

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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FITBIT, INC.  
Petitioner,

v.

SMART WEARABLE TECHNOLOGIES INC.,  
Patent Owner.

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Case IPR2018-00252  
Patent 6,997,882 B1

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Before PATRICK R. SCANLON, ZHENYU YANG, and  
TIMOTHY J. GOODSON, Administrative Patent Judges.

YANG, Administrative Patent Judge.

DECISION  
Granting Institution of *Inter Partes* Review  
35 U.S.C. § 314(a)

## INTRODUCTION

Fitbit, Inc. (“Petitioner”) filed a Petition (Paper 2, “Pet.”), requesting an *inter partes* review of claims 8–10 of U.S. Patent No. 6,997,882 B1 (Ex. 1001, “the ’882 patent”). Smart Wearable Technologies Inc. (“Patent Owner”) filed a Preliminary Response to the Petition. Paper 6 (“Prelim. Resp.”).

For the reasons provided below, we determine Petitioner has satisfied the threshold requirement set forth in 35 U.S.C. § 314(a). Because Petitioner has established a reasonable likelihood that it would prevail in showing the unpatentability of at least one claim, we institute an *inter partes* review of the challenged claims.

### *Related Proceedings*

According to the parties, the ’882 patent is the subject of numerous district court cases, including *Smart Wearable Technologies Inc. v. Fitbit, Inc.*, Case No. 3:17-cv-05068 (N.D. Cal.). Pet. 76–78; Paper 4, 2–3.

The ’882 patent is also the subject of a petition for an *inter partes* review filed by Microsoft Corporation. See IPR2017-01325, Paper 1. Because the parties settled shortly after that petition was filed, we terminated that case without deciding whether institution was warranted. *Microsoft Corporation v. Smart Wearable Technologies Inc.*, IPR2017-01325 (PTAB October 2, 2017) (Paper 9).

The ’882 patent is further the subject of a petition for an *inter partes* review filed by TomTom, Inc. and TomTom International, B.V. See IPR2017-01826, Paper 1. There, after we instituted a review to determine the patentability of claim 8 (*id.*, Paper 12), the parties settled and we terminated the proceeding (*id.*, Paper 15).

*The '882 Patent*

The '882 patent relates to “devices and means for obtaining information related to the motion, position, and orientation of a subject in three-dimensional space, in combination with information indicative of the subject’s physiological status.” Ex. 1001, 3:15–20.

According to the '882 patent,

The most widely accepted system of describing the movement of a subject in three-dimensional space is to describe the motion with respect to three mutually orthogonal axes—x, y, and z, referred to as Cartesian axes. For each of the three axes, it is possible for the subject to undergo two types of movement: 1) along the axis (translational movement), or 2) about or around the axis (rotational movement). Given two types of movement occurring with respect to three axes, it will be appreciated that in order to fully describe the movement of a subject in three-dimensional space, one must simultaneously consider the motion in all “six degrees of freedom” (6-DOF), in the parlance of the art.

*Id.* at 1:45–56; *see also id.* at 8:5–27 (explaining the three planes of a Cartesian reference-frame and the two types of movement with respect to each of the three axes). The '882 patent discloses that 6-DOF information is measured using accelerometers. *Id.* at 1:61–63.

The '882 patent lists “[n]umerous types” of prior-art accelerometers (*id.* at 1:64–2:5), and acknowledges that “[t]he technology for acquiring 6-DOF data with respect to rigid bodies [wa]s employed in a variety of fields” (*id.* at 2:17–36). According to the '882 patent, in physiology and medicine, 1-DOF, 2-DOF, 3-DOF, and 4-DOF, accelerometer modules were available. *Id.* at 2:42–56.

The '882 patent also acknowledges that a field of prior art “far too large to inventory” taught how to use sensors to “collect physiological data,

process the data, and transmit them to a monitoring device.” *Id.* at 3:22–37. According to the ’882 patent, prior art taught combining physiological monitoring systems with accelerometers to enable the simultaneous monitoring of a subject’s physiological status and his/her movements, orientation, and position in three-dimensional space. *Id.* at 3:40–46, 3:51–56.

The ’882 patent, however, states that, before the ’882 patent, “the advantages of 6-DOF accelerometry ha[d] not been extended to subject-monitoring.” *Id.* at 2:40–42. According to the ’882 patent, this is due to “substantial technological hurdles to the application of 6-DOF techniques to subject-monitoring,” such as the requirement of “considerable additional computational effort” to “process[] large amounts of information very quickly.” *Id.* at 4:45–5:6. The ’882 patent purportedly overcomes those problems and “exploits and improves upon existing accelerometry technology as a means of enhancing subject-monitoring by obtaining and utilizing 6-DOF data.” *Id.* at 2:37–39.

#### *The Challenged Claim*

Claim 8, the only independent claim challenged, with the Certificate of Correction incorporated, is reproduced below:

8. A method of monitoring a subject during a monitoring period, comprising the steps of:

(a) attaching at least one accelerometer module to at least one body-segment of the subject;

(b) acquiring from the acceleration module attached at step (a) acceleration signals representing the accelerations of the body-segment relative to each of the x, y, and z-axes of an anatomical reference frame;

(c) processing the acceleration signals acquired at step (b) to

obtain six degrees of freedom (6-DOF) body-segment movement information descriptive of the movements of the body segment with respect to each of the x, y, and z-axes of an inertial reference-frame;

(d) acquiring at least one type of physiological data regarding the subject;

(e) processing the physiological data acquired at step (d) to obtain physiological information regarding the subject;

(f) synchronizing the 6-DOF body-segment movement information obtained at step (c) with the physiological information obtained at step (e) to obtain synchronized 6-DOF body-segment movement information and physiological information; and,

(g) displaying said synchronized 6-DOF body-segment movement information and physiological information obtained at step (f) in at least one format comprehensible to humans.

*Asserted Ground of Unpatentability*

Petitioner presents a single ground of unpatentability, asserting that claims 8–10 would have been obvious over the combination of Ng<sup>1</sup> and Hutchings.<sup>2</sup>

In support of its argument, Petitioner relies on the Declaration of Dr. Joseph Paradiso (Ex. 1003).

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<sup>1</sup> Ng et al., Sensing and Documentation of Body Position During Ambulatory ECG Monitoring, *COMPUTERS IN CARDIOLOGY* 2000, 27:77–80 (Ex. 1004).

<sup>2</sup> Hutchings et al., U.S. Patent No. 6,122,960, issued Sept. 26, 2000 (Ex. 1005).

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