UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

MASIMO CORPORATION,

Petitioner,

v.

APPLE, INC.,

Patent Owner

Case IPR2023-00664

U.S. Patent 11,106,352

DEPOSITION OF DR. ANDREW COCKBURN

July 11, 2024

3:00 p.m. (Eastern Time)

Reported by: Eileen Mulvenna, CSR/RMR/CRR

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Masimo 1076
Masimo v. Apple
IPR2023-00664

REMOTE VIDEOTAPED DEPOSITION of DR. ANDREW COCKBURN, witness on behalf of the Patent Owner in the above-titled action, held on Wednesday, July 11, 2024, commencing at approximately 3:00 p.m. (Eastern Daylight Time) before Eileen Mulvenna, CSR/RMR/CRR, Certified Shorthand Reporter, Registered Merit Reporter, Certified Realtime Reporter, and Notary Public of the State of New York.

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THE REPORTER: We are now on the record. The time is 3:00 p.m.

Unless an objection is heard at this time, all parties to this deposition are appearing remotely and have agreed to the witness being sworn in remotely.

Will counsel please state their appearance and whom they represent for the record.

MR. CANNON: I'm Ted Cannon for petitioner, Masimo.

MS. LEUNG: Kim Leung for patent owner, Apple, Inc.

DR. ANDREW COCKBURN,

having been duly sworn by Eileen Mulvenna, a Notary Public of the State of New York, was examined and testified as follows:

EXAMINATION

BY MR. CANNON:

Q. Hello, Dr. Cockburn.

A. Good morning.

Q. You understand that you're under oath

as if in a court of law?

A. I do.

Q. And so these -- this deposition is being transcribed, and so it's good if we avoid talking over each other. Will you agree to wait for me to finish my questions before you begin your answers?

A. I'll try, yes.

Q. And I will likewise try to wait for your answers before beginning the next question.

Periodically, we will take breaks. If you need a break at any time, please feel free to ask for a break. I would ask that if there's a question pending that you wait -- wait for -- to answer the question before asking for a break; is that fair?

A. Yes.

Q. If you don't understand a question, will you ask for a clarification or for me to repeat the question?

A. I will.

Q. Your counsel may interpose objections

during this deposition. Those objections are for the record.

Do you understand that unless instructed not to answer, that you still need to answer the questions, even -- even if there's an objection?

A. I understand that, yes.

Q. Is there any reason, such as medication, that you would not be able to give accurate and truthful testimony today?

A. There's no such reason, no.

MR. CANNON: All right. I would like to turn to the exhibit that has been previously marked in this case as Apple 2010.

(Exhibit 2010, IPR2023-00664, Second Declaration of Dr. Andrew Cockburn, received and marked.)

BY MR. CANNON:

Q. And there's a hot seater that can put that up. And then I believe that you have access to the full copy if you would like to review other portions as well.

A. I don't see anything on my marked exhibits box -- there it is. It's just appeared. I have it now. Thank you.

Q. Okay. Can you review Exhibit 2010 and let me know if this is the declaration -- the second declaration that you signed in this case?

A. Yes, that's it.

Q. Let's first turn to paragraph 6 of Exhibit 2010.

A. I'm there. Thank you.

Q. And the first sentence says that "Masimo argues that Figure 4 of Tu illustrates a process of using tilt data from an accelerometer (block 414) to detect and confirm a raise gesture, (blocks 416 and 422) that invokes weight control logic to wake up the display (block 424)."

Do you see that sentence?

A. I do.

Q. Do you agree with the characterization of Figure 4 of Tu in that first sentence?

A. The tilt data is provided per the accelerometer; but broadly, yes, I agree with that

sentence.

Q. Is there anything you would modify in that sentence to make it more accurate, in your view?

A. No.

Q. Two sentences after that first sentence, your declaration says, "However, Tu discloses that the accelerometer readings include gravitational acceleration, 1G, in a direction that depends on the orientation of the device."

Do you see that sentence?

A. I do.

Q. And in the Tu reference, are Gs a measure of tilt?

A. Tu describes that accelerometer data can be used to infer tilt. Tu also makes clear that in certain circumstances, accelerometer data will not do a good job of reporting tilt.

Q. Is there any other way of determining tilt in Tu than the Gs measured by an accelerometer?

A. Yes, I believe there is.

Q. And what else in Tu is used for a

measurement of tilt?

A. Tu also discloses the use of gyroscopic sensors.

Q. Now, let's go down to the bottom of the -- of that paragraph on the page where you say, "I agree with Rosenberg that Tu does not describe a specific number of degrees associated with a threshold."

Do you see that sentence?

A. Yes, I do.

Q. Now, did Dr. Rosenberg testify that Tu discloses determining, using one or more sensors, whether a change in orientation of the computer system satisfies a tilt angle threshold?

A. Can you repeat the question, please?

Q. Sure.

Did Dr. Rosenberg testify that Tu discloses determining, using one or more sensors, whether a change in orientation of the computer system satisfies a tilt angle threshold?

A. I haven't memorized the entirety of Dr. Rosenberg's testimony. I'd need to review his

declarations and deposition entirely to be able to confidently answer that question.

MR. CANNON: Okay. Let's go to Exhibit Masimo 1064, please.

(Exhibit 1064, No Bates numbers, Fourth Declaration of Craig S. Rosenberg, Ph.D., received and marked.)

BY MR. CANNON:

Q. Do you have that exhibit available to you?

A. I do now, yes. Thank you.

Q. And let's look at paragraph 38.

A. I'm there. Thank you.

Q. Do you see the first sentence of paragraph 38 where Dr. Rosenberg says, "Tu discloses determining, using one or more sensors, whether a change in an orientation of the computer system satisfies a tilt angle threshold"?

