INFO34049 CST Capstone Research

John Wang
Kevin Baumgartner, Jesse Berube, Marc Harquail, Alex Ireland

Proof of Concept Prototype Document

Risk Mitigation:

The first technical risk that was mitigated with the creation of a prototype is the risk of losing data. This was considered a risk as there were multiple points of failures that were seen initially in the structure of the application. Through the development of the prototype, this risk was mitigated through code complexity management and uniform coding practices.

The second risk that was mitigated was the scope of development. This was considered a risk as the sponsor originally wanted the application to collect both temperature and power data, which would present the issue of having too much data on a page. This risk was mitigated through constant contact with the sponsor, as well as live development testing to limit the scope to only collecting live temperature data.

Consultation Summary:

The stakeholders of the Capstone Project have been involved through weekly follow up meetings to ensure that the development of the upcoming deliverables will meet their expectations. The sponsor was provided with updates on development status and provided feedback to guide future advances. Once development of the prototype product began, multiple phases of the alpha prototype were created until a viable implementation of the key feature was developed and then presented to the sponsor.

Operating Instructions:

To access the prototype of the Temperature Application, please navigate to the link below on an internet connected device (Preferably a mobile phone/tablet).

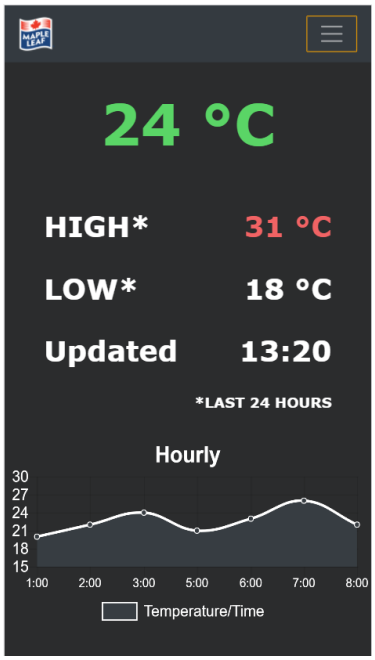
http://www.harquaim.dev.fast.sheridanc.on.ca/Capstone/

Once connected to the webpage, the user will be able to navigate the application using the navigation bar at the top of the screen.

The current implemented key feature consists of live temperature gathering and visual updates to the website. **Please be aware due to the IoT nature of the application, the temperature may not update if the device is not connected at the time of evaluation.**

User Interface Prototype:

Figure 1: Cabinet Temperature Display



The page that is displayed once a single cabinet from the cabinets listing page has been selected. Displays temperature, highest point, lowest point, most recent update time, and trend graph.

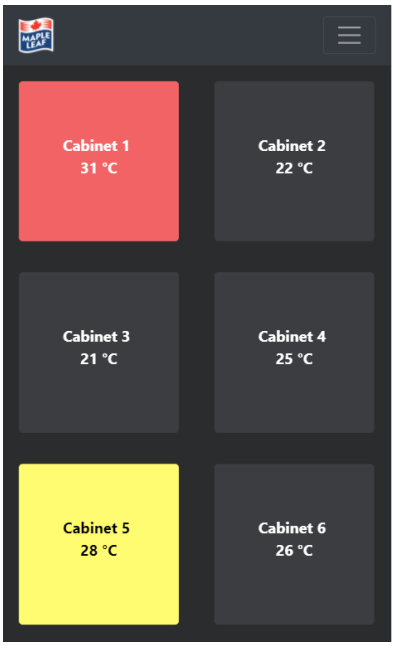
Figure 2: Navigation Bar

The navigational bar that is displayed on the cabinet and live view page.

Figure 2a: Navigation Bar on Trends Page with Share Button

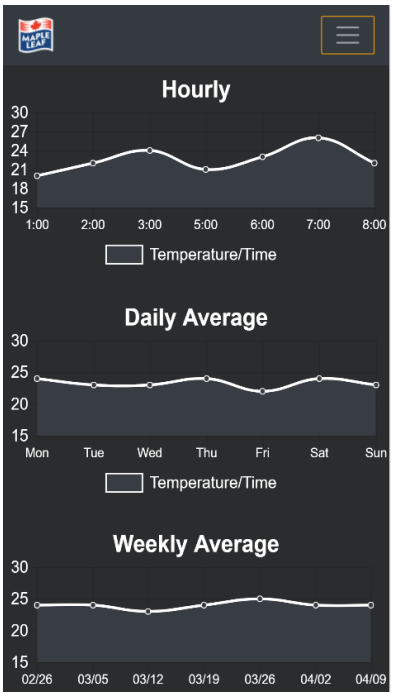
The navigational bar that is displayed on the trends page. Additional share button is added that will permit the exporting of historical data for the chosen cabinet.

Figure 3: Cabinet Listing Page



The page that displays all the cabinets from the specified plant. Selecting a cabinet will open the live view for that cabinet. The live temperature is also displayed here to provide a quick overview of all cabinets at once. Colour is also updated as the temperature rises to provide a quick way of gleaning status information on individual cabinets

Figure 4: Cabinet Trends Page



The page that displays the averages in temperature. This page displays an hourly trend, a daily trend, and a weekly trend.