

Automation not automatically good in mobile social applications

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People's social interaction is increasingly automated by the technology used. The question we want to raise is: What are the implications of increasing automation in mobile social applications?

Introduction

Human factors research has shown that automation is a mixed blessing. It changes the role of the human in the loop with effects on understanding, control, skill, vigilance, and ultimately trust and usefulness [3]. But what are the implications of introducing automation into mobile social media?

We consider automation in mobile social applications an interesting topic for two reasons:

1. The "process" that is being "controlled" here by automation is social by nature, not safety- or performance-related.
2. We see automated solutions increasingly in this category of applications.

Research questions:

1. What is the use of automation in mobile social applications?
2. How users respond to automation?
3. What is the users' understanding of the logic of automation?

Methods

By studying two systems and three user groups our goal is to gain a general view to the subject.

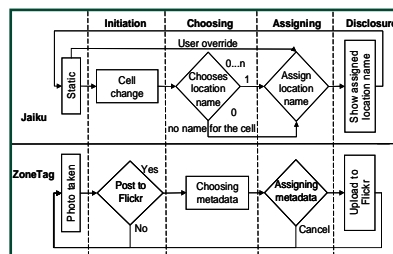
Systems

We investigate *Jaiku* and *ZoneTag*, Nokia S60-based mobile social applications, that partly automate social interaction processes.



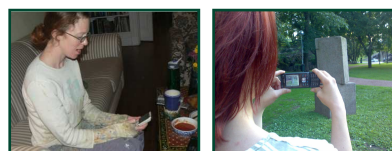
Jaiku (left figure) - Allows a group to share textual status updates that are associated with automatic location information which shows a label for the user's GSM cell ID. *Jaiku* is based on ContextPhone [2].

ZoneTag (right figure) - Users can upload photos from a cameraphone to Flickr Web service. *ZoneTag* can automatically suggest tags and location tags based on GSM cell ID [1]. The following picture shows automated processes in *Jaiku* and *ZoneTag*.



User Groups

Three groups (*The Students*, *The Birders*, *The Hipsters*) were recruited in Finland and California. They used the two systems, each for two months. A mix of quantitative (content, logs) and qualitative (interviews) methods was used.



Results

Jaiku	Students	Birders	Hipsters	SUM
Users	9	8	8	25
Jaiku Messages	1004	550	53	1607
Locations written	112	122	9	243

ZoneTag	Students	Birders	Hipsters	SUM
Users	10	7	9	26
Photos uploaded	452	323	839	1614
Mobile tags written	159	21	67	247
Suggested tags used	206	83	714	1003

1. *Levels of automation counts.* Automation threatens accountability of actions. Automated data mixed with manual data in the UI dangers the communicative functions of tags and manual location labels.

2. *Immediacy counts.* The effects of automation are accentuated in services where mediated interaction is more rapid and immediate.

3. *Neglect and withdrawal.* The negative effects of automation at the level of the group: neglect in the face of useless automation, and withdrawal in the face of a too threateningly strong model of automation.

4. *Privacy concerns.* Privacy concerns are felt but do not necessary actualize due to the measures the users can take both inside and outside the system.

5. *Specific needs.* The nature of shared activities, and the automated information, shapes whether automation will be useful, useless, or annoying. The level of automation, and its content, should be chosen according to what is known about these activities.

6. *Classic human factors.* The negative effects of automation on the individual reflect the classic findings of human factors: ignorance of automation, misunderstanding of operating logic, post hoc "repairs," repetitive behavior, shutting down of the system.

Conclusions

Automation related questions are essential factors affecting user experience, and should be taken seriously when designing mobile social applications.