Wonder Album: Cultural Awareness Through Knowledge Creation

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Abstract

The visceral or felt experience and its emotional component are essential to conveying cultural experiences. While discovering new information is easy, conveying the emotional aspect of a cultural experience is much more complex and nuanced. This paper outlines a project to convey the felt experience of culturally mediated events through the use of crowd-sourced photo collages. The focus of the project is to help bridge the gap between domestic and international students and promote cultural exchange.

Author Keywords

collaboration; collage; cultural awareness

ACM Classification Keywords

H.5.m. Information interfaces and presentation: Miscellaneous.

General Terms

Design; Human Factors

Introduction

Our lives are becoming more international and globalized; we are exposed to more cultures, more often, and sooner than ever before. Colleges and

universities serve as key entry points into this global society, and often represent the first close interaction between cultures. This represents an opportunity; beyond just reading the news or searching the Internet, students can discover in-depth insights through direct interaction. However, students often find it difficult to start cross-cultural conversations or to find common interests and few mechanisms exist to support such communication. There is the perception that culture is too large a topic for casual conversation, making it difficult for an individual to form a "big picture" of a culture in a short time [4].

With this in mind, we present Wonder Album. Wonder Album is a framework for incoming students from all over the world to participate in cross-cultural communication before school starts. Our design seeks to harness the collective cultural backgrounds of new students to cultivate cultural knowledge and act as a starting point for future conversation.

Problem Space

In 2012 nearly 765,000 international students were enrolled in US colleges and universities: a 6% increase over the previous year and a trend that is expected to continue [7]. Students from around the world are now learning and working together side-by-side, but cultural differences still create gaps that can be hard to cross.

Our pilot research, in the form of interviews with Indiana University students and staff, confirmed the presence of this gap. Rendy Schrader, Director of International Student and Scholar Advising at IU's Office of International Student and Scholar Services (OISS), cited the first year as a key transitional period. The OISS observed that students tend to establish a

Figure 1. Affinity diagramming process during initial ideation

Figure 2. Group Sketching for task flow process

core group of friends that they maintain throughout their undergraduate experience. If cross-cultural connections are not made early on, the chances of them happening at all fall significantly.

We discovered that students on both sides believed they could benefit from the others' perspective, but neither felt they knew how to start a conversation or find common interests. An underlying issue is that there are few, if any, formal systems in place to encourage cross-cultural dialogue. That leaves the students to form their own relationships, with international students in particular preferring to form friendships with other co-nationals [1].

As our college classrooms become more international, how can we use design to encourage dialogue and cultural understanding between university students?

Process and Iteration

We began the ideation process by using affinity diagrams to generate a list of groups that we felt were underserved and could benefit from increased collaboration. After identifying college students as our core group, we began the process of ideation independently, using Buxton's 10+10 technique [2] to generate possible solutions and explore ideas (see supplementary materials, Ideation). We then returned to the group to discuss the ideas.

With students as our focus, we conducted pilot research on organizations that work with international students. We interviewed Rendy Shrader at Indiana University' OISS, whose office works closely with international students, and Paul Chen, head of the Indiana University Chinese Student Association, to discuss the problems
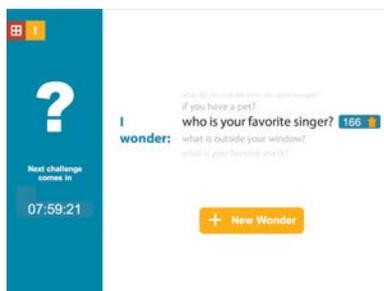
international students face when studying in a foreign country. Both interviews highlighted the lack of systems available to help international students acclimate to the culture of a host country and the difficulty of getting domestic students involved. Through these interviews, we also found that language was the most frequently reported barrier to cross-cultural communication. As such, we concentrated on a medium that does not rely extensively on text and reading comprehension.

Our original idea was to use video montages, movie clips edited together and set to music, to portray cultural moments. We built a wireframe to test searching for, viewing, and creating montages (see supplementary materials, Wonder Studio). To test the concept, we edited together a montage ourselves of video clips about food and the Thanksgiving holiday. We showed the prototype to a group of international and domestic students to get feedback. Although the interface was easy to understand, the video proved more confusing than enlightening and left our audience with more questions than answers. Returning to our core problem of helping to create cultural awareness through knowledge creation, we decided that a photo collage was not only easier for users to create, thereby increasing participation, but would enable us to add contextual information.

Solution

Our design, Wonder Album, brings incoming students together in a safe, virtual space that encourages cross-cultural communication in a casual fashion. The core mechanism is the collaborative creation of photo collages around common topics using photos taken by the students from their everyday life. This collaboration

Figure 3. Responding to a challenge

Figure 4. Voting on a new challenge

begins months before students start the semester in order to build the groundwork for when they meet on campus. The system can be divided into two parts: "I Wonder" and "I Know" challenges, and the group reflection. We'll explore the system further using our personas, Linda and Shan.

The "I Wonder" & "I Know" Challenges
University acceptance letters were just delivered and among those joining next year's freshman class will be Shan and Linda. Shan comes from Singapore. She is thrilled and nervous about her new life abroad. Linda grew up in the United States. She knows that soon she will have classmates from around the world, and wonders how this will affect her college experience.

A few days later Shan receives an email from the university inviting her to participate in a service called "Wonder Album". An introductory video explains that Shan is part of a university-formed group of future dormitory residents who will be challenged to create a series of photo collages. Each challenge will last for 72 hours. The first challenge asks "What did you do for this summer break?" To participate, she only needs to upload a photo that, for her, answers this question. Shan registers with Wonder Album using her .edu email. Her name and nationality are automatically recognized through university records. She scrolls through her photo collection, selects a picture of dinner with her friends, and uploads it on the "I Know" page. After clicking the submit button, Shan sees her photo being added to her group's unfinished collage.

