

# **IADIS International Conference Mobile Learning 2009**

**Co-located with Information Systems 2009 and E-Society 2009**

**Barcelona, Spain  
26 – 28 February 2009**

**Editors:**

**Inmaculada Arnedillo Sanchez  
Pedro Isaias**

**ISBN: 978-1-5108-1061-7**

**Printed from e-media with permission by:**

Curran Associates, Inc.  
57 Morehouse Lane  
Red Hook, NY 12571



**Some format issues inherent in the e-media version may also appear in this print version.**

Copyright© (2009) by the International Association for Development of the Information Society (IADIS)  
All rights reserved.

Printed by Curran Associates, Inc. (2015)

For permission requests, please contact  
the International Association for Development of the Information Society (IADIS)  
at the address below.

International Association for Development of the Information Society (IADIS)  
Rua Sao Sebastiao Da Pedreira  
No. 100, 30, 1050-209  
Lisbon, Portugal

Phone: 351 21 3151373

Fax: 351 21 3151244

[secretariat@iadis.org](mailto:secretariat@iadis.org)

**Additional copies of this publication are available from:**

Curran Associates, Inc.  
57 Morehouse Lane  
Red Hook, NY 12571 USA  
Phone: 845-758-0400  
Fax: 845-758-2634  
Email: [curran@proceedings.com](mailto:curran@proceedings.com)  
Web: [www.proceedings.com](http://www.proceedings.com)

# TABLE OF CONTENTS

FOREWORD	xi
PROGRAM COMMITTEE	xiii
KEYNOTE LECTURES	xvii
KEYNOTE PAPER	xxi

## FULL PAPERS

LOCATION-BASED M-LEARNING REMINDERS <i>Björn Hedin and Johanna Norén</i>	3
NFC APPROACH: TOWARDS A SIMPLE INTERACTION <i>Salvador W. Nava-Díaz, Gabriel Chavira, Ramón Hervás, Vladimir Villarreal, José Bravo, Sergio Martín and Manuel Castro</i>	11
A MARKER-BASED MOBILE LEARNING ENVIRONMENT FOR A PROCESS PLANT <i>Srihathai Prammanee, Marko Luukkainen, Timo Seuranen and Tommi Karhela</i>	19
A PORTABLE DOCUMENT SEARCH ENGINE TO SUPPORT OFF-LINE MOBILE LEARNING <i>John P. T. Moore, Samia Oussena and Pei Zhang</i>	27
FABULA PLATFORM FOR ACTIVE E-LEARNING IN MOBILE NETWORKS <i>B A Khan and Mihhail Matskin</i>	33
LOCATIVE MEDIA AND MOBILE LEARNING: ART, DESIGN, AND PARTICIPATION IN NEW SOCIAL CONTEXTS <i>Martha Ladly</i>	42
E-LEARNING – FILLING THE GAPS WHERE STUDIOS ONCE STOOD? <i>Lindsey Marshall and Marc Austin</i>	50
GETTING CULTURAL INFORMATION IN YOUR HANDHELD DEVICE <i>Miguel Delgado, Javier Medina, María Ros, M. Dolores Ruiz and Amparo Vila</i>	57
BEYOND MOBILE LEARNING: IDENTITY CONSTRUCTION AND THE DEVELOPMENT OF SOCIAL SKILLS IN STUDENTS’ DISCOURSE ON THE IPOD <i>André H. Caron and Letizia Caronia</i>	65
IMPROVING CHRONIC HEART FAILURE PATIENT SELF CARE THROUGH MOBILE MONITORING OF SUBTLE BEHAVIORAL/PHYSIOLOGICAL CHANGES <i>Paul J Fortier, Sindhu Chandron, Binya Joshi and Praveena Narra</i>	73

