Florida Tech Freshman Support

By: Ruth Garcia, Haley Hamilton, Ellie Barry, Audrey Eley

START

The Problem

- As incoming freshmen navigate the transition to high school, they often encounter feelings of disorientation amidst the new environment:
  - Academic demands
  - Potential challenges to their mental well-being
  - New social setting
- Our application aims to facilitate their adjustment by providing access to essential resources available on the Florida Tech campus, thereby fostering social, emotional, and academic success to support their goals.

Social navigation

Mental Health navigation

Academic navigation

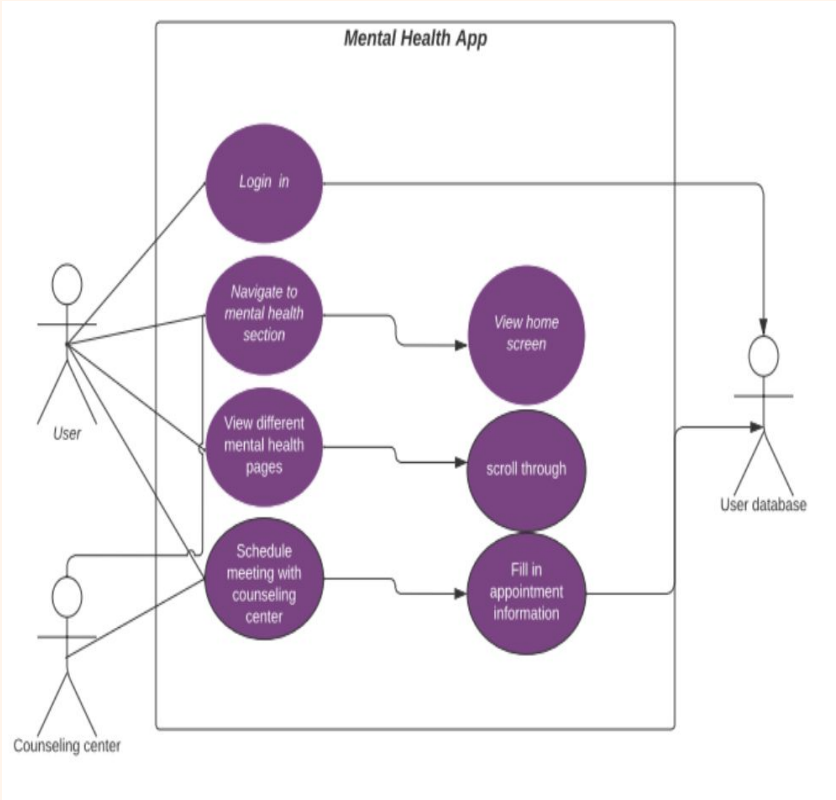
Requirements

1. The application shall provide a user-friendly interface for incoming freshmen and graduate students, offering options to search support across academic fields, mental health, and social settings
2. The application shall categorize support resources into academic,mental health, and social settings, ensuring easy accessibility and navigation
3. The software must be secure to keep data safe for students
4. Minimal input from the student for data collection

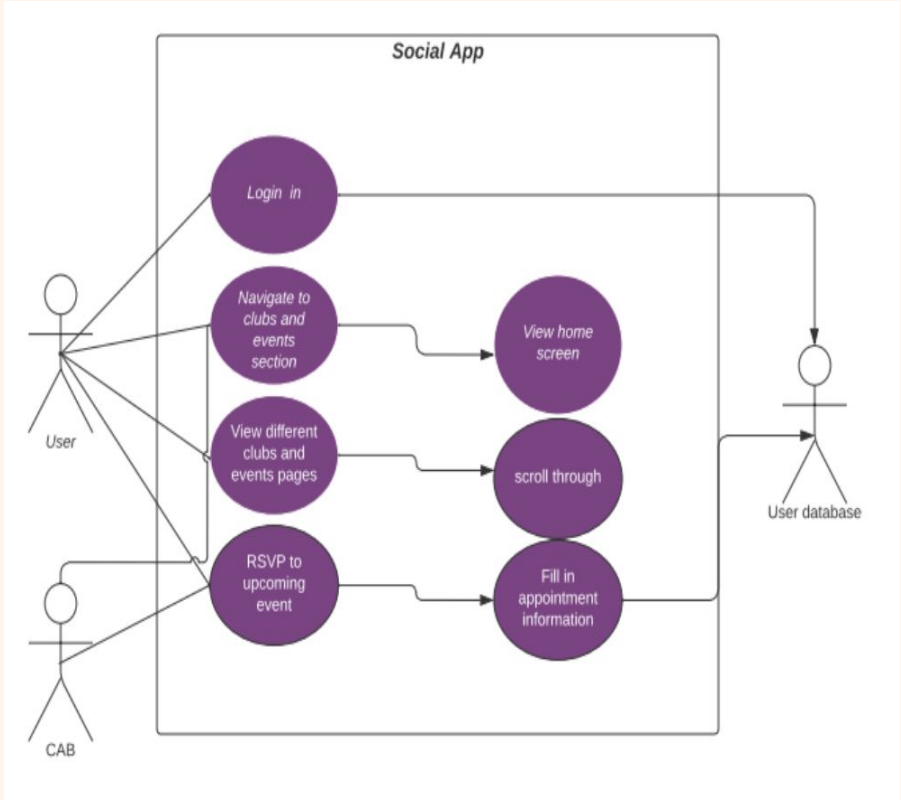
Design Artifacts

1. Design Artifacts we used:
    a. Use Cases - academic, social, mental health
    b. Domain Model
    c. Class Diagram
    d. System Sequence Diagrams - academic, social, mental health
    e. Sequence Diagrams - academic, social, mental health
    f. Architectural View

