

Activity: 15153 MOSES - Mobile Opportunistic Services for Experience Sharing

Segment: Future Networking Solutions

Area: 2b. Action Lines Innovation in ICT

Introduction and Expected Outputs

MOSES will fine-tune, customize, and deploy the experience sharing technology developed in during 2014 to match the needs of two example events: Expo 2015 in Italy and the skiing world championship 2015 in Sweden or an EIT ICT Labs event. This involves close interaction with the respective organizers or institutions supporting them to realize the customized version and to consider the design and deployment of supportive wireless infrastructure (as needed). The technology designed in MOSES provides baseline functions for (1) instant interpersonal interaction for experience sharing and personalized event planning for the visitors and (2) information dissemination, orientation, and advertizing mechanism for the event organizers. These apps will be tailored to the needs of the specific events and then distributed for selected smart phone operating systems via one or more event-related portals for deployment. We will deploy some infrastructure nodes to support the mobile app and also collect anonymized and non-personal information about the usage so that we can assess network and application performance.

The Activity will provide four main outputs: 1) a refined experience sharing application platform; 2) an instantiation of this platform for use at a major exposition (possibly, Expo 2015); 3) an instantiation of this platform for use at a major sports event (possibly, the skiing world championship 2015 in Sweden); 4) a showcase for a 2015 EIT ICT Labs partner event. Interactions with appropriate committees inside the organisation of both target events at points 2) and 3) are currently ongoing.

Description of the Activity work plan

The activity starts from the experience sharing prototype developed and trialed in MOSES Activity in 2014. Based upon this prototype and experience gained, we will make it happen and take a refined version to real events. We will revise/augment the platform based on experience and based on requirements from target events for 2015. This yields a refined implementation of the platform and an application skeleton including tailorable user interface. We will devise specific "skins" for the two or three target events (one being an EIT ICT Labs partner event). We will add up to 2 additional functions at application layer for the target events. Our design/development process in 2014 revealed many potential functions that we had to prioritize for realization in 2014. We will leverage MOSES findings and choose, in cooperation with target venue operators, the most suitable functions for realization in 2015. We will devise the functionality of additional "infrastructure" boxes for both events. We will deploy the infrastructure and make the applications available to the event operators (and through them to visitors). We will finally carry out controlled as well as open user and usability studies.

KIC partner acting as activity lead and other KIC partners involved

Aalto University: will contribute to developing and revising the experience sharing platform and adapting it to the needs of the specific events.

SICS will contribute to the platform and infrastructure nodes, including indoor positioning and to the deployment (particularly the skiing or EIT Labs event)

KTH will contribute to the system design and logistics/deployment and the evaluation as well as to business/innovation aspects.

Futurice will be responsible for the application concept and development as well as the tailoring to specific events.

CNR will contribute to the logistics and deployment at Expo 2015, to the trials, and their analysis.

University of Helsinki will contribute platform experiments and their evaluation.

Ericsson will contribute its (live) media streaming application for Android devices and perform integration with the experience application.

All industry partners will contribute to business modeling and innovation, complemented by technology analysis of the academic partners.

We are seeking an SME as a B2B technology provider to extend and adapt a commercial-grade platform for experience sharing in cooperation with Futurice and Ericsson to customize it and offer event-specific applications.

List of deliverables

1. Experience sharing platform and deployment documentation.
2. Report on experiments from two different types of events.
3. Platform and application adaptation for two different events.
4. Report on Business Perspectives and Future Technology Development
5. Innovation Opportunities: Concepts and Case Studies

The SME is expected to be particularly involved in 1., 3., 4, and 5.

Expectations on the SME

The SME is will have a key role in business modeling, technology transfer and exploitation. We target a B2B technology provider turning an opportunistic networking implementation into a commercial-grade platform, enabling the partners (particularly Futurice) to build commercial products (the experience sharing app for Expo 2015) on top.

Technology and Scenario Background

The project pursues the vision of *augmented reality* for visitors in *co-located social communities* for visitors of entertainment venues such as the Expo 2015 fair. The project will extend an existing mobile communication platform that readily supports mobile opportunistic networking and service provisioning and develop applications that use those features to realize *instant experience sharing*. The aim is to produce designs and

prototypes right from the beginning to ensure that multiple applications will be deployed, trialled, evolved, and evaluated during the project.

The outcome enables visitors to experience more than their immediate surroundings instantaneously and assist them in dynamically (re)organizing their visit due to comprehensive ways to interact with each other. They can communicate within their group, but also with people near them to coordinate, e.g., to play instant games and to participate in others' experiences. Visitors be able to form co-located social communities to share the moment, issue hints about cool things they have seen, and enrich each other's experiences with collaborative games and shared media. Remote parties such as family and friends at home can also join in some elements of play.

In order to realise this vision, it is necessary to develop support for applications that enable users to efficiently share potentially large-size multimedia content between them, and venue operators to collect detailed data about the status of the venue during visits. It is becoming obvious that existing cellular operator infrastructure in many cases is not able to cope with the explosive growth in mobile data traffic. WiFi offloading helps and is further enhanced by new direct peer connection technologies which are just becoming viable but for which best usage patterns are still poorly understood. Not only direct peer connections (supported by opportunistic or delay-tolerant communication paradigms) can alleviate infrastructure congestion. They can enable brand new types of services for multimedia applications, by exploiting embedded knowledge about physical proximity of the users and common location (to be possibly correlated with users' profile information to better understand the dynamics of social interactions).