EVALUATING PLAYER’S ATTITUDES AND BEHAVIOUR THROUGH MOBILE DEVICE BASED SERIOUS GAMES <i>Hanno Hildmann and Liz Boyle</i>	81
SUPPORTING DIFFERENT SOCIAL STRUCTURES IN CITY-WIDE COLLABORATIVE LEARNING <i>Ilaria Canova Calori</i>	89
CONTEXTUAL MOBILE LEARNING: PRINCIPLES AND NUTRITIONAL HUMAN BEING CASE STUDY <i>Bertrand David, Chuantao Yin and René Chalon</i>	97
A MOBILE GAME FOR TEACHING AND LEARNING HISTORY <i>Jo Dugstad Wake and Rune Baggetun</i>	105
BACK AND FORTH: FROM THE LMS TO THE MOBILE DEVICE. A SOA APPROACH <i>Miguel Ángel Conde González, Francisco José García Peñalvo, María José Casany Guerrero and Marc Alier Forment</i>	114
TRANSFORMING PEDAGOGY USING MOBILE WEB 2.0 <i>Thomas Cochrane and Roger Bateman</i>	121
AN INNOVATIVE APPROACH FOR PLANNING PERSONALIZED LEARNING PATHS IN A CONTEXT-AWARE UBIQUITOUS LEARNING ENVIRONMENT <i>Gwo-Jen Hwang, Fan-Ray Kuo and Ting-Ting Wu</i>	129
THE MOLENET PROGRAMME - USING ACTION RESEARCH TO ENCOURAGE TEACHER UNDERSTANDING, IMPROVE PRACTICE AND EFFECT INSTITUTIONAL CHANGE <i>Carol Savill-Smith and Rebecca Douch</i>	137
CAPTURING THINKING WITH HANDHELD COMPUTERS <i>Wan Ng and Howard Nicholas</i>	143
A STUDY ON LEARNER READINESS FOR MOBILE LEARNING AT OPEN UNIVERSITY MALAYSIA <i>Zoraini Wati Abas, Chng Loi Peng and Norziati Mansor</i>	151
MOBILITY AND CONTENT CREATION IN WEB PROFESSIONALS’ ACCESSIBILITY LEARNING <i>Siobhán Thomas and Helen Kennedy</i>	158
UNLOCKING LIFELONG LEARNING THROUGH E-HERITAGE: USING MOBILE TECHNOLOGIES IN GENOA <i>Krassimira Paskaleva and Maurizio Megliola</i>	165
EVALUATING MOBILE LANGUAGE LEARNING: TEACHERS’ PERSPECTIVES <i>Sobah Abbas Petersen</i>	173
‘VIRTUAL GUIDE’: EVALUATION OF A MOBILE MUSEUM VISIT <i>Natasa Michailidou and Despoina Tsiafaki</i>	181
A MOBILE AND CONTEXT-AWARE LEARNING SCHEDULE FRAMEWORK FROM A PEDAGOGICAL PERSPECTIVE – AN INTERVIEW STUDY <i>Jane Yin-Kim Yau and Mike Joy</i>	189

