



GLU

Connecting Cultures

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Executive Summary

Across America, universities are increasingly becoming diverse cultural hubs that are fed by an influx of international students that come to said universities from various parts of the world. These international students bring with themselves various cultural backgrounds that are highly influenced by the geographic region they are from. This results in an amalgamation of various cultures and backgrounds co-existing in the same geographic location, in this case a university campus, which is leading towards an eventual evolution of the student populations across American universities. “Diversity leads to innovation”. The above quote beautifully paraphrases the Forbes article ¹ which describes how the diversity in people is vital to drive innovation. As explained in the article, the exchanges between people from different cultures brings in different perspectives to a particular situation and helps to drive innovative solutions that may not have been prominent had the multicultural exchange not taken place. Thus, it can be easily said that the phenomena of our university student populations increasingly becoming more culturally diverse, is a good thing and one that should be encouraged for a more prosper and bright future.

However, even though many universities have become these multicultural hubs of students where multicultural exchanges are a common place, upon closer examination of any of these cultural groups one can still find obstacles that hinder the process of multicultural exchanges between students. The mentioned obstacles are found to create an internal bias within international students and prevent them from being able to mix with other students from various cultures. Moreover, it can be extrapolated as one of the major reasons why some international students find it difficult to adjust to the American culture, once they arrive here. Thus, this system aims to create a platform that allows its users to overcome some of the obstacles they may face and in turn improve their experience of being

¹ <http://www.forbes.com/sites/stevedenning/2012/01/16/why-is-diversity-vital-for-innovation/>

an international student at one of these universities. Furthermore, as a larger vision for this project, the team aims at designing a social interaction platform that allows users from culture A to be able to interact and adapt to culture B. To be able to scope the project to fit the given timeline, it was decided early on in the process to focus on two of the largest international student populations at the School of Information here at the University of Michigan. These student populations include Indian and Chinese, international students who are pursuing a Master's degree here at the School of Information and this paper will mainly focus on the problems, findings and solutions concerning the challenges that arise when Indian/Chinese students try to adapt to American Culture. However, it is worth stating that with further research on the part of the team, the recommendation and the platform can be extended to support other cultural groups that may exist at the universities or elsewhere.

The following provides a brief overview of the key findings and solutions from our research, which will be explained in detail later on in the paper. Some of the key findings are:

1. Chinese and Indian students are shy to talk freely about their ideas as they aren't sure of American slang/jargon/ spoken language.
2. Food is one of the major conversation starters which seem to connect people from different cultures.
3. The main motivation for people to explore new cultures is when they don't find common interests in their social kind.
4. People are in need of learning about new culture to a large extent at the beginning of being a part of the new culture and this interest goes down with the passing of time.
5. People have a lot of misconceptions about what new cultures are. There is no single comprehensive platform today which connects them with facts about social norms around new cultures.

6. For sustaining interest and building stronger relationships between people from different cultures, there is a need to start deeper conversations on a one on one basis.
7. We reject the hypothesis that we started with which states that people coming from countries with varied cultures adapt to new cultures easily.
8. We reject the hypothesis that people from similar cultures/closer geographical locations (Taiwanese and Chinese) mingle with each other more easily than people from very different cultures (Eastern and Western cultures)

In response to some of the findings stated above, the team was able to come up with some key solutions, which are as follows:

1. Pseudo-Anonymity facilitated by targeted questions.
2. Establishing common ground. For example: Food, music, games, etc
3. Chat with people with same interests
4. Chat Pods and taking interactions beyond the app.
5. Answer and help remove misconceptions. You can answer questions about your own culture.
6. Ability to save and retrieve conversations with a person and continue building a deeper relationship with the person.

The team, using the findings and solutions as the starting point for designing a mobile application called GLU. GLU's design is based on a few social interaction principles that are used by various social websites, used in a way that helps strengthen the main idea behind the GLU app. The paper also discusses a few key social interaction concepts that we used while designing and critiquing the application built.

Motivation

The motivation of this project lies within the international student status of the members of our team.

As international students we have noticed that even though the School of Information, as mentioned before, is a hub of diverse cultures and background, the students do not to mingle with other students who are from different cultural backgrounds as them. For example, from personal experience of the team members, Indian students tend to stick with other Indian students, rarely breaking this pattern. At this point of the paper it needs to be made clear that, here at the School of Information, students take part in a number of group projects with other students from various cultural backgrounds. Therefore, it cannot be said in completion that students don't actually intermingle with each other. For the purpose of this paper, the team is trying to look at interactions amongst students outside the academic setting. The paper will focus on the times, places and people a student interacts with when he/she is not working/studying and is either taking a break or just "hanging out".

Keeping this in mind, the team felt really strongly about research the different motivations behind students, who are surrounded by other students from diverse cultural backgrounds, chose to stick with people from the same cultural background as them. Moreover, it is the belief of the team that some of the major problems that International students face when coming to a new country, such as America, can be traced back to this practice of not mingling with other students. Problems such as, disruption of social growth, misunderstanding between people of different cultures, the feeling of not fitting into one's new surroundings can all be traced back to the phenomena of sticking to one's own cultural group and not expanding one's horizons beyond that. Hence, the team was really excited to work on this situation to see if there were certain solutions that we could propose that would help bridge some of the obstacles that international student community faced.

Problem Statement

As mentioned before the School of Information is home to students from various cultural and geographic backgrounds, which had led to the creation of one of the most culturally diverse communities at the University of Michigan's campus. However, despite this students don't tend to have intercultural exchanges beyond the scope of their academic setting which in turns takes away from one of the core experiences of being an international student.

The project aims to determine the reason as to why there are almost no cultural interaction between the various cultural groups (Indian, Chinese and American) here at the University. Moreover, the study tries to understand the reasons behind why a particular cultural group has a easier time adjusting to a new culture. Using these findings, the final result of this project is to create and design a low - mid fidelity prototype of the system that allows to solve some of the problems mentioned above.

