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# DiversIT: Inspiring Communication about Individuals' Differences

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**Abstract**

The world is a mosaic of unique individuals. It is easy, however, to take people's differences for granted. Many people have stereotypes and perceptions of others that conceal the truth about differences between them. In order to help people appreciate differences about one another, we designed DiversIT, which facilitates communication between all people by leveraging the power of the Internet. By centering discussion on a daily question, DiversIT establishes common ground through which people can begin interacting. This increased communication can lead to an improved understanding of each other. DiversIT was developed with user-centered design processes, incorporating potential users into every part of the design process.

**Keywords**

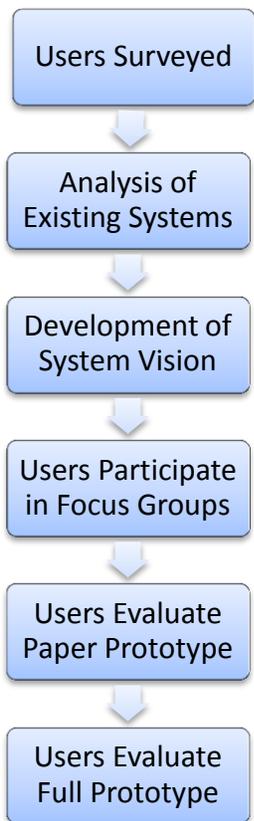
Diversity, Internet, User-centered Design, Online Community.

**ACM Classification Keywords**

H.5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous.

**Introduction**

We live in a diverse world with seven billion people speaking over 2,700 different languages [1], belonging



**Figure 1** – Our design process involved six primary steps, four of which heavily involved potential users.

to over 270 large religious denominations, and originating from 194 distinct countries [2]. Between race, gender, age, sexual preference, and location, people see life through a unique prism shaped by their experiences. It is easy, however, to take these differences for granted.

### **Contextual Inquiry**

Our first question when considering this problem was: What differences do people see in each other? We wanted to determine perceptions that people had of each other. We decided a survey could help answer this fundamental question. Participants could explain the stereotypes that they thought others had of them and also elaborate on the stereotypes they had of others.

We conducted the survey in the local community mall. There were 28 participants ranging in age, gender, and educational status. The participants were surveyed on ethnicity, educational background, and family income. The survey responses can be accessed online [3].

The participants exhibited many common beliefs about what others thought of them. The younger participants felt that older adults viewed them as "irresponsible" or "clueless about the world." Female participants thought that people viewed them as "inferior" to men. Participants that did not finish college often felt looked down upon. However, the perceptions that people thought others had of them contrasted with the perceptions that others actually did have of them. For instance, even though women thought that men viewed them as "inferior," men often viewed women as equals. Nearly all participants stated that they viewed people of a different race equally, even though participants of minority races felt that others thought less of them.

The survey responses showed that people often feel that others have negative perceptions of them when, in reality, people have neutral or positive perceptions. These misconceptions motivated us to consider communication between different groups of people. If different people were able to communicate their actual perceptions, there would be fewer misunderstandings about stereotypes.

Based on the survey, it was clear that people had perceptions about all the topics on the survey. Rather than focus on one particular aspect of the results, we felt our solution should provide the end user with the freedom to communicate as openly as possible on a variety of topics.

### **Existing Communication Mechanisms**

We then explored communication mechanisms that people currently use on a regular basis. One way millions of people from diverse backgrounds communicate daily is through social networking websites [4]. We examined how these sites facilitate communication and what incentives they provide for users. Most social networks encourage natural growth of social connection, where users engage in varying degrees of participation. Users can post on Twitter, Facebook, and Reddit as often or as seldom as they wish. Hence, the communication moves at a comfortable pace for each user. Ludford et. al. [5] demonstrate that new content on sites with online communities promotes user participation. We realized that our system should incentivize users with new material for the users to interact with on a regular basis.



**Figure 2** – A survey participant writes about stereotypes that affect him as he sits in the food court of a local mall.

Another key aspect in these social networking sites is a karma system. Karma systems can develop a sense of trust in users [6]. Building this trust and establishing so-called "social capital" through karma and other methods of interaction and feedback can affect a user's ability to remain connected within a community and participate in a group [7]. Many online communities include karma systems, such as Reddit's up- and down-vote, YouTube's thumbs-up and -down, and Facebook's like.

