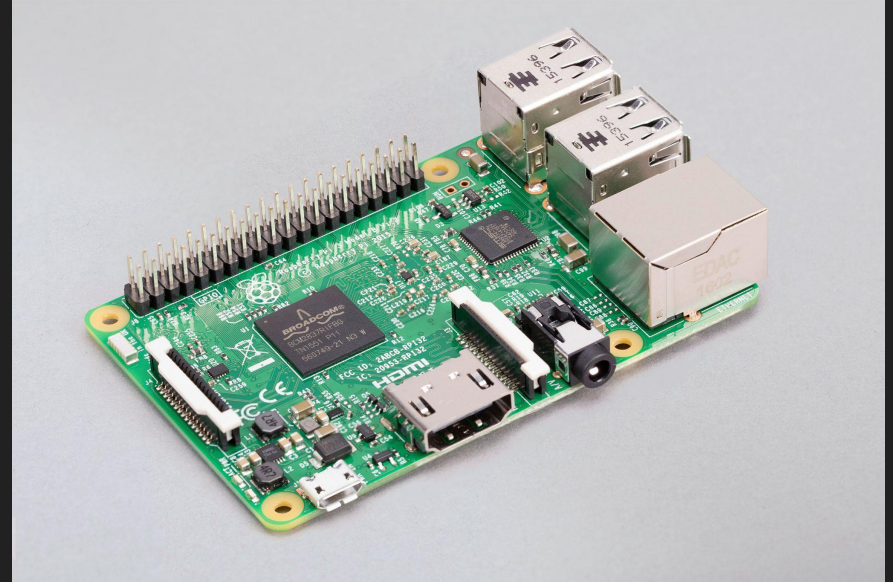


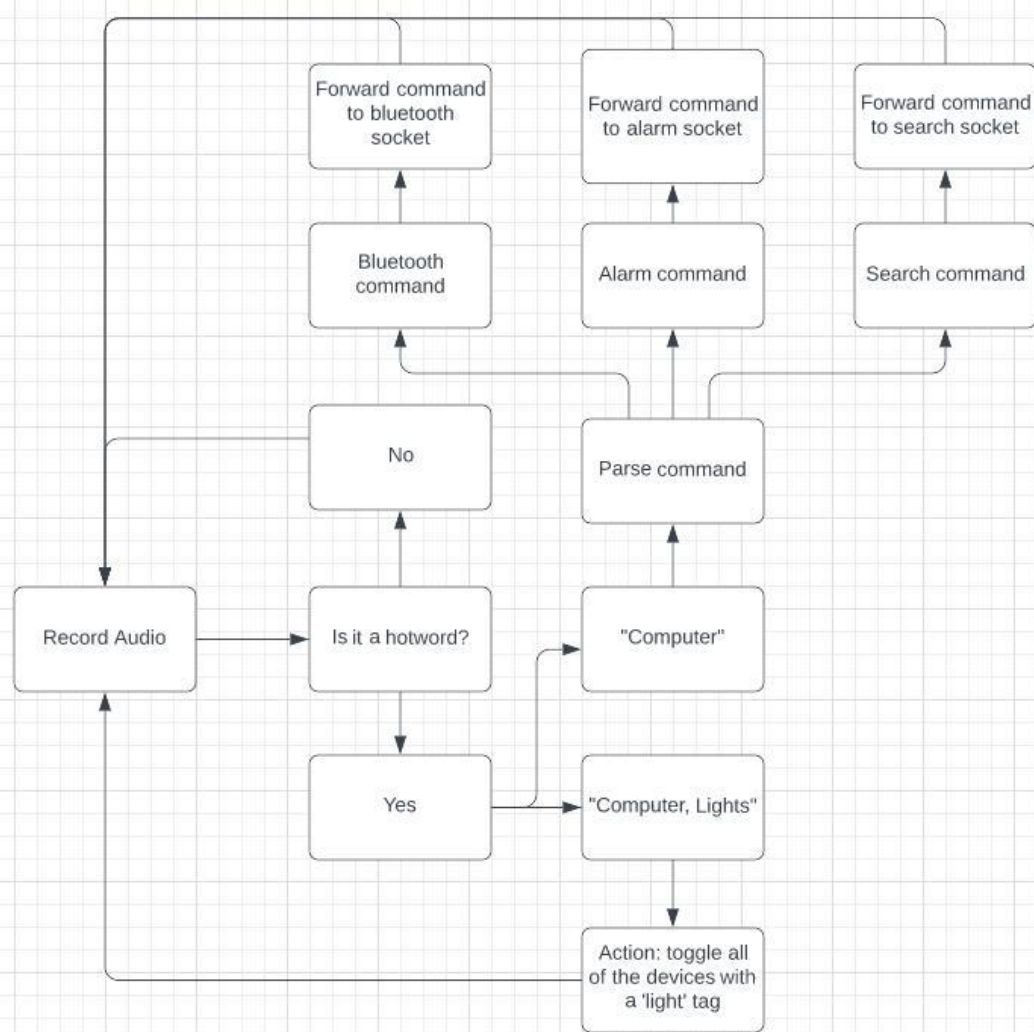
# Ancilla

a personal assistant built from scratch

# Features

- Bluetooth device management
