



Dashboard CDR Presentation

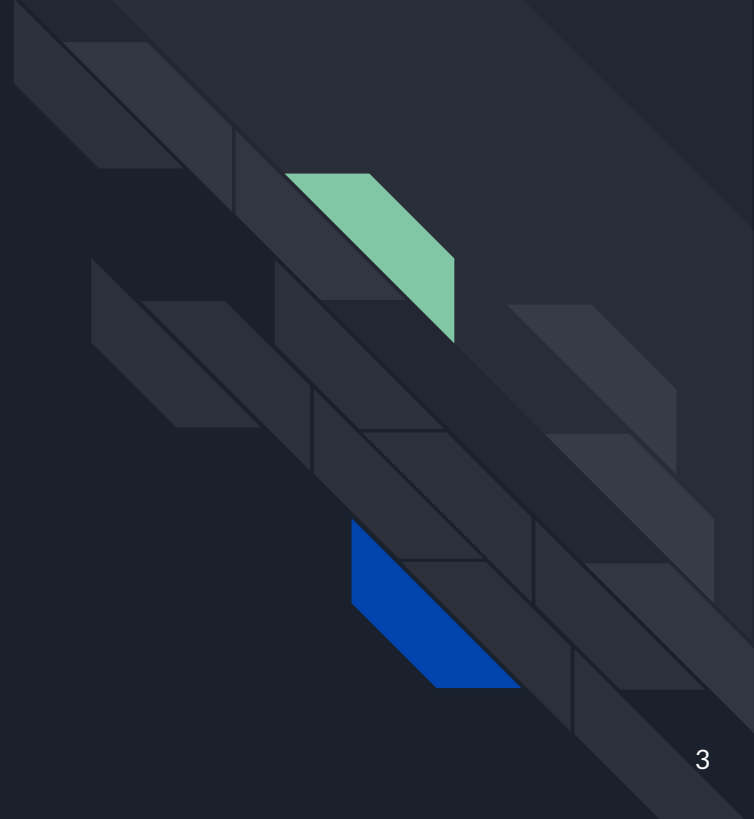
**Kyle Chan, Kevin Cho, Jonathan Lau,
Gordon Li, Akira Vernon**



