

# Enhancing Social Interaction and User Participation in the Development of Social Applications

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## ABSTRACT

Every now and then existing methods in the User-Centered Design (UCD) process evolve and new methods are being introduced. In this position paper we discuss our new approach for studying communities within the new media landscape. First, this new approach contains ways to improve the relations between the designers, researchers and developers on the one hand and the users on the other hand. Second, we suggest encouraging more contact between the users themselves during the research phase. Ultimately these two factors contribute to a better user involvement and participation in the study which provides better results and richer information from that study.

## Author Keywords

Contextual inquiry, user involvement, user participation, community

## ACM Classification Keywords

H5.2 User interfaces: Theory and methods, H5.2 User Interfaces: User-centered design, H5.3 Group and Organization Interfaces: Collaborative computing

## INTRODUCTION

The Citizen Media research project aims to investigate how to enable non-professional users to co-create networked applications and experiences based on their own user-generated content [11]. Applications will be developed using both co-design and user-informed design. There are several requirements for these Citizen Media applications: (1) they will have to be easy-to-use since the focus is on non-professional users; (2) the applications will have to enable and encourage social interactions because users should be able to co-create applications based on their own user-generated content and (3) users should have a very positive user-experience.

This poses the question of how to develop such applications. How can usable, sociable applications be ensured? These questions relate to the analysis and design phase where the user motivation and participation are necessary in order to gain rich information. Therefore, two important activities for enhancing social interaction and user participation will be discussed. First of all, the users should be brought closer to the design team. Designers need information and inspiration from the users in order to design applications. Second, the relation between the users

themselves should be improved; there should be more contact between the users during the research phase. We believe that it will result in richer user feedback toward the designers because of user feedback on each others data and discussion about it among the users. In the end these two factors should result in richer and more useful information from the study; a better understanding of the users in the community.

One of the reasons we highlight the importance of social interaction between users during the research comes from the theory of collective creativity. Arthur Koestler argues that every creative act involves bisociation, a process that brings together and combines previously unrelated ideas [6]. Bisociation can also be shared by two or more people. In that case we call it “collective creativity”, which can lead to more useful, relevant results and ideas than individual creativity does. While currently the “makers” are usually practicing collective creativity, there lies a great opportunity to practice collective creativity with the users, because users are in the best position for determining what they need to shape their own environment [9].

In this paper, we first discuss some related methods. Then an overview of our new approach presented. The final section contains the highlights and a discussion of seven important aspects of our new approach.

## RELATED METHODS

In this section we elaborate on theory and related methods: contextual inquiry, personas, cultural probes, experience sampling method and photo elicitation.

### Contextual inquiry

There are a number of various contextual research methods, including contextual inquiry [1], interviews, questionnaires and cultural probes to develop unique and innovative user research when actual observation of the users is not possible [8]. Field research involves observing people in their own environment to learn their own natural behavior. This can bring an in-depth understanding of the goals, needs and activities of the users being studied and forms important information for the design.

### Personas

A persona is a fictional person who represents a major user group for an application [2]. This includes giving him/her a name, a photo, demographics, a job, environment, hobbies

and more. One of the goals of personas is making sure the design team understands the goals, behavior and environment of the user. Personas can bring users to life. They act as 'stand-ins' for real users and help guide decisions about functionality and design. Personas can bring empathy for the users to the designers, researchers and developers. Personas emphasize the importance of empathy for the users because it can result in better designs.

### **Cultural Probes**

Cultural Probes is a design-led approach to understanding users and their culture better and to provoke inspirational responses from which the design process can be guided [5]. The probes – packages of maps, postcards, photo albums – are designed to provoke inspirational responses from the users. Having face-to-face meetings when using Cultural Probes for example can reduce the distance between the design team and the users for who(m) the applications/products are developed. After the probes were handed out to the group, Gaver (1999) reported “the group livened perceptibly” and “worry transformed to excitement”. This brings to light the importance of reducing the distance between the users on the one hand and the developers, researchers and designers on the other hand.

### **Experience Sampling Method**

The Experience Sampling Method is a research method for studying what people do, feel, and think during their daily lives. It consists in asking individuals to provide systematic self-reports at random occasions during the waking hours of a normal week. The origins of this method can be traced to numerous sources within the field of psychology [4]. The questionnaires can be carried out using paper diaries, PDA's and mobile phones (SMS and voice-mail). Online questionnaires like voice-mail on mobile phones have the advantage that researchers can collect the data immediately after users have submitted their input [7].

