Talking about Place: An Experiment in How People Describe Places *

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Abstract. *How people describe places is an important issue for the design of location-aware systems. We report here on an experiment that investigated the types of descriptions people naturally produce for places, the extent to which they tailor descriptions for different audiences, and the factors they consider in deciding how to tailor their descriptions. We identified a number of common types of place descriptions and a few common factors(purpose, knows me, knows area, privacy) that influenced what description a person chose. These results show that social applications should make the audience for place descriptions clear, and that systems should allow multiple descriptions for the same place, including making it possible for users to describe their location in different ways to different people.*

1. Introduction

Physical coordinates, like latitudes and longitudes, are a comfortable language for computers - but not for people. People name their places and communicate with each other using contextually meaningful names. Descriptions of a single place may vary widely, ranging from generic ("a grocery store") to specific ("Cub Foods") to idiosyncratic ("the place we met last time"). Espinoza et al. [2] have provided some anecdotal descriptions of labels people give places when using GeoNotes.

How people describe places is important for place-based system design. Wilenmann and Leuchovius argue that location-based services should describe location in ways relevant to users, such as "I'm home" [10]. In 'Smart Mobs', Rheingold [6] describes a number of applications that will require individuals to share names of their places with others. Consolvo et al. [1] studied factors that impact people's decision to disclose their locations. We seek to understand the types of descriptions people naturally produce for places, the extent to which they tailor these descriptions for different audiences, and the factors they consider in deciding how to tailor their descriptions. In this study, we carried out a formative experiment to study the following research question:

> *How do people describe places? Can descriptions produced by one person be understood by another?*

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2. Experiment

Subjects. We recruited 28 subjects, all from a major U.S. metropolitan area. Their ages ranged from the early 20s to late 60s. Twenty were male, 8 female. They included 6 college students, 4 engineers, 4 information technology professionals, 4 teachers, a range of other professional and service job holders, as well as several retired people. Since this study is formative research, aimed at observing subject experiences and using the results to guide more traditional empirical work in the future, we believe our subject pool is large enough for the study.

Data collection. We instructed subjects to keep a diary [4, 7] of the places they visited each day. Subjects were not instructed to label places in any special way; they were simply told to log their places every day using whatever description made sense to them. They received a daily reminder (email, instant message or phone call); they could return their list of places via email or record it in a notebook. After data collection was complete, we printed a table of each subject's places.

Interviews. In the interview, we led subjects through their places to learn what might make them change their descriptions. More generally, we wanted to identify the factors that they would consider in describing a place. To get at this, we presented subjects with a scenario:

> *If you were here [at a specific place] and somebody called you on your cell phone and asked, "Where are you?", what would you tell them?*

We first asked subjects to answer this question for about five places from their list; we did this to get them to think about concrete instances rather than in the abstract. Subjects often started their answers by saying "Well, that depends". After we had gone through five or so specific places to establish context, we explicitly asked them to try to generalize, to tell us what "depended on", i.e., the factors they considered.

3. Results

3.1. The dataset.

All 28 subjects logged their data for three weeks. We ended up with data for 24 subjects, however, because of 4 failed interviews. A total of 708 places were logged by the subjects, with an average of 29.5 per subject and a standard deviation of 13.30.

3.2. Place descriptions.

While we have not yet categorized the place descriptions systematically, our analysis so far suggests that descriptions come in a number of different types:

- *Generic/functional*: car dealership, airport, gas station, grocery store.

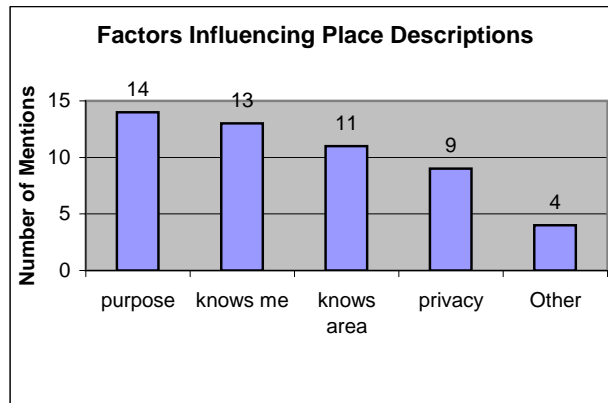- *Well-known public*: McDonalds, Taco Bell, Caribou Coffee, TCF Bank, Cub Foods, Office Max, Target.

