WCST

Sponsors

IEEE Advancing Technology for Humanity

Infonomics Society www.infonomics-society.org

In Cooperation With

The University of Manchester

Coventry University

University of Kent

BeeCA Consultancy Bee Cyber Aware

Université de Nantes

College of Charleston

Canadian Teacher Magazine

World Congress on Sustainable Technologies (WCST-2015)

Technical Co-sponsored by IEEE UK/RI Computer Chapter

December 14-16, 2015, London, UK

WCST-2015 Proceedings

Edited By

Charles A. Shoniregun

Galyna A. Akmayeva

ISBN 978-1-908320-53-7
CFP1580P-USB

WCST-2015

December 14-16, 2015, London, UK

Heathrow Windsor Marriott Hotel
Ditton Road, Langley
Berkshire
SL3 8PT

Tel: +44 (0)1753 598 181
Fax: +44 (0)1753 598 157

Message to WCST Participants

Welcome to the World Congress on Sustainable Technologies (WCST-2015). The WCST-2015 is a conference that provides opportunity for academicians and professionals to bridge the knowledge gap and to promote research esteem.

The WCST-2015 received 375 papers from 32 countries of which 53 were accepted after the first review and 29 papers were finally accepted for presentation. The double blind paper evaluation method was adopted to evaluate each of the conferences submissions. Please note that selected papers will be invited for publications in high impact International Journals.

Many people have worked very hard to make this conference possible. We would like to thank all who have helped in making WCST-2015 a success collaborative conference. The Steering Committee and reviewers each deserve credit for their excellent job. We thank the authors who have contributed to the conference and all our Keynote Speakers: Professor Kevin Warwick, Dr Martin Visser, Professor Maryline Chetto, Professor Frank Wang, Dr Aspen Olmsted and Professor Frank Geels, for agreeing to participate in WCST-2015. We will also like to acknowledge our appreciation to the following organisations for their sponsorship and support: IEEE UK/RI Computer Chapter, Infonomics Society, Coventry University, Brunel University, University of Kent, University of Manchester, University of Nantes, BeeCA Consultancy, College of Charleston and Canadian Teacher Magazine. The long term goal of WCST-2015 is to build a reputation and respectable conference for the international community. On behalf of the WCST-2015 Executive members, we would like to encourage all the attendees to contribute to the future of WCST as authors, speakers, panellists, and volunteer conference organisers.

We wish you a pleasant stay in London, and please feel free to exchange ideas with other colleagues.

Charles A. Shoniregun, Infonomics Society, UK and Ireland
Frank Zhigang Wang, University of Kent, UK

Contents Page

WCST-2015 Executive Committees

General Chair

Charles A. Shoniregun, Infonomics Society, UK and Ireland

Steering Committee Chair

Frank Zhigang Wang, University of Kent, UK

Steering Committees

John Barrett, University of Leeds, UK
Ion Tutanescu, University of Pitesti, Romania
Liang-Jie (LJ) Zhang, Kingdee International Software Group, China
Paul Hofmann, Saffron Technology, USA
Nick Savage, University of Portsmouth, UK

International Chair

Ayahiko Niimi, Future University-Hakodate, Japan

Publication Chair

Galyna Akmayeva, Infonomics Society, UK and Ireland

PhD Student Forum Chair

Robert M. Foster, University of Wolverhampton, UK

Technical Programme Committee Chair

Roberto Pereira, University of Campinas (UNICAMP), Brazil

Technical Programme Committees

Israel Koren, University of Massachusetts, USA
Hicham Adjali, Kingston University, UK
Javier Alonso, Technical University of Catalonia, Spain
Mani Krishna, University of Massachussets, USA
Narimantas Zdankus, Kaunas University of Technology, Lithuania
Roderick Lawrence, University of Geneva, Switzerland
Andrew Geens, University of Glamorgan, UK
Alan Brent, Stellenbosch University, South Africa
Adel Gastli, Sultan Qaboos University, Oman
Hakan Aydin, George Mason University, USA
Motamed Ektesabi, Swinburne University of Technology, Australia
Jean-Michel Lavoie, Université de Sherbrooke, Canada
Amip Shah, Hewlett-Packard Company, USA
Jamal Zemerly, KUSTAR, UAE
Safwan El Assad, Polytech'Nantes, France
Chan Yeob Yeun, KUSTAR, UAE

