:15 163:1</p>
--	---	--	---

[side - sounds]

<p>171:21,22 172:1  174:6,12,13,13,16  174:20,21 177:22  177:23 178:8,10,22  179:1,2,11 180:7,7  <b>sided</b> 224:4  <b>sides</b> 174:15 178:20  180:5  <b>sign</b> 86:25 91:24,25  92:4,7  <b>signal</b> 16:1,1 44:22  44:22,23 54:13  111:14,15,15,24,25  112:25 113:1,8,8,9  113:10,10 114:10  114:13,22 121:21  125:12,12 183:6  221:11 226:10,12  228:3 230:21  231:21 232:7 240:2  <b>signals</b> 30:21 43:15  110:11 111:25  113:1 114:5,12,12  114:21 174:24  176:3,14,15 181:2,6  181:20,22 187:6  205:25 213:6  215:17 216:6,12  217:9,13 218:1  221:1,4,12,16,16,19  222:4 223:24 224:7  224:10,21,22,24,25  227:5,20 228:2,17  229:14,15,18 230:4  230:11,12,15  231:13,20,22  232:12,20,21  234:21 235:3,10  <b>signed</b> 84:8 86:3  87:15 162:16  <b>significance</b> 224:9  224:13  <b>significant</b> 69:6  <b>similar</b> 30:24 45:18  46:20 57:17 105:13</p>	<p>105:21 106:3,18,19  108:1 121:16,18  <b>simple</b> 89:16 113:20  117:19 145:12  <b>simplicity</b> 166:15,16  <b>simply</b> 40:8 175:17  191:4 214:12  <b>simultaneously</b>  187:15 190:25  <b>single</b> 68:7 71:24  112:19 185:21,24  186:2 189:3 190:13  198:18 200:18  243:18  <b>sir</b> 20:15 23:10,25  25:2 38:3 40:1  44:21 54:17 61:9  62:15 64:16 66:20  77:6 84:7,25 97:19  98:2,25 105:10  109:17 112:6  113:24 115:15  118:25 121:20  131:18 133:15  150:14 154:13  164:14 165:16  172:14 173:2 174:3  182:11 192:2  196:20 202:25  215:22 216:9  217:22 219:16  238:1  <b>sit</b> 40:18 41:12,16  41:22 53:18 68:5  <b>site</b> 52:14  <b>sitrick</b> 55:15 183:13  183:16,20,22 184:4  184:9,19,23 185:6  185:18,21 186:9,14  186:16,25,25  187:21 188:3,4,8,11  188:15,21,22  189:14,17 190:8  191:18 193:6,8,19  194:11,12,20 195:1</p>	<p>195:7,8,24 197:1,4  197:22 198:8,23,25  199:11,17,20,21  200:1,3,4 201:5,5,8  201:17,21 202:19  203:25 204:18,24  205:1,3,5 206:5,9  206:11,20,21 207:9  207:10,18 208:2,6  208:12 209:2  212:17,19 214:22  215:7 216:12,24  218:6 225:9,11  228:10,15,24 229:5  230:15,20 231:3  232:10,25 233:16  234:1,25 236:6,12  236:16 238:9,22  239:4,6 240:3,7,23  241:10 242:5  <b>sitting</b> 11:18 47:7  65:21 69:14,15 76:5  179:2 234:12  <b>situation</b> 17:15,18  196:19 206:16  <b>six</b> 7:19,24 9:15,23  11:8 53:8 92:19  <b>skill</b> 93:19 96:8  100:19 105:2 123:2  123:5,6,13,14,19  127:8 133:14  136:18 138:5,15,20  138:25 140:2,6,24  141:1,15 142:1  144:2 145:4,9 149:4  149:7 150:9 151:9  153:24 154:19  160:9,14,23 186:16  189:16 208:2,11  209:6,11,14 224:16  239:10 242:21  <b>skills</b> 138:17  <b>skim</b> 37:14  <b>slowly</b> 134:16</p>	<p><b>small</b> 34:7 75:17  <b>software</b> 25:19  128:9,11 136:20  137:21 144:20  156:3,19 158:1,18  181:23,25 200:15  213:13 222:24  234:6  <b>sold</b> 21:23,24,24  28:16  <b>somebody</b> 53:22  75:23 87:1,2,8  159:3 191:14  219:13  <b>somebody's</b> 33:24  33:25 163:2  <b>someplace</b> 7:8 9:17  12:2 25:6 27:10  28:19 59:13,18  93:15 107:8 153:19  218:22  <b>something's</b> 152:16  <b>somewhat</b> 10:14  72:13 190:12  <b>sorry</b> 46:5 71:7  82:13 118:24 127:6  127:11,22 130:3  135:10,14 138:21  157:16 172:22  182:10 214:15  234:15 239:14  241:18 243:3  <b>sort</b> 20:6 24:6 26:4  43:21 108:2,7  115:12 141:19  142:10 157:11  184:12 185:15  222:24 223:12  239:4,7  <b>sound</b> 11:11 70:14  137:20 237:14  238:6  <b>sounds</b> 74:3,17,23  75:1,7 80:6 102:3  102:17</p>
---	---	--	--



