**Roomi – Smart Home Automation**

**By: Jacob Ladan, Marko Javorac, and Denald Demirxhiu**

# Scope (2)

Our application will work in parallel to our Hardware Production Technology project. The application will give users the graphical user interface, which will be used among other things, to change access permissions, adjust temperature, and alter light colour/brightness. Overall the product will allow users to add additional security and control functionality to their rooms, both residential and industrial. The application will also communicate with a remote database to store personnel information and user preferences.

# Design (3)

Initially, our app will retrieve default settings from an outline on our database. After which, it will prompt the user for customization to fit their preferences. With respect to MVC architecture, the model will be the user’s settings and permissions stored on our database, the view will be our graphical user interface that the user will interact with, and the controller will be the code and logic.

# Implementation Plan (3 cont.)

Generally, Marko will focus mainly on database design and its communication with the application. Denald will be working on the application’s main functionality (switching between screens, accepting user interaction, etc.). Jacob will be working on the application’s design and user experience. More specifically, as needed, the different portions of the application (loading screens, help/about screens, etc.) will be delegated as necessary throughout the development process.

# Schedule (4)

Overall, the core functionality will be completed by the end of the fall term. This includes the design of the application, the user interactions with the interface, as well as storing user preferences and room access permissions on a remote database. As a group, we plan on taking this application to the winter semester to use in our capstone project.

# Similar Applications (5)

Nuki Smart Lock <https://play.google.com/store/apps/details?id=io.nuki&hl=en>

This application works in conjunction with Nuki’s smart lock products. It communicates with the locks in order to allow access with user’s smartphone and allows remote locking/unlocking.

Smart K App <https://smartkapp.com/products/smart-room-systems>

This application allows owners to have a central location for viewing information that would be pertinent to smart home control.

Our app will differ from these two applications in that it will offer a combined experience of both of their core functionalities. Allowing the user to access both their room security and smart home settings from one central application.

# Test Cases (6)

1. Adding or removing user permission for room access
2. Adding room schedules and availability
3. Altering room settings and syncing with database
4. Checking if data is retrieved properly from database

# Conclusion (7)

In conclusion, this app will allow users easier access to security and smart home management. We feel this project will provide a great challenge for all of us. We hope to learn a lot and develop a knowledge base of the android platform/enviorment.