**Computer Systems Technology: Individual report**

**BotCU – Bluetooth register and Social media integration**

Computer systems technology was challenging for me as I’ve never done a hardware based project. This project was also the first time I have used Linux. Team 46 was assembled by myself, the members are me (Ben Sturland) , Benjamin Tonks and Luke Wells. I pitched the team an idea of an Automatic Bartender however after about 2 weeks of research we found it to be too ambitious for a team with little experience in this area, as well as being hugely expensive. So instead as a team we looked for a simpler and cheaper project. BotCU came out of this discussion we found someone using Bluetooth to track who was in their house using a RaspberryPi and I had been developing a side project of a Chat Bot, We thought I good idea would be to combine the two and use this to monitor attendance in a room. The responsibilities of each group member follow

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| Group member | Reasonability’s |
| Benjamin Sturland | Lead Programmer (Discord API), Secondary programmer (Bluetooth), Secondary Hardware Technician. |
| Benjamin Tonks | Lead Presenter, Video director/editor, Hardware Technician, Secondary programmer(Bluetooth), Admin. |
| Luke Wells | Lead Programmer (Bluetooth) |

My Role as lead programmer for the Discord side of BotCU I feel I have completed well. I was responsible for writing a Chat Bot that could take commands and output to the discord chat. Initially I coded this in C# however after helpful advice from the tutors during our pitch I was told c# won’t run on RaspberryPi and I needed to use a more universal language. I knew python however discord hadn’t released an API for python and as such I had to use JavaScript which I had no prior knowledge of a week after the pitch was when this new bot began working. Ive been steadily adding new functionality to the chat bot as well as fixing issues with both hardware platforms.

My role as Secondary Hardware technician and secondary programmer came due to the project moving too slowly. Ben Tonks had ordered Hardware from multiple sites and as such many of the piece were arriving weeks after he had ordered them, he also had problems with SD cards not working. After 3 weeks with no working hardware I ordered my own form amazon and got it all working before the other hardware. I don’t however believe Benjamin was to blame for this and he as by far pulled his wait in this project with his amazing presentational skills and offering to write the whole of the group report. His pitch video was also exemplary and without Ben on the team I think we wouldn’t have much to show past the code of BotCU.

Luke Wells was on the Bluetooth side of the programming. He had I would argue a small workload having the code for taking Bluetooth via python already available on the web and the task of implementing adding an element to a JSON array. I hadn’t received any code from Luke until way into the project when I received the code it was maybe 10 lines, uncommented and didn’t work. When I asked for a commented version of the code so I could fix this it took a day to receive this. I then had to. Rewrite the code from scratch to get it recognising Bluetooth and as such I have not had time to implement the JSON elements. The Code in the report is what he sent me after more than a month of work as I couldn’t add access the proper code at the time the report was written. Overall I think Luke has let the team down by doing in all honesty half an hour of work. Before the presentation when we were meant to pitch the idea he didn’t show up to rehearse the pitch until 20 minutes beforehand. I think he has honestly shirked all his responsibilities.

This Project I truly believe could be an incredibly useful tool for students with some refinements. Its been challenging writing in a new language and learning how Linux works and how to implement both a hardware and software solution. Its showed shortcomings and Skills of the team and has inspired me to take on my own RaspberryPi project. The System we’ve devolved is being used already. With the `insult command being a favourite of the chatroom. With some tweaking this system could be implemented for registering classes as it will output JSON which is universally read and could be marketed to other groups like libraries with meeting rooms.