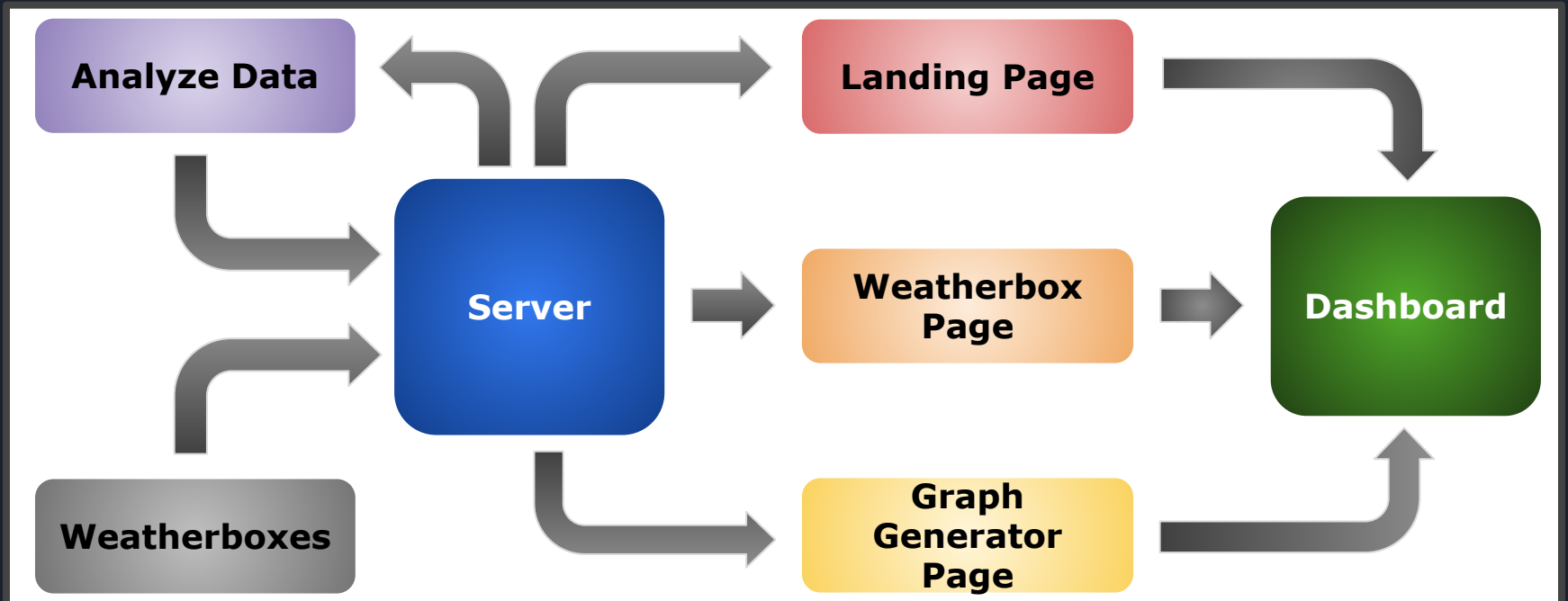
Overview

- 1) Block Diagrams**
- 2) Progress Since PDR Presentation**
- 3) Problems Encountered**
- 4) Team's Progress**

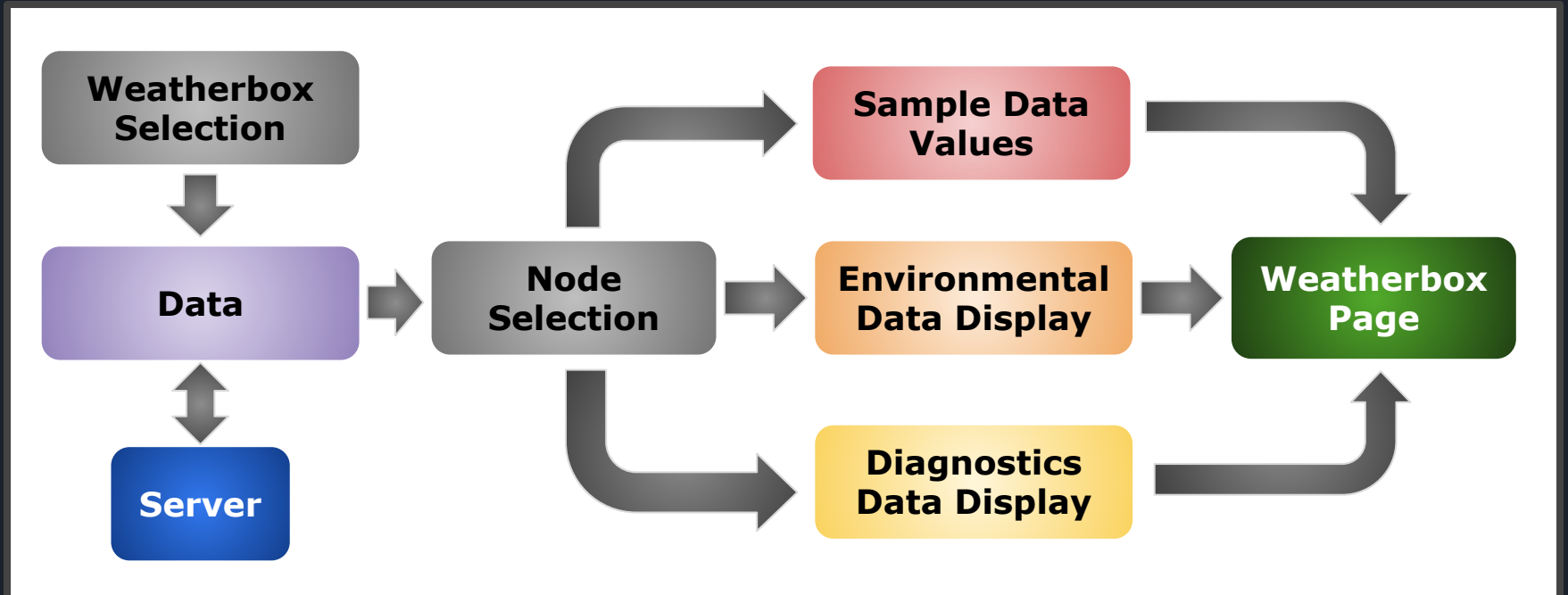
Block Diagrams



Overall Block Diagram



Weatherbox Page Block Diagram



Progress Since PDR Presentation



Exercise: Changing Display

- **Exercise involving semantic components (e.g. buttons, images, containers, etc.)**
- **Displayed image changes based on button that was clicked**
- **Exercise assists in implementing the environmental data display for Weatherbox Page**

