Flight Team

Flight Director

Operator #1   Operator #2   Operator #3   Operator #4

Database

Satellite/SC

Test Conductor

Assumptions:

- Flight Conductor and Operators have Open channel

login

Prof
| Teams | |
| TC | FD |

- TC
- FD
- Test Logs

Student

- FD
- Team

Epics
- Getting Started
- User login
- TC UI
- FD UI
- Team UI
- Prof UI
  html
- Server
  - SC
  - test env
  - roles

- T.C –> S.C –> FD – Team

- Role managements

9/15 - Meeting

Thursday, September 15, 2022   2:00 PM

Project: Spacecraft Control Center Simulation
Topic: Second Team Meeting

Summary of Work:
- The team met during class time
- Discussed .Net Maui
- Developed Project Vision
- Updated Zenhub

Details:
- If the customer and team conclude on the use of creating an app for this project, the team has decided on .Net Maui as the development framework
- Decided that a list of questions for Dr. Laskey would need to be created to specify the project. Some concerns:
  - What is the user actually seeing? What does the interaction need to do?
  - Are we set on needing an app, or could this go another direction?
  - Do the individual operators have different specific operator roles?
  - Who decides the student roles for the simulations, and when?
- The epics were started to be drawn up and Kyle adapted them into the zenhub. These can be seen in the diagrams for this meeting:
  - Getting started
  - User Login
  - TC UI
  - FD UI
  - Operator UI
  - Simulated Space Craft
  - Test environment
  - Role Manager
  - Administrator UI
  - Communications
- These serve as a framework to begin visualizes the steps of the project and are subject to change or detailing
- Many team members added their own features to the epics. I added:
  - Research possible databases
  - Schedule meetings with client and product owner
  - Research other methods of product delivery
  - Develop list of detailed questions for client
  - Develop product designs to show client

9/15 - Effort

Thursday, September 15, 2022   4:00 PM

Project: Spacecraft Control Center Simulation
Topic: Individual Setup & Work

Summary of Work:
- Research App Development
- Setup and tested .NET Maui

Details:
- Very little issues getting .Net Maui self-test project to function because already had Visual Studio and Android Emulator downloaded.
- Just had to update Visual Studio with the .Net Maui packages
- Big issues getting the test project Kyle uploaded to the Github to work after ensuring everything was setup properly
- Solution: restart Visual Studio and redownload app code

9/14 - Effort

Wednesday, September 14, 2022   6:30 PM
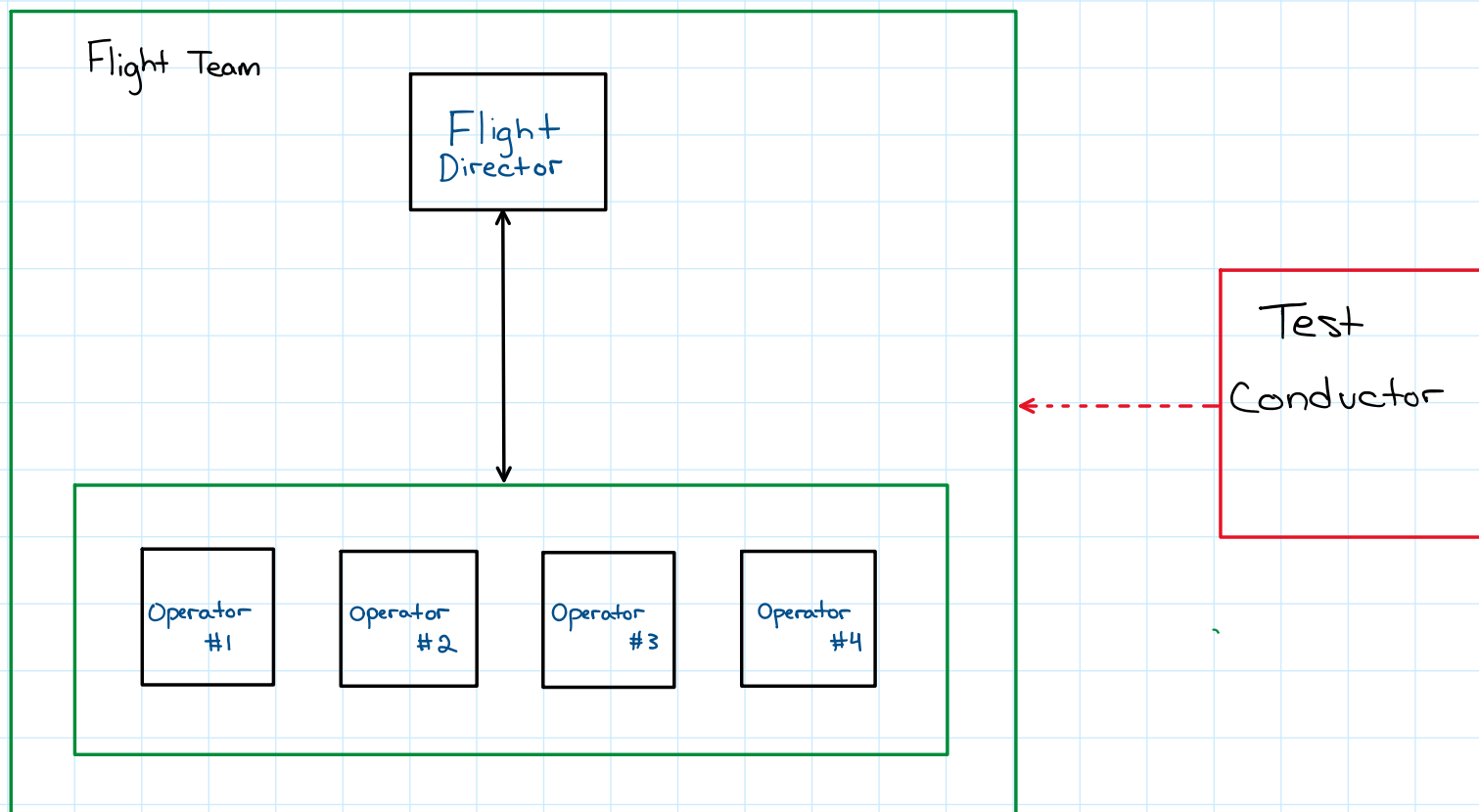
Project: Spacecraft Control Center Simulation
Topic: Individual Research

Summary of Work:
- Researched App Development
- Voted on survey created by Kyle
- Reviewed zenhub

Details:
- Voted for .Net Maui because C# does not look hard to learn and its cross-platform ability paired with extensive libraries seemed like a good fit for the scope of this project
- Did not choose Flutter because it seemed to be too new and less adaptable libraries
- Did not choose React Native because I have experience with it, and JavaScript is not the smoothest language for app development

Flight Team

Flight Director

Test Conductor

Operator #1

Operator #2

Operator #3

Operator #4

Assumptions:

-Flight Conductor and Operators have Open channel

9/13 - Meeting Notes

Tuesday, September 13, 2022   4:06 PM

Project: Spacecraft Control Center Simulation
Topic: First Meeting with product owner and customer
Summary of Work:
- First team meeting with product owner and customer
- Discussed product vision, expectations and use
- Set up Zenhub

Details:
- **Product Owner: Professor Garfield**
- **Customer: Professor Laskey**

  Customer Final Product Overview:
  - Ideally an application that can be downloaded on a mobile device, that a flight director and mission operators could have unique roles in
  - Mobile device would need to be accessible via multi-platform (IOS & Android) for mass availability
  - Someone in charge of electric power?
  - Test conductor(Professor) could push out anomalies at any time
  - Need to engage with students in and out of classroom
  - Option: Web based touch point from anywhere and perform actions to link to all other operators and flight director

    Bigger (not top priority):
    - Logging events for after-hours review
    - Bugs
    - Professor access of learning

  Sprint 1 Goals:
  - Something to show the customer and determine if we're on the right track (3 weeks)
  - Create single bogus function to begin spacecraft simulation
  - Put on mobile device to show proof of concept
  - Perhaps do on computer first if simpler proof
  - End: Simulated spacecraft with single function, console (computer, mobile) with single function

  Semester 1 Goals:
  - Will grow as fully defined requirements from customer grow
  - Robust pretend model: for us, for review
  - First: Within lab have 4 computers running program simultaneously and communicating - minimum viable product
  - Middle: Web based for remote connection
  - End: Mobile 24/7 connection

  Hardware:
  - Software only, no true devices: all simulated
  - Closest hardware is headsets for communication but due to mobile phones no necessary

  How many should system support?
  - 16 people
    - Groups of 4 separate missions (completely separate)
    - Or
    - 16 on one (less viable option)

  Start:
  - **5 people total team**
  - 4: operators
  - 1: flight director
  - 1: test conductor

Project Roles:

- **Test Conductor:**
  - Adds bad stuff/bad events
  - Professor - only one who gets training reports
- **Flight Director:**
  - In charge of team
  - Starts as professor role, ends as students
- **Console Operators:**
  - Operating spacecraft
  - Varied specific roles?
- **AI Coach:**
  - Maybe????

9/8 - Meeting Notes

Thursday, September 8, 2022   3:30 PM

Project: Spacecraft Control Center Simulation
Topic: First Team Meeting
Summary of Work:
- Initial Team Assignment & Introduction
- Initial Team Discussion

Details:
- Team members get together and begin discussing project goal point of views
- Choose **Scrum Master: Jeff Cevallos**
- Professor Akbas advised we develop our project scope and project timeline via a meeting
- Determine ideas of project goal & scope are varied and decide to plan "vision" meeting with product owner and customer
- Vision Meeting time and date is set for Tues, Sep 13 at 3:00pm
- Establish Github and Discord for team communication

9/20 - No Meeting: ERAU Awards & Fellowship Presentation

Tuesday, September 20, 2022   2:31 PM

9/22 - Sick Group Meeting Cancelled. Summer & Carly Meet with Professor

Tuesday, November 1, 2022   4:18 PM

Project: Spacecraft Control Center Simulation
Topic: No word from Garfield

Prior to Meeting:
- Some group members are sick
- Jeff decides to cancel meeting due to sickness and lack of Garfield communication
- Jeff emails Garfiled again to find new meeting time and convince him to meet with Laskey
- Kyle and Carly hash out plan to get some work done
  Carly/Kyle:
  -App concept art (all UI pages)
  -App implementation research
  -App project initialization on GitHub
  Summer/Jeremy:
  -Web app concept art (all UI pages)
  -Web app implementation research
  -Web app project initialization on GitHub
  Jesse:
  -Communications (two instances of the same web app (for now) communicating)
  Jules:
  -Power point incorporating ideas on shared google doc + concept art produced by other sub teams
  Jeff:
  -Secure Garfield/Laskey meeting
  -Initialize documentation
- Group is deciding on web app not mobile app

Summary of Work: Summer and Carly meet with Akbas to figure out Garfield radio silence

Details:
- TA instructed us to speak to Akbas during check in
- Get TA email to add TA to zenhub
- Akbas instructed us that he would try and have a discussion with Garfield and to send an email to remind him
- Akbas also instructed us to start making assumptions since the lack of communication