Princely Ifinedo, Cape Breton University, Canada
Charles k. Ayo, Covenant University, Nigeria
Zhixiong Chen, Mercy College, USA
Youakim Badr, INSA de Lyon, France
Richard Chbeir, Université de Bourgogne, France
Sead Muftic, KTH - Royal Institute of Technology, Sweden
Vyacheslav Grebenyuk, Kharkiv National University of Radioelectronics (KNURE), Ukraine
Victoria Repka, The People's Access Education Initiative, Australia
Daniel Oberle, SAP Research CEC, Germany
Daniel Mosse, University of Pittsburgh, USA
Vania Paula de Almeida Neris, Federal University of Sao Carlos – UFSCar, Brazil

Keynote Speakers

Distinguished Keynote Speaker

Kevin Warwick, is Deputy Vice-Chancellor (Research) at Coventry University. Prior that he was Professor of Cybernetics at The University of Reading, England. His research areas are artificial intelligence, control, robotics and biomedical engineering. He is a Chartered Engineer (CEng.) and is a Fellow of The Institution of Engineering & Technology (FIET). He is the youngest person ever to become a Fellow of the City & Guilds of London Institute (FCGI). He is the author or co-author of more than 600 research papers and has written or edited 27 books (three for general readership), as well as numerous magazine and newspaper articles on scientific and general subjects. He has broadcast and lectured widely and holds various visiting professorships.

Title: The Cyborg Experiments

Abstract: In this presentation a practical look is taken at how the use of implant and electrode technology can be employed to create biological brains for robots, to enable human enhancement and to diminish the effects of certain neural illnesses. In all cases the end result is to increase the range of abilities of the recipients. An indication is given of a number of areas in which such technology has already had a profound effect, a key element being the need for a clear interface linking a biological brain directly with computer technology.

The emphasis is clearly placed on experimental scientific studies that have been and are being undertaken and reported on. The area of focus is notably the need for a biological/technological connection, where a link is made directly with the cerebral cortex and/or nervous system. The presentation will consider the future in which robots have biological, or part-biological, brains and in which neural implants link the human nervous system bi-directionally with technology and the internet.

Keynote Speaker 1

Frank Z. Wang is the Professor in Future Computing and Head of School of Computing, University of Kent, UK. The School of Computing was formally opened by Her Majesty the Queen. Professor Wang's research interests include cloud computing, big data, green computing, brain computing and future computing. He has been invited to deliver keynote speeches and invited talks to report his research worldwide, for example at Princeton University, Carnegie Mellon University, CERN, Hong Kong University of Sci. & Tech., Tsinghua University (Taiwan), Jawaharlal Nehru University, Aristotle University, and University of Johannesburg. In 2004, he was appointed as Chair & Professor, Director of Centre for Grid Computing at CCHPCF (Cambridge-Cranfield High Performance Computing Facility). CCHPCF is a collaborative research facility in the Universities of Cambridge and Cranfield (with an investment size of £40 million). Prof Wang and his team have won an ACM/IEEE Super Computing finalist award. Prof Wang is Chairman (UK & Republic of Ireland Chapter) of the IEEE Computer Society and Fellow of British Computer Society. He has served the UK Government EPSRC e-Science Panel and the Irish Government High End Computing Panel for Science Foundation Ireland (SFI).

Title: Computer Evolution over the Next Decade: Fact or Fiction?