Design Procedure

**Design &
Mockup**



**Generate
Electronic
Copy**



**Create
Design
Document**



**Develop
Minimum
Viable
Product
(MVP)**

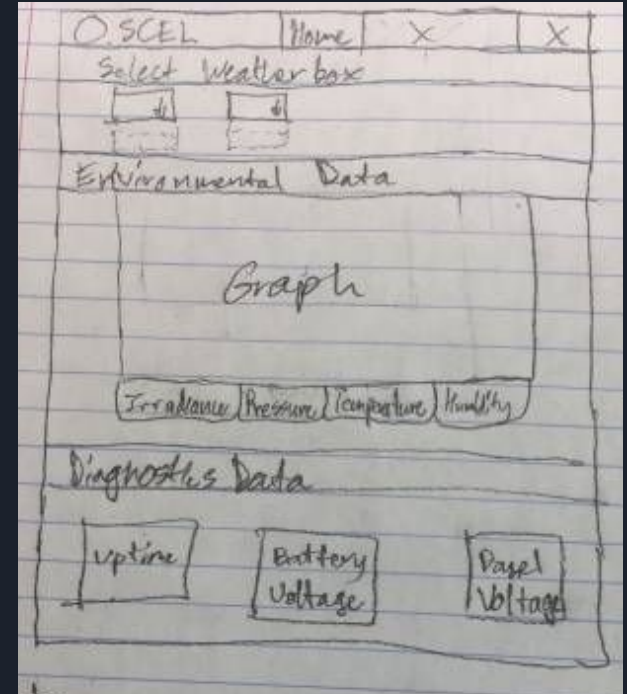


**Re-evaluate
Design
Document**



Initial Design (Recap)

- Select a weatherbox and a node
- Shows environmental and diagnostics graphs for selected weatherbox and node



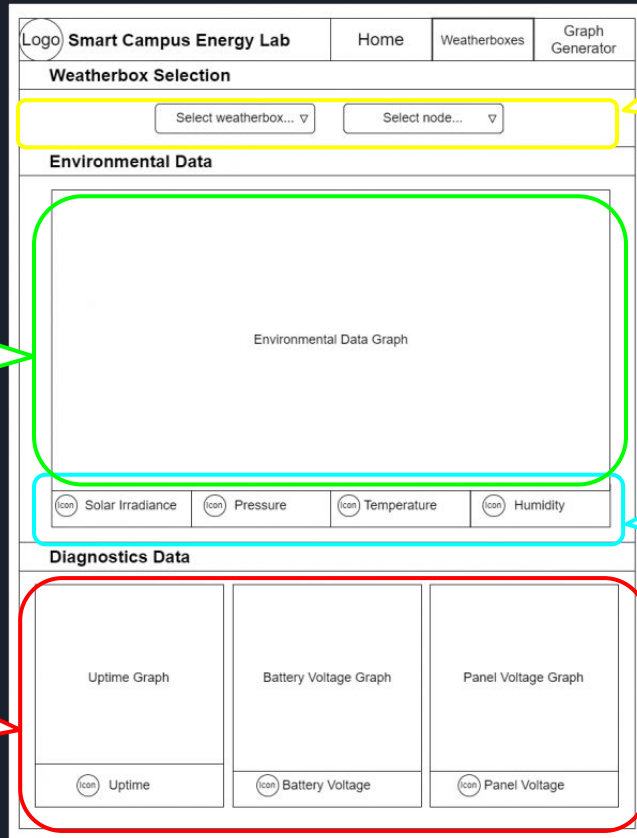
Initial Design Doc (Recap)

