

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.
Petitioner

v.

Chian Chiu Li
Patent Owner

Case No. IPR2023-00560
U.S. Patent No. 11,016,564

SUPPLEMENTAL DECLARATION OF BENJAMIN B. BEDERSON

I, Benjamin B. Bederson, hereby declare the following:

1. My name is Benjamin B. Bederson, and I am over 21 years of age and otherwise competent to make this Declaration. I make this Declaration based on facts and matters within my own knowledge and on information provided to me by others, and, if called as a witness, I could and would competently testify to the matters set forth herein.

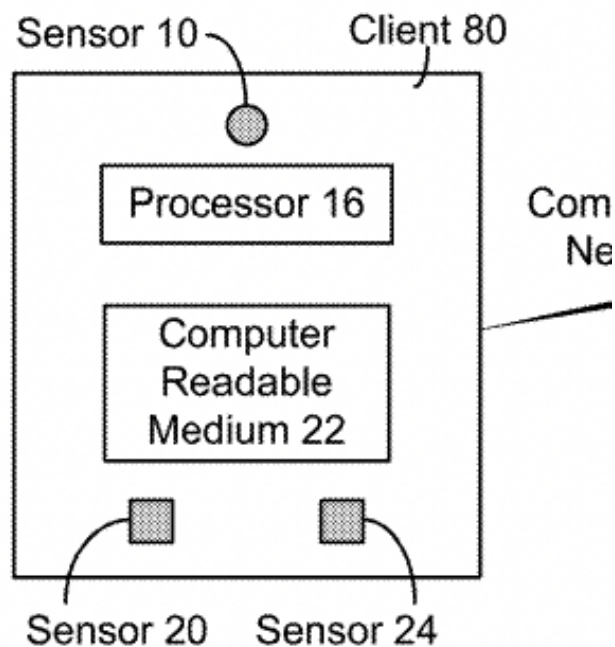
2. I submitted an initial declaration in support of Apple's petition for *Inter Partes* Review of U.S. Patent No. 11,016,564 ("the '564 Patent"). I understand the PTAB instituted the requested review and that the proceeding involves the full scope of the proposed grounds addressed in my initial declaration. I have been asked to address an additional issue in response to Patent Owner's Response ("POR") (Paper 7).

I. The '564 Patent's mobile device embodiment and its capabilities

3. I understand that Patent Owner has argued that the Challenged Claims are limited to electronic devices that perform gaze detection only after an act occurs involving physical contact with, or movement of, the electronic device. POR, at 3–4. I further understand that under this interpretation of the Challenged Claims, Patent Owner contends the electronic device must be incapable of either performing gaze detection continuously without a trigger act or performing gaze detection after the user approaches the device **or** moves the device. *Id.* As explained below, I disagree with the Patent

Owner's interpretation of the Challenged Claims because it is inconsistent with the express teachings of the '564 Patent.

4. The '564 Patent clearly describes a **single** physical embodiment of its electronic device that allows **a user** to select between a variety of gaze detection modes. First, the sole physical embodiment of the '564 Patent's electronic device is depicted in Figure 1:



Ex. 1001, Fig. 1. As can clearly be seen above, the electronic device includes **three distinct sensors**: sensor **10**, which tracks the eye of a user; sensor **20**,¹ which is a motion

¹ The motion detection functionality of sensor **20** may also be incorporated into sensor **10**. *Id.* at 4:18–21.

detector; and sensor **24**, which senses its own movement by sensing acceleration, deceleration, and rotation. *Id.* at 3:65, 4:12–13, 4:22–24. Thus, because the electronic device shown in Figure 1 contains all three sensors, it can perform each of the various functionalities ascribed to the sensors in the '564 Patent: gaze detection, external motion detection (e.g., a user approaching), and internal motion detection (e.g., a user shaking the device). *Id.* at 3:65–4:28.

5. I also disagree with the Patent Owner's interpretation of the Challenged Claims because the '564 Patent teaches that a user of the electronic device may decide which sensors are activated by selecting a variety of "user inputs" for controlling the device. For example, the '564 Patent expressly teaches that a user can select "physical movement of a user" as a "user input," shaking as a "user input," or may select "tapping, scribbling or sliding on a touch-sensitive screen, or tapping on [a] certain area of a device where sensitive sensors may be placed" as "user inputs." *Id.* at 6:35–36; 6:58–59; 7:13–20. In my opinion, because detecting the physical movement of a user relies on a different sensor than detecting the shaking, tapping, scribbling on, or sliding on the device, a POSITA would have understood that the user's selection of a given user input activates the specific sensor required to detect that input. Obviously, if the electronic device was not capable of detecting the physical movement of the user, then when a user selected "physical movement of a user" as a user input, the electronic device would be inoperable.

6. Moreover, the '564 Patent also expressly envisions providing the user with multiple “user input” options. Specifically, the '564 Patent explains that the electronic device could use “a specific app or program to specify what kind of physical move may be taken as an input for the device” and that the user may be given “more than one option” and “may select” the option that is “convenient and effective.” *Id.* at 7:20–24. In my opinion, this further confirms that the electronic device described in the '564 Patent must include the capability to perform each of gaze detection, external motion detection, and internal motion detection because if that were not the case, there would be no reason to—and in fact it would be counter-productive to—give the user the option to select “user inputs” that the device lacked the capability to activate.

7. Accordingly, because the sole physical embodiment of the electronic device described in the '564 Patent (1) contains all three sensors (gaze, external motion, internal motion); (2) defines a variety of unique user inputs that use those different sensors; and (3) provides the user with the option to select, using an app, the user input that is the most convenient and effective for them, a POSITA would have understood that the electronic device described in the '564 Patent must have the capability to permit a user to (1) enter no user inputs, resulting in a device that continuously performs gaze detection, (2) enter the physical movement of a user as a user input, resulting in a device that performs gaze detection after sensing external motion (e.g., a user approaching), and

(3) enter a physical movement of the device as a user input, resulting in a device that performs gaze detection only after sensing internal motion (e.g., shaking, tapping).

II. CONCLUSION

8. I declare that all statements made herein of my knowledge are true, and that all statements made on information and belief are believed to be true, and that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code.

Date: January 6, 2024

By: 
Dr. Benjamin B. Bederson