Evaluation Summary

This document shall outline the findings from evaluation and the required information about the participants from the demographic questionnaire.

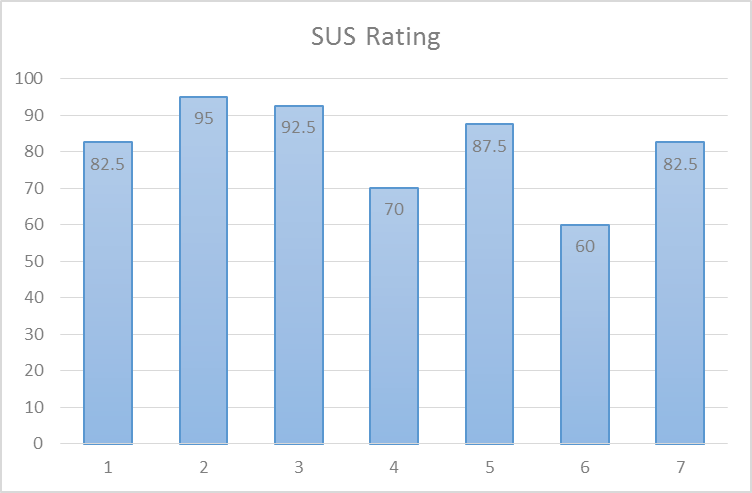
|  |  |  |  |
| --- | --- | --- | --- |
| Participant ID | Age | Previous Knowledge of Enigma Machine | Operating System most used |
| 01 | 22 | Yes | Windows |
| 02 | 22 | No | Windows |
| 03 | 24 | Yes | Windows |
| 04 | 21 | Yes | Windows |
| 05 | 70 | Yes | Windows |
| 06 | 22 | No | Windows |
| 07 | 23 | No | Windows |

Unfortunately participants who used a different operating system other than Microsoft Windows were not able to be recruited. It was beneficial however that not all of the participants were not students, one was a staff member.

Another benefit was the diversity of the participants in regards to having previous knowledge of the Enigma machine.

The participants were asked to carry out the operations of encrypting and decrypting text and to see whether the understood the process which is happening. Once they had done this they were asked to complete the SUS (System Usability Scale) Questionnaire.

The data has been extracted in the form of a spreadsheet using Microsoft Excel.



Graph 1

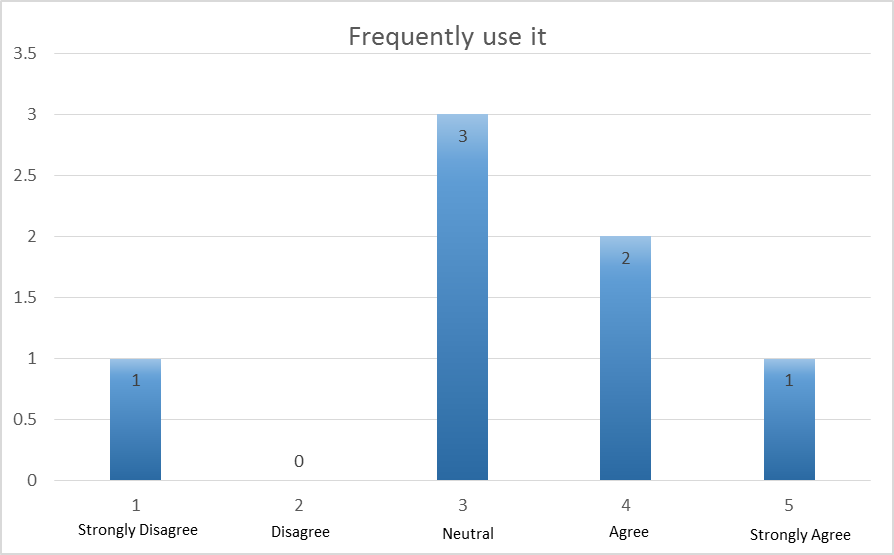
The above graph shows the SUS rating for all 7 participants.

Based on the average value from the scores, 81, anything above that value is deemed above average, and anything below is below average. Also the scale is 0-100 but should not be interpreted as percentages. However normalizing the data and creating a percentile ranking would be better, but doing this with less than 10 participants would not tell us too much. Taking this into account, a custom grading system was used.

