Automatic Kegerator

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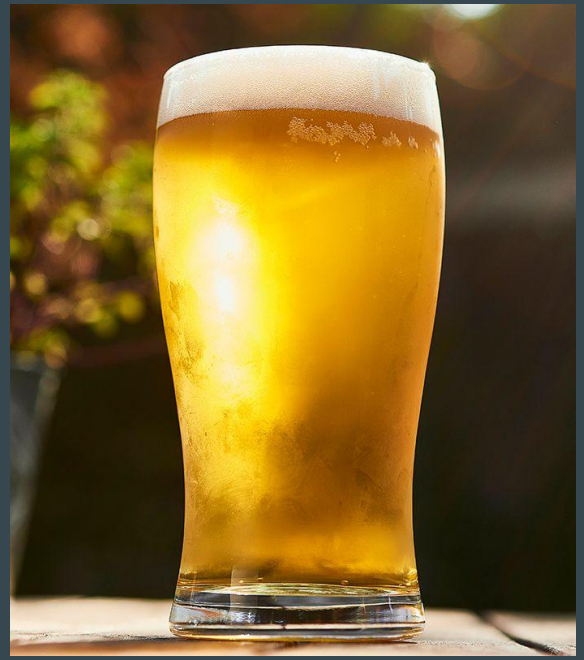
Goals

- Create a module able to be attached to any standard tap
- Allow the tap to be controlled through the app
- Allow various metrics to be communicated through the app
- Create a professional, clean physical design that restricts access to the tap for security purposes
- Create an intuitive app interface that is straightforward and pleasant to use



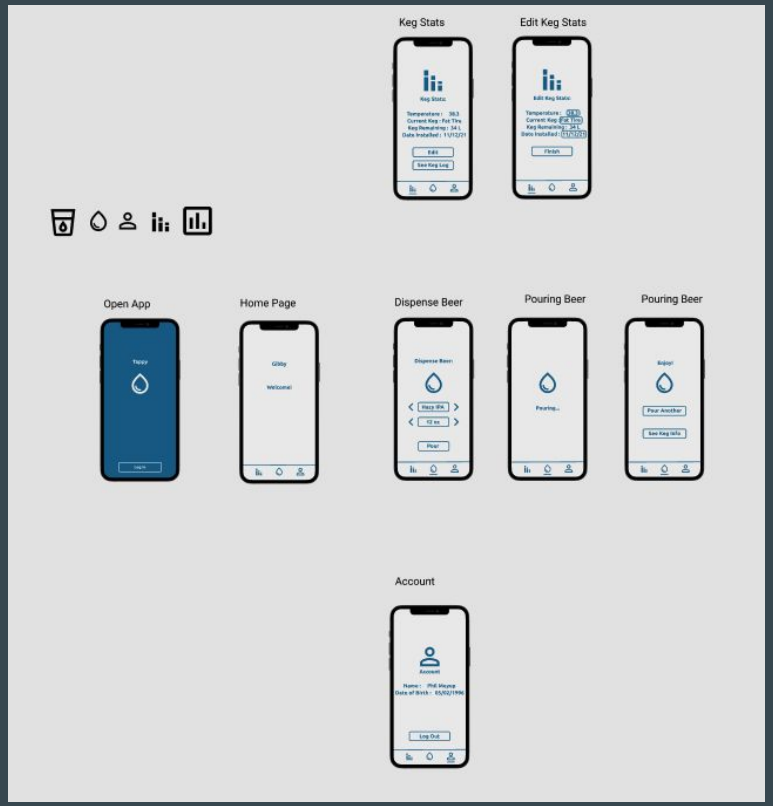
Intellectual Merits

Creating an all-in-one beer pouring device that allows for beer consumption tracking and contains security measures to restrict pouring only to designated situations.

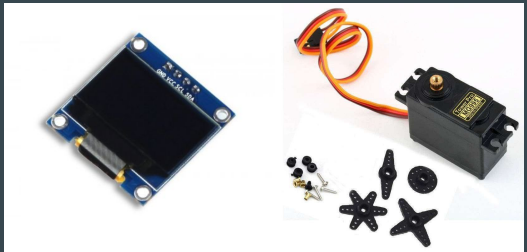
Broader Impacts

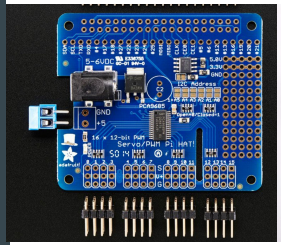
- A way to monitor and automatically pour standard sized beers
- Automation
- Novelty
- Childproofing

