

S.M.S.

Scope

If mobile services are to repeat the success of the Web they have to be simple to find, simple to use, simple to trust and simple to set up. The technologies needed to achieve these goals are already in place. What hinders service deployment is not technology but the lack of standards and standards-based tools – and more important still – the absence of the millions of small providers who have driven the Internet explosion. It is these obstacles that we address in the Sms proposal. The goal of the Sms project is thus to create innovative tools enabling a new class of services, addressing the specific needs of mobile users and enabling individuals and small businesses to become service providers. We call these services Simple Mobile Services (Sms).

Advances

The Sms project is part of a broad move from a “walled garden” model of mobile services, towards a world in which using and providing mobile services is as easy as using and setting up a web site today. Sms makes several specific contributions to this trend. In particular, Sms proposes the concept of the MEM, facilitating automated capture, storage, sharing and exchange of location-related information among users and applications. Other important developments include SIM-based security and privacy mechanisms – allowing users to exploit the strengths of the SIM technology on their phones – and the Sms “Move” client – providing a novel gateway to mobile services. More generally, the architecture, service discovery and authoring tools, developed within the project will provide a strong basis for vertical applications in a broad range of markets.

Positioning in global context

Sms comes at a time when the world market for mobile services is undergoing a sea change. On the one hand, the number of worldwide mobile connections is increasing rapidly, the cost of data connections is falling and consumers are buying handsets with the technologies required by mobile services; on the other hand operator-dominated walled-garden approach to mobile services is challenged by manufacturers such as Nokia and Apple, by service providers such as Google, by new devices such as GPS navigators, and even by initiatives from within the telecoms operators themselves. In this setting, Sms has defined concrete business development plans, including not only the release of novel applications to end-users, but also the development of large-scale vertical applications. Sms adopts an open source development model. Tools and applications produced by Sms are available under open source licences, facilitating their adoption in the real world.

Contribution to standardization and interoperability issues

The Sms project contributes to the ETSI Specialist Task Forces ST342 “User Profile Standardization». STF342 originates from the outcomes of two previous ETSI STFs, ST265 on “Personalization and User Profile Management” and STF302 on “Incorporating Universal Communications Identifier Support into the Specification of Next Generation Networks”, to which Sms also contributed. Members of the Consortium are also active in OASIS, where they are contributing to the XDI and XRI TCs, by proposing mechanisms for data interchange and for information sharing among different domains.

Target users / sectors in business and society

Sms is designed to support the end-users of mobile services and the developers and providers of these services. Typical end-users are likely to include business travelers, tourists, and citizens engaged in professional and leisure activities. Sms Service providers could range from individuals and NGOs, through small businesses and local government, up to major corporations and central government. Particularly important for Sms business plans are organizations wishing to roll out vertical applications. Examples include city governments providing mobility services for citizens, public transport authorities providing enhanced electronic ticketing, major companies and public administrations wishing to provide their employees with mobile access to the company intranet. Adoption of Sms tools and applications by public administrations is greatly facilitated by the project’s open source model.

Overall benefits for business and society

Sms is contributing to a broad trend away from the current operator-dominated market for mobile services to a new, more open, model in which offering mobile services becomes as easy as setting up a site on the web. The implication is that in the next 3-5 years it will become normal practice for organizations to offer mobile services and for end-users to access these services. The economic and social impact is likely to be extremely large.

Examples of use

Leaving for London - Mr Smith uses the web to book a flight from Athens to London, providing his personal information and credit card details in an encrypted, digitally signed MEM, as proposed by Sms. At the end of the booking process, the airline sends him a new MEM containing details of his flight. Mr Smith can view the MEM both on his home computer (where it comes as a link in an email message) and on his mobile terminal. A few days later, he arrives at the airport. Using the MEM data, the airport provides him with a "Take me to check in" service. The check-in agent uses the data in the MEM to check him in. Another service guides him through security to the departure gate. As he arrives he sends the MEM to a friend who will be picking him up on arrival. The friend will use the MEM to check for any delay in the flight.

Late at night - When Paolo calls it's nearly midnight. His plane was very late. "Where are you?" he asks. Françoise has no idea. She's been sitting in the bar for two hours, but she doesn't know the address and she doesn't speak German. She clicks on "Capture Location". The system gives her a MEM with the name of the bar, its address and telephone number and its GPS coordinates. She sends the MEM to Paolo. He gives it to the "Takeme2" service which guides him through the complex one-way streets until he is just outside the bar. Françoise is very happy to see him.

Achievements

Sms MEMs are electronic notes containing information about a location, a person, a service, or a Web site. Users can automatically capture MEMs from the environment or from other services, store them for future use, share them with other users and send them as input to other services and applications. The content of MEMs can be certified and encrypted allowing their use in services requiring payment and/or the exchange of personally sensitive information. With MEMs, users can capture information that would otherwise be lost and drastically reduce the amount of information they have to input manually. End-users can use them to inform other users about their location; shops and restaurants as electronic business cards; airlines as a convenient way of providing flight information to passengers.

Sms SIM-based Security and Privacy exploits the security provided by the SIM card to offer a general solution for problems that would otherwise have to rely on ad hoc proprietary software. The mechanisms created by the project guarantee the authenticity and origin of MEMs, allow users to evaluate the trustworthiness of the services they are using and ensure that service providers do not receive more information from users than strictly required to carry out transactions.

SMILE is Sms' middleware for communication: an open source platform for mobile services execution. The middleware provides effective and scalable support for large distributed applications involving multiple heterogeneous devices. The middleware offers support for NAT traversal, as well as security features, providing secure end-to-end communication. SMILE is based on the SIP protocol, allowing integration with IMS.

The MOVE client provides an open source runtime engine and specialized client software allowing Sms users to access services without passing through a conventional web browser. Special discovery software ensures that in most cases, the user can access the services she needs, directly from a menu without any preliminary search. Other important features include MEM management functions, allowing users to capture, store, retrieve and share MEMs and a Takeme2 services, guiding the user to a location defined in a MEM. The MOVE client is developed over the Java 2 Micro Edition platform. This ensures it can run on almost all current Smartphones (including both Symbian and Windows Mobile devices).



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