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CS 447

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Group Assignment 5.2

Project Description: Our project was a mobile application geared towards people moving to a new area. The app would help users learn about businesses, organizations, and become integrated with a new area.

Figma Link:

<https://www.figma.com/file/mRr4lnw0dkE1pm16LIMIw8/CS-447---G4-Prototype?node-id=0%3A1>

Before and After Video Link: <https://www.youtube.com/watch?v=4B3OEB55Y4I>

Usability Test Analysis Link:

https://docs.google.com/spreadsheets/d/1yLdT3b2uR3o6QfqiXDKLohC0G_1y7Z5-qdGu8RxY7wg/edit?usp=sharing

Team Member Contributions

1. **Matt McKenzie:** Contributed to metrics for task 1 and 2, wrote my participant description, added information to the last section on improvements, Helped fill in the spreadsheet on the usability design faults.
2. **Matt Lansford:** Contributed to design problem analysis sheet, applied changes to figma for design problems, created before and after video.
3. **Katherine Shepherd:** Contributed to the usability test analysis spreadsheet, created the new home buttons and improved the profile button on the homescreen as well as assisting

in describing how the tasks were completed by participants and the design improvements we made in response.

4. **Hailey Bodycoat:** Contributed to the usability test analysis spreadsheet, evaluated the metrics for Task 2 as well as explained Improvement 3 and how it was important to reaching our goals and improving our prototype.

Usability Test Protocol (G5.1)

Goals: Our overall goal for this usability testing session is to receive feedback from the user as to whether our prototype meets the needs of someone moving to a new city and looking to settle in quickly by meeting friends, finding a roommate, learning about the community and joining organizations. In order to achieve this goal, we want to make sure our application is informative, easy to navigate and has a cohesive and aesthetic design. Through this usability session, we hope to gain insight as to whether we are hitting this criteria to give our users the best experience possible.

Metrics: In order to efficiently measure the success of our prototype, we are going to focus on effectiveness, efficiency, and satisfaction during our feedback session. When evaluating usability with our prototype, it seemed most appropriate to consider whether a user could complete a given task and if so, how long it took in terms of time. These two metrics are applicable to all of our tasks and will give us a good indication if we designed the application in a simple and easy to navigate way which has been one of our main goals. For a user experience metric, we choose to use satisfaction to measure how content the user was with the overall experience and their interaction with the application. In order to receive more feedback, we will evaluate this metric with open-ended questions

rather than a number ranking. One of our main goals is to make the application informative and give the user all the resources to settle down in a new area. By asking open ended questions about what the user liked / disliked, we will be able to make changes and improve our application for the next iteration of testing. Between these three metrics, we will be able to understand our user group's needs even more and design a product that truly helps them define their new life in their new home.

a. Tasks

Task 1: *Creating a Profile*

Task instructions for participants: You are interested in making new friends in the area. You decide to create a profile within this app so other users can see you and so you can potentially make new friends.

Happy Path:

- Click on profile button in top left corner
- Click create profile
- Click on textbox to enter details
 - Repeat this step for the next page's information
- Click to select a photo
- Select a photo
- Review profile
- Confirm profile

Task 2: *Find the highest rated grocery store in your new area*

Task instructions for participants: You are moving to a new area and looking for a local grocery store to shop at when you get there. Use our app to find a grocery store.

Happy Path:

- Begin at the home screen
- Click “about the area” button
- The system displays a search bar and keyboard to search for your area
- Click the search bar and search for your given area
- The system displays results for your given area
- Click on the grocery store with the highest star rating
- The system displays the given grocery store with a description and reviews

Task 3: *Find and message a clean female roommate*

Task instructions for participants: You are a recent college graduate who is moving to a new city to start a job. You would like to find some roommates to potentially live with in your new home. Use our application and navigate to the ‘Roommate’ subsection to find a roommate with your desired qualities

Happy Path:

- Start by navigating to our application and opening to the home screen
- Select the ‘Roommate’ subsection button
- Set filters according to desired qualities and habits that the user would want in their new roommate

- Look through the list of profiles that match given criteria
- Select a profile from the list to view more information about the user
- Click on the 'Message' button to talk to the potential roommate through the application

Task 4: *Find and Join the closest competitive same-gendered baseball league*

Task instructions for participants: You moved to a new city and want to get involved in a local baseball team, because you played baseball in college. You open the application on your phone and try to find a competitive same-gendered baseball league that is very close to your home. Once you find a team, you want to send a message to the commissioner of the league asking to join.

