

Preface

Mobile services and applications are today an indispensable part of our daily life. We are using our mobile phones and PDAs to access our mail, chat with friends and colleagues, take and store photographs and videos, obtain guidance and route information, play games and even access the internet!! However, the fact that mobile services and applications are part of our daily life does not mean that all problems and issues are resolved. Existing mobile services and applications operate under a “best effort” model, handling issues like Quality of Service, trust and security in a case to case basis employing ad-hoc solutions.

Our research during the last year concentrated in the study of problems and issues related to mobile Quality of Services and Trust, based on the vision of the future needs of collaborative mobile services. In this report we present 7 papers, representing the main work areas of the group.

The first paper, *Hovering Information: A Self-Organising Infrastructure-Free Information Storage and Retrieval Service*, introduces the Spatial Memory concept which defines any geographical location as a memory where information can be stored and retrieval by user-applications and the Hovering Information Middleware that provides a constrained implementation of the Spatial Memory concept.

The second paper, *Quality of Service Predictions Service: QoS Support for Proactive Mobile Applications and Services*, we describe the QoS-predictions service, providing predictions for QoS of networks available at a given user’s geographical location and time, and using a case study we prove the feasibility of deriving predictions from historical data collected by a mobile service user.

The third paper, *Towards Quality of Service-Awareness of Mobile Healthcare Services*, we examine a technical and business viability of QoS-information system (QoSIS), which, based on the Mobile Web 2.0 paradigm, predicts the QoS provided by networks available in a given m-health user location-time thus enabling this user an informed network choice.

In the fourth paper, *Optimal Security Adaptation in Proximity-Based Wireless Networks*, we present an Optimal Security Adaptation Proximity-based wireless network (OSAP) taking into account the published security value of each user and accessed Access Points. This autonomous security configuration can be adapted dynamically during runtime depending on the security parameters.

The fifth paper, *Boosting Trustworthy Hotspots Rating with Implicit Hotspot QoS Evidence*, targets in providing a solution to the risk of using one Wi-Fi or another in selecting the most trustworthy hotspot, proposing to use implicit hotspot connection session information to rate the hotspot which are not rated by the users, based on implicit information in order to avoid that the users can easily cheat about the quality of their experienced network sessions.

The sixth paper, *Exception Based Enterprise Rights Management : Towards a Paradigm Shift in Information Security and Policy Management*, explores the opportunity to apply an exception-based model for Enterprise DRM building on the proposition that monitoring security policies could be as effective as strong

enforcement and provide more accurate information to manage and tune corporate digital policies.

Finally the seventh paper, *Kinetic User Interfaces for unobtrusive interaction with mobile and ubiquitous systems*, proposes a new kind of user interface that captures motion as an input modality, and by assessing its impact on unobtrusiveness. The Kinetic User Interface is a new interaction paradigm for ubiquitous computing and mobile systems where input is provided through coordinated motion of objects and people in the physical space.

This report represents the last report to appear under the ASG group and the department of Information Systems. As of January 1st 2010 the ASG group is integrated to the newly created Institute of Services Science of the SES faculty, which I will have the honor to direct, and the department of Information systems is integrated in the HEC department (Business School). This change represents a logical evolution of the department and the group, reflecting the changes in the research directions of the last few years: from technology to real life issues, taking into account business, social and legal issues in the creation of new services and applications.

The new institute federates the majority of the research groups of the current department of Information Systems and targets in the study of issues and problems related to IT based and supported services, under a multidisciplinary approach, ranging from informatics to social sciences and from business to legal issues.

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