50 < F; 60 < C; 70 < B; 80 < A; 90 > A+;

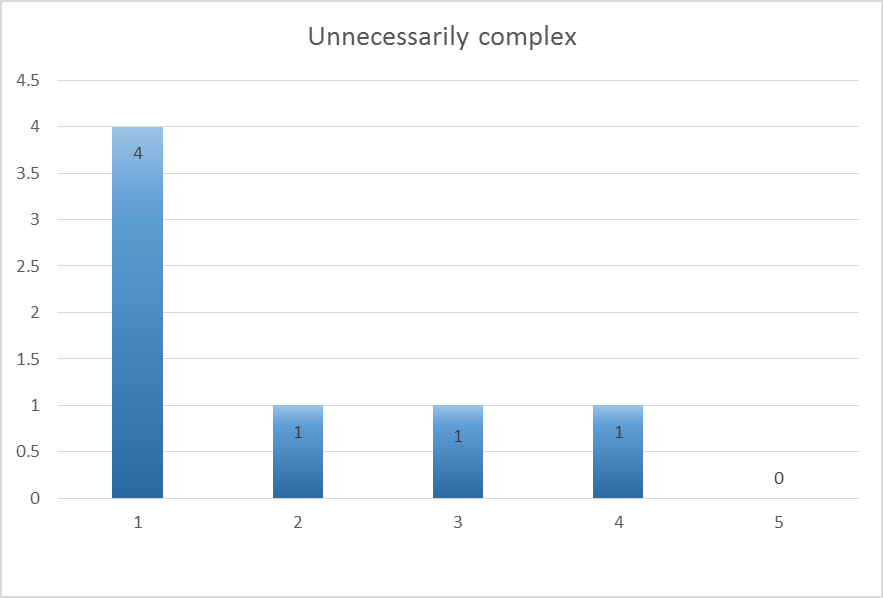
F – fail, C – adequate usability, B and A represents that it is good usability, A+ would mean they would recommend the simulator to a friend.

Based on the above grading system, none of the participants failed, while two were on the border of C and B. Therefore with majority of the participants scoring A or above, it can be concluded the simulator overall is usable.



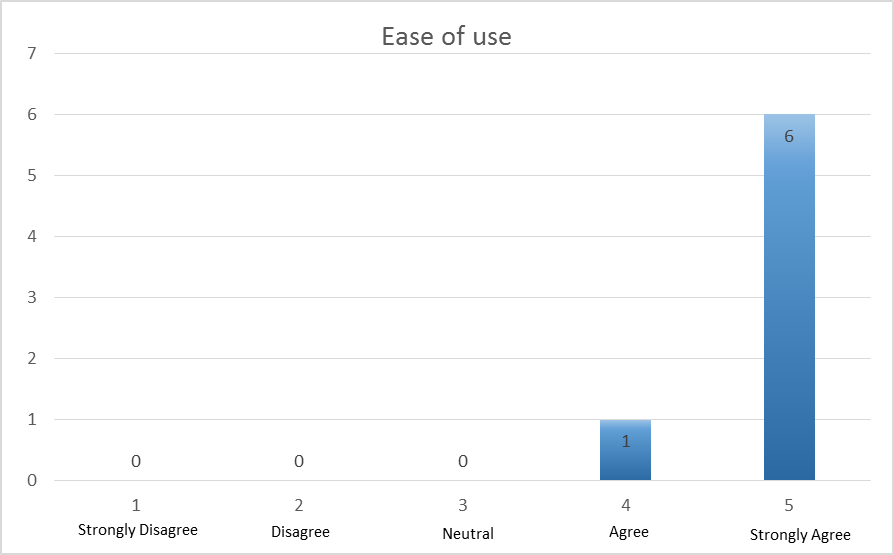
Graph 2

Graph 2 above shows how many of the participants would frequently use the simulator. Having spoken to them not many had a great interest in Enigma machines as such, but asked if they had to use it would they? They responded positively and said they would consider using it.