Happy Path:

- Click on the Businesses and Organizations button on the home screen
- Click on the Sports button
- Click the drop down and select baseball, click on competitive, and click on same-gendered, then press search
- Click on the info button on the Chestnut League
- Read the information about the Chestnut League and click Send a Message
- Send a message to the commissioner of the league

b. Session Protocol (informed consent, think aloud protocol, actual questions)

- Introduction:** Hello, my name is (your name). My colleague (name of the notetaker) will be taking notes of our session today. The names of the two other members of the team who are not present today are (names of the two other group

members). The goal of our session today is to collect information on people's experiences using our application. The goal of this application is to help provide information and resources about an area to people who have recently moved there. During our session today, we will be giving you four different tasks to complete using the application. As you are completing each of the tasks, we ask that you employ the think-aloud strategy. This strategy involves you verbalizing your thought process as you complete these tasks. An example would be if you are confused about a particular step of a task, you would speak this confusion out loud. Using this strategy improves the quality of our notes and observations and we would greatly appreciate it if you gave this strategy a try. After all of the tasks, we will ask you some general questions about your experiences interacting with the application. This whole process should take around 30 minutes.

Informed Consent (Verbal)

You are being asked to participate in a user study conducted for a project by Hailey Bodycoat, Katherine Shepherd, Matt Lansford, and Matt McKenzie from James Madison University. The purpose of this is to test a product intended for people in their 20s who have newly moved to an area.. This study will contribute to the researchers' completion of their semester long project for CS 447. There are minimal risks associated with participating. Do we have your consent to continue?

Before we begin working through the tasks, we're gonna ask some general questions about you.

1. Where are you from?

2. How old are you?
3. Do you have a job after graduation?
4. Are you moving away from home after graduation?
5. How comfortable are you with mobile applications?
 - a. What are some applications that you typically interact with?

Task 1

We will now move onto the first task.

You are interested in making new friends in the area. You decide to create a profile within this app so other users can see you and so you can potentially make new friends.

Please complete this task using the application now.

Task 2

We will now move onto the second task.

You are moving to a new area and looking for a local grocery store to shop at when you get there. Use our app to find a grocery store.

Please complete this task using the application now.

Task 3

We will now move onto the third task.

You are a recent college graduate who is moving to a new city to start a job. You would like to find some roommates to potentially live with in your new home.

Use our application and navigate to the 'Roommate' subsection to find a roommate with your desired qualities

Please complete this task using the application now.

Task 4

We will now move onto the fourth task.

You moved to a new city and want to get involved in a local baseball team, because you played baseball in college. You open the application on your phone and try to find a competitive same-gendered baseball league that is very close to your home. Once you find a team, you want to send a message to the commissioner of the league asking to join.

Please complete this task using the application now.

We will now ask you some wrap-up questions about your experiences using the app.

Questions:

1. Which task was the easiest to complete and what made it easy?
2. Which task was the hardest to complete and what made it difficult?
3. Were there any particular design elements that interfered with your ability to complete the tasks?
4. Were there any design elements that stood out to you as helpful with the tasks

Participant Information

Participant 1: This participant was a college senior at James Madison University. He is a male and is 22 years old. He is planning on moving to Charlotte, North Carolina after graduation for employment.

Participant 2: This participant is a 22 year old college senior who is attending James Madison University. After graduation, she is attending graduate school at Iona College in New Rochelle, New York for Speech Pathology.