Methodologies

In order to better understand the field of multicultural interactions, we conducted a literature research on the work that had already been done in this area pertaining to the fields of sociology and anthropology. The team tried to find research papers pertaining to the field of HCI but could not find any that matched the criteria. Some of the key insights from the literature review phase were as follows.

- **Insight 1:** As one of the interesting findings from, "The Psychology of Culture Shock"², people from closer geographical locations(Australia and New Zealand) have similar cultures and tend to mingle easily with each other more easily than people from further geographic locations (Australia and China) as the difference in their cultures tends to be more apparent. This finding was particularly interesting because, even though China and India are close, in terms of

² Ward, C.A. and Bochner, S. and Furnham, A. The psychology of culture shock. Psychology Press, 2001.

geographic location and culture, students from both these countries didn't tend to mingle with each other with ease. The team wanted to find out if there was a certain reason as to why this wasn't the case.

- **Insight 2:** People coming from countries with varied cultures adapt to new cultures easily. In other words, it was the belief of the team that students who came from countries that had a rich cultural diversity within themselves were more apt to adapt to new cultures. This finding was based on the fact that India, as a country, is consisted of many cultures that easily mingle with each other and Indian students on a daily basis learn to adapt to said cultures. As a disclaimer, at this point of the research, the team wasn't aware of the fact that China, is consisted of several micro cultures as well, which basically meant that this finding wouldn't prove to be useful in the longer run. This part will be explained more in detail during the findings section of the paper.

To help substantiate some of the initial research done, we decided to conduct semi structured interviews to gain deeper understanding of the various problems that the students faced. The interview questions were based on the above mentioned insights. Most of our questions were left to be open ended to create interesting discussions between us and the interviewees. Our **research questions** mainly were as follows:

1. What are the major challenges that Chinese and Indian students face when they come to American universities?
2. What are the major differences between their social lives in their hometown and their current social lives in America?
3. What are the key motivations for people to go out of their comfort zone to learn about new cultures?

Using these key research questions we came up with a list of interview questions as shown in the Appendix A. Over 15 days, we conducted semi-structured interviews with 6 Chinese students and 4 Indian students. We had enough data to analyze. Instead of using all user quotes, we managed to arrive at 5 key insights from each of the interviews and used different colored sticky notes to represent them. We rearranged the sticky notes and grouped them to arrive at 6 key insights which are explained in detail in the later sections. To understand our user persona better, we built an empathy map.

An empathy map³ is a tool to synthesize our observations from a user's point of view and draw out unexpected insights. Empathy maps are drawn before creating a user persona. Right after the data analysis session, each of the team members wrote on different colored sticky notes about what our ideal persona thinks/feels, sees, hears, says and does. This really helped us better empathize with our users as each of our persona types have different goals and motivations. Drawing multiple empathy maps at the same time or combining more than one empathy map can give us key insights about conflicting goals among different users in the social system. Most of the time, people do not do what they say. This is another that disparity can be found when we draw empathy maps. We used our empathy map for creating our user personas. We created 4 user personas and scenarios which are explained in detail in the next section.

Personas and Scenarios

To help in the creation of personas and scenarios, the team started to look towards the various roles that a user could play within the GLU application. Once we had the basic roles of the users, one of the team members noticed their similarities to some of the 12 basic archetypes⁴.

³ <https://dschool.stanford.edu/wp-content/themes/dschool/method-cards/empathy-map.pdf>

⁴ http://www.soulcraft.co/essays/the_12_common_archetypes.html

Archetype is a Greek word that means “original pattern” and symbolize a collection of basic human motivations. For this project, the team decided to use archetypes as a tool to help us develop our personas and to also help explain to the reader the basic emotional makeup of the person being talked about in the persona.

Based on the discussion, the following represent the four major social roles that a user can adapt within the GLU application.

1. **The Explorer:** Students who are willing to learn about new cultures and are open to using the application in order to do so. Such students are presumed to be outgoing in their nature.
2. **The Caregiver:** Students who have lived in America for a while but aren’t originally from the US and are willing to help out other students, from their home country, to adapt to the American culture.
3. **The Sage:** Students who are very knowledgeable about their own culture and want to participate in removing wrong stereotypes and misconceptions about their culture/country.
4. **The Rebel:** Students who are not exposed to various cultures and are ignorant about different cultures and just like to participate on social forums to break rules and troll people.

Using the above mentioned roles and archetypes the team was able to come up with the following personas and their corresponding scenarios. One interesting thing to note about the name of the personas, is the presences of adjectives such as **Confident, Caring, etc.** This is done deliberately so as to give the reader a deeper understanding about the persona’s character and how it relates to the role he follows in the GLU system.

Persona 1: Confident Chao - The Explorer

Core desire: The freedom to find out who she is through exploring the world.

Biggest fear: getting trapped, conformity, and being alone.

Strategy: Journey, seeking out and experiencing new things, escape from boredom

Chao is a first year master student at the University of Michigan studying contemporary arts. Growing up in China, Chao was the only child in her family and developed a keen interest in making new friends to help her not be alone. This further developed when Chao went to Beijing to pursue her undergraduate degree where she became more open to interacting with new people. Chao was also very interested in listening to various genres of music. This interest would also push her to actively talk to new people if she found their choice of music to be of interest to her. In order to study further Chao decided to come to the University of Michigan and expand her horizons.

Even though Chao was quite outgoing back in China, after she arrived here in Michigan, she discovered that she wasn't able to properly mingle with the American students here. There were certain social norms that Chao wasn't familiar with which made her feel uncomfortable in front of her American classmates and in the process she ended up surrounding herself with people from her own culture and got comfortable, but knew she was missing out on so much.

Scenario 1:

As a part of a class she was taking, Chao was asked to write a piece about the American music scene back in the 1980's. Due to her taste for different genres for music, Chao was really excited about the assignment. She knew about the American music scene presently as she had been listening to American music back when she was in China, however she had absolutely no knowledge about the history of American music through the years.

