

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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MICROSOFT CORPORATION, SAMSUNG ELECTRONICS CO. LTD.,  
SAMSUNG ELECTRONICS AMERICA, INC., AND ZTE (USA), INC.  
Petitioner

v.

IXI IP, LLC  
Patent Owner

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U.S. Patent No. 7,552,124  
Issued: June 23, 2009  
Application No.: 10/872,289  
Filed: June 17, 2004

Title: Natural Language For Programming A Specialized Computing System

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**DECLARATION OF JOHN D. VILLASENOR, PH.D. IN SUPPORT OF  
PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 7,552,124**

MICROSOFT CORP. ET AL.  
EXHIBIT 1002

## **I. INTRODUCTION**

1. I have been retained by Klarquist Sparkman, LLP, which represents Microsoft Corporation, Samsung Electronics Co. Ltd., Samsung Electronics America, Inc., and ZTE (USA), Inc. (“Petitioners”), in relation to an *inter partes* review (“IPR”) of U.S. Pat. No. 7,552,124 (the “’124 patent”). I have been asked to render an opinion regarding the validity of certain claims of the ’124 patent in light of certain prior art, including U.S. Pat. No. 7,027,975 to Pazandak et al. (“Pazandak” or the “Pazandak patent”) and U.S. Pat. No. 7,003,463 to Maes et al. (“Maes” or the “Maes patent”), as well as other art listed and discussed below.

2. Under my retention in this matter, I am being compensated at my normal hourly rate of \$800 / hour for my work on this matter and my compensation is not contingent on the outcome.

## **II. QUALIFICATIONS AND EXPERIENCE**

3. I received a B.S. in electrical engineering from the University of Virginia in 1985, an M.S. in electrical engineering from Stanford University in 1986, and a Ph.D. in electrical engineering from Stanford University in 1989. During my graduate study at Stanford (September 1985-January 1989), I performed research on communications and signal processing.

4. From approximately fall 1990 and until approximately June 1992, I worked for the Jet Propulsion Laboratory in Pasadena, CA, where I worked to

develop techniques for imaging and mapping the earth from space. Since 1992, I have been on the faculty of the Electrical Engineering Department of the University of California, Los Angeles (UCLA). Between 1992 and 1996, I was an Assistant Professor; between 1996 and 1998, an Associate Professor; and since 1998, I have been a full Professor. For several years starting in the late 1990s, I served as the Vice Chair of the Electrical Engineering Department at UCLA. I also hold faculty appointments in the UCLA Anderson School of Management and in the Department of Public Policy within the UCLA Luskin School of Public Affairs. I am also a visiting professor at the UCLA School of Law.

5. In the engineering school at UCLA, I have taught courses on information processing, image processing, and communications, including consideration of systems, algorithms, and devices. Among other courses, I have often taught a course in the UCLA Electrical Engineering Department on speech and image processing. This course includes consideration of various issues raised by the '124 patent and related art, including systems and algorithms for processing natural language.

6. At the Anderson School of Management, I created and have taught a course on intellectual property for technology entrepreneurs, and also advise second-year MBA students on technology-related team projects. At the Luskin School of Public Affairs, I teach science and technology policy and also advise graduate

student project teams. At the UCLA School of Law, I created and teach a course called “Digital Technologies and the Constitution.”

7. Over the past several decades I have performed extensive research on various aspects of systems, devices, and networks that acquire, store, process and transmit information. My research has addressed software, algorithms, hardware, networking, protocols and other aspects of these systems and devices, and has included work on wireless mobile devices and systems, signal processing and communications, hardware design methodologies, and cybersecurity.

8. I am an inventor on approximately 20 U.S. patents in areas including signal processing, data compression, communications, and cybersecurity. I have published over 150 technical articles in peer-reviewed engineering journals and conference proceedings. I have also been asked on multiple occasions to provide congressional testimony in relation to technology topics. In addition, I have published articles in the legal academic press, including law review articles.

9. In addition to my work at UCLA, I am a nonresident senior fellow at the Brookings Institution in Washington, D.C. Through Brookings I have examined a wide range of topics at the technology/policy intersection including cybersecurity, wireless mobile devices and systems, digital privacy, financial inclusion for “unbanked” populations, driverless cars, and digital currencies. In addition to publishing in traditional academic venues such as engineering journals, engineering

conference proceedings, and law reviews, I have published papers and reports through the Brookings Institution. I have also published articles and commentary in broader-interest venues including *Billboard*, *the Chronicle of Higher Education*, *Fast Company*, *Forbes*, *the Huffington Post*, *the Los Angeles Times*, *Scientific American*, *Slate*, and the *Washington Post*.

10. I am an affiliate of the Center for International Security and Cooperation (CISAC) at Stanford, and from 2014 to 2016, I was a National Fellow at the Hoover Institution at Stanford. Since 2016, I have been a Visiting Fellow at the Hoover Institution. At Stanford, I direct a research project funded by the U.S. Department of Homeland Security aimed at improving cybersecurity in U.S. critical infrastructure.

11. I am also a member of the Council on Foreign Relations. Previously I was a member and then vice chair of the World Economic Forum's Global Agenda Council on the Intellectual Property System as well as the World Economic Forum's Global Agenda Council on Cybersecurity.

12. Since the late 1990s, I have had significant engagement in early stage technology venture capital in the San Francisco Bay Area. In that capacity, I have met with a large number of startup companies seeking venture financing spanning a wide range of technology areas, including communications and networking. Among other things, I have helped to evaluate the proposed technology, the competitive

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