9/27 - Meeting

Tuesday, November 1, 2022   4:19 PM

Project: Spacecraft Control Center Simulation
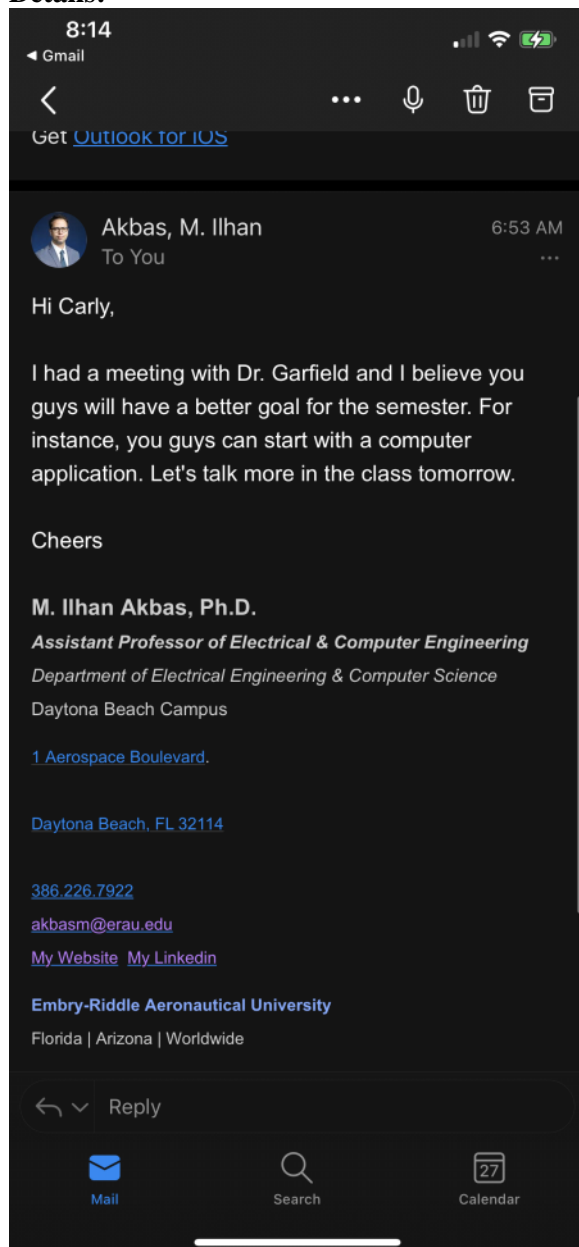**Topic: Begin development with assumptions**
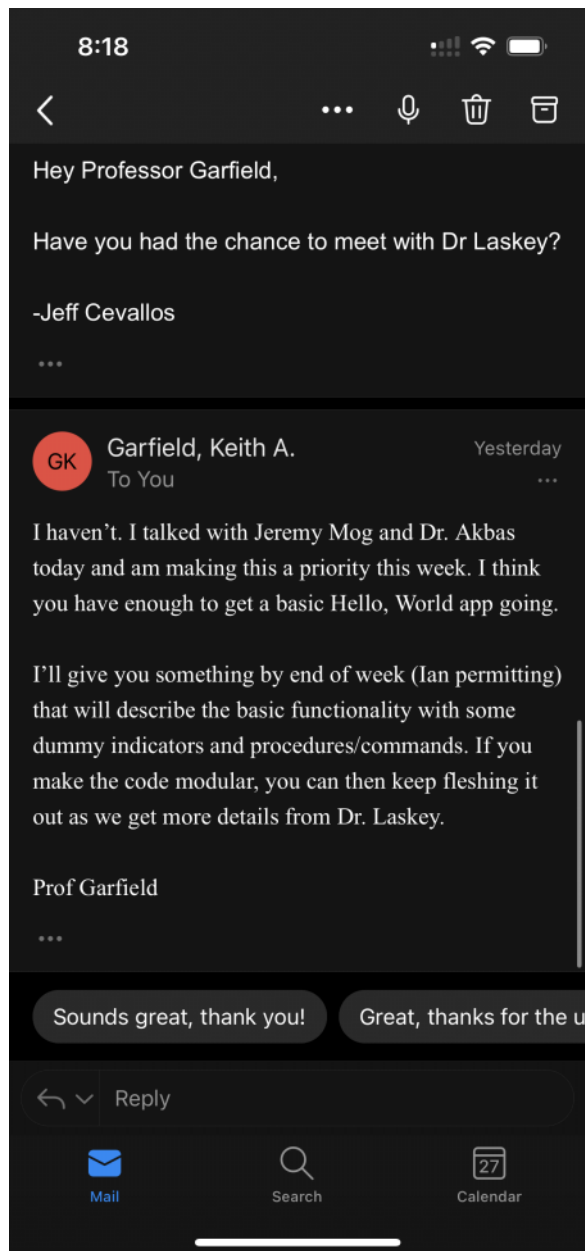
Summary of Work:
- Decided to begin as web app
- Akbas instructed to begin assuming more
- Garfield instructed to begin hello world app as we await for more information
- Hard to determine framework/software without requirements
- Researched and began node.js, socket.io, and HTML5 using a multiplayer game
- Jesse helped us all to set up example code
  https://github.com/ruby0x1/realtime-multiplayer-in-html5
  https://nodejs.org/en/

Details:

Hey Professor Garfield,

Have you had the chance to meet with Dr Laskey?

-Jeff Cevallos

...

Garfield, Keith A.
To You   Yesterday

I haven't. I talked with Jeremy Mog and Dr. Akbas today and am making this a priority this week. I think you have enough to get a basic Hello, World app going.

I'll give you something by end of week (Ian permitting) that will describe the basic functionality with some dummy indicators and procedures/commands. If you make the code modular, you can then keep fleshing it out as we get more details from Dr. Laskey.

Prof Garfield

...

Sounds great, thank you!   Great, thanks for the u

Reply

Mail   Search   Calendar

9/29 - Hurricane Cancelled

Tuesday, November 1, 2022　　4:20 PM

10/4 - Absent from meeting due to hurricane damages

Tuesday, November 1, 2022   4:23 PM

Project: Spacecraft Control Center Simulation
Topic: Documentation Discussion

Summary of Work:
- I was absent due to hurricane damages but got some meeting notes via discord
- The purpose of this meeting was to begin splitting up tasks and planning a demo
- Also sprint 2 was discussed

Details:
- The team planned out documentation work. Each member would work on the specific sections of documentation that related to their side of assigned operations. The unspecific sections were to be shared.
- The sub-teams were planned as webapp and simulation, as these would have different languages for their computational differences.
    - Webapp: Kyle, Carly, Summer
    - Simulation: Jesse and Jeremy
    - Documentation lead and code help: Jules and Jeff
- Some team members also experimented further with web design templates and possible frameworks

10/6 - Meeting Notes

Tuesday, November 1, 2022   4:23 PM

Project: Spacecraft Control Center Simulation
Topic: User Interaction

Summary of Work:
- Before the meeting Kyle, Jesse and Jeff tried to meet with Dr.Garfield during his office hours but Dr.Garfield was not there.

- Started with standup meeting during our taco/quesdilla break that occurred on walk to union study room
- Split Group Into
  - Web Development
  - Simulation
  - Documentation

Details:
- Found the space mission engineering textbook to help the group visualize simulation
- Have a simulation game in the website. Jesse lead this.
- Some tasks were planned out as can be seen in the diagram below. Originally here I was assigned to both documentation and web development.
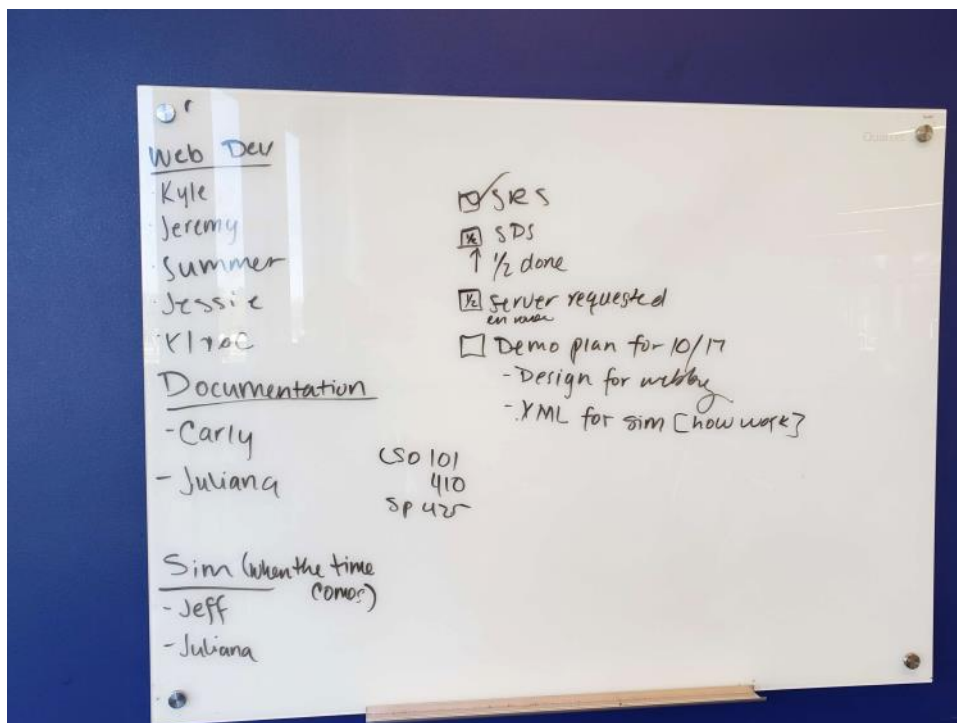
**Just to note these sub-group assignments are no longer accurate and were changed when the framework was changed.

10/11 - No meeting career fair

Tuesday, November 1, 2022   4:23 PM

Document from Garfield today

# 10/13 - meeting

Tuesday, November 1, 2022   4:23 PM

Project: Spacecraft Control Center Simulation
Topic: Dr.Garfield repsonse

Summary of Work:
- Entire group worked on presentation started by me on google slides
- Carly was to make the DFD
- NASA github found to help visualize control console
- Dr.Garfield finally gave us a product description so we spent time reading over and discussing that
- Kyle working on webapp login page and website routes
- Begun development of sprint one demo presentation

Details:
- The below diagram is the initial DFD diagram for the first website framework. This was sent to the group for discussion
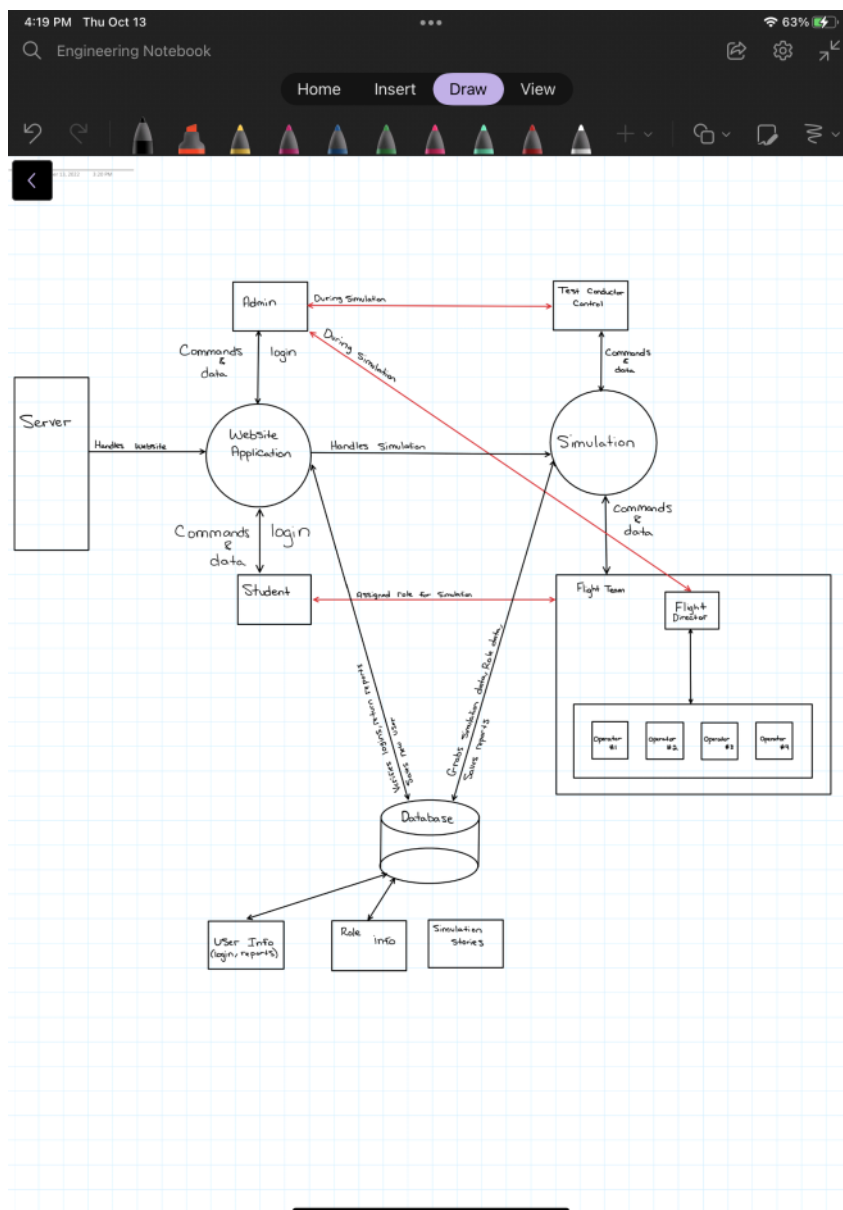
9/26 - Dr. Garfield no answer

