

Project Kickoff Meeting

19th March 2022

Attendees

- Aidan, Ian

Background

- We're creating a web-based application based on the NASA space station context.
- **Design:** Design docs deadline - 18th April
- **Implementation:** The code must be finished by: week 23 May
- **Demo:** The demo of the product and codebase is on: 26 May

Scope



- Restful API to speak with the database
- Authentication details WAD Domain Controller OR local hashing and salting (research the pros and cons of each system)
- Producer/Consumer for ?
- MFA — pyotp library with most secure encoding sha_512 (reference why sha_512 is secure)
- Testing — pytest for unit tests automated with github actions
- Diagrams: Activity diagram, Class Diagram, Sequence Diagram

Roles

- Ian - Developer and Content Writer
- Aidan - Developer and Content Writer

Questions

Potential to use Windows Active Directory Domain Controller

-  **Will this force us to use one OS?** No, you can use either.
-  **Is it more secure than using a DB with hashing and salting?** Check out pros and cons.

Notepad

- **Data storage: PostGres DB** – has option to store JSON data as well as structured table data
- **MFA:** pyopt – with sha_512 encoding (get a reference!)
- **Fault Tolerance** - how to deal with failed server, loss of communication
- **Testing** — pytest (brief research on security of pytest vs unittest)
- **REST Api** to speak with database (implemented in flask)
- **Microservices:** Ground Control, Space Control (each with their own db?)
- **Applications:** Data Monitor

- login (can we use public API for list of authorised users?),
- dashboard to monitor data,
- **Applications: System Controller**
 - login,
 - IP logging and filtering,
 - security against DoS attacks,
 - ability to communicate with space station
 - Increase oxygen,
 - decrease oxygen,
 - increase temp,
 - decrease temp,
 - ability to disable space station controls.

Actions

- ERD for data structure (table for each sensor?)
- Set up database
- Decide on API endpoints

Next Meeting

Tuesday 6.30pm: Agenda Database design – database endpoints