Abstract: Computers evolve fast and the processing power should double every two years by Moore's Law. That would mean computers 10 years from now would be 32 times more powerful than the current models. In 2005, Moore said that as transistors reach the atomic scale we may encounter fundamental barrier we can't cross. We may get around that barrier by building a computer that works similarly to the human brain. However, most of previous efforts to build brain-like computers have failed because it took about the same silicon area to emulate a CMOS synapse as that needed to emulate a neuron. In theory, any realistic implementation of a synapse should ideally be at least four orders of magnitude smaller than that required to build a neuron. The invention of the memristor opens a new way to implement synapses. A memristor is a simple 2-terminal element, which means a vast number of memristors could be integrated together with other CMOS elements, in a single chip.

Keynote Speaker 2

Martin Visser have over 35 years of experience in the ICS environment. From engineer, process information expert, project leader and ICS consultant to Security Officer Industrial Control Systems. Waternet was more than 30 years my employer. For 10 years I was responsible for the security of the entire ICS architecture, SCADA and PLC systems of Waternet. My work consisted of drawing up security policies, conducting risk and GAP analysis and assessments. Compiling and executing security awareness training programs and giving ICS advisories. Providing ICS security presentations at home and abroad. From 2006 I have been the vice chairman of the Dutch Water-ISAC. In addition I was ICS security consultant for the Dutch association of Drinking Water Companies and Dutch Waterboards and I regularly attended ministerial ICS security working groups. As Waternet representative I have been member of the security working group of the WIB (International Instrument User's Association). The WIB is the founder of the IEC62443-2-4 norm that describes the baseline security standards and certification for ICS suppliers. In August 2015 I founded BeeCA, Bee Cyber Aware, Consultancy. BeeCA is an advisory and consultancy office in Cyber security, Cyber awareness and Information security for Supervisory Control And Data Acquisition (SCADA), Industrial Control Systems (ICS), Programmable Logic Controller (PLC) and Operational Technology (OT). As owner/consultant I have a strong focus on cyber security for all aspects of Industrial Control Systems in critical infrastructures (utility, drinking- and sewage water, energy). I have the experience and it is my passion to exchange information and share knowledge with colleagues to create more ICS cyber security awareness from board to floor and to make the ICS systems and architecture more robust and digital resilient to be better prepared on the continuous current of increasing cyber threats. Recently I have organized two cyber security events for the Water companies in the Netherlands.

Title: Swimming against the current – Dealing with ICS cyber threats in the Water Sector

Abstract: The Drinking Water Sector in the Netherlands is a vital part of the critical infrastructure of the Netherlands. The Drinking Water companies are responsible for reliable and clean drinking water of sufficient pressure and supply. Everybody trust tap water! The Waterboard companies are also part of the critical infrastructure of the Netherlands. They are responsible for the quality and safety of the inside and outside dikes which protect the Netherlands against an overflow of sea- and river water. Besides they are responsible for sewage water treatment and clean surface water of the right level. In order to perform all these tasks reliable and safe ICS and SCADA systems, PLC's and network connections with a high availability are frequently used. All these technologies also provide an increasing amount of process information shared at a later date with the business information systems. The data integrity of this process data is of the utmost importance. Unfortunately ICS and

SCADA systems, PLC's, network components, network connections and data transfer protocols have digital vulnerabilities and weaknesses which can affect the availability, integrity, reliability and confidentiality of the core business of drinking water and water board companies.

In this presentation, I will discuss the current cyber threats, challenges and business concerns of the Water Sector and what the Water Sector is doing to strengthen their digital resilience and to increase the efficiency and effectiveness of their business operations.

Keynote Speaker 3

Aspen Olmsted is an Assistant Professor at the College of Charleston. He obtained a Ph.D. in Computer Science and Engineering from the University of South Carolina. Prior to his academic career, was CEO for Alliance Software Corporation. Alliance Software developed N-Tier enterprise applications for the performing arts and humanities market. Aspen's research focus on the development of algorithms and architectures for distributed enterprise solutions that can guarantee security and correctness while maintaining high-availability.