Tuesday, November 8, 2022   11:50 AM

Project: Spacecraft Control Center Simulation
Topic: Waiting on Dr. Garfield

Summary of Work:

- Jeff tried to reach Dr.Garfield again via email
- Jeremy reached Dr.Garfield between classes and let us know that he has more requirements for us
- Discussed framework

Details:
- Jesse found a framework that javascript program that creates an open web socket for 2 or more client instances for communication on website in real time
- Discussed the possibility of use of this framework at the school (IT concerns), possible use of VPN and costs associated.
- Garfield explained that the end of this sprint goal would to have either a website or app that doesn't do anything

Meeting Template

Tuesday, November 8, 2022   12:21 PM

Project: Spacecraft Control Center Simulation
Topic:

Summary of Work:

Details:

10/14 - Effort

- Kyle and Carly made a list of needed diagrams:
  - Class Diagram
  - Data Flow Diagram
  - Software Structure
  - Communication Diagram
  - Hardware Interface Diagram
  - Use Case
- At this point
  - Kyle: Class and Use Case
  - Carly: DFD
  - Worked on this diagram

11/01 - Meeting Notes

Tuesday, November 1, 2022   4:06 PM

Project: Spacecraft Control Center Simulation
Topic: Plan to get Test Plan completed
Summary of Work:

- Decided the best course of action was to update our SRS with the information we know now before attacking the test plan
- Decided who would define what subsystem in the SRS
    - SWA: Kyle
    - FO: Summer
    - TC: Carly

    - SimEngine: Jesse
    - Sim: Jeremy
    - Simcraft: Jeremy
- Jeff and Jules were not present for the meeting so we did not assign them section in SRS for tonight because we are not sure what they can get done given their situations
- Decided to ignore the FD and Communications for the present tasks
- Discussed setup of further project code
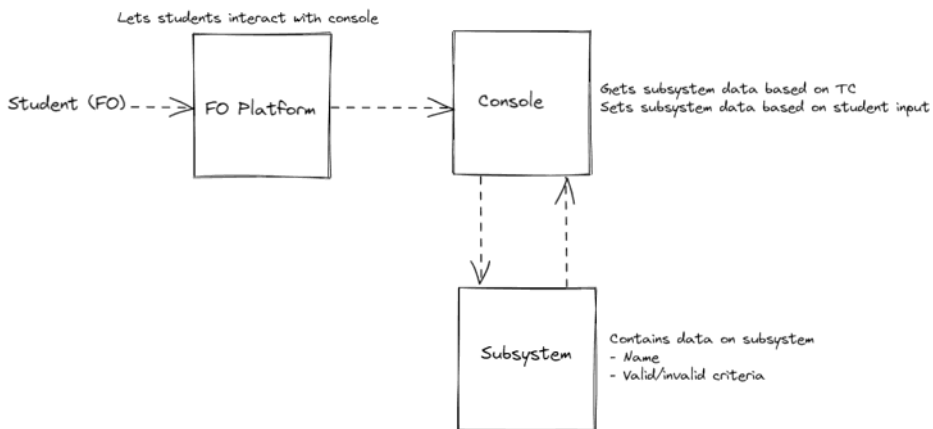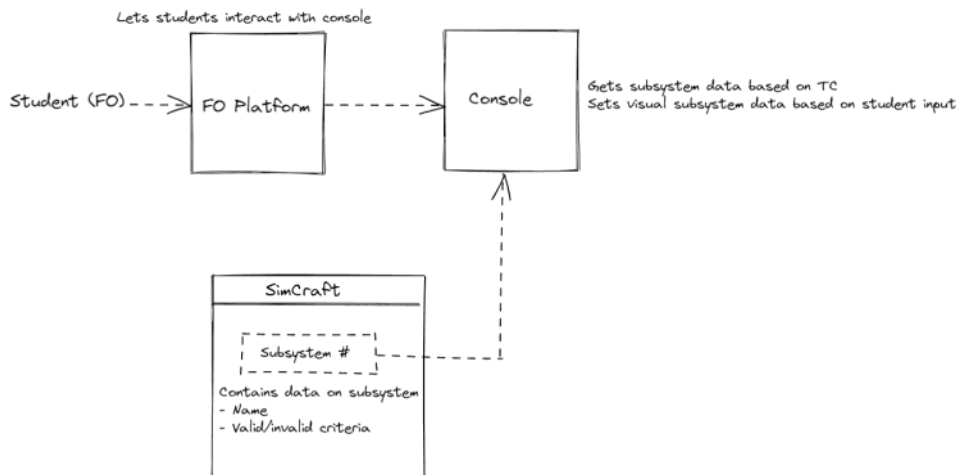- Completed 4.6 TC requirements in SRS to get Test Plan ready

Details:
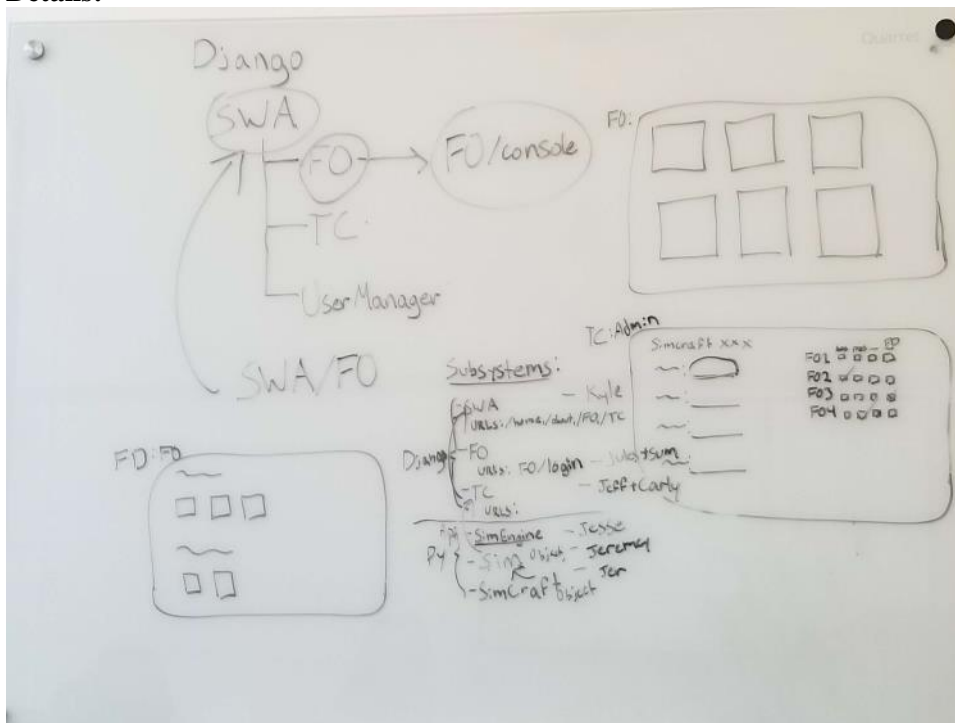
- For future coding the subsystems listed above will be handled as such
    - SWA: Kyle
    - FO: Summer is lead, awaiting communication with Jules for verification if she wants to do this or something else
    - TC: Carly is lead, awaiting communication with Jeff for verification if he wants to do this or something else
- --
    - SimEngine: Jesse
    - Sim: Jeremy

○ SimCraft: Jeremy

- Decided if there is a FD they will get an overview dashboard of what every FO would see
- Drew out very very basic pages for TC and FD

Lets students interact with console

Student (FO) - - -> FO Platform - - - - -> Console

Gets subsystem data based on TC
Sets subsystem data based on student input

Subsystem

Contains data on subsystem
- Name
- Valid/invalid criteria

Summer made communication diagram for FO

Lets students interact with console

Student (FO) - - -> FO Platform - - - - -> Console

Gets subsystem data based on TC
Sets visual subsystem data based on student input

SimCraft

Subsystem #

Contains data on subsystem
- Name
- Valid/invalid criteria

10/27 - Meeting Notes

Thursday, October 27, 2022   4:16 PM

Project: Spacecraft Control Center Simulation
Topic: Changed Framework & Education

Summary of Work:

- Jesse lead the team discussion via his research that we should be using Django with separate Apps/URLs for pages
- Some of us downloaded and began setting up our first Django app (to learn and practice)
- Kyle setup and pushed real Django project for team use
- Discussed Microsoft Azure

Details:

- Some members had issues given the Django requires python downloaded
- I was able to get and run a new Django project on the internet and see how "/admin" worked
  - "/admin" is given by Django and requires further research as we could see adaptation for our TC
- Had trouble getting multiple "Views"to sync together, requires further effort
  https://azure.microsoft.com/en-us/free/students/

https://docs.djangoproject.com/en/4.1/intro/tutorial01/
https://www.djangoproject.com/start/

10/25 - Meeting Notes

Tuesday, October 25, 2022   4:16 PM

Project: Spacecraft Control Center Simulation
Topic: Must Finalize Framework

Summary of Work:
- The team split into discussion groups
- Discussed switching frameworks
- Discussed project structure and potential sub-groups for working with any new framework in mind
- Submitted the demo 1 presentation slides

Details:
- I split into the discussion group with Kyle and Jesse
- Read many links:
    - https://realpython.com/prevent-python-sql-injection/
    - https://www.bleepingcomputer.com/news/technology/embed-python-scripts-in-html-with-pyscript/
    1. https://pyscript.net/examples/
    - https://jeff.glass/post/7-guis-pyscript/
    - https://blog.logrocket.com/pyscript-run-python-browser/#:~:text=PyScript%20is%20an%20open%20source,running%20Python%20in%20the%20backend.
    - https://www.hashbangcode.com/article/look-running-python-web-browser-pyscript

Say Hello to PyScript

PyScript is a framework that allows users to create rich Python applications in the browser using HTML's interface and the power of Pyodide, WASM, and modern web technologies. The PyScript framework provides users at every experience level with access to an expressive, easy-to-learn programming language with countless applications.

What is PyScript? Well, here are some of the core components:

- **Python in the browser:** Enable drop-in content, external file hosting, and application hosting without the reliance on server-side configuration

- **Python ecosystem:** Run many popular packages of Python and the scientific stack (such as numpy, pandas, scikit-learn, and more)

- **Python with JavaScript:** Bi-directional communication between Python and Javascript objects and namespaces

- **Environment management:** Allow users to define what packages and files to include for the page code to run

- **Visual application development:** Use readily available curated UI components, such as buttons, containers, text boxes, and more

- **Flexible framework:** A flexible framework that can be leveraged to create and share new pluggable and extensible components directly in Python

All that to say… PyScript is just HTML, only a bit (okay, maybe a lot) more powerful, thanks to the rich and accessible ecosystem of Python libraries.

In short, our mission is to bring programming for the 99%.

