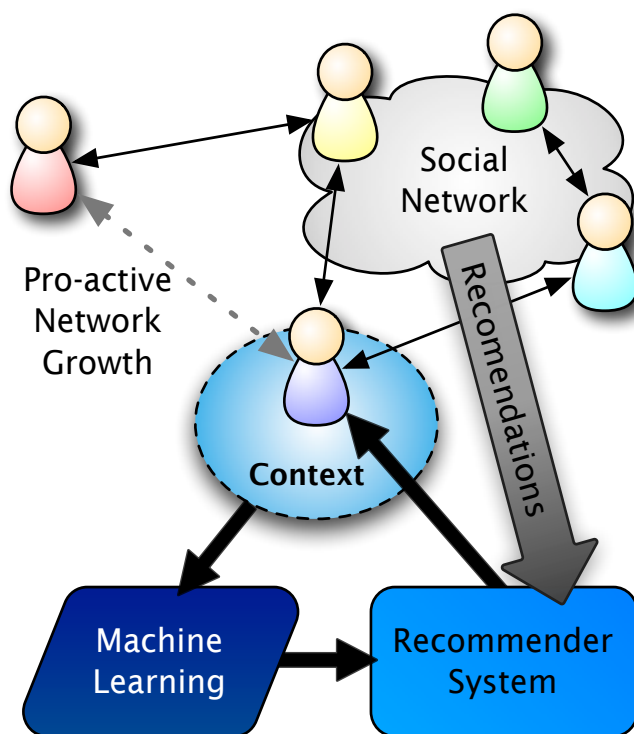


Instant Knowledge: Socialstream Brief

IK Concept

Instant Knowledge enhances the value of any organisation's most important asset—the information held by its employees. Rather than requiring staff to fill out skills profiles, which are very general, become outdated, and require significant effort, IK uses an application on employees' smart phones and laptops to gather information on what they are doing and who they are communicating with. This context is used to build dynamic skills profiles along with a social network map for the enterprise, which provides a resource to proactively offer recommendations to participants. Using IK, staff can always find the best person for the job.



IK Concept: It's not what you know, it's who you know, and who they know...

Socialstream Concept

Socialstream is an application which enhances the usability of IK devices. The IK system is intended to add value to the enterprise in which the system was deployed and add value to the user experience of each individual by mining the data gathered by IK devices used by each employee of the enterprise. However, the same end product can not satisfy the needs of both groups: individual IK users require more from their IK devices than occasional recommendations if they are to allow tacit gathering of their data. Socialstream solves this problem by empowering IK users directly.

A socialstream is a chronological list of all interactions made by the user of the IK device. It is easily accessed by the user and allows IK devices to provide a social aide mémoire to each user.

Novelty & Contribution

Socialstream adds functionality to IK devices by providing surrogate social memory. The context data gathered on each device will be used time-ordered stream of interactions made by the user with the device. This socialstream allows users to explore the history of their social interactions—both mediated and co-present—within one application and through an intuitive user interface.

The interface has two layers, the top layer is the socialstream proper where each sequence of interactions is displayed in summary form, and a lower layer where the detailed substream of each summary in the layer above is visible. Socialstream will display details of mediated interactions such as calls, SMS messages, and emails, as well as co-proximate interactions.

Application Scenarios

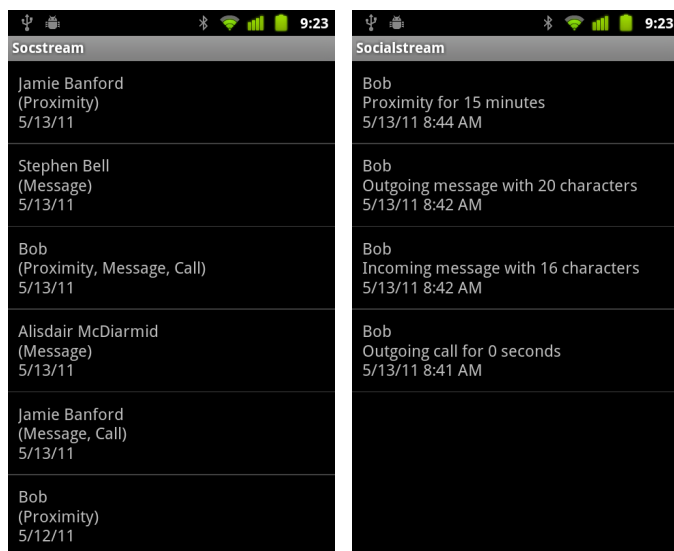
The socialstream can be filtered as well as browsed. When specific information is required the user may filter by contact or by time.

Filtering by contact will produce a substream containing all interactions with that contact in the entire socialstream. It could be used to refresh the IK users' memory of the previous meetings and correspondence between them and the contact, perhaps before a meeting or networking event.

Filtering by time allows the user to select all of the interactions with all contacts for a specific period of time. This approach allows IK users to enhance their memory of previous meetings and correspondence based on temporal events, for example, an IK user might remember meeting someone at a conference but not remember their name or contact details.

Demonstration Results

A proof of concept implementation of the socialstream application has been built and tested on a Google Nexus One handset running Android 2.3. Calls and SMSs were detected and displayed in the stream, as were other co-proximate devices which were detected using Bluetooth device discovery. Screen shots of both layers of the user interface are shown.



Socialstream running on Android: stream view (left), and conversation view (right). The conversation view shows the third from top conversation.

Conclusions

IK devices are the sensor nodes in the IK system gathering all of the context data that is required for the system to function. By mining the data on employees' mobile devices the IK system is able to profile the knowledge and skills of each employee and create a map of the various social networks which exist between employees. Although this data is tremendously valuable to management it has little or no direct value to the individual employee.

As there is no provision within IK to directly add value to the employees who use the IK system, additional functionality must be added to the IK devices to this end. IK devices should encourage employees to participate in the IK system by providing services not available elsewhere. In doing so the IK service as a whole will improve: both management and individual employees will see better results.

By adding functionality to IK devices in the form of surrogate memory, the context data gathered on each device will be used for two purposes. In addition to being used centrally by the IK system each IK device will use the context repository there to create a time-ordered stream of interactions made by the user with the device. This socialstream allows users to explore the history of their social ties within one application and through an intuitive user interface which is not available on any other mobile device. Socialstream gives users additional services while at the same time helping the IK system as a whole to gather data.

A proof of concept implementation of the socialstream application has been built and tested on Android smartphones. Calls and SMS messages were detected and displayed in the stream, as well as co-proximate interactions with other devices.

Further Information

Videos and Technical Reports for all of the Instant Knowledge research outcomes are available to members on the Mobile VCE web site. For non-members the Instant Knowledge overview sheet is available at:

www.mobilevce.com/infosheets/InstantKnowledge.pdf

For further information and to register for information about future MVCE IK events please email Jerry Horton: jerry.horton@mobilevce.com