Supplementary Requirements Documentation-Devices

HomeDork - Interactive Smart House

Project Members

Reference	Name	Email
A	Samuel Mcmurray	Samuel_joseph.mcmurray0004@stud.hkr.se
B	Mustafa Ismail	mustafa.ismail0007@stud.hkr.se
C	Ibrahim Ahmed Ali	ibrahim.ahmed_ali0003@stud.hkr.se
D	Osayomore Edugie	Osayomore.edugie0004@stud.hkr.se

Revision History

Date	Version	Description	Author
19/09/2021	1.0	Initial Supplementary Requirements	A, B, C
07/10/2021	1.1	Added – Well Structured Code and Doc-String Standards for comments	A B C D
21/10/2021	1.2	Added – Measurability to the Descriptors, Code of Ethics Updated - Priority	A, B, C, D
13/11/2021	1.3	Added – Secure Communications Updated - Priority	A, B, C, D
06/12/2021	1.4	Updated – The completion percentage.	A, B, C, D
08/01/2022	1.5	Updated - The completion of the Secure communications to 50%, the Performance memory and optimization.	A, B, C, D

Supplementary Requirements List

Supplementary Requirement Name	Priority	Completion (%)
S1. Code of Ethics	Essential	NAN
S2. Secure Communications	Essential	50

S3. Performance Memory, and Optimization	Desirable	85
S4. Well-structured Code	Desirable	95
S5. Blue Tooth Security	Optional	0
S6. Doc-String Standards for Comments	Essential	100

Supplementary Requirements Descriptions

S1

We have agreed upon a code of ethics how we must conduct with those who will be participating in the project shall be it the stakeholders the course instructors in this case, among other groups, amongst our group, and our individual subgroups. This document is included in the entire group project file

Measurability

This is a difficult thing to measure one way could be to do an exit survey with the experience that everyone had, or you could hope by having a defined code of ethics it raises the expectations of how everyone will act toward one another.

S2

The communication between the server and the device hub should maintain security so that MITM attacks cannot take place.

Measurability

The server and device team will be using an encryption method on all communications ensuring the security of the messages.

S3

The performance should be good in both speed and memory perspective as the Arduino is a small device it is necessary to save space where possible and ensuring that the Arduino performs well.

Measurability

When updates or completely new projects are uploaded onto the Arduino there is information given stating the memory usage for global and the overall device ensuring that we stay well within limits should keep the speeds optimal. Speeds can only be measured with time so we will introduce a timer on ever command received and when a function is executed at the start and will end when the stacks are popped back to the main function.

S4

The code within the device should be structured in a way that makes sense is not cluttered, in doing so readability and maintainability are at the for front of the structure.

Measurability
We have already begun to implement a Software structure that are laid out in an intuitive and standard way.

S5
The Bluetooth should be secure so that only the users with access can make changes to the states of the connected devices.

Measurability
The Bluetooth could be tested with just the a none user phone to see if it can connect.

S6
The group shall follow a standard for comments using doc strings on the classes, and methods to ensure the code is easy to understand and maintain.

Measurability
When going over the classes we can review them ensuring they have doc strings that the information is accurate, and it is well defined.