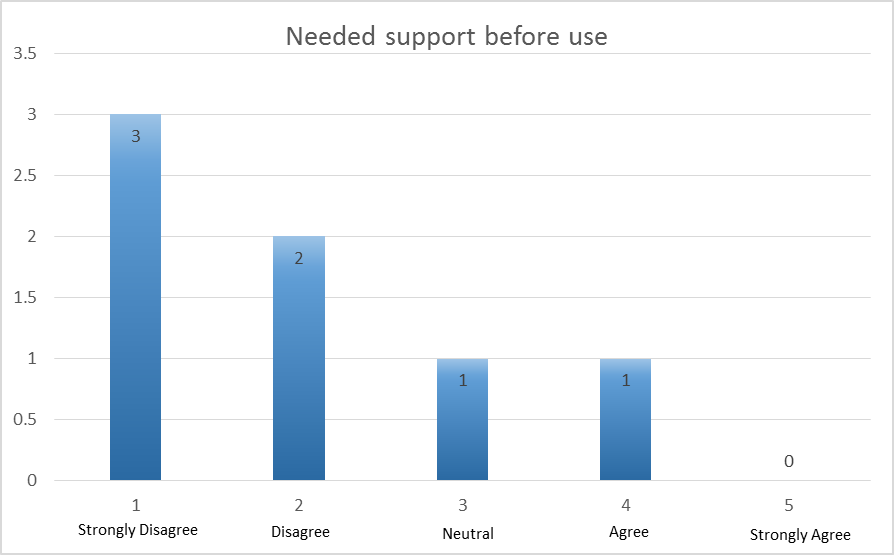
Graph 3

Another factor while developing the simulator was to ensure it was developed as simple as possible for the users to interact with. Again majority of the participants very it was straight forward. However one did report to find it somewhat complex.



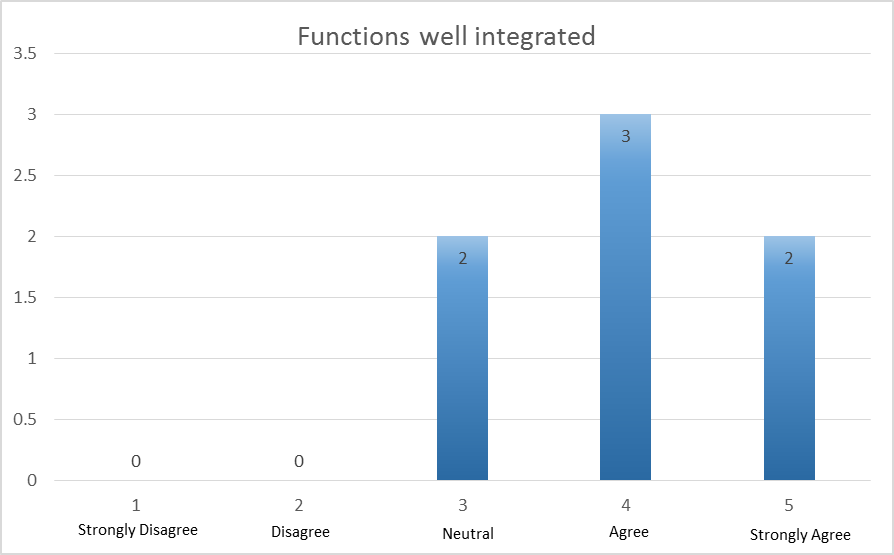
Graph 4

This was one of the most important factors while undertaking evaluation. The ease of use for vital for usability. Every participant seemed to find it easy to use. This was demonstrated while observing them using the simulator. These results reflect the simplicity of the interface.



