
Adding a “Sense of Place” To a Mobile Phone UI Platform

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Abstract

This is a position statement for the CHI 2007 “Mobile Spatial Interaction” workshop. It describes work on making *location* a new dimension of the overall mobile phone experience by Motorola’s Consumer Experience Design Group (CXD).

Introduction

Various kinds of location-based services (LBS) and applications have been proposed and developed for mobile devices e.g. car navigation, person locator, map display, location-aware search. However, using location as a general attribute within the user experience of mobile communication platforms is still in its infancy. At this point, location related functionality on mobile phones is provided through specific LBS applications – and not as part of the core platform user interface (UI). In the real world, location is a universal attribute that can be relevant to almost anything. This is not the case in today’s mobile phone experience. Using and interacting with locations is typically limited to the LBS application and to specific tasks. A location cannot be easily applied to any object or task (person, photo, play list, message etc.) in the mobile experience.

Limitations of dedicated LBS applications

Consumer research done by Motorola on mobile LBS solutions indicated that the actual location-based functions (e.g. navigating to a place, viewing a map) were performing relatively well with users. But it was the integration of LBS tasks with the core functionality

of the mobile phone (e.g. messaging, voice communication, calendar, etc.) where most frustration and usability issues occurred. For example:

- I found a location with my LBS app but can't send it in a message.
- Locations from the LBS app are saved in a separate "address book" – not in my "main" address book.
- I want to take a quick look at my current location but there is a long wait to start up the LBS app.

To overcome these isolated and redundant experiences, location needs to move out of the application space and become an integral part of the mobile UI platform – become an underlying dimension of the overall experience. As analogy, visual media has evolved to be a natural part of the mobile handset experience. Images are not just presented in a specific application but as a capability that enriches all functionality (e.g. add image to a contact, send image in message, use image to decorate). Location is not presented in that way, even though by nature it is a profound attribute of a wide range of objects and tasks.

What is location experience?

In order to integrate location into the overall experience– not limited to specific applications – we need to understand the scope of location experience in the real world. An approach to achieve this, is based on existing work in social psychology: "Place identity" [1]. The concept of Place Identity describes the roles and mental models that location can play, such as:

- Physical/Practical – enables us to get around
- Social – the meaning of places through communication
- Autobiographical – the meaning of places in my life

Understanding location-based services in terms of Place Identity reveals a framework for mobile platforms.



figure 1. Aspects of place identity – and location experience

A location experience framework for mobile platforms

The model of location experience shown in figure 1 and the state of current LBS technology indicate that most LBS efforts today are targeting the physical/practical aspects of location (e.g. car navigation, map display). The social aspect of location is emerging around locative messaging and social networking applications. The autobiographical aspect has not yet received much attention.

We believe that a comprehensive experience model is crucial to achieving a strategy for location on mobile UI platforms: Only by leveraging all three aspects – physical, social, and autobiographical – can all potential use cases and experiences related to location be covered. Holistic approaches to location on mobile UI platforms are currently being investigated by Motorola CXD: Users interact with locations as independent objects across various contexts of the mobile phone UI

instead of being isolated in LBS applications. Examples are shown in figure 2:

- Locations can be received and sent via the message application. (left)
- Meaningful collections of locations and other media can be created according to a theme, time or event. (middle)
- Location-based services (map, navigate, etc.) are available from the location object

Locations are presented as shared resources that can be acquired from and used by internal applications and external services. Consequently locations become part of the “viral” peer-to-peer aspect of mobile communication instead of being downloaded mainly from directory services one at a time - like today. Such approaches entail interesting challenges around how to present locations consistently across a wide range of tasks and applications – practical, social, or autobiographical in nature. Ideally users should be able to add the dimension of location to any kind of object or interaction in an intuitive fashion. The location framework needs to allow users to create and manage meaningful collections of locations and other objects and share them with others.

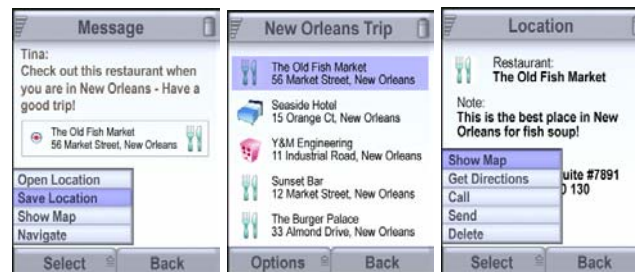


figure 2: Location objects in different use contexts: Social, autobiographical, physical.

Conclusion

There are many questions and research topics around location as part of a mobile platform. For example:

- Where should location and locations “live” in the overall platform UI experience?
- How should locations be presented to users? Real-time and saved locations?
- How consistently do applications use locations?
- What kind of information should be included in a location?
- How are locations transmitted between different types of devices and services?

We see this CHI workshop as an opportunity to discuss and gather feedback on some of these questions.

Citations

[1] Proshansky, H., Fabian, A K., & Kaminoff, R. (1983). Place-identity: Physical world socialization of the self. *Journal of Environmental Psychology*, 3, 57-83