

# ERCIM “Alain Bensoussan” Fellowship Scientific Report

Fellow: José Carlos dos Santos Danado

Visited Location : NTNU, Computer Science and Information Systems

Duration of Visit: 9 Months

## **I - Scientific activity**

During my stay at NTNU, I researched the relationships between different components of the ArTe framework contributing with state of the art knowledge for the creation and development of digital art. Additionally, the results intend to document the methods and processes used in ArTe project and propose, assess, and improve methods, models, and tools for development (i.e. hardware and software) in the digital art context while easing the cooperation between stakeholders working with new media art.

In parallel with research, I attended meetings from several groups. TDT 69 was a course taught by Prof<sup>a</sup> Letizia Jaccheri which I attended as an observer, providing input when required. I also attended two group meetings (every 2 weeks): Forskerfabrikken, supported by the Information Systems Group at NTNU (Prof. Eric Monteiro), and Software Engineering, Supported by the related group. Forskerfabrikken meetings discussed best practices for research (i.e. writing conference and journal papers) as well as best methods to conduct research (i.e. literature review, surveys, case studies, ...) Software Engineering (Professor Reidar Conradi and Dr. Daniela Cruzes) meetings were performed to share publications and achieved results between researchers from the group.

Related to TDT 69 course, prof<sup>a</sup> Letizia Jaccheri invited me to be a sensor in the final exam for the course. Research at NTNU enabled me to start research in a new research area exploring the intersection between information technology and art. The research lead to submission into International conferences such as: EICS 2011 (long paper), Interact 2011 (workshop), ICEC 2011 (long paper), ACE 2011 (long paper). Nevertheless, such submissions were not successful due to lack of my own experience in this new research area. Moreover, I also contributed to the development of an FP7 ITN network Proposal, named UNDEUX in a consortium of 8 partners. Successfully a long paper was submitted and accepted for publication in the International Journal of Pervasive Computing and Communications. Additionally, I was a reviewer and Program Committee member of EICS 2011, Interact 2011, ACE 2011, Central European Journal of Computer Science, EPIA 2011, and MobileHCI 2011.

## **II- Publication(s) during your fellowship**

*Davies, M., Carrez, F., Heinilä, J., Fensel, A., Narganes, M., Danado, J. "m: Ciudad -- Enabling End-User Mobile Service Creation", International Journal of Pervasive Computing and Communications, Emerald Group Publishing, to appear (2011).*

***Abstract.***

*The current trend in the Internet of user's willingness to become active content providers, together with the aim of maximizing the potential of mobile devices, mainly smartphones, and context information in their surroundings, are the main motivation for the work presented in this paper.*

*A new paradigm for communication between mobile users has been designed in which mobile end-users are not-only consumers of information on-the-go but also turn into providers of services and content. A set of innovative tools in the mobile device will allow end-users to create desired services, put them on execution and share them with other users, and all these with their "always-wearing" mobile devices. Micro-services are small and sharply focused applications that allow users to share valuable and context-aware information with other fellow users, in real-time, without the need of uploading content into a centralized storage server.*

*As a key component of the designed approach, a microservice description language has been elaborated, which addresses for user-driven mobile service creation, powerful service discovery, and platform-independent service execution and rendering*

*One of the main challenges of this work has been the visual authoring tool that allows users to generate micro-services directly on the mobile device. Main insights behind this tool are described and the already used evaluation techniques, mainly based on usability validation by end-users, are also exposed at the end.*

### **III -Attended Seminars, Workshops, and Conferences**

#### ***Seminars***

***Getting published in refereed scholarly journals***, September 21<sup>st</sup> 2010, Room: DL33, 1.etg., Låven, Dragvoll gård NTNU, Trondheim, Norway, Professor Royce Sadler

***Sensors in everyday life***, September 23<sup>rd</sup> 2010, Room 242, IDI-NTNU, Trondheim, Norway, Jose Danado

***Inside the Freud Museums: Art, Curating and Site-Responsivity***, Joanne Morra, ***What Kind of Practice is Yours? Art History, Visual Culture Studies, and Practice-Led Research***, Marquard Smith, October 8<sup>th</sup> 2010, Dragvol NTNU, Trondheim, Norway

***Art, Technology and Dissemination to children***, November 3<sup>rd</sup> 2010, IDI-NTNU, Trondheim, Norway, Laura Beloff

***Komputer + Kunst = Kreativitet***, November 3<sup>rd</sup> 2010, ReMida Senter, Trondheim, Norway

***Participatory Design in the 2010s: New Roles for Users, Developers and Researchers***, December 8<sup>th</sup> 2010, IDI-NTNU, Trondheim, Norway, Liam Bannon

***Capturing the affective aspects of life and work***, January 26<sup>th</sup> 2011, IDI-NTNU, Trondheim, Norway, Lars Mueller

***Between generic and tailored solutions - A research seminar on "sociomateriality"***, March 3<sup>rd</sup> 2011, IDI-NTNU, Trondheim, Norway, Lionel Briand

***Test Case Selection Strategies for Model-Based Testing: Search-based Approaches and Industrial Case Study***, March 4<sup>th</sup> 2011, IDI-NTNU, Trondheim, Norway

*Art of Games, March 10<sup>th</sup> 2011, IDI-NTNU, Trondheim, Norway*

*The New Spirit of Open Source – Logics of Justification in the Intersection between Movements and Corporations, May 23<sup>rd</sup> 2011, IDI-NTNU, Trondheim, Norway*

**Conferences**

*Art, Technology & the Public Sphere, October 9<sup>th</sup>, Dokkhuset, Trondheim, Norway*

*The 11th Consciousness Reframed International Research Conference, November 4 – 6, 2010, Trondheim, Norway.*

**IV – Research Exchange Programme (12 month scheme)**

*Please identify the name(s), date(s) and place(s) of your Research Exchanges during your fellowship period and detail them .*