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Paper No. 8
Entered: October 18, 2018

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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APPLE INC.,
Petitioner,

v.

UNILOC 2017 LLC,
Patent Owner.

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Case IPR2018-01027
Patent 8,712,723 B1

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Before SALLY C. MEDLEY, MIRIAM L. QUINN, and SEAN P. O'HANLON, *Administrative Patent Judges*.

O'HANLON, *Administrative Patent Judge*.

DECISION
Denying *Inter Partes* Review
*35 U.S.C. § 314(a)*

# I. INTRODUCTION

Apple Inc. ("Petitioner") filed a Petition for *inter partes* review of claims 4 and 19 of U.S. Patent No. 8,712,723 (Ex. 1001, "the '723 patent"). Paper 2 ("Pet."), 1. Uniloc Luxembourg S.A., a predecessor in interest of Uniloc 2017 LLC ("Patent Owner"), filed a Preliminary Response. Paper 7 ("Prelim. Resp.").

Institution of an *inter partes* review is authorized by statute only when "the information presented in the petition . . . and any response . . . shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition." 35 U.S.C. § 314(a). For the reasons set forth below, upon considering the Petition, Preliminary Response, and evidence of record, we conclude that the information presented in the Petition fails to establish a reasonable likelihood that Petitioner will prevail in showing the unpatentability of claims 4 and 19. Accordingly, we decline to institute an *inter partes* review.

## *A. Related Matters*

The parties indicated that the '723 patent is the subject of the following litigation:

> *Uniloc USA, Inc. v. Apple Inc.*, No. 2-17-cv-00522 (E.D. Tex., filed June 30, 2017).
>
> *Uniloc USA, Inc. v. Samsung Elects. Am., Inc.*, No. 2-17-cv-00650 (E.D. Tex., filed Sept. 15, 2017),
>
> *Uniloc USA, Inc. v. LG Elecs. USA, Inc.*, No. 4-12-cv-00832 (N.D. Tex., filed Oct. 13, 2017),
>
> *Uniloc USA, Inc. v. HTC America, Inc.*, No. 2-17-cv-01629 (W.D. Wash., filed Nov. 1, 2017),

*Uniloc USA, Inc. v. Huawei Devices USA, Inc.*, No. 2-17-cv-00737 (E.D. Tex., filed Nov. 9, 2017),

*Uniloc USA, Inc. v. Apple, Inc.*, No. 4-18-cv-00364 (N.D. Cal., filed Jan. 17, 2018).

*Apple Inc. v. Uniloc USA, Inc.*, IPR2018-00389 (PTAB, filed Dec. 22, 2017) ("the '389 IPR").

Pet. 2; Prelim. Resp. 2; Paper 6, 3.

### *B. The Challenged Patent*

The '723 patent relates to monitoring and counting periodic human motions, such as steps. Ex. 1001, 1:12–14. The '723 patent states that inertial sensors (e.g., accelerometers) are used in step counting devices allowing an individual to track the number of daily steps. *Id.* at 1:18–29. One problem recognized in the '723 patent is the limitations of these step counting devices concerning the orientation of the device during use. *Id.* at 1:29–34. Further, motion noise often confuses these devices resulting in missed steps or counting false steps, with a particular problem identified of inaccurate step measurements for slow walkers. *Id.* at 1:35–43.

The '723 patent provides for accurate counting of steps without regard for the orientation of the step counting device, even if that orientation changes during operation. *Id.* at 2:33–38. In particular, the '723 patent describes assigning a dominant axis after determining an orientation of the inertial sensor, where the orientation of the inertial sensor is continuously determined. *Id.* at 2:15–19. In one embodiment, the '723 patent method determines rolling averages of the accelerations of each axis monitored by the inertial sensor in the device. *Id.* at 6:15–21. The largest absolute rolling average indicates the axis most influenced by gravity, which may change

over time, as the device's orientation changes because of rotation. *Id.* at 6:20–25.

With regard to the embodiment shown in Figure 8, reproduced below, the '723 patent describes the method for measuring the acceleration along the assigned dominant axis to detect, and count, steps. *See id.* at 12:30–35.