<p><b>source</b> 207:2  <b>sources</b> 146:9  <b>south</b> 3:6  <b>spacecraft</b> 192:8,15  193:25  <b>span</b> 70:12  <b>speak</b> 53:24 238:14  243:7  <b>speaker</b> 241:14  242:13 243:7,11  <b>speakers</b> 243:1  <b>speaking</b> 141:17  207:17 239:15  <b>special</b> 136:23 143:3  156:19,20  <b>specially</b> 134:9  136:19  <b>specialty</b> 20:21  <b>specific</b> 57:22 65:17  74:1 91:9 93:6 94:4  94:6,6 95:5 112:19  112:20 113:17  115:20 116:5  118:22 119:20  121:2 122:1 150:7,7  161:6 162:20  170:23 171:2  183:25 184:5,7  186:20 207:9 213:5  215:18 216:7,15  235:7,11 239:22  <b>specifically</b> 57:19  63:17 186:11  193:21 200:21  201:18 202:17  205:16  <b>specification</b> 58:1,6  58:20 59:5,13,20  60:10,13,16,19,21  60:25 61:6,17,18  63:17,23 64:4,10,18  65:8,11,24 66:11,14  66:19,22 67:2,4,8  67:11,22 68:1,4,11  68:11,21,23 69:12</p>	<p>69:18 70:10,11,16  70:25 71:1,18 72:1  88:22 89:1,4,9  102:23,24 103:3  124:11,17 126:18  127:18,20,25  <b>specifications</b> 22:22  57:14,17 60:2  <b>specified</b> 125:11  <b>speculate</b> 142:19  <b>speculating</b> 156:3  209:1  <b>speed</b> 30:23 31:13  31:15,19 32:1,4,6  32:15 34:14 173:12  <b>speeds</b> 29:8,19 31:1  32:14 33:3,8  <b>spell</b> 6:18  <b>spend</b> 57:9 64:6,14  72:4,24 86:20  <b>spending</b> 117:11  <b>spent</b> 19:22 57:19  57:25 58:6 59:2,5  59:12,19 60:9,24  63:16 64:20,23 67:1  67:3 70:15 71:19  72:19 73:1,4,7,15  73:17,25 75:2  <b>spoke</b> 32:19  <b>spoken</b> 156:13  <b>sports</b> 135:22  136:14 137:16  156:21 159:10,18  159:20,22 170:24  <b>sprinkler</b> 22:3 23:4  28:3,10  <b>squeezed</b> 87:11  <b>sschreiner</b> 3:17  <b>stage</b> 140:12  <b>stand</b> 192:11  <b>standalone</b> 82:4  197:5,8  <b>standard</b> 111:8,10  111:18,22 112:24</p>	<p><b>standards</b> 24:9,17  24:21  <b>standpoint</b> 93:18  96:8 105:2 138:19  138:24 140:23  153:23 160:14  186:15  <b>stands</b> 8:22 116:11  <b>start</b> 61:24 62:6  68:20 147:21  196:10,10  <b>started</b> 20:15 59:10  61:20,21 62:5 67:12  67:15,22 76:8 78:23  81:2,7,9,14 241:20  <b>starting</b> 133:10  231:12 236:23  242:10  <b>starts</b> 133:24 139:15  183:16  <b>startup</b> 169:24  170:14,21  <b>state</b> 6:14 38:13  40:9,25 87:25 88:2  97:11 103:4,9 124:1  127:3 129:22  131:11,20,22 133:1  133:21 140:19  148:6 149:21 182:8  186:8,18 243:25  245:16 246:2  <b>stated</b> 132:24 233:9  233:15  <b>statement</b> 27:6  85:10 110:20 122:3  130:10 131:5 137:7  138:18 139:19  143:5,12 147:6  162:1  <b>statements</b> 85:18,23  128:22 151:15  <b>states</b> 1:1 2:1 4:8,10  4:12,13 42:6 46:7  47:1 54:12 90:4,17  91:2 92:17 96:3</p>	<p>112:8 129:1,2 136:8  136:9 144:25 146:4  147:25 150:4  164:15 169:23  174:21,22 241:11  242:10 244:11  <b>static</b> 207:2  <b>stating</b> 92:18  <b>station</b> 47:20,21  48:2,2 91:10 93:15  95:6,7 96:3 110:9  116:19 122:2  126:20,24 173:7  176:10 181:2  188:23 192:25  193:14 194:19  195:21,25 197:2  201:19 202:1 210:8  211:11,14 212:8  217:14 218:18,19  219:14,15 221:3  232:8 233:23,25  234:16,18 235:6,7  235:11 238:7 243:1  244:12  <b>stations</b> 125:6,7,11  126:11 181:6 186:8  188:5 190:9 191:23  193:9 194:17 195:8  195:19,21 197:17  197:20,21 198:21  198:23,25 199:18  199:22 200:2,22  201:1,9 203:5,17,20  203:24 204:10  205:7 208:5,14,18  208:23 209:8,24  210:9,24 211:6,25  212:9 217:18 218:8  218:13,21 219:7,25  225:1 229:3,9  232:16 241:15  242:14 243:14  <b>stay</b> 207:21</p>
---	--	---	--

