CptS 543 Early Data Gathering Report
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3/15/2021

Abstract

In this investigation, six WSU students were involved in a pre-set contextual inquiry in order to gather data on the process of joining in events in IP International Center, as well as the approach to obtain the announcement of events and/or to share cultures with others. Based on the raw data (the audio records and interview notes), students usually obtain information about the center's events through a limited number of approaches. Besides, according to the participants, the events' statuses are not available on events posted on social media, which causes hesitation in signing up for events. Moreover, most of the participants claim that they need a platform to learn and share culture with others, and therefore, an exclusive official APP for the center is a necessity of improving the efficiency of events propagation. Such discoveries are relevant to issues focused by this project.

Design Project Focus and Research Questions

    a.   *The problem the software aims to address*

We aim to provide a technical solution for WSU students and teachers who are interested in the activities of IP International Center and foreign cultural exchanges, so that they can use the functional mobile APP to complete timely inquiries or receive event information from the International Center. The functions of registering and applying for events, as well as making foreign friends through intelligent matching in the APP are possible.

    b.   *Proposed software solution description*

Check recent events

        The current method for users is to send emails, post posters and publish events on the website. We hope to integrate these activities' information directly into the application. It can be done by real-time push, or logging in to the APP.

Activities registration and payment

        The current event registration method is mainly on-site registration. Users do not know the number of registrations for the event and the remaining places. The current payment is mainly on-site cash payment. We hope to complete the registration and payment functions in the mobile APP, and display the number of applicants, remaining places, etc.

Apply for an event

        The current way to apply for an event is to go to the International Center to discuss with the relevant person in charge and then fill in the application form. We hope to add this part to our mobile APP so that users are able to complete this part of the application online.

Match people who are interested in each other's culture

        In the current pandemic, due to physical isolation, it is difficult for students to meet foreign friends through campus activities. We hope that through the smart matching model, we can help students who are interested in each other's culture match up and provide them with a platform to communicate.

    c.   Proposed software's prospective users

Our proposed users are primarily people who are interested in various events in the venue of the International Center and in diverse cultures. Our statistics mainly for international students studying at WSU. Among them, there are more female participants than male participants.

Most people we interviewed have participated in events organized by the International Center in various ways, so we understood the entire process of participating in events.

    d.   Related products or technologies that address the problem

Regarding the event release and registration of the International Center, the related product is the WSU Recreation Center System. They are mainly designed for web users, ours is for mobile users. Once again, we have added other functions such as event application and payment.

    e.   The key research questions that the contextual inquiry set out to answer

       RQ1 Where did WSU students learn about the events posted by the international center?

       RQ2 Are WSU students allowed to organize festival events by themselves?

       RQ3 Have you participated in any activities in the International Center at WSU? If yes, please briefly describe your experience.

       RQ4 Based on all existing IP-international Center activities, do you think they meet the needs of all WSU students who are interested in culture exchange? Why? What kind of events do you expect to happen in the International Center?

       RQ5 When there is an event in WSU, can the students know how popular it is, and how many people want to join it?

       RQ6 Can the students communicate with others who are interested in the same event?

       RQ7 Have you ever wanted to learn about the culture of other countries? If you have, how do you currently learn about the culture of other countries?

       RQ8 How do you make foreign friends now? Do you want a platform that can help you meet foreign friends in the school?

Participants

Participant 1
Participant 1 is a graduate student in mathematics from Washington State University. Participant 1 is Chinese, identified as a female. She is 27 years old and has participated in several events organized by the International Center. She is very enthusiastic about foreign cultural exchanges. Participant 1 seemed to be

from China and not in his home country, so she was willing to accept foreign cultures. She also hopes to meet new friends through her involvement in the school's International Center platform.

Participant 2
Participant 2 is an undergraduate student in computer science at WSU. He is 22 years old, and he lives in an apartment with three roommates. As an international student, he always shares his culture with his roommates and vice versa. He has been to Japan when he was in middle school. After that, he became a big fan of Japanese culture. He also enjoys playing online games, specifically the League of Legends, with his homies in his leisure time.

Participant 3
Participant 3 is a graduate student in psychology at WSU. She is 26 years old and has traveled to many countries around the world. Due to her experience of traveling to several countries, she enjoys cultural exchange with people from different cultures. During her studies at WSU, her psychology class has a lot of facilitating discussions. She really enjoyed these activities because she was able to interact with people from different cultures in the class and often learned about their respective cultures in addition to discussing concepts from the course.

Participant 4
Participant 4 is a graduate student in teaching training at WSU. He is 25 Years old, and he stayed in the United States for almost 7 years, He studied in UW for 4 years as an undergraduate. He is interested in learning international culture, he joined more than 20 activities about learning culture. When he got the offer from Washington State University for a master's degree, he thought there is a little chance to join some activities about culture, and he said, one reason is the study load is heavy, the other reason is the way he finds that there is no chance to learn about these kinds of activities. He has already met many international friends, therefore he does not want to make some new friends.

Participant 5
Participant 5 is a PhD student in materials engineering at WSU. He is 28 years old this year, has lived in the United States for six years, and he completed his postgraduate studies at WSU. He met a girl during graduate school, and now he is married to her. He is very outgoing, and he likes outdoor sports very much. After his PhD studies, he rarely participates in social activities and meets new friends because he is busy doing research. Because he is very fond of different cultures, he is willing to participate in outdoor activities such as fishing and hiking with friends from different cultures. In addition, his son was born in January this year, and he hopes to find an American social circle for his son to better integrate into American society.

