Home Re:Stock

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Introduction

Home Re:Stock is kickstarter project that aims to give users a way to keep tabs on their products using real data. They plan to increase a user's convenience by making it easy to monitor and reorder products automatically.

Home Re:Stock uses an app, server, and a sensor. The sensor will get the weight of the product and send that information to the app. The app will then pass this data to a server where it will store that data for future use.

Purpose

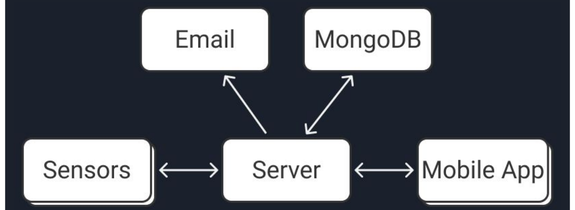
Even before COVID, the percentage of online grocery sales had been steadily increasing. In recent years alone it has risen from 14.5% to 29%. This trend is expected to continue. (1)

Home Re:Stock noticed that there were no real competitors in the space of home product restocking that were driven by real data collection, rather than just predictions.

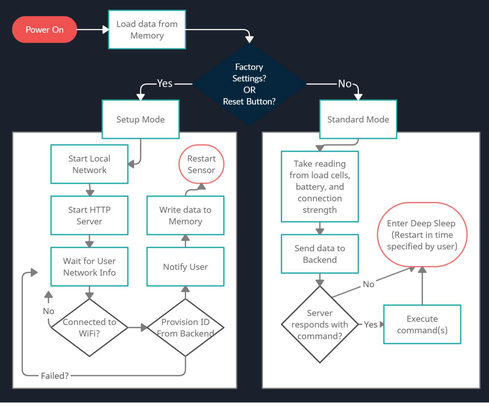
While Home Re:Stock primarily aims to increase general convenience, it also offers a potential solution to those with disabilities.

Methods - Backend

The backend API handles communications between different parts of Home Re:Stock. It protects data through authentication, processes and formats data as needed, and increases availability.

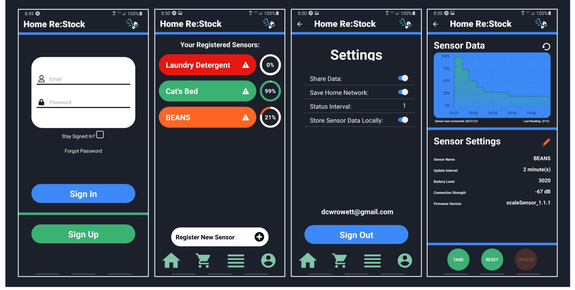


Methods - Firmware



Methods - User Interface

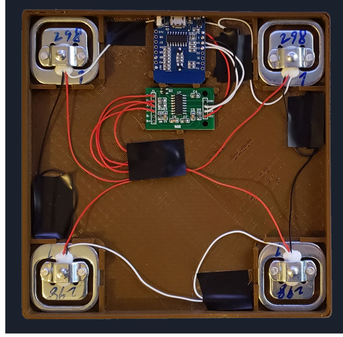
In its current state the user interface allows a user to register, configure, command, and view a sensor, as well as manage accounts.



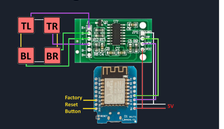
Methods - Sensor Hardware

Improved design, made thinner, 2 variants.

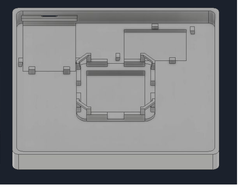
Medium: 150 x 150 x 14mm



Wiring Schematic



Small: 100 x 100 x 14mm



Results

What started as wireframes for a mobile application UI and a prototype sensor has grown into a backend wrapped over a database, a functional mobile application, and an optimized Sensor solution. A customer of Home Re:Stock today has the ability to monitor any item they please on their scales.

When a user sets up their new sensor, they simply download the Home Re:Stock mobile application. After creating an account and logging in, they follow a simple tutorial to get their sensor connected to their home network and communicating with the app. After this setup process, their Smart Scales will then communicate usage data over their home network to Home Re:Stock's backend. The backend is able to serve sensor data to the app and gives the users full control over their sensors and account preferences.

Conclusion

Home Re:Stock has the potential to make waves in the field of Data Analytics. Eventually, customers will have the ability to replenish their monitored goods with various retailers that will provide access to their web-shopping services.

Citations and External

1) FMI: 2020 U.S. Grocery Shopper Trends. (2020). Retrieved November 12, 2020, from https://www.fmi.org/our-research/research-reports/u-s-grocery-shopper-trends

Find out more on our Capstone II website: https://capstone-csce.uark.edu/fall-spring-2020-2021/teams-11-17-f20/team-16-home-restock/

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