Graph of Weather Data

- Displays environmental data based on chosen weather data tab

Graph of Diagnostics Data

- Displays diagnostic data



Weatherbox and Node Selection

- Drop down menu of options

Weather Data Selection

- Changes above graph based on chosen tab

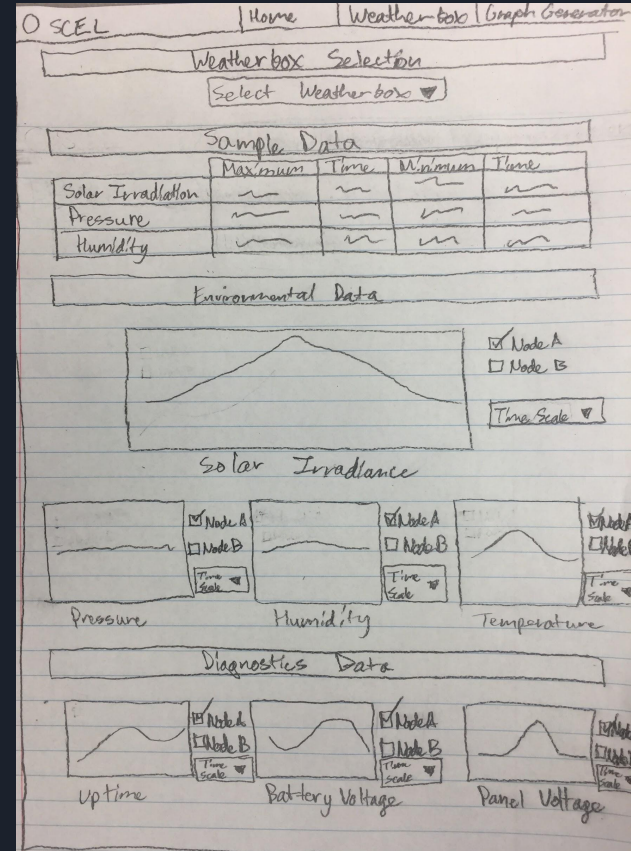


Evaluation of Design (Recap)


- **Time scaling selection (Being Implemented)**
 - **Be able to select a time scaling reference**
- **Multiple node displayed (Will Be Implemented)**
 - **Comparison of different node data for specific box chosen**
- **Sample values (Will Be Implemented)**
 - **Display some sample values (e.g. maximum)**
- **Display of graphs (*)**
 - **Environmental data will be displayed all in one page**

Revised Design

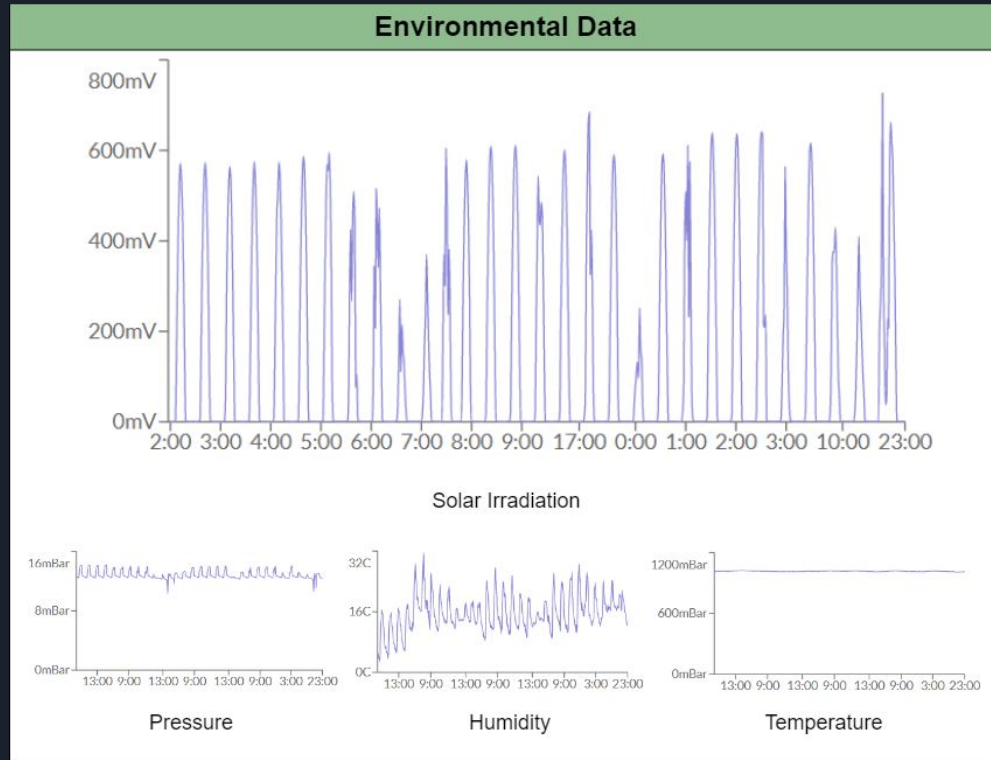
- Select a weatherbox
- Displays environmental and diagnostics data
- On the displays, select which nodes to display