Participant 6
Participant 6 is an undergraduate student majoring in Communication at WSU. She is 21 years old and has stayed in the United States for more than 7 years. As a reporter, she did a lot of research on diversity and has a lot of experiences interacting with foreigners. She enjoys traveling to different places and getting to know more interesting cultures. When she is free, she also likes to do interviews with different types of people that have different backgrounds and gather information to write interesting news stories.

Contextual Inquiry Sessions

Process and Environment

CI session 1:
The interview was done at the participant's home, which was a weekend night. A few of our good friends had dinner together, before that interview. We talked about the recent events in our school at the dinner table, the recent life, and interesting activities. At the end of the dinner, we conducted an interview. The whole interview happened to be related to the topic at the dinner table, and the interviewee was willing to share her experience. The meeting lasts approximately 10 minutes, depending on what they say in her response. To view the set of questions asked, see ***Design Project Highlights and Research Questions.***

CI session 2:
The CI interview was an in-person interview conducted at the participant's apartment. It was a Monday night, and participant 2 (P2 for short) just finished his dinner a couple of minutes before the meeting. P2 is a nice person. He showed his hospitality by making tea for his guest. After greetings and a short conversation, the interview took place in the living room, where there is a couch, a TV, a Nintendo Switch connected with the television, and a large showcase full of PVC figures. An audio recorder was placed between the interviewer and the interviewee, and both of them were sitting on the couch. During the interview, P2 was more than willing to share his experience on each question the interviewer asked (check the section ***Design Project Focus and Research Questions*** for more about the questions inquired in the interview). Also, the interviewer gave feedback on the participant's answer and attempted to use transition words to smooth the interview process. After the CI interview was rounded off, P2 kept sharing his stories in terms of playing online video games with his homies.

CI session 3:
The CI interview was a face-to-face interview conducted at the participant's apartment. It was a Wednesday evening, and participant 3 (referred to as P3) took a few minutes to complete this interview. Because P3 was a graduate student, she had a heavy research load and was still doing her research before the interview began. At the beginning of the interview, her emotion changed from seriousness to great excitement, which was not difficult to feel that she was interested in the subject of this interview. Throughout the interview, both the interviewer and the interviewee sat on the couch, and a cell phone was placed between them to record the audio of the interview. During the interview, P3 was willing to share her experience with each of the interviewer's questions (see ***Design Project Focus and Research Questions*** for the questions asked during the interview). The interviewer gave feedback on each question answered by the interviewer. The whole interview went very well. At the end of the interview, the interviewee continued her research.

CI session 4:
The CI interview was an in-person interview which was conducted at the participant's room. It was a Wednesday evening, after participant 4 had dinner. I told him there would be an interview about international culture. When he heard it, he felt very excited. First of all, he told me when he was an undergraduate student, he had taken part in many activities about learning culture. He met many foreign people, he said that they were very kind and creative. An audio recorder was placed between the

interviewer and the interviewee. We sat face to face. During the interview, P4 was glad to share his opinion on eight questions (Check the ***Design Project Focus and Research Questions*** for more detail of the related question in the interview). The interview went well as I thought. At the end of the interview, He invited me to play a game.

CI session 5

The CI interview was an in-person interview conducted at the participant's apartment. It was a Saturday night. Participant 5 and his wife were watching TV with me on a sofa, and they talked with me about the friends I met in the United States. They are very interested in people from other countries' cultures, because they like watching American TV series and talk shows. They said that they had been to a party in a Suburban villa. They met some people who were very friendly and hospitable, and they learnt a lot of interesting and new things. So, I conducted an interview with them. They are happy to share their views on this interview (check the section ***Design Project Focus and Research Questions*** for more about the questions inquired in the interview). This interview lasted for a few minutes. He was willing to share his thoughts, because his child was just born, and he hoped to find a platform for his child to have an American cultural circle.

CI session 6:

The CI interview was a phone interview. It was March. 20th when I did the interview with the participant, she was working on a news story when I called in. She is an undergraduate student majoring in Communication. She is familiar with the process of an interview and she has written many news stories on the topic of international activities. I briefly introduced myself and explained what the interview is about. She was very interested in the topic since she is an international student studying in a totally different culture. She shared international activities she has participated in, such as diversity events held by WSU and her thoughts about the project. (to see more detail please check section ***Design Project Focus and Research Questions***) She was cooperative, and the interview went very smooth.

Common Tasks and Themes

All contextual inquiries (CI) conducted in the early data gathering process are individual interviews. Due to the pandemic, activities are limited within the current restriction phase all around, and therefore, instead of obtaining data by observing participants in IP International Center events, in-person interviews are more feasible. The primary method applied on each CI is question and answer (Q&A), where questions are including but not limited to the approach to obtain the announcement of events, experience on participations, and suggestions on events. During all interviews, an audio recorder was used for recording all details.