10/20 - FALL BREAK

Tuesday, November 1, 2022   4:24 PM

11/3 - meeting notes

Thursday, November 3, 2022   11:18 AM
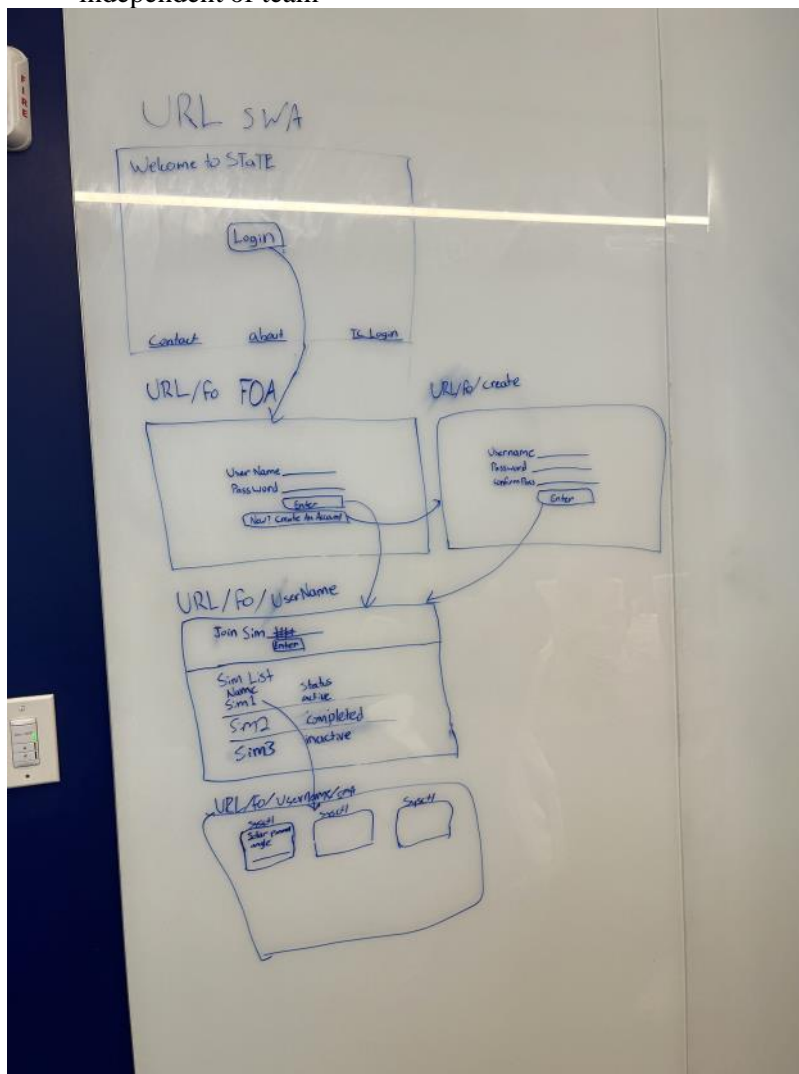
Project: Spacecraft Control Center Simulation
Topic: Get on the same page
Summary of Work:

- Drew out pages for SWA, FO and started TC
- Decided process for TC having class/ability to share class
- Jules still sick
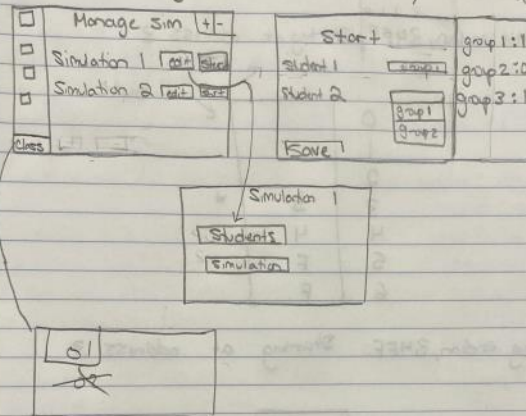- Discussed Kyle's Use Case

Details:
- TC generates a class code and students have a place to enter class code to join the class
- Once joined class, the teacher has a list of students that will allow them to set up simulations prior to class
- If a student does not participate in active simulation all other FO's in team can participate = FO's are independent of team

FO   Jon Eybooks   01   [Submit]

URL /TC/ Manage Sim

*When added
to group
sim appears
for FO

☐	Manage Sim [+]-]
☐	Simulation 1 [edit][delete]
☐	Simulation 2 [edit][delete]
☐	
Class	

Start
Student 1   [group]
Student 2
                [group1]
                [g-up2]
[Save]

group 1 : 1
group 2 : 0
group 3 : 1

Simulation 1
[Students]
[Simulation]

01
de

11/07 - Self Work

Monday, November 7, 2022   11:26 AM

- Created SDS document and made 1 note
- Tried to fill in sections of SDS that I could

- Kyle made use case for the documentation

11/2 - Virtual Test Plan Meeting

Wednesday, November 2, 2022   11:26 AM

Project: Spacecraft Control Center Simulation
Topic: Test Plan Completion

Summary of Work:
- After updating SRS yesterday, the test plan could now be worked on
- Decided the person who completed each section of functional requirements, are in charge of getting their section in the test plan completed.
- In order to complete the test plan, some sections of SRS had to be updated.
- Discussion included asking about our expectations of the code as well as specifying many of the moving parts.
- I would say I took the lead on updating both the SRS and Test Plan and making sure that the two were consistent with new changes. I also kept the team updated in this discord to sections that I felt needed help, and then a team members would pick it up.

Details:
- I focused on section 3.1, 3.2, and 3.3 & fixed the SRS usability requirements due to that, Table of contents, section 2 and added to 4.1.
- Made test strategies for functional testing, usability testing, database testing, performance testing and documentation testing.

3.1.2 Functional Testing

Test Objective: The STaTE's navigation, data entry, data output, and processing according to the specific requirements in the SRS. Provides verification that the software is accurate according to definite inputs and expected outputs.

Technique: Execute use cases as described from the use case diagram. When valid data is entered, the corresponding success result shall yield. When invalid data is entered, the corresponding error result shall yield.

Completion Criteria: When all use cases from the use case diagram have been tested and expected results are returned.

Testing Assumption Consideration: Access to the STaTe system and the corresponding SRS document.

- Also brought over the functional requirements from the SRS and defined many other requirements for the various testing sections.

10/18 - Project Presentation

Tuesday, November 1, 2022   4:17 PM

Project: Spacecraft Control Center Simulation
Topic: Presentation

Summary of Work:
- Met before class to make plan for in class presentation

Details:
- Carly created the presentation 10/13
- Updated presentation before class that day
- Added sections to presentation
- Prepared my assigned slides

Presentation:
All team members presented. Slide distribution as follows

1-3: Jeff
4-7: Jules
8-10: Carly
11-14: Kyle
15-16: Jerm
17-18: Summer
19-20: Jessie

10/31 - Effort

Project: Spacecraft Control Center Simulation
Topic: Self Work

Summary of Work:
- Saw that Jesse mentioned Dr.Garfield's document about project description where he explains some sub systems in control center terminology that we have to simulate
- Read through Jesse's summary of such and tried to understand it all for tomorrow's meeting

Table 1: ACS Sensors and Values

Item	Nominal Indicator (green)	Off Nominal Warning (yellow)	Off-Nominal Error (red)
Angle of Incidence (absolute values)	0 – 5 deg	5 – 30 deg	30 – 90 deg
Rotational Drift	0.0 – 0.1 deg/hr	0.1 – 2 deg / hr	Greater than 2 deg/hr
Fuel Level Sensor #1	30% - 100%	10% - 30%	0% - 10%
Fuel Level Sensor #2	30% - 100%	10% - 30%	0% - 10%
Fuel Pressure Sensor #1	10 – 30 psi	5 – 10 psi	0 – 5 psi
Fuel Pressure Sensor #2	10 – 30 psi	5 – 10 psi	0 – 5 psi

3.2   Power Distribution Subsystem (PDS)

The power distribution system provides power to the SimCraft via solar panel, stores power in batteries, and distributes power as needed to the payload. While in sunlight, the SimCraft produces power via the
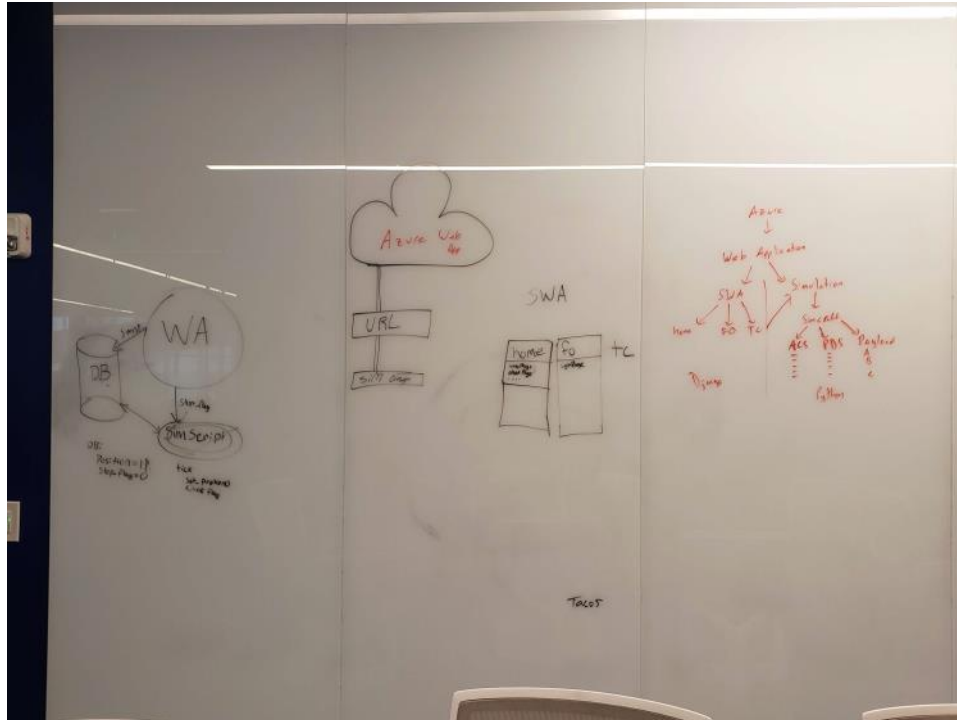
11/08 -Meeting notes

Project: Spacecraft Control Center Simulation
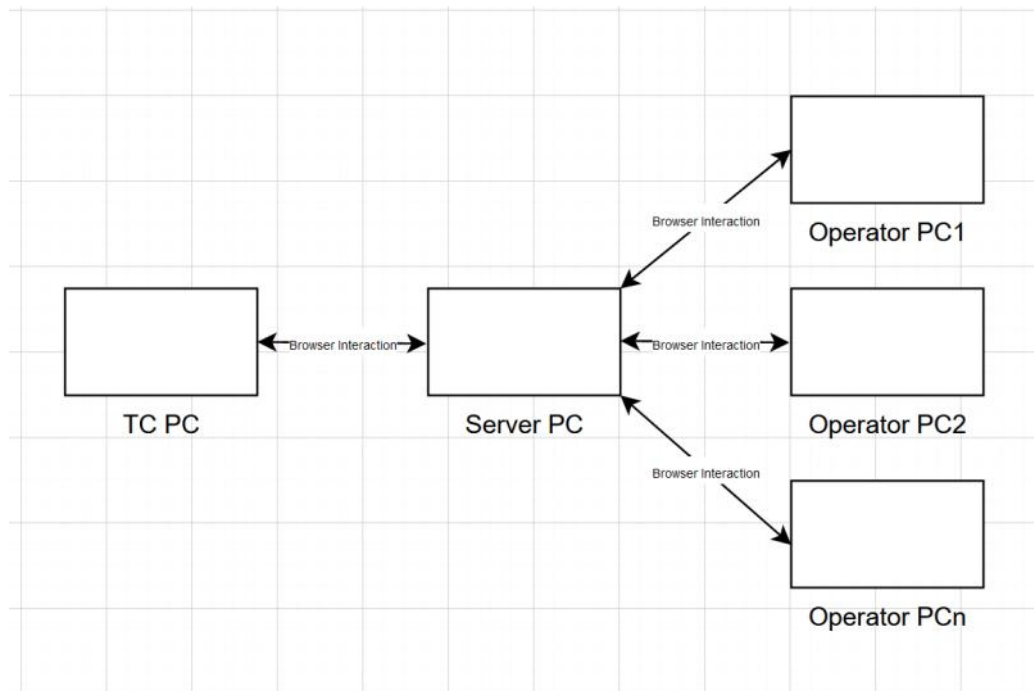**Topic: SDS and SRS Version 2 Team Work**

