IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

In re U.S. Patent No. 8,092,345

Filed: November 13, 2009

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Inventors: Michael Ellis; Caron Ellis

Title: Systems and Methods for a Portable Electronic Journal

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DECLARATION OF JOSEPH A. PARADISO

I, Joseph A. Paradiso, make this declaration in connection with the petition for *inter partes* review submitted by Petitioner for U.S. Patent No. 8,092,345 ("the '345 Patent"). All statements herein made of my own knowledge are true, and all statements herein made based on information and belief are believed to be true. I am over age 21 and otherwise competent to make this declaration. Although I am being compensated for my time in preparing this declaration, the positions articulated herein are my own, and I have no stake in the outcome of this proceeding or any related litigation or administrative proceedings.

I. Background and Qualifications

1. Appendix A to this declaration is my *curriculum vitae*. As shown in my *curriculum vitae*, I have devoted my career to various fields of physical, electrical, and computer science with more than two decades focused on embedding sensing, including wearable and wireless sensors.

2. I am an Associate Professor of Media Arts and Sciences at the Massachusetts Institute of Technology (MIT) where I direct the Responsive Environments Group, which explores how sensor networks augment and mediate human experience, interaction and perception. I also serve as co-director of the Things That Think Consortium, a group of MIT Media Lab researchers and industrial partners focused on the future of embedded computation and sensing.

3. I received my B.S. in electrical engineering and physics *summa cum laude* from Tufts University in 1977 and my Ph.D. in physics from MIT in 1981. From 1981 to 1984 I did post-doctoral research at the Swiss Federal Institute of Technology (ETH) in Zurich, working on sensor technology for high-energy particle physics. From 1984-1994, I was a physicist at the Draper Laboratory in Cambridge, Massachusetts, where, as a member of the NASA Systems and Advanced Sensors and Signal Processing Directorates, my research included spacecraft control systems and sensor technology for both sonar systems and high-energy physics. From 1992-1994, I directed the development of precision alignment sensors for the GEM muon detector

at the Superconducting Supercollider, and worked on design of particle detectors at the CERN Large Hadron Collider (LHC). I joined the MIT Media Laboratory in 1994.

4. Upon joining the Media Laboratory, I focused on developing new sensing modalities for human-computer interaction, then evolved my research into wearable wireless sensing and distributed sensor networks. This work anticipated and influenced transformative products and industries that have blossomed in recent years. For example, the sensor-laden wireless shoe I developed for interactive dance in 1997 is recognized as a watershed in the field of wearable wireless sensing and was an inspiration for the Nike+, one of the very first activity trackers and the first commercial product to integrate dynamic music with monitored exercise (accordingly, I am often requested to consult on IP as a technical expert for these companies). My team went on to pioneer clinical gait analysis with wearable wireless sensors in collaboration with the Massachusetts General Hospital (MGH) in 2002, and then broke new ground in sports medicine with another MGH collaboration that developed an ultra-wide-range wireless inertial measurement unit system for evaluating professional baseball pitchers in 2007.

5. Leading to over 250 publications, 15 issued patents, and a string of awards in the Pervasive Computing, Human Computer Interaction, and sensor network communities, my research has become the basis for widely established curricula. I

have also advised over 55 graduate students on various research projects and publications. For example, I have advised one former student—Ari T. Adler—on the development of a portable Telemedicine Kit for collecting and sharing patient data in remote areas lacking developed medical facilities and infrastructure. I also have been invited to keynote on the sensor revolution for prestigious venues ranging from the Sensors Expo (the main industrial sensors conference) to the World Economic Forum.

A. Status as an Independent Expert Witness

6. I have been retained in this matter by Weil, Gotshal & Manges LLP ("Weil") to provide various observations regarding the '345 Patent. I am being compensated at the rate of $450.00 per hour for my work. My fee is not contingent on the outcome of this matter or on any of the positions I have taken, as discussed below.

7. I have been advised that Weil represents the Petitioner in this matter. I have no direct financial interest in the Petitioner.

8. I have been advised that adidas AG (hereinafter referred to as "adidas") owns the '345 Patent. I have no financial interest in adidas, including its subsidiaries, or the '345 Patent. To the best of my knowledge I have not ever had any contact with Michael Ellis or Caron Ellis, the named inventors of the '345 Patent.

II. Materials Considered

9. I have reviewed the '345 Patent and its prosecution history. I have also reviewed U.S. Patent No. 6,513,532 to James R. Mault et al. ("Mault"; Exhibit UA-1004 to the petition); U.S. Patent No. 6,321,158 to David M. DeLorme et al. ("DeLorme"; Exhibit UA-1005 to the petition); *A Cost-Effective Portable Telemedicine Kit for Use in Developing Countries* by Ari. T. Adler ("*Telemedicine Kit*"; Exhibit UA-1006 to the petition); U.S. Patent No. 6,790,178; NavTalk™ Cellular Phone/ GPS Receiver, Owner's Manual and Reference Guide (January 2000); Toshiba Satellite 2530CDS Product Specifications (February 2000); and the File History for U.S. Patent No. 7,905,815 to Ellis, et al. Additionally, I have reviewed each of the following documents included herewith as Appendices:

Appendix A *Curriculum Vitae* for Joseph A. Paradiso

III. The Person of Ordinary Skill in the Relevant Field in the Relevant Timeframe

10. I have been informed that "a person of ordinary skill in the relevant field" is a hypothetical person to whom an expert in the relevant field could assign a routine task with reasonable confidence that the task would be successfully carried out. I have been informed that the level of skill in the art is evidenced by the prior art. The prior art discussed herein and otherwise demonstrates that a person of ordinary skill in the art, at the time the '815 patent was filed, was aware of wireless networking, wearable

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