Evaluation Plan

CS 352 - Team 18

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1. INTRODUCTION

For the analytical evaluation, we have decided to conduct a cognitive walkthrough. From our research phase we have identified that the goal of our application is practice and not to be used in competitive games. Hence, we he have shifted our focus on novice users who will be using the application at a recreational level and this adheres to the principle of having first time users in a cognitive walkthrough. Our team members will be the usability experts-- one will be roleplaying as our target user, while others are observing and taking notes. We acknowledge that this mode of evaluation evaluates ease of learning, and will help us gather much more information regarding learnability of the application than the other methods.

Considering the scope of our project, we'll be conducting a usability study for the empirical evaluation involving only one user. We plan on following Steve Krug's recommendations and instruct our user to 'think aloud' on their actions in an attempt to gather meaningful and rich data regarding usability of the application.

These evaluations can be carried out one after the other or even simultaneously. We won't have a particular sequence for conducting them as we understand that the empirical evaluation is based on an actual user so there won't be any bias. Once we have conducted the evaluations and gathered all data, we will use them along with feedback from the design gallery to update our design decisions.

2. ANALYTICAL EVALUATION

A. Research Goals

In our research, we want to test the the application's functionality to see if it would work as according to plan. This is to include the social features, instance in which the user takes a photo and the ability to simulate a shot using correct physics. These are essential to the goals we are trying to achieve in our evaluation. Besides the core of our application, we want to ensure that the functions we created are easily visible so it can create a seamless transition from one part of the app to another.

B. Research Plan

Since we are using a cognitive walkthrough approach each one of the group members will use the prototype and record any concerns that could potentially be improved. This will allow us to attempt to use the application as a prototype and improved on those concerns to further get a better evaluation moving forward into the next phase of empirical evaluation.

The research plan will done using communication between the group members via canvas and Google Hangout. We will each walk through individually and test the functions. Since we are not using a planned order of sequence, each member will record the sequence they took. This will give us information on what is relevant. As each member is recording their sequence, they will answer the following questions:

- Will the user be able to navigate the menu with ease or require instruction?
- Are the options visible and clear with identifying its functionality?
- Are instructions clear for the main purpose (shot selection advice) function?

These will be recorded alongside notes of the concerns and possible solutions that may help fix these issues.

3. EMPIRICAL EVALUATION

A. Research Goals

The goal of the empirical research plan it to see how an actual user reacts while using the prototype. We want to observe the user while in the situation where they are playing pool and unsure how to approach the next move they want to make. This will give feedback on how quickly they are able to access the options of the application. Factors we would want to observe are:

- Is the user going straight to the main function or are they checking the social features first?
- How long does it take to get to and use the main function?
- Impact of environment? People, social activities, etc.
- Obtain information from user's expectation of the app versus the actual functionality of it

B. User Details

We selected a 24 year old Biology student from Oregon State University for our evaluation. She identifies as a target user for our project as she likes to play pool in the MU basement from time to time and also falls in a demographic range that is appropriate for our project. She has used smartphone applications before although she's not very experienced with technology and is relatively more likely than other users to help us derive data that'll represent a wide audience. The subject has shown interest in our project and is willing to take part in our evaluation process.

C. Research Plan

Since the purpose of this study is to determine usability issues, getting feedback from the user will be crucial. We will have one group member guide the user through the application as a means to meet our research plans.

The user will be encouraged to "think aloud" with the the group member recording this information to be shared with the rest of the group at a later time. Although the group member will be guiding the user, we want to minimize the interaction as much as possible to be able to get more true feedback from the user rather than generated feedback.

We want to simulate the app using a real experience. The first is to start a game of pool and play until the user determines the shot it unfamiliar and would like help. At this point, the group member will suggest the app, give a brief introduction and explanation and the user will start the process. They can navigate the options if would like before starting the main function of the application.

They will take a photo at the correct angle and wait for the application to process the information for the next shot. The group member will be asking questions about each of these processes to generate notes and questions.

Once the information is generated, the user will have options of viewing the shot, in which they can watch a simulation in 3D or overhead view. The options of skill level will available if more advanced techniques are desired. The user will attempt to take the same shot that was shown in the app. The group member accompanying the user will be recording the following information:

- What are the user's reaction to each part of the app?
- What reaction is there about the shot they took? Was it helpful?
- Are they using the options like advanced techniques or taking the simplest shot?
- How relevant are the multiple views and shot options?
- All facial expressions, body gestures, user voice tone, video recordings should be noted.

D. Follow-up Questions

After the user is done, we will ask questions that the group member has come up with during observation as well as a list of the following:

- How easy was it to navigate through the application?
- Are the screens clear and easy to understand?
- Was taking the photo easy to achieve or did it take a long time to get the right angle?
- Did the application contain all the functions that were expected to have?
- Was the main function easy to understand along with the options?
- Did the results simulate what was expected? How difficult was it to replicate the shot?
- How satisfied are you with the app?

E. Research Material

We will use the following to capture our observation.

- A live recording with audio to observe the user.
- A working prototype of the poolShark application.
- Any recording device ie pen, paper, smartphone, etc.

F. Collected Data

The group will collect all data from the user and the environment. This will include any reactionary responses they may have or questions they have about the application. We encourage the user to do this whilst thinking out loud with the group members recording. This will give us the best feedback as it is reactionary. The environment will also be recorded. Any technical issues will also be noted alongside the user information.

This collected data will allow us to reach our research goals. Using recorded data and written observations will allow us to recollect later if questions are asked later if necessary. Information regarding the main function will be needed to understand how the app's reusability is and if it's efficient and accurate enough. This will allow us to correct any issues and a better understanding for our study.

4. SUMMARY

As the end of the PRICPE process, the two methods of research becomes important for the results of our research. The analytical method will allow us to filter much of these

problems before doing an empirical approach. By recording each user's own walkthrough of the application, we can determine many the problems and concerns. Using the empirical approach helps expose issues that were missed. As one group member guides the user, the other members will record their findings based off the user's reactions. With the user thinking aloud, a better source of feedback will be obtained. By taking this information and collecting it with all of our other observations, we can develop the prototype into a real application.