A. I see that, yes.

Q. And do you agree that Dr. Rosenberg testified that "Tu discloses determining, using one or more sensors, whether a change in an orientation

of the computer system satisfies a tilt angle threshold"?

A. For the purpose of waking the device, Tu does not disclose this.

Q. And I'm just asking if you agree that Dr. Rosenberg testified that "Tu discloses determining, using one or two more sensors, whether a change in an orientation of the computer system satisfies a tilt angle threshold"?

A. I can see that Dr. Rosenberg makes that statement, yes.

Q. Let's go back to your declaration, Apple 2010, to the part we are talking about where you said, "I agree with Rosenberg that Tu does not describe a specific number of degrees associated with a threshold."

A. I see that, yes.

Q. In that sentence, are you suggesting that Dr. Rosenberg contradicted his testimony that "Tu discloses determining, using one or more sensors, whether a change in orientation of the computer system satisfies a tilt angle threshold"?

A. I think the statement stands for itself. I agree with Dr. Rosenberg's statements during his deposition that Tu does not describe a specific number of degrees associated with a threshold.

Q. Okay. And so what I'm asking is, is a statement that Tu does not describe a specific number of degrees associated with a threshold inconsistent with a statement that Tu discloses determining, using one or more sensors, whether a change in orientation of the computer system satisfies a tilt angle threshold?

A. I think Dr. Rosenberg has not shown where or how Tu discloses the use of a tilt angle threshold in order to wake the device.

Q. Okay. And I understand your answer there. And what I'm asking is, is it inconsistent to say that Tu discloses determining, using one or more sensors, whether a change in orientation of the computer system satisfies a tilt angle threshold while also saying that Tu does not describe a specific number of degrees associated with a

threshold?

A. I don't think it's inconsistent, but I do think it's insufficient to show that the limitation is rendered obvious by Tu.

Q. Do any of the claims associate a specific number of degrees with the tilt angle threshold?

A. The claims require a threshold to be met or exceeded, and angles are measured in degrees. So I think a person of skill in the art would understand that a specific number of degrees would be required to satisfy the meeting of a threshold.

Q. What specific number of degrees is needed in the claims to satisfy the tilt angle threshold limitation?

A. The number of degrees that are defined by the threshold.

Q. And so if the threshold is 1 degree, the threshold would be 1 degree; right?

A. That seems reasonable, yes.

Q. But the claims don't tell you what that threshold is in degrees; correct?

A. That's correct.

Q. Let's move to, actually, just the very next sentence on the next page of your declaration that says, "Because the accelerometer data is measured in Gs, not angles, Tu does not describe using a tilt angle threshold."

Do you see that?

A. I do.

Q. Does Tu measure tilt?

A. Yes.

Q. Does Tu determine whether a tilt threshold has been met?

A. For the purpose of a -- waking a device, no, it does not.

Q. Does it wake the device when a certain amount of tilt has occurred?

A. No, I think it does not.

Q. Does Tu use the world "tilt"?

A. Yes.

Q. Does it use the phrase "amount of tilt"?

A. I haven't memorialized whether it does

or not. I wouldn't be surprised if it does.

MR. CANNON: Let's turn to Masimo Exhibit 1065, which is the Tu reference.

(Exhibit 1065, No Bates numbers, Patent Application Publication 2016/0018872, received and marked.)

THE WITNESS: I have it. Thanks.

BY MR. CANNON:

Q. Let's first go to paragraph 70.

A. I'm there. Thanks.

Q. And that starts out with, "In some embodiments, the range of accelerometer data values corresponding to focus pose can depend, at least in part, on the starting pose. For instance, the transition from a starting pose to a focus pose can involve accruing a certain amount of tilt along the Y-axis, also referred to herein as Y tilts."

Do you see that?

A. Yes.

Q. What does Tu mean by "accruing a certain amount of tilt"?

A. I would understand it is gathering an

amount of data from the accelerometers and determining the tilt associated with that.

Q. Does Tu measure the amount of tilt?

A. It's accruing an amount of tilt, yes.

Q. Would a POSITA look to other portions of Tu to understand what it means by "amount of tilt"?

A. I think a POSITA would read Tu as a whole, yes.

Q. Would you agree that other portions of Tu would be relevant to determining what it means that the transition from a starting pose to a focus pose can involve accruing a certain amount of tilt along the Y-axis, also referred to herein as Y tilt?

A. Can you repeat the question, please.

Q. Would you agree that other portions of Tu would be relevant to understanding what Tu means by the transition from a starting pose to a focus pose can involve accruing a certain amount of tilt along the Y-axis, also referred to herein as Y tilt?

A. Yes. A person of skill in the art would read Tu as a whole. And that could inform

their understanding of the accrual of Y tilt.

Q. What is meant by "focus pose"?

A. This is a -- in Tu, it is a pose in which the user brings a device into their line of sight.

Q. What occurs in Tu when the person brings the device into this line of sight or focus pose?

A. I believe the device -- well, let me just check for a second.

Yes. It notifies wake logic of a confirmed gesture.

Q. And is one of the things that can occur, when the wake logic is notified, that the device can wake up?

A. Yes.

Q. Let's move to paragraph 69 of Tu. Right before that sentence about focus pose and the tiltable Y-axis, there's two sentences right at the end of paragraph 69 that say, "For example, as noted above, focus pose can be defined based on a particular range of tilt angles expected while the

user is looking at the device. Tilt angles can be inferred from accelerometer data. And if the tilt angle reaches and remains within this range, that condition can correspond to dwell in the focus pose."