Summary of Work:
- Meet with Akbas
- Carly updated data flow diagram needed for the SDS
- Discussed aspects of SDS not sure about
- Other unshown diagram were updated/created
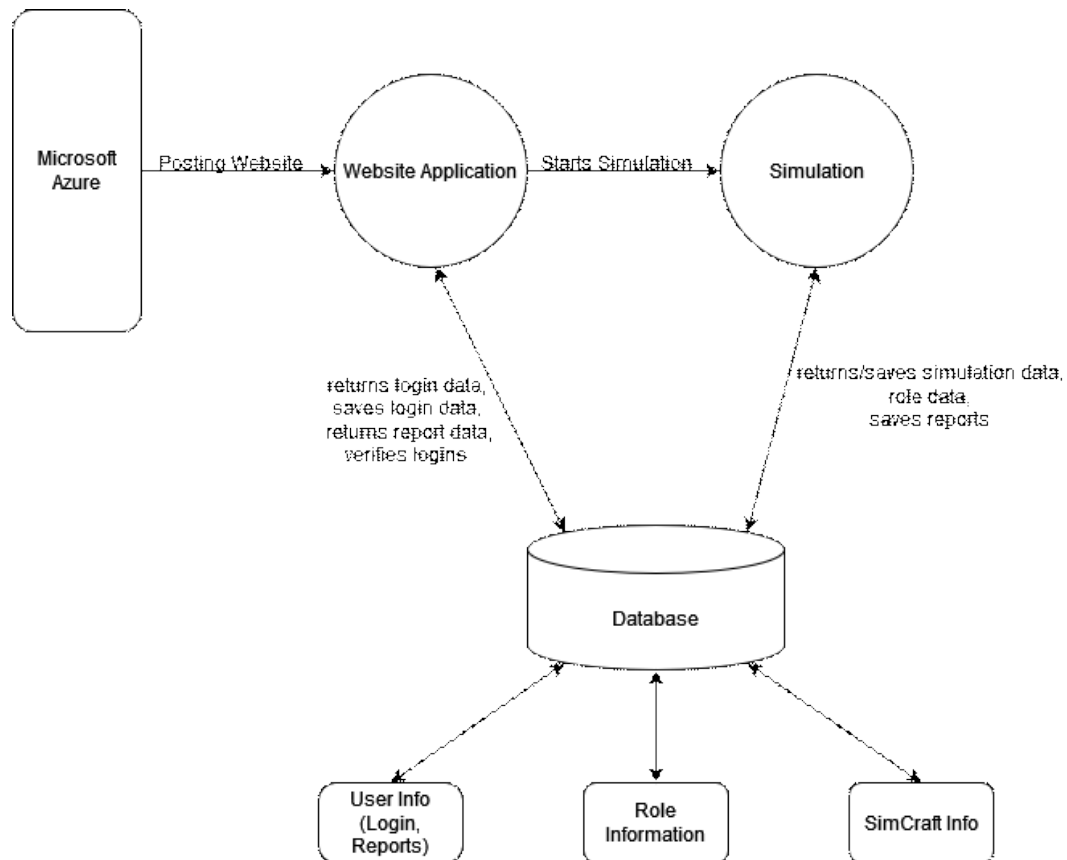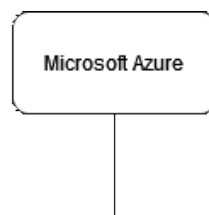- Found that many things in SRS needed updating to flow with SDS

Details:

- The group also spent some discussing module relationships that were important to language used in SDS
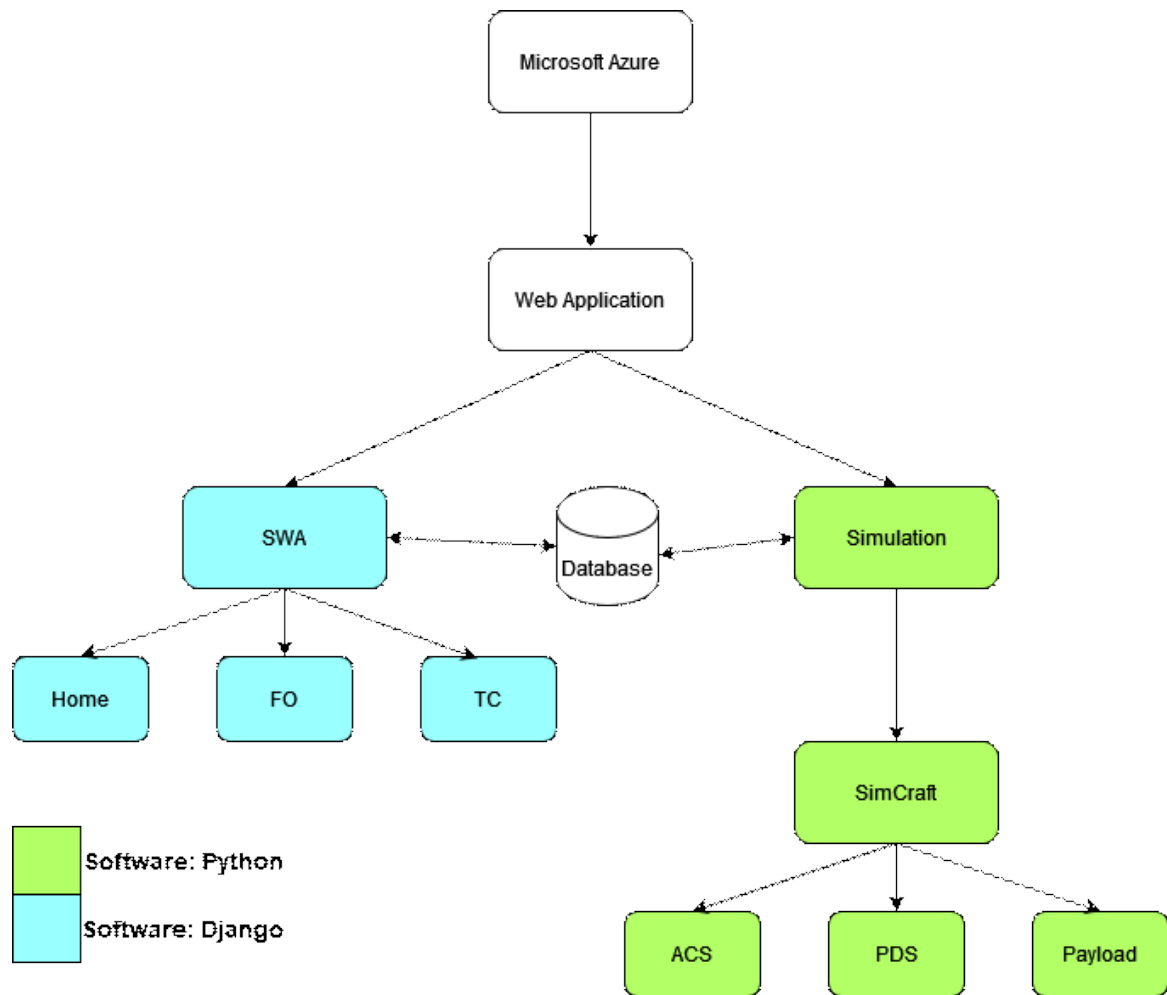- Kyle updated Hardware:

- Carly updated DFD

- Carly updated and color coded Structure Diagram

Microsoft Azure

Web Application

SWA

Database

Simulation

Home

FO

TC

SimCraft

ACS

PDS

Payload

Software: Python

Software: Django

11/08 - VIRTUAL SDD Work

Wednesday, November 16, 2022   11:35 AM

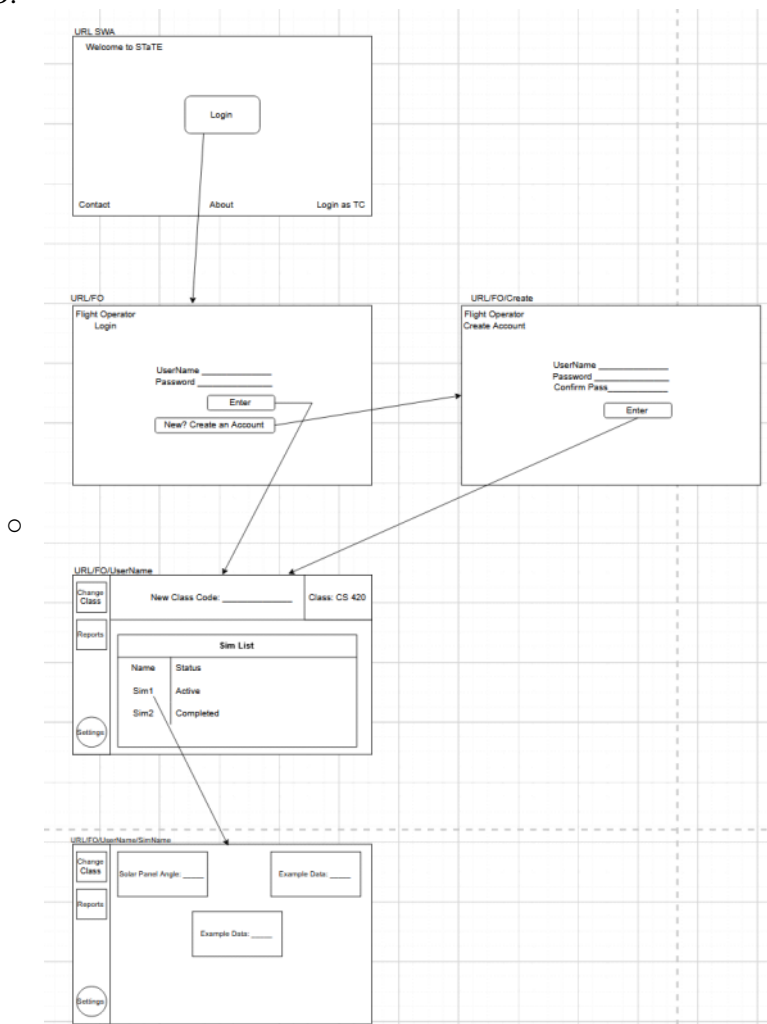**Project: Spacecraft Control Center Simulation**
Topic: SDS and SRS Version 2 Discord Discussion and Individual Work
Summary of Work:
- After the in class meeting there was still substantial work to be done on SDD
- Kyle and Carly had time early in day
- Kyle focused on UML and 4.2 until having to clock off for hurricane prep and possible mandatory evacuation at about 8pm
- Jesse, Jules and Jeff got on at 8pm
- Jeremy got on at about 9 pm
- Summer was unable to work virtually because of having the broken laptop
- After getting to an almost finishing point I had to get off at about 10:15 due to early hurricane power surges
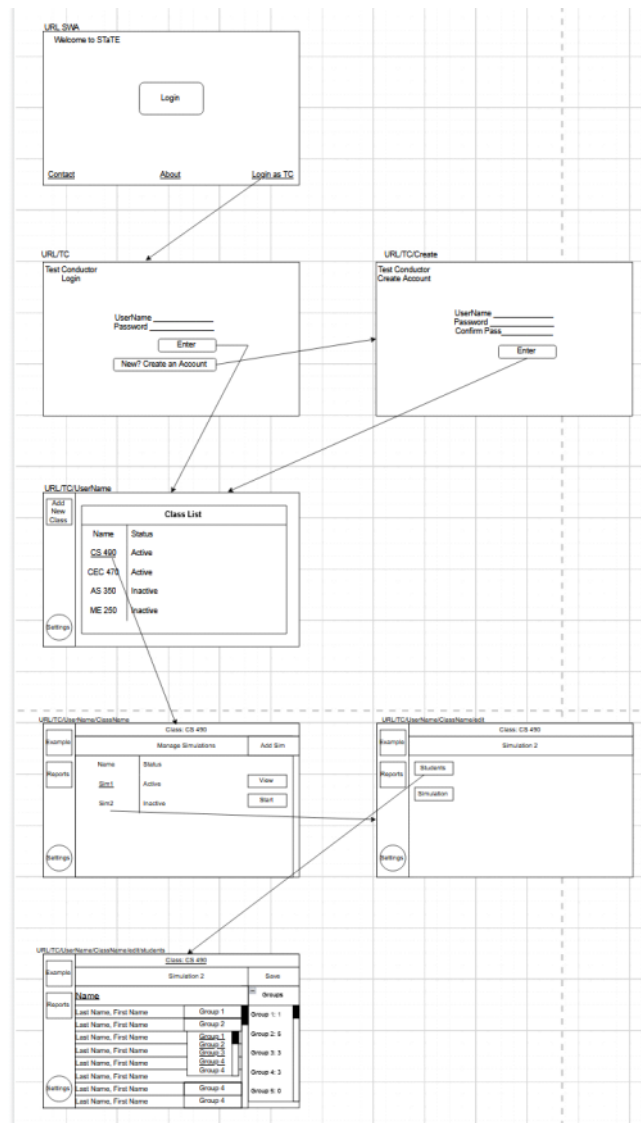
Details:

- I worked on 2.2, 2.3, 3.1, added to 3.1, added to 4.2: High Level System Overview.
- The SRS has version control for more detail, but sections that were affected by the SDS as well as just needed fixing were focused on. Juliana and I made these changes.
- A good chunk of time was spent on the User Interface creation and explanation in 3.1:
- FO:

- TC:

URL_SWA

Welcome to STaTE

Login

Contact   About   Login as TC

URL/TC

Test Conductor
Login

UserName _____
Password _____

Enter

New? Create an Account

URL/TC/Create

Test Conductor
Create Account

UserName _____
Password _____
Confirm Pass _____

Enter

URL/TC/UserName

Add
New
Class

Class List

Name	Status
CS 490	Active
CEC 470	Active
AS 350	Inactive
ME 260	Inactive

Settings

URL/TC/UserName/ClassName

Class: CS 490

Example

Manage Simulations   Add Sim

Reports

Name	Status	
Sim1	Active	View
Sim2	Inactive	Start

Settings

URL/TC/UserName/ClassNameEdit

Class: CS 490

Example

Simulation 2

Reports

Students

Simulation

Settings

URL/TC/UserName/ClassNameEditStudents

Class: CS 490

Example

Simulation 2   Save

Reports

Name

Last Name, First Name	Group 1
Last Name, First Name	Group 2
Last Name, First Name	Group 1
Last Name, First Name	Group 2
Last Name, First Name	Group 4
Last Name, First Name	Group 4
Last Name, First Name	
Last Name, First Name	Group 4
Last Name, First Name	Group 6

Groups
Group 1: 1
Group 2: 5
Group 3: 3
Group 4: 3
Group 5: 0

Settings

11/10 - Hurricane Cancellation

Tuesday, November 15, 2022   11:31 AM

No meeting: Hurricane

11/15 - Meeting Notes

Project: Spacecraft Control Center Simulation
Topic: Presentation Meeting Plan

Summary of Work:
- Entire team got together to work on the presentation slides
- Determined what milestones the team has made in the last sprint

Details:
- Milestone:
    - Picking and Staying with Django framework
    - Kyle made basic /home screens
    - Teams made
    - Diagrams updated
    - Kyle created Use Case
    - Carly made User Interface plans created

During Class: The Presentation

11/17 - Meeting Notes

Thursday, November 17, 2022   10:43 AM

Project: Spacecraft Control Center Simulation
Topic: Code

Summary of Work:
- The purpose of this meeting was to set up all necessary to allow for coding
- 6/7 members were present (Kyle had a prior obligation)
- Found a major issue in downloading and running the pushed Github code, all 6 members had the exact same issue

Details:
- Discussed how to not push bad code
- Decided who codes and plans out each section (same as roles prior just now adopted to code)
- Decided a winter break plan as every members will have a lot of extra time between semesters

11/22 - Meeting Notes

Tuesday, November 22, 2022   10:43 AM

Project: Spacecraft Control Center Simulation
Topic: Meeting before Thanksgiving break

Summary of Work:
- The purpose of this meeting was to see what could get done and who had time to work during Thanksgiving break
- Due to last meeting before break many of our members had flights, the lack of team meant it was not the most productive meeting (3/7 members were present: Kyle, Carly and Jeff).
- Fixed the code issue, so now the team can work together on the project

Details:
- Kyle ended up pushing to the Github and then to download and run the code all that needed to be done was a single install. This install did not work in the last error.
- Began to work on TC screens and spent the meeting trying to fix errors

11/24 - Thanksgiving

Thursday, November 24, 2022   10:43 AM

No meeting == Turkey

11/28 - Self Work

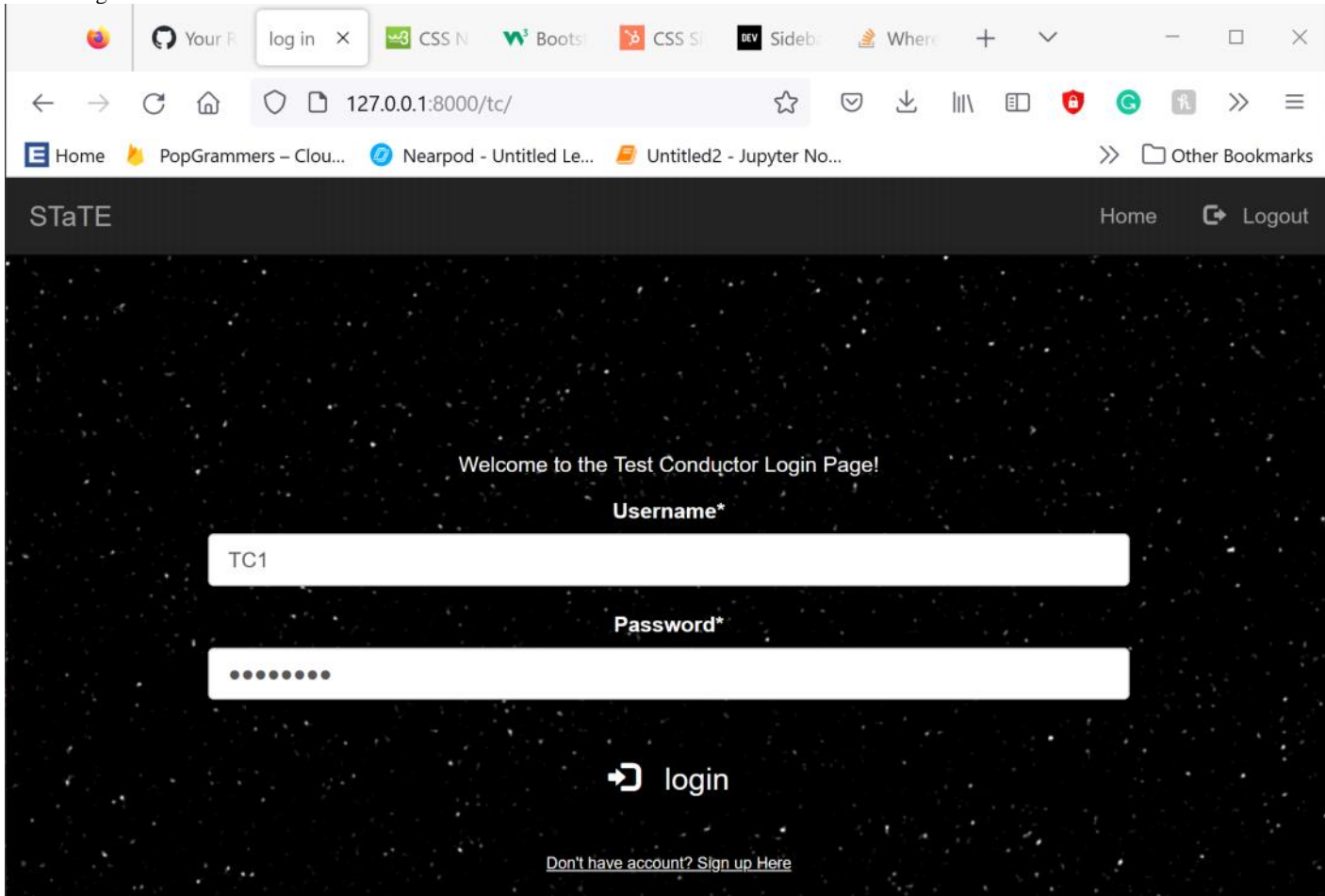Monday, November 28, 2022   10:43 AM

Project: Spacecraft Control Center Simulation
Topic: Try to get into TC screens and add Sidebar
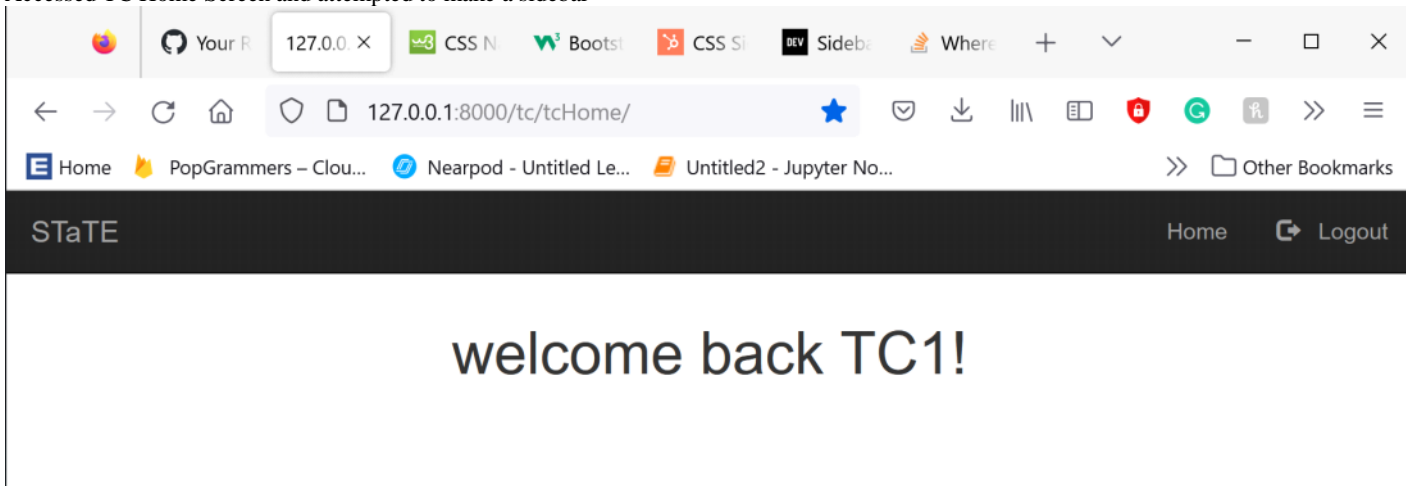
Summary of Work:
- Get rid of error that has very little online documentation
- Copy and edit Kyle's login code so that TC screens can be accessed
- Attempt to figure out how to make sidebar
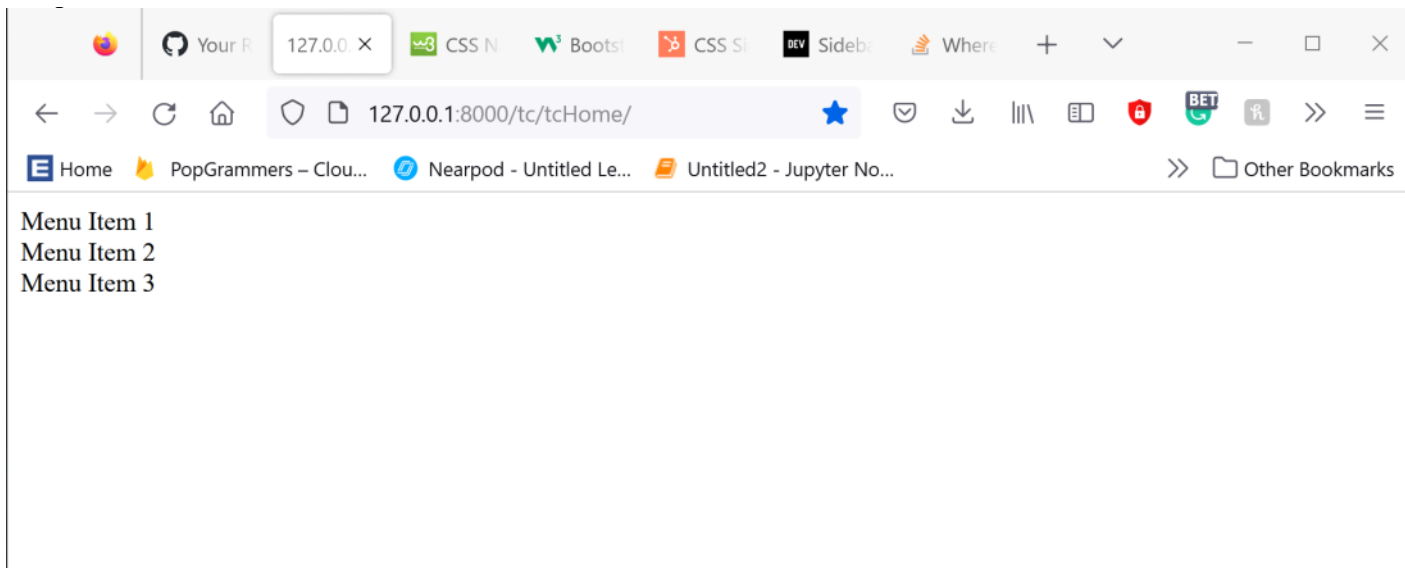- Realized TC login isn't admin

