Identifying Drivers and Hindrances of Social User Experience in Web Services

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ABSTRACT

Social activity is becoming a central contributor to user experience (UX) in many modern Web services. The motivations, norms and rules of online communities have been widely researched, however, social activity and its UX in modern Web services is a less studied area. We conducted a four-week-long field study with three Web services – Facebook, Nokia Sports Tracker and Dopplr – which all support social activity. The aim of this study was to identify the central drivers and hindrances of social UX, user experience of online social activity. Our results show that the main drivers of social UX include *self-expression, reciprocity, learning* and *curiosity*, whereas *unsuitability of content and functionality, incompleteness of user networks* and *lack of trust and privacy* are often experienced as hindrances for social UX. Our findings also reveal the pragmatic and hedonic nature of the drivers and hindrances. The results can be used to inform design and evaluation of social UX in Web services.

Author Keywords

Web services, user experience (UX), social activity

ACM Classification Keywords

H.5.3 Information Interfaces and Presentation: Group and Organization Interfaces; H5.2 Information Interfaces and Presentation: User Interfaces—User-centered design

General Terms

Human Factors

INTRODUCTION

An increasing number of Web services are built around online social activity – such as communication, content contribution, media sharing and social navigation. The extent to which a Web service supports social activity can be an essential contributor to positive user experience (UX). This is especially the case with services driven by user-generated content and social interactions, such as Facebook, Twitter, Dopplr or Flickr, often referred to as Web 2.0 services [8]. In order for a Web service to sufficiently support social activity through its functionality, it is important to understand the nature of social UX. In this paper social UX is defined as a type of user experience that primarily occurs as a result of social activity enabled by distinct service functionality.

In addition to the pragmatic aspects of product usage, such as usability and usefulness, UX entails hedonic characteristics, such as fun and pleasure that aim at evoking positive affect in users [5]. Over the past years, UX of products and services has received increasing attention both in product design and research (e.g. [6,9]). Previous work has also identified various dimensions of Web service UX [11], and concluded that one of the main UX elements of modern Web services is their support for social activity.

In this paper we describe a qualitative, four-week-long field study of three Web services, in which we investigated how social functionality is experienced by the service users. The main result of our study is a categorization of the issues that drive or hinder social UX in Web services.

RELATED WORK

Online communities resemble real-world communities, with similar rules of social interaction and relationships [2, 10]. Technological implementation should support the social actions and community behavior in the service, so that "sense of community" could form naturally in the virtual community [2]. A number of guidelines and techniques for nurturing online communities have been suggested: Establishing a policy and purpose for the community [1,3,7,10], demonstrating the identity and history of other members [2,3,7], facilitating community construction activities via an appropriate user interface [3,7], protecting members' privacy [1,7], identifying members' roles and needs [1,7], motivating contributors by recognition [1,3,7], facilitating high quality and up to date content [1,7] and enabling and promoting interaction between members [1,2,7]. These guidelines are important when designing

platforms for online communities. However, a more thorough understanding of the fundamental drivers and hindrances that influence social UX is needed.

The topic of social UX of Web services is relatively little studied. Hart et al. conducted an expert evaluation study of UX of Facebook [3] and found five major aspects pertaining to user experience: *pleasure, curiosity and fun, identification and self expression, surprise and serendipity*, and *privacy*. To gain deeper and broader understanding of social UX across Web services, we chose to study three diverse services in the field. In addition, we aimed at understanding how the drivers and hindrances would contribute to the pragmatic and hedonic aspects of UX.

A STUDY OF SOCIAL UX IN WEB SERVICES

The aim of this study was to explore how users experience Web services that support social interaction: *What are the drivers and hindrances of social UX in Web services*?

Research Process

The overall approach in this study is that of a qualitative multi-case field study. A multiple methods approach was adopted for data collection in order to obtain rich empirical material. Data was gathered with user diaries and interviews. Participants used the assigned services for a total of four weeks. During this time, they documented their positive and negative experiences in semi-structured diaries for the first and the last week of the study. Interviews were conducted to complement and clarify diary input. The data related to social UX was extracted as individual statements from user interviews and diaries. Statements were thematically organized in tables and coded axially in order to discover types of social UX that occurred within the services. Statements were then interpretatively analyzed and drivers and hindrances to social activity and positive social UX were identified relative to each type of activity.

The Studied Web Services

Services included in the study are Facebook (www.facebook.com), Nokia Sports Tracker (www.sportstracker.nokia.com) and Dopplr (www.dopplr.com). *Facebook* (FB) is a Web service for social networking. Users can for example join social networks, add friends, post status comments, and send messages. *Nokia Sports Tracker* (ST) is a GPS-based activity tracker. A mobile device is used to automatically store workout information such as speed, distance and time in user's training diary. A PC is used for editing, viewing, sharing and commenting information based on map views. Users can also join groups. *Dopplr* (DP) is an online community that allows users to share their trips and travelling plans. It also offers information of the places which users have visited. Users can add reviews and comments to the service. All three services facilitate social activity; communication, sharing and navigation through a range of distinct features and functionalities, such as messaging and shared statuses.

