

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

GOOGLE LLC,
Petitioners,

v.

NEONODE SMARTPHONE LLC,
Patent Owner,

Case IPR2021-01041
Patent 8,095,879

REMOTE PROCEEDING

DEPOSITION OF: DR. JACOB O. WOBBROCK
TAKEN BY : PARHAM HENDIFAR, ESQUIRE
Commencing : 9:01 A.M.
Location : Seattle, Washington 98195
Day, Date : Friday, March 25, 2022
Reported by : JOLYNE K. ROBERTS, CSR NO. 10823

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I-N-D-E-X

WITNESS: PAGE
DR. JACOB O. WOB Brock EXAMINATION BY MR. HENDIFAR 4

EXHIBITS
(None offered)

INFORMATION REQUESTED
(None)

QUESTIONS NOT ANSWERED
(None)

SEATTLE, WASHINGTON, FRIDAY, MARCH 25, 2022
9:01 A.M.
-OOO-

DR. JACOB O. WOB Brock,
the witness herein, after having been first duly
sworn/affirmed, was deposed and testified as follows:

EXAMINATION

BY MR. HENDIFAR:

Q Good morning. Would you please spell your full
name for the record.

A My name is Jacob Otto Wob Brock. J-a-c-o-b, last
name is W-o-b-b-r-o-c-k.

Q Thank you, Dr. Wob Brock. And you understand
that you're testifying under oath today, correct?

A Yes.

Q And because the questions and answers are being
recorded, it is important that we do not speak over each
other. So I will wait for you to complete your answers,
and I request the same courtesy.

If I do inadvertently ask a question before you
have completed your answer, please let me know, and I
would be happy to wait until you complete your response.
Is that okay?

A Sounds fine.

Q The only thing that's going to be recorded is
verbal communication, so nods will not be recorded. So
it's important that you provide audible responses such as
yes or no.

You're not permitted by the rules to speak to
your attorney during the course of the deposition about
any issue relating to this deposition.

Do you understand that?

A I understand.

Q Now, if at any point you would like a break,
please let me know. We ordinarily take breaks every hour
or so, but we can make it more or less depending on what
you and Counsel would prefer.

About objections, your counsel will make short
objections, but unless he specifically instructs you not
to answer a question, you should still answer my
question.

Additionally, because the objections that
Counsel makes cannot be speaking objections, if you have
any questions about, for example, whether a word is
ambiguous, you need additional information for
hypothetical or anything else of that nature, please feel
free to let me know, and I will be happy to rephrase the
question.

1 But if you do answer my question without any
2 clarification, I will assume that you have understood the
3 question.

4 Is that fair?

5 A That sounds fair.

6 Q Great. Have you ever been deposed before?

7 A I have been.

8 Q And how many times?

9 A I think about six times prior.

10 Q And do you recall the date of those depositions?

11 A I don't recall all of their dates.

12 Q When was the last time you were deposed?

13 A I was deposed in January of 2022.

14 Q So just a few months ago?

15 A That's right.

16 Q And what was that case where you were deposed in
17 January of 2022?

18 A I want to make sure I get the parties correct.
19 It was Impact Engine vs. Google.

20 Q And who were you testifying for? Google, I
21 assume?

22 A Google.

23 Q And was that a district court case or IPR case
24 or different type of case?

25 A That was a district court case.

1 Q Have you ever been deposed in an IPR?

2 A I have been.

3 Q How many times?

4 A I don't recall exactly, but I think three or
5 four times.

6 Q And do you recall the parties on whose behalf
7 you testified in IPR proceedings?

8 A I don't recall from memory.

9 Q When was the last time you were deposed in an
10 IPR proceeding?

11 A I don't recall precisely. It would have been
12 within the last three years or so.

13 Q Okay. And do you recall the technology of the
14 last IPR where you testified as an expert?

15 A I don't remember.

16 Q And what was the technology of the district
17 court case where you were deposed in January of 2022?

18 A Broadly, that had to do with the creation of
19 online advertising, user interfaces for tools that create
20 online advertising.

21 Q And can you elaborate maybe just briefly in a
22 few sentences what that entailed?

23 A Generally the matter concerned authoring tools
24 for online advertisements that are displayed, for
25 example, on web pages or in other media.

1 Q Other than testifying as an expert, do you have
2 any other current or past associations with Google?

3 A I do.

4 Q Would you kindly elaborate?

5 A Sure. In May of -- sorry, in February of 2001
6 to 2000 -- to May of 2001, I worked as an hourly
7 contractor for Google developing user interfaces.

8 Q Could you state the date, please, of your
9 employment at Google?

10 A Yes, it was February --

11 MR. RODKEY: Misstates the testimony. He said
12 hourly.

13 MR. HENDIFAR: You're an hourly worker. I don't
14 want you to -- I just need to understand your testimony.

15 Q BY MR. HENDIFAR: Would you please restate the
16 date of your hourly contractor work with Google?

17 A Yes, I was not a regular in-house employee; I
18 was an hourly paid contractor from approximately February
19 of 2001 to May of 2001.