In order to start somewhere, Chao tried to search online about the music scene back in the 1980's and found herself getting overwhelmed with the information she was getting. Although the information she got was a lot, it did little to nothing about explaining things like "what were the best artists of the 1980's? " or questions like "which songs were quintessential 80's songs?". Frustrated with this, she thought of asking her friend circle here in Michigan to see if anyone knew about music from those years. Since most of her friends were themselves Chinese students, they also had no knowledge about this topic. With nothing working out, Chao felt that the only way to get good information about the topic is through people who understood the American music scene back in the 1980's and wishes there was some way she could connect with such people.

After doing some research on the internet about ways to connect with such people she is directed towards GLU, an app that enables multicultural exchanges between people. She downloads the mobile application and enters that she is originally from China and she is interested in learning about American culture. She uses the "Ask" feature to ask "What is the one word that comes to your mind when I say 80's music in America?" Within minutes, she gets a couple of replies pointing her to Spotify playlists and Youtube videos. While scrolling down the list of comments she comes across one that is of particular interest to her, posted by another (American) user Kyra. Chao feels that she would like to have a one on one conversation about American music. She pings Kyra and within minutes gets a reply from her. In the process Chao realizes that Kyra is interested in learning about Chinese music. They end up talking for a couple of days and GLU suggests that Kyra has started a POD (Group chat on GLU) and she has created a meet up for this Saturday. Chao is excited to be able to meet Kyra and talk more about the American music culture, however feels awkward in going alone to the meet up. However, once she joins Kyra's POD conversation she sees that other people (Chinese and American) are going to the meet up and after

conversing with the POD for a while, she feels comfortable enough to go to the meet up. She ends up meeting Kyra having a nice time and also learning about the 80's music scene from Kyra.

Persona 2 - Caring Kartik - The Caregiver

Core desire: To guide and care for others

Greatest fear: Selfishness and ingratitude

Strategy: Doing things for others

Born to an upper middle class family in India, Kartik received an offer to study from the University of Michigan in 2008. Without thinking twice, Kartik accepted the offer and within no time was boarding a plane on his way to the US. This being the first time Kartik or any of his family members had been outside the country, Kartik faced serious culture shock when he first arrived in the US. Now in his third year as a PhD student, he is more accustomed to the ways and culture of American societies. Over the years Kartik was able to grown accustomed to the social norms and regulations of America through a series of hit and trial methods. Having once been an international student facing culture shock, he is well aware that most international students from India face this problem when they first arrive here. Due to his caring nature, he feels really compelled in helping new students to settle into their new surroundings. His motives also drive him to actively participate in the school's orientation program that helps new international students settle in when they first arrive at the University.

Scenario 2

During one of his orientation sessions, Kartik is introduced to a mobile application called GLU by an international student who had downloaded the app before coming to the University. Something that caught Kartik's attention was a comment made by the student, detailing her encounter with someone on the app that had provided her with useful information about Michigan and the University. He figured

that by using the app, he could help others with information and help ease their transition to this new place.

That night Kartik went back home, downloaded the app and started to tinker with it. As he opened the app, the system provided him with a description of what a social glue was. It said “If you select to be a Social glue, users can contact you with questions, queries that they have and in return for helping them your GLU rating will increase. The GLU rating is a visual indicator of how good a user is at helping other users”. Kartik immediately connected with the idea of a GLU rating as the kind of selfless reward he looked for while helping people through the orientation programs. Moreover the idea of being able to help people with questions and queries was really of interest to Kartik. Over the next few weeks Kartik started using the system on a more regular basis trying to build his identity and increase his GLU rating by answering as many questions as he could.

Soon after Kartik got a 3 of 5 in his GLU rating, he received a message from an Indian student trying to learn about how the academic system worked in American universities. The student asking the question was shown by the system that Kartik is a social glue with a rating of 3 which meant that he was willing to answer his questions and was also really good at providing useful information. The GLU rating in this case served as a assurance to the Indian student that Kartik would do his best to help answer his questions. Having received this message Kartik jumped on the situation to help a fellow student and started to answer his questions. 20 mins later after providing the student with all the relevant information, Kartik, closed the app to work on his homework, while feeling really satisfied that he was able to help someone.

Persona 3 - Honest Abe - The Sage

Core desire: To be able to find the truth.

Biggest fear: Ignorance or being misguided

Strategy: Seeking out true information and knowledge

Born and raised in a middle class family in Seattle, Abe was taught from a young age, by his father, that knowledge has the power to solve any conflict. Growing up in a place full of different cultural communities, Abe was sensitive to some of the cultural tensions between said communities. Evolving the ideology that his father taught him, Abe believed that the different communities could understand each other better if there was a way to share knowledge between these different communities. He was convinced by the fact that the people would understand each other better if there was a way to clear the stereotypes/misconceptions/questions that one had for the other person. However, due to the sensitive nature of the topic, Abe was also aware that this could not be done without stirring up tensions on either side. He felt that if people had a face to face conversation with each other about different misconceptions, the conversation would only end in either one fighting with the other. Having received an offer to study at the University of Michigan, Abe is currently a master's student living in Ann Arbor.

Scenario 3

Living in a student town such as Ann Arbor, Abe has managed to make friends from diverse cultural backgrounds. One Sunday morning, he decides to have brunch with his Chinese friend Chao. Having arrived in the country just 3 months ago, she is a person who likes to explore her surroundings and has been trying to meet new American students in order to learn more about the culture.

Over brunch, both Chao and Abe start to talk about the various experiences they've had since arriving at the University. Chao tells Abe of a situation where she felt really uncomfortable talking in English in front of her American classmates. She explained that she felt scared of being laughed at as she felt her spoken English wasn't that good and as a result, she ended up not participating in the conversation. Abe felt really bad when he heard this, as he knew from experience that most of his American friends were truly empathetic towards non native English speakers and would not make fun of Chao. Moreover, he wished that there was some way he could tell Chao about this and help remove the doubt she had in her mind about this situation. On his way back home, Abe felt that there are certain misconceptions about American students and that there needs to be a way help remove some of these misconceptions.