<p><b>stc</b> 15:3</p> <p><b>step</b> 173:6,24 174:21 175:4,6,9,10 176:7 181:3 183:24 214:9 215:6,9,20,20,21,23 216:5 220:23 230:2 233:19 238:4</p> <p><b>stephen</b> 3:13</p> <p><b>steps</b> 13:13</p> <p><b>stick</b> 52:12 101:20 203:9 205:7 210:25 212:1,3</p> <p><b>stop</b> 87:2</p> <p><b>stopped</b> 214:16</p> <p><b>storage</b> 135:7,8 136:12 146:7,11,13</p> <p><b>store</b> 32:5,7 107:8,9 135:7 165:24,25</p> <p><b>stored</b> 140:16,24 142:5,7 152:14 165:21 168:12,17 168:22 169:2 182:17,25 197:1 202:1 216:19 234:7</p> <p><b>stories</b> 131:24,25 132:6,7,15,22 133:8 134:10 137:23 143:22 144:10,13 148:2 151:13,14 154:22,23 162:4 164:18,19</p> <p><b>story</b> 132:23 133:13 135:1,3,4,7 137:6 138:2 145:1,15,19 145:20,23 146:6,12 146:15,16,22,24 147:1,4,5 148:8,13 148:16,16,19,23 149:2,3,11,12,18,18 149:22,23 150:5 151:19,22,24 152:1 152:4,11,13,15 153:2,4,8,14,14,17 153:17,20,20,21,24 153:25 154:1,4,8,8</p>	<p>154:12,14 155:3,4,4 155:12,18,24 156:1 156:1,9,10,16,16 158:7,19 160:3 162:5,13 167:12,14 171:16,21,22,25 173:9 174:1,14,20 174:20 175:5 177:22 178:2,3,8 179:1,2,7,11</p> <p><b>straight</b> 80:3 114:5</p> <p><b>straightforward</b> 40:3 150:2</p> <p><b>street</b> 3:6 65:13,16 65:23 66:15 115:8 115:10 116:14,17 117:21 118:12 119:25 120:12</p> <p><b>stricken</b> 18:19</p> <p><b>strict</b> 100:5</p> <p><b>strike</b> 8:8,10 10:24 11:20 17:8 19:14 20:18,24 26:16 28:1 28:2 32:11 35:3 38:8 42:9 43:22 44:14 58:10,22 59:2 62:20 64:8 67:6 70:3,23,25 77:18 80:20,21 82:7 84:3 84:17 85:12 95:11 103:17 105:18 131:21 144:18 156:23 163:8,21 166:10 167:5,8,10 168:11 177:25 186:23 188:21 189:14 190:2 193:5 193:7 203:7 207:25 216:22 223:15 227:12 241:2</p> <p><b>stroke</b> 172:2,2</p> <p><b>strokes</b> 180:15</p> <p><b>structure</b> 25:15,16 25:17 106:18 108:19 131:2</p>	<p>144:16 187:9 201:15 205:13,17 206:3,7 231:15 240:15,16 244:5,6</p> <p><b>structures</b> 25:19 108:1 222:23</p> <p><b>studied</b> 61:4,6,15 66:23,24 71:1</p> <p><b>study</b> 63:23,25 66:21</p> <p><b>studying</b> 16:18 58:6 59:2,5,20 60:10,24 63:17 67:2,4</p> <p><b>stuff</b> 112:10 118:6 207:12 220:11</p> <p><b>style</b> 159:15</p> <p><b>subimage</b> 192:17 194:1</p> <p><b>submit</b> 53:2 129:7 190:10</p> <p><b>submitted</b> 8:3 13:25 36:14 37:8,17,20 53:1 58:22 63:5,13 63:19 67:24 71:10 71:13 74:9 84:13 86:14 87:20</p> <p><b>subscribed</b> 246:14</p> <p><b>subscriber</b> 96:3 173:7 176:10 183:25 184:5,7 210:8,10 211:9,11 216:7,15 221:2</p> <p><b>subscriber's</b> 184:16 215:17 235:7,11,16</p> <p><b>subsequent</b> 135:9</p> <p><b>substantially</b> 107:23 111:5</p> <p><b>substitutes</b> 91:6</p> <p><b>substrate</b> 239:3,24</p> <p><b>sued</b> 14:12 61:14,17</p> <p><b>suffering</b> 7:2 122:8</p> <p><b>sufficient</b> 101:5</p> <p><b>suggest</b> 240:18</p> <p><b>suggestion</b> 144:14</p>	<p><b>suit</b> 16:3 61:19 62:8</p> <p><b>suits</b> 61:19</p> <p><b>sum</b> 96:17</p> <p><b>summary</b> 66:7 133:10,24 134:7</p> <p><b>sunnyvale</b> 6:17</p> <p><b>supermarket</b> 89:14</p> <p><b>supplemental</b> 41:5 42:16</p> <p><b>supplied</b> 135:5 146:13</p> <p><b>support</b> 29:18 84:19</p> <p><b>supporting</b> 120:10</p> <p><b>supports</b> 170:3,8,16 171:5</p> <p><b>suppose</b> 219:13</p> <p><b>suppositions</b> 153:3</p> <p><b>sure</b> 8:6 11:18,22 12:22 13:12 14:7 15:1 16:20 27:1,3 28:9 32:17 33:13,16 34:12 40:22 41:20 44:3,9 48:12 50:6 52:15 60:8,15 67:18 72:16 73:2 79:24 82:17,22 86:9,10 87:4 92:23,24 93:13 98:22 102:16 103:14 112:2,14,22 112:22 113:25 116:24 117:5,8,13 118:1 119:12,13 120:18 121:7 126:9 127:3 130:9 134:13 137:2 139:9 142:22 146:2 156:6 163:24 163:24 166:22 173:11 174:11,11 178:7 187:4 189:1 194:10 198:7,7 199:14 205:14 208:10,11 212:25 213:19 214:16,18 214:18,18,20 215:5 217:6 236:1,24</p>
--	--	--	---

[sure - terminal]