20 Q Okay. And what was the nature of your work at
21 Google?

22 A I was focused on optimizing the user interface
23 code for the search results page so that it would load in
24 the browser as fast as possible. And I also spent time
25 creating some prototype designs that involved other ways

1 of searching and viewing search results.

2 Q Did your work at Google in any way relate to
3 mobile operating systems?

4 A Not specifically, no.

5 Q And did your work at Google relate in any way to
6 mobile user interfaces, mobile devices?

7 A I was focused on coding the search results page
8 with a focus towards the desktop browser.

9 Q And why was there a focus toward a desktop
10 browser as opposed to a mobile browser?

11 A That was what I was charged with doing.

12 Q And do you have any understanding of why you
13 were asked to focus on desktop browsers as opposed to
14 mobile browsers?

15 A Not particularly, no. That would be a business
16 decision that I was not privy to.

17 Q Now, as an expert in the field, do you have any
18 opinion on why Google in the 2019 to 2002 time frame
19 would have focused on desktop browsers as opposed to
20 mobile-type browsers for the display of search results?

21 MR. RODKEY: Objection. Foundation.

22 THE WITNESS: I didn't say the company focused
23 on desktop browsers versus mobile browsers. I said that
24 that's what I worked on was the search results page for
25 the desktop browser.

1 Q BY MR. HENDIFAR: And do you know if there were
2 other members of the Google team that had parallel work
3 as you did but only in connection with mobile browsers?

4 A I don't know.

5 Q And what aspect of the search results display
6 that you worked on at Google related to -- strike that.

7 Can you elaborate on the aspect of your work at
8 Google that related to the display portion of the search
9 results as opposed to the optimization of the speed?

10 A My work was not changing how search results were
11 displayed, but shrinking the number of bytes required to
12 deliver the search results so that they would load as
13 fast as possible in the browser.

14 Q Thank you for that.

15 Now, do you have any current or past association
16 with the company Apple, Inc.?

17 A I have no --

18 MR. RODKEY: Objection. Relevance.

19 THE WITNESS: I have no association formally
20 with Apple.

21 Q BY MR. HENDIFAR: How about informally?

22 A Not with the company. I know some colleagues in
23 the research world that work for Apple, but that's just a
24 professional relationship with those people, not with
25 Apple the company.

1 Q Understood. And thank you for that
2 clarification.

3 The same question for -- do you have any current
4 or past associations with any of the various Samsung
5 entities?

6 MR. RODKEY: Objection. Relevance.

7 THE WITNESS: No, I don't have an association
8 with Samsung.

9 Q BY MR. HENDIFAR: Now, other than the hourly
10 contractor work that you mentioned with Google in 2001
11 and 2002, have you had any other association with Google
12 outside of the litigation?

13 A My contractor work, so the record is clear, was
14 from February 2001 to May 2001. Other than that, I don't
15 have any formal association with Google the company.

16 Q Have you received any research grants from
17 Google?

18 A I have received three research awards from
19 Google that are listed on my CV. These awards are
20 essentially grants, but they're called awards.

21 Q And can you elaborate briefly on what were the
22 projects that were the subject of the three research
23 awards that you received from Google? And you can direct
24 it to the point of your CV if that would be helpful.

25 A Yes, I'd like to open -- I know my CV is one of

1 the exhibits. Would you permit me to open --

2 Q Yes.

3 A -- a clean copy of that exhibit?

4 Q And I apologize. Any document that you want to
5 view, as long as it's a clean copy and it's of record in
6 this case, please feel free to do so. You don't need my
7 permission; just let me know that you're doing it.

8 A Okay. Thank you.

9 So I am opening a clean copy of Exhibit 1004,
10 which is my curriculum vitae, CV, dated the 22nd of
11 May 2021. The date is visible in the top left corner.

12 And I am moving to find the section on my
13 funding. All right. So on page 17, one can see in
14 looking in the left margin three indicators that say
15 Google. Those are three separate research awards.

16 Google's research award process is such that
17 they have an open call for academics to submit research
18 proposals each year. One can submit a proposal for
19 funding, and an internal panel at Google reviews those
20 proposals and decides which ones they want to fund, and
21 then the funding is sent to the university. And I've
22 received three of those. I've applied for others that I
23 did not receive. So I don't get them every time.

24 But your question, I believe, was about the
25 various projects. We can see the titles of the project

1 on the CV. That's probably the best way to convey the
2 subject matter. The most recent was awarded in 2020, and
3 it was called, The Ability-Based Design Mobile Tool Kit
4 Enabling Accessible Mobile Interactions through Advanced
5 Sensing and Modeling.

6 The one prior to that was awarded in 2014, and
7 what's called smart touch, Improving the Accessibility of
8 Touch Screens on Android Tablets and Smartphones for
9 People With Motor Impairments.