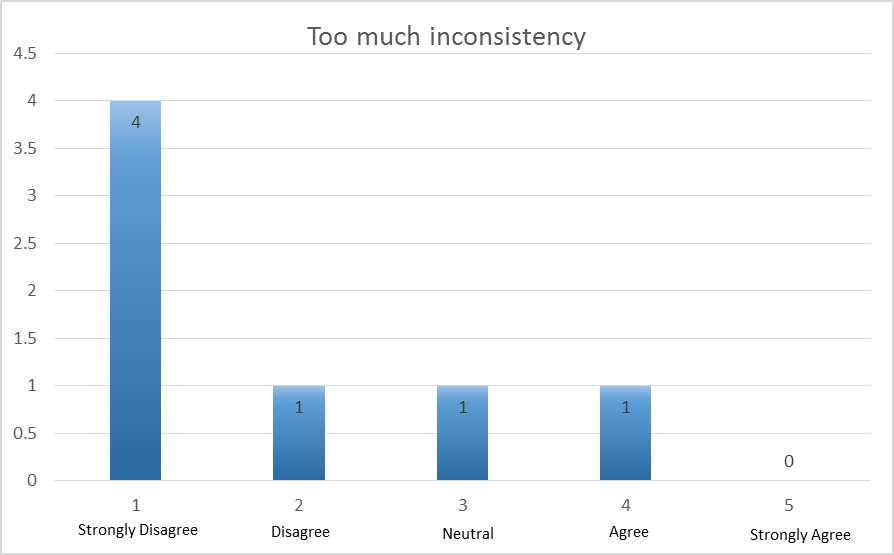
Graph 5

The fact that most participants were able to use the simulator with very little input from the researcher was insightful. However again one did need some assistance.



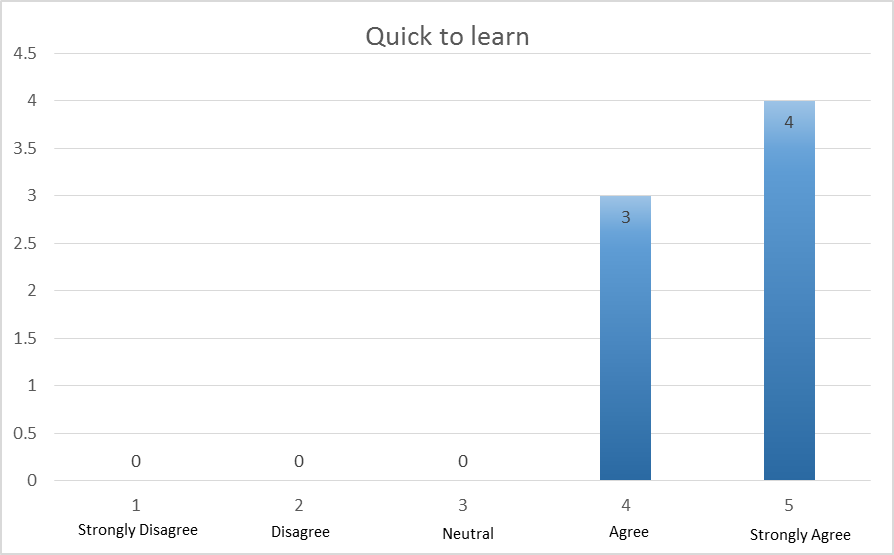
Graph 6

Mostly all participants agreed that the functions had been well integrated into the simulator. Some thought perhaps more work should have been done to ensure the components were pixel perfect.



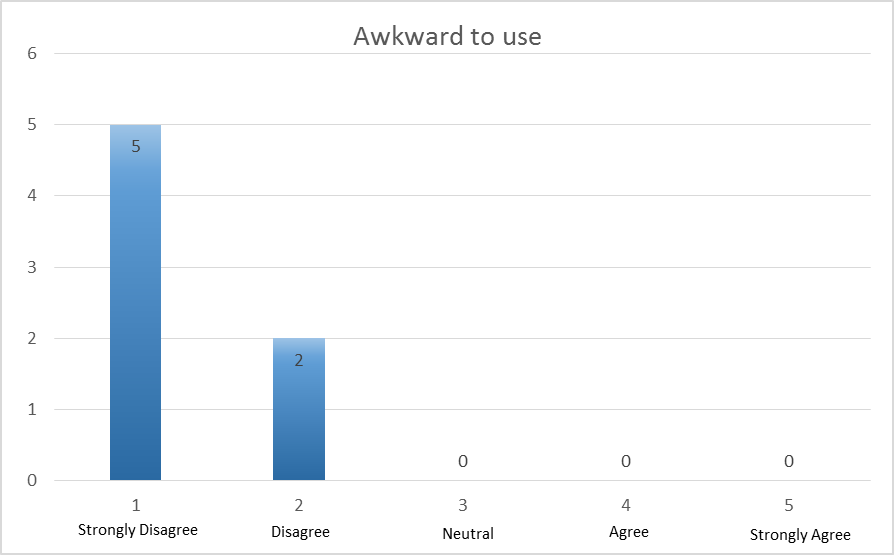
Graph 7

Majority of the participants thought that the simulator was fairly consistent throughout. Again one thought some inconsistencies were existed.



