Case: IPR2015-00476 Patent: 7,218,313

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SONY COMPUTER ENTERTAINMENT AMERICA LLC Petitioner

v.

APLIX IP HOLDINGS CORPORATION
Patent Owner

Case No. IPR2015-00476

Patent No. 7,218,313

### DECLARATION OF DR. KARON MACLEAN

Mail stop PATENT BOARD Patent Trial and Appeal Board U.S. Patent & Trademark Office P.O. Box 1450 Alexandra, VA 22313-145



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D.	It is not obvious to combine Pallakoff and Liebenow with respect to claims 21-24, 26, 52-56 and 58		
	1.	Pallakoff and Liebenow represent fundamentally different design approaches, which do not work in combination	
	2.	Pallakoff teaches modifier buttons on the side, and teaches away from modifier buttons on the back, making implementation with Liebenow's rear touchpad incompatible	
	3.	Liebenow does not teach use of a rear surface touch panel for modification of front-surface input elements or their functions, nor does Liebenow's touch panel implementation support such a use. Instead, Liebenow explicitly places modifier buttons on the front (or side)	
	4.	Liebenow's invention of rear-surface touch panel input, intended to facilitate typing on a rear surface while finger locations are displayed on the front display, is not functionally compatible (using methods taught by Liebenow) with front-surface key function modification. It would need substantial modification to be combined	
	5.	Pallakoff requires simultaneous activation of a combination of side-buttons, but multiple-touch sensing is not taught or available in Liebenow's invention	
	6.	It is impractical to replace Pallakoff's side-located modifier buttons with Liebenow's back-surface touch pad due to user feedback needs	
	7.	The proposed benefit of combination proposed by the 476 Petition is of limited viability and is incompatible with Pallakoff	
Е.	Hed	berg is not analogous to the '313 patent45	
. C	Conclus	ion	



IV.

# I. Background & Qualifications

1. I have summarized in this section my educational background, career history, and other relevant qualifications. I have also attached a current version of my Curriculum Vitae as **Ex. 2008**.

## A. Educational background and career history

- 2. I am presently a Full Professor at the University of British Columbia, with a regular appointment in Computer Science in the Faculty of Science, and a courtesy appointment in Mechanical Engineering in the Faculty of Applied Science. I have recently been a Visiting Professor at the University of Colorado (Boulder, Colorado, USA) and at the University of Canterbury (Christchurch, NZ).
- 3. In 1986 I received a B.S. degree in Mechanical Engineering and Biological Sciences from Stanford University. In 1988 I received a M.S. in Mechanical Engineering from Massachusetts of Technology, and 1996 a Ph.D. in Mechanical Engineering from Massachusetts of Technology.
- 4. From 1989 to 1991 I worked as a project engineer at the University of Utah's Center for Engineering Design in Salt Lake City, UT. From 1996 to 2000 I was a Member of Research Staff and Project Lead at Interval Research Corporation in Palo Alto, CA.



### B. Research expertise

- 5. The majority of my research relates to different aspects of the design of physical interfaces for human use. These draw on disciplines of Human Computer Interaction (HCI), robotics and mechatronics, human biomechanics, psychophysics and cognition, and design practices more broadly. As a sample, my research includes design of interaction techniques for handheld devices, invention of flexible sensors for touch sensing and machine-learning recognition of human gestural touch, prototyping tools for haptic designers, psychophysically-based tools for creating sets of "haptic icons" (meaningful signals rendered by tactile and force-feedback actuators), and design and deployment of emotional touch in therapeutic applications of touch-based affective robots. Other research interests include human-robot interaction (HRI), accelerometer based motion recognition and interactive motion guidance for users, and mobile tools for systematizing health issue investigation.
- 6. With my students and postdocs, I have co-authored over 100 peer-reviewed publications in these areas. In the fields of HCI and HRI, top-tier (peer-reviewed, 20-25% acceptance) conferences are a primary mode of publication. My team has received seven "Best Paper" awards and two additional runners-up in the last 10 years at such conferences, including the ACM Conference on Human Factors in Computing Systems (CHI), ACM/IEEE Human Robot Interaction (HRI), IEEE HAPTICS and ACM ICMI (Int'l Conference on Multimodal Interaction).



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