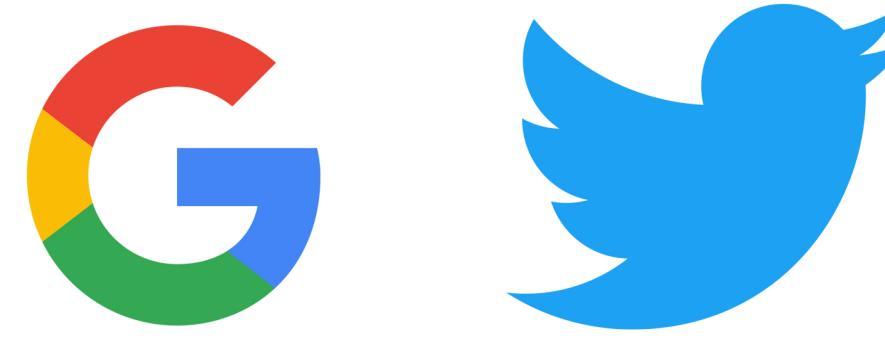


# Internet of Things (IoT) Information Display

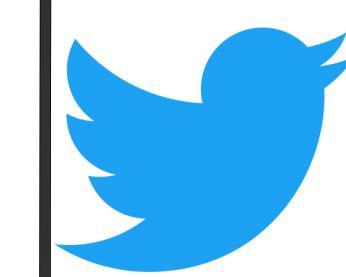
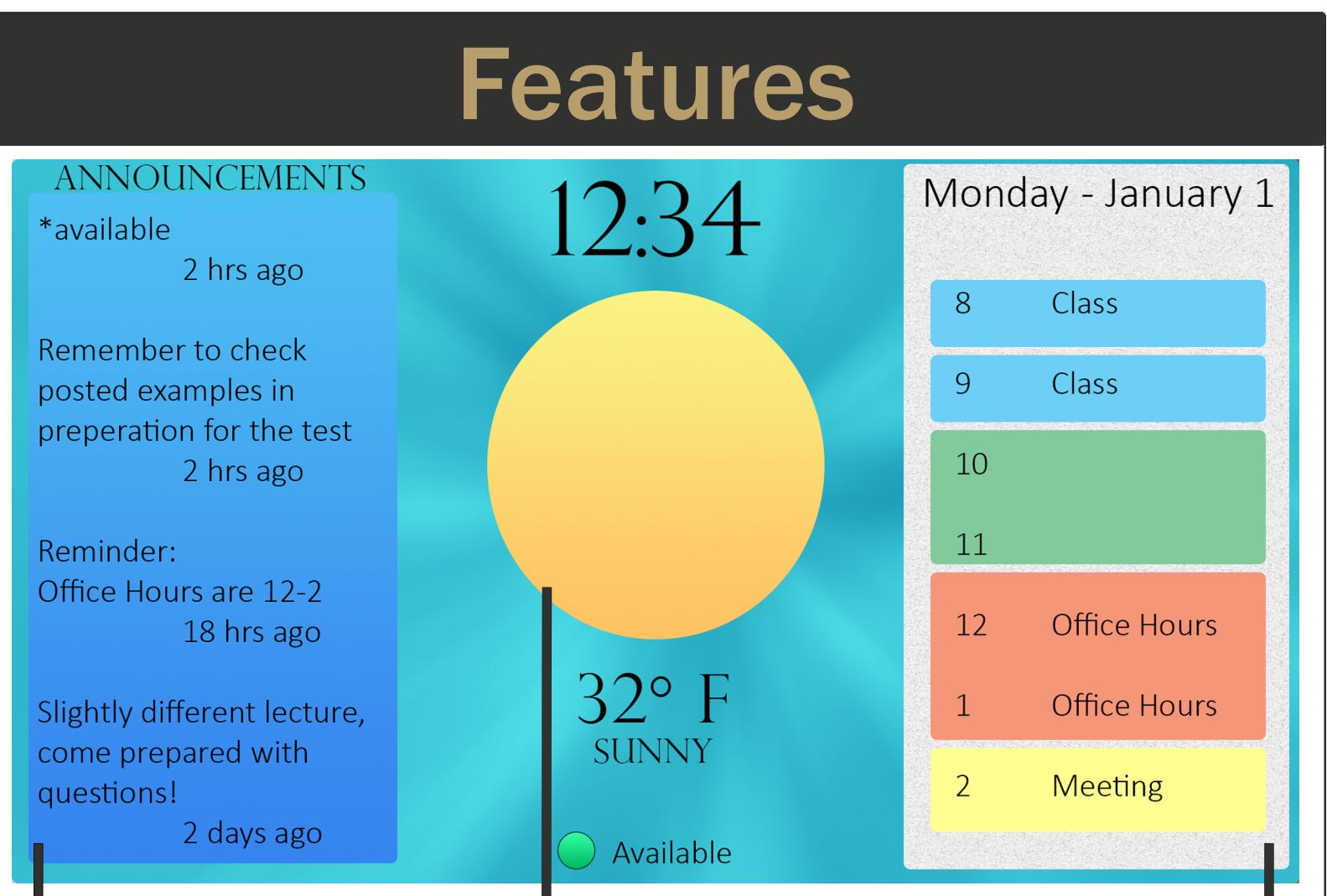


