

# Nimbus Navigator 016-2

## Who

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## Project Description

Nimbus Navigator is an application for children that offers a rich and dynamic weather experience. This app allows children to learn about the weather in a fun, interactive way. It utilizes features designed for both information and education, displaying weather at the users location and allowing the user to involve themselves with our interactive games and information. The app contains a general weather page, a weekly weather page, a climate contest page, and a weather facts page. The Current Weather Page includes: temperature, wind speed, moon phase, general weather information, and weekly forecast. The Weekly Forecast page displays the hourly weather over the week. The Climate Contest page is an interactive page for children to learn about different weather patterns and when they occur. This page will ask multiple choice questions all about weather. The Weather Facts page is a fun way to learn new facts about Weather. Kids can read through an array of different facts and if they have more questions they have the opportunity to go to the website the fact was found on to read more information. Finally our website offers the ability to login and logout, so users can save their zip code.

## Project Tracker

Backlog: Recitation-016-Team-02-Nimbus\_Navigators

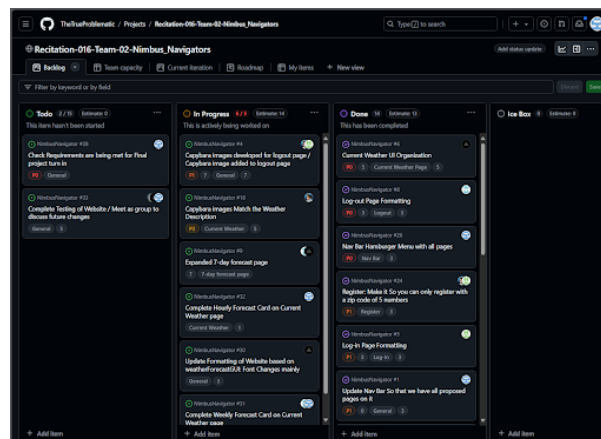


Figure 1: NimbusNavigator project board.

# Project Video

**Video Link:** NimbusNavigator Video

## VCS

**Repository:** TheTrueProblematic/NimbusNavigator: CSCI 3308-F24 Group Project

## Contributions

### Anja Delzell

Some project contributions from me included contributing to the logout and register pages, formatting the weather page, helping with card design and creating a top bar for page title, and improving the navigation bar by implementing a responsive hamburger menu. I also helped develop project layout and worked on color swatch ideas for our website. Further I assisted with lab 11 test case creation and documentation, helped take meeting minutes and prepared release notes for updates to ensure project coordination and documentation.

### Cooper Baugh

Developed the color palette for NimbusNavigator, ensuring it aligned with the target audience and the website's overall aesthetic. Optimized the GUI on the Current Weather page, ensuring proper alignment and a clean layout. Collaborated with team members to brainstorm, organize, and plan ideas for additional project pages. Enhanced the font and formatting across the entire website, giving it a polished and cohesive appearance. Assisted in integrating all aspects of the website into a cohesive and seamless design.

### Logan Moser

Contributed to the group by designing and optimizing the login page, making the UI easier to navigate and the input forms for the email and the password bigger and easier to read. Added the custom capybara images to the login and logout pages respectively, implementing them front and center on the pages as the capybara is the defacto mascot of the weather page. Helped with the weather database construction and implementation on the website. Collaborated and engaged with the team and presented ideas for the functionality and design of the other pages on the website.

### Max McClelland

Contributed to the group coding project by taking a leading role in developing the Climate Contest page and the Weather Facts page, creating engaging and informative content to meet project goals. Designed and integrated custom weather icons and weather-themed capybara images to enhance the visual experience and bring a creative, cohesive theme to the user interface. Additionally, implemented the backend functionality for user login and registration, ensuring secure authentication and a smooth user experience. Collaborated

with team members to align design and functionality with project requirements, while addressing technical challenges to deliver a polished, user-focused application.

## Grant Parker

The work I did on this project involved writing and implementing the unit test cases into our codebase. Some of these unit tests include positive and negative test cases for the login and register pages, which ensure that the database and server are working properly. In addition to unit test cases, I was responsible for part of the current weather page and the weekly forecast feature. For these features, I used axios to call the national weather service API in order to populate the fields on these pages. I also wrote the logic to parse the API response in order to dynamically display the response information, such as an hourly forecast for each day of the week in the case of the weekly weather page.