- Alarm management
- Simple search





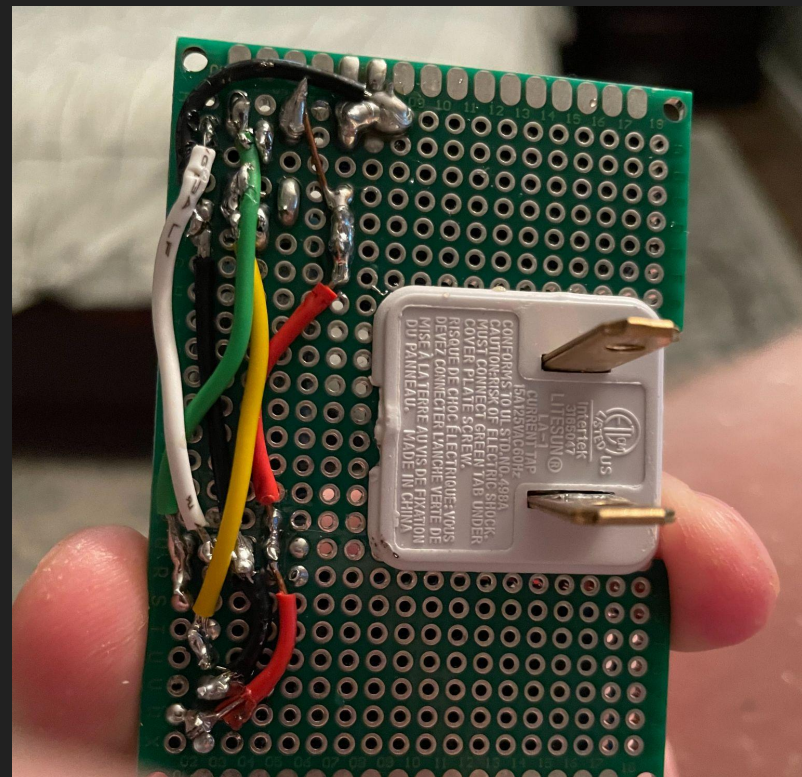
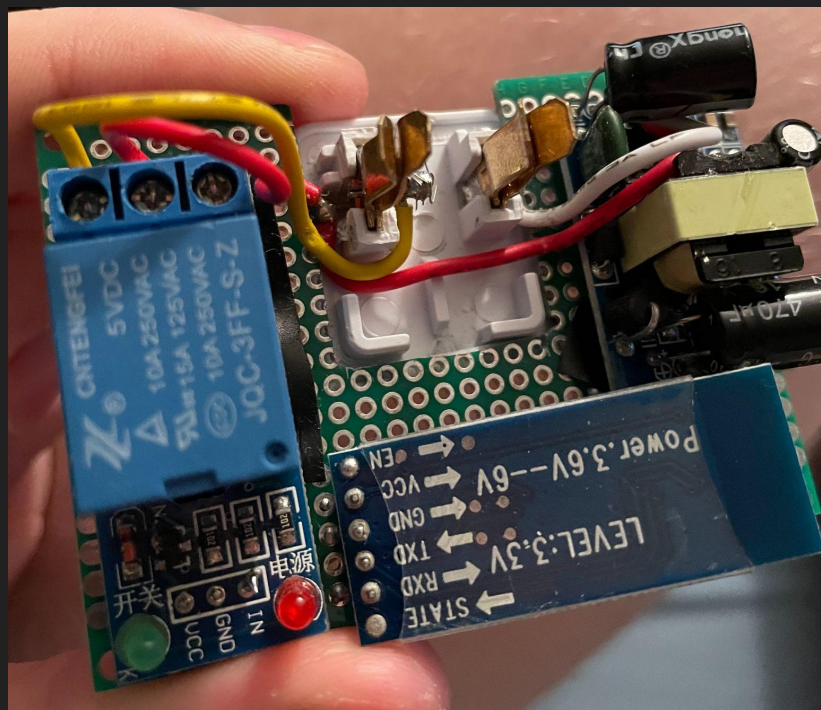
# Snowboy hotword detection