The email also includes a call to action for Shan to vote on the next challenge. In the "I Wonder" page, Shan views all kinds of "I wonder..." questions that have

been proposed by other students. She quickly goes through the list and votes on a question she finds interesting. The challenge with the highest votes will be issued to everyone registered in next round. Besides wonders listed there, Shan has her own question, which she posts: "I wonder if you have a pet."

As the challenge's time runs out, a collage of the submitted pictures is automatically generated. Notification of this new collage is sent through Facebook, email, and/or app notifications to all students involved, along with a new crowd sourced challenge, beginning the next round.

Meanwhile, Linda reads through the same email and decides to take up the challenge. She installs the Wonder Album app and registers on her phone. Since Linda is traveling for the summer, she decides to take a picture with her phone and upload it through the app.

Group Reflection Around the Collage
It has been three days since the first Wonder Album challenge was issued and Linda is browsing her Facebook page. She sees that the Wonder Album page, which she has liked, posted that the challenge, "What did you do for this summer break?", has been answered. Linda clicks the link and goes to the final collage page.

Linda can click on an individual picture to enter the reflection interface. She clicks on photo showing a dinner scene and was uploaded by a girl named Shan. Curious, she clicks to tag the dish and adds a quick comment, "Looks delicious, is that chicken?" Linda can see other conversations about the photo and filter the picture's conversations by selecting a tag.

Figure 5. Collage

Figure 6. Reflective Mode

Shan sees the comment on her picture left by Linda. By clicking on Linda's name, Shan can see any contact information that Linda has made available. Linda has her Facebook profile listed, so Shan clicks on it and sends her a message. This starts up a short conversation on Facebook about the dish and Shan is happy to have connected and made a new friend who will live in the same dormitory as her.

Implications
Wonder Album draws influence from Nonaka & Konno's work on the Japanese concept of *ba* [6]. *Ba*, which means "place" in Japanese, is described as a shared place for creating knowledge, emerging relationships, and recognizing the self in all. Several types of *ba* exist. Wonder Album is an example of *Cyber Ba*, a virtual world where knowledge is combined and organized with support from a collaborative environment and information technology [6].

The fundamental incentive to connect people based on our research is the curiosity about different cultures and the willingness to share one's home culture. Thus we designed Wonder Album as a culture-themed collaborative game, driven by students' interest (the crowd-sourced challenge), the desire to share (uploading a photo into the collage), with the ultimate goal of participants bonding with each other (group reflection).

To encourage students to conduct cross-cultural communication more fluidly, we present a bottom-up perspective of culture [5]. Instead of raising big questions like "What food is like in your country", students are asked experience-driven questions, such as "What is your favorite homemade food?". People can

respond with things at hand without needing outside resources or having to generalize for an entire population. These simple interactions were designed to minimize the burden for user participation.

Beyond promoting cultural awareness within the application, Wonder Album lays the groundwork for real world connections. Students are organized into groups based on the likelihood of future connections. In our scenario the girls were grouped based on their eventual dormitory. The sharing and reflection around the group's collages can be topics for discussion when they finally come together. Wonder Album becomes the *ba* in which incoming students learn and connect with each other. It provides a space for students to "get involved and transcend one's own limited perspective" [6].

Wonder Album is not designed to replace services like Google as search tool or Facebook as a social network. Instead, Wonder Album seeks to complement these services by providing a safe, collaborative environment in which people come together to learn about each other as individuals and as a group. It is the experience of collaboration, appreciation of cultural differences and celebration of commonality that matters, so as to empower student group with multi-cultural background as a driving force in cross-culture communication.

User Research
Our solution was informed by its potential users and was influenced by user interviews, usability testing, and a social media proof-of-concept.

User Interviews
Midway through the process, we invited a group of three current and incoming students, two international and one domestic, to speak with us. We began with questions about experiences in talking with people from other cultures. The students all indicated that they were interested in cross-cultural conversations, but often found them hard to start and maintain. The conversations they reported having tended to revolve around school-specific topics.

In order to test the task flow of responding to a posted photo, we showed the group two photos: one that was taken in the United States and one taken in China. Each person wrote down questions or comments about the photo. The three students wrote down similar questions and comments about what the photo's subjects were doing and their perceived mood. These questions and comments led to conversation beyond what was in the pictures themselves. These conversations were more lively and free-flowing than their interactions before. The pictures served as a touchpoint, provoking curiosity and dialogue.

Proof of Concept
In order to test people's willingness to participate, we posted a mock challenge to Facebook, asking for a picture that answered the question, "What did you do over winter break?" In the first 24 hours after posting, we received 17 pictures via a web form. Though the content and style of these pictures were as diverse as the cultures they represented, together they paint a unique picture of the winter break experience. From this proof-of-concept, we were able to demonstrate that users responded to a centrally-distributed prompt (the "challenge") in sufficient number to compose an album, and those pictures in turn were consistent with the prompt provided.

Conclusion

Much in the same way that working over a distance using video chat cannot match working together in the same space, neither can we expect to fully recreate the experience of visiting another country or growing up in a different culture, but that's not our goal. What we seek to accomplish is to use the principles of *Ba*, the creation of a virtual space to share knowledge, to achieve greater cultural understanding. We do this by empowering people to share their own personal stories through photography and, in doing so, build an idea of culture from the very people who create it. Through the collaborative creation of cultural collages, the new group can recognize their similarities and celebrate their differences together.

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