Participant 3: This participant is a 22 year old college senior who is attending James Madison University. After graduation, they are starting a remote job and moving to a city they've never been to before.

Participant 4: The participant is a 22 year old college senior. He is attending James Madison University. After graduation, he is moving to California for an internship with an accounting firm.

Metric Evaluation

Task 1: Our first metric for task 1 was if the participant completed the task in its entirety. For the first task, all four of the participants finished this task. The second metric was the amount of time it took for participants to complete the task. The mean of the times taken to complete the task was 1:35 seconds. We considered this length of time to be a success for completing this task. The participant's reactions to the task were mixed. Once people found out where the profile button was, they thought the rest of the task was easy.

Task 2: Three out of the four participants completed this task in its entirety. The last participant did not finish the last part of clicking on a grocery store to find out about it. We altered our figma prototype for our final version to accommodate for this. For our second metric of time, most of the times were clustered around 2 minutes with one

participant being an outlier at five minutes. I think after making changes to help clarify finding this task, the outlier would be greatly improved. Most of the participants said this was one of the harder tasks to complete. These issues revolved around finding where to complete the task as well as not knowing that they could click on the grocery stores.

Task 3: For our third task, we tracked whether our participants completed the task, how long it took each of them and whether they were satisfied with how the task went. All of our participants completed the task in a reasonable amount of time. The length of time to complete the task ranged from a minute and 20 seconds to about 4 minutes, averaging at about 2 minutes and 50 seconds. The overall consensus in terms of satisfaction was every participant was happy with this task. The only complaint was in regards to the filters not working in combination with each other and the slider not functioning in their intended manor. For the purpose of this prototype, we didn't implement these features to their full potential but in the final implementation, all of these would be functional.

Task 4: Task 4 was finding a same-gendered baseball team to join in the area. The first metric was task completion and all of our participants were able to complete this task while following the happy path with relative ease. The second metric was time it took to complete the task. The mean time for our participants to complete this task was 1 minutes and 45 seconds. We considered this task overall to be a success, all participants followed the happy path and it went the most smoothly of all of our tasks.

Design Improvements

Improvement 1: Between each task, we saw all of the participants annoyed that in order to navigate back to the homescreen, they had to click the back button a lot. This issue was also apparent when they made mistakes in finding a specific task and had to go back to

the homescreen. This issue could be a source of frustration for users. Having to press the back button multiple times may make the system seem clunky and cumbersome to users. In order to alleviate this pain point, we added a home button in the top right corner of each page to more easily navigate directly back to the homescreen. This allows people to jump back from any page right to the home screen. There was not a big tradeoff including this home button on the app. It has a clean design that does not make the top of the page look cluttered.

Improvement 2: When trying to create a profile, a few of our participants struggled to find where to click to start creating a profile. Many of our participants found it difficult to find the profile button to set their profile. This led to some frustration from users because they had to search through a bunch of different parts of the app. Some of the participants spent over half of their time searching for the place to create a profile. In order to help our users, we made the profile button in the top left corner of the home screen larger and a brighter color so it stands out as more noticeable than it was before. This affected the flow of the user experience because users could go right to the task instead of wasting time looking for where the task would take place. A tradeoff made for this design element was that the button is more distracting, but still does not take away from the other functionality of the application.

Improvement 3: During our usability testing, several of the participants expressed that the labels on the home screen were misleading and made it confusing to find things from the homepage. This left the users frustrated and confused about completing the task and forced them to click through all the options before finding the right sections. In order to combat this issue, we renamed the sections on the homepage to make it easier to navigate

through the tasks. The interaction flow is improved and the user can easily click on the correct subsection on the first attempt rather than clicking through all the options until stumbling upon the correct one. Renaming the labels on the home screen allows the application to maintain the design while making it easier to navigate since we only changed the titles. Our main concerns when designing this application was to make sure it was user friendly and self explanatory so this update was important in fulfilling one of our main goals.