

Virtual Office on Move

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Abstract

The Virtual Office Program (the program) in Nokia Research Center Finland is to explore new mobile technologies and architectures and leverage web technologies to enable smooth and ad-hoc collaboration and office work for enterprise and normal users with their PCs and mobile phones. Comparing with previous real-time or Web-based solutions, the program takes the mobility into account and resolves issues like the intermittent connection by supporting off-line working mode through a unified communication infrastructure. Additionally, the program provides enhanced workplace awareness, and enables smooth session transitions between different mobile and stationary clients.

Introduction

The mission of the virtual office program is to define and delivery rich mobile office experiences by enabling ad-hoc collaborative team work wherever and whenever needed. One of the main objectives is to understand better the processes people are involved and their roles in daily business and office activities; and apply technologies to processes in a user centric fashion. Besides the usage of conventional Web-based collaborative technologies for PCs and mobile devices, the program aims at achieving enhanced or new user experiences by implementing a distributed and multi-platform mobile office framework. Following areas cover

the majority of the research areas in the program. Note that they are not separate independent pieces but work together seamlessly from the end-user point of view.

Unified communication in unified collaborative places

Nowadays people have been capable of managing the use of many different communication tools (e.g. email, phone, mobile and Internet messaging and other Internet-based social networking medium) in their daily and business life. The program objective is to provide a unified communication infrastructure that connects people at the right time with rich set of mediums. The contextual information of the communication, for example, the objective of the call or the used medium, is persistent as well as the communication contents in the workplace. The workplace can be seen as a kind of virtual meeting room and shared data repository that records all communication plus members' actions, and supports both real-time and historical views of activity awareness.

Activity awareness

Various terminologies and taxonomies have been studied in the past decades (e.g. situation awareness in 80's) to cover different aspects of awareness in different group and environmental settings. Apart from various domain-specific awareness models, several general models had been studied as well. Recently, presence tools such as Twitter¹, Jaikku², etc. are getting popular for sharing presence and some levels of activity awareness, in a loosely-organized manner (similar to the concept of "Friend of A Fiend"³). Our design is to build an activity awareness engine that closely integrates with the unified communication infrastructure. The engine provides information for both real-time and past activities about the users and the workplaces.

New workplace UI

The program will research new UI concepts and visualization technologies (for instance, 2D/3D in mobile devices) for managing workplace and awareness data in mobile phones. The goal is to provide comparably good user experiences in terms of functional richness on both the desktop and mobile platforms. Moreover, we will also research the concept of collaborative UI, which is not only a way of data visualization, but also a medium for collaboration.

¹ Twitter, <http://twitter.com/>

² Jaikku, <http://www.jaiku.com>

³ FOAF project, <http://www.foaf-project.org/>