Do you see that?

A. I do.

Q. And you agree that Tu includes the disclosure that I just read?

A. Yes.

Q. Do you agree that that -- that that is -- that what I read is part of how Tu operates?

A. Yes.

Q. And do those sentences relate to the amount of tilt?

A. Broadly, yes.

Q. Do you agree with Tu's disclosure that tilt angles can be inferred from accelerometer data?

A. Yes.

Q. And do you agree that if the tilt angle reaches and remains within this range, that condition can correspond to dwell in the focus pose?

A. I agree with that.

Q. But there's a certain tilt angle that corresponds to focus pose; is that right?

A. That's not what's disclosed here, no.

Q. How would you describe the sentence if -- or the portion of the sentence, "if the tilt angle reaches and remains within this range, that condition can correspond to dwell in the focus pose"?

A. This is describing how a dwell condition is satisfied within a focus pose.

Q. And what do you consider a dwell condition?

A. Dwell, to a person of skill in the art, would normally mean a persistent condition, a condition that is met for some period of time.

Q. And does Tu require a dwell condition to transition the device to either turn on or off?

A. I don't think Tu describes the turning on or off of the device. I don't think that's language Tu uses.

Q. Well, it's something a person of skill

in the art would understand occurs from reading Tu; right?

A. I wouldn't characterize it as turning on or off, because if the device is off, none of its sensors are available.

Q. Isn't the entire purpose of Tu to -- or at least one of the purposes of Tu to turn on and off the device for better power management?

A. I think you're being too broad. I think there are -- there are portions of Tu -- there are portions of the device described by Tu that may be woken, but turning the device on and off would normally be entirely on or entirely off.

Q. Does Tu refer to just turning the display on and off for power management?

A. I believe it does. I haven't checked right this second; but, yes, broadly, I think that's part of its purpose.

Q. Let's go to paragraph 67 of Tu. And I believe the last two sentences of that paragraph start with, "The ending pose can be compared to a range of poses consistent with the display being in

the user's line of sight, e.g., a range of tilt angles in the Y and/or X directions relative to horizontal with a possible raise gesture being detected if the ending pose is within this range. The term 'focus pose' is used herein to refer generally to any pose within the range poses deemed consistent with the device being in the user's line of sight, e.g., based on tilt angles."

Do you see that portion?

A. Yes, I do.

Q. Do you agree that Tu discloses the portion that -- that I read?

A. Yes, I do.

Q. And does that portion relate to tilt angles?

A. Yes.

Q. And does it say that a focus pose is a pose that is consistent with the device being in the user's line of sight based on tilt angles?

A. Yes.

Q. Is the way that Tu determines that a device is in the user's line of sight using tilt

angles?

A. Yes.

Q. Go to paragraph 148. The start of paragraph 148 talks about possible initiation of a raise gesture being detected at Block 1506.

Do you see that portion?

A. I see that, yes.

Q. And about halfway into the paragraph, there's a sentence that says, "The determination can be based on various criteria, such as whether the change in device position, e.g., tilt and arm angle, is consistent with continuing a raise gesture."

Do you see that?

A. I do.

Q. And does that portion relate to an amount of tilt?

A. It relates to more than an amount of tilt. It also relates to the smoothness of the motion.

Q. And the portion that relates to tilt, does that refer to tilt angle?

A. It says tilt and arm angle, so it's

really the arm angle that is being inferred from the accelerometer data.

Q. And so are you suggesting that -- that it's not -- it's not meaning tilt angle and arm angle but just that the only angle referred to there is arm angle?

A. No. I think a person of skill in the art would understand it was both.

Q. Let's go back to your declaration, paragraph 7.

A. I'm there. Thank you.

Q. Now, in paragraph 7, that's under a section heading that says "Masimo improperly relies on multiple different embodiments from Tu without combining them"; right?

A. Yes.

Q. And are the two embodiments you're referring to Figure 4 and Figure 13 of Tu?

A. Yes, and the associated text from the specifications.

Q. Is it your opinion that Figures 4 and 13 describe entirely separate embodiments?

A. Yes. Well, depending on what you mean by "entirely." They are two embodiments within Tu that are directed to extremely different activities and purposes.

Q. Okay. Does Figure 4 describe a process of waking up a device when it's in a focus pose?

A. The process is the identification of a focus pose and then waking up the device in response to that.

Q. And does Figure 13 describe a process of detecting a lack of focus and then causing the device to go to sleep?

A. I think Tu describes it as the loss of focus gesture and then, I believe, making the device go to sleep, yes.

Q. And the same device performed both the process of Figure 4 and the process of Figure 13?

A. Yes, the same device with different hardware associated with the satisfaction of those two requirements, two different portions.

Q. Would a person of ordinary skill in

the art read Tu as suggesting that a single device could have the hardware and software for performing both Figure 4 and the process of Figure 13?

A. Yes. The device as a whole could have the hardware for both of those gesture recognition methods and algorithms disclosed in Tu, but the two algorithms disclosed in Figure 4 and Figure 13 are very different in terms of their purpose and their operation.

Q. And despite being different, a single device could perform both of them; right?

A. A single device could perform both the algorithm in Figure 4 and the algorithm in Figure 13, yes.

Q. In column -- or sorry -- paragraph 9 of your declaration, you say that "A POSITA would not have combined these two incongruous embodiments because they are directed to entirely different purposes and results."

Do you see that?