## Use Case Diagram

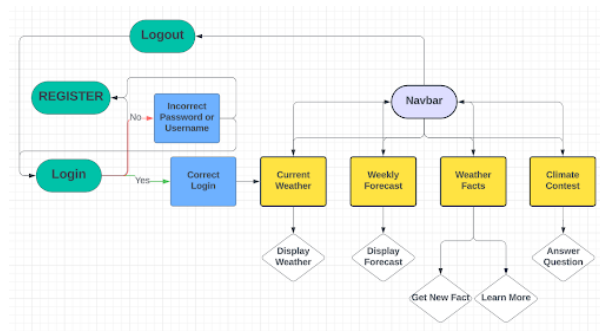


Figure 2: NimbusNavigator use case diagram.

## Architecture Diagram

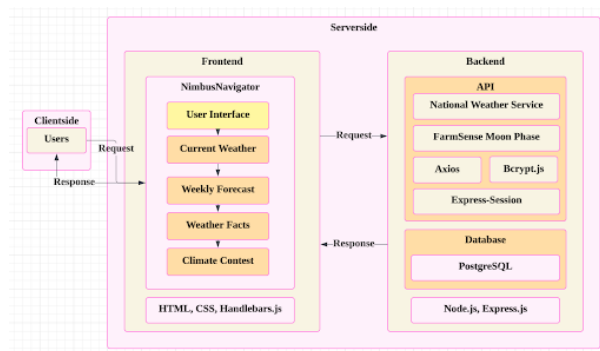


Figure 3: NimbusNavigator architecture diagram.

# Wireframes

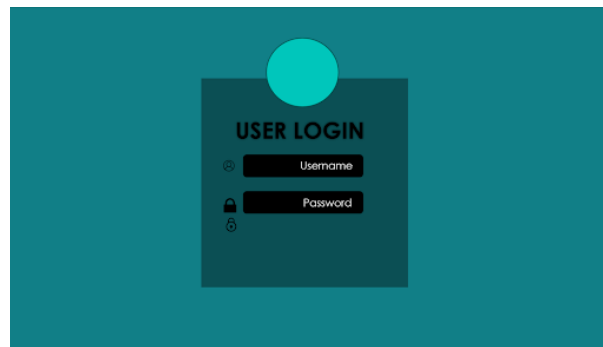


Figure 4: Login page wireframe.

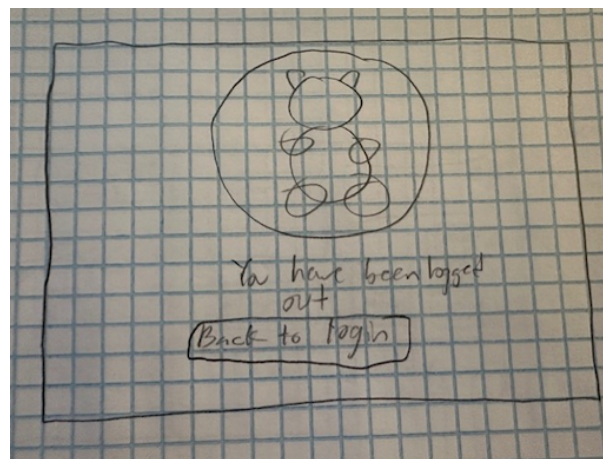


Figure 5: Logout page wireframe.

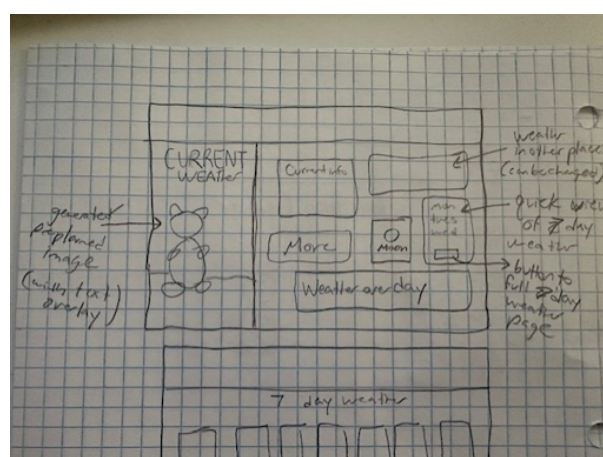


Figure 6: Current Weather page wireframe.