After searching the internet for a way, Abe finds GLU, an application that allows people to answer questions about their own culture in the effort of removing some of the stereotypes/misconceptions surrounding said culture. Abe realizes that he might not have been able to convince Chao, however through the use of this app he would be able to help some other person who might have a similar doubt/misconception in his/her mind. He downloads the mobile application and indicates that he is from America. From there, over a couple of weeks, Abe logs in whenever he can and answers people's questions about American culture. Some of the type of questions he answers range from trivial questions such as "What is a hotdog?" to serious questions like "Are Americans tolerant towards other cultures?". By answering such questions he feels that he is helping someone like Chao understand more about his own culture.

Persona 4 - Ignorant Jack - The Rebel

Core desire: Disruption, disturbance

Greatest fear: To be powerless or ineffectual

Strategy: Disrupt, destroy, or shock

Jack Daniels, born to a family in Montana, had grown up in a conservative family. Growing up in a community with very little cultural diversity, Jack was instilled with a sense of ignorance in him. In addition to this he had always been mischievous and would easily get into trouble. His mischievous nature would compel him to break the rules just to evoke a reaction from the authorities or his parents. As soon as he turned 18, he got an offer to study at the Engineering department of the University of Michigan. Gladly accepting the offer, Jack moved to the town of Ann Arbor which in contrast was completely different from his hometown. Being a student town, Ann Arbor was full of students from diverse cultural backgrounds and it was a kind of community that Jack wasn't used to living in. Due to his ignorance and his mischievous nature, Jack would land into trouble with the international student community.

Scenario 4

Over the years, Jack had become somewhat of a troll on some online social platforms such as Reddit, Youtube. He loved the idea of stirring up people and causing a ruckus while being able not be held accountable for any of his actions. Thus when he heard about the GLU app from a fellow student, and the kind of controversial topics that were being discussed on the platform, the troll in him decided to give the app a try. Later that afternoon, while taking a break from his classes, Jack downloads the app with the intention of trolling some people. He gets to the screen that lets him answer questions posted by other people who are interested in knowing about American culture. After swiping through some of the questions that he deems are unworthy of a reply, he comes across a question that asks the

American community about how Americans perceived non native English speakers. The question is as follows: “I am a Chinese student coming to America to study, But I am afraid that I will be perceived in a weird way because I stutter when I talk in English. is it so ?”. Due to his mischievous nature and his ignorance towards the Chinese culture, Jack doesn’t hesitate twice before replying “Yes, you're coming to America you should learn English before you come here. Otherwise don’t come!”.

Having said that, he satisfies his inner trolls and feels satisfied that he was able to use the GLU app to troll someone. However, unknown to him, the GLU platform regulates the content that is posted onto the system through the use of social facilitation. Other American users of the GLU app, who see the comment made by Jack, deem it derogatory and not appropriate and are able to down vote the comment using the GLU app. Due to this action by the GLU community of users, the next time Jack tries to troll a user, he is told by the system that he is unable to answer questions as he has been down voted by the community. Seeing this Jack gets really upset and eventually ends up deleting the app.

Findings and Solutions

Using the research questions mentioned in the methodologies section and the interview questions created using the said research questions, the team conducted a total of 10 student interviews. The aim of the student interviews was to gain insight into the life of the user population that we were trying to target with our application. It gave us a deeper understanding of some of the problems that international students face. Of the 10 interviews conducted, 6 Chinese and 4 Indian students were interviewed. The team ensured that all the students were in their second year of study and this was done deliberately to ensure that the students could draw comparisons between their first years here (when they were new to the culture) and now (when they have gotten accustomed to the culture). This would in turn help the team gain some interesting perspective about the different things that people do in order to adjust to a new surrounding/culture.

In addition to the student interviews, the team also conducted 2 faculty interviews with members of the faculty at the School of Information. Both of these faculty members were actively involved in the creation and execution of orientation activities, aimed at helping international student settle down. Performed during the first week of the fall semester, the activities aimed at providing the student with vital information about various things ranging from bank accounts to bus schedules. The demographic breakdowns of the interviewees by gender were 7 female students and 3 male students.

The interviews were very insightful for the team, with the following being some of the key findings for the project:

Finding 1: Chinese and Indian students feel shy to talk freely about their ideas because they do not understand American slang/jargon/ spoken language very clearly.

Students find it hard to get used to spoken English and hence it makes it harder for them to start conversations with American students. This situation is aggravated by the fact that these students do not usually follow current US news/sports and cannot quickly grasp American pop culture references which adds to the problem. These findings were substantiated when in the interviews U3 mentioned “I try to explain myself a couple of times, after which if it is not important, I just leave it”. Another user (U2) commented “When I came here, I did not know what “What are you upto?” meant, I did not ask immediately and Google searched it myself later. One of our other users U5 mentioned that she used to think she was very funny but she has stopped cracking jokes because she is unsure of how it will be received.

From the interviews, we also found that people tend to feel more inclusive when they understand the pop culture references. According to one of the users, one of the easiest way to achieve this is to map any pop culture references to something familiar from back home. While this was a great idea, we think

it is not scalable which means that not every American pop culture reference can be mapped to Eastern pop cultural references.

Solution 1: Pseudo-Anonymity facilitated by targeted questions.

Finding 1 showed us how students found it difficult to express themselves because they did not easily understand the jargon/spoken language being used. Moreover the finding also showed the fact that students felt shy in asking their peers whenever they encountered a situation where they didn't understand something. Thus taking into consideration both the points made, the team made the conclusion that if there was way for the students to clear their doubts/questions without having a awkward conversation with their peers, it would help some of the problems that an international student might face.