### **Photo elicitation**

In photo elicitation users can make photographs to describe their experiences in their own environment [3][10]. Later on, these photographs can be used to guide face-to-face interviews. The photographs are particularly useful for people to recall their views and experiences and to comfort them during the interview. They are also a rich source of information. Disposable cameras, their own cameras and mobile phones that have a built-in camera can be used.

## **OUR APPROACH**

In this section we present our research approach in the Citizen Media project. First a general overview is given, later we discuss several parts of our approach separately.

### **General overview**

In the analysis and design phase, several methods exist for gathering information about the user, his/her goals and

tasks, and the context of use. One of the most widely used methods is contextual inquiry. When actual observations are not possible other methods can be used instead. In the Citizen Media project we propose the use of a blog for conducting the diary method combined with contextual interviews, photo and video elicitation method by using the following online tools: Blogger, YouTube and Picasa. The main reason why we selected these tools is that they can all be integrated using only one user account.

In contrast to the traditional diary method we provide the users access to each others data and we encourage them to communicate about each others posts, photos and videos. The blog also allows us to conduct interviews immediately instead of only after the diary period. We currently do this by commenting on the blog posts.

We created accounts for all participants and invited them to a private blog. On that blog we pose our research questions and photo and video elicitation. The questions and assignments are blog posts. We encouraged the participants to respond in blog posts and use text, videos and photos.

### **Weblogs and forums**

A blog is the central point of the online tool in the Citizen Media project. But forums can also be used for this purpose: they can be used for communication between researchers and users, and among users themselves. They can be used to engage social interaction, change ideas and form opinions round certain topics. Researchers can use these tools to observe the social interaction and to clarify changes in research directions. They can also mediate between users and motivate and encourage less active users to get involved. The blog acts as central access point for the participants, where all research questions are asked and assignments are given. Pictures and videos from other online applications can be added easily to the blog; the central access point.

There are however some reservations about this solution. All participants can upload videos, photos and text on the blog using just one account. Videos and photos can be posted on blogs, but these applications, YouTube and Picasa, still are separate web applications. Therefore, in the future it would be interesting to create one dedicated online research tools which integrates all this in one web application. This would be easier for the participants.

### **Photo share applications**

Related to video sharing applications are photo sharing web applications like Flickr. Photo elicitation can be carried out using disposable cameras. But when the users have the possibility of using digital cameras or mobile phone cameras, they can upload their pictures on photo sharing applications. The same benefits are present here as with the video sharing applications: users can create experiences, communicate about those experiences and generate new

ideas from other users' photos and comments. Currently photos and video's can be easily placed on blogs. So this is an opportunity for the information to be enriched by the users and carry out an online photo elicitation.

### **Video sharing applications**

Very popular web applications today are video sharing applications like YouTube and Google Video. In the first place, these tools can (in the community) be used to share content. Second, these sharing applications can also be used when designers ask users to illustrate their experiences with video. And in the third place these applications allow users to create experiences (by looking at videos of other users, by creating videos themselves), communicate about those experiences (by commenting on the video sharing application) and get inspiration from the other users' videos and comments. These applications allow researchers to access the content at any time and evaluate the user-experiences and the social interaction at any time.

### **DISCUSSION**

In this section we want to highlight and discuss seven aspects of our approach. These aspects are: (1) monitoring the process, (2) researching from a distance without needing to be at the same physical place with the participants, (3) the possibility to conduct interviews at any time, (4) enhancing the collective creativity, (5) increasing the user involvement, (6) enhancing the social interaction and (7) the fact that our approach is especially useful for investigating communities in the new media landscape.

### **Monitor the process**

In some methods like paper diary studies researchers can only look into the data after the study has been completed. Voice-mail diary studies already provide the possibility to gather the results immediately after users have submitted them [7]. When using online tools like forums, blogs, social software, websites for sharing content and commenting about them, researchers can look at what is happening at any time. This also makes it possible to intervene. This can be necessary (1) when some users are dominating others so the results do not reflect all users. By intervening the designers can mediate in the social relations to get results from more users. (2) When some users are not (fully) committed in the process they can be called on personally to provide input for the research. When (3) an initial broad inquiry poses clear directions for more specific research, the community can be informed that the research focus has shifted. Having random access to the information users provide has the benefit of making it easier to organize the research project and allowing the researchers to follow evolutions in the user data.

