“That doesn’t tell me what I want!”

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Introduction

Contextual information about our location, actions, emotions and intention can influence and inform our interactions with others. This is true in all aspects of our lives whether it is our business or social relationships. Mobile phones, a pervasive communication medium for the exchange of contextual information, provide on demand connectivity with friends, family and business associates. During a conversation it is typical for contextual information (specifically location [6]) to be disclosed. Conversations typically follow a structure where *phatic communication* is used to establish and terminate a speaking relationship [4]. Phatic communication relies heavily on cliché and superfluous exchange. For example “Hello, how are you?” a common introduction is used to establish a speaking relationship, more so than an actual interest in additional contextual (emotional and state) information. Contextual exchange is a deep rooted component of conversation, and establishing relationships.

Given the applicability and general usefulness of contextual information within our social spaces (i.e., rendezvous [2]), research into disclosure is important. Current research on disclosure has focused primarily on our willingness to disclose our location, the privacy issues, and the role of the relationship between the requestor and provider. The requestor and provider relationship is a significant consideration [1, 3], however, Consolvo et al. has additionally shown that disclosure detail is further dependent on the providers perception of the requesters information need. For example, if I am walking home from work and my roommate messages me to see where I am, I might just tell her I am on my way home without getting into specific details of my location. I perceived her message to be an inquiry into my expected time of arrival. However, she could have assumed given the time I had already left work, but was hoping I was in close proximity to the grocery store so I could pick up some milk on the way. Further communication could be required to gather the appropriate information, where it should have been a simple request. A request for information may not be as straight forward as we perceive, as the requestors intent is not always obvious.

The information need of the requester is a significant consideration for the evolution of disclosure applications. For disclosure applications to be useful and eventually prevalent they need to respect the privacy of their users when disclosing their location,

ensuring no information or detail is revealed beyond what they are comfortable disclosing. Inversely, if the information disclosed is not appropriate to the task the requester is attempting to accomplish then they will not use the application.

Information Need

Information need is a complex issue. The need for information is as dynamic as the relationship between the requestor and discloser, the nature of the inquiry, the task to be accomplished, etc.

Based on previous research we identified and refined four general categories of information need;

- *Inquiry*. Determining the whereabouts or status of others.
- *Coordination*. Coordinating location with others.
- *Sharing*. Sharing in the environment or experience with others.
- *Assistance*. Providing or receiving assistance.

Additionally we identified four general dimensions of context that can influence information need;

- *Relationship* – between all parties.
- *Emotional State* – of all parties.
- *Activity* – being performed by all parties.
- *Location* – to which information is exchanged.

The *REAL* (Relationship, Emotional state, Activity and Location*)* dimensions of context are intertwined. There are facets of each dimension that are interrelated influencing one another.

Exploring Information Need

To investigate the impact of these dimensions, an exploratory questionnaire study was designed.

Questionnaire Study

Participants were required to complete a 15 question online questionnaire where each question represented a different scenario. Each question presented participants with a scenario description, and 4 – 6 technology options (see figure 1). Each technology option was visualized and described textually. Participants were

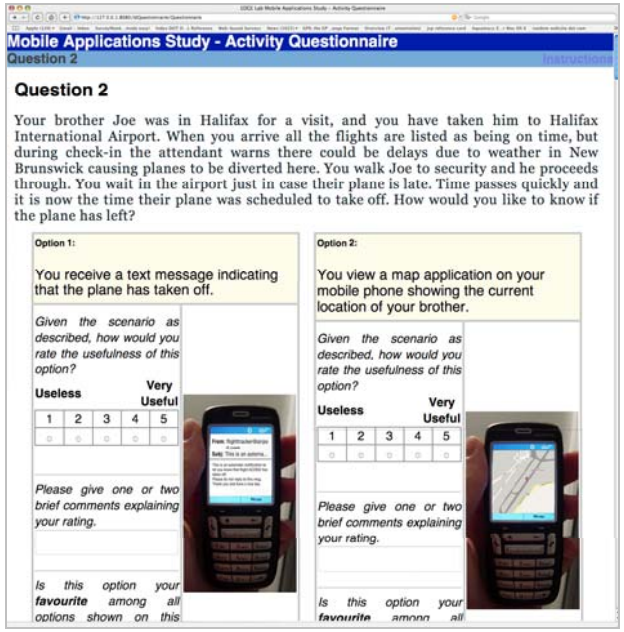

Figure 1: A sample question showing the format and technology options. Personalized details are included (family member names, etc). Variants of this question had the participant driving home from the airport, or already at home.

asked to rank each option on its usefulness, explain their rating and select from all the options the one they found most useful.

The findings of this study are numerous. They emphasize the complex nature of information need, and the intertwined nature of our *REAL* dimensions of context. Reilly et al. [5] provide a comprehensive discussion of the study and results.

Future Work

This work is only the first step of many. We plan to perform subsequent studies, running mobile focus groups and field experiment simulations.

Of particular interest is the exchange and evaluation of emotion. Emotions are managed, expressed and interpreted by people differently. For example, the expression of a feeling can have many meanings to many different people depending on the relationship, and the status of the relationship. Feelings are not so cut and dry that a single representation of disappointment could encompass the magnitude of the emotion. Is it the type of disappointment a parent might express to a child when they forget to pick up after themselves, or when they violate their curfew? They are both disappointment, but the magnitude of violating a curfew is greater than forgetting to clean up after one's self. Emotions are a component of basic human nature that shapes a great deal of our social and personal experiences. Given that emotions are so complex and dynamic how can we express, manage and present them over a digital medium. A single method to express a raw emotion will not be appropriate for everyone and for every situation, especially in a mobile application that accompanies us throughout our day where emotions change as frequently as our environment and the people around us.

Author's Background

David's background and thesis work focuses on the use of mobile location-aware devices for social coordination. He is currently continuing his co-investigation on information need, and working on a separate project investigating user guided automation for information presentation and location granularity on a mobile coordination device.

Citations

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