Eight key research questions are set out to answer. Thus, interviews were supposed to be short and sweet. However, some of them are not as smooth as expected. For example, the interview can be interfered with or interrupted by certain external factors, such as pets and roommates. In this situation, to ensure that the audio record is clear, the interview has to be restarted. Another difficulty encountered in the early data gathering process is hunting for target participants. Students usually handle three or even more courses each semester, and March is typically the month that has mid-term exams for the majority of them. In

other words, most students are too busy to be a participant in this project because of the heavy course works.

Unique Features of Individual CI Sessions

IP International Center Events Suggestion
Participant 1 suggested that extra activities, such as festival events in different countries, food sharing and outdoor activities, should be included in IP International Center events.

Phenomenon Observed Via Festival Events
Participant 2 mentioned that students who participated in the events tended to be a small cluster with familiar people; individuals are more likely to be isolated during the events. The exhibition of the phenomenon is probably because students are not familiar with each other.

Learn and Share Cultures
Participant 3 was solemn at the very beginning of the interview. As the interview progressed, she got more and more relaxed and excited. Besides, not only was participant 3 interested in learning different cultures but also wished to share her culture with others.

Expectations
Participant 4 asserted that events in IP International Center are enough for all students. He also stated that he has a number of international friends, thereby declining to make new friends. However, participant 4 has highly positive expectations on this project.

Privacy and Security
Participant 5 hoped that the design should afford functionalities, such as a "real identity verification" system, to prevent users from frauds and information leak.

Synthesis of Findings

Requirements

Functional Requirement	Associated Usability Target(s)	Empirical Source/Rationale
User must be able to create an account	User can use the App to create an account by WSU account	The prerequisite for users to use all the functions of this software is to create an account

Users must be able to set language by themself.	Users can set the language on the setting interface by themself.	Our App is focused on the International students, therefore,it is important that users can set language by themselves. For example, some students want to improve English, they can change language on the web page. In contrast, some students are not good at English, they can choose their mother language to use the App.
Users must be able to check recent events on time.	When IC (IP-International Center) releases a new activity, the App will send a notification to users.	Participants said that they know about the event by logging in to the IC website or Facebook. When they find some interesting activities, they can't take part in them, because they missed the date, and/or opportunity to sign up. Therefore, checking the recent events on time is necessary.
Users must be able to know the number of registrations.	Users can open activities page showing the number of registrations,	The number of participants in each event is limited, so to know about the number of registrations are necessary for users. Participants said that they did not know how popular the activity and how many people were joined.

Users must be able to know the remaining places.	Users can locate where it is applicable or sold out.	First of all, an activity must be held in a place whatever it is held in a place or online. Then, users can make enough preparations for activities. Finally, a good location may decide whether the activity is successful or not.
Users must be able to sign up activities.	When the user reads the activity detail interface, and they review all of the information, they can find a button name of "sign up" at the bottom of the interface.	Participants said that if they want to sign up for an activity, they must log in the website of IC. They think it is very inconvenient, when they hear they can sign up activities via the App, they feel excited.
Users must be able to pay for activities by online payment.	When the user clicks "Sign up". They will enter the payment interface. Users can choose different ways to pay (PayPal, Debit Card, Credit Card or QR code bill)	Not all activities are free. We understand that some activity fees were not charged until the students arrive at the activity location, and a staff is responsible for it. This is time-consuming and laborious, so it is necessary to allow users to make online payments
Users must be applying for an event.	When users enter the "apply an event" interface, they can use" +" button to set up a new event.	Most participants said that they are not sure they can apply for an event, so allowing users to apply for the event means that more activities will be held that increase the chance to learn about other country cultures.

Users must be matched by a smart matching model.	When users create an account, they need to fill a form which includes hobbies and cultures that they are interested in. Also, the smart match model will collect all of the data, then choose a similar hobby to match, and the user can check people on the "recommend friends" model.	Participants want to make some new friends with the same hobbies, they said that they really hope there is a platform to learn about each other and know different cultures.
Users must be able to publish questionnaires.	Users can publish questionnaires on event interface.	A questionnaire will build a connection between student and office. This will help the office know which themes students are interested in.
User must be able to check the result of questionnaire	Users can know the result of the questionnaire by clicking the questionnaire link.	From the result of the questionnaire, the office can design activities which can attract more students to participate.
Users must be able to publish official activities.	Users can publish official activities on the main interface.	Office can publish the activity on the app, therefore, students can see activities from the main interface.

Users must be able to communicate with each other.	Users can set up a group to communicate with each other.	Some participants said that students can't communicate with others who are interested in the same event, and most of the way to communicate is to reply to others' comments; the way of communication is inefficient.
Users must be able to consider activities.	Users can consider activities by clicking the "like" button.	Participants said that the study load is heavy, therefore they just can take part in a few activities, therefore, users can know about the changes of activities like time and location by clicking "like". When a similar activity publishes, they can receive it for the first time. This way increases the user experience and helps them save time.
Users must be able to ignore activities.	Users can ignore activities by clicking the "dislike" button.	Participants said that the study load is heavy, therefore they just can take part in a few activities, so, users can ignore some activities that they feel monotonous, and when next time a similar activity publishes, they cannot receive it for the first time. The way will increase the user experience and help them save time.

