

MICHIGAN STATE  
UNIVERSITY

# Project Plan Presentation

## MSU Enviroweather Mobile

The Capstone Experience

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*From Students...  
...to Professionals*

# Project Sponsor Overview

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- Enviroweather is a collaborative project between the Michigan Climatological Resources Program and the MSU Integrated Pest Management Program.
- Their goal is to create a weather-based information system that helps users make pest, plant production, and natural resource management decisions in Michigan



# Project Functional Specifications

- A mobile friendly application for providing detailed weather information for farmers in Michigan
- Ensures easy access to relevant and dependable weather data for informed decision making in agricultural pest, production and natural resource.
- Provides timely and sustainable weather information facilitating strategic planning and resource allocation for improved agricultural practices in Michigan.



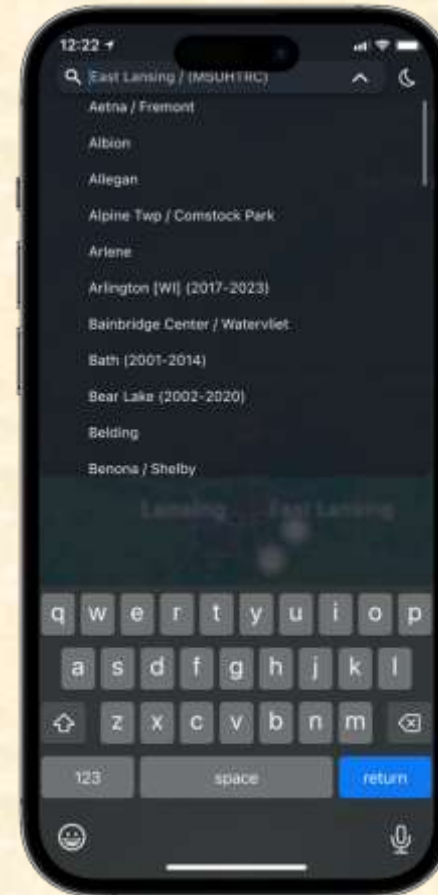
# Project Design Specifications

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- Design a user-friendly mobile app
- Interactive point-based map and searching functionality for weather stations
- Collect and visualize data from client and NWS service database
- Customized models of information based on selected weather stations
- Support different weather model selections



# Screen Mockup: [Map and Search Bar]





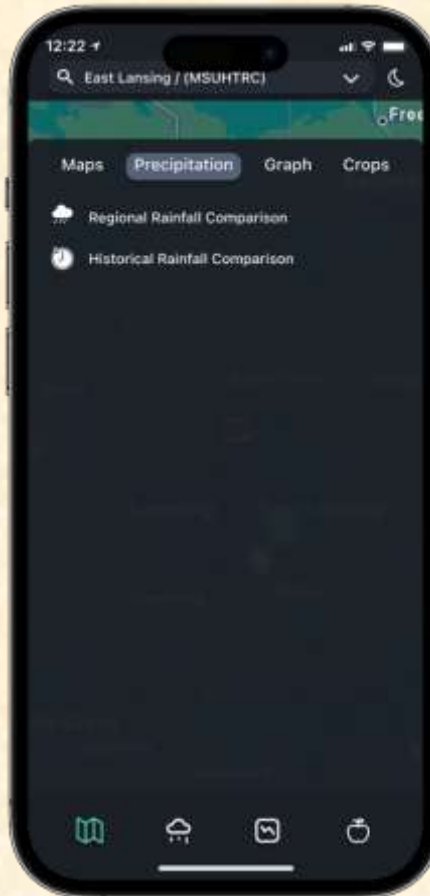
# Screen Mockup: [Data Visualization]



