EDITORIAL PREFACE

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Like other technology, computing devices evolve constantly. They started with main frames, followed by PCs and notebooks, and bears with smartphones and tablet PCs now. Applications and systems developed for each generation use different technologies and languages from other generations. For example, COBOL was heavily used for business processing on the main frames, but it is rarely used these days except on legacy systems. Likewise, Unix dominates main frames, but Windows and Android (and maybe iOS) are the most popular operating systems nowadays. Table 1 shows the worldwide computer and device sales from 2002 to 2014. Though feature phones had the highest sale number in 2014, it is believed the number of smartphones shipped will surpass it in the near feature. The number of tablet PCs was increasing steadily, but its number was still small compared to the number of smartphones. The number of PCs and servers reached the peak in 2011 and climbed back slowly in 2014. The correct prediction of computing-device sales is critical for IT developers and companies because the software developed for those declining devices might not be in use for long after spending much time and money on developing it. This issue consists of four articles covering the current topics of handheld computing including: (i) mobile authoring tools, (ii) voice synthesis, (iii) a Wii Remote application, and (iv) drones and privacy. Brief introductions of the four articles are given next.

Article 1. Supporting the mobile in-situ authoring of locative media in rural places: Design and expert evaluation of the SMAT app: Providing users with carefully authored locative media experiences has significant potential for fostering a strong engagement with their current surroundings. This article presents the design and expert evaluation of a mobile app developed under the SHARC project (Investigating Technology Support for the Shared Curation of Local History in a Rural Community). The app is named SMAT (SHARC Mobile Authoring Tool) and supports the authoring of locative media experiences with a focus on the creation of POIs (Points Of Interest) and associated geo-fences which trigger the pushed delivery of media items such as photos, videos and audio clips. One important requirement of SMAT is the ability to support authoring in places where connectivity is intermittent or unavailable, e.g. many rural areas.

Article 2. Voice application generator platform for real time multimedia vehicle sensor based notifications: This research presents an innovative platform that allows users to generate multimedia web applications that use real time vehicle sensor information. The creation of applications is specified through a voice interface to allow users to generate applications while driving. Information used in the applications is collected combining mobile device sensors like accelerometer, GPS, light sensor, and barometer and vehicle real time On-board Diagnosis port

Table 1. Worldwide computer and device sales by operating system from http://wenchen.cs.und.edu/handheldresearch/

Year	Number of Units Shipped (Million)				
	Mobile Phones	PCs and Servers	Smartphones	PDAs (without phone capabilities)	Tablet PCs
2002	432	148	—	12.1	—
2003	520	169	—	11.5	—
2004	713	189	—	12.5	—
2005	813	209	—	14.9	—
2006	991	239	64	17.7	—
2007	1,153	271	122	—	—
2008	1,220	302	139	—	—
2009	1,221	306	166	—	1
2010	1,609	346	286	—	17
2011	1,775	365	486	—	73
2012	1,746	352	698	—	128
2013	1,806	296	968	—	195
2014	1,879	314	1,245	—	227

information like speed, engine revolutions per minute, and fuel consumption. The domain of generated applications includes driving safety, road state, parameter notifications, social applications, etc. The generated applications can display visual information systems such as maps, audio, video and measurement gauges.

Article 3. Using the Wii Remote for mobile device application testing: A proof-of-concept: There has been a dramatic shift in the interaction methods of mobile devices over the past decade. From devices simply being able to make phone calls to being able to handle complex tasks traditionally performed on personal computers; this change has led to new interaction issues that need to be understood during the application development process, particularly as these devices now commonly incorporate a touch-screen as their primary source of input. Currently, the methods of conducting software user experience testing of these devices employs techniques that were developed for PCs, however mobile devices are used within different contexts of use. This paper initially reviews the current methods for user experience testing of applications running on mobile devices and then presents an innovative method for conducting user experience testing employing actual devices.

Article 4. Drones and privacy: Drones or UAVs (Unmanned Aerial Vehicle) are aircraft without human pilots. Drones have been used by various military organisations for over a decade, but in recent years drones have been emerging more and more in commercial and recreational capacity. The paper is aimed at drone and UAV technology capabilities and how they could and are currently effecting privacy laws globally in comparison to those currently in Ireland. Being investigated is the collection, retention and purpose of which civilian's information is being gathered. The authors also discuss the laws preventing the development and evolution of drone technology in the US in comparison to Ireland.

According to Table 1, there were more than 1 billion smartphones delivered in 2014. On the other hand, only about 300 million of PC and servers shipped in that year. Based on the trend, more users will spend time on handheld devices instead of desktop computers. At the same time, developers and companies will also invest more and put more effort on handheld research and development. The IJHCR is entering its 6th year and will continue sharing contemporary handheld-computing research with mobile community. The Editor-in-Chief appreciates your support and hope you will enjoy it.

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IJHCR

Wen-Chen Hu received a BE, an ME, an MS, and a PhD, all in Computer Science, from Tamkang University, Taiwan, the National Central University, Taiwan, the University of Iowa, Iowa City, and the University of Florida, Gainesville, in 1984, 1986, 1993, and 1998, respectively. He is currently an associate professor in the Department of Computer Science of the University of North Dakota, Grand Forks. He was an assistant professor in the Department of Computer Science and Software Engineering at the Auburn University, Alabama, for years. He is the Editor-in-Chief of the International Journal of Handheld Computing Research (IJHCR), the general chairs of a number of international conferences such as the 2015 International Conference on Big Data, IoT, and Cloud Computing (BIC 2015), and associate editors of several journals like Journal of Information Technology Research (JITR). In addition, he has acted more than 100 positions as editors and editorial advisory/review board members of international journals/books, and track/session chairs and program committee members of international conferences. He has also won a couple of awards of best papers, best reviewers, and community services. Hu has been teaching more than 10 years at the US universities and over 10 different computer/IT-related courses, and advising/consulting more than 100 graduate students. He has published over 100 articles in refereed journals, conference proceedings, books, and encyclopedias, edited more than 10 books and conference proceedings, and solely authored a book entitled "Internet-enabled handheld devices, computing, and programming: mobile commerce and personal data applications." His current research interests include handheld/mobile/smartphone/tablet computing, location-based services, web-enabled information system such as search engines and web mining, electronic and mobile commerce systems, and web technologies. He is a member of Association of Computing Machinery (ACM).