Product

Mirror++

Business Case

This is our Capstone Project for the University of Regina. We decided to build a smart mirror that functions using gestures to navigate its user interface. We will extend the functions of smart devices that currently exist and use gestures to manipulate commands and perform tasks. The purpose of the project is to apply the skills we have learned throughout our SSE undergraduate degree and create an application that is interesting, useful to people, as well as providing an adequate amount of challenge for us to implement.

Test Objectives

- Estimate the degree of usability of the gesture and voice recognition
- Determine which type of tracking (gesture vs voice) participants are more comfortable using
- Get audience opinions on the following questions:
  o Which app(?) were you most interested in using?
  o What are your overall thoughts about the project?
  o What improvements would you like to see?

Participants

- University students

Equipment

- Smart Mirror

Test Tasks

1. Gesture Tests: Test if gesture recognition is working properly for all participants
2. Voice Command Tests: Ensure that voice commands are recognized and appropriately executed
3. User Interface Tests: Receive participants' feedback on user interface experience and visual appeal and clarity of the interface

Responsibilities

- Qurrat to collect participants' feedback
- Annoor to guide participants in their experience with the smart mirror

Location and Dates

Date: March 28, 2022

Locations:

- University of Regina, Research and Innovation Centre, Floor 3

- University of Regina, Library, Main Floor

Procedure

1. Introduce participant to the Mirror++ concept and background information related to it
2. Guide participant through the different gesture and voice command options
3. Allow participant to explore the mirror commands on their own and observe their reactions
4. Once participant is satisfied with their experience, ask them the following questions:
   - How was your overall experience with using the mirror?
   - What did you think of the gestures used to control the mirror, were they easy to navigate or would there be any gestures you would prefer?
   - Were the voice commands easy to remember or would you recommend any alternative options?
   - Do you have any questions or suggestions for us?

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Results

Participant 1:

1. How was your overall experience with using the mirror?
   - It was cool
   - Gestures were really erratic
2. What did you think of the gestures used to control the mirror, were they easy to navigate or would there be any gestures you would prefer?
   - The gestures were good but hard to remember
3. Were the voice commands easy to remember or would you recommend any alternative options?
   - Easy to remember
4. Do you have any questions or suggestions for us?
   - It would be good if there was a way to turn the mirror off if you don't need to use it all the time

Participant 2:

1. How was your overall experience with using the mirror?
   - Using the mirror was very sick, it's a really nice idea
2. What did you think of the gestures used to control the mirror, were they easy to navigate or would there be any gestures you would prefer?
   - They were easy to use
3. Were the voice commands easy to remember or would you recommend any alternative options?
   - Maybe having a name for the mirror like Alexa instead of calling it mirror

4. Do you have any questions or suggestions for us?
   o The words don't look in just white text, having colors would be better

Participant 3:

1. How was your overall experience with using the mirror?
   o It was good
2. What did you think of the gestures used to control the mirror, were they easy to navigate or would there be any gestures you would prefer?
   o The gestures were fine but really hard to use, the screens kept jumping around
3. Were the voice commands easy to remember or would you recommend any alternative options?
   o They were fine, but the mirror couldn't hear the commands
4. Do you have any questions or suggestions for us?
   o Not really, just making it easier to use

Participant 4:

1. How was your overall experience with using the mirror?
   o It's a really cool mirror but you can't really see the screen too clearly
2. What did you think of the gestures used to control the mirror, were they easy to navigate or would there be any gestures you would prefer?
   o The gestures were fine, but the gesture recognition was inconsistent
3. Were the voice commands easy to remember or would you recommend any alternative options?
      The mic didn't recognize this participant's audio commands
4. Do you have any questions or suggestions for us?
   o No

Participant 5:

1. How was your overall experience with using the mirror?
   o It's interesting that it can connect to your google calendar events and the flashing alarms with lights would be really helpful
2. What did you think of the gestures used to control the mirror, were they easy to navigate or would there be any gestures you would prefer?
   o The gestures weren't really working but they look like they would be good once you fix the gesture control
3. Were the voice commands easy to remember or would you recommend any alternative options?

- It's good that the voice commands are in place but would the mirror be listening all the time? And if so, isn't that a privacy concern?
4. Do you have any questions or suggestions for us?
   - No