A. Yes, I do.

Q. What's incongruous about a device

waking up upon detecting a raise gesture and going to sleep upon detecting a loss of focus?

A. Well, that's -- that's not my point here. My point isn't that a single device would not contain the algorithm of Figure 4 and the algorithm of Figure 13.

My point is that no POSITA would take components of the algorithm described in Figure 14 and inject into it components of the algorithm disclosed in Figure 13, the reason being these two algorithms are directed at entirely different purposes.

Q. We'll explore a little bit what you mean by entirely different purposes.

Are they -- aren't they complementary purposes to detect one condition for waking up the device and a similar but opposite condition for putting the device to sleep?

A. No. I think Tu is very clear that the objectives of these two algorithms are extremely different, extremely different. In one case for the gaining of focus gesture, the purpose here of this

algorithm is to be highly sensitive and to respond extremely quickly to the user bringing the device into their line of sight.

Tu directly discloses the risk associated with that, that it will generate false positives, i.e., it will wake the device when it shouldn't. But Tu's disclosure communicates to a person of skill in the art that this high incidence of false positives would actually be desirable for the gaining of focus gesture, because it allows the device to be on when the user wants to look at it.

In the case of the algorithm for the loss of focus gesture, the requirements are opposite. It would be highly -- and Tu is explicit about this. It would be highly undesirable for the user -- for the device to become -- to go to sleep when the user is wanting to look at it.

So the loss of focus gesture is designed to have a slow process that is unlikely to result in the user looking at the watch and it falling to sleep while they're looking at it.

Q. Does both loss of focus and detecting

a focus pose involve tilt?

A. Yes.

Q. And so the difference is in the sensitivity of the measurement, not in the type of measurement?

A. I would disagree with that characterization. The algorithms disclosed in Figure 4 and Figure 13 for the gaining of focus in Figure 4 and the loss of focus in Figure 13 are very different to one another. There's many components in those two algorithms that are different. And they are designed to be different for the specific purposes that I described earlier.

Furthermore, Tu also discloses different software units within the functions to -- to obtain this functionality. And those are disclosed in figures -- Figure 7 and 14, amongst others. There are also other -- other figures that describe the functional components for these different gestures.

Q. You mention in paragraph 9 that "Tu discloses that early detection is desirable for

raise gestures."

Do you see that?

A. Yes.

Q. Does -- do the claims require any amount of how fast the detection is?

A. The claims of the '352 patent?

Q. Yeah, specifically the substitute claims that are the subject of your -- of this declaration we're talking about.

A. Person of skill in the art would understand the -- the need for the device to be rapidly available when the user lifts their -- lifts the device to view it, but the claims don't make any mention of the timings associated with that.

Q. Further down in the -- I believe it's the same paragraph -- further down but on page 8, you say, "In contrast, Tu discloses delayed detection is desirable for a loss-of-focus event."

Do you see that?

A. Yes, I do.

Q. Do the claims make any distinction between delayed detection and earlier detection of

different events?

A. The claims don't make such requirements.

Q. Let's go to -- paragraph 10 of your declaration is under a heading "Masimo fails to show a motivation to combine the Petition's prior art with Tu."

Do you see that heading?

A. Yes, I do.

Q. Let's go to Tu, Exhibit 2065, paragraph 5.

A. I'm there, thanks.

Q. The -- at the end of that paragraph 5, Tu says, "To avoid wasting power, existing wearable devices generally turn off or power down various power-consuming components, e.g., a display, when the user is not actively engaged with the device."

And then continuing on to paragraph 6, it says, "Because the display and/or user input components are not always on, existing wearable devices generally require some sort of preliminary user input, such as touching a button on the

wearable device, to indicate that the user wants to engage the device, as preliminary input can trigger the wearable device to activate its display and/or other power-consuming components. This preliminary interaction can make use of the device feel unnatural or inconvenient, especially in contrast with more natural, intuitive interactions familiar from other technology."

Do you see those sentences?

A. Yes, I do.

Q. Is Tu concerned with turning wearable devices -- or at least their displays -- off when not actively being used to save power?

A. Yes. That's one of the concerns of Tu.

Q. Does Tu say that pushing a button can make use of the device feel unnatural or inconvenient?

A. Tu does say that, yes.

Q. Let's look at paragraph 7 of Tu, where it says, "Accordingly, it may be desirable for a wrist-wearable computing device to detect when a

user is raising the wrist on which the device is worn and to automatically activate its display and/or other components in response to this motion. This can allow the user to obtain visual information from the wrist-wearable computing device as easily and intuitively as from a conventional wristwatch."

Do you see that?

A. Yes, I do.

Q. Does Tu suggest that automatic activation of the display in response to a raise motion allows a user to obtain information from the device as easily and intuitively as from a conventional wristwatch?

A. I see that.

Q. Let's go back to your declaration.

I'd like to direct your attention to paragraph 11 of your declaration, where you refer to Dascola and Brinda.

Do you see that paragraph?

A. Yes, I do.

Q. At the very bottom of paragraph 11, you say, "Masimo does not explain how Dascola's wake

screen covers the control UI and slides up to reveal the control UI."

Do you see that?

A. Yes.

Q. Have you ever seen horizontal blinds?

A. Are you talking about blinds that might be used over a window --

Q. Yes.

A. -- in a building?

Q. Yes.

A. Yes.

Q. Do you see the horizontal blinds that are on my windows actually behind me in my office?

A. No.

Q. Okay. There are some there.

When horizontal blinds are in a down position over a window, they cover the window and the objects one could see through the window if the blinds were up; correct?