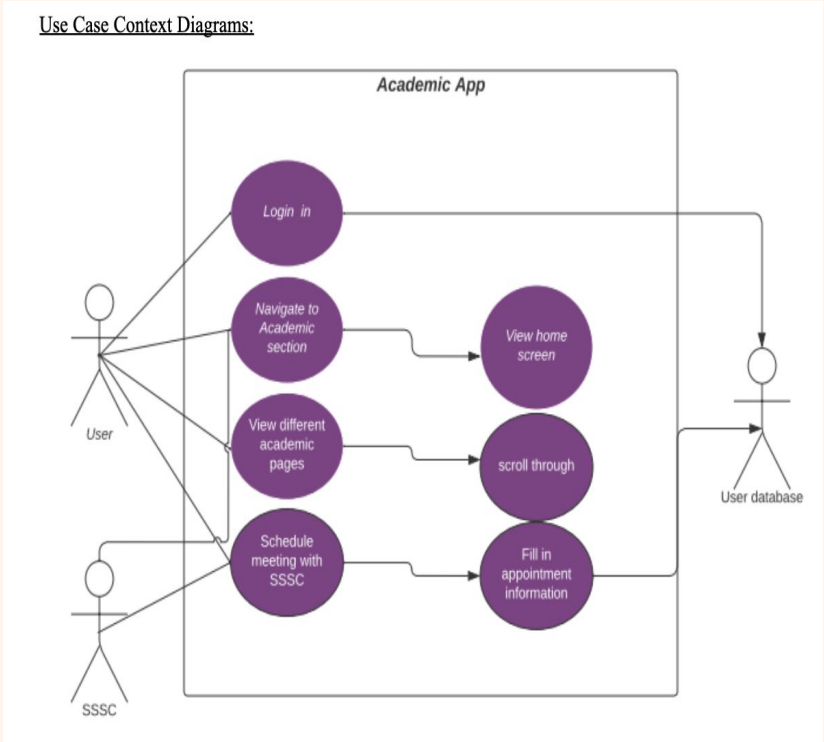
Mental Use Case Diagram



Social Use Case Diagram

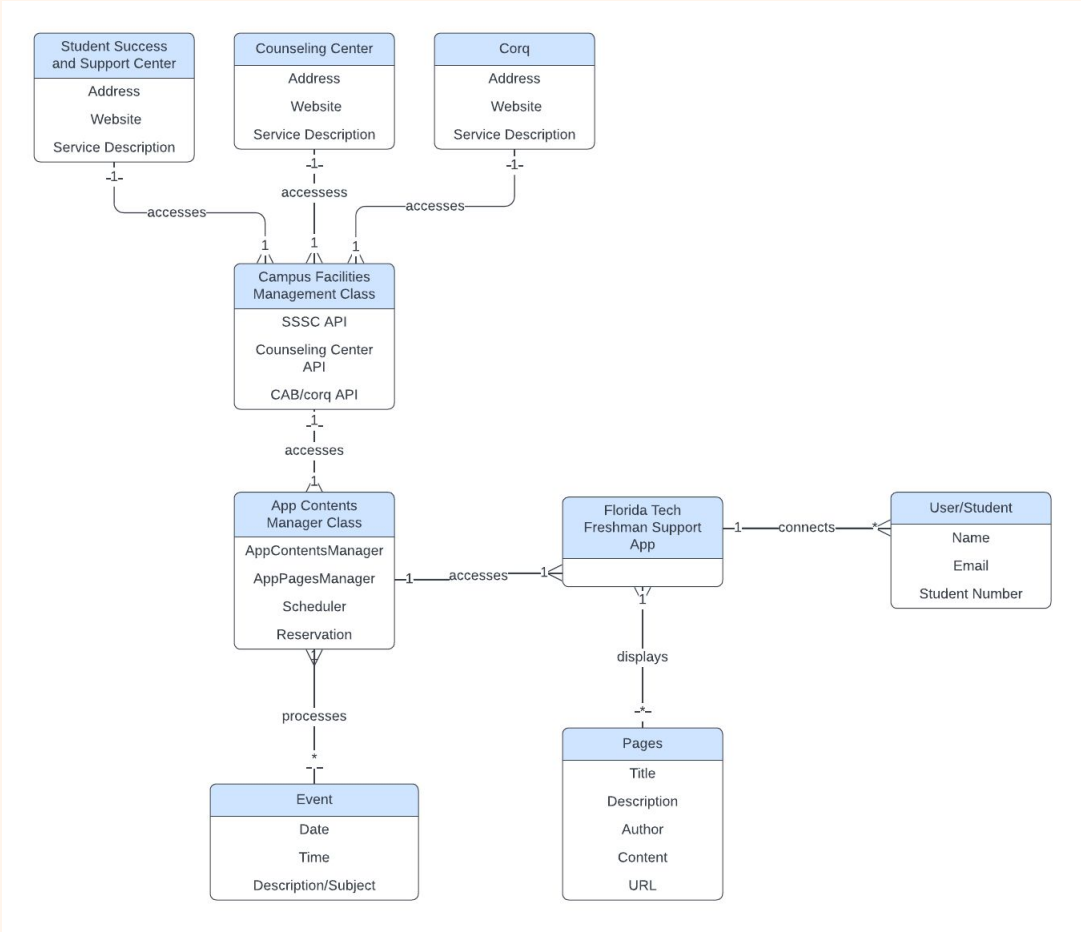


Academic Use Case Diagram

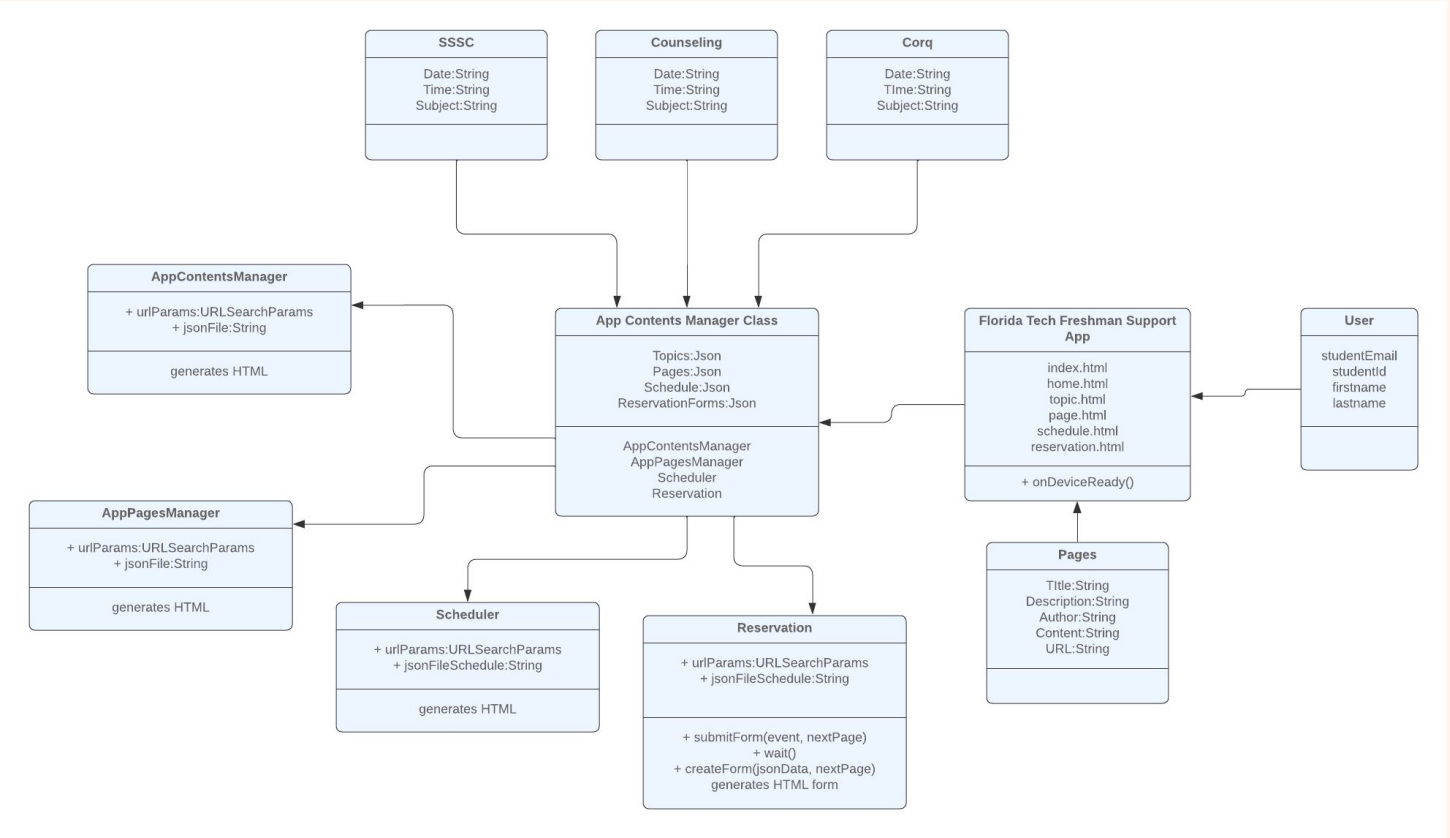


Domain Model

- User connects to App (html view)
- App accesses the controller, the App Contents Manager Class, contains JavaScript files to delegate tasks
- App Contents Manager Class talks to Campus Facilities Management Class, the model and server that talks to the database