To help facilitate this, the GLU app has a dedicated section for users to ask questions to the GLU community (Refer image 4 in Appendix C). An important feature of this part of the app is allowance of asking the question to a particular community of users. Since GLU allows users to declare their nationality, any question being asked on the platform can be directly sent to a particular group of users. This is done in order to help the question to get accurate responses from the subset of users who are most aware and knowledgeable about the topic of the question being asked. Another important feature that facilitates the asking of the question by the user is through the use of pseudo anonymity⁵. By using a username and password system, the GLU platform is completely devoid of any user profiles. This means that the users of the GLU platform are only known through the use of a username and hence it is the belief of the team, that this veil of pseudo anonymity will allow the users to feel less shy while asking questions. However, it is worth noting that even though the system provides the user with anonymity, it

⁵ http://iiw.idcommons.net/Pseudo_Anonymity_and_Reputation_Systems

also has a way of keeping track of its users that it uses to remove “trolls” from the community. This will be explained in detail in the later section of the report.

Finding 2: Food is one of the major conversation starters, which connects people from different cultures.

The interviews demonstrated one common theme along all the interviewees that they were very comfortable in talking about food from their respective cultures. Both Chinese and Indian students attested to the fact that they knew very little of the other’s food cultures and very keen in understanding them. An interesting example was seen in terms of a “Hot Pot” kind of setting. U5 mentioned that she conducts “Hot Pot” at her place every week as it is a good way to catch up with friends till the food gets cooked. This finding was very interesting because we see food to be a common theme which can be enjoyed by people from different cultures. Conversations around food also seem very uncontroversial and people are at ease when they talk about food. People found a comfortable common ground when they talk about food and cooking. Overall, topics around food and different cuisines are effective conversation starters among people from different cultures.

Solution 2: Establishing common ground - Food, music, games, etc

As finding 2 suggests, food is a major driver of conversation for people. The concept of food was particularly not that interesting when designing the GLU platform mainly because of its limited nature. However, the underlying concept of having a common ground to start a conversation was very interesting. Upon further analyzing the interviews, the team concluded that most of the interviewee’s said that most of their conversations started were common interests with friends. A common ground should be provided for both the speaker and his/her friends to have a common topic to “break the ice” and continue the conversations.

The GLU platform is built using the idea of having a common ground and the application integrates it deeply within various interactions (Refer image 3 in Appendix C). The process starts when the user first logs into the system. He/she is prompted to tell the system, his/her interests through the means of an interest screen. The interest screen shows various things that may be of interest to the user, which are curated from other users and also taken from a bootstrapped database of interest created by the developers of the system. The interests the user enters through the means of this screen play a vital role in the chat section of the system.

Finding 3: The main motivation for people to explore new cultures is when they don't find common interests in their social kind.

With a lot of interviews, we realized that Chinese and Indian students do not really know how to start a conversation with a person from a different culture. On the other hand, we also realized that these students go out of their ways to learn about new cultures when they do not find the common interest in their own cultural group. For example, some of the interviewees were really interested in video games and with no common ground with the people in their own cultural group, they branched out to other people from various other cultural groups that were really into video game. U4 mentioned that “Last semester she thought her semester was really dull because her Chinese friends did not like partying, this year, she has attended three Halloween parties with her American friends who enjoy the same thing as she does”. Another example was one of our female interviewees (U8) from China was interested in other females. Since China is still considered to be a conservative nation, U8 did not feel very accepted in her own cultural circle of friends and explored beyond her own culture to find new people who shared common interests.

With this finding, we realize that people from different cultures tend to grow closer to each other when they have common interests such as games, shows, music and sexual orientations. According to the

interviews, the transition from moving out of the social circle of their own culture to finding new people was difficult because the comfort of “being understood” in their own culture weighed over finding people with common interests.

Solution 3: Chat with people with same interests

As mentioned in Solution 2, the idea of common interest was very interesting while designing the GLU system. The interests screen allowed the user to enter his/her interests into the system. The chat section (Refer image 7 in Appendix C) of the app uses these interests to drive conversation between different users of the system.

The chat section, as the name suggests, once clicked allows the user to have a one on one chat session with another user of the system. To help the people to start talking, the system provides both users of the chat with a common interest that they have with each other. By providing the users with a common interest the system mimics the phenomena of a common ground and thereby provides the necessary “ice breaker” for the users to start talking. The chat system can provide users with “ice breakers” such as “you both are interested in football”, “you both are interested in Chinese culture” or “you both are from India”. By providing the users with statements that show their connection in a very simple yet effective way, the system mimics the concept of a friend introducing two of its friends to each other. Effectively, once this is done, we believe that the user would have the necessary common ground to be able to talk to each other without any interference from the system. However, considering the fact that the matching system based on interests may not be always accurate, the users are provided the ability to skip a topic or user, if he/she wishes to do so. The idea is to provide the users a way to talk to other users but only if they are comfortable and at their own pace.

Finding 4: People are in need of learning about new culture to a large extent at the beginning of being a part of the new culture and this interest goes down with the passing of time.

In most of the interviews, the students expressed interest in learning about new cultures in the beginning of the semester and this wanes off as the semester goes by. U3 said “I don’t have any time to learn about new cultural things, I’m so caught up in homework and studies”. This is one of the major findings which let us know that the motivation behind learning about new cultures decreases over time. On the other hand, drawing conclusions from the empathy maps, we also realize that people say that they do not have enough time to spend on learning about new culture, yet they spend hours watching YouTube videos, TV shows and movies.

There is a huge difference between what people say and what people actually do. This also means that people use time as an excuse to not learn about new cultures. The truth is that there is no strong motivation for people to learn about new cultures in their spare time. The other major reason is that people do not know who to connect to when they do have spare time. U4 said “Last semester, I did not hang out with a lot of American friends, this semester, because I know them well enough, I make time for them”. This suggests that people are interested in learning about new cultures but are not motivated to do so because they do not have access to the right resources or people with similar interests.

Solution 4: Chat Pods and Taking GLU interactions beyond the app.