A. Sorry. I don't understand the question. Horizontal blinds that are down?

Q. Yes.

A. I don't understand.

Q. When horizontal blinds are all the way down from the top of the window, all the way down to the bottom of the window, when they're essentially covering the entire window, can you --

A. I obviously -- sorry. I'm speaking over you. Apologize.

Q. Do you envision the scenario? You have horizontal blinds that are extended from the top of the window all the way down to the bottom of the window. So they're covering the entire window.

Can you envision that scenario?

A. No. I obviously misunderstand what you mean by horizontal blinds. When I think of horizontal blinds, I'm thinking of blinds that slide horizontally. You seem to be describing horizontal blinds as something that slides vertically. And I don't understand.

Q. Okay. But the type of slides vertically, would you prefer to call that a vertical blind?

A. Yes.

Q. Okay. So I'm referring to the type of blinds that you can push upward and reveal more of the window or you can push downward to cover more of the window. And we'll call those vertical blinds.

Is that okay?

A. Okay.

Q. When the vertical blinds are in a down position over the window, do you agree that they cover the window and objects that one could see through the window if the blinds were up?

A. I think this -- this hypothetical is not something I've had a chance to consider. It's certainly outside of my area of expertise. I'm not an expert on blinds in buildings. I'm an expert on user interfaces.

And my point here is that Dascola -- neither Dascola nor Brinda in any way disclose the limitations of the -- or render them obvious of the '352 modified claims.

Q. Well, you know how blinds work; right?

A. Apparently not, because when you described them as horizontal blinds, I was entirely

confused. I would refer to them as vertical blinds.

Q. Do you agree that user interface -- interfaces often are showing an image that is kind of a metaphor of something someone would see in the real world?

A. That can be the case.

Q. And regardless of whether we call them horizontal or vertical, you do understand that if you raise a blind from the bottom of a window and you -- it compresses some of the blinds together as you move it up, and it reveals a bottom portion of the window; correct?

A. From my limited experience of physical blinds covering windows, that sounds reasonable.

Q. And as you move the blinds up so that the bottom portion of the blinds compress and show part of the bottom of the window, the top of the blinds stay in the same place; correct?

A. I'm very uncomfortable with a hypothetical concerning physical blinds and whether they stay in the same place or not. The blinds that I'm -- vertical blinds that I'm most familiar with

are roller blinds. Roller blinds, they do not stay in the same place. They roll up on a -- on a spring-loaded mechanism.

So I don't think this analogy with physical blinds is a useful one here. It is far outside the contemplations of what's going on with these electronic devices.

Q. And when you say you're uncomfortable, are you saying you haven't -- you have never seen blinds where the bottom portion moves upward but the top portion stays in the same place?

A. Well, I -- I've disagreed with your hypothetical regarding blinds several times already. So it seems my contemplation of blinds is entirely different to yours. You're referring to horizontal blinds. I simply don't understand what you mean by that. When you refer to blinds staying in the same place at the top, again, I don't understand what you mean by that, because they don't stay in the same place.

The ones that I'm familiar with roll around. That's -- rolling around a roller is not

staying in the same place. It's a mechanism that causes a mechanical effect.

The hypothetical blind simply doesn't seem useful here.

Q. Okay. And so just -- just to -- I just want to follow that along just so I understand whether this is a -- let me just ask it this way.

Are you saying that in your experience you are not aware of any blinds where if the bottom portion moves up, the top portion still stays in the same place?

A. So in my house, I have two forms of vertical blinds, what I would call vertical blinds. One is roller blinds, where you can roll the blind up by pulling a cord or cable on the side. And in that case, I would not characterize part of the blind as staying in the same place, because in rolling, they are -- they've definitively not staying in the same place. They're rolling.

I also have Venetian blinds in the house, which are a series of slats on cords. The Venetian blinds, when you pull those up, some of the

components at the top remain in the same place.

Q. So you -- you are aware of those types of blinds where as some slats on the bottom move up and compress together, portions on the top stay in the same place; correct?

A. Large -- substantially in the same place, yes.

Q. And for that form of blinds or portions on the top stay in substantially the same place, if you had a design or some kind of graphic printed on the top of those blinds, as you moved the bottom portion of the blinds, the design would still be in the same location; correct?

A. This is a hypothetical that just seems far outside the contemplations that I have made with respect to touchscreen devices and the requirements of these limitations. The number of ways in which I am unclear about your physical blind manifestation and hypothetical is -- is growing with every new element of this that you aim to use.

We have the element of direction of movement, horizontal versus vertical. I've

disagreed with that. We have movement at the top, whether it's static or dynamic, I've disagreed with that. Not because I'm choosing to, but because I'm just -- I'm simply trying to follow your hypothetical.

Now we have graphics that are on these blinds. And, again, I'm confused by where these -- what these graphics are, what their purpose is and whether they -- the graphics are intended to be viewed when the blinds are down or when they are compressed.

The hypothetical is outside the contemplations of this patent. Its connection to the patent that we're dealing with is extremely etherial. I very much prefer to move off the hypothetical.

Q. I completely understand why you would want to. I've given you an example of something that moves from the bottom and reveals something on the bottom while something on the top stays in exactly the same place; correct?

A. So these Venetian -- the Venetian

blinds -- let's add to the -- the manifestation, the hypothetical that I'm more comfortable with is the Venetian blinds. I should add that the Venetian blinds are slatted so that the slats can be in a vertical orientation or they could be horizontal.

Graphics could be put onto the vertical element of the slats, or they could be put onto the horizontal component of the slats.