User Experience Requirement	Empirical Source/Rationale
Users must rate the registered and setting as a 9 or higher on a scale of 1-10 in terms of ease of use.	For all participants, a simple and appropriate profile setting is very helpful for Convenience of communication and understanding new cultures. More importantly, a convenient and comfortable registration page helps participants understand the system.
The user must rate the social event mastery level of 8 or higher in the range of 1-10, such as the number of participants and the place and time of participation.	For all participants, it is crucial to understand the specific information of relevant social events. These events help participants familiarize themselves with the operation of the entire system, especially when the participants are not familiar with the specific information of these social events.
The user must score 9 or higher (1-10 points) on the tracking and update score part of the application in terms of matching system satisfaction.	For all participants, the use of a social matching system is an important function, it can help participants find other partners and friends similar to them. This system is related to the user's hobbies, professional direction and cultural background.
Users must score 8 or higher in accordance with the 1-10 social activity function.	Some users have the ability to create and design social events to organize people who want to learn about other cultures. This is a very important way for users who are interested in participating in group activities. Through this feature, more people are attracted to participate in the event, which will also expand the user base.
The user must obtain a score of 9 or higher (1-10 points) in the part of the system security.	Participants must be limited to register with WSU mailboxes, which can ensure that the user group belongs to the school group. This not only allows the user group to have more common points and topics, but also protects the information security and life safety of the participants, because people who are registered in the school are easier to find and have less risk.

In terms of user privacy systems, users must obtain a score of 9 points or higher (1-10 points).	Some participants do not want to expose all their information on public social platforms, so this is very important for the privacy of participants. When participants do not want to disclose their information to strangers, the system is responsible for protecting their privacy.
Users must be 8 or higher on the convenience of communication a scale of 1-10 in terms.	Participants must be able to communicate with the identity of different cultures and countries. Participants sometimes have misunderstandings and confusion in communication due to language barriers. Therefore, a communication system that can solve the language barrier (convenient) is a very important program for our entire software.

Personas

Xinchen Zu

Chinese Female

21 years old

Undergraduate Student

Major: Communication

"Communication is not about borders."

Goals

Interact with people worldwide

Get to know different culture

Pain Points

Need to hook up with people worldwide often

Personal Story:

Xinchen is an undergraduate student major in Communicaton. She enjoys interview people overseas and get to know more different culture around the world. She wishes she ccan get hook up with more people from foreign and to gather more interesting new stories.

Tech Profile:

As a communication student, Xinchen uses social media platforms daily. She participates in international projects by join international clubs online. She also tries to hook up people from different countries to do interviews by adding friends on social media platforms.

Scenarios

Scenario 1: What matter to Xiaoya when participating an activity

Xiaoya is a graduate student in psychology at WSU. She is usually very busy because she needs to do a lot of research. In her spare time, she likes to chat with friends from other countries and to participate in festivals organized by students from other countries. The reasons are that she believes that interacting with friends from other countries can relax and improve her social skills. Also, she can learn a language other than English, which is different from her native language, participate in festivals organized by students from other countries, and learn new and interesting cultural facts. Therefore, interacting with friends from other countries and participating in activities are excellent ways to relax from the heavy research life.

It was a Sunday as usual, Xiaoya had completed the current milestone in her academic research. She planned to relax by chatting with her Thai classmates. During their chat, she learned that a Thai celebrity was famous in Korea recently, and this celebrity danced a prevalent Thai dance. She was happy to learn the name and pronunciation of Thai dance from this student and learned how to perform it. Then, she skillfully opened Facebook to see if the International Center had posted any recent events. After spending some time, she saw that the International Center published a post on Facebook about organizing a ski trip for international students next Saturday. She was very interested, so she called the phone number provided on the post and asked for details about the activity. Through this phone call, she knew that to sign up, she could only go to the International Center office in person during the International Center's working hours to fill out the registration form, and only cash was accepted.

Xiaoya was a ski enthusiast, and she wanted to participate in the event and discuss with her partners about what to prepare for the event and exchange experiences before skiing. However, there was no way to know who was participating in the activity. She also realized that she had no cash recently. She had to pay by credit card or online, and if she wanted to use cash, she would have to go to the bank to withdraw it. Besides, the only way to sign up for the International center's activities was to go on-site and sign up by filling out a form. However, she had a meeting to attend or a research deliverable to complete during the International Center's office hours next week. Thinking about this, she had to give up on the event. At this point, her goals were that it would be nice to have an app that would showcase all the activities posted by the International Center and student-organized festivals of different cultures, and that she could sign up for all activities through the app and create discussion groups about the activities in the app.

Scenario 2: What matter to Xinchen when participating an activity

Xinchen is an undergraduate student majoring in Communication at WSU. For her academic work, she often needs to write news stories. She is originally from China. As a foreign student in the United States, she is interested in getting to know more culture around the world. She usually needs to set up interviews, organize information, and write news stories. She also enjoys writing news from all over the world. She often tries to meet new friends from foreign countries and do interviews with them to hear more interesting stories, to know more cultures, and to gather information for her news. There are several ways she normally does to find international activities and meeting new friends internationally, such as going on social media platforms like Twitter and Instagram, participating in International activities on campus, though sometimes she finds it is hard to do international interviews this way.

Once, Xinchen saw a diversity event sent out by a WSU email, she dug into it and found that it was interesting. The theme of the activity met her need for one of the diversity news stories she was working on. She also wanted to meet more friends to do a few interviews to gather some information about their point of view on diversity inside the United States. She prepared interview questions and did research about different diversity groups and went to the event hoping she can get some answers.