The GLU platform is created to enable people to learn about other cultures, however as shown by our research, due to a number of reasons, people start to lose interest within a short time of starting. Thus, a major challenge while designing the GLU platform was to ensure that the users keep constantly engaged with the system. To help facilitate that, the system incorporates the concept of “PODS”.

“PODS” is a grouping system that works with in the chat section of the app (Refer image 8 in Appendix C). When the user clicks the chat section, he/she is directly taken to the home screen of the chat

section. From here the user has the ability to be able to create a “POD”. Simply put a “POD” is a group of users that can be put together based on the history of conversation of the user i.e the user can add other users to the “POD” that he/she has interacted in the past with. This simply allows the user to be able to interact with more people with whom he/she has a common interest with. However, the “POD” concept can be extended into the physical world. The “POD” chat screen allows for the different users to be able to create real life events that he/she can invite other users to attend if so wish to. However, from the research we have done it is clear that a one on one meeting with any anonymous person would not be a good idea to facilitate social interchange because of various factors such as social awkwardness or shyness. Therefore, to mitigate this problem, the GLU app only allows users to create real life events using the “POD” chat screen if there are more than 2 users in the groups. This facilitates that many users can meet as a part of a large group of people thereby eliminating the social awkwardness or shyness. According to us enabling face to face interaction will add more value to the social system.

Finding 5: People have a lot of misconceptions about what new cultures are.

There is no single comprehensive platform today which connects them with facts about social norms around new cultures. For example: U1 mentioned “Detroit looked so huge in pictures and in my head, all American cities were large and crowded, I landed to see a huge farm land”. Another student mentioned “I took so long to realize that Americans are very forgiving of my grammatical mistakes. Once I realized that I felt so much more confident in speaking English”. There is a need to eliminate wrong stereotypes and misconceptions attached with a new culture. Understanding the new culture incorrectly or building wrong assumptions delays the rate at which people adapt to new cultures. U3 said “I think all Americans like to drink all the time and I don’t like drinking so much. So I stopped making friends with Americans”.

Most of these assumptions and stereotypes stem from movies and TV shows that Chinese and Indian students watch before coming into the country. Acquisition of this knowledge is not from a reliable source most of the times. We also found that people care for authentic sources of information. U9 said “I would love to hear about Michigan’s history from a true Michigander than Google search it myself”. Connecting people to eliminate stereotypes can enhance interactions as well.

Solution 5: Answer and help remove misconceptions. You can answer questions about your own culture.

Our research shows, that the stereotypes that people have about others play an important role in what they think about each other. This further disrupts any chance of a social connection between people from different cultures. However, it is worth noting that clearing stereotypes is not a simple process. Due to the controversial nature of the topic, people always find themselves avoiding the topic even though they may have a genuine curiosity for that particular topic. It is easier for people to not air such stereotypes and thereby in the process avoid conflict. Thus, while designing the GLU platform, the team decided to incorporate an answer section with its main function being to help remove misconceptions/stereotypes.

The GLU platform provides the users with a answer section that is a simple screen with a question and the answers that follow it (Refer image 5 and 6 in Appendix C). When the user first logs into the system, this is first screen he/she sees. An interesting feature about the answering screen is the idea of showing users with questions that are directed towards their own nationality i.e. a user of Indian origin only sees questions that have been directed by other users towards Indian culture. The idea behind this feature is that as a part of the system, a user can chose to remove some of the misconceptions that people might have about his/her own culture. In the process of doing so, if the users does not troll users, the system rewards the user with questions points, described later in the paper, that can be used to ask the

community any questions if the user wishes to do so. Since the system runs on the principle of pseudo anonymity, users can ask any kind of questions to the community in order clear one's doubts or to clear out stereotypes. The team acknowledges that this system can be misused to troll other users, however, GLU has a way of taking care of that too as will be explained in detail later, the system allows the community of users to down vote a question, essentially marking it as a bad question at which point it stops appearing on people's news feeds.

Finding 6: For sustaining interest and building stronger relationships between people from different cultures, there is a need to start deeper conversations on a one on one basis.

In 2- 3 interviews, students mentioned that they get comfortable with new cultures when they share personal conversations with one person rather than a group. These one on one conversation build stronger and deeper relationships than forums. One of the Chinese students (U3) also mentioned that "I don't consider someone to be my friend if we don't have daily conversations around our personal lives". In larger groups, voices tend to get lost or unheard. People feel more valued when they are given greater attention and this cannot be achieved by letting people interact in larger groups.

One of the Chinese students (U2) mentioned that he and his American roommate built a stronger relationship when they ended up talking about their families and started having deeper conversations.

The system should build a comfortable space for people to interact and build stronger relationships, at least initially. To make people feel more comfortable the solution could also combine one on one conversation with connecting people with common interest together. (Refer: Finding 3, which suggests interactions among people with common interests is highly effective for people trying to adapt to new cultures).

Solution 6: Ability to save and retrieve conversations with a particular person.

In order to help the users build a better relationship with other users of the system, the GLU platform allows the users to be able to save and retrieve conversations with a person. As stated in the above mentioned solutions, when the user clicks on the chat section, he/she is taken to the chat home screen. This screen is a repository of chats that the user has saved (Refer image 8 in Appendix C). over the course of using the app. The saved chat represents the user's feelings of being contented with a conversation and wanting to converse with a particular user again. To help facilitate this, the user is reminded that he can save the chat, once the system thinks that both users of the chat are having a good conversation. From the screen with the repository of saved chats the user is able to pick up his conversation from where he/she left it.

Finding 7: We reject the hypothesis that we started with which states that people coming from countries with varied cultures adapt to new cultures easily.