If the graphic was placed onto the horizontal component of the slats, the graphic would be visible when the slats were horizontal and the blinds were fully raised.

If the graphics were placed on the vertical element of the slats, then the graphics would be visible when the blinds were down and the slats were vertical. But they would not be visible when the -- when the slats were horizontal, either when they were down or when they were raised.

Hopefully you can understand why I'm concerned about the variability within this hypothetical.

Q. You would agree, based on the

hypothetical, that the moving of portion of an object on the bottom does not necessarily require moving of a portion on the top; correct?

A. Depending on the type of the vertical blinds we're discussing. If it's a roller blind, the movement of the bottom does require a movement to the top. If it's a Venetian blind, the movement of the bottom does not require a movement to the top.

Q. Let's go to -- let's go to paragraph 13. Where you refer to Brinda's protection layer sliding down and the claims requiring the wake -- wake screen to slide up, do you see that part of paragraph 13?

A. Yes, I do.

Q. Is it your opinion that sliding a user interface screen upward from the bottom to reveal an underlying user interface screen is patentably distinct from sliding a user interface screen downward from the top to reveal an underlying user interface screen?

A. In the case of Brinda, absolutely.

Brinda is very clear that the sliding down can occur in response to a finger gesture or a gesture. But Brinda is also explicit that there is no movement in response to a sliding up gesture. Brinda includes an entire figure and several paragraphs describing the absence of movement in response to a sliding up gesture.

Q. Would a POSITA consider that sliding a user interface screen upward from the bottom to reveal an underlying user interface screen is superior to sliding a user interface screen downward from the top to reveal an underlying user interface screen?

A. POSITA would understand there are important semantics and rationale associated with the choice of directional sliding.

Q. And what would be better about sliding from the bottom than sliding from the top?

A. In any user interface scenario?

Q. Well, let me just ask it this way: Is -- is there any circumstance in which a person of ordinary skill in the art would consider sliding

from the bottom better than sliding from the top?

A. Yes.

Q. What would that circumstance be and why would it be better?

A. Well, for instance, if you're viewing a web page that is already scrolled to the terminus, the end of the web page, sliding up would have -- could have a variety of responses that would certainly not be reciprocated by sliding in the opposite direction, because if you're already at the end of a document, you can't slide any further.

If you're at the top of the document, you can't slide down any further -- well, you can slide the finger, but there will be a different response from the system than there would be if you slid your finger in the opposite direction.

Q. In view of Brinda's disclosure of sliding down, would a person of ordinary skill in the art, having ordinary creativity, expect that one could slide up instead of sliding down?

A. In view of Brinda, Brinda is explicit that the sliding up gesture has no response.

Q. And to be clear, I'm asking about the creativity of a person of ordinary skill in the art. And I understand that Brinda says slide down.

I'm just asking, would a person of ordinary skill in the art look at that and think to themselves, I think you could also slide it up?

A. Brinda explicitly teaches that you cannot slide up. It explicitly teaches the lack of response to an upward sliding gesture. So Brinda has contemplated the meaning associated with different vertical gestures, downwards having one response and the opposite direction explicitly not having any response.

Q. Would a person of ordinary skill in the art, with ordinary creativity, would they think to themselves, you know, Brinda might say that up has no response, but I could modify Brinda so that it -- so that moving up would have a response similar to moving down?

A. Well, it's simply not disclosed or contemplated by Brinda.

Q. And I'm asking whether a person of

ordinary skill in the art would have contemplated the possibility of swiping -- or I'm sorry -- sliding up instead of sliding down?

A. In light of Brinda's disclosure, I see no reason for them doing so.

Q. A person of skill in the art would not even think about it; is that your opinion?

A. Given Brinda's explicit teaching, there is no response to the slide in the opposite direction, explicit teaching. It's not an implicit element of it. It is explicitly there. I see no reason for a person skilled in the art contemplating that.

Q. You have a pretty low opinion of a person skilled in the art, don't you?

A. Well, that's false.

Q. Would a POSITA expect that sliding a UI screen upward from the bottom to reveal an underlying UI screen would be just as easy as sliding a UI screen downward from the top to reveal an underlying UI screen?

A. Can you repeat the question, please?

Q. Would a POSITA expect that sliding a user interface screen upward from the bottom to reveal an underlying user interface screen would be just as easy as sliding a user interface screen downward from the top to reveal an underlying user interface screen?

A. I think this depends on context. For instance, if the person of skill in the art had an understanding that the finger or the digit executing a gesture was already in the vicinity of either the bottom of the screen or the top of the screen, then they might infer that one gesture is easier to do, including accidentally easier to do, than the other.

Q. Let's look at paragraph 14 of your declaration. And you say that Masimo fails to show a motivation for adding Dascola and Brinda.

Do you see that?

A. Yes.

Q. And you refer to Masimo offering only one specific motivation for adding Dascola and Brinda, which is to improve the aesthetics.

Do you see that?

A. Yes.

Q. With respect to that paragraph, do you agree that improving the aesthetics of a user interface can be a reason for a POSITA to change the way a user interface transitions from one user interface screen to another?

A. Sure. It's possible to improve the aesthetics of a user interface by varying the user interface; but with respect to this paragraph, Karunamuni already provides the benefits and the same essential aesthetics as both -- as Dascola and Brinda. So there's no rationale for the -- for the person skilled in the art to look to Dascola or Brinda, given that Karunamuni already discloses the purported aesthetic benefits.

Q. Is there an objective way for a person of ordinary skill in the art to determine whether one user interface looks better than another user interface?