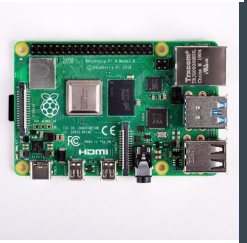
Design Specifications



Technologies

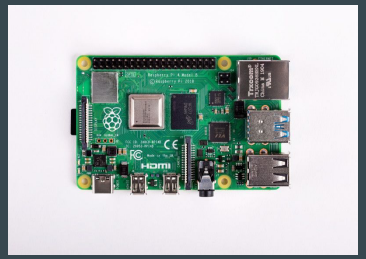






Raspberry Pi

python™



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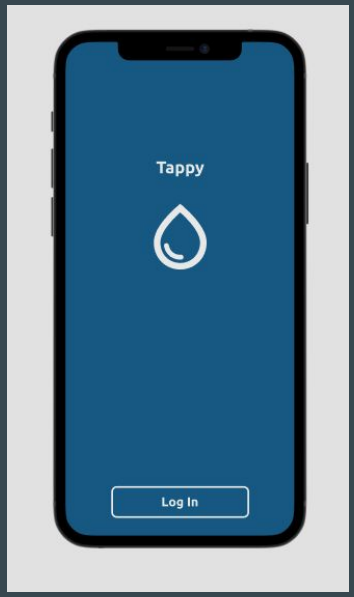
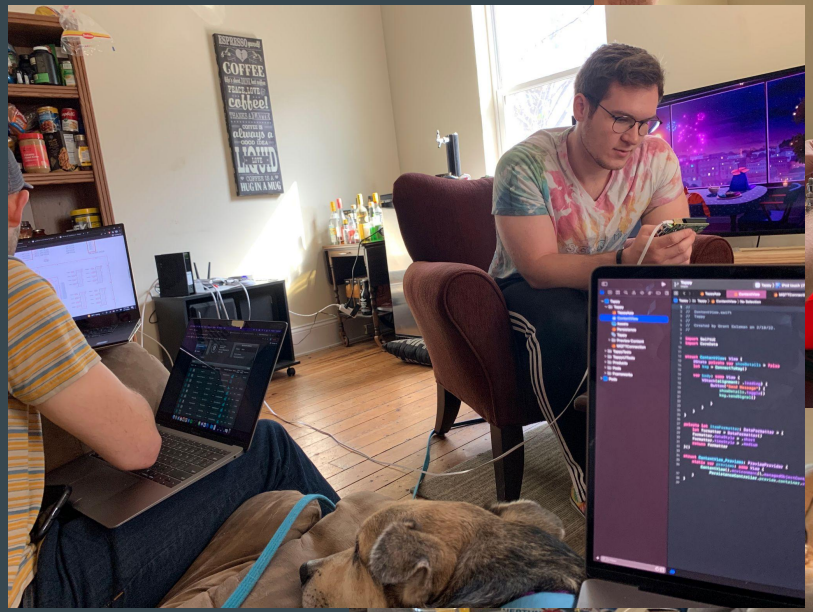
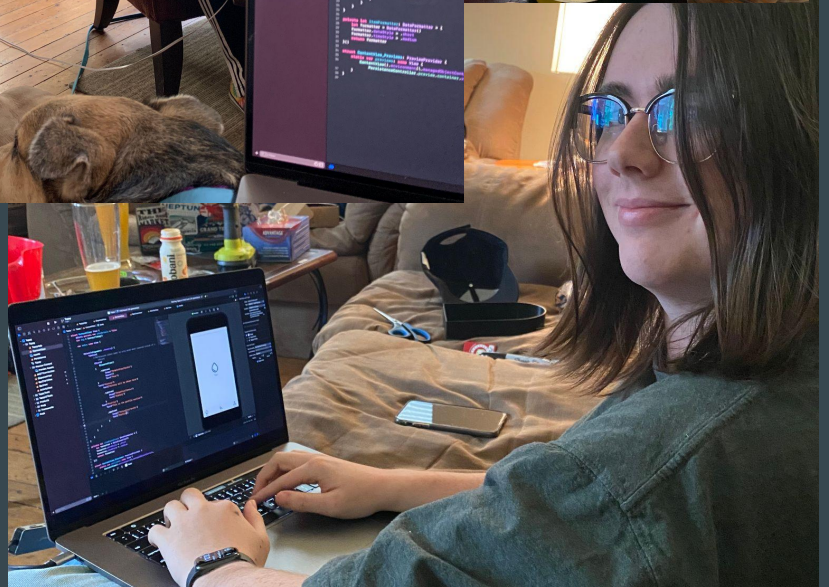


Swift

Milestones

- Digital and Physical Solution Determined
- App Layout
- Prototyping App
- Prototyping Physical Solution
- First Beer poured by iPhone
- Finalized App
- Finalized Physical Solution





Results

Demo

Challenges

Software:

- Learning Swift and its intricacies
- Pods and Moscapsule

Firmware:

- Designing and Implementing the finite state machine
- Communication between iPhone and raspberry pi with MQTT

Hardware:

- Designing the electronic system from Raspberry Pi to Servo
- Designing the final physical solution and have everything fit together and work as intended with the kegerator

Thanks for watching