Though when she was there, she realized there were only a few students participating in the activity including herself. Some reasons she guessed were that not every student saw this event is coming up or it does not draw enough attention to students. Sending out an activity event by email sometimes is not a good idea, not everyone checks their email all the time, especially when there are so many emails mixed, and students may not even see this particular on. It ended up that she did not do the interview because there were not enough people, she feels like she has wasted a lot of time. She also tried to contact a couple of people that went to the event, but she cannot find their contact information. She believes that the IP International Center has tried their best to help students and offer opportunities to give students more cultural experiences, though it is not effective enough. She thinks if there is an app that can just post the event with time, location, and topic, students can easily sign up on the app if they are willing to attend. It is also going to be helpful if it could show how many students are going to participate in the event in the first place, with participants' contact information if they are willing to share. Students then have a specific place to look up for international activities, meet more friends that come from different cultures, and be able to get in touch with them even after the activities.

Appendix A: Informed Consent

Informed Consent Agreement to Participate In Contextual Inquiry
Jingyuan Huang; Chaowen Ran; Minjian Li; Bowen Wan; Xi Jiang; Zhifu Yang
School of Electrical Engineering and Computer Science
Washington State University

Description of Study: I understand that I, _____Xuan Fu_____ have been asked to participate in a contextual inquiry to inform the design of a new software application being created as part of the above persons' (henceforth, "the designers") course project for CptS 443/543 at Washington State University. My participation in this activity will help the designers to better understand the needs of prospective users of the software. I have been asked to spend about 5 minutes participating in this test. This will involve my engaging in [International Center Platform Project] while the designers observe, ask questions, and take notes.

The designers will record the session on videotape. My name will not be on the videotape. When the designers describe their work to other people in class (which may entail showing segments of the videotape), they will not use my name.

Risks and Benefits Expected: The contextual inquiry will not do me any harm. It is not expected to help me directly. The results may help inform the design of the designers' software.

Confidentiality: I understand that any information about me that is obtained from this contextual inquiry, including what I say, will be confidential. My real name will be kept in a locked file and only the researchers will have access to it. Only my code name will be associated with data collected on me. Reports and presentations involving those data will not use my real name and will not present other data that could be used to identify me. Any recordings made within this contextual inquiry will be destroyed within two years.

Right to Refuse or End Participation: I understand that I may refuse to participate in this study or stop participating at any time.

Certification: I certify that I have read and that I understand the foregoing, that I have been given satisfactory answers to my inquiries concerning this contextual inquiry, and that I have been advised that I am free to withdraw my consent and to discontinue participation in the project or activity at any time.

I herewith give my consent to participate in this activity with the understanding that such consent does not waive any of my legal rights, nor does it release the researchers or any agent thereof from liability for negligence. I understand that I shall remain anonymous in all written and verbal reports of this study. If I am recorded, I agree to allow the designers to present to their instructor and classmates excerpts of any recordings taken during the study for educational purposes. I understand that I may request a copy of this form to keep.

Xuan Fu

03/17/2021

Signature of individual participant   Date

(If you cannot obtain satisfactory answers to your questions or have comments or complaints about your treatment in this activity, please contact Professor Christopher Hundhausen, Washington State University, 509-335-4590 or hundhaus@wsu.edu.)

Informed Consent Agreement to Participate In Contextual Inquiry
Jingyuan Huang; Chaowen Ran; Minjian Li; Bowen Wan; Xi Jiang; Zhifu Yang
School of Electrical Engineering and Computer Science
Washington State University

Description of Study: I understand that I,_____YiQing Hu_____have been asked to participate in a contextual inquiry to inform the design of a new software application being created as part of the above persons' (henceforth, "the designers") course project for CptS 443/543 at Washington State University. My participation in this activity will help the designers to better understand the needs of prospective users of the software. I have been asked to spend about 60 minutes participating in this test. This will involve my engaging in the International Center Platform Project while the designers observe, ask questions, and take notes.

The designers will record the session on audiotape. My name will not be on the audiotape. When the researchers describe their work to other people in class (which may entail playing segments of the audiotape), they will not use my name.

Risks and Benefits Expected: The contextual inquiry will not do me any harm. It is not expected to help me directly. The results may help inform the design of the designers' software.

Confidentiality: I understand that any information about me that is obtained from this contextual inquiry, including what I say, will be confidential. My real name will be kept in a locked file and only the researchers will have access to it. Only my code name will be associated with data collected on me. Reports and presentations involving those data will not use my real name and will not present other data that could be used to identify me. Any recordings made within this contextual inquiry will be destroyed within two years.

Right to Refuse or End Participation: I understand that I may refuse to participate in this study or stop participating at any time.

Certification: I certify that I have read and that I understand the foregoing, that I have been given satisfactory answers to my inquiries concerning this contextual inquiry, and that I have been advised that I am free to withdraw my consent and to discontinue participation in the project or activity at any time.

