Tables

Table 1. *Students ‘perception towards existing method of orientation*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Statement | Strongly Disagree | Disagree | | Neutral | Agree | Strongly Agree |
| *Q1. The current lab orientation process is helpful.* | 15% | 12% | 28% | | 43% | 2% |
| *Q2. Current lab orientation process engaged me.* | 9% | 19% | 35% | | 35% | 2% |
| *Q3. I needed more explanation during lab orientation.* | 4% | 35% | 16% | | 33% | 12% |
| *Q4. I am satisfied with the lab orientation process.* | 2% | 18% | 38% | | 40% | 2% |
| *Q5 Current lab orientation process needs improvement.* | 0% | 4% | 21% | | 45% | 30% |

Table 2. *Application predesign questionnaire*

|  |  |  |
| --- | --- | --- |
| Q5 | Do you think an augmented reality application would help the lab orientation process? | ☐Strongly Disagree ☐Disagree ☐Neutral  ☐Agree ☐Strongly Agree |
| Q6 | Do you think videos would be helpful in an augmented reality application? | ☐Strongly Disagree ☐Disagree ☐Neutral  ☐Agree ☐Strongly Agree |
| Q7 | Would a tutorial be useful to explain how does the application work? | ☐Strongly Disagree ☐Disagree ☐Neutral  ☐Agree ☐Strongly Agree |
| Q8 | Do you think an interactive screen explaining the uses of buttons in equipment would be helpful? | ☐Strongly Disagree ☐Disagree ☐Neutral  ☐Agree ☐Strongly Agree |
| Q9 | Do you think a short quiz after each activity would help enhance your understanding? | ☐Strongly Disagree ☐Disagree ☐Neutral  ☐Agree ☐Strongly Agree |

Table 3. *Application predesign survey responses to MCQs and open-ended questions*

|  |  |  |
| --- | --- | --- |
| Q10 | Would you be more likely to use this application if it was on your phone or if it was using an alternative tool (e.g. Hololens) | Phone: 75%, Wearable: 16%, Alternative Tool: 9% |
| Q11 | If we had videos in our applications, what do you think would be the optimum length of the videos? | <1 Minute: 32%, 1 Minute: 27%, 2 Minutes: 41%,  >3 Minutes: 5% |
| Q12 | How do you want your App to be displayed: only in a vertical position, only in landscape or both? | Landscape:16%, Vertical: 25%, Both: 59% |
| Q13 | How many questions do you think would be good if there was a quiz? | 1:5%, 3:75%, 5+: 20% |
| Q14 | Do you think the questions in a quiz should be multiple choice or short answer questions? | MCQ:95% , Short answer:5% |
| Q15 | Do you have any ideas for the application that you would suggest would be beneficial? | * Should be usable outside of the lab orientation (for refreshing memory) * Make sure its accessible to everyone as not every person has the same phone/laptop/equipment * Similar to how learning activities are presented online, with quiz and instructional activities * Make it like an interactive game or something so it doesn’t feel like an orientation * Easy and straight forward to use |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Statement | Strongly Disagree | Disagree | | Neutral | Agree | Strongly Agree |
| *Q1. I needed help for using the application.* | 25% | 29.2% | 12.5% | | 33.33% | 0% |
| *Q2. Application was easy to use.* | 0% | 0% | 12.5% | | 62.5% | 25% |
| *Q3. I liked the user interface.* | 0% | 0% | 12.5% | | 54.2% | 33.3% |
| *Q4. Application was intuitive.* | 0% | 0% | 12.5% | | 50% | 37.5% |
| *Q5 The experience more engaging than the manual orientation?* | 0% | 4.2% | 0% | | 66.7% | 29.2% |
| *Q6. AR app helpful for understanding?* | 0% | 4.2% | 8.3% | | 62.5% | 25% |
| *Q7. Contents included in the app are relevant to the lab orientation?* | 0% | 0% | 0% | | 58.3% | 41.7% |
| *Q8. Augmented contents were appealing?* | 0% | 8.3% | 25% | | 33.3% | 33.3% |
| *Q9. I will recommend the application to future student’s orientation?* | 0% | 0% | 0% | | 54.2% | 45.8% |

TABLE 4. Post-design survey results

TABLE 5. Response to open-ended questions

|  |  |
| --- | --- |
|  | *Comments* |
| *Like* | * *I like the application because as it is easy to use and allows me to access the resources on the equipment.* * *Provided easily accessible information about activity in the labs that would have been useful during second year onwards.* * *I like its usage of machine learning and AR tech to help with lab orientation* * *I really like that it is able to capture the various essential lab devices and provide information regarding them.* * *I liked doing the quiz. Shows how much I don't know about the equipment.* * *I liked how there are various options in terms of the media to understand equipment e.g video, pdf, and text.* * *I feel like it would definitely be useful for refreshers on systems who have forgotten how its use. I wish I had this app in my first hardware/software project.* |
| *Dislike* | * *It's easy to use but a bit unresponsive at times.* * *I do feel that the AR sections are a bit superfluous, but that can be worked on.* * *I don't particularly like how for the AR, when you go back from a selected option, you lose the menu.* * *I did not like the interactive equipment. It was hard to use.* * *AR and taking photos of text seemed unnecessary.* |