

What is a place?

Allowing users to name and define places

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ABSTRACT

From working with location-based information systems we know that positioning is problematic. A different approach was tested, where users themselves were allowed to name and define the places they wanted to use. The question was if they would do so, and if they would understand the notion of “place”. In a user study, 78 users created 84 place labels. The user study also gave us some unexpected input to the users’ perception of place: not only physical, but also virtual places were created.

Keywords

Place, positioning, location-based information systems

INTRODUCTION

GeoNotes [4] is a location-based information system. Like similar systems (e.g., [1], [3]), GeoNotes allows a user to attach information to a specific geographical position via a wirelessly connected terminal. Other users can then access that information when entering the same location.

The idea of place labels

The place label system [2] lets users give names to places and objects that surround them. Once located by the system, the user will receive a suitable list of place labels. She can then choose to place her piece of information on one of the place labels in the list or create a new place label that better suits her purposes. In this way the list of place labels at each location may grow and the surrounding space can grow more defined. To filter out bad place labels only the 15 most popular ones at each location are shown.

Place labels are not intended to replace a positioning system but rather to complement it; the users will still be positioned but with greater accuracy. These positions, however, can be more or less exact. GeoNotes is currently deployed in a 802.11-based wireless network, where each access node corresponds to one position. The positioning system was chosen despite this limitation because it

allowed us to perform an encompassing user study. We argue, however, that place labels are useful no matter the granularity of the positioning system. In the current GeoNotes system, place labels are used to narrow the position. If the positioning system offered a higher granularity, place labels could be used to enlarge a geonote’s location. As an example, imagine a user who is located at the left corner of a large building. Should she want to say something about the whole building, her exact location would not be very useful.

USER STUDY

During a period of one month (April 15th to May 15th 2002), 400 computer science students were given the opportunity to download and use GeoNotes. All system activity was logged, and all geonotes, comments and place labels were collected for analysis. In addition to this, 14 of the students were enrolled for a more in-depth study. These subjects were drafted through posters on campus and underwent a 40-minute individual interview after approximately three weeks of GeoNotes usage.

During the one-month trial 78 users created a total of 182 geonotes. Users could also comment on each other’s geonotes, resulting in a total of 101 comments. When placing their geonotes, users created 84 place labels scattered over 28 access points. Hence, 98 geonotes (182 - 84) were placed on reused place labels.

Categorization of place labels

According to the analysis of place labels (Figure 1), 6 labels related to larger-than-rooms places such as “Kista IP” (the sport field), “Barrvägen” (a street) and “Lappis” (a Stockholm neighborhood). 35 labels described rooms or corridors, e.g., “library”, “Room C33”, “Electrum C1 corridor” and “the room with the bad tables”. 10 labels referred to aspects of larger rooms and areas, e.g., “sitting area in entrance hall”, “lecture hall left”, and “fireplace”. 12 labels described objects, e.g., “printer”, “soda machine”, and “fifth chair”. 11 labels denoted ephemeral objects in a situation or social activity, e.g., “the forehead of the lecturer”, “nearby the screaming kid”, or “the crowd in C33”. Although not confirmed, 2 labels appeared to be faked (“England” and “Centralen” [normally designating a metro station far from Kista]). 3 labels functioned more as

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message fields (e.g., “we are waiting for food” and “sick humor”). Finally, 4 labels placed on different access points around the network referred to “floor 41 VIP Room”. Initially, these labels puzzled us since we only had expected users to define physical places. Considering that no building in the network had more than 7 floors, the VIP room could not be a physical place. One of our interviewees, however, happened to be the creator of these labels and explained their rationale. He and his friends collectively decided on a name. Whenever they arrived at a new access point, they would create this label. Since this group mostly used GeoNotes for chat, the place label turned into an “IRC-channel” [Internet Related Chat] (expressed by one of the friends). Although readers were only able to read the VIP-room notes attached to their current access point, the four people involved found this approach valuable to quickly sort and find each other’s notes and comments. In total, 32 notes were sorted under the VIP-room label on four different access points.

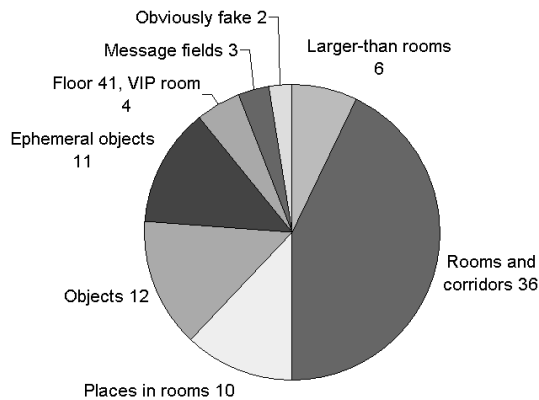


Figure 1: Distribution of place labels

Results from interviews

From the interviews we learnt that place labels were used both to identify the place and to navigate. Just about all interviewees, however, had a story to tell about “confusing” place labels. First, some labels did not seem to relate to the room at all, e.g., labels related to situations that had already passed (“nearby the kid that is screaming” or “floor 41 VIP room”). In most cases, however, subjects seemed to understand the context in which those labels were created. Second, subjects reported on labels they had recognized but which they knew referred to locations “far away”:

“We sat on floor 6 and saw a room called Centralen [a metro station in Stockholm city] and one room called lecture hall. Then we started to wonder how they ended up there, did someone create them? I mean we are two floors above the lecture hall and eight metro stations from Centralen, what are they doing here?”
(Translated from Swedish)

On the subject of understanding place labels all interviewees were fairly positive. One suggested that each

location ought to have a basic set of labels (provided by the system administrators) before users’ own labels were allowed into the system. Another interviewee proposed administrators to occasionally clear locations of nonsense labels (Since most lists of place labels did not extend 15, the functionality of only displaying the most popular place labels did not create this effect). No one, however, explicitly rejected the system as such.

CONCLUDING REMARKS

In general, the place label system seems to have stimulated the spatial creativity of space label authors. The defined spaces became *their* view of space, not *ours*, the system creators. The heavy dominance of room and corridor labels was a bit surprising since the freedom of the place label system enables quite particular descriptions (for instance relating to objects). Even in the interviews, subjects referred to place labels as “rooms”. One explanation for this, again, can be found in the architectural space of for example the 6th floor, where the small study rooms all connected to a long corridor. Since this space was quite empty of objects, furniture and interior artifacts, it was natural to categorize this space in term of ‘rooms’. Since the 6th floor attracted the major share of notes and usage, labels created here were likely to have influenced how users thought labels should be formulated at other locations, propagating this practice in the system. Another explanation of the dominance of ‘rooms’ could be that users may have perceived GeoNotes in terms of chat-systems, in which ‘room’ is the prevailing metaphor to separate discussions.

We conclude that some form of place label system is indispensable since it performs a number of important functions: without involving system administrators, users are able to formulate their own notion of space and equally important, labels help readers to identify the positions of notes and to navigate the information landscape.

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