Another theme that helps users connect on social networking sites is the ability to share a common space. Millen, et al [8] discovered that directing users to the same "place" in an online community influences participation. For instance, users can join a group of other users with a similar interest or from the same geographic location on Facebook. When users can identify common ground, they already have a topic to discuss, a reason to communicate. This is a key component of community volunteerism, which also helps bring many different people together. Volunteers work toward a common goal of helping those in need, which initiates communication.

### **System Vision**

We began to brainstorm potential solutions that would encourage a natural pace of interaction about a variety of differences. A platform for people to write about their particular skills or traits would facilitate discussion about all kinds of differences. If users could see demographics about other people within their geographic area, they could learn about differences in people that share their common location. A similar

thought was having a profile that would be displayed when two users neared each other geographically. It could display similarities between two users to achieve a common ground and also show differences between them. Another idea was to provide people with a way to contact a random person that they never knew. By having individuals within a group answer a question and having the ability to discuss responses, a system would encourage communication about differences.

Drawing on these various inspirations, we put together a framework for a potential solution. There were several main elements which we set out to incorporate: fast and simple registration, encouragement for discussion among people with different backgrounds, and incentives to bring users back. The basic premise of our system would revolve around a website that revealed a new question periodically to users and allowed them to give their thoughts on it. They would also be able to discuss questions with all other users.

### **Focus Group Response**

To explore these ideas, we turned to focus groups. Two different groups participated in the design. The first focus group was composed of five college students majoring in computer science, so the group had more technical ideas and brought up numerous existing systems. The second group (shown in Figure 3) consisted of a more general user base with various demographic groups. It included a director of student life at a university, students from different majors, and an accountant. We started each focus group with the idea of asking users a question on a regular basis and let the focus group participants develop ideas from there. Some of the questions we posed to the focus groups were: "In what medium would you prefer to



**Figure 3** – A focus group discusses their ideas about the system

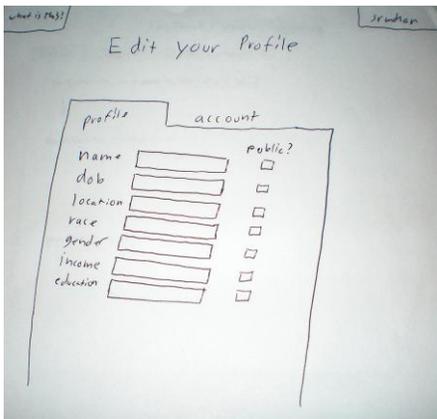


**Figure 4** – A team member listens as a potential user comments on a paper prototype

answer questions?” and “How often would you like to see a new question?” The questions encompassed a variety of topics, including personal use of the system, privacy settings, and moderation. The list of questions discussed can be accessed at [3].

Both user groups preferred to answer questions on a website over a mobile device. The more technical group had interest in linking the website to Twitter. Both groups said they wanted to see questions that ranged in level of controversy and answer length. Some members of the group suggested that users should be able to submit their own questions. Another topic of discussion was how often a question should appear. Both groups suggested one question per day. They reasoned that they wanted enough time to respond to others’ answers, but they wanted enough questions to keep the site interesting. In addition, the response and discussion mechanism would provide the “set-your-own-pace” aspect of social networks, along with a constant influx of new content that attracts people to these communities.

A strong opinion emerged in both groups regarding privacy options. They were willing to provide a wide variety of demographics about themselves, including gender, age, location, race, education level, political affiliation, family income level, and sexual orientation. However, they wanted an option to hide this information on their profile pages. Although they liked the idea of having their username tied to their answers, they also wanted an option to submit answers anonymously. Members of the focus groups uniformly agreed that the existence of these privacy options would have an overall positive effect on the discussions.



**Figure 5** – The screen of the paper prototype where edit their profile and privacy settings

Another important topic was the karma system. Both groups did not want points for users - they argued that points create a popularity contest between users. This would simply exacerbate differences in users instead of helping them understand each other. They thought that the good discussion would be enough of an incentive to come back to the site. They also thought that instead of points, users could maybe label answers with positive tags, such as “funny” or “thought-provoking”.

With respect to the moderation system, the technical group suggested having a button to mark comments as spam. They were more comfortable with the idea of manual removal of spam than an automatic system. Another idea was to use a system similar to YouTube, where a comment with more than four down votes would be automatically hidden. Both groups did not think that the existence of a moderation system would make them uncomfortable about answering questions.