Title: Secure Software Engineering in the Cloud

Abstract: In his talk, Dr. Olmsted will investigate the problem of developing secure development of cloud-based enterprise applications. Consistency, availability, and durability are investigated for web service (WS) transactions. He proposes an approach that matches the availability of the popular lazy replica update propagation method while increasing durability and consistency. His replica update propagation method is called the "Buddy System", which requires that updates are preserved synchronously in two replicas. The first implementation schedules fine-grained WS transactions. In these transactions, each activity is a low-level database operation. Later, he considers each transaction as a black box, with only the corresponding Metadata, expressed as UML specifications, as transaction semantics. He refers to these WS transactions as coarse-grained WS transactions. The "Buddy System" can handle these coarse grained WS transactions, using UML stereotypes that allow scheduling semantics to be embedded into the design model. Dr. Olmsted shows that his approach guarantees one-copy serializability, matches the performance of the lazy update propagation methods, and increases durability in the presence of hardware failures. The talk will conclude with current work investigating consistency guarantees for integration of external systems, cloud-based data models, and payment security.

Keynote Speaker 4

Frank Geels is Professor of System Innovation and Sustainability at the Sustainable Consumption Institute, at the University of Manchester. Geels is chairman of the international Sustainability Transitions Research Network (www.transitionsnetwork.org), and one of the world-leading scholars on socio-technical transitions. Geels practices an inter-disciplinary style, which makes crossovers between evolutionary economics, innovation studies and neo-institutional theory. Geels has published six books on socio-technical transitions and more than 45 peer-reviewed articles. He is particularly well-known for this conceptual and empirical work on the Multi-Level Perspective (MLP) and Strategic Niche Management (SNM). He has twice won a Research Publication Award from IAMOT (International Association for the Management of Technology), has been selected by Thomson Reuters into their prestigious list of 'Highly Cited Researchers', identified as one of The World's Most Influential Scientific Minds 2014, and elected as member of the Academia Europaea (social science section).

Title: Socio-technical transitions towards sustainability

Abstract: Addressing persistent environmental problems (climate change, bio-diversity and resource scarcity) requires shifts in our existing transport, energy, buildings, and agro-food systems. These system innovations will be analyses as socio-technical transitions, because they entail not only new technologies, but also changes in policy, consumer practices, infrastructure, cultural debates and business strategies. This presentation consists of three parts.

First, it will show empirical evidence that these transitions are beginning to unfold, although at varying speeds in different domains and countries (faster in electricity than in heat, transport, and agro-food).

Second, it will present a conceptual perspective to understand these long-term transformative change processes (which typically last 30-40 years). This multi-level perspective (MLP) accommodates ideas from evolutionary economics, innovation studies and institutional theory. Third, it will highlight and illustrate several strategic dilemmas and puzzles such as: 1) the non-deterministic and non-linear nature of transitions (which often also involve setbacks), 2) governance and policy, 3) power struggles and resistance from vested interests, 4) uncertainties about cultural trends, 5) the decline of incumbent regimes and technologies.

Keynote Speaker 5

Professor Maryline Chetto received the degree of Docteur de 3ème cycle in control engineering and the degree of Habilitée à Diriger des Recherches in Computer Science from the University of Nantes, France, in 1984 and 1993, respectively. From 1984 to 1985, she held the position of Assistant professor of Computer Science at the University of Rennes, while her research was with the Institut de Recherche en Informatique et Systèmes Aléatoires, Rennes. In 1986, she returned to Nantes and is currently a full professor with the Institute of Technology of the University of Nantes. She is conducting her research at IRCCyN. Her main research interests include Scheduling, Fault-tolerance and Dynamic Power Management technologies for real time embedded applications. She is now studying energy harvesting systems that use renewable energy to power embedded devices.