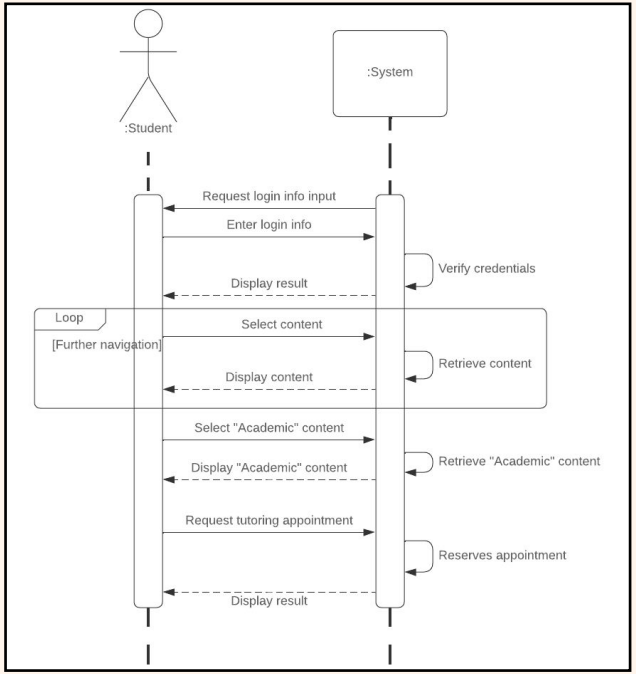


Class Diagram

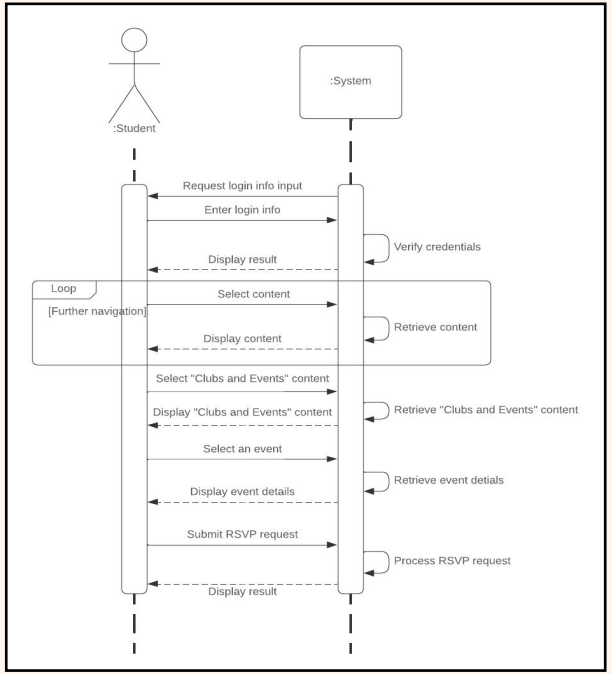


System Sequence Diagrams

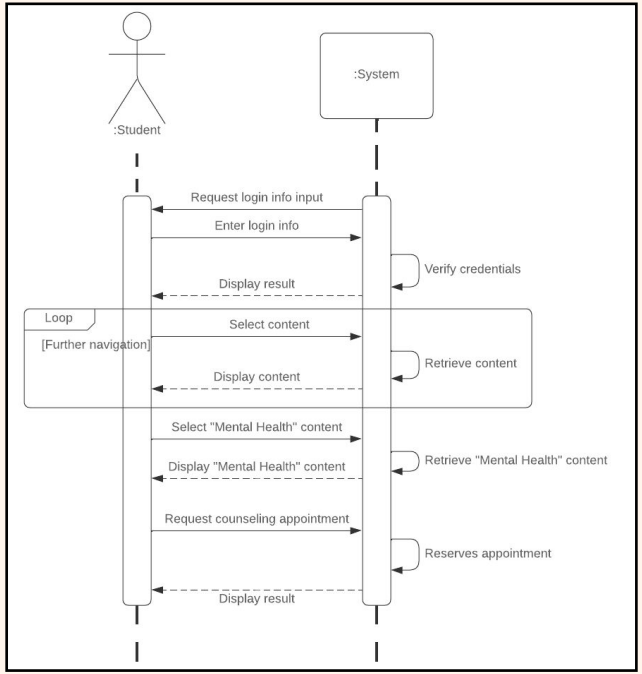
Academic:



Social:

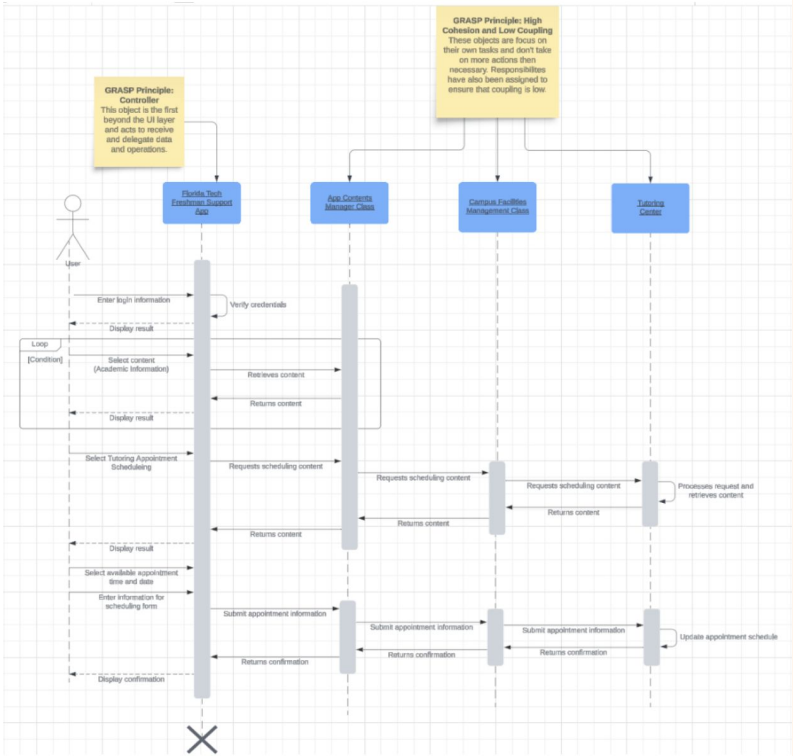


Mental Health:

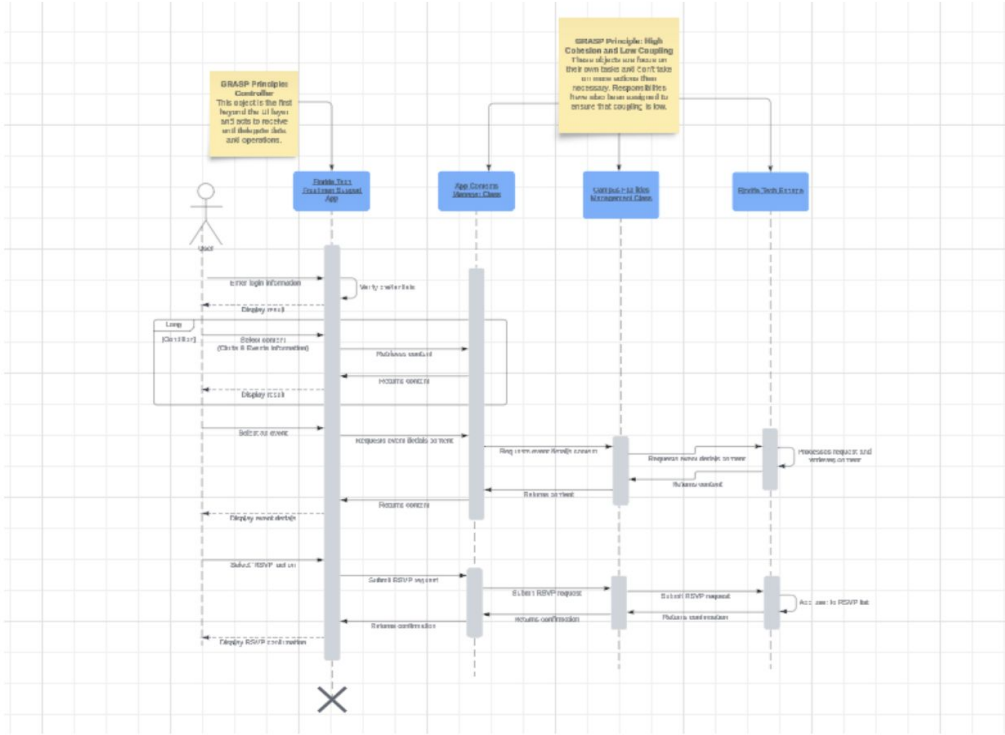


Sequence Diagrams

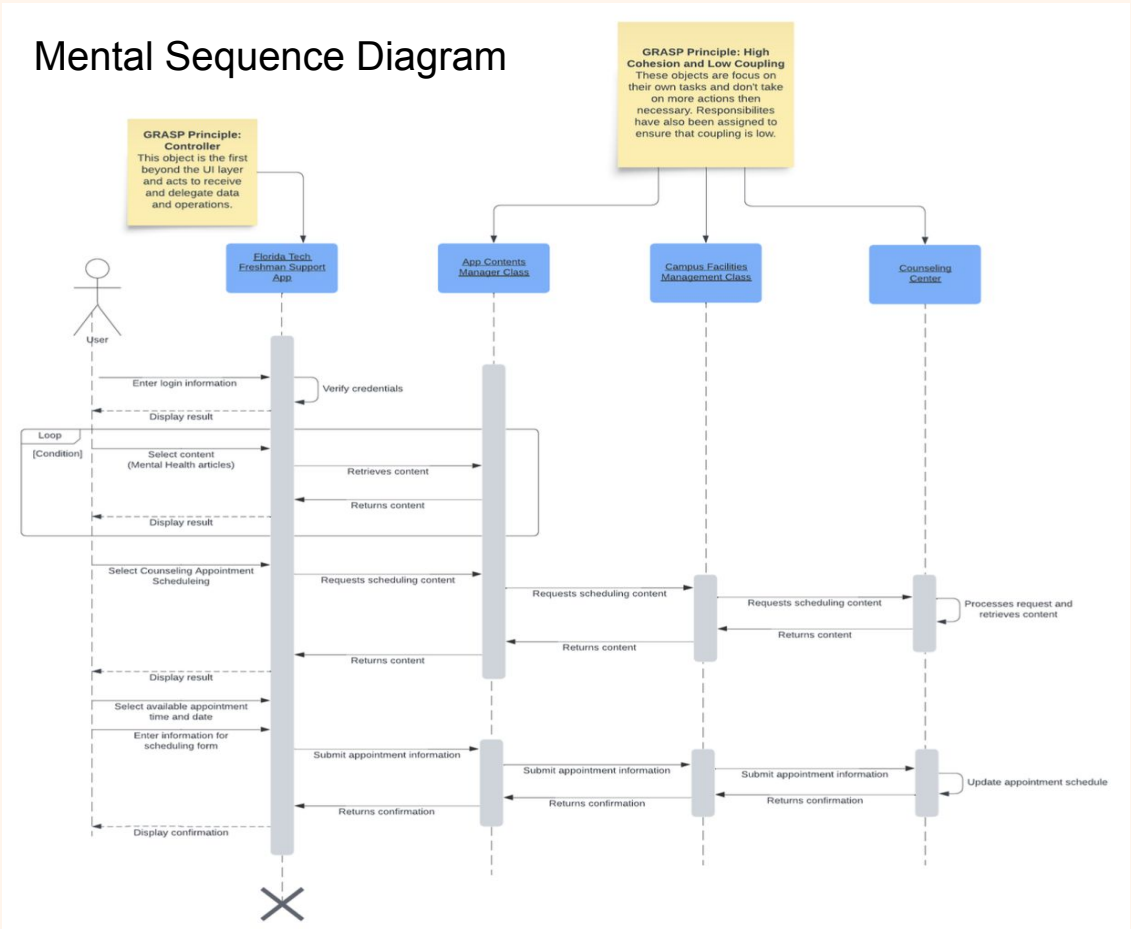
Academic Sequence Diagram



Social Sequence Diagram



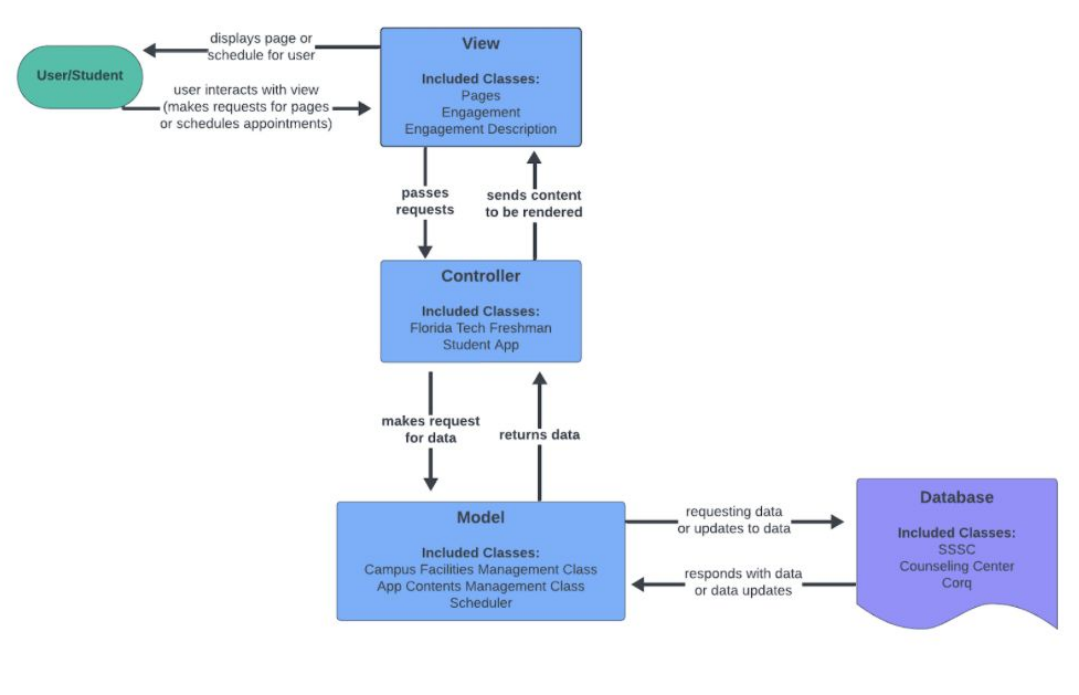
Mental Sequence Diagram



Architecture

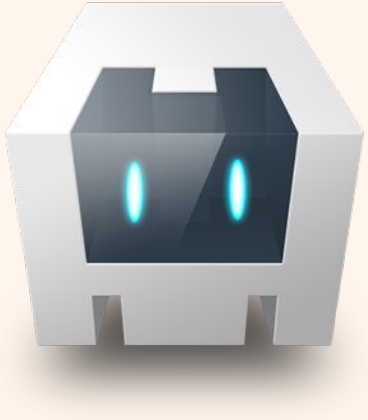
Model View Controller architecture

a. Fits best for our application
   i. Frontend - HTML/CSS
   ii. Controller - JavaScript
   iii. Backend - JSON/Apache Cordova
   iv. Database - Campus Facilities and Management Class



Solution

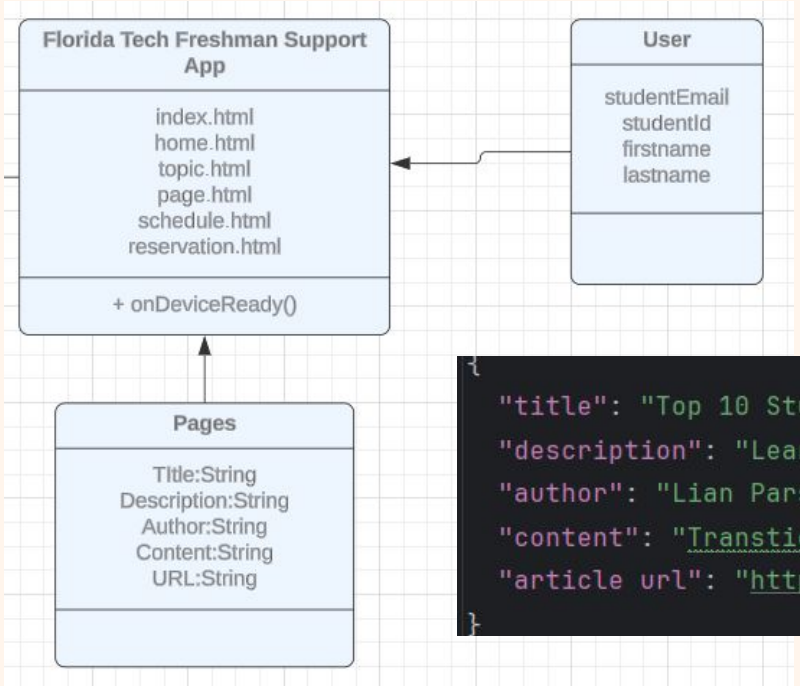
- Apache Cordova - mobile app development framework