I herewith give my consent to participate in this activity with the understanding that such consent does not waive any of my legal rights, nor does it release the researchers or any agent thereof from liability for negligence. I understand that I shall remain anonymous in all written and verbal reports of this study. If I am recorded, I agree to allow the designers to present to their instructor and classmates excerpts of any recordings taken during the study for educational purposes. I understand that I may request a copy of this form to keep.

yiqing hu

2021/3/18

Signature of individual participant   Date

(If you cannot obtain satisfactory answers to your questions or have comments or complaints about your treatment in this activity, please contact Professor Christopher Hundhausen, Washington State University, 509-335-4590 or hundhaus@wsu.edu.)

Informed Consent Agreement to Participate In Contextual Inquiry
Jingyuan Huang; Chaowen Ran; Minjian Li; Bowen Wan; Xi Jiang; Zhifu Yang
School of Electrical Engineering and Computer Science
Washington State University

Description of Study: I understand that I,_____Xiaoya Wang_____have been asked to participate in a contextual inquiry to inform the design of a new software application being created as part of the above persons' (henceforth, "the designers") course project for CptS 443/543 at Washington State University. My participation in this activity will help the designers to better understand the needs of prospective users of the software. I have been asked to spend about 5 minutes participating in this test. This will involve my engaging in [International Center Platform `Project`] while the designers observe, ask questions, and take notes.

The designers will record the session on audiotape. My name will not be on the audiotape. When the researchers describe their work to other people in class (which may entail playing segments of the audiotape), they will not use my name.

Risks and Benefits Expected: The contextual inquiry will not do me any harm. It is not expected to help me directly. The results may help inform the design of the designers' software.

Confidentiality: I understand that any information about me that is obtained from this contextual inquiry, including what I say, will be confidential. My real name will be kept in a locked file and only the researchers will have access to it. Only my code name will be associated with data collected on me. Reports and presentations involving those data will not use my real name and will not present other data that could be used to identify me. Any recordings made within this contextual inquiry will be destroyed within two years.

Right to Refuse or End Participation: I understand that I may refuse to participate in this study or stop participating at any time.

Certification: I certify that I have read and that I understand the foregoing, that I have been given satisfactory answers to my inquiries concerning this contextual inquiry, and that I have been advised that I am free to withdraw my consent and to discontinue participation in the project or activity at any time.

I herewith give my consent to participate in this activity with the understanding that such consent does not waive any of my legal rights, nor does it release the researchers or any agent thereof from liability for negligence. I understand that I shall remain anonymous in all written and verbal reports of this study. If I am recorded, I agree to allow the designers to present to their instructor and classmates excerpts of any recordings taken during the study for educational purposes. I understand that I may request a copy of this form to keep.

03/17/2021

Signature of individual participant   Date

(If you cannot obtain satisfactory answers to your questions or have comments or complaints about your treatment in this activity, please contact Professor Christopher Hundhausen, Washington State University, 509-335-4590 or hundhaus@wsu.edu.)

Informed Consent Agreement to Participate In Contextual Inquiry
Jingyuan Huang; Chaowen Ran; Minjian Li; Bowen Wan; Xi Jiang; Zhifu Yang
School of Electrical Engineering and Computer Science
Washington State University

Description of Study:I understand that I, _____Zhuoli Wang_____ have been asked to participate in a contextual inquiry to inform the design of a new software application being created as part of the above persons' (henceforth, "the designers") course project for CptS 443/543 at Washington State University. My participation in this activity will help the designers to better understand the needs of prospective users of the software. I have been asked to spend about 60 minutes participating in this test. This will involve my engaging in [International Center Platform Project] while the designers observe, ask questions, and take notes.

The designers will record the session on videotape and/or record audio of my responses. My name will not be on the videotape or associated with any audio recordings. When the designers describe their work to other people in class (which may entail showing segments of the videotape or playing segments of the audiotape), they will not use my name.

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Certification: I certify that I have read and that I understand the foregoing, that I have been given satisfactory answers to my inquiries concerning this contextual inquiry, and that I have been advised that I am free to withdraw my consent and to discontinue participation in the project or activity at any time.

I herewith give my consent to participate in this activity with the understanding that such consent does not waive any of my legal rights, nor does it release the researchers or any agent thereof from liability for negligence. I understand that I shall remain anonymous in all written and verbal reports of this study. If I am recorded, I agree to allow the designers to present to their instructor and classmates excerpts of any recordings taken during the study for educational purposes. I understand that I may request a copy of this form to keep.

Zhuoli Wang

2021/3/20

Signature of individual participant   Date

(If you cannot obtain satisfactory answers to your questions or have comments or complaints about your treatment in this activity, please contact Professor Christopher Hundhausen, Washington State University, 509-335-4590 or hundhaus@wsu.edu.)

Informed Consent Agreement to Participate In Contextual Inquiry
Jingyuan Huang; Chaowen Ran; Minjian Li; Bowen Wan; Xi Jiang; Zhifu Yang
School of Electrical Engineering and Computer Science
Washington State University

Description of Study:I understand that I, _____Xiaofan Ruan_____ have been asked to participate in a contextual inquiry to inform the design of a new software application being created as part of the above persons' (henceforth, "the designers") course project for CptS 443/543 at Washington State University. My participation in this activity will help the designers to better understand the needs of prospective users of the software. I have been asked to spend about 60 minutes participating in this test. This will involve my engaging in [International Center Platform `Project`] while the designers observe, ask questions, and take notes.