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## Concept

- Touch interaction
- Internet connectivity
- Professor's office hours via Google Calendar
- Class announcements via Twitter
- Advertisements
- Weather conditions



**Twitter Announcements**  
Tap to open a window full of more tweets



**Google Calendar**  
Tap to open a window of a weekly calendar displaying future Google Calendar events

## Components

### Hardware

- Raspberry Pi model 3B
- 13" multi-touch LCD monitor

### Software

- Debian Rasbian Stretch OS
- Python 3.6
- appJar and Tk GUI module
- Google calendar API
- Twitter API
- OpenWeatherMap.org API
- Sunrise-Sunset.org API

### Project Management

- GitHub version control
- Trello
- MS OneNote project notes

## Updates

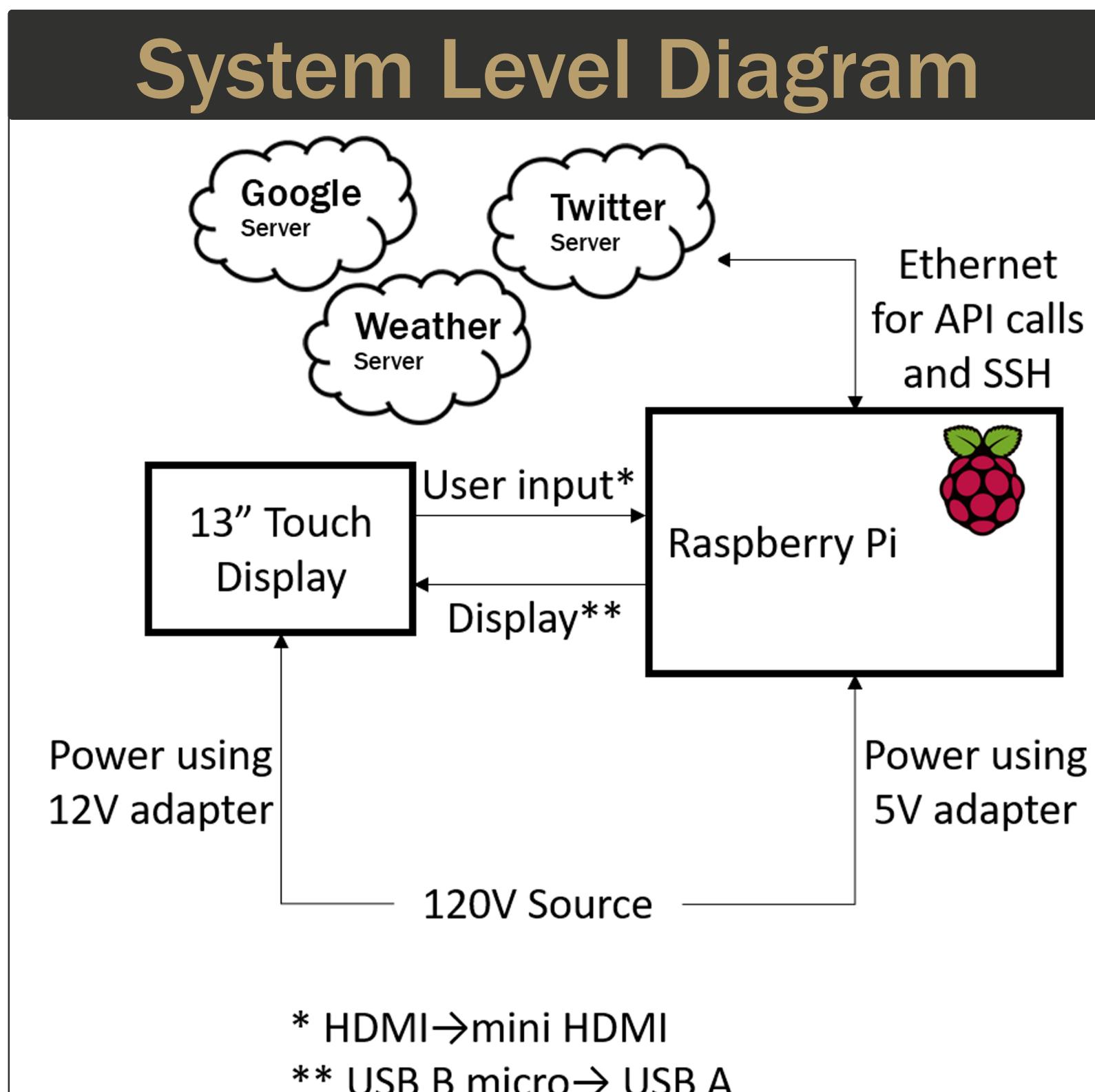
### Procedure

- SSH access to RPi
- Project repository on GitHub
- Can be pulled to ~/Desktop/IoTdisplay