  - allows you to use standard web technologies for cross-platform development,
- Android Studio IDE and Emulator



- Develop code with Android Studio
- Compile code into a .apk package
- Download to a real or emulated phone
- Run the app!

Solution/Mapping to Code - View

- Florida Tech Freshman Support App - User Interface and HTML pages



topic.html

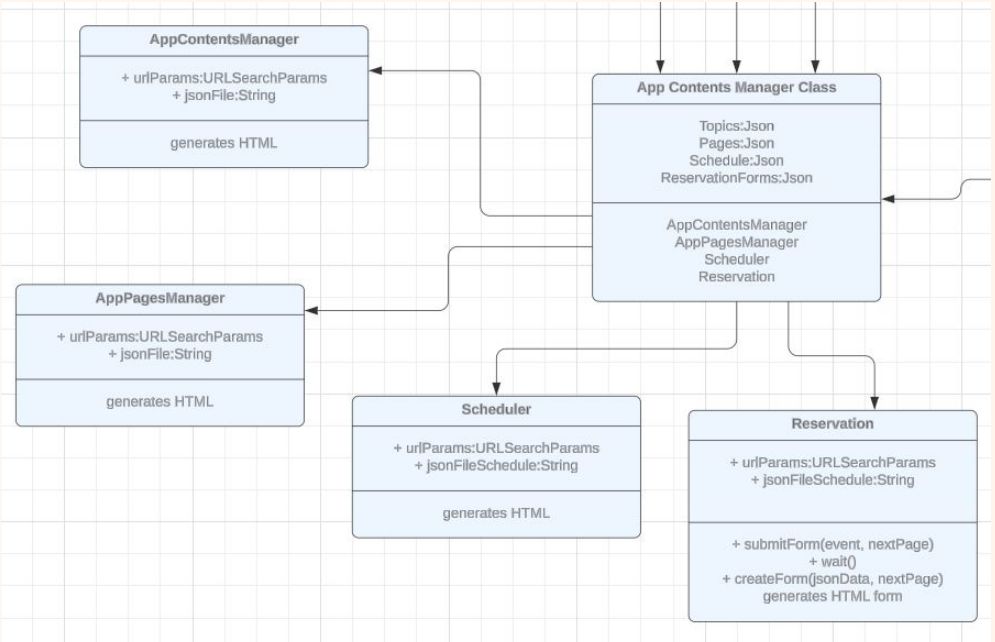
```
<body>
    <div id='header'> </div>
    <div class='body'>
        <div id="content"></div>
        <p> Helpful Articles: </p>
        <div id="pages"></div>
        <div id="schedule"></div>
        <script src="js/AppContentsManager.js"></script>
    </div>
</body>
```