Title: Issues in energy harvesting cyber-physical systems

Abstract: A growing number of applications (e.g. medical, automotive) involve many wireless devices that may be deployed in wide areas and possibly unattainable places. Such systems should be designed to function perpetually without any human intervention because either costly or impractical. As a consequence, energy harvesting technology has been an area of rapid development during the last decade. Energy harvesting is a technology that allows to capture unused ambient energy. It is converted into electrical energy which is used immediately or later through a storage unit for powering these devices which in addition to energy limitations have to cope with real-time constraints. Consequently, energy harvesting cyber-physical systems need to be provided with specific real-time scheduling and power management facilities.

This keynote addresses state of the art as well as our findings in real-time scheduling and processor activity management for energy harvesting cyber-physical systems.

PhD and Doctorate Consortium

The idea of writing a research paper or developing a topic of research interest that can lead to a PhD / Doctorate degree or proposal is always an endless thinking of where, when, why, what and who. Therefore, becoming an experienced researcher and writer in any field or discipline takes a great deal of practice. The Consortium has the following objectives:

- Provide a supportive setting for feedback on current research that will stimulate exchange of ideas;
- Guide on the future research directions;
- Promote the development of a supportive community of scholars and a spirit of collaborative research;
- Contribute to the conference goals through interaction with other researchers and conference events.

The PhD and Doctorate Consortium highlights possible solutions in response to the lack of competence demonstrated by young researchers and PhD and Doctorate students, and the understanding of what contributes to knowledge gap.

Organiser: Charles A. Shoniregun, Infonomics Society UK and Ireland

PhD/Doctorate Consortium

Charles A. Shoniregun is a Professor of Applied Internet Security and Information Systems, Founder of Infonomics Society. He is an invited speaker to NATO, guest speaker to many universities in the UK and abroad on issues relating to his research and consultancy area, and have several times won the IEEE Certificate of Appreciation. In 2008, he was invited speaker to the Joint C2 Capabilities Conference organised for the senior military and US government personnel in Washington DC. His research interests are in the fields of Internet security, Cyber Terrorism, risks assessment of technology-enabled information, electronic and mobile commerce (emC), second-life applications, third-stream activities, telecommunications and applied information systems. He is a committee member of the Harvard Research Consortium and Global Seminars (Harvard University), Editor-in-Chief of Eight International Journals, Author, Co-author, Adjunct and Distinguished Professor in “Applied Internet Security and Information Systems”, External Assessor to many Universities, Consultant to private and public sectors.

Title: Writing a Sustainable Research Paper

Abstract: The idea of writing a sustainable research paper or developing a topic of research interest that can lead to a PhD / Doctorate degree or proposal is always an endless thinking of where, when, why, what and who. Therefore, becoming an experienced researcher and writer in any field or discipline takes a great deal of practice. This Keynote Lecture will highlights the possible solutions in response to the lack of competence demonstrated by young researchers and PhD / Doctorate students, and the understanding of what contributes to knowledge gap.

Interactive E-Book Design and Development to Support Literacy Learning for Language Minority Students

Muneeroh Phadung
Computer Education Program, Faculty of Science Technology and Agriculture,
Yala Rajabhat University
Yala, Thailand
muneeroh.p@yru.ac.th

Abstract— **Interactive multimedia application as e-books has benefits and capabilities for enhancing learning rate and increasing students' concentration and involvement in the learning activities. This study presents interactive e-book design areas to support literacy learning for language minority students within the primary school level. There are three main components of design framework including multimedia design, interactive design, and learning design. Moreover, the researcher attempts to design all three components based on the cultural theme to help language minority students reflect their own cultures and begin to understand the cultures of the language that they are learning. The prototype consists of two main modules including manual module and automatic module. Furthermore, the researcher would like students to interact with the program through interactive whiteboard as a cooperative tool in the classroom. The interactive e-book is expected to be an alternative educational tool to solve the learning problems of language minority students.**

Keywords- Interactive Multimedia; e-Book; Language Minority Students.