<p>237:18 241:8 243:5  <b>surely</b> 239:17  <b>suspect</b> 45:16  150:19 179:18  <b>suzanne</b> 1:22 2:19  246:19  <b>switch</b> 31:16 106:5  106:6,8 185:10  241:13 242:12  244:4  <b>switches</b> 99:3  <b>switching</b> 108:7  <b>sworn</b> 246:6  <b>sync</b> 118:8  <b>synchronized</b> 115:4  115:21 116:6  185:20 238:21  244:1,11,12  <b>synoptics</b> 32:22,22  32:25  <b>system</b> 29:14 31:14  47:14 49:18 52:8  55:21 65:3 105:25  106:1 120:25  121:15,16,17,19  124:19 128:2,3  129:4,5 130:12  131:22 134:19,24  135:5 140:9 141:3  144:7 148:7 158:9  185:15,18 189:3  190:13 201:22  235:22 241:4,5  243:7,11  <b>systems</b> 29:17,18  30:3,5,19 31:16,16  31:18,21 32:8 43:10  43:18 46:24,25  47:13 52:23 53:21  53:23 128:1 141:4  158:10,14 222:23</p>	<p><b>t1</b> 30:4 31:5 33:15  34:2,7,9,20 134:20  <b>t1s</b> 34:7  <b>t2</b> 134:20  <b>table</b> 50:10,10  <b>take</b> 13:13 32:12  36:17 47:19 52:17  54:3 57:2 70:22  89:24 110:4 113:19  114:21 117:6  124:18,20 127:22  134:11 139:16  149:6,7 164:6 167:9  167:11 169:5  171:15,15 173:10  177:21 178:7 183:9  188:25 189:22  218:24 237:8 243:8  <b>taken</b> 2:16 20:12  23:1 41:25 246:3  <b>takes</b> 134:21 151:24  213:23 220:9,12  238:23  <b>talk</b> 16:6 25:16  78:19 118:12,17  124:25 125:5,9,12  137:24 170:18  185:6,9 186:3  193:18 201:6  202:13,17 205:18  206:23 207:5  218:19 243:1  <b>talked</b> 79:7,8,9,14  179:5 214:12  222:20 231:11  <b>talking</b> 46:17 62:16  68:7 71:5,10,11  77:4 108:22 121:21  130:4,7 141:6,8,23  141:25 142:1  163:21,23 172:12  173:16 188:3  193:19 202:22  207:6 210:3 228:19  239:16</p>	<p><b>talks</b> 126:23 130:2  132:13 142:10  188:1 190:12,17,20  191:18 201:18  205:16 206:20,24  210:4 231:11 235:6  237:13 240:14  244:5  <b>tapping</b> 233:22  <b>task</b> 81:7 89:9 172:9  <b>tasks</b> 125:1  <b>taught</b> 20:7 161:7  <b>teach</b> 35:7  <b>technical</b> 7:11,15  8:1 9:4,6 18:8 20:5  20:6,20 21:4,9  23:14,17,24 26:8,11  26:12,21 28:5 30:6  31:6 45:6 46:16  223:1  <b>technically</b> 106:13  196:1 197:14  <b>techniques</b> 109:25  <b>technologies</b> 8:23  <b>technology</b> 15:23,25  25:13 53:10,12 88:8  101:18 124:6  <b>teletext</b> 43:1,4,7,8,9  43:10,13,24 45:4,13  45:14 46:1,5,7,23  46:24,25 47:5,8,11  47:14 49:9,22 51:12  51:18 52:16,23 53:6  53:14,19,21,23  110:3 111:20 121:8  121:14,16,17,19  122:4  <b>television</b> 31:11  43:15,17 44:1,23  49:19,21 51:11,17  52:4 109:13,20,23  109:24 110:1 111:8  111:19,22,23 112:3  112:9 113:5,7,16  114:4 115:19 116:4</p>	<p>117:22,24 161:21  <b>tell</b> 12:7 27:7 32:18  41:13,18 43:12 44:3  49:7,14 50:7 53:7  53:23 64:17 67:21  73:1 74:11 78:22  80:1 83:9 95:24  98:13 101:6 102:25  104:8 133:7 142:23  153:25 159:17,20  194:8 201:22  224:22 232:22  234:9  <b>telling</b> 101:12  207:18 225:6  228:24 235:3  <b>tells</b> 94:17 192:23  <b>ten</b> 7:19 10:10 25:7  32:23 33:1 54:3  65:22 66:10,13,17  66:21 117:7,10  196:13,17  <b>tens</b> 31:8  <b>term</b> 46:14,17 48:7  48:9,18 88:16  103:21 106:13,13  106:24,25 118:1  136:23 153:25  154:3 184:8 186:9  196:3  <b>terminal</b> 132:8,20  133:13 134:21,23  134:25 135:22  136:6,11,12,15  137:5,14,14,15,17  137:22 138:8,9  143:14 144:3,19,19  144:21 145:14  146:6,14 148:8  156:20 158:1,15  159:3,10,11,18,20  159:22 160:1  167:22,24 168:18  168:22 169:13  170:2,15,19,22,24</p>
<p><b>t</b></p>			
<p><b>t</b> 3:13 55:15 170:19</p>			

[terminal - tier]