pages/a-pages/page1.json

```
{
  "title": "Top 10 Study Tips to Study Like a Harvard Student",
  "description": "Learn to Study Like  Harvard Student for Optimal Productivity",
  "author": "Lian Parsons",
  "content": "Transtioning from high school to college can be difficult. Here are
  "article url": "https://summer.harvard.edu/blog/top-10-study-tips-to-study-like-
}
```

Solution/Mapping to Code - Controller

- App Contents Manager Class - Main functionality and JavaScript

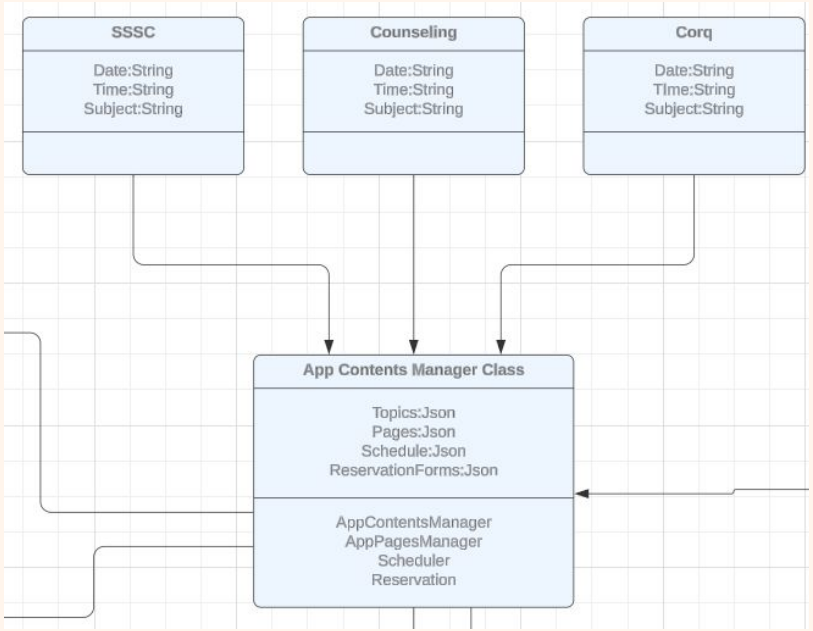


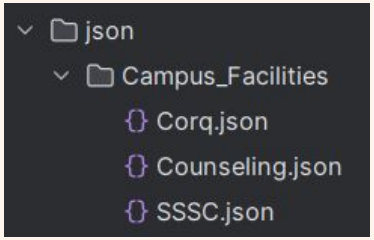
AppPagesManager.js

```
const urlParams = new URLSearchParams(window.location.search);
const jsonFile = urlParams.get('json');

fetch(jsonFile)
    .then(response => response.json())
    .then(data => {
        document.getElementById('header').innerHTML = `
            <br><br>
            <h1>${data.title}</h1>
        `;

        document.getElementById('content').innerHTML = `
            <h3>${data.description}</h3>
            <h5>Article By ${data.author}</h5>
        `;

        document.getElementById('body').innerHTML = `
             <p>${data.content}</p>
        `;
    })
    .catch(error => console.error('Error fetching JSON:', error));
```

Solution/Mapping to Code - Model

- JSON Schedule “Database” - Campus Facilities Management Future Development
- Security - Apache Cordova





SSSC.js

```
{
  "Monday, April 29th": [
    { "time": "8:00" },
    { "time": "9:00" },
    { "time": "10:00" },
    { "time": "11:00", "subject": "Calculus 1" },
    { "time": "12:00" },
    { "time": "1:00" },
    { "time": "2:00", "subject": "Biology 2" },
    { "time": "3:00" , "subject":  "Formal Language"},
    { "time": "4:00" }
  ],
```

How we started and Communicated

- Gathered contact information
- Created a group chat over messages
- Moved to Discord
  - Shared files, and typed out longer messages
  - Group call

Teamwork

Everyone: worked on Group assignments

Haley: Main Leader, chose the emulator, made to-do list, created most of the program.

Ruth: Created the powerpoint, helped Haley whenever she needed it, created some of the JSON files.

Audrey: Created some of the JSON files, helped with powerpoint, provided the phone for demo, worked on CSS styling.

Eleanor: Worked on the main PowerPoint.

Things that Worked Well and Bad for Us

Good

1. Mostly everyone was able to work on something related to the code.
2. Models were created quickly

Bad

1. Meeting in person, or group meetings - one person didn’t show up or join the call
2. No background on web or app development
3. Communication was lacking

Demo Video:

Questions, Comments, Concerns?