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Xiao fan Ruan

2021/3/19

Signature of individual participant   Date

(If you cannot obtain satisfactory answers to your questions or have comments or complaints about your treatment in this activity, please contact Professor Christopher Hundhausen, Washington State University, 509-335-4590 or hundhaus@wsu.edu.)

Informed Consent Agreement to Participate In Contextual Inquiry
Jingyuan Huang; Chaowen Ran; Minjian Li; Bowen Wan; Xi Jiang; Zhifu Yang
School of Electrical Engineering and Computer Science
Washington State University

Description of Study:I understand that I, _____Xinchen Zu_____ have been asked to participate in a contextual inquiry to inform the design of a new software application being created as part of the above persons' (henceforth, "the designers") course project for CptS 443/543 at Washington State University. My participation in this activity will help the designers to better understand the needs of prospective users of the software. I have been asked to spend about 60 minutes participating in this test. This will involve my engaging in [International Center Platform `Project`] while the designers observe, ask questions, and take notes.

The designers will record the session on videotape and/or record audio of my responses. My name will not be on the videotape or associated with any audio recordings. When the designers describe their work to other people in class (which may entail showing segments of the videotape or playing segments of the audiotape), they will not use my name.

Risks and Benefits Expected: The contextual inquiry will not do me any harm. It is not expected to help me directly. The results may help inform the design of the designers' software.

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Xinchen Zu   2021/3/20

Signature of individual participant   Date

(If you cannot obtain satisfactory answers to your questions or have comments or complaints about your treatment in this activity, please contact Professor Christopher Hundhausen, Washington State University, 509-335-4590 or hundhaus@wsu.edu.)

Appendix B: Raw Data

Links to Recordings

Link: https://drive.google.com/drive/folders/12IGMWPM5CaFfItCjBIj9Kiy9oloJhW_U

Notes

Notes for Participant 1（Xi Jiang）

a.　　　　Where did WSU students learn about the events posted by the international center?

- From the international center website

- Before the epidemic, we will go to the office of the International Center and see some posters of recent events in the lobby of the office.

- In front of the library and the cub building, students from the International Center will set up tables and hand out event flyers.

- From email

- From friends

b.　　　　Are WSU students allowed to organize festival events by themselves?

- I am not sure about this, I think it should be possible, because I heard that during Chinese festivals, there will be student associations to organize activities. I don't know if individuals can organize activities.

c.　　　　Have you participated in any activities in the international Center at WSU? If yes, please briefly describe your experience.

- Of course, there are, such as the Mid-Autumn Festival in China, and I have also participated in English corner activities.

- Experience is pretty good, enriching my spare time life and practicing English.

d.　　　　Based on all existing IP-international Center activities, do you think they meet the needs of all WSU students who are interested in culture exchange? Why? What kind of events do you expect to happen in the international Center?

- No

- Without a platform, it is especially prominent during the epidemic. Some activities are not very interesting.

- Festivals of various countries, foreign friends, Outdoor activities. food

e.　　　　When there is an event in WSU, can the students know how popular it is, and how many people want to join it?

- No

- Sometimes when he went to the scene, he found that there were few people, and the effect of the activity was not very good.

f.   Can the students communicate with others who are interested in the same event?

- This person's answer is no. maybe only through face-to-face activities.

g.   Have you ever wanted to learn about the culture of other countries？If you have, how do you currently learn about the culture of other countries?

- Yes

- From YouTube, from foreign restaurants, travel to other countries.

h.   How do you make foreign friends now? Do you want a platform that can help you meet foreign friends in the school?

- During the epidemic, it's difficult, no foreign friends who have the same hobbies as her.

- Yes. really hope that there is such a platform that allows us to learn about each other

Notes for Participant 2 (Minjian Li)

a.   Where did WSU students learn about the events posted by the international center?

- From its official website and/or e-mail.

b.   Are WSU students allowed to organize festival events by themselves?

- Not sure.
- Did not organize any festival events

c.   Have you participated in any activities in the international Center at WSU? If yes, please briefly describe your experience.

- Yes
- A Chinese New Year party. It was like two years ago. It was great. Dancings, singings, and free snacks.

d.   Based on all existing IP-international Center activities, do you think they meet the needs of all WSU students who are interested in culture exchange? Why? What kind of events do you expect to happen in the international Center?

- It did a pretty good job. It also has small events in CUB sending small gifts, which is a good way to do the cultural exchange.
- Most students do not have much leisure time to do those events during the weekend, like spending two or three hours on the events. It could be better if the info and intro of the culture could be printed on a leaflet and give the leaflet out with small gifts or snacks. Save time and learn more!

e.   When there is an event in WSU, can the students know how popular it is, and how many people want to join it?

- The most popular events that the participant knows about are the sports game at WSU.
- Not sure about others, since the participant usually does not spend much time following affairs at WSU.

f.   Can the students communicate with others who are interested in the same event?

- No
- People usually just stay in a small group. Probably because people are not familiar with each other.

g.   Have you ever wanted to learn about the culture of other countries？If you have, how do you currently learn about the culture of other countries?

- Interested in other cultures, such as cultures from Korea and Japan.
- Prefer to watch videos on YouTube or read leaflets.

h.   How do you make foreign friends now? Do you want a platform that can help you meet foreign friends in the school?

- Group project and roommate
- Yes. Need a platform to make new friends with the same hobbies, like playing online games together in leisure time.