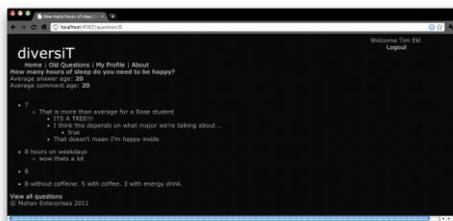
### DiversIT

Based on the feedback from the focus group, we had a better idea of what end users wanted to see, and we made changes to the system vision accordingly.

We developed DiversIT, a web application that aims to encourage communication and discussion among its users by posting a daily question on a wide variety of topics. The users are then free to hold discussions about these questions among themselves. Users of DiversIT are given the option to provide demographic information about themselves, which is used by the system to present statistics about answers to daily questions. These statistics contextualize the discussions



**Figure 6** – DiversIT’s registration page requires minimal data input to speed up the registration process and encourage more users to join



**Figure 7** – A discussion page of DiversIT with a question and comments

and help increase interaction among individuals with different backgrounds and views.

In addition, DiversIT implements a karma system that allows users to provide feedback on the quality of discussion, maintaining a high level of discourse and incorporating a degree of self-moderation. The karma mechanism also encourages users to return to DiversIT, perpetuating meaningful conversations.

Finally, DiversIT is respectful of users’ privacy preferences. Although the system requires access to user demographics, users can only see information about each other when explicitly granted permission to do so. This ensures that users can disclose as much information as needed to the DiversIT system, aiding in discussion by providing accurate demographic statistics, but can still maintain personal privacy.

### DiversIT Prototype Feedback

With a clear vision in mind, we created paper prototypes (See Figures 4 and 5 for a sample prototype of the Edit Profile Page). Four people were asked to describe what they liked about the system and what they would like to see change. Participants liked the idea of making it easy to answer the daily question with a large button. They wanted that button to redirect to a list of the responses for that question. The idea of privacy options on demographic information reemerged in this phase of prototyping. Some users were interested in the system remembering their preferences, such as which types of statistics to show about the questions or the number of comments to display. It was also suggested that the system have minimal controls and clearer buttons.

After receiving feedback on paper prototypes, we developed a functioning prototype that incorporated user feedback, available at [3]. It has a simple, one step registration process, as seen in Figure 6. Non-registered users can view the questions and responses but cannot respond. A page of all the past questions is easily viewable; however, commenting is disabled on past questions. The home page of the website is designed to draw in as many users as possible to sign up for the system. When an individual first visits the page, they see the question of the day and a large "Answer Now" button. If the user does not have an account on DiversIT already, they are prompted to create one. The initial creation of the account requires minimal data for the system. This reduces the barriers to entry and enables more users to sign up and begin using it right away. After registration, users are able to actively participate on this site, answering the question of the day, commenting on answers, and looking at past questions. A discussion page, as seen in Figure 7, shows the format of the responses and comments. The users also have the ability to edit their profile. They can apply their preferred privacy settings and add more demographic data to be used by the system to create statistics on responses. It is a minimalistic design, which makes it quick and easy to navigate.

Numerous potential users evaluated the final prototype, as shown in Figure 8. Overall, users enjoyed interacting with the systems. They liked the simple design with large icons. The ability to see statistics about the people answering the day's question was popular. Users also liked how the system only allows a user to answer a question once. One feature that they would have liked, though, was the ability to edit responses. One major suggested change was including an "add



**Figure 8** – A team member observes a potential user as he comments on the full prototype

comment" button instead of simply making comments linkable, as users struggled with how to reply to comments. Other suggestions included making the menu easier to see and buttons easier to push. Overall, users enjoyed the site and thought it would increase communication about differences in others.

### **Future Work**

In order to succeed as a thriving community, the current DiversIT prototype would need to be expanded. There would need to be a team of moderators that could remove inappropriate or demeaning posts. A karma system is another important aspect that was not developed in the prototype. Based on the focus groups, we have data about what users want from a karma system, so it could be implemented in a way that took their suggestions into account. Another feature that users wanted was the ability to submit their own questions. Overall, however, potential users' responses to the DiversIT were very positive.

### **Conclusion**

User feedback has shown that people are interested in using DiversIT on a regular basis. They are excited about answering different questions and even submitting their own.

DiversIT helps all types of people communicate about their differences in an effective, enjoyable manner. Instead of furthering stereotypes based on assumptions, people who use DiversIT can learn about others' opinions and ideas while sharing their own. Conversation sparked by the questions on DiversIT help people understand differences in others. No matter their own race, religion, or background, DiversIT will help people appreciate differences in others.

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### **Citations**

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