Activity: 14326 MOSES - Mobile Opportunistic Services for Experience Sharing
Segment: Future Networking Solutions
Area: 2b. Action Lines Innovation in ICT

Expected Outputs

MOSES will adapt and extend the algorithms and software systems built in the carrier projects to create a specific mobile application for experience sharing between visitors (using live images, videos) of an entertainment venue such as Expo 2015. The resulting system will (i) reduce the load on the mobile network (offloading) and (ii) provide a platform allowing instant refinements, creation, and sharing of new apps. The technology will be tranferred to an SME and a university spin-off.

Description of the Activity work plan

The MOSES activity will combine an existing research prototype implementation of an opportunistic networking platform, (partly commercial) content distribution/sharing mechanisms, and community detection algorithms to create a mobile experience sharing service tailored to large-scale events (such as Expo 2015) along with a commercialization roadmap for two companies.

The activity comprises four tasks using different catalysts: (1) Technology maturation will be used to add the missing building blocks to the prototype and integrate the algorithms with the platform implementation. (2) Technology experimentation will devise an initial application for continuous trials throughout the year to gain experience and assist platform quality assurance. (3) Technology transfer will support commercialization of the MOSES results in (a) a spin-off technology company for the platform and (b) an experienced application development company for the applications. (4) Business modeling will accompany the commercialization with joint market studies.

KIC partner acting as activity lead and other KIC partners involved

- Aalto University - Activity lead Development, experimentation, deployment, business modelling of MOSES concepts & platform.
- Futurice - SME experienced in developing apps for mobile OSes, ensuring efficient development of applications for the MOSES platform.
- SICS - Development/experimentation/deployment of MOSES concepts & platform using experience from building opportunistic ICN systems for large events.
- KTH - Contribute understanding of underlying mobility and how that affects data dissemination; contribution to prototype development
- CNR - Contribute with mobile social networks detection and opportunistic data dissemination; contribution to prototype development; create and run the link to the Expo 2015 committee.
- University of Helsinki - Development/testing of MOSES platform and business models for opportunistic networks.

We are seeking an SME as a B2B technology provider to turn an opportunistic networking stack and API into commercial-grade platform, enabling others to build commercial products.

List of deliverables

1. Software release of platform for mobile devices to enable users to participate in the MOSES system.
2. Report on deployment experience and results from experimental evaluation
3. Business perspective and commercialization description
4. Report on a EIT ICT Labs software prototype tech transfer into an experience sharing application of the industry partners
5. Final report

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

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)rganizing 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).