Revised Design Doc (Selection & Sample Data)

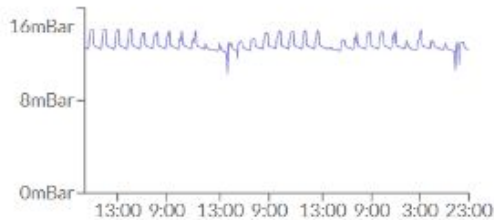
 Smart Campus Energy Lab	Home	Weatherbox	Graph Generator	
Weatherbox Selection				
<input type="text" value="Select weatherbox..."/>				
Sample Data				
	Maximum	Timestamp	Minimum	Timestamp
Solar Irradiation				
Pressure				
Humidity				
Temperature				
Uptime				
Battery Voltage				
Panel Voltage				

Revised Design Doc (Environmental Data)

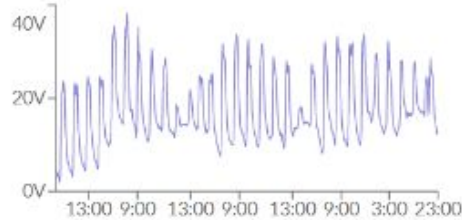


Revised Design Doc (Diagnostics Data)

Diagnostics Data



Uptime

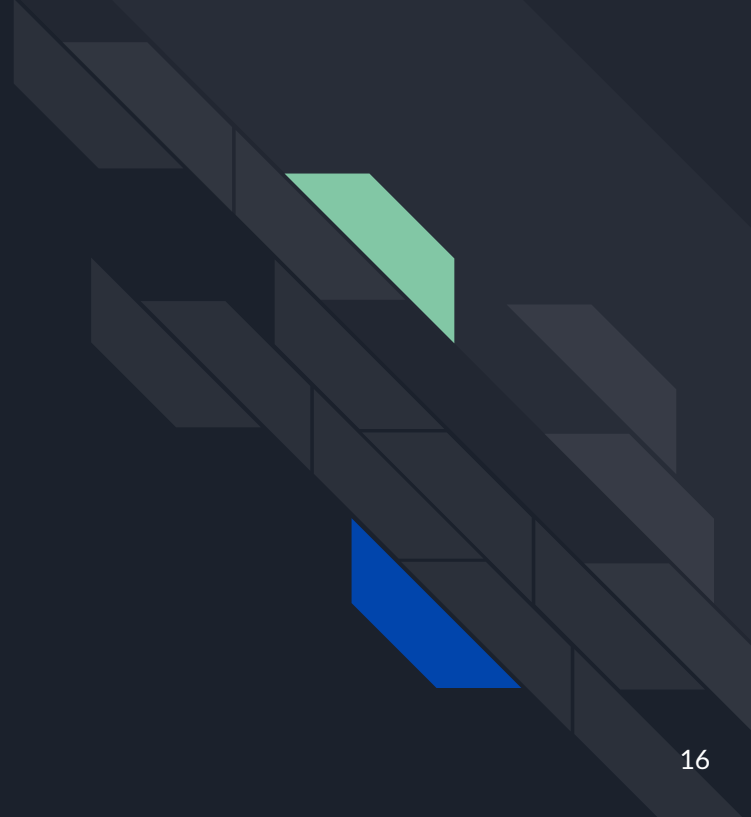


Battery Voltage



Panel Voltage

Current Progress of MVP





Weatherbox Page Components

Parameter Selection

Weatherbox

- **Button/Drop Down Menu**

Node

- **Table**
- **Data Retrieval**

Data Display

Sample Data Values

- **Weatherbox Selection**
- **Node Selection**
- **Table**
- **Data Retrieval**

Diagnostics Data

- **Weatherbox Selection**
- **Node Selection**
- **Line Graph**
- **Data Retrieval**