<p>171:5,7,13,16  175:13,23,25 176:3  176:6 178:14  179:13 182:4,5,14  182:17 183:3,4  184:20 188:12,14  188:16 216:20  226:2,22 233:20  234:7,8,10,12,13  238:18,22 239:3,17  240:21 244:1  <b>terminal's</b> 132:16  146:10 148:3  182:17  <b>terminals</b> 31:22,22  32:2 131:20,23  132:5,14 133:8  134:9,20 136:3,4,19  136:20 140:13  142:5 143:3,7,8  148:1 164:17,20  169:23 170:13,18  181:19 183:8  185:20 187:22  189:13,25 191:10  200:15 206:13  217:2 228:14  235:16 239:5,8,21  239:25  <b>terminology</b> 80:3  117:3 143:7  <b>terms</b> 20:20 48:1,1,6  48:24 51:4 59:24  80:6 85:11 115:23  116:17,22,22 140:5  178:3 179:20  <b>test</b> 11:21 21:5,5,6  21:12,13 45:20  104:12 112:21  138:25 240:25  241:3  <b>testified</b> 6:6 7:16,18  7:20,23 8:5,8,10,21  8:25 9:2,9 70:11  107:21</p>	<p><b>testify</b> 237:2  <b>testifying</b> 7:3 16:12  16:13 246:6  <b>testimony</b> 5:8 7:25  18:13,18 147:10  245:12 246:9  <b>tests</b> 21:9,13  <b>texas</b> 35:18 36:22  37:6 62:13,17  <b>text</b> 88:5,6 114:25  120:10 121:14  124:2,4 132:16  148:3  <b>thank</b> 98:17 113:18  <b>thanks</b> 237:9  <b>theoretically</b> 159:1  <b>thing</b> 10:18 22:4  28:18 34:3 43:21  62:16 68:10,11  71:22 80:15 83:3  87:6 96:20 104:9  107:6 113:10  137:13 144:22  149:9 153:19  158:13 189:9,9  190:19 191:11,12  198:2 199:11  206:20 209:15  212:25 213:20  222:24 224:12  <b>things</b> 19:24 20:6  21:5 25:23,24 26:8  28:15 30:14,17 31:5  33:14 34:13 38:25  40:23 45:13 57:18  65:5 73:9 86:18  87:12,12 98:15  101:7 106:9 107:17  111:13 124:15  126:23 133:1,4,5  137:19 141:21  150:16 155:2  158:12,19 160:12  161:6,20,21 162:8  167:15 173:12</p>	<p>176:11 177:12,18  186:10 188:10  194:20 199:10  206:10 209:17  212:4 238:16,17  239:6  <b>think</b> 8:18,22 10:3  10:14 11:3 12:3,8  13:9,10 15:7 16:7  16:23 17:2 18:6  19:19 21:6 23:23  25:12 27:6 28:6  29:7 30:14 32:4  33:9 34:11 40:4  42:2,4 47:11 48:5  48:16,17,19 49:14  50:15 52:7 53:4,7  53:20 58:9 59:15,17  62:16 63:7,9,22  64:13 65:5 66:15,23  67:14 72:11 73:14  74:6,14 76:18 77:7  78:9,14,24 79:2,5  79:11,12,18,21,23  81:1,22,25 82:2,21  82:22 84:1 85:1,10  85:20,21 86:2,6,7,7  86:16,22 88:24  89:23 91:9 93:24  94:17 99:9 100:6,21  101:24 103:20  105:22 106:25  107:16,25 108:8  109:4,4 113:7 115:5  116:14 117:22  120:3,8,14 122:7  125:4,18,23 126:12  126:12 130:23  133:17 135:24  136:22 137:25  138:5 141:17,20  142:23 144:1,2,5,7  144:14,15 145:25  147:7,13 149:3,3,7  149:25 150:6 155:1</p>	<p>155:7,13 157:4,7  158:21 160:15,25  161:14,15 162:22  168:1,4,4 169:20  170:17,24 172:18  173:14 174:7  175:21 177:4  180:11,15 184:6,18  184:24 185:12,12  185:14 186:5,23  187:24 188:9  189:18 190:6 192:3  192:3 198:1,4,12  199:8 200:8 204:12  206:8 207:16  208:16,21 209:10  209:12,14 210:2  222:20 224:11,12  227:10 230:18  233:6 234:24  236:22 239:10  240:13 242:2 244:3  244:13,17,17  <b>thinking</b> 51:4 59:24  144:8 209:1,12  231:1  <b>third</b> 36:3 173:6,16  216:8  <b>thought</b> 64:21 66:24  68:14,16 119:10  137:19 159:18  177:11 241:19  <b>thousand</b> 162:6  198:20,21,25 199:2  <b>thread</b> 27:2 165:9  178:5 243:4  <b>three</b> 23:11,15 52:5  57:20,24 67:3 73:6  73:17,19,25 74:13  74:24 87:17 92:20  185:14 191:19  200:19 206:13  <b>thumb</b> 73:16  <b>tier</b> 31:5</p>
---	--	---	--

[time - two]