## SHORT PAPERS

MOBILISING REMOTE STUDENT ENGAGEMENT (MORSE) USING MOBILE AND WEB2.0 TECHNOLOGIES: INITIAL PERSPECTIVES <i>Malcolm Andrew, Richard Hall and Peter Taylor</i>	199
THE INFLUENCE OF SPATIAL WORKING MEMORY ON MOBILE LEARNING CONTENT DESIGN <i>Lily Li, Hokyoungh Ryu and David Parsons</i>	203
MOBILE PARADIGMS IN THE VIRTUAL WORLD; SHARING CONNECTIVITY IN LEARNING <i>Vanessa Camilleri and Matthew Montebello</i>	207
ADOPTING MOBILE COMPUTING IN SULTAN QABOOS UNIVERSITY: THE CASE OF MAJORS ALLOCATION SYSTEM (MAS) <i>Jamil Al-Shaqsi and Hafedh AlShihi</i>	211
SESSION MANAGEMENT OF MOBILE COMMUNICATION FOR LEARNING SUPPORT ENVIRONMENT <i>Toshiyuki Maeda, Tadayuki Okamoto, Yae Fukushige and Takayuki Asada</i>	217
TURNING IPODS INTO EDUCATIONAL TOOLS: BLURRING THE FRONTIER BETWEEN FUN AND LEARNING <i>Ciussi Mélanie, Rosner Gillian and Augier Marc</i>	222
AL ANDALUS PROJECT ON MOBILE LEARNING AND NFC VIRTUAL POSTERS FOR LITERACY <i>Fadoua Hajji, Ahmed Ziad Belabyad, Thomas De Lazzari and Serge Miranda</i>	226
EVALUATING THE USABILITY AND SUITABILITY OF MOBILE TAGGING MEDIA IN EDUCATIONAL SETTINGS IN A DEVELOPING COUNTRY <i>Samuel Olugbenga King and Audrey Mbogho</i>	230
AUTOMATIC MOBILE LEARNING CONTENTS <i>Magí Almirall and José Manuel Rivera López</i>	235
AN APPLICATION OF CIRCUIT TRANSLATION TO A MOBILE EDUCATIONAL SUPPORT SYSTEM FOR CIRCUIT EXPERIMENTS <i>Atsushi Takemura</i>	240
INTRODUCING SCIENCE CENTER TOGO - A MIXED REALITY LEARNING ENVIRONMENT FOR EVERYONE'S POCKET <i>Hagen Buchholz and Richard Wetzel</i>	244
A CONCEPTUAL FRAMEWORK FOR OUM M-LEARNING PORTAL <i>Thirumeni Subramaniam and Yuzery Yusoff</i>	250
ANALYSIS OF STUDENT ATTITUDES FOR PARTICIPATING IN A CONTEXT-AWARE UBIQUITOUS LEARNING ACTIVITY WITH REPERTORY GRID APPROACH <i>Ju-Ling Shih, Gwo-Jeng Hwang and Hui-Chun Chu</i>	255
INTEGRATING COGNITIVE APPRENTICESHIP METHOD IN A M-LEARNING TECHNOLOGY COURSE FOR MATHEMATICS EDUCATION <i>Po-Han Wu, Sheng-Hui Hsu, Yu-Lin Jeng, Yueh-Min Huang and Gwo-Jen Hwang</i>	260

HYBRID MEDIA APPLICATION FOR LANGUAGE STUDIES IN ELEMENTARY SCHOOL <i>Anu Seisto, Maija Federley, Satu Aarnisalo and Pirkko Oittinen</i>	265
LEARNING BIODIVERSITY THROUGH MOBILE IDENTIFICATION KEYS: DESIGN AND EVALUATION <i>Licia Calvi and Verónica Donoso</i>	269
MOBILE LEARNING AT THE UNIVERSITY: FROM PLANS TO REALITY <i>Edita Butrime and Daiva Vitkute - Adzgauskiene</i>	275
MMS-MESSAGES IN THE TEACHING OF MATHEMATICS <i>Mika Setälä</i>	280
STUDENT-INITIATED CURRICULUM PLANNING, VISUALIZATION AND ASSESSMENT FOR MOBILE LEARNING <i>Bahar Poursaeed, Lee Chien-Sing and Teo Lee Peng</i>	285
NEW WINE IN NEW BOTTLES: APPLYING FLOW EXPERIENCE TO MOBILE LEARNING <i>Hokyoung Ryu, David Parsons, Jingning Li, Nick Sheng and Yasir Javed</i>	291
EVALUATION ISSUES ON MOBILE LEARNING USER_GENERATED CONTENT <i>Gianna Avellis</i>	296
MOBILE TEACHING AND LEARNING TECHNOLOGIES: UKRAINIAN DANCE INSTRUCTION IN CANADA <i>Nathaniel Ostashewski, Doug Reid and Marcia Ostashewski</i>	301
IMPLEMENTING A CONTEXT-SENSITIVE MOBILE LEARNING SYSTEM <i>Anders Kofod-Petersen, Gunhild Griff Bye and John Krogstie</i>	305
IMPLEMENTATION OF M-LEARNING: PEDAGOGICAL PERSPECTIVES <i>Norlia Goolamally, Zoraini Wati Abas, Safiah Yusof and Harvinder Kaur Dharam Singh</i>	311
CONCEPTUALIZING UBIQUITOUS LEARNING THROUGH CONTEXT-AWARE WIRED AND WIRELESS WEB SERVICES <i>Raymond M. Kekwaletswe</i>	316
MOBILE PHONE AND LEARNING IN LATIN AMERICA <i>Elba Valderrama Bahamóndez, Tanja Döring, Albrecht Schmidt</i>	321
CONTINUING MEDICAL EDUCATION THROUGH MOBILE DEVICES FOR HEALTH CARE WORKERS IN DEVELOPING COUNTRIES <i>Inge de Waard, Maria Zolfo and Carlos Kiyán</i>	326
CONTEXT SENSITIVE MOBILE LEARNING: DESIGNING A 'TECHNOSCAPE' FOR URBAN PLANNERS <i>Smith, C., Cook, J. and Pratt-Adams, S.</i>	331