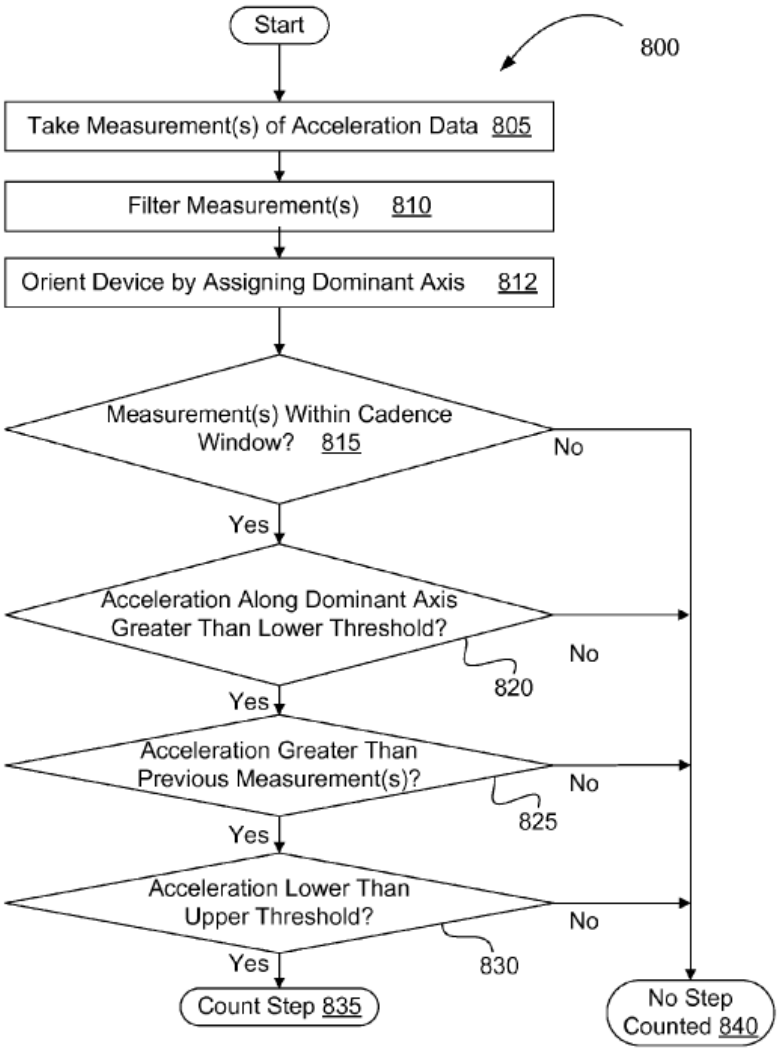


Figure 8

Figure 8 illustrates a diagram for a method of recognizing a step. After measurements of acceleration data (step 805) and filtering those

measurements (step 810), the method evaluates the orientation of the device and assigns a dominant axis (step 812). A processing logic determines whether a measurement is within a cadence window (step 815). The cadence window is the allowable time window for steps to occur. *Id.* at 3:65–66. In one embodiment, the cadence window is determined based on the actual stepping period or actual motion cycle, but default limits or other determiners may be used to set the cadence window. *Id.* at 4:7–27. After each step is counted, the minimum and/or maximum of the cadence window, or window length, may be adjusted based on actual cadence changes. *Id.* Therefore, the cadence window is dynamic so that it continuously updates. *Id.* at 4:31–33.

If the measurement of acceleration along the dominant axis is within the cadence window, and is within the range of acceleration thresholds (steps 820, 830), the motion is determined to be a step and is counted (step 835). Otherwise, the step is not counted (step 840) and the method continues to evaluate subsequent measurements.

### *C. The Challenged Claims*

Petitioner challenges claims 4 and 19 of the '723 patent. Claim 4 depends from independent claim 1 through intermediate dependent claim 3, and claim 19 depends directly from independent claim 14. Claims 1, 3, 4, 14, and 19 are reproduced below:

> 1. A method of monitoring human activity using an inertial sensor, comprising:
>
> assigning a dominant axis with respect to gravity based on an orientation of the inertial sensor;
>
> detecting a change in the orientation of the inertial sensor and updating the dominant axis based on the change; and

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