Based on earlier secondary/literature research, we had hypothesized that people coming from countries that are rich in cultural diversity, would have an easier time adapting to newer cultures. The purpose to this hypothesis was to test if Indian students have an easier time adapting to the American cultures as compared to their fellow Chinese students. However, during the interviews, we gained more insight into the rich cultural diversity that China holds and based on this, since both students' communities have culturally diverse conditions back home, we rejected the above stated hypothesis. One of our users (U3) said that "I have lived both in rural and urban China and both these parts of the country are extremely different from each other, in fact most of the times, Chinese don't understand each other's dialects".

We think it is important to mention a few assumptions that we set out to conduct research with were proved wrong. We did not choose to accept these assumptions blindly. We chose to test it with our

interviewees and realized that people coming from China come with less varied backgrounds than people from India. Even then, both groups of students find it equally hard to adapt to a new culture, especially an extremely dissimilar one like American.

Finding 8: We reject the hypothesis that people from similar cultures/closer geographical locations (Taiwanese and Chinese) mingle with each other more easily than people from very different cultures (Eastern and Western cultures)

According to literature research we also found that people from similar cultures or closer geographical locations find it easier to mingle. With our interviews we found that most of the Chinese and Indians don't find it easy to understand each other's cultures and mingle with each other. We also observed that people from closer geographical location such China and Taiwan also see a vast difference in their own cultures. For example: A Chinese student said that "Taiwanese are by themselves and do not hang out with Chinese as much" We concluded that it was not effective to build a system to facilitate interactions between people from similar cultures.

Checklist Items

Social Regulation

One of our major concerns about GLU is trolling. Along with conversations about different cultures come opinionated comments. How do we build a system in which we can encourage positive conversations about different cultures? Initially we considered building in anonymity. There are various problems we see with anonymity as well. We do not want people to feel that they are not accountable to anything that they say. We decided to pursue **pseudo anonymity** instead. This way the system can track people

based on their usernames but people can still feel comfortable asking questions and feeling comfortable answering them.

This still does not solve the problem of trolling entirely and we are aware of that. We want to provide the user and the community the control over what gets published. We have designed a reputation system which is explained later in this section. We have also designed the system in a way in which users can up vote and down vote the comments they think are not written with good intentions. Since we are building a mobile application, we want to be able to provide the user the capability of mobile interactions. By swiping left or right, the user can discard a “bad comment/answer” to the question they have asked. If the user likes to keep the comments, the user can “heart” it or favorite it. This also saves the context for the user to continue the conversation later on. If as a user, you are just exploring the application and see anything demeaning, you can also up vote and down vote the comment/answer.

One of our other concerns was what if any person from culture A tries to answer and remove the misconception of culture B and does so with wrong intentions. To make sure that the questions are being answered by genuine sources, we make sure that while asking the question, the user directs who he wants to receive answers from. This is derived from the information about the cultural background that the user provides during the sign up (Refer image 2 in Appendix C). The person who genuinely belongs to that culture can answer the question. For example: If a person asks “Do native American Indians still live in tribes?” then this question will be posted only on people who have said that they are from American culture. This won’t be posted on Indians newsfeed. There might be better ways than filtering questions based on different cultures. But we see this as one of solutions to maintain authenticity.

Content regulation

One of our major concerns with the content in GLU is limiting the content to topics around cultures and not letting it become any other social network. A social interaction system is like a bar. It is not the decor or the art inside the bar that makes it so unique, it is the kind of interactions that people have within the place and that only a certain kind of people visit the place. For example: A person will not walk into death metal bar and expect people who like jazz. We worked off of the assumption people who sign up on GLU are genuinely interested in learning about new cultures and building their own knowledge base. The kind of content on a social system is directly correlated to the kind of people on the system. Other than depending on people generating the content to regulate content, GLU is also bootstrapped with the initial content drawn from existing discussion forums. We hope that this example content will encourage the users to limit and regulate content. Another way to regulate content is by filtering the content according to user's interests which GLU asks during user sign up. This will allow people to receive filtered messages on their Ask and Answer feed.

Reputation system

As mentioned before, users on the GLU system are allowed to ask questions through a veil of pseudonymity. The pseudo anonymity as useful as it may be for users to feel comfortable and use the system at their own pace, it can also lead to massive misuse where users might troll other users, as mentioned in scenario 4. To help prevent that, the GLU platform has an inherent reputation system built into its framework. The following section will explain in detail two of the most important reputation systems in GLU.

GLU Rating

The GLU rating (Refer: image 9 in Appendix C). is a 5 point scale rating system that allows the GLU platform to assess whether a user is genuinely interested in helping people or not. Through the use of the chat section, a user can get connected to other users on the system and be able to ask them any questions that they need to. In return to answering the questions the user answering, gets some reputation points that count towards his GLU rating. The more number of reputation points the user gets, the higher his/her GLU rating would get. The GLU rating inherently acts as a signal to other users that any user with a high GLU rating is really willing and good at answering other user's questions and in turn is a very helpful member of the GLU community. Moreover, with the ability of the users to skip topics or people in the chat section, the GLU rating also allows an affordance for new users to talk to only people with high GLU ratings, which in turn would mimic the physical process of talking to someone you can trust rather than someone you cannot.

Question Points

Similar to the concerns above, one of the major concerns the team had with the Ask and Answer section was trolling of the user community. Due to the stereotypical and controversial nature of the questions being posed, it was a very genuine concern for the team to stop trolls from misusing the system by posting racist/bigoted questions or by flooding the system with questions that were not very useful. In order to prevent a situation like this, the GLU platform has something called question points (Refer image 4 and 9 in Appendix C). Question points are a sort of digital currency given to the user for contributing to the development of the GLU community. Question points are awarded to the user by the system, if the user's behavior on the online system has led to the overall development of the system. In other words, by answering questions, if the user has provided some useful information to the person who asked the question or the community at large, then he/she receives question points as a reward for

this kind of behavior. The purpose of question points comes into focus when a user has to ask questions to the GLU community. When any user logs in for the first time, they are awarded with a single question point to get them started, i.e any user joining the system is allowed to post one question at the beginning. From there the right to ask questions to the community has to be earned by the means of earning question points. This system was implemented to ensure that a troll trying to misuse the system by posting questions that weren't useful had to go through a lot of steps and put in a lot of effort in order to do so.

