Anssi Uistola 2502616
Topias Syri 2504627
Juho Valkama 2503673

Alarm clock final report

Aim of the project

We wanted to learn to work with Arduinos, and to learn how to model for 3D-printing. The default alarm clock project fit our needs for the project, so we decided to go with that design. Anssi had the vision for the shell of the clock, Topias knew how to do the connections needed and we knew that the code would not be a problem for us.

Final product

Our final product consists of the 3D-printed shell, 16x2 LCD-screen, MPU6050, 2x DC motors, Arduino UNO, 1 LED, IR receiver and remote, and a buzzer.

Anssi has been responsible for the modeling of the shell, and the general leader of our project.

Topias has been responsible for the connections and the IR-receiver and remote.

Juho has been working with the code and other small tasks.

We had some problems with the 3D-printing, since the modeling was done with Blender, and importing the model from Blender to the software that the 3D-printer used had different scaling factors, the first printing produced parts that were too small. Because of this we had to do the printing again.

During the final assembly of the artifact we ran into some problems. The clock wasn't working, due to some issues with one of the wires.

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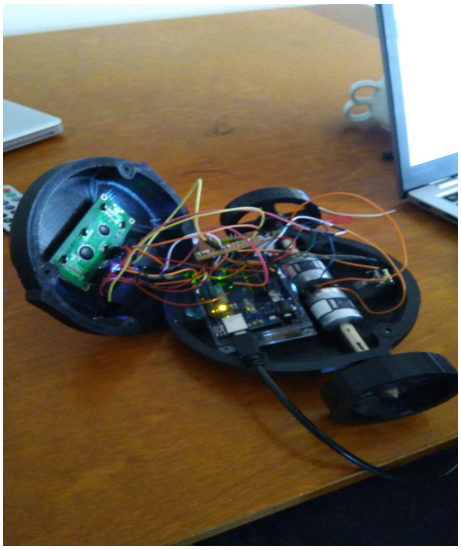
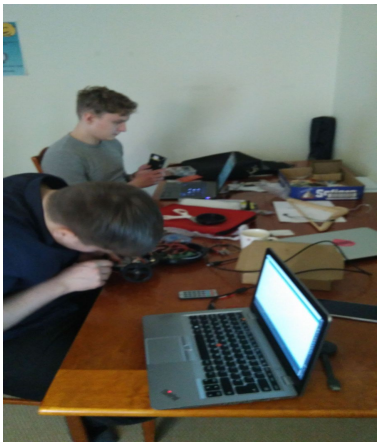
Project pictures:





Link to source files and the presentation:

https://github.com/stolau/AlarmClock

Lessons learned

We haven't necessarily learnt anything new, but we have improved our existing skills, such as modeling and coding. We have all had our strengths, and this project has enabled us to teach each others.

For someone working on the same kind of project, we would recommend using more powerful motors, design the interior of the model carefully, so that all of the components fit perfectly. Plan the connections, so that the wiring on the final product is planned, and not just randomly inside the shell. As for the coding, learn to use the Arduino libraries, since many of the problems may already be resolved with them.

Feedback

We would have liked if there was more information about the limitations of the 3D-printer.