**PCT01 Group 2 project plan**

**Project description**

We have to create a system for a student house. We have to include identification for access to the house and different rooms (with a way to add and remove access), an adaptive lighting system (based on weather and time of day), automatic hall lights (with movement detection), an alarm system (a smoke detector for every room for example), customized mood lighting and an air conditioning (fan) that is adjusted based on the temperature and humidity (using the DHT11).

**Deliverables**

1. First of all, we make a general plan about what we will be doing and some alternatives to our plan in case something goes wrong.
2. After that we will create the hall lights that activate by motion.
3. Then comes the adaptive lighting system, which will change the light with motion detection and will analyze weather and time of day.
4. Customized mood lighting
5. Adaptive air conditioning unit (using DHT11)
6. A smoke detector (using either an IR ray or a gas detector module)
7. A keyed entry system with either an RFID chip is possible or using an IR remote. The system will communicate the authentication to the other Arduinos using a server.
8. Finally, a food tracking system is added using a color sensor to keep track of the food in the fridge.

The deliverables will be done in that order, the exact dates can be followed in the git repository.

**Communication**

Communication will be done in person every Monday during a scrum team meeting. Everyone will report their progress on the task to the scrum master and ask for help if needed. Further communication will take place online.

Project team structure:

* Scrum master
  + Keep track of progress and deliverables
  + Update and maintain git repository
  + Work on the project
* Team members
  + Report their progress to the scrum master
  + Work on the project

**Risks analysis**

The project is extremely low-risk. The more significant risks which are barely worth looking at are:

1. Lack of management or control
   1. Highly unlikely and not harmful (trivial risk)
2. Failure to follow methodology
   1. Very likely and not harmful (moderate risk)