I. INTRODUCTION

Several types of computer software are widely used by students both at home and in school [1]. Multimedia software, especially interactive e-books, can be powerful educational tools for promoting students' literacy and language outcomes [2]; [3]; [4]; [5]; [6]. However, some e-books on the market are not efficient for language learning. Therefore, educators must be careful when using e-books [1].

In Thailand; Yala, Pattani, and Narathiwat are three southern border provinces that have cultural identities different from the other parts of the country. In everyday life, 83 percent of the people in this area use the Pattani Malay language [7]. This language is one of the dialects influenced by the Malaysian language [8]. However, the official language used in schools is Thai. Consequently, because of their poor ability in using Thai language, these language minority students face numerous difficulties when it comes to learning the content taught in schools. Besides this, the teaching methods are not compatible with their way of life and traditions, which exacerbates the educational problems [9].

Accordingly, educators need to provide the alternative educational tools to solve the learning problems of students in ethnic minority communities. Using interesting materials at all levels of education including primary education, these students can learn the official language as a second language more effectively with good attitudes toward learning. The potential and advantage of multimedia application in language learning have inspired the researcher to realize that using an interactive e-book can support literacy learning and second language learning for language minority students. As a result, these students will have a better chance at becoming bilingual speakers who have the confidence to communicate with others. This will enable students to use their second language as the official language in school. The key to this success is that students will be motivated to learn a language through the use of interesting tools.

II. OBJECTIVES AND SCOPES

A. The interactive e-book objectives

The objectives of the interactive e-book development are:

1. To set the interactive e-book design framework for language minority students.
2. To develop an interactive e-book prototype for language minority students.
3. To evaluate informally the satisfaction of the interactive e-book prototype with students and teachers who were the targeted users.

B. The interactive e-book scopes

The interactive e-book content covered Thai language learning and was based on the current Thai basic education core curriculum B.E. 2551 (A.D. 2008). The courseware was delivered in Thai. The targeted users were third grade minority language students from three southern border provinces of Thailand using Malay dialect as a mother tongue. This study focuses on the interactive e-book as a cooperative tool in the classroom by using interactive whiteboard. This technique also could be used for individual learning as well.

This work was supported by grants from the National Research Council of Thailand (NRCT) and the Thailand Research Fund (TRF).

III. Interactive E-Book Design Principle

The interactive e-book design principle was applied using the learning objects design framework [10]; [11]. According to the design framework described, a design principle is composed of three significant categories of design;

A. Multimedia design

How components are presented or shown. This design category addresses the composition of visual consistency (e.g., image, animation, video, and text) and sound suitability.

B. Interactive design

How components describe its use for promoting students engagement and increasing students outcomes. This design category addresses the interactivities between the e-book and user that offer an easy-to-use approach, such as providing interactivities suitable for motor skills students.

C. Learning design

How components relate to an instructional objective. The learning design category adopts the guidelines of instruction to foster the students' learning. The researcher is concerned about applying the principles of brain-based learning to this domain.

Furthermore, the researcher realizes that the cultural theme is also significant because it reflects a home-school connection. This especially helps language minority students reflect their own cultures and understand cultures of the second language that they are learning [12]; [13]; [14]; [15]. The interactive e-book built on a cultural theme can support students' learning. First, it helps students improve the critical thinking and problem-solving skills. Second, choosing topics that mirror the home-school connection and reflect children's own cultures foster their engagement and adoption of the learning skills which, in turn, deepens their thinking [16]. There are an increasing number of bilingual or multilingual children's e-books being produced. These e-books can be used to encourage the diversity and inspire the understanding of both their own cultures and other cultures and traditions. This approach can provide alternative opportunities for language minority students to experience and engage in literature [17] (see Fig. 1).