10 And the one prior to that was awarded in 2011
11 and was called, Cursor Mining in Web Search.

12 Q Thank you very much for that explanation.

13 Going to the second award for Google Smart
14 Touch, can you elaborate on the nature of that project?

15 A Sure. Smart Touch was a research project where
16 we were -- and I say we; I mean my Ph.D. students and
17 myself -- were exploring how to make touch screens more
18 accurate for people with motor impairments.

19 Q And why would a touch screen -- strike that.

20 Why would a touch screen not be accurate for
21 people with motor impairment? What's the problem?

22 A The challenge we were seeking to address was for
23 people with motor impairments, for example, caused by
24 muscular dystrophy or cerebral palsy or Parkinson's or
25 ALS or any other variety of conditions that might result

1 in people having a tremor or other kinds of motor
2 challenges. It can be more difficult to operate a touch
3 screen. For that matter, it can be more difficult to
4 operate a computer in general, whether it's with a mouse
5 or keyboard or touch screen because they essentially
6 can't control their movements as accurately as those
7 input devices often assume.

8 Q And then was there a particular type of --
9 strike that.

10 Can you briefly elaborate on, if you can, what
11 was generally the type of solution that your team
12 devised? Was it a specific type of gesture or technology
13 or some type of combination of the two?

14 MR. RODKEY: Objection to form.

15 THE WITNESS: In brief, the solution that we
16 found was essentially a pattern matching approach that
17 allowed a user to train a recognizer to understand how
18 they in particular touched the screen. And then when
19 operating a touch screen, the system would recognize
20 their form of touch and resolve accurate touch even in
21 the presence of their tremor.

22 Q BY MR. HENDIFAR: So was the idea that tremor
23 would eventually generally have the same form for a given
24 person?

25 A Well, the pattern matching approach would

1 essentially learn to recognize the form of the touch that
2 a given person would have.

3 Q And then was there a particular form of gesture,
4 such as tapping or dragging, that you found was more
5 suitable for people with impairments?

6 A People with motor impairments generally have
7 very individualized touch behaviors. There are high
8 degrees of individual differences, which is why a
9 trainable pattern matcher was an appropriate solution for
10 this problem.

11 Q Thank you. I appreciate that.

12 In any of your -- have you ever received any
13 research grant from Apple?

14 A I'm referring back to my CV, just to refresh my
15 memory.

16 I don't recall that I have. I don't believe I
17 have, and my CV is consistent with that.

18 Q Thank you for that.

19 About the second item from the bottom on your
20 list of industry research gifts is for, quote, Support
21 for Development of iPhone/iPod EdgeWrite.

22 Can you elaborate on what that is, please?

23 A Sure. That was a research gift, as the section
24 above says, Industry Research Gifts. Just to clarify
25 briefly, the term gift is a term specific to the

1 university world in contrast to the term grant, which
2 refers to a federal grant, for example, from a National
3 Science Foundation.

4 A gift is essentially a grant or a research
5 award, but if it comes from industry, it's called a gift.
6 Just to clarify that term.

7 This particular award was from the Washington
8 Research Foundation. That is a foundation that issues
9 awards to support academic research at the University of
10 Washington, and that particular project was to create the
11 text entry method called EdgeWrite, which was the subject
12 of my doctoral dissertation at Carnegie Mellon
13 University, to create that EdgeWrite prototype on an
14 iPhone or iPod device.

15 It had up until that point been created on a
16 variety of other devices. That project was to
17 essentially create a version of it for the iPhone or
18 iPod, which was fairly new at the time. You can see the
19 year was 2007.

20 Q Thank you very much for all the explanations. I
21 really appreciate when you provide context as well. I
22 didn't know that gifts are referred to as -- they used to
23 call them grants.

24 What is EdgeWrite? Is it an application,
25 essentially?

1 A It's a text entry method. I initially developed
2 it on the Palm PDA line of devices. And it provides for
3 a more accurate and stable method of inputting text,
4 particularly for people with motor impairments. That was
5 the subject of my doctoral dissertation.

6 Q I see. So it's a generic text entry method that
7 can be used, for example, in e-mail application or other
8 application that would have a keyboard, I'm assuming?

9 A What I --

10 MR. RODKEY: Objection. Mischaracterizes.

11 THE WITNESS: What I would say -- I don't know
12 that I would call it generic; it is a specific thing.
13 But what I would say it is used for is as a replacement
14 for the built-in text entry method initially on the
15 Palm PDA. So if you loaded EdgeWrite onto the device,
16 you could choose to use it as your text entry method of
17 choice.

18 Q BY MR. HENDIFAR: Thank you so much. Can you
19 briefly explain what the difference is between EdgeWrite
20 and a normal keyboard?

21 A EdgeWrite is not a keyboard solution; it's a
22 gestural, or what we might call a stroke input, text
23 entry method solution. The Palm line of devices had the
24 option to show a keyboard; it also had the option for a
25 text entry method called Graffiti, which was built in,

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