- Deprecated
- Device does nothing until a hotword is detected
- The command is dispatched to the appropriate callback function depending on the hotword that was detected
- Further dispatched to the appropriate socket depending on intent of command

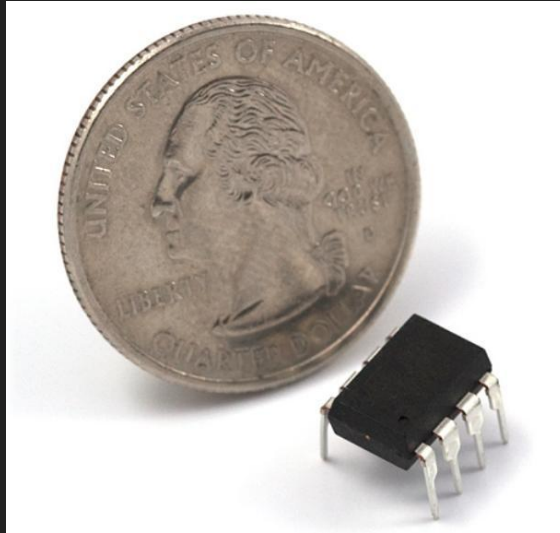
# Dispatching of commands

- Everything is a Unix socket
- Ancilla is the server socket
- Bluetooth, alarms, and search modules are client sockets
- There is no machine learning for intent detection
- Commands are parsed literally
- The first token in a command is the name of the socket to dispatch to
- If there is no dispatch token, the bluetooth module is called by default
  - Allows more natural communication between user and device manager

# Bluetooth



# Show Arduino Code



# Bluetooth Control Functions

- Add/drop device
- Add tags to each device
- Turn on/off/toggle device power
- Supports multiple devices and is modularly built out to handle multiple device types
- Kill
- Restart
- Manager ensures integrity of connections with no user input required



# Simple Search

- Queries WolframAlpha search API
- Text to speech is performed on the returned result
- Works well for simple queries, but data with variable structure can be difficult to understand
- The WolframAlpha API is not optimized for speech, so some answers are a bit awkward
- DEMO

# Alarms

- Add alarm
- Drop alarm by name
- Clear all alarms
- List alarms
- Name alarms
- Recurring alarms
- Kill alarm socket
- When an alarm goes off, all of the lights turn on and an annoying sound is played until 'alarm stop' command is uttered
- DEMO

# Improvements

- Connect to new bluetooth device through voice
- Further build out search class to have cleaner templated speech for common queries
- Shorter timeout for speech recognition
- Have circular buffer for audio data so there is no delay between hotword detection and speech detection
- General error checking and cleanup

Questions?