INFOB3IT 2024

**Assignment 2**

Group #:

Student name:

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Type: Group work

**Deadline: Thursday 11th April 2024 – 17.00**

Submit: Blackboard

Evaluation: Graded

NOTE: This is a template that can be used to deliver your work. However, you can use other formats, if you prefer as long as you remember to write your group number and student names and adhere to the description.

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| Introduction Use this section to introduce your project. Describe what makes it special, what are its features. You can briefly report the results of the study in a few sentences (e.g. the gesture set, the integration of the gestures, and the results of the usability testing).  (Up to two paragraphs) |
| What makes our project special is the pronounces wizard theming. The goal of our project is not just to make the most usable system, but also to give the user a magical experience. |
| System details This section should provide some details of your system, in order to help us decide to what extent you meet the objectives. It should (briefly) document the choices that you made. These should include choices regarding libraries, watering conditions, MQTT features (the topics you used, the payload structure and values, the frequency of updates, the QoS settings, retained messages, etc.) and any other choices you deem relevant. Also, if you are using QoS levels that are different from the ones you intended to use because of library limitations, that should go into this document. And don’t forget to mention any extras you implemented!  This section should also include a clear photo of your hardware setup and some screenshots of your clients (e.g., Node-RED flow, dashboard, smartphone app, OLED screens, …). Full schematics or a state diagram are not required (but feel free to include them if you made them anyway).  This is also the place to *optionally* reflect a bit on the things that you might not have implemented but would have improved your system, as mentioned in the requirements (such as Wi-Fi configuration, security features, OTA).  (Up to 2 pages including tables and figures) |
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| Gesture Elicitation This section should report your gesture elicitation study, analysis, and results. Describe the thinking process behind your study design (e.g., recruitment process, scenarios, observation) and the methodology (e.g., classification criteria and consensus) used to analyze the results (e.g., agreement scores). The section should conclude with the gesture set used in the gesture implementation section.  (Up to 2 pages including tables and figures) |
| Because our goal is to generate a magical experience on top of creating a gesture controlled plant watering system our gestures will become more complex and less intuitive. But our method of determining what good gestures are can stay mostly similar. Our gestures are made with a magical wand that reads the rotation and acceleration. Our testers will be asked to come up with two gestures for the two manual actions. One challenge is that asking users to come up with complex gestures the chance of two users responding with the same gesture are slim. Therefor we will look at patterns in gestures instead. We will ask our testers to come up with gestures consisting of three to five patterns. Examples of patterns are. Moving the wand up and down, making a circular motion or thrusting the wand strait up into the air. This means that one users gesture can end up in multiple gesture groups. This leads to a higher agreement score, we think that this is a necessity to end on a final gesture. |
| Gesture Implementation Describe how did you implement the gesture set in the system including gesture recognition techniques and constraints (e.g., glove design).  (Up to 2 pages including tables and figures) |
| We made a wand that contains the stickuino and the gyroscope. For the connection with the computer it is necessary to have a wire running from the stickuino to a laptop. Because it is important for the user to have a good range of motion with the wand the wire needs to be long and light. Users have said that they don’t want the want to be attached in any way so we couldn’t make the wire run through a sweatband in the arm.  Picking up the wand is not used as a trigger to start looking for a gesture because while the wand is picked up the system should function as normal and no gesture should be detected until a full gesture is completed. In theory the users should be able to carry the wand for an entire day without a gesture being detected. This is more applicable in a possible future iteration with a wireless wand. |
| Usability testing Report the study setup of the usability testing providing a) methodology, b) material and Apparatus, b) analysis. Report in a few sentences the main findings.  (Up to 2 pages including tables and figures) |
| For usability testing we asked participants in the sticky living room to test our system. We chose this method of finding users because it was the most accessible way to find many testers. A possible danger of this method is that these testers are more acquainted to technology than the average person. Because of this we had to pay extra attention to confusions that arose while testing. |
| Conclusion Briefly summarize your system, the study, and the results.  (Up to 1 paragraph)**.** |
| During our study we found that users are very accepting of more complicated gestures to support the theme of magic. But are less accepting of misdetection, because this breaks the immersion. |
| Appendix You can provide additional material in this section. |
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