**Progress report on ERTS assignment**

**Smart home solution**

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This document shortly summarizes the progression we did in the last 3 weeks regarding our smart home solution.

1. **Overwiev and current state of the system**

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Description automatically generated

Since we did not have access to laboratory equipment in the earlier weeks we had to create an environment in which we could test our implementations. For this reason we set up a Linux VM which had the MQTT Broker running. We also simulated the sensory information which would be collected by the Sensehat module with randomly generated data. We managed to set up the communication between the C implemented room model and the Sensor module, so the room is currently able to receive the temperature and humidity information.

It is currently able to create new rooms based on the received signal that would be coming from the control interface. It is also capable of generating the GPS signal which will be sent to the Control, indicating somebody is approaching the house. The room module is also equipped with the logic for the control of the room, deciding whether to start heating the room but it is still lacking the logic for window control and making sense out of the humidity information.

**2. Further work**

* We are still missing the implementation for the Firebase Control Interface through which we can monitor and control the system.
* We have to test our current solutions with the actual environment with the real signals and assess the signal’s boundaries and have our system make decisions based on the real, not randomly generated values.
* We have to include and facilitate the Day-Night indication signal, since we have not decided yet whether it will be based on time information or visual based solution using the camera module.
* We have to still refine the C implemented room control logic based on the received signals, extend it with

1. taking the humidity information into consideration
2. Control the windows
3. Incorporate the logic handling the signals received from the control module

**3. Summary**

In summary, the whole of the sensor data collecting is implemented and tested, the communication between the existing modules are also established. We know have to focus on the actual control logic and the control interface itself.