Details:
- Did get the login screens figured out
- Made a login

- Accessed TC Home Screen and attempted to make a sidebar

- Going to need more time and research to make navbar

Menu Item 1
Menu Item 2
Menu Item 3

(Technically a sidebar but gets rid of everything on screen)

11/29 - Meeting Notes

Tuesday, November 29, 2022   10:43 AM

Project: Spacecraft Control Center Simulation
Topic: Code Issues

Summary of Work:
- The purpose of this meeting was some code layout discussion but mostly fixing errors
- Summer got caught up with code

Details:
- In the meeting and throughout the day I completed the following:
  - Redirecting a FO attempting to login to TC to their FO login page
  - Basic authentication for TC to get into TC side
    - Still must get creating a verified TC
  - Fixed TC logout button
  - Made classes table
  - Made sidebar for a TC in a class
  - Made sidebar for TC not in a class (TC class picking)
  - Ability to choose a class and go nowhere, clickable though
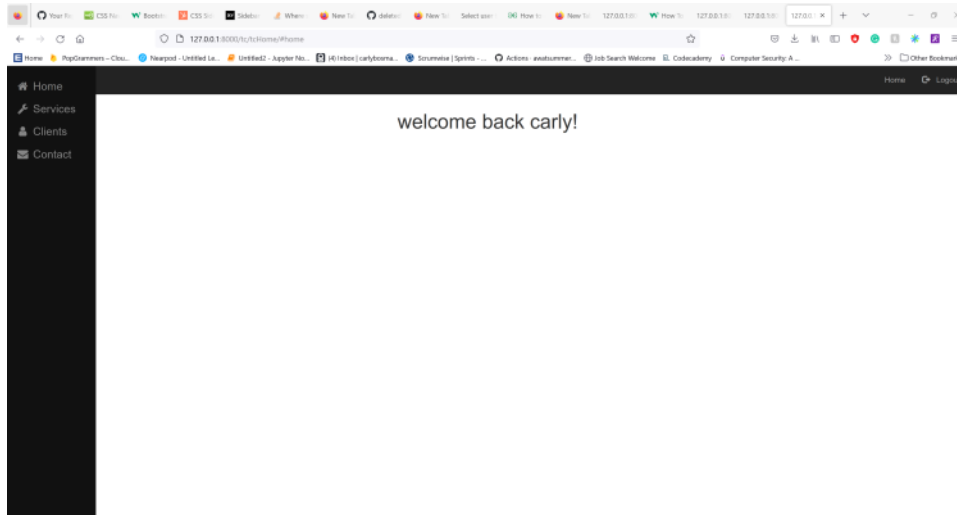
12/1 - Meeting Notes Before Class

Tuesday, December 6, 2022   10:38 AM

Project: Spacecraft Control Center Simulation
Topic: Discussed code progress

Summary of Work:
- Jesse, Kyle, Carly and Summer showed up early to fix errors and discuss code

Details:
- Carly and Summer fixed her sidebar issue (getting basic welcome message figured out with sidebar overlap)
- Figured out how to make the dynamic table communicating between the database and webpage for classes the TC is in
- TC can add a class and they will be a part of it
- Classes in tables now link to a general class page (not sure exactly how each class will have a general page)

Class List

Name	Status
test1	test

STaTE

Add New Class
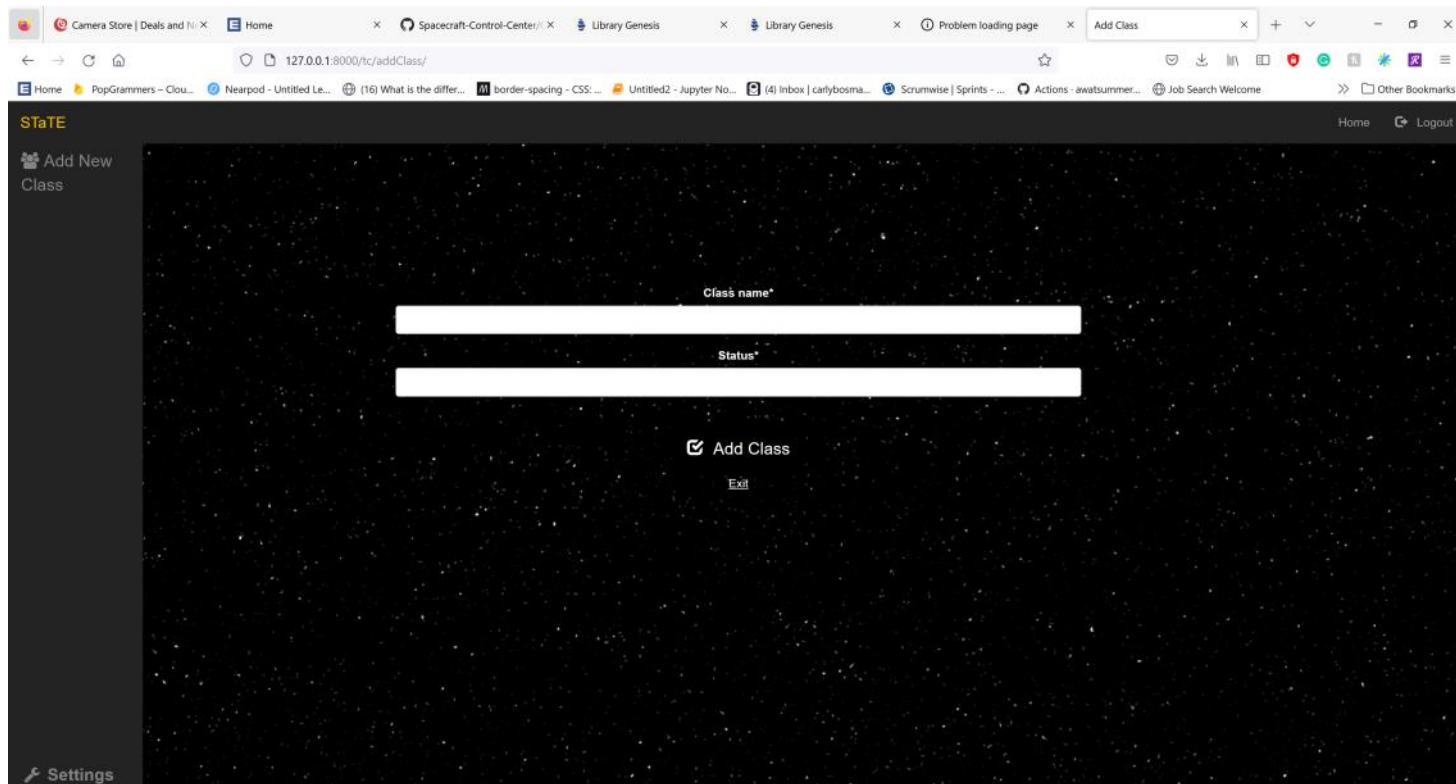
12/03 - Virtual Meeting Notes

Tuesday, December 6, 2022   10:41 AM

Project: Spacecraft Control Center Simulation
Topic: Virtual SRS and SDD work

Summary of Work:
- Goal of meeting was to get the SRS and SDD updated for the version 3 update.
- Also worked on fixing previously working code that had been messed up by Github.

Details:
- Individual SDS and SRS work:
  - The SDS and SRS did not require a lot of changes, just ensuring that grader comments were fixed and that the information matched our code/current state of project.
  - Spellcheck
  - Removed Firefox as a supported browser as we learned it has unexpected results from running the code
  - Checked for flow and consistency of terms

12/06 - Meeting Notes

Friday, December 9, 2022   6:23 PM

Project: Spacecraft Control Center Simulation

Before Class 12:00/12:30-2:00pm
Topic: Code Meeting

Summary of Work:
- The purpose of our now recurring before class meeting is to help collaboration and discussion. Many of us can work independently but we needed to discuss and work together more.

Details:
- Moved simulation page into class page so that TC enters class and sees class specific simulations.
- Got active simulation list present on class page
- Summer and I thought we figured out how to get the sidebar size fixed to all screens. Found out after that this is still not universal.

During Class
Topic: Team + Plan Meeting and Garfield Meeting (cont. Code)

Summary of Work:
- Made a game plan for presentation, video and test plan.
- Jules: Presentation Lead
- Summer: Test Plan Lead
- Jeremy: Video Lead
- Garfield meeting

Details:
- Jules to give slides tomorrow so team could edit
- Garfield Meeting
  - Good remarks over all
  - Happy with system functionality
  - Had questions
  - Liked the modularity of project
  - Gave website demonstration and is very happy with work this semester
  - Commented on wanting consistency, better writing and better grammar in all documentation
- Summer and I tried to get the FO add class page started

After Class Individual
- Finally got the class name to appear on welcome message and on top navbar.