Figure 1. Interactive e-book design framework.

IV. Prototype Development

The prototype developed was based on the design framework in Fig. 1. The prototype was divided into two main modules including;

A. The manual module

This module has two modes; the first mode is named "Read to Me". Each page included animation and highlighted contents were synchronized with voice narration. After that, the user can navigate and control the e-book by clicking buttons on the left top of the screen. The user can repeat this function by clicking the repeat button or clicking on the words that the user would like to learn (See Fig. 2).

The second mode is named "Read It Myself. The user can use this mode in case students want to read the e-book by themselves. Its options are the same with "Read to Me"; only the voice narration is disabled in this mode.

Figure 2. Screenshot of the manual module.

B. The automatic module

The module is named "AutoPlay". The software allowed the user to play automatically from the first page to the last. The user could control the e-book only using "home", "stop" and "play" buttons (See Fig. 3).

Figure 3. Screenshot of the automatic module.

After the development of the prototype, each module has been tested informally with students who were the targeted users and their teachers. From the testing results, they are satisfied with the interactive e-book. The strengths and the weaknesses of the prototype can be improved to fulfill the requirement of the users. Formal assessment for the completed interactive e-book will be conducted soon.

V. The Interactive E-Book Classroom Environment

For this study, the researcher would like to use the interactive e-book as a cooperative tool in the classroom by using interactive whiteboard based on Wiimote technology. This environment was designed so the teacher and students could interact with the e-book program by utilizing an infrared pen or infrared pointer instead of a mouse. The interactive whiteboard allows the user to interact with hotspots and buttons. The user can control the e-book program onto the interactive whiteboard as a touch screen. Fig. 4 showed the system components applied from Johnny Chung Lee's interactive whiteboard system components [18].

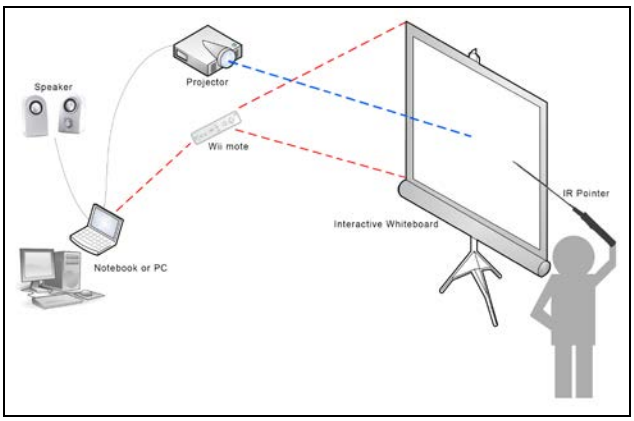

Figure 4. The feature of the interactive e-book classroom environment.

VI. Conclusion

This paper presents usability design strategies in three main areas; multimedia design, interactive design, and learning design. All three main components were designed based on cultural theme. The prototype consists of two main modules including manual module and automatic module. As a cooperative tool, students can interact with the e-book program by using the interactive whiteboard. The interactive e-books can be designed into cooperative tools in the classroom to foster language and literacy learning of minority students. In conclusion, the design framework and the prototype of interactive e-book are only a first step. The researcher realizes that the project is still in the beginning phase of development and will need to be improved in future studies before it can be delivered.

Acknowledgment

This work was supported by grants from the National Research Council of Thailand (NRCT) and the Thailand Research Fund (TRF).

References

[1] Korat, O. and Shamir, A. (2006), "How to select CD-ROM storybooks for young children: The Teacher's Role", The Reading Teacher, Vol. 59, No. 6, Pp. 532–543.

[2] Segers, E. and Verhoeven, L. (2002), "Multimedia support of early literacy learning", Computer & Education, Vol. 32, No. 3, Pp. 207–221.