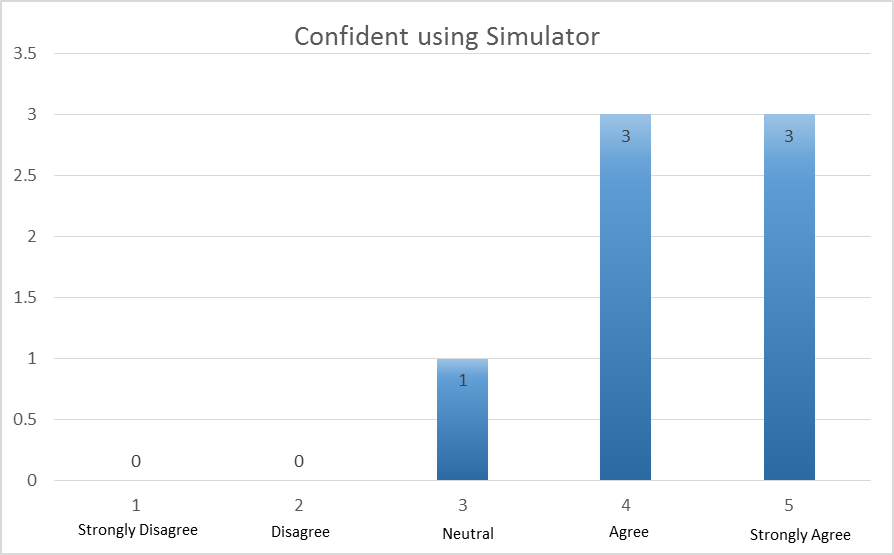
Graph 8

This is an important factor, how quick the simulator was to learn. All of the participants agreed it was easy to learn. This reflects the simplicity of the interface as well as demonstrating how well the design of simulating the processes of encryption and decryption.



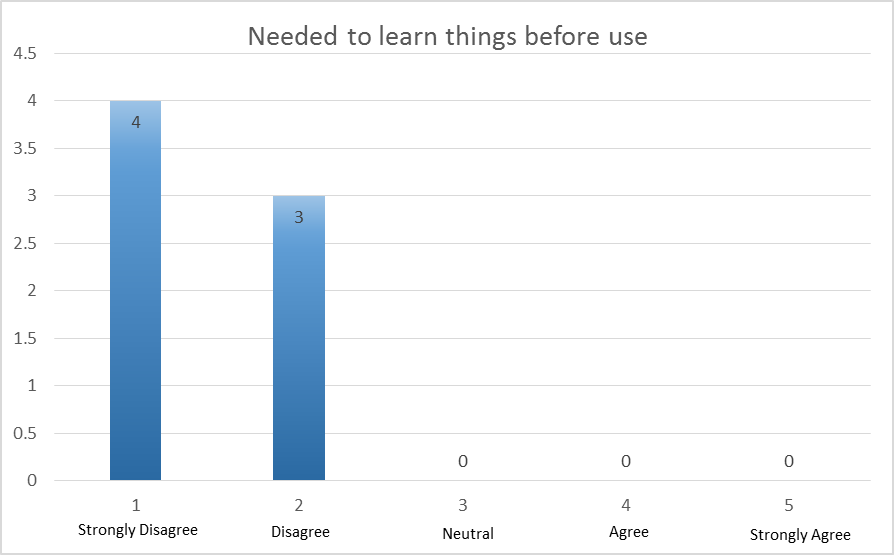
Graph 9

All of the participants felt comfortable using the simulator.



Graph 10

This graph above contrasts with Graph 9, majority of the participants felt confident while using the simulator with little or no problems.



Graph 11

All of the participants agreed that they did not need previous knowledge of the Enigma machine/simulator before using the simulator.

Overall positive feedback was gained from evaluation. While one participants responses conflicted with their own it can be gathered they may have misinterpreted the questions. This can be seen from Graph 3 and 4. One participants, before undertaking evaluation may have been 2D instead of 3D and was impressed with the effort put it to make it 3D. One problem which did arise with most participants was that they wanted to copy and paste the text to do the other function but ended up writing down the text onto paper. One had changed the rotor settings and forgot to note down which one it was so had to go back and carry out the operation again, and write down the text again.

Write about requirements met!

Any possible future stuff to add.