### Updated Content

- Weather, announcements, dynamic display, and calendar update automatically
- Advertisements require image files in project directory to be changed

## System Level Diagram



## Event-Driven

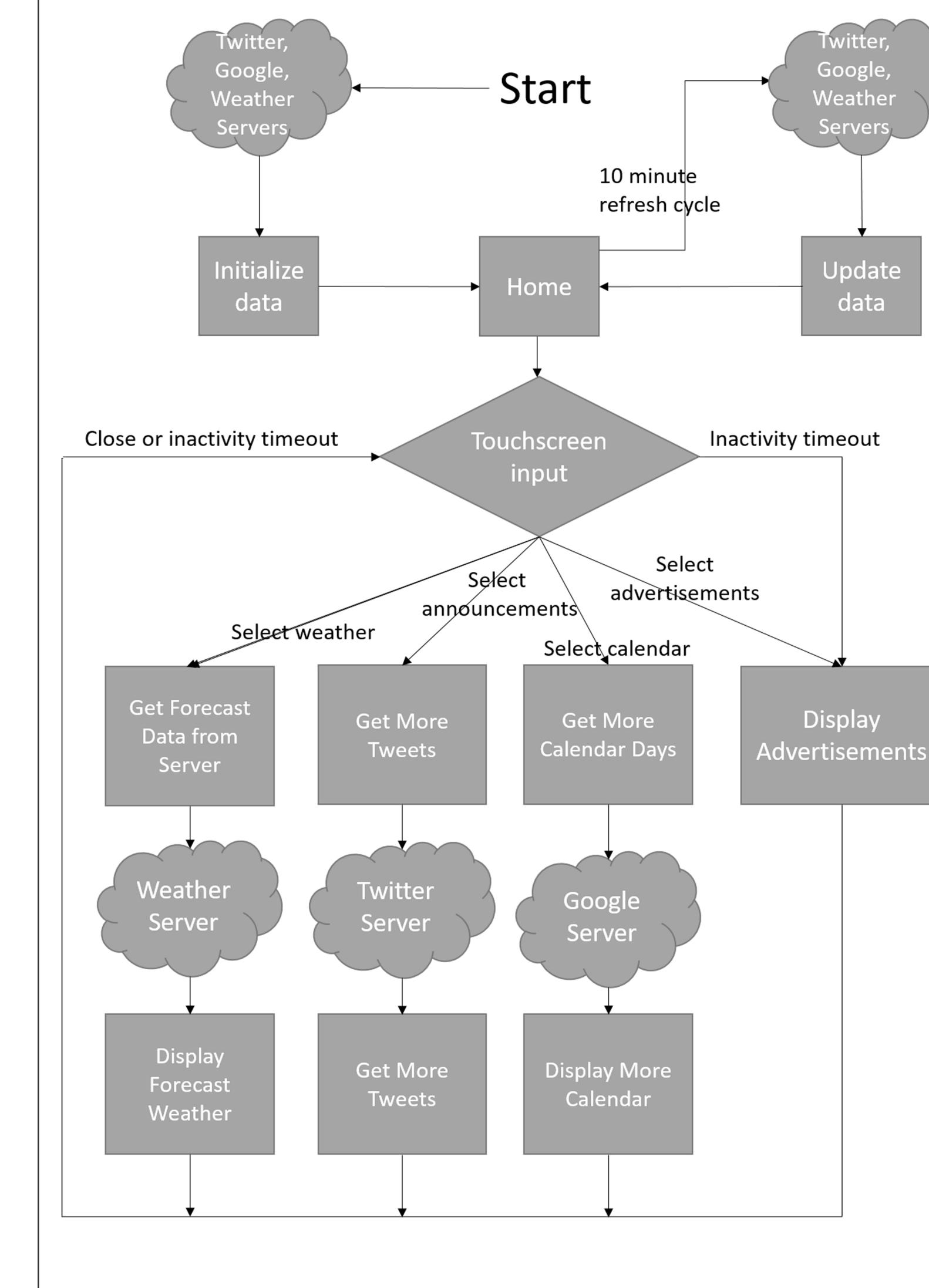
### Why event-driven threads?

- Advertisement Changes
- Timeouts

### appJar thread handling

- .registerEvent(function)
- .setPollTime(milliseconds)
- .thread(function)
- .queueFunction(function)

## GUI Process Diagram



## Mounting Diagram