[3] Verhallen, M. J. A. J., Bus, A. G. and de Jong, M. T. (2006), "The Promise of Multimedia Stories for Kindergarten Children at Risk", Journal of Educational Psychology, Vol. 98, No. 2, Pp. 410–419.

[4] Roskos, K., Brueck, J. and Widman, S. (2009), "Investigating analytic tools for e-book design in early literacy learning", Journal of Interactive Online Learning, Vol. 8, No. 3, Pp. 218–240.

[5] Moody, A. K. (2010), "Using electronic books in the classroom to enhance emergent literacy skills in young children", Journal of Literacy and Technology, Vol. 11, No. 4, Pp. 22–52.

[6] Roskos, K., Burstein, K., You, B., Brueck, J. and O'Brien, C. (2011), "A Formative Study of an E-book Instructional Model in Early Literacy", Creative Education, Vol. 2, No. 1, Pp. 10–17.

[7] Basic Education Commission (2010), "The evaluation of an applying the bilingual (Thai and Malayu) in teaching and learning project for the Lowest Southern Part of Thailand Report", The teachers' council of Thailand Press, Bangkok, Pp. 5-10.

[8] Isaya, K., Songmuang, J., Sameng A., and Jehdo h. (2010), "Using Jawi alphabets to develop Patani Malay writing system to help preserving and reviving the dialect and local culture: A case study of Tambon Khao Toom, Amphoe Yarang, Pattani province", Journal of Language and Culture, Vol. 29, No. 1, Pp. 35-56.

[9] Kannaovakun, P., Chotikakamthorn, M., Sa-idi, A., Chanhom, R., Paramal, W. and Anakasiri, S. (2010), "Model for the development of bilingual communicative competence of students in the three southern border provinces of Thailand", Songklanakarin Journal of Social Sciences and Humanities, Vol. 16, No. 6, Pp. 933–952.

[10] De Jong, M.T. and Bus, A.G. (2003), "How well-suited are electronic books to supporting literacy?", Journal of Early Childhood Literacy, Vol. 3, No. 2, Pp. 147–164.

[11] Roskos, K., & Brueck J. (2009), "The eBook as a learning object in an online world",In Bus, A.G. & Neuman, S.B. (Eds.), Multimedia and literacy development, Routledge, New York, Pp. 77-88.

[12] Steensel, R.V. (2006), "Relations between socio-cultural factors, the home literacy environment and children's literacy development in the first years of primary education", Journal of Research in Reading, Vol. 29, No. 4, Pp. 367–382.

[13] Fluckiger, B. (2010), "Culture-switching in different worlds: Young children's transition experiences", Australasian Journal of Early Childhood, Vol. 35, No. 4, Pp. 101–108.

[14] Korat, O. (2001), "Cultural pedagogy and bridges to literacy: Home and kindergarten", Early Childhood Education Journal, Vol. 28, No. 4, Pp. 225-230.

[15] Schwarzer, D. (2001), "Whole language in a foreign language class: From theory to practice", Foreign Language Annals, Vol. 34, No. 1, Pp. 52-59.

[16] Dubosarsky M., Murphy B., Roehrig G., C. Frost L., Jones J., P. Carlson S., Londo N., S.B. Melchert C., Gettel C., and Bement J. (2011), "Incorporating Cultural Themes to Promote Preschoolers' Critical Thinking in American Indian Head Start Classrooms", Young Children, Vol. 66, No. 5, Pp. 20-29.

[17] Fellowes, J. & Oakley, G. (2010), "Language literacy and early childhood education", Oxford University Press, Victoria, Pp. 3-26.

[18] Lee, J. Ch. (2013), "Wii Remote Projects", URL:http://johnnylee.net/projects/wii/

Many thanks for your participation!

We hope to see you at

World Congress on Sustainable Technologies (WCST-2016)

www.wcst.org

Have a great trip back home!!!

ISBN 978-1-908320-53-7
CFP1580P-USB

ISBN 978-1-908320-53-7
CFP1580P-USB