Figure 1. Factors influencing place descriptions: for example, out of 24 subjects, 14 subjects mentioned that "purpose" is an important factor for place description.

- *Specific public*: Barnes & Noble - Eden Prairie, TJ Max - Rosedale, YMCA - White Bear, Mystic Lake Casino, Coffman Memorial Union.

- *Personal/social*: Home, Mom and Dad's house, Sue's house, daycare.

- *Functional/activity-based*: class, art opening, parking, swimming.

3.3. Factors in describing places.

We coded subject responses and found that they usually fell into one of a few categories, as shown in Figure 1.

First, subjects considered the purpose of the supposed conversation (*purpose*): imagining that the other party needed to come to the place. For example, a taxi driver might need to pick them up, in which case they might give an address and even driving directions. One subject said:

> *"If my sister calls me, I will tell her I am at Target in St Louis Park because she may want to go shopping with me."*

Second, subjects considered how well the (fictional) caller knew them (*knows me*). Certain descriptions would make sense only to their friends or close family members. One subject described her daughter's house 'Joan's'. When she was asked whether other people would understand it, she said:

> *"If they do not know Joan, that's too bad!"*

Third, subjects considered whether the (fictional) caller knew the area (*knows area*). One subject had described a place as "Barnes & Noble - Eden Prairie". When asked how she would describe it to her father, she said:

> *"My dad's not from around here, so it wouldn't make much sense to tell him 'Eden Prairie' - instead, I would just say 'Barnes & Noble' or 'the bookstore'."*

Forth, some subjects said that they might generalize the description for reasons of privacy (*privacy*). One subject said that if he was interviewing for a new job and his manager called, he would generalize his location by giving the name of the city he was in or by saying he was 'in a meeting'. One subject who went to a local bar ("The Newsroom") with his friend said:

> *"I would say I am at a restaurant (instead of Newsroom) if my parents called so that they do not make an issue."*

Finally, some other factors were considered by some subjects. One subject said that he would be more conscious about what to disclose when he is at the liquor stores, if he has kids. One subject said that he would give more detail information about his current place if the (fictional) caller is close by.

4. Discussion and Summary

Our results show that users may want to describe the place where they are in different ways to different people. Applications should take this into account. Terveen et al. [8] described a prototype interface that let users disclose their location at different levels of details to different groups and individuals. We agree with Hightower [4] that a collective approach to acquiring places is promising. However, our results suggest that different descriptions for the same place must be reconciled. The "ESP Game" [9] approach may offer a good starting point.

We found that people naturally use different descriptions for places; for example, "the grocery store", "Cub Foods", and "the place we met last time" might all refer to the same place; that people can tailor descriptions based on various factors (*purpose, knows me, knows area, privacy*).

Our findings lead to design implications for location-aware applications. First, social applications should make the audience for place descriptions clear, using the factors we have identified. Second, systems should allow multiple descriptions for the same place, including making it possible for users to describe their location in different ways to different people [8]. Third, it is possible to establish models using our identified factors to automate place description generation to certain extent. For example, it is feasible to map different descriptions to different types of people, e.g., spouse, coworker, friends, etc.

In the future, we would like to carry out more analysis on categorizing different places. Studies in environmental psychology show that places derive their meaning from social conventions concerning expected and unexpected activities, their private or public nature, possibilities for communication, etc [3, 5]. We also want to investigate the correlation between place types, place descriptions and the major factors. Finally, we would like to implement these research findings in a location-aware application, e.g., a geo-messenger system, and carry out empirical studies.

5. Acknowledgements

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