<p><b>time</b> 8:17 9:18 10:7 12:24 13:15 19:14 19:20,21 25:7 26:19 26:22 27:11 28:20 28:24 29:9 31:12,12 33:9,21,22 34:12 36:23 37:5 41:14 46:2,8 53:6,10 57:9 58:5 59:2,5 61:5 63:19,23 64:15,19 64:23 67:23 69:8 70:16 72:4,24 73:12 73:15 75:2 78:23 85:3 86:20 87:16 95:24 101:10 107:2 107:15 108:10 109:21 117:12 122:11 139:13 143:8 163:6,8,9,10 163:22 174:13 178:6 212:7,13 217:5 220:15 225:25 232:14 236:19 240:6 244:21 246:4 <b>times</b> 7:6,9,10,14,18 7:20,21 9:3,15,15 9:18,23 57:18 67:16 68:10,22 69:1 78:25 88:17,19,22,24 90:9 90:22 91:8 95:4 <b>timewise</b> 69:6 <b>tn</b> 134:21 <b>today</b> 6:12,22 7:4 40:18 41:12,16,22 47:7,11 48:8 60:1 82:15 101:7 162:4 163:1 244:19 <b>today's</b> 163:10 <b>told</b> 62:24 63:16 81:11 83:3 112:23 234:4 <b>tomorrow</b> 48:8 <b>top</b> 11:23 66:6</p>	<p><b>total</b> 59:19 75:2 177:7 227:15,17 <b>totality</b> 189:6,21 190:16 191:3 <b>touch</b> 242:9 <b>touton</b> 3:5 12:6,23 13:5,12,19 35:10 39:24 46:5,9 48:16 54:15 55:2,4,6 69:22 86:17 91:23 92:2,4,6,10 93:24 98:15,17 118:5,8 119:3 122:6,10 125:17,21,24 126:3 131:17 147:9,13,16 170:7 172:12,15,20 172:23 173:1,15,19 180:21 199:10,14 215:23 242:2 244:19 <b>track</b> 139:8 219:14 <b>tracking</b> 214:15 <b>tracks</b> 138:1 <b>trade</b> 10:25 <b>trademark</b> 1:1 2:1 <b>traffic</b> 8:23 15:25 16:1 <b>transcribed</b> 246:8 <b>transcript</b> 36:4 245:10 246:9 <b>transfer</b> 199:21 202:9 211:10 <b>transferred</b> 186:7 186:11 191:23 200:7,22 201:9 202:4,8,15 203:5 212:5,8 239:12 <b>transferring</b> 200:11 201:19 210:5,7 211:12 <b>transfers</b> 199:18 200:1 <b>transition</b> 183:13 <b>translate</b> 107:4</p>	<p><b>transmission</b> 29:5,9 29:22,25 31:10,11 32:1,4,7,9,9,10,10 43:1 45:10 48:2 50:11 90:7,19 109:13,24 125:9 165:5,11,23 167:8 167:17 181:2 188:4 188:23 193:14 209:23 <b>transmissions</b> 49:19 112:1,1 113:2 235:9 237:3 <b>transmit</b> 22:18 45:11 47:2,20 51:17 51:21,24 52:5,5,9 169:20 205:11,20 207:1 <b>transmits</b> 44:24 183:7 206:21 <b>transmitted</b> 43:25 44:10,16 45:15 46:11,21 49:9,13,20 52:11 126:11 166:1 189:12 195:18,22 198:22 203:23 204:3 205:7,10,19 206:6 208:4,13,18 208:23 209:8,13,15 210:24 211:25 238:10 <b>transmitter</b> 49:20 51:11,17 52:4 125:6 238:6 <b>transmitting</b> 43:13 47:20 126:24 169:11,12 193:8 197:16 204:6,18 207:6 211:4 233:24 <b>treatment</b> 68:24 <b>trial</b> 1:2 2:2 7:16,18 7:20,22,22,25 8:21 9:2 15:7,11 <b>trials</b> 7:23 8:4,15</p>	<p><b>tribunal</b> 18:16,19 <b>tried</b> 71:20 79:11 80:7,9 <b>trouble</b> 209:18 <b>true</b> 88:5 158:20 205:4 228:21 245:13 246:9 <b>truthfully</b> 7:3 83:12 <b>try</b> 13:6 48:10 71:7 71:7 81:23 83:11 96:25 117:15 160:19 163:9 165:17 <b>trying</b> 33:5 45:20 48:13 65:3 78:24 79:13 80:2 81:6 102:15 104:12,12 105:22 112:20 118:9 122:23 123:4 123:8,10 135:21 139:7 147:10 151:7 157:6 170:17 195:15 199:12 201:22 207:20,20 222:8 234:25 <b>tuesday</b> 1:17 2:19 6:1 <b>tuner</b> 114:4 <b>turn</b> 23:2 <b>turned</b> 14:20 107:18 140:19,25 <b>turns</b> 114:4 <b>tv</b> 51:12 111:15,25 112:1,3,9,24,25 113:2,7,10 114:5,10 114:13,17,24 119:16 121:21 <b>twice</b> 44:5 73:11 <b>two</b> 7:9 37:20 51:20 57:20,24 64:23 65:5 70:12 73:11,17,22 73:23,25 74:20,20 74:24 78:25 80:13 95:20,21,23,23 96:20 112:4 114:9</p>
--	---	--	--