A. There are a variety of aesthetic guidelines that could be used to provide an objective assessment of aesthetics and user

interfaces.

Q. Well, but in general would you agree with the concept that beauty is in the eye of the beholder?

A. No. In general, I would not. For many decades, I've been teaching elements of graphic design to undergraduate students and to postgraduate students. There are a variety of very simple principles that contribute to aesthetic suitability.

Q. Do you agree that some users may find a first way to transition from one user interface screen to another more aesthetically pleasing than a second way to transition from one user interface screen to another?

A. The question is directed to the user's -- I think the question's directed to the user's mechanism for activating the transition. The user's mechanism for transitioning could be a variety of different gestures, for instance, and those gestures are not associated with aesthetics. The system feedback is associated with aesthetics.

So I'm not sure that I understand the

question or whether I misunderstood it.

Q. Let's say there's a transition where in one case, you swipe up to transition and another case, you slide down to transition.

Would you agree some people might think that the first way looks better than the second, but others might think that the second way looks better than the first?

A. Again, if I understand the question correctly, your -- the question is limited to the aesthetics associated with the direction of travel. And I would be surprised if there was an aesthetic preference for one over the other. Assuming all other elements of the aesthetics -- all other aesthetics of the feedback other than direction were kept the same, I'd be surprised if there was any difference in perception of the aesthetic quality.

Q. Is it your opinion that no users would consider the Dascola and Brinda combination to be more aesthetically pleasing than Karunamuni?

A. First, I haven't seen a proposal from Masimo or Dr. Rosenberg for how Dascola and Brinda

would be combined or what the combination would look like.

Second, I think the disclosures of Karunamuni regarding aesthetics are essentially the same as the disclosures of Dascola and Brinda regarding aesthetics.

Q. How did you determine that Karunamuni already provides for the features and benefit, that is, Masimo's alleged motivation to combine, and the alleged modification to Karunamuni would not have been an improvement on what Karunamuni already provides?

A. Karunamuni describes a variety of fade effects. This is from memory. I can't say it right now. But from memory, I believe Karunamuni describes fading and opacity effects for the underlying information that is partially -- partially or completely hidden by the disclosure of a control -- control user interface.

These fading and occlusion effects are very similar and, to a person of skill in the art, essentially the same as those disclosed by Dascola.

Q. Did you compare how Masimo's combination would look to how Karunamuni looks?

A. I couldn't do that, because Masimo's disclosure of the combination was unclear at best.

Q. And yet you testified that Karunamuni would have the same benefits as the combination; correct?

A. Correct. Regarding the aesthetic disclosures of Karunamuni and Dascola, I could see no difference. So it's unclear -- while Masimo's combination was unclear, there was an argument that aesthetics would improve. If you try to analyze why the aesthetics would improve, the disclosures, to a person of skill in the art, are the same. So there is no reason for a person of skill in the art to see or believe that there would be any improvement in the aesthetics.

Q. How can you decide which one looks better without knowing what one of them looks like?

A. Well, you can look at the disclosures in Karunamuni and see that it describes opacity effects, fade effects and so on. You can look at

the disclosures of Dascola, for instance, and see that it describes -- I think it's blurring effects. And, otherwise, the effects are extremely similar.

Q. If some users would consider the Dascola and Brinda combination to look better than Karunamuni, would that provide a POSITA motivation to combine Dascola and Brinda?

A. Can you repeat the question, please.

Q. If some users would consider the Dascola and Brinda combination to look better than Karunamuni, would that provide a POSITA motivation to combine Dascola and Brinda?

A. First, Masimo's disclosure of Dascola and Brinda combination is essentially absent. There is no description of how that combination would work or how it would appear.

So what I'm trying to do is determine what are the aesthetic benefits that Masimo could potentially be referring to, and I see none.

Q. So just to be clear, your opinion, your Declaration 14, your basis for saying lack of motivation to combine is that Karunamuni has the

same benefits as the combination; correct?

A. Essentially, yes, that's correct.

Q. And your declaration does not say that the basis for your view is that Masimo did not properly specify what the combination is; correct?

A. Paragraph 13, I covered Masimo's failure to disclose how Brinda would be combined with Dascola. It's not in that paragraph 14 that we're directed at, but it's certainly there in earlier paragraphs.

Q. Is it your opinion that improved aesthetics cannot be a motivation to combine user interface elements?

A. I haven't offered that opinion.

Q. Do user interface designers commonly make changes to user interface elements to improve aesthetics?

A. Yes.

Q. When a user interface designer believes a user interface design looks better than another user interface design, does the designer need any other reason except for improved aesthetics

to adopt the better looking design?

A. If all other elements of the user interface are unchanged and you have a choice between Interface A with worse -- worse aesthetics and Interface B with better aesthetics, a person skilled in the art would choose B with the better aesthetics. That's if all other elements of the user interface are the same.

However, I should -- I should modify that -- that answer. Person of skill in the art would also need to consider the consistency of the aesthetics across the user interface. So if there was -- if Interface B in my example had better aesthetics than A, but Interface B was inconsistent with the large body of aesthetics otherwise contained in A, the person of skill in the art may still decide to not go with B because it provides an inconsistent user interface experience.

Q. We've been going for more than an hour. I have just a few questions left.

Are you okay going for another 15 minutes or so?

A. Sure.

Q. Let's go to paragraph 17 of your declaration.

A. I'm there. Thanks.

Q. And that starts out, "Substitute claims 27, 32 and 37 recite 'controlling the display generation components to not be activated.' Masimo argues that the claim language entails an affirmative step, such as sending a signal to cause the display not to activate."

Do you see that?