Participants

Participants were recruited through various mailing lists. Based on people's motivations, we selected users for Facebook (N=11), Sports Tracker (N=8) and Dopplr (N=7). Gender distribution among Facebook and Dopplr users was fairly even, however majority (7/8) of Sports Tracker users were male. Participants were between 22 and 34 years old. Half of the participants had technical education.

RESULTS

In this section we first present our findings regarding the drivers and hindrances of social UX that were discovered. Then, we describe how drivers and hindrances were either pragmatically or hedonically oriented.

Drivers and Hindrances

As drivers and hindrances were interpreted from user statements, a total of eight categories were found. The total number of statements was 250, and some statements were interpreted to belong to more than one category. Found drivers included *self-expression, reciprocity, learning* and *curiosity*. Hindrances were traced down to *suitability of functionality, suitability of content, completeness of user networks*, and *trust and privacy*. The categorization to drivers and hindrances was defined by whether the user statement regarding UX was positive (driver) or negative (hindrance). Figure 1 shows how either positive or negative user statements were associated with each category. These will be described in more detail in following subsections.
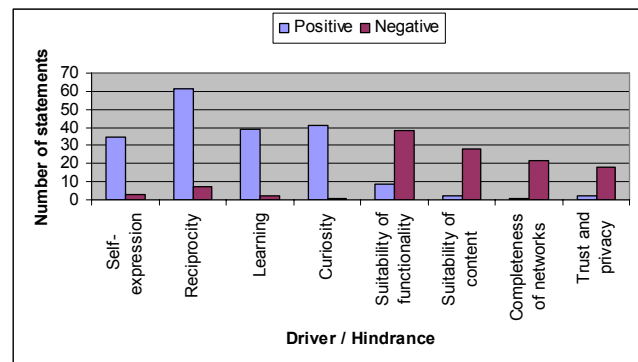

Figure 1: Drivers and hindrances of social UX, and the proportion of positive and negative user statements.

Self-expression

Self-expression can take place in sharing of content, e.g. photos, videos, comments, or in direct communication such as chat or email messages. Content related to the user's real-life activities reveals what they are capable of doing, how active they are, what kinds of friends they have, etc. Feelings and thoughts are expressed especially with textual or symbolic content. When sharing content and communicating through a service, a user can also express their skills with technology; how well they can use the service. As one of the Sports Tracker users stated: *"It is nice to show others' that I jog and can (know how to) use this service."* (ST, U10). Users' comments concerning self-

expression were mostly positive. Showing one's status or achievements to others was a salient point in utilizing all three services. There were very few negative statements about self-expression. *"(In Facebook) communality is faster and wider than in other services. That is a disadvantage, as you can't express yourself so freely."* (FB, U6)

Reciprocity

Reciprocity appears in direct communication between users, like chatting or emailing. Responses to shared content fall also into the category of reciprocity. The response may be direct or indirect. Writing comments and rating content are examples of direct responses. If a user shares content because they are inspired by someone else sharing content first, the response is indirect. Reciprocity was seen as an important source of pleasure. *"The best thing in using Facebook is in others reacting quickly when I have done something with the service."* (FB, U4). Lack of other users' participation was perceived to hinder reciprocity. *"No one has carried on with the conversation. I find it discouraging."* (DP, U5)

Learning

When a user receives information through a service, they may utilize it for development purposes. For example, many Nokia Sports Tracker users exploited other users' routes while training. Dopplr users were interested in other users' resort reviews. *"They (reviews) affect my decisions, especially if the resort is praised." (DP, U6).* User statements related to this topic were mostly positive. Other users' activity in sharing fresh content was mentioned frequently. *"I appreciate it when others tell significant things about their lives, because it helps me to keep updated." (FB, U18)*

Curiosity

In this category, content is browsed to appeal one's curiosity. One user of Nokia Sports Tracker named *"stalking other users' routes" (ST, U17)* the best thing in the service. Several other users had similar experiences. Curiosity associated with, e.g. playful interactions, is also included in this category. Another user of Nokia Sports Tracker thought that *"...I bet with friends a crate of beer who runs most during a month. It is great to observe the achievements with the service." (ST, U15)* All except one curiosity related user statements dealt with positive matters that can drive the usage of the services.

Suitability of Functionality

This category includes issues dealing with service functionality; is the service functionality sufficient, are there useless features bothering the user, i.e. is the service functionality suitable for the user's social purposes. Positive statements involved mentions of useful functionality included in the services. *"I have met many like-minded people through Facebook. It depends on the group if the discussion is lively or not, but the service has the required functionality." (FB, U1)* Negative comments were typically

about missing social functionality, e.g. *"Social connections in the service (Nokia Sports Tracker) are too light. Why can't you compare your own achievements to others' achievements?" (ST, U10).* A majority of user statements in this category were considered as negative.