Welcome to CE300

View Admin Page

Create New Simulation

Active Simulations:

simone
simtwo
Sim3
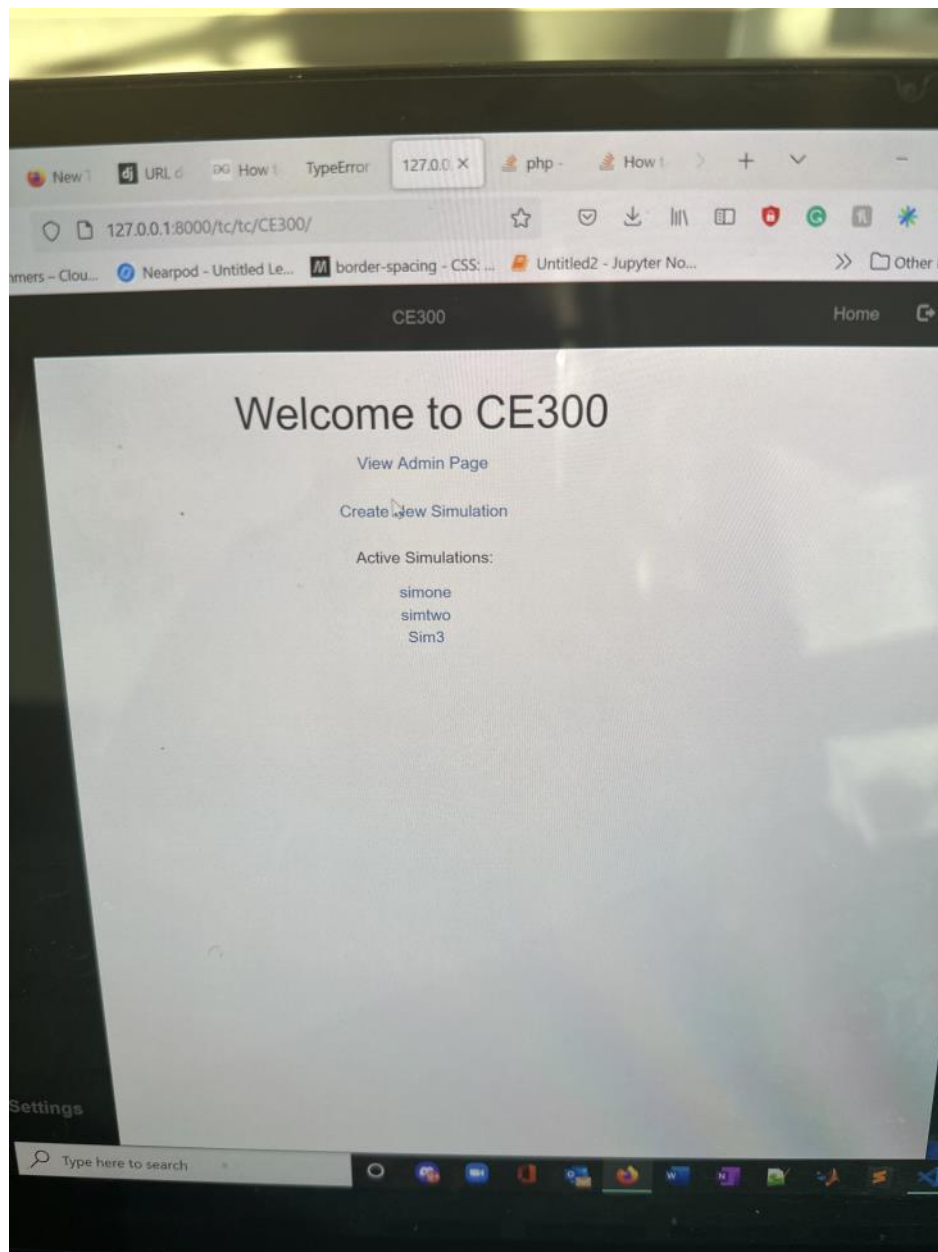
12/08 - Meeting Notes & Presentation

Friday, December 9, 2022   6:41 PM

Project: Spacecraft Control Center Simulation

Before Class 12:00/12:30-2:00
Topic: Presentation Plan

Summary of Work:
- Carly, Summer, Jeremy, Kyle and Jesse were present to plan presentation. Jules has flu.
- Fix up the presentation
- Plan who presents what
- Run through presentation

Details:
- Added technical content to slides
- Updated terminology
- Added diagrams
- Kyle ran through demonstration

In class
- Presentation

Personal
- Found way to filter sims assigned to class
- Kyle and I did the same work in parallel which we found out when pushing to Github, thus deciding we need to plan better for smaller coding functions.
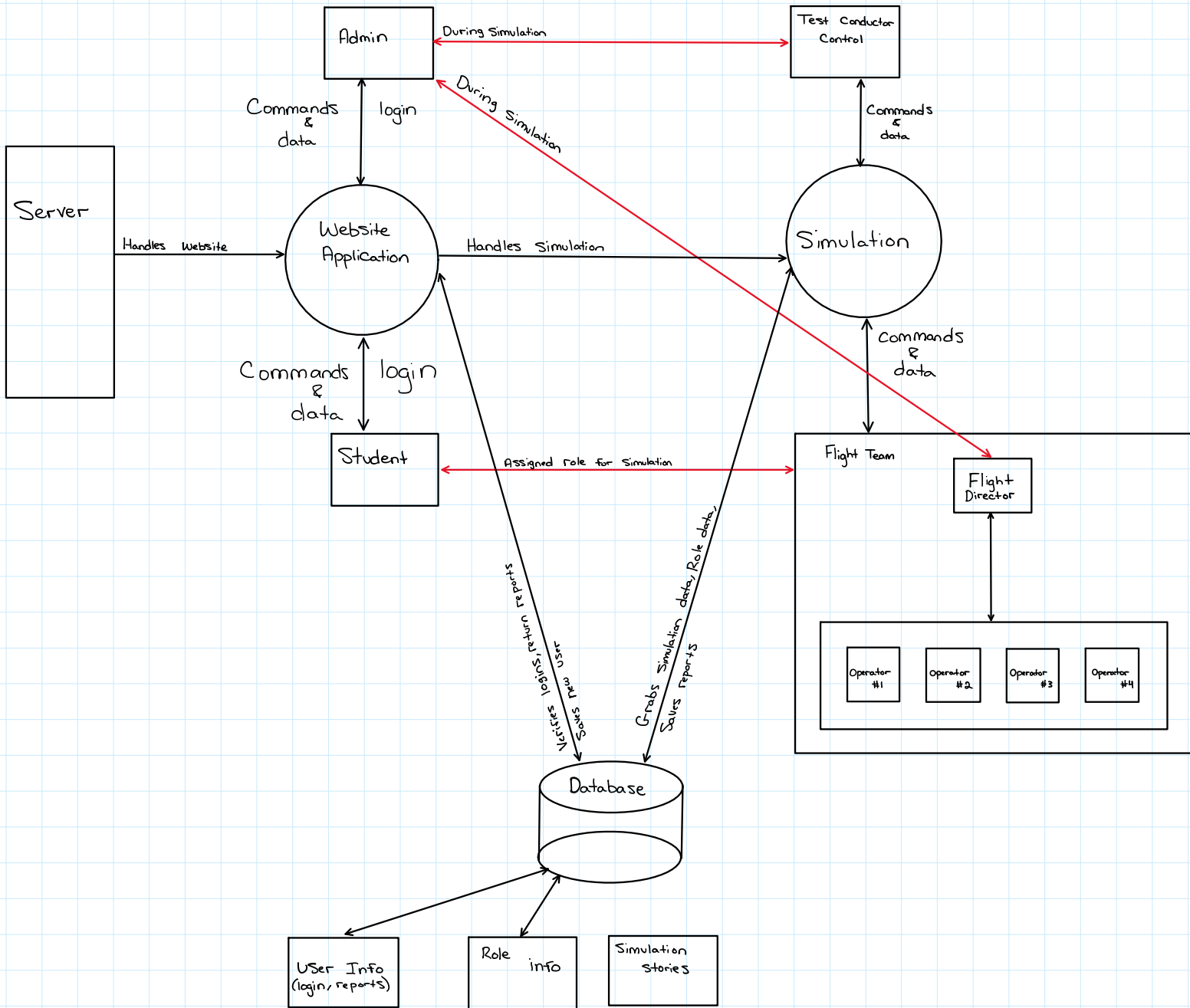
Server PC

Server PC Architecture
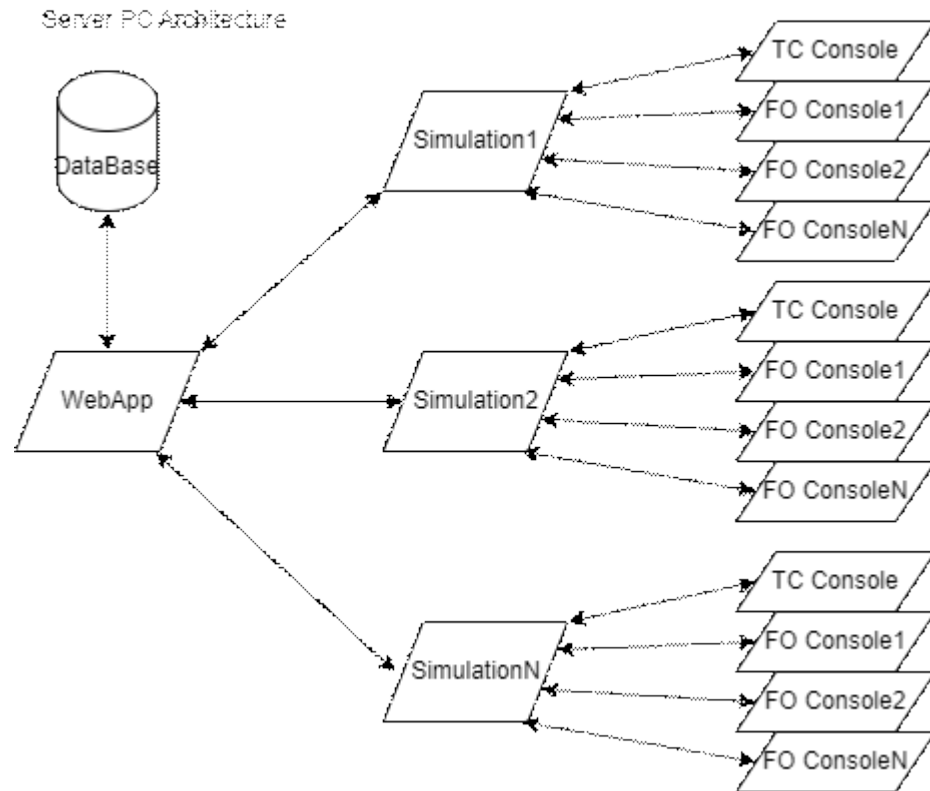
Communication Architecture

Friday, December 9, 2022   10:43 PM

Flight Operator Architecture

Flight Operator Browser ←→ Flight Operator Console

Test Conductor Architecture

Test Conductor Browser ←→ Test Conductor Simulation Manager ←→ Test Conductor Console

UML

Friday, December 9, 2022　　10:43 PM

AttitudeControlSubsystem

-float AngleOfIncidence
-float RotationalDrift
-float FuelLevelOne
-float FuelLevelTwo
-float FuelPressureOne
-float FulePressureTwo
-int AngleOfIncidenceStatus
-int RotationalDriftStatus
-int FuelLevelOneStatus
-int FuelLevelTwoStatus
-int FuelPressureOneStatus
-int FulePressureTwoStatus

+UpdateStatus(status, amount)

Website

-TestConductor administrator
-FlightOperator[] users
-Page[] pages

+ChangePage(page)
+AddUser(userName, Password, email)

SimCraft

-AttitudeControlSubusystem ads
-PowerDistributionSubsystem pds
-Payload[] pylds

+AdvanceTime()

PowerDistribution Subsystem

-float BatteryLevel

+ChargeBattery(AngleOfIncidence)

Payload

-int powerRequirement
-int status

+UpdateStatus()

FlightOperator

-int[] activeConsoleCodes
-string userName
-string passWord
-string email

+JoinSimulation(simCode)
+ViewSimulation(consoleCode)
+ExitSimulation(simCode)

TestConductor

-int[] activeSimCodes

+ CreateSimulation(simSpec)
+ KillSimulation(simulation)
+ ViewSimulation(simCode)

Simulation

-int simCode
-SimCraft spacecraft
-File simLog
-FlightOperatorConsole[] flightOperators
-TestConductorConsole testConductor

+UpdateConsoles()
+PushEvent(Event)
+LogEvent(Event)
+PushResponse(Response)
+LogResponse(Response)
+AddOperator(userName)

TestConductorConsole

-int consoleCode

+PushSimOperation(operation)

FlightOperatorConsole

-int consoleCode
-string currentOperator

+PushSimOperation(operation)

Hardware