A. I do.

Q. Is it your opinion that controlling the display generation component to not be activated does not require an affirmative step?

A. I think it requires a step. Now, whether we characterize that step as affirmative or not is the issue under debate.

It -- we -- it requires a situation in which there is a branch in a control flow wherein one condition the display is activated and in another, there was a decision to not activate. Now,

a decision to not activate could be described as an affirmative action. Essentially, I'm envisioning this as a node branch on a flowchart.

Q. Yeah. So let's -- let's take an example. If a device with a physical power switch has its display on only when the physical power switch is in an on position, does the device control the display to not be activated simply by sitting on a table with its power switch in the off position?

A. This is a hypothetical that I haven't considered. I don't want to provide an analysis of this hypothetical without an opportunity to properly consider it.

Q. Let's look at paragraph 18 of your declaration. And on page 16, there's -- there's a block paragraph that's from Tu, I believe. Paragraph 240 of Tu.

You see that block paragraph?

A. Yes.

Q. And you can -- you can review that.

But does the paragraph say anything about what "controlling" means?

A. It doesn't explicitly refer to controlling.

Q. Does it ever use the word "control"?

A. Not that I see.

MR. CANNON: No further questions.

MS. LEUNG: Okay. Can we take a ten-minute break.

THE REPORTER: Okay. We're off the record. The time is 4:20 p.m.

(Recess from the record.)

THE REPORTER: We're back on the record. The time is 4:32 p.m.

EXAMINATION

BY MS. LEUNG

Q. Thank you, Dr. Cockburn. I just have one quick question for you.

Do you recall Mr. Cannon asking you about your paragraph 10 in your second declaration, which is Exhibit Apple 2010?

A. Yes, I do.

Q. And during that questioning, he also pointed you to Tu that you reference, Exhibit 1065,

paragraphs 6 and 7.

Do you recall that?

A. Yes.

Q. And I'll repeat it again.

Paragraph 6 says that "Because the display and/or user input components are not always on, it -- existing wearable devices generally require some sort of a preliminary user input, such as touching a button on the wearable device, to indicate that the user wants to engage with the device. This preliminary input can trigger the wearable device to activate its display and/or other power-consuming components. This preliminary interaction can make use of the device feel unnatural or inconvenient, especially in contrast with more natural, intuitive interactions familiar from older technology."

Now, looking at this paragraph, are there any reasons why a POSITA would not have been motivated to incorporate Tu into Chae's handheld device?

A. Yes. Masimo's proposal is to combine

Tu into Chae. And Chae is a handheld device. And handheld devices have very different characteristics to wrist-worn devices, such as Tu.

Given those different characteristics, a person skilled in the art would have no reason to look to Tu with having started with Chae, because the requirements for Chae are very different to those for Tu.

For instance, a handheld device, such as mobile phone, the digits -- the user's digits are near the display when the user grasps the device. So the digits can be used to activate buttons on the device, on the handheld device, or activate the display by an action, such as tapping the display or tapping and pressing the button. So Chae's handheld device has different requirements and different use cases than a wristwatch.

In particular, Tu's wristwatch has -- the paragraph 6 in Tu discloses the fact that it's convenient for users to not have to use a second hand in order to interact with the -- with the wrist-worn device. Because -- because your hands

are -- because the watch is on the wrist, the user cannot use the digits of that hand to interact with the device. And, therefore, a second hand must be used in order to press a button or activate controls on the wristwatch.

So these result in very different requirements for the wrist-worn device versus Chae's handheld device, where fingers are near the interactive components on Chae's handheld.

Finally, Tu's mechanism for using tilt and accelerometer data in order to activate the display or notify the wake system on the display, Tu explicitly states that this will result in false positives, where the -- sometimes the device will be woken without explicit requirements from the user to do so. It will identify a focus gesture when the user did not intend to do so. And that would result in additional power consumption, whereas Chae's device, which is a handheld and could use something like a button in order to activate the device, would not encounter those accidental activations.

So a person of skill in the art, with

Chae, Chae's handheld device, would have no reason to look to Tu to realize Tu's benefits for a wrist-worn device.

Q. Thank you, Dr. Cockburn.

MS. LEUNG: I have no further questions.

MR. CANNON: No further questions.

THE REPORTER: Okay. That concludes the deposition.

(Examination concluded at 4:39 a.m.)

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I, EILEEN MULVENNA, CSR/RMR/CRR, a Certified Court Reporter, Registered Merit Reporter, Certified Realtime Reporter, and Notary Public in and for the State of New York, do hereby certify:

That I reported the taking of the deposition of the witness, DR. ANDREW COCKBURN, commencing on the 11th day of July, 2024, at the hour of 3:00 p.m. (Eastern Daylight Time).

That prior to being examined, the witness was duly sworn by me to testify to the truth, the whole truth, and nothing but the truth.

That I thereafter transcribed my said shorthand notes into typewriting and that the typewritten transcript of said deposition is a complete, true and accurate transcription of my said shorthand notes taken down at said time, and that a request has been made to review the transcript.

I further certify that I am not a relative or employee of an attorney or counsel of any of the parties, nor a relative or employee of any attorney or counsel involved in said action, nor a person financially interested in the action.

IN WITNESS WHEREOF, I have hereunto set my signature this 12th day of July, 2024.

EILEEN MULVENNA, CSR/RMR/CRR/RDR

Dr. Andrew Cockburn, c/o
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San Diego, California 92130

Case: Masimo Corporation v. Apple Inc.
Date of deposition: July 11, 2024
Deponent: Dr. Andrew Cockburn

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