### **Research from a distance**

Online research means that we can investigate communities at any place more easily. As long as people can connect to

the Internet the study can take place. This is very interesting since the people of online communities can be physically spread along great distances. For the same reason the monitoring the process becomes easier than with paper diaries and photo elicitation conducted using disposable cameras.

When conducting offline research, personal contact is possible. This contact is richer than the contact between users and researchers when using only online tools. But offline, this contact only occurs in the beginning of and possibly also after the diary period. When using online applications for research, interaction between researchers and the participants and among participants can happen more frequently: at the beginning, during and at the end of the diary period.

### **Interview immediately**

The fact that a blog is used instead of a paper diary not only has the advantage that the process can be monitored better, it also provides the opportunity for immediate interviews. With paper diaries interviews can be held at the end of the diary period when researchers can look into the data. On online tools like a blog the data can be looked into and the appropriate questions can be asked at any moment.

### **Enhance collective creativity**

Before designing an application, information is needed about the users but also inspiration. For example, Cultural Probes can be used for that purpose [5]. By giving the users several artifacts and letting them interact with them, we can have a better insight in the user's environment and the user experience: we get inspiration and new ideas for our design. By allowing participants to look at each others' data and to communicate with one another users can also present their opinions and ideas to each other instead of solely presenting it to the design team. This can spark off many more ideas. One user can look at the idea, opinion or artifacts of another and suddenly get inspiration from that.

### **Increase user involvement**

During first contacts with the participants, the designers introduce themselves to the user group and the other way around. Personal contact can reduce the distance between these two groups and can comfort all users. After all, the designers are strange to the user group and possibly the users also don't know each other. Distance between designers and users can exist in several ways: distance of officialdom (designers are experts in their field), geographic, cultural, demographically and more. A possible negative side effect of distance between the two groups and feelings of insecurity can be that both groups possibly create or instantiate (incorrect) stereotypes. Gaver [5] noted they wanted to avoid representing the elderly as needy and nice. By meeting face-to-face, when that is possible, or by enabling contact at any time via the blog like in our approach in Citizen Media, the distance between designers

and users can indeed be reduced.

From the designers' point of view, better contact with the users can enhance the creation of empathy for the users (like with Personas). Creating empathy is what we want to achieve by making the developers, designers, researchers and participants introduce themselves to each other because it will result in better designs. In addition to creating empathy in one direction, for the users to the designers, researchers and developers, we want to create this also in the other direction: creating empathy for the designers, researchers and developers. If the users have empathy for the designers, researchers and developers, we believe it is more likely they will feel more involved in the process and provide better and richer feedback.

### **Enhance social interaction**

In some cases the users inside the user group already know each other, for example when choosing people of an existing community for the research. But in other cases users don't know each other. When creating applications that support and allow for social interaction, like in Citizen Media, it would be better if the users did know each other. Actively introducing users to each other and encouraging them to comment on and discuss their each others content, can be an important first step to increase social interaction among the users.

### **Sharing user-generated content**

The new approach is especially useful when investigating communities in the new media landscape. These communities produce and consume a significant amount of user-generated content. The online tools they use are referred to as "social software". The information is not only represented in text (i.e. blogs), but also in photos (i.e. Flickr), videos (i.e. YouTube) and audio (i.e. podcasts). Investigating these communities provides the benefit that the participants are already familiar with the online tools being used.

The kind of information the participants normally share in their communities differs from the kind of information they share in the online tool. In the first case they share mostly whatever they want and when they want to. In the latter case the participants are asked to share specific information relating to the research. They are not only sharing (and communicating) it with each other but are also sharing it with the researchers.

### **CONCLUSION**

Before and during the design of applications, designers want to obtain information about and inspiration from the users. Designers want insight into their experiences and

social interaction to create applications that enable user experiences and social interaction. Our new approach can enhance the social interaction between the users themselves and between the users and the designers. User participation can also be enhanced through enabling participants to view and comment on each others data. Ultimately we believe this will generate richer and more useful research data.

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