

Mobile HCI and Hospitality

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ABSTRACT

We present the hospitality industry as a special retail environment that could have a great benefit from effective use of mobile technology. In this context, we discuss opportunities and challenges for the design of mobile hospitality applications. We illustrate these issues by presenting an example application that provides digital concierge services augmented with a social network to hotel guests. In addition, we discuss two more ideas for mobile applications that we intend to develop, to serve as inspiration for Mobile HCI in the hospitality industry.

Author Keywords

Keywords are your own designated keywords.

ACM Classification Keywords

H4.0. Information systems applications: General.

General Terms

Human Factors.

INTRODUCTION

The hospitality industry comprises those branches of the service industry that specialize on providing a host-to-guest relationship with their customers. This includes hotels, restaurants, conventions, entertainment, and tourism. Because its main product is the service to its guests, it is probably the most service-oriented industry there is.

Typically, these services are delivered in person. For example, hotel staff members personally welcome and support guests during their stay. Automation and efficiency is only a secondary goal, as guests perceive interacting with a human more pleasant than interacting with a computer. Nevertheless, service personnel can greatly benefit from digital tools to improve their capabilities. For example, electronic calendars allow event organizers to act faster, and digital check-in systems operated by staff members improve the guest check in and feedback process.

One important application of digital tools in the hospitality industry is improving the communication between service provider and guest. For instance, online services are used to reach customers and give them impressions of what to expect of a stay at their venue. We believe that the use of mobile technology can improve this communication even further by providing personalized, adaptive, and ubiquitous communication between host and guest without taking away the focus on interpersonal service.

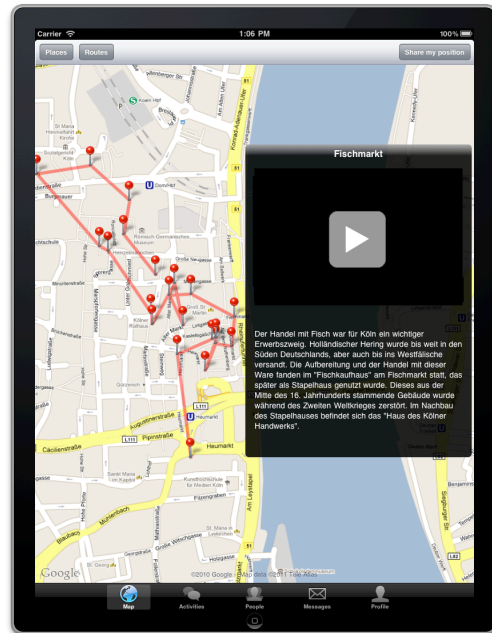


Figure 1. Screenshot of a sample mobile hospitality application: the map shows a recommended tour of the city with a video overlay of the concierge explaining a particular point of interest.

In addition to the opportunities for the hospitality industry by itself, mobile technology can improve the bridge between hospitality and other retail industries. By attracting and hosting potential customers, the hospitality industry acts as a supporter of conventional retail environments without being in direct competition with them. At the same time, a positive experience at a retail store that was recommended by the hospitality venue can improve the guest experience at the hospitality venue. This supporting relationship brings many opportunities for both parties.

In the workshop, we want to discuss both sides of this issue. We want to identify opportunities and pitfalls for service-oriented mobile technology in the hospitality industry, and we want to discuss options for cooperation between conventional retail environments and hospitality.

RELATED WORK

There are only few academic publications about the use of mobile technology in the hospitality industry. Carlsson et al. [1] have studied how mobile travel companions have evolved in comparison with consumer expectations. Their

focus is mostly on travel guides, not mobile applications that improve the actual service of a hospitality venue. Mozeik et al. [2] have determined that the mobile experience of using a restaurant's e-services has a greater impact on customer acceptance than the experience on conventional laptops. This demonstrates today's customer's acceptance of using mobile services while travelling.

The hospitality industry, on the other hand, appears very interested in introducing mobile applications. Today, more than 10 worldwide operating hotel chains are offering a service-oriented mobile application. Some hospitality venues, such as Hyatt in cooperation with Apple¹, are also experimenting with iPads that are given out to their customers. So far, however, there is no coherent understanding how mobile technology can be used effectively in the hospitality industry.

PREVIOUS WORK FROM OUR GROUP

In collaboration with the Hospitality and Tourism Institute² and the concierge and human resources department of a large hotel, students from our university have designed an application under our guidance that provides interactive concierge services embedded in a social network of the hotel. The application is meant to be provided by a hotel or hotel chain to its guests, either via download onto a private iPad or on an iPad handed out to guests during their stay.

The concierge services provide an interactive tour of sights, restaurants, and bars around the hotel, augmented with frequently updated recommendations by the hotel's chief concierge. The attractions are displayed in a recommended route on a map with the user location highlighted. The concierge recommendations are embedded as videos, where the concierge gives insider tips and presents current events.

On the social side, every guest of the hotel can create a shared profile and visit the profiles of other guests. In general terms, the application creates a social network between hotel guests, where connections are drawn if guests are staying at the hotel at the same time. Guests can also share their location and activities with other hotel guests, and likewise see activities and locations of the other guests. The shared locations of all guests are visualized on the concierge services map. This allows guests to identify popular attractions and to meet up with others. Activities, on the other hand, are shared by posting updates to the application that describe what activities the guest is currently doing or wants to do. This way, guests can join others in their favorite activities or arrange group activities that might not be possible all alone.

¹ http://movies.apple.com/media/us/business/2010/profiles/apple_ipad_enterprise_hyatt-us-20100903_r848-9cie.mov

² <http://www.htmi.ch>

At this point, there is still some uncertainty about the basic concepts of this project: the concierge services could be considered as an application that undermines interpersonal interactions; the social network reduces privacy and might even be abused for criminal intent. On the other hand, surprisingly positive feedback from actual hotel staff motivates us that these challenges can be overcome.

FUTURE WORK

Currently, we plan to pursue two new projects about Mobile HCI in hospitality: an immersive dinner guide that allows the chef to communicate the story of the dishes to the guests of a restaurant; and an adaptive tour guide for tourism that includes personalized offers by third-party vendors, like restaurants or retail stores.

The goal of the immersive dinner guide for a restaurant is to facilitate the communication between the chef (cook) and the guests to improve the overall dining experience. The guide will be designed as an interactive menu of the restaurant. Next to the description of every dish, a video shows all the steps required to prepare the dish. This includes, for instance, a trip to the market to select and purchase fresh ingredients, information about what makes an ingredient special, and an overview of the steps required to prepare the actual meal. The guide should capture the story behind the meal in the form of a short, compelling documentary, told by the actual chef. We hope this helps guests to better understand what makes their dish special, and to build up a relationship with the chef, who often remains anonymous.

The adaptive tour is an extension of the previous work done by our students. Its concierge map is improved to adapt to the typically tight time constraints of modern travellers, to make the most of their trip. The tour application selects the best matching route from the guest's profile information and time constraints and adapts this route on the fly while the user is progressing. For instance, if the guest remains longer than expected at a certain location, the tour will automatically shorten the remaining route. In addition, we see great opportunities for third-party venues to embed special offers in the tour guide. These offers can be personalized according to the guest profile and match the existing route. This way, offers provide useful suggestions to the guest and draw customers to these venues.

ACKNOWLEDGMENTS

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