<p>116:20 122:7 137:25 149:16,20 165:20,20 176:11 177:12 180:4,8,12 206:11,12,14 220:4 220:20 226:9,23 227:5,14,25 231:21 231:22,22,24 237:3 <b>type</b> 18:16 69:8 137:16 144:11,12 157:3,16 185:8 187:8 201:8,13 205:13 206:2,6 231:14 <b>types</b> 11:1 19:17,24 43:18 45:1 127:19 141:21 159:9 163:5 171:1 186:11 195:1 202:4,6 207:1 <b>typesetting</b> 164:22 <b>typical</b> 30:17 105:3 110:25 111:3 <b>typically</b> 9:22 12:13 43:15 74:4 81:21 94:19 <b>typo</b> 91:24 170:7 241:23,24 <b>typos</b> 87:12</p>	<p>111:24 116:15 123:3,3,13,20 127:9 136:19 138:17 141:15 144:4 145:6 149:4,23,25 150:1,9 150:9,22,24 151:9 154:10,20 156:6 159:7 160:23 161:1 161:9 166:2 180:14 194:8 212:14 213:13 221:7 224:16 230:19 234:4 243:10 <b>understanding</b> 24:15,19 28:10 47:5 57:13 58:14,20,21 60:18 62:11 64:24 75:18 79:24 85:1 93:11 102:22,25 103:7 117:1 134:1 138:13,14 139:11 139:22 140:3 154:18,24 161:11 167:1,5,7,17 181:9 183:2 185:17 187:21 196:25 214:19 216:18 223:9,13,13 224:15 229:2</p>	<p><b>unnecessary</b> 117:12 <b>unnumbered</b> 54:23 <b>unreasonable</b> 208:5 208:14 209:9,25 <b>unsupportable</b> 210:1 <b>untrimmed</b> 94:7 <b>unusual</b> 34:7 52:10 88:3,8 97:15,25 99:10,12 103:10,16 103:18 104:3,18 110:22 120:17 122:20 123:7,7 124:6 158:9 <b>update</b> 203:19 211:17 232:17 <b>updated</b> 172:6 175:15 177:8 180:17 203:9 211:16 216:12 220:15 <b>updates</b> 175:23 180:2,9 <b>updating</b> 128:1,2,3 175:18 178:3 179:20,23 180:12 180:12,13 <b>upper</b> 58:5 <b>urge</b> 142:19 <b>usable</b> 159:14 <b>use</b> 22:19 23:6 30:20 43:8,19,19,20 46:1 60:20 88:8 102:10 123:25 124:5,10,25 127:20 128:8 134:25 136:23,24 137:5 138:2 145:1 145:14 146:5 148:8 153:25 160:9 171:8 171:14 184:9,18 <b>useful</b> 159:4 <b>user</b> 31:22 33:6 93:6 94:3 115:20 116:5 121:2 122:1 168:22 171:9,13 181:19</p>	<p>182:5 184:20,23 185:3 192:5,6,6,8,9 192:14 193:10,24 195:6 196:6,22 203:3,8,16 213:5 217:2 218:20 222:7 232:1 233:20,24 241:15 242:14 243:14 244:1,12 <b>user's</b> 184:7 194:16 195:21 197:14 202:1 216:15,19,19 216:24 217:11,16 218:6,10,17 219:10 221:21 225:3,23 226:5 228:21 229:4 229:5,11,14,20,22 230:16,22,24 231:4 231:6,18 233:1,11 233:12 234:3 237:4 <b>users</b> 190:25 193:20 194:11,13 195:24 196:4,11 <b>uses</b> 158:23 186:10 <b>usual</b> 133:23 162:14 <b>usually</b> 20:1,2 46:18</p>
<b>u</b>			<b>v</b>
<p><b>u</b> 55:10 <b>u.s.</b> 4:17 5:9 46:1,22 46:23 55:11,16,23 56:10 186:25 <b>un</b> 30:5 <b>unable</b> 117:1 <b>undefined</b> 116:17 <b>underscoring</b> 161:8 <b>undersigned</b> 246:1 <b>understand</b> 6:24 33:13 39:8 47:22,24 51:15 52:14 57:7 60:17 75:22,25 79:19 88:21 96:9,25 103:14 110:19</p>	<p><b>understood</b> 26:17 84:17,18 <b>unedited</b> 152:15 <b>unenhanced</b> 30:5 <b>unfortunately</b> 172:10 <b>unique</b> 116:19 213:8 <b>uniquely</b> 184:14 <b>united</b> 1:1 2:1 4:8 4:10,12,13 46:7,25 54:12 112:8 <b>universe</b> 11:2 <b>universities</b> 20:8 <b>university</b> 19:9 <b>unknown</b> 124:13</p>	<p><b>upper</b> 58:5 <b>urge</b> 142:19 <b>usable</b> 159:14 <b>use</b> 22:19 23:6 30:20 43:8,19,19,20 46:1 60:20 88:8 102:10 123:25 124:5,10,25 127:20 128:8 134:25 136:23,24 137:5 138:2 145:1 145:14 146:5 148:8 153:25 160:9 171:8 171:14 184:9,18 <b>useful</b> 159:4 <b>user</b> 31:22 33:6 93:6 94:3 115:20 116:5 121:2 122:1 168:22 171:9,13 181:19</p>	<p><b>v</b> 5:4,7,9 157:9 <b>vague</b> 9:12 <b>vaguely</b> 128:5 <b>valid</b> 14:14 15:22 124:23 <b>validity</b> 15:19 <b>value</b> 91:6,8 95:5 96:4,10 <b>valve</b> 106:11 <b>variable</b> 91:6,18,19 91:19,20 136:4 <b>variance</b> 141:5 <b>variant</b> 157:13 <b>variants</b> 157:18 <b>various</b> 21:9 24:2,5 24:8,11 53:21 60:2 69:15 121:8 124:12</p>

[various - worked]

<p>125:1,15 126:10 127:19 183:23 201:7 206:25 <b>varying</b> 122:19 <b>vdu</b> 213:18 214:14 <b>venture</b> 25:24 32:20 <b>verdict</b> 15:16,18 <b>versus</b> 8:16 35:23 36:6,22 37:5 128:3 <b>vertical</b> 43:14,20 44:11 49:20 <b>vi</b> 157:3,4,5,9,10,12 157:12,14 <b>vice</b> 26:13 <b>victor</b> 157:10 <b>video</b> 55:16 114:4,5 114:7,8,9,10,10,14 114:15,17,22,24 115:4 134:22 192:9 192:12,18 194:3 211:2,7 213:3,7,22 214:2,14 220:9,12 220:17 229:8 <b>view</b> 19:19 122:19 122:21 127:16 145:20 146:16 148:23 152:4 153:8 153:13,22 155:18 214:9,11 215:12 <b>viewer</b> 121:11 <b>viewing</b> 93:19 211:19 <b>visual</b> 185:6,15 192:5,7,24 <b>visualize</b> 167:20 <b>visuals</b> 187:9 201:15 205:17 231:16,16 240:15,17 <b>vitae</b> 4:18 <b>voice</b> 241:13 242:12 243:13 <b>volatile</b> 140:17,24 141:16 142:15 <b>volume</b> 1:18 2:16 4:3 245:19</p>	<p><b>voluminous</b> 60:19 <b>volunteer</b> 24:6 <b>vs</b> 1:7 2:7</p> <hr/> <p style="text-align: center;"><b>w</b></p> <hr/> <p><b>walked</b> 82:15 <b>wall</b> 65:12,16,23 66:15 115:8,9 116:14,17 117:21 118:12 119:24 120:12 <b>want</b> 39:24 47:19,19 48:3,4 49:13 60:4,7 62:25 67:18 80:3 82:16 86:20,20 104:9 118:1 122:11 123:16 137:8 150:23 154:16 156:6 165:25 169:15 171:15,15 188:1 198:5 201:3 208:9,10 213:19 <b>wanted</b> 33:16 34:3 79:1 123:25 <b>washington</b> 3:15 <b>wave</b> 29:25 <b>waveform</b> 44:24 <b>way</b> 6:23 13:4,7 22:16 31:23,25 32:1 43:13 48:11 51:23 76:6 81:14 82:6 83:4,10 102:1 108:19 115:18 116:3,21 132:10 137:3 142:12 150:24 159:25 160:3 170:22 171:14 176:4,25 177:2,11,12,16 180:19 185:5 203:25 205:22 211:16 215:1 225:8 228:20 230:23,25 231:5,7 232:18 233:11,13 237:5</p>	<p>239:1 <b>ways</b> 43:11 51:20 65:19 121:20 185:4 185:14 188:10 205:2 231:21 <b>we've</b> 33:12 122:7 148:15 151:12 155:15 164:8 179:25 202:22 203:12 233:17 236:21 <b>week</b> 65:13,16,23 66:15 72:6,7,7,7,8 72:21 74:2 115:8,10 116:14,17 117:21 118:13 119:25 120:12 <b>week's</b> 75:11 <b>weeks</b> 75:7 <b>went</b> 60:1 68:13 75:23,24 78:9 <b>westlaw</b> 5:3,5,8 35:14,17,24 36:13 <b>westlaw's</b> 36:5 <b>whereof</b> 246:14 <b>white</b> 209:22 <b>wide</b> 25:8,9,23 43:9 <b>wire</b> 32:10 43:20 131:25 <b>wired</b> 32:22 33:1,2 <b>wireless</b> 21:25 22:2 22:6,9,21,22,24 43:21 <b>wirelessly</b> 22:17 <b>wires</b> 100:5 <b>wishes</b> 146:25 <b>withdraw</b> 24:13 44:3 70:7,8,24 182:1 199:23 212:15,15 215:24 217:7 236:17 241:25 242:23 <b>witness</b> 4:2 7:13 12:10 48:21 69:25 92:3,5 116:8 119:5</p>	<p>125:22 126:4 147:18 170:8 172:17 173:16 215:25 246:14 <b>witnesses</b> 246:5 <b>wl</b> 5:3,5,8 35:24 36:5 <b>word</b> 45:6 46:6 60:20 68:7 71:23,24 72:3 76:5 85:16,16 88:19,21 89:1,22 138:21 147:21 150:4,7,7,20 151:4 156:1,24 157:1,6 165:5,5,11,11,14 166:14,16,23 167:2 167:23,24 169:1 175:12 184:18 224:12 <b>wording</b> 190:13 <b>words</b> 9:7 15:10 38:10,12 39:3 40:15 40:18 41:9 45:17 76:1 97:20 149:17 149:20,21,21 150:16 151:1 160:6 167:18 172:5 223:15,17 229:12 238:22 <b>work</b> 13:6 18:8 19:16 21:3,8 22:11 25:3 29:4 59:4,10 60:4 61:20,21,24 62:21 66:22 68:12 69:6,7,10 70:4,12 70:22 78:16 81:14 82:2,24 83:1,5 87:3 108:5 117:15 154:15 172:16 178:25 204:21 225:9 235:4 <b>worked</b> 8:16 10:20 21:18,25 22:3,6,9 22:10 25:13 26:5 28:18 29:3,17 30:14</p>
--	--	--	---