Notes for Participant 3

a.   Where did WSU students learn about the events posted by the international center?

- From Facebook and its official website.

b.   Are WSU students allowed to organize festival events by themselves?

- Not sure.
- I think they can.

c.   Have you participated in any activities in the international Center at WSU? If yes, please briefly describe your experience.

- No.
- Hope can join. Too much homework.
- Due to the current Covid-19 epidemic, I cannot go to school and participate in activities.

d.   Based on all existing IP-international Center activities, do you think they meet the needs of all WSU students who are interested in culture exchange? Why? What kind of events do you expect to happen in the international Center?

- An activity called peer, i.e., it's about communicating with each other.
- Can study English and improve English skills during this activity.

e.   When there is an event in WSU, can the students know how popular it is, and how many people want to join it?

- Can't.
- Just only roughly know from the comments on the Facebook postings.

f.   Can the students communicate with others who are interested in the same event?

- No
- People can reply to other people's comments under the posts on Facebook.

g.   Have you ever wanted to learn about the culture of other countries？If you have, how do you currently learn about the culture of other countries?

- Interested in other cultures.
- Watch videos on YouTube.
- Want to share my own culture.

h.   How do you make foreign friends now? Do you want a platform that can help you meet foreign friends in the school?

- From the same class.
- Yes. Need a platform where people from different cultures can join in the same activity.

Notes for Participant 4 （Zhifu Yang）

a.   Where did WSU students learn about the events posted by the international center?

- Social Media of IC

- Facebook

- Instagram

- Twitter

- email will provide more details.

b.   Are WSU students allowed to organize festival events by themselves?

- Yes, of course.

c.   Have you participated in any activities in the international Center at WSU? If yes, please briefly describe your experience.

- Never attend before

d.   Based on all existing IP-international Center activities, do you think they meet the needs of all WSU students who are interested in culture exchange? Why? What kind of events do you expect to happen in the international Center?

- Yes, because he stayed in WSU 2 years, he got many events from IC, He could affirm the IC provide many cultural events, Therefore, these events must be attended.

- He didn't attend, No idea.

e.   When there is an event in WSU, can the students know how popular it is, and how many people want to join it?

- Usually, students click into event instruction pages, the number can find on the website

f.   Can the students communicate with others who are interested in the same event?

- This person's answer is yes.

g. Have you ever wanted to learn about the culture of other countries？If you have, how do you currently learn about the culture of other countries?

- Now, He only knows more friends through social media.

- No, He doesn't want to learn about more culture.

h. How do you make foreign friends now? Do you want a platform that can help you meet foreign friends in the school?

- Yes, Know about other countries' culture by YouTube or Chat with classmates.

Notes for Participant 5 (Bowen Wan)

a. Where did WSU students learn about the events posted by the international center?

- Wsu email account.

b. Are WSU students allowed to organize festival events by themselves?

- Yes, festival events are generally organized by students.

c. Have you participated in any activities in the international Center at WSU? If yes, please briefly describe your experience.

- No, He is not interested in these social activities.

d. Based on all existing IP-international Center activities, do you think they meet the needs of all WSU students who are interested in culture exchange? Why? What kind of events do you expect to happen in the international Center?

- He didn't attend, No idea.

e. When there is an event in WSU, can the students know how popular it is, and how many people want to join it?

- He does not think so. Because it doesn't make sense, people will take the initiative to participate if they like this event, and if they don't like it, they won't participate because it's so hot.

f. Can the students communicate with others who are interested in the same event?

- Yes, they may find each other on Facebook.

g. Have you ever wanted to learn about the culture of other countries？If you have, how do you currently learn about the culture of other countries?

- Yes, He is curious about Japanese culture, and has been reading literature, publications, and media about it.

h.   How do you make foreign friends now? Do you want a platform that can help you meet foreign friends in the school?

- Through common courses and research collaboration (classmates or partners). No, Facebook is far more than enough. We need an App which ensures privacy and security for students. Facebook has a disappointing drawback that people are not required to have a real identity verification, thus many frauds exist.

Notes for Participant 6 (Chaowen Ran)

a.   Where did WSU students learn about the events posted by the international center?

- Mostly by WSU email.

b.   Are WSU students allowed to organize festival events by themselves?

- Sure. There are many events held by students.

c.   Have you participated in any activities in the international Center at WSU? If yes, please briefly describe your experience.

- No, she has not.

d.   Based on all existing IP-international Center activities, do you think they meet the needs of all WSU students who are interested in culture exchange? Why? What kind of events do you expect to happen in the international Center?

- Never attend.

e.   When there is an event in WSU, can the students know how popular it is, and how many people want to join it?

- She doesn't think so. Before someone joins the event, he or she may not have a convenient way to know about this.

f.   Can the students communicate with others who are interested in the same event?

- Maybe on facebook.

- No official platform to put everyone together.

g.   Have you ever wanted to learn about the culture of other countries？ If you have, how do you currently learn about the culture of other countries?

- Yes, as for her, the culture of other countries is more like how their people like to do in their leisure time sort of things.

h.   How do you make foreign friends now? Do you want a platform that can help you meet foreign friends in the school?

- By taking class together with them. Sometimes I do like such a platform, it's easier to find a guy who has the same interests as her.