## REFLECTION PAPERS

MOBILE LEARNING IN HIGHER EDUCATION: ADOPTION AND DISCUSSION CRITERIA <i>Khawar Hameed and Hanifa Shah</i>	339
INTEGRATING THE IPOD TOUCH IN K-12 EDUCATION: VISIONS AND VICES <i>Savilla Banister, Mitchell Miller and Terry Herman</i>	343
MOBILE PHONES AS A LEARNING DEVICE IS IT TIME TO STOP THE BAN? <i>Ferial Khaddage, Elicia Lanham and Wanlei Zhou</i>	347
MOBILISING COLLABORATIVE TEACHER PROFESSIONAL LEARNING <i>Peter Aubusson, Sandy Schuck and Kevin Burden</i>	351
SUPPORTING M-LEARNING: THE LOCATION CHALLENGE <i>Sergio Martin, Gabriel Díaz, Elio San Cristobal, Manuel Castro and Juan Peire</i>	355
MOBILE LEARNING AND ANDROID: A NEW PARADIGM IN A BRAZILIAN CONTEXT? <i>Fabio Teixeira Franciscato and Roseclea Duarte Medina.</i>	359
M-LEARNING – IS IT JUST A TECHNOLOGIC ADVANCE? <i>Richard Lackes, Erik Frank and Chris Börgermann</i>	363
CONSIDERING PHYSICAL SPACE IN MUSEUM-BASED MOBILE LEARNING <i>Rolf Steier</i>	367

## POSTERS

THE DESIGN AND IMPLEMENTATION OF MOBILE INVESTIGATION MANAGEMENT SYSTEM FOR OUTDOOR SURVEY AND ACTIVITY UNDER DIFFERENT DIGITAL PORTABLE DEVICES <i>Ah-Fur Lai and En-Yu Lu</i>	375
AN INTEGRATED TECHNOLOGICAL PLATFORM FOR DISTANCE LEARNING: THE STEEL PROJECT <i>Enrico Del Re, Luca Simone Ronga and Rosalba Suffritti</i>	378
LEARNING STRATEGY FOR MOBILE LEARNING ENVIROMENT <i>Yuki Watanabe, Hiroshi Kato and Akinori Nishihara</i>	381
PORTABLE INTELLIGENCE – ONE MORE WAY TO BE SMART <i>Robin McKean and Julie Quansing Rowlands</i>	385
EFL USING PODCASTS <i>Nuno Miguel Martins</i>	389

## AUTHOR INDEX