

UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.,
Petitioner

v.

UNILOC LUXEMBOURG S.A.
Patent Owner

Case No. IPR2018-387
U.S. PATENT NO. 7,653,508

DECLARATION OF WILLIAM C. EASTTOM II (CHUCK EASTTOM)

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	A. continuously determining an orientation of the inertial sensor;	10
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	D. Claim 11 a dominant axis logic to continuously determine an orientation of a device, to assign a dominant axis, and to update the dominant axis as the orientation of the device changes,	13
	E. Claim 6 A method of monitoring human activity using an inertial sensor, comprising:.....	14
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I. INTRODUCTION

1. I have been retained by Uniloc to provide my expert opinions regarding validity of U.S. Patent No. 8,712,508 ("508 Patent"). Specifically, I have been asked to provide expert opinions regarding Claims 1-3, 5-7, and 10-18.

2. I am being compensated for my time at my standard consulting rate of \$300 per hour. I am also being reimbursed for expenses that I incur during the course of this work. My compensation is not contingent upon the results of my study or the substance of my opinions.

II. BACKGROUND AND QUALIFICATIONS

3. I have 25+ years of experience in the computer science industry including extensive experience with computer security, computer programming, and computer networking. I have authored 26 computer science books, including textbooks used at universities around the world. I hold 42 different computer industry certifications, including many in networking subjects. I am experienced with multiple programming languages. I also have extensive experience in computer networking. I have extensive experience with mobile devices, including all aspects of mobile devices (hardware and software). I am a Distinguished Speaker for the Association of Computing Machinery (ACM), and a reviewer for the IEEE Security and Privacy journal, as well as a reviewer for the International Journal of Cyber Warfare and Terrorism (IJCWT). My CV is attached as appendix A.

III. CLAIM CONSTRUCTION

4. For the purposes of an IPR, claim terms are given their broadest reasonable meaning.

5. The petitioner has adopted the definitions of *dominant axis* as “the axis most influenced by gravity.”

6. The petitioner has adopted the definition of *cadence window* as “a window of time since a last step was counted that is looked at to detect a new step.”

7. The petitioner has adopted the definition of *a dominant axis logic to determine an orientation of a device with respect to gravity, to assign a dominant axis, and to update the dominant axis when the orientation of the device changes* as “hardware, software, or both to determine an orientation of a device, to assign a dominant axis, and to update the dominant axis as the orientation of the device changes.” The petitioner seems to ignore the fact that software, by itself, cannot determine a dominant axis. Hardware with software/firmware, can.

8. The petitioner has adopted the definition of *a counting logic to count periodic human motions by monitoring accelerations relative to the dominant axis by counting the periodic human motions when accelerations showing a motion cycle that meets motion criteria is detected within a cadence window* as “hardware, software, or both to count periodic human motions by monitoring accelerations relative to the dominant axis by counting the periodic human motions when accelerations showing a motion cycle that meets motion criteria is detected within a cadence window.” The

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