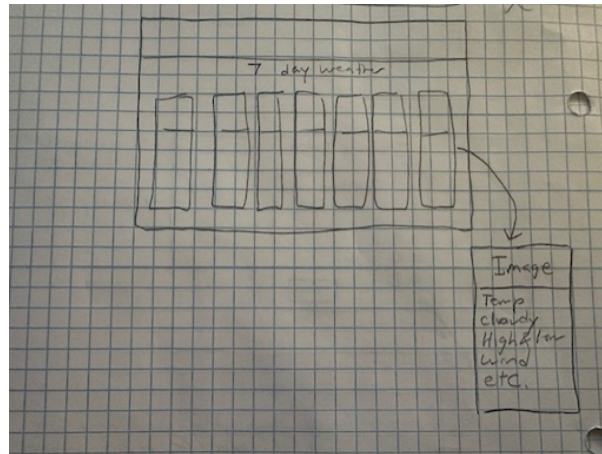


Figure 7: Weekly Forecast page wireframe.

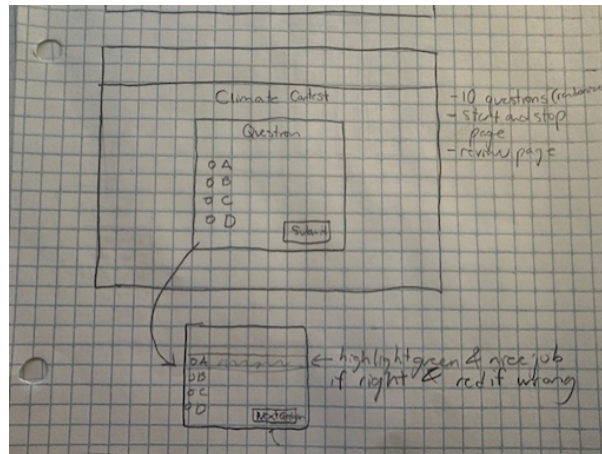


Figure 8: Climate Contest page wireframe.

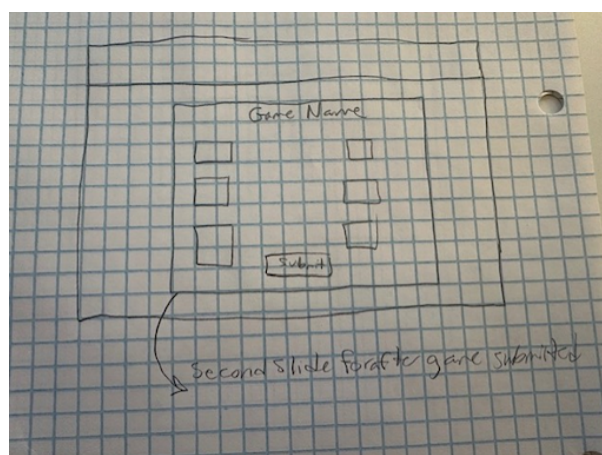


Figure 9: Weather Facts page wireframe.

## User Acceptance Test Results

During the testing process, we evaluated four use cases to ensure the functionality and usability of our application. These use cases included the ability to register, log in, view current weather, and interact with the "Climate Contest" and "Weather Facts" pages. For registration, we tested whether users could successfully create an account by providing all required information and receive appropriate error messages for missing or invalid fields. For login, we verified that registered users could authenticate with their credentials and access protected areas of the application, while invalid credentials produced clear error messages. The current weather feature was tested to ensure accurate weather data was displayed based on the user's location, retrieved from their zip code. Lastly, we evaluated the usability of the "Climate Contest" and "Weather Facts" pages, ensuring the options were intuitive and functioned as intended.

While observing user interactions, we noted that users successfully registered and logged in to access the app's features, such as weather forecasts and climate-related activities. Their actions aligned with the intended use cases, as authentication is required to access the app's functionalities. However, some deviations were observed. For example, users attempted to click on static cards in the "Weather Facts" page, assuming they would expand to show additional information. Additionally, some users omitted required fields during registration, unaware that these fields were mandatory. These deviations were caused by a lack of clear instructions for the cards and poor feedback during registration.

To address these issues, we implemented changes to improve the user experience. For the registration process, we marked all required fields clearly and added real-time validation, providing specific error messages for incomplete forms. For the "Weather Facts" page, we added a button that would take the user to an external page where they could learn more about the fact they had discovered. These improvements allowed the application to better align with the behavior expected by the user in addition to improving usability.

## Deployment Link

Nimbus Navigator is deployed and accessible online: [NimbusNavigator](#).