# Screen Mockup: [Customized Models]



# Screen Mockup: [Model Selections]





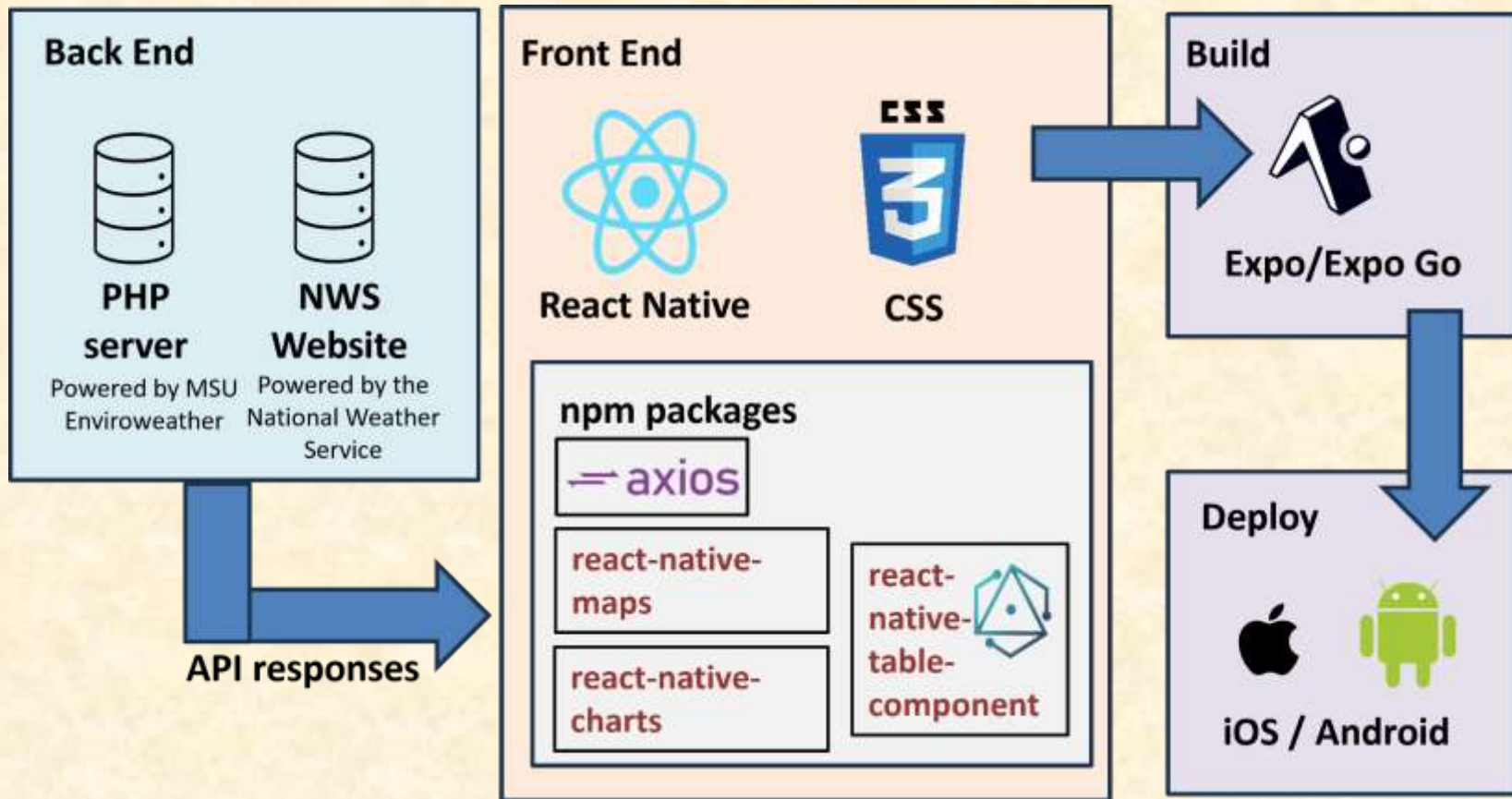
# Project Technical Specifications

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- Front End
  - React Native, JavaScript, and CSS
- Back End (API)
  - Enviroweather PHP Server and the National Weather Service
  - Postman for testing API
- Building
  - Expo Application Services and Expo Go



# System Architecture Slide Notes



# Project System Components

- Hardware Platforms
  - Android/IOS Mobile device
  
- Software Platforms / Technologies
  - National Weather Service API
  - Enviroweather API
  - Expo and NPM
  - React Native



# Project Risks

- Mobile compatibility of Expo
  - Features of IOS app may not be compatible on Android
  - Constant testing and optimizing app on both Android and IOS
- Integrating Graph API into React Native
  - Graph to display Meteogram needs to be integrated into react native
  - Deciding with client which API and content for this feature on mobile
- Offline support of application
  - Application will be used in areas with limited cell phone service
  - The app should cache and show previously loaded data
- Integrating client's API
  - Establishing connection between mobile app and client's backend
  - Test with postman and decoding client's JSON objects



# Questions?

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