Representations of Activity

Signs of life

In order to maintain the interest levels of the users in using the system over a period of time, the GLU platform has implemented the POD system. The pod system is essentially a group chat mechanism that allows any user to form a chat group with people he/she finds interesting. These people that can be put into a POD, are picked up from the user's history of saved chats. Moreover, to extend the functionality of the GLU platform into the physical world, the POD allows for the creation of events. These events are real life events that can be advertised to a particular group of users with similar interests. In this way the GLU platform, allows users to create their own pods which have people with similar interests and then sustain those relationships through the means of events.

Next Steps

As shown in the above sections of this report the current GLU system consists of a low fidelity paper prototype that shows the basic functionality of the GLU platform. In order to further develop the capabilities of the platform the following steps will be taken:

- The team will spend some more time refining some areas of the current low fidelity mockup. In specific the team will try to make certain interactions between the user and the system more coherent and thereby improve the user experience of the system. Following this process would be the creation of another paper prototype. We believe quick and dirty prototyping would help us gain insights how best are our design solutions in addressing our research findings.
- Using the latest version of the paper prototype as a tool, a round of user testing and evaluation will be conducted. The focus of this step of the evaluation would be to see if the users can see themselves to use the functionality of the system in the ways intended by the team. A higher fidelity of the prototype can help in assessing various user interactions within the system.
- After the user testing and evaluation phase, the team would go through a second round of designing the GLU platform, this time making changes and incorporating the feedback received from the first evaluation.

Appendix A – Interview Questions

What are top five things that surprised you in the US?

Tell us about yourself and your culture.

Probe for details Family, festivals, food, friends, social life, education, events

Could you tell us about something that you used to do in your home town?

Do you still do these things here? If yes then with whom and what were the challenges when you tried to?

Tell us more about your social group/ friends here in the United States?

How did you come to know the people you mentioned?

Describe the last social activity that you participated with your friends?

Probe for details Give details about places, people, things you interacted with?

Tell us about the challenges that you faced when you first came into the US?

Tell us about situations when you grew curious about US culture and did something about it.

Tell us about a time when you went out of your way to learn about the US culture?

What would help you overcome these challenges?

What are the moments when you will grow curious about cultures?

After you got comfortable here, were there moments when you wanted to know about American culture.

Collect data regarding age, gender, nationality.

Appendix B – Interviewee details

Interviewee	Date Of Interview	Role of Interviewee
U1	11/3/2014	Graduate Programs Coordinator
U2	11/3/2014	Admissions and Recruiting Coordinator
U3	11/7/2014	2nd Year HCI Student at UMSI
U4	11/7/2014	2nd Year HCI Student at UMSI
U5	11/8/2014	2nd Year HCI/SC Student at UMSI
U6	11/9/2014	2nd Year IAR Student at UMSI
U7	11/9/2014	2nd Year Chemical Engineering student
U8	11/11/2014	2nd Year HCI Student at UMSI
U9	11/11/2014	2nd Year HCI Student at UMSI
U10	11/11/2014	2nd Year BioInformatics

Appendix C – Lo fidelity design solutions

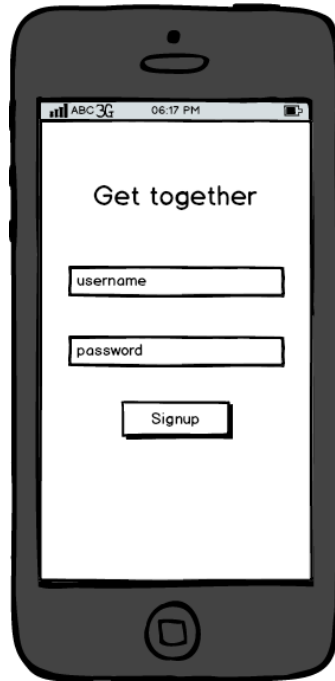


Image 1: Sign up screen



Image 2: Cultural background screen

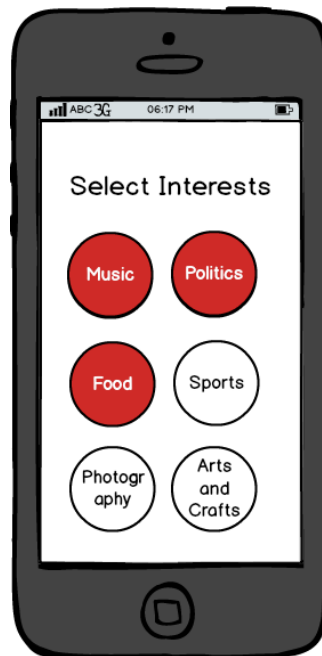


Image 3: Interest screen



Image 4: Ask Screen



Image 5: Answer screen



Image 6: Answer prompt screen

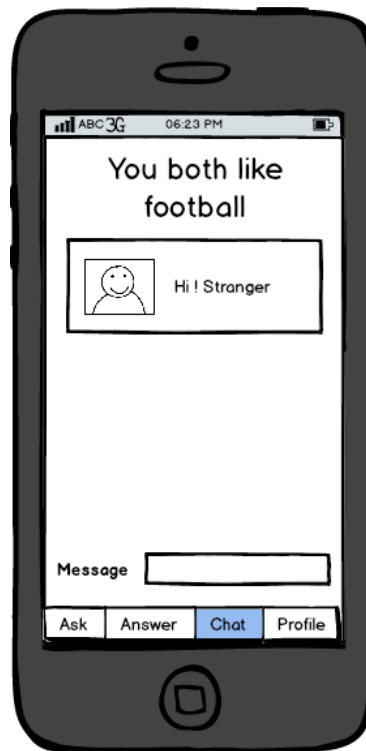


Image 7: Chat screen



Image 8: POD and save chat screen



Image 9: Glu rating and Question Points