**Atlantic Technological University, Sligo**

Obrázok, na ktorom je text, vizitka, snímka obrazovky, písmo

Automaticky generovaný popis

**Individual Report**

Name: Alekss Belavskis

Student ID: S00253368

Email: s00253368@atu.ie

Course: BSc in Software Development L8

Year: 1

# Team Role:

In our group, my primary role revolved around coding and assembling the Arduino room monitoring system. Together, we did a lot of brainstorming about what type of project we wanted to make. After considering all our options, we settled on the room monitor because of its applicability and ease of development and testing.

The coding process involved using the Wokwi emulator to experiment and discover what was possible with the Arduino, before implementing them in the actual hardware. This allowed me to turn our ideas into a functional product. Browsing through code snippets online also allowed me to get new ideas that could be later implemented into our product.

As well as this, I wrote additional scripts in Python that would allow for manual testing of all possible input/output cases of the Arduino sensors. For example, a test that would input a temperature number, and output a colour for the backlight. This saved time as we could verify the Arduino code was working correctly without relying solely on physical sensors to test it.

# Problems Faced:

The first major hurdle we faced was thinking of a suitable project idea. While we had several ideas, for example a hiking assistant, we felt that most of them weren’t very practical, or easy for us to create and test. This is the reason we ended up settling on the room monitor, as it was something we were all capable of building together with the amount of time we had, and this product has utility in both residential and professional settings.

There were several minor problems faced during the development of the code for the Arduino Yun that were solved in the end, but the notable one occurred during our integration of Blynk into the Arduino. The code snippet we found for Blynk integration took up too much of the Arduino Yun’s storage to be able to compile and upload. What ensued was a lot of research into using the SD card as additional storage, or to extend the Arduino’s storage, but in the end, we found a code snippet for Blynk that was suitable for the Yun, and our product demo.

# Overall Reflection:

Arduino development was something completely novel to me, so I enjoyed learning how to build them, code them and solve whatever problems I faced.

In hindsight, I felt that we didn’t leverage Trello to its fullest potential, partly due to our small group size and most of our communication taking place in person, with occasional text messages. I think we could have all created a Trello board structure which makes sense to all of us and discuss it in a way where we all understand and can make use of it. I also realized the importance of scheduling regular meetings, as it significantly sped up our productivity and project progression.

After the problems we faced integrating Blynk into the Arduino Yun, we are considering using the ESP8266 board, as it also has built-in WI-FI, and has plenty of documentation of using it with Blynk. I believe this change will make our product development process work smoother.

In conclusion, my involvement in this group has been both exciting and enriching for me, and I hope to make even more progress in the coming weeks.