Environmental Data

- **Weatherbox Selection**
- **Node Selection**
- **Line Graph**
- **Data Retrieval**

Weatherbox Page Constants

Parameter Selection

Weatherbox

- Name
- Nodes

Node

- Available Nodes
- Graph Data

Data Display

Sample Data Values

- Weatherbox Node Sample Data
 - Diagnostics
 - Environmental

Diagnostics Data

- Weatherbox Node Diagnostics Data
 - Uptime
 - Battery Voltage
 - Panel Voltage

Environmental Data

- Weatherbox Node Environmental Data
 - Solar Irradiance
 - Pressure
 - Temperature
 - Humidity



Current Weatherbox Page Algorithm

Select Weatherbox

If Apple selected (same for other weatherboxes)

Retrieve data and possible nodes to select

Display environmental and diagnostics data

Node selection:

If no node selected

Default display of first node

If node(s) selected

Data for selected node(s) displayed

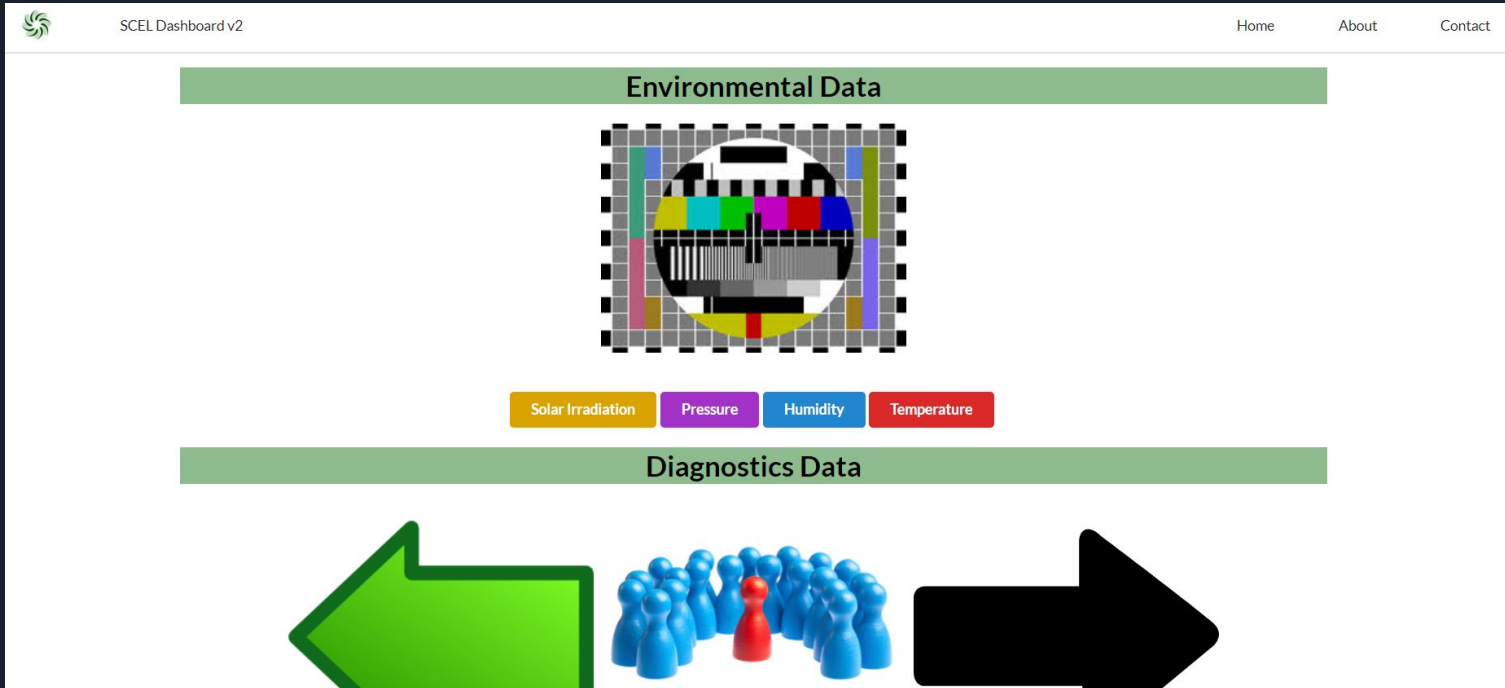
Environmental display selection:

First time on page, display solar irradiance at start

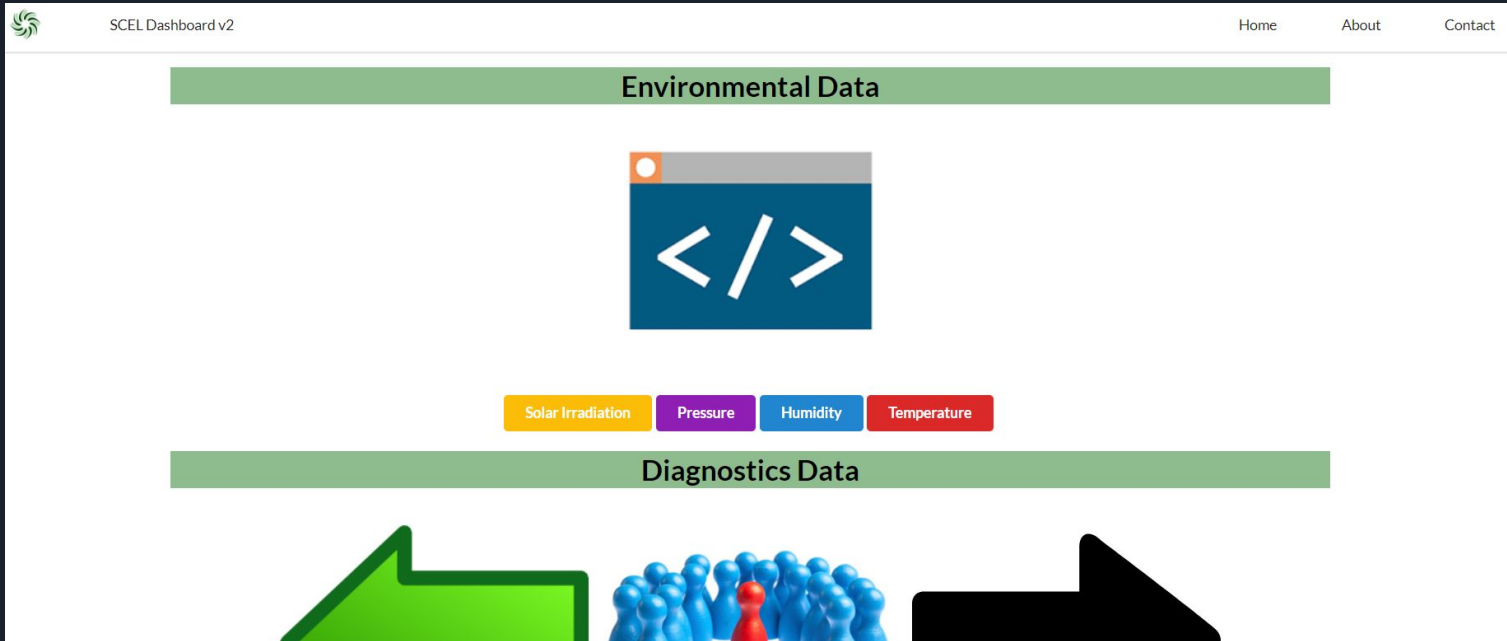
If button for a weather data is pressed

Change graph to selected data

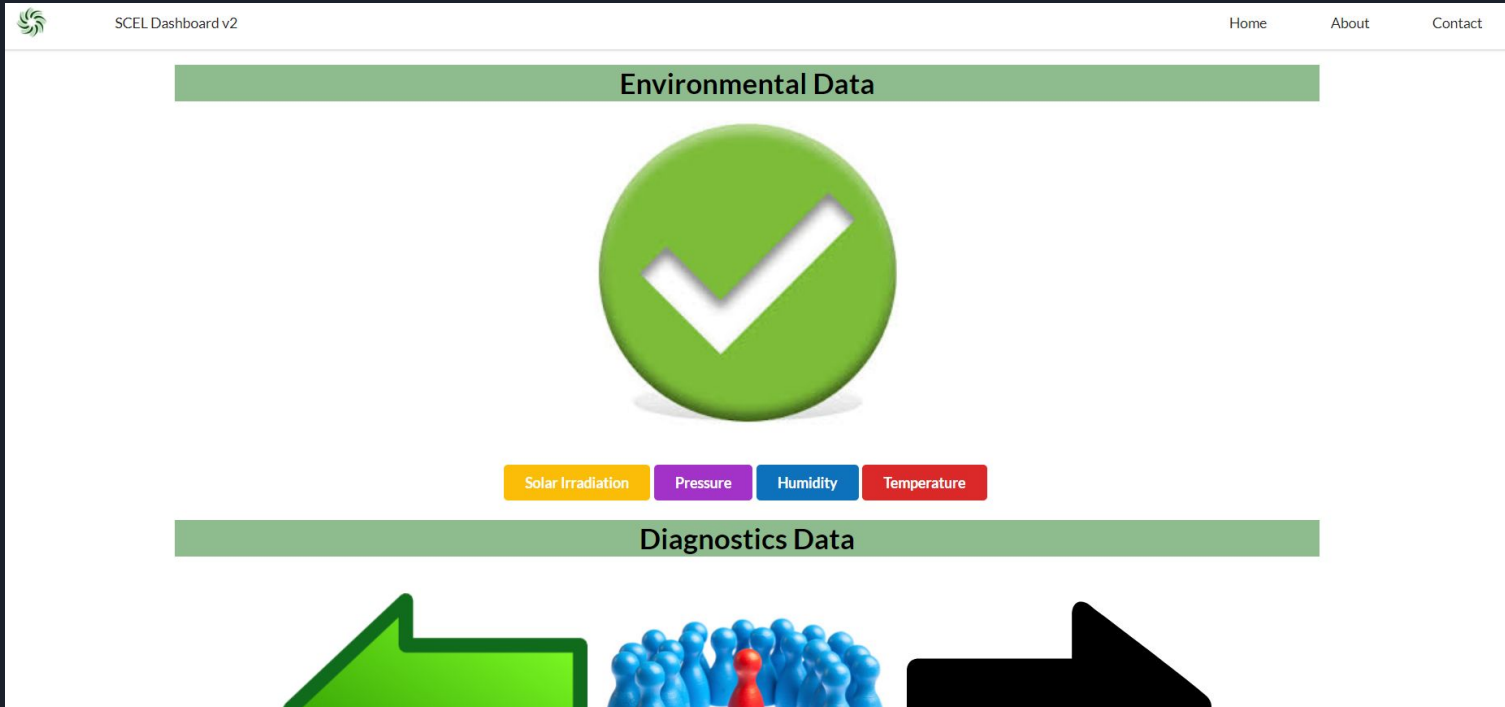
Current MVP



Current MVP



Current MVP





Weatherbox Page Future Updates

- 1) Integrate test data into page**
- 2) Time scaling implementation**
- 3) Multiple selected nodes display implementation**
- 4) Display of sample data values**
- 5) Display of all environmental data (*)**

Problems Encountered





Problems Encountered

- **Modular Coding (Improving)**
 - **Issue: Some components were not thought of initially**
 - **Solution: Take a from coding detour into designing on a document**
- **Coding Style and Convention (Improving)**
 - **Issue: Style of code and convention was not cohesive**
 - **Solution: Look at references, ask questions, code reviews with team members for feedback, and continuous practice in coding style and convention**

Team's Progress





Team's Progress

Training
(Complete)

Design Documents
(Ongoing Progress)

Dashboard Deployment and Development
(Ongoing Progress)

Minimum Viable Product
(Ongoing Progress)



Questions?

Thank you!





Sources

SCEL Logo: <https://avatars0.githubusercontent.com/u/7014873?s=200&v=4>

Weatherboxes Page Initial Mockup by Gordon Li

Weatherboxes Page Initial Electronic Copy by Gordon Li

Weatherboxes Page Mockup by Gordon Li

Weatherboxes Page Electronic Copy by Gordon Li

Weatherboxes Page MVP by Gordon Li