

Location Sharing : Insights

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Motivation

People share their private data with others on a daily basis, even through media that are allegedly insecure, such as the Internet. We studied how people weigh different factors that impact their decision whether or not to share their current location with others. Our hypothesis was that location, time, data-consumers and awareness of consumers are the core influencers in the process of deciding if you want to share your current location (and with what granularity) or not.

Method

We conducted 12 interviews that combined both qualitative and quantitative data inquiry. The interview was broken into three parts.

Collecting Personal Information. In this session the participants were asked to formulate a list of people they relate to, grouping them if and as they feel it is logical (for example, family, work colleagues, etc.). Then, the participants were asked to formulate a list on places and refine them further into category and degree of granularity. The data was collected and helped to explore the second session of the interview.

Sharing your personal location. This session is divided in two parts. In the first part, a participant had to answer if he would or would not share his location in given questions and realistic scenarios with most common categories of people and places. In the second part, a participant was asked to relate proposed scenarios to the categories of people he mentioned in the session one and say if he would share location.

Sharing third party location. This session had 10 proposed scenarios with fictional characters where participants had to decide if the location was to be disclosed or not. They also, expanded their answers by giving example that would make exceptions to their answer.

Results

Table 1 – Location sharing if at home. Frequency by data-consumer and granularity.

	Exact (%)	Broad (%)	No (%)	Lie (%)
Boss	36	18	36	10
Subordinate	-	40	60	-
Co-worker	100	-	-	-
Friends	92	-	-	-
Family	100	-	-	-
Partner	100	-	-	-
Strangers	25	-	75	0
Aquaintances	25	-	75	-

Table 2 –Location sharing if at work. Frequency by data-consumer and granularity.

	Exact (%)	Broad (%)	No (%)	Lie (%)
Boss	100	0	0	0
Subordinate	80	20	0	0
Co-worker	100	0	0	0
Friends	92	8	0	0
Family	83	17	0	0
Partner	100	0	0	0
Strangers	25	0	75	0
Aquaintances	25	0	75	0

Table 3 –Location sharing if at a location which is neither home nor work. Frequency by data-consumer and granularity.

	Exact (%)	Broad (%)	No (%)	Lie (%)
Boss	18	36	36	10
Subordinate	20	20	60	0
Co-worker	92	8	0	0
Friends	75	25	0	0
Family	58	25	9	8
Partner	78	11	0	11
Strangers	0	25	75	0
Aquaintances	25	75	0	0

Insights

Some of these insights come directly for quantifying the answers to the questions that we asked, others take a more qualitative response and attempt to explain the hesitations or statements that were made during these interviews. When possible we also include design suggestions with regard to the insight that can be included in new systems or incorporated in existing ones.

1. People like sharing information on a need to know basis, not divulging it.
2. People are more cautious about sharing a third person's location than their own.
3. Locations are associated to actions; sometimes this means people want to be able to explain what they are doing, and other times they don't.
4. People perceive disclosing only city level location the same as not disclosing anything.
5. People only give more detailed, higher granularity of information if there is a perceived need
6. People are associated with locations. If people have visited the place together they are generally inclined to disclose their location again.
7. People associate disclosing the location with availability. People need to be able to go offline.

Conclusion

We studied location sharing and weighed different factors that impact people's decisions on sharing their location. We present the findings regarding locations sharing of 12 interviews presented.

Our finding supported some of the previous work that was reviewed; some findings were not supported. The most important findings from our research were qualitative findings based on the quantitative analysis from the questions answered and the way people reacted, including hesitations and actual quotes. We discuss that people are comfortable sharing their location when there is a need; this also applies to disclosing more detailed information about their location. People think more about whether or not to reveal information when asked to make the decision for a third person and not themselves. When sharing locations sometimes people want to explain what they are doing other times they want to hide their actions. Lower granularity levels such as city level location are perceived as not sharing anything. Visiting a place with a person usually indicates that that location can be shared with this person. People want to be able to turn off the system, not be available. In addition to these general insights we present some design suggestions, among these the automation of some rules and the inclusion of humans to solve ambiguous situations.

It would be interesting to explore these findings in real world scenarios, instead of controlled interviews.