IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent of:	Steven Krampf, et al.	
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Title:	ENTERTAINMENT SYSTEM WITH UNIFIED CONTENT SELECTION	

DECLARATION OF M. RAY MERCER

I.   Personal Work Experience and Awards

1.   My name is Melvin Ray Mercer, Professor Emeritus of Electrical and Computer Engineering at Texas A&M University. I am currently President of M. Ray Mercer and Associates, Inc., an independent consulting firm. In addition to the below summary, a copy of my current curriculum vitae more fully setting forth my experiences and qualifications is submitted herewith as Appendix A.

2.   I have more than 46 years of dual industrial and academic experience in Electrical Engineering and Computer Engineering. I received a B.S. in Electrical Engineering from Texas Tech University in 1968, a Master of Science in Electrical Engineering from Stanford University in 1971, and a Doctor of Philosophy in Electrical Engineering from The University of Texas at Austin in 1980. Further, I have authored dozens of published technical papers and delivered many lectures addressing various aspects of Electrical and Computer Engineering.

3.	From 1968 to 1973, I was a Research/Development Engineer at General Telephone and Electronics Sylvania in Mountain View, California, during which time I also completed my M.S. in Electrical Engineering from Stanford University in 1971. During this period, I programmed minicomputer systems (predecessors to personal computers, smartphones, and modem servers) in machine language, assembly language, and various higher-level languages. I wrote simple Operating Systems, and most of the applications involved real-time processing as a significant aspect of the systems design. Much of this work was related to computer control of data collection and analysis systems used by organizations in the United States government.

4.	From 1973 to 1977, I was a Member of Technical Staff at Hewlett-Packard's Santa Clara Division and subsequently at Hewlett-Packard Laboratories in Palo Alto, California. During this time, I continued to develop application programs. I also designed interface hardware to interact with the software of the computers and accomplish various tasks. One major project for which I had overall responsibility was the real-time control of environmental test systems for satellites and satellite components. At HP Laboratories, among other projects, I developed hardware and software to provide real-time control of manufacturing systems for exotic solid state devices.

5.	From 1977 to 1980, I was a Lecturer in the Division of Mathematics, Statistics, and Computer Science at the University of Texas at San Antonio. As the director of a laboratory for teaching students to program and build hardware interfaces and control systems using small computers, I purchased, built, and operated some of the earliest personal computers. Additionally, I taught courses in the design of digital systems, while also completing my Ph.D. in Electrical Engineering from the University of Texas at Austin in 1980.

6.	From 1980 to 1983, I was a Member of Technical Staff at Bell Laboratories in Murray Hill, New Jersey. My work involved the programming of computers and the hardware design of components for communication systems. I was part of a three-person team that designed, tested, and directed the manufacture of an integrated circuit that was a key component in a digital telephone modem.

7.	In 1983, I was appointed Assistant Professor of Electrical and Computer Engineering at the University of Texas at Austin. In 1987, I was promoted to Associate Professor and Professor in 1991. During this period, I taught Computer Engineering courses at the undergraduate and graduate level, directed the research of graduate students, and consulted with numerous organizations.

8.	In 1995, I was appointed Professor of Electrical and Computer Engineering, Leader of the Computer Engineering Group, and Holder of the

Computer Engineering Chair in Electrical Engineering at Texas A&M University in College Station, Texas. My teaching, my research, my technical publications, and my supervision of graduate students during this period included the areas of the modeling, design, and fabrication of digital hardware and software systems. My administrative duties included the development and enhancement of the Computer Engineering Group. As with previous my work (at The University of Texas at Austin), during this period, I taught courses at the undergraduate and graduate level, I directed the research of graduate students, and I consulted with numerous organizations on a variety of topics. I was also responsible for monitoring controlled experiments to optimize and quantify the use of tester time to detect defects in electrical products, and I was part of a team that used analytical techniques to predict the expected growth of quiescent currents in MOS transistors as a function of the reduction in integrated circuit feature sizes.

9. In September 2005, I retired from my teaching position, and the Regents of the Texas A&M University System appointed me as Professor Emeritus of Electrical and Computer Engineering at Texas A&M University.

10. In 1984, I formed Mercer and Associates, an independent consulting firm that I have owned and directed to this day. Since 1984, I have been providing private consultation and advice in Electrical and Computer Engineering to

numerous entities, including IBM Corp., Rockwell International, Motorola Semiconductor, AT&T, Inc., and SigmaTel.

11.   I first served as an expert witness at the request of the Office of the State Attorney General of Texas in 1984. Since that time, I have been hired by numerous law firms to provide them and their clients with expert consultation and expert testimony, often in the areas of patent infringement litigation related to Electrical and Computer Engineering. I have testified about systems that download entertainment media from the internet for presentation on home-based entertainment systems. I have testified regarding stand alone and on line gaming systems. I have testified regarding home entertainment systems which use wireless communications. I have testified regarding media advertising for automotive products. I have testified with respect to on-line educational institutions and technical aspects of their media distribution systems. I have testified with respect to media and entertainment systems for mobile vehicles. I have testified in a case involving the simultaneous acquisition of media from an external source to a storage device and presentation of different media stored on that same storage device via an entertainment device. I have testified in a case involving delta-sigma modulation for high performance analog-to-digital and digital-to-analog converters – such as those commonly utilized in personal computers.

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