[worked - zynga's]

<p>31:14 32:21 52:21  58:3,23 61:25 65:4  81:15,19 105:22,25  106:9,16 107:17  108:25 109:7  <b>working</b> 9:13 24:16  24:21 33:1 62:9  67:12,23 105:8  143:20 178:24  221:18 222:19  <b>works</b> 168:1 174:12  <b>wrap</b> 244:18  <b>write</b> 18:8 40:22  53:9 81:24 83:12  143:21 156:16  159:5 161:25 162:5  162:8,12 163:13  182:18 201:24  <b>writer</b> 134:24 135:2  148:7,12,15,16  155:3 156:9,16  157:7 167:9  <b>writers</b> 132:15  143:21 144:10  145:3,5 146:8 148:2  148:20 149:15  151:13,13 154:21  154:23 161:25  171:1  <b>writing</b> 59:24 76:8  149:12  <b>written</b> 41:23 42:3  143:22 144:13  156:9  <b>wrote</b> 40:16 41:14  41:18,24,24 42:21  75:16 76:4 77:9  82:6 86:15 87:6  88:14 98:4 99:22  118:3</p>	<p><b>xyz</b> 79:17 83:5</p> <hr/> <p><b>y</b></p> <p><b>y</b> 90:8,21 91:7,8,19  95:4,5 96:4  <b>yeah</b> 10:3 13:5 37:3  51:4 64:13 72:16,19  74:19 75:9 82:13  86:7 92:25 99:19  106:23 115:22  118:2 119:7 120:23  122:21 126:4 128:7  128:8 133:19 134:4  136:22 137:2 142:3  154:17 157:4,10  160:21 164:7,7  166:8,8 168:4 170:8  172:18,23 186:22  199:13,13 213:14  213:19 215:25,25  218:4 223:25 224:1  224:3,5,20,21  225:20 233:2 235:8  237:6 241:19,24,24  242:8,8  <b>year</b> 9:15,24 11:9  16:23 24:2 28:12  59:11 61:1 62:7,10  63:3  <b>years</b> 6:20 9:1,14,20  10:10,17 11:4,9,14  11:25 12:16 13:2  18:22 19:13,15  20:11,13,14 21:1,10  21:17,22 23:6,18  25:13 28:8,22 53:8  53:8,18 61:15  162:21 222:20,21</p> <p><b>york</b> 3:14</p> <hr/> <p><b>z</b></p>	<p>56:8,11 57:4 58:13  58:16,24 60:11 61:8  62:2,4,25 63:13  66:2 69:10,22 71:17  75:14 82:14 83:15  83:24 84:10,12,17  84:18 87:19,24 93:6  97:22 98:7 110:7  120:5 124:3 128:18  129:8 165:4 168:8  183:15 186:25  242:7  <b>zynga's</b> 82:9 85:12  85:13,23 86:11</p>
<p><b>x</b></p>	<p><b>zero</b> 169:6,7,8</p>	
<p><b>x</b> 90:9,22 91:6,8,20  95:4</p>	<p><b>zynga</b> 1:5 2:5 3:20  4:6 18:23,25 23:8  27:4 54:7,11,18  55:9,12,14,18,20,24</p>	