Suitability of Content

The content should be suitable for user's purposes, the quality of content should be adequate and there should be enough content. Fresh content was valued highly by the users. All but three content suitability related statements were negative. Each service received comments on rarely updated content. Many users of Dopplr felt that there was too little content in the service and the content was not profound and detailed enough. *"Now there is only trivial information (in Dopplr). I would want longer stories, also in resort reviews and comments by users." (DP, U7)*

Completeness of User Networks

Establishing a social network in a Web service requires that the people that the user wants to form their network with are users of the service. Moreover, there must be a way to find these people. If one of these requirements does not realize, user's social network in the service remains incomplete. With one exception, users of Dopplr and Nokia Sports Tracker pointed out only negative aspects regarding the completeness of networks. For Dopplr users the problem was that their friends did not use the service. *"I found three friends out of three hundred users, so the usage of the service can not be very social." (DP, U5)* In addition, users were irritated by vague responses they received from the service while searching for their friends. One user complained that *"On the basis of search results I can't know whether my friends' profiles are private or if they are not using their real names in the service." (ST, U14)*

Trust and Privacy

Many users are cautious about sharing content and want to ensure their privacy. Even while sharing content to a limited group only, users still avoid revealing very personal matters. They seem to be cautious just in case their content would leak out. *"I take care of my web identity. I don't share personal information (in Facebook), so, it is not very bad if my content is spread elsewhere too." (FB, U18).* Physical safety in real life was a matter of concern, too. A user of Dopplr said: *"I share business trips only. On Sunday I am going on pleasure trip, but I did not even think about sharing it here... Maybe it equates to setting a message in answering machine that we are on vacation and welcome burglars." (DP, U2)* Many users of Nokia Sports Tracker were worried because of the location information included in workouts. *"It is a little bit worrying that you can share exact location data which includes time stamps, too. Anyone can conclude ones place of residence and where one exercises... It is risky to share data of standard exercises." (ST, U3)* Almost all trust and privacy related statements were negative, thus hindering the social UX.

Pragmatic and Hedonic Aspects of Social UX

Both pragmatic and hedonic aspects of service usage were represented in the user statements. Pragmatic service characteristics relate to users' functional needs, for example, *"Since I don't have friends in Nokia Sports Tracker, I can't compare my achievements with friends." (ST, U14)* Hedonic characteristics support users' psychological and emotional needs [5]. *"...I am not interested in what happens around the world. I'm interested in my friends' workouts." (ST, U10)* Some statements seemed to refer to both pragmatic and hedonic aspects. *"As I don't know other users of the service, sharing routes feels unnecessary." (ST, U14)* Figure 2 shows the proportions of pragmatic and hedonic statements for each driver/hindrance.
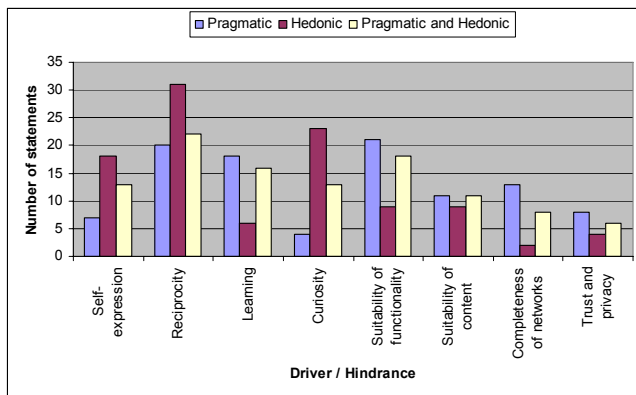

Figure 2: Pragmatic and/or hedonic user statements.

It appears that of the drivers of social UX, self-expression, reciprocity and curiosity are primarily hedonic ones, whereas learning is experienced in a more pragmatic way, even though the hedonic aspects of use are still present. All the hindrances of social UX found in this study were described by mixed pragmatic and hedonic statements, completeness of user networks causing relatively the most pragmatic user comments.

DISCUSSION AND CONCLUSION

In this field study we have studied the drivers and hindrances of social user experience (UX) within three Web services. We found four factors that are primarily experienced as drivers of social UX: self-expression, reciprocity, learning and curiosity. In the studied services, unsuitability of content and functionality, incompleteness of user networks and lack of trust and privacy were found to hinder social UX. Our findings are partly overlapping with [3] but also expand the findings presented in that heuristic evaluation study of Facebook. Furthermore, our results point out which categories were predominantly experienced as drivers and which as hindrances. In addition, we studied the nature of UX in the drivers and hindrances and found that self-expression, reciprocity and curiosity are the most prominent hedonic drivers of social UX.

The findings of our study deepen the understanding of what motivates users in Web services with social functionality. In addition, the discovered drivers and hindrances can be used as design inspiration and evaluation criteria for future services where social UX is a major target in service design. Furthermore, as the UX design field emphasizes the importance of hedonic product characteristics, those elements should be accounted for in service UX design. As the findings in this study are based on three Web services, in our future work we want to strengthen the generalization power of the findings by studying a broader set of services. Also, future work will focus on further development of concrete design and evaluation guidelines for social UX.

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