Robert Cook – ALS
Detailed View by Bill Weis

Requirements:
1. Be able to voice control lights in his room
2. Be able to use voice for making phone calls and have his phone number on receiving caller ID
3. Be able to voice control the Kensgrove ceiling fan
4. Use voice to contact caregiver via Amazon Drop in or Google Broadcast
5. Be able to voice control his TV/Netflix/YouTube, Etc
6. Be able to voice control his Drive full electric bed
7. Ensure good wifi in Robert's room

Solution – High Level:
1. Provided Sunco A19 bulbs so Robert can use voice to turn then on and off
2. Set up Google Home Mini so Robert can use voice commands to call people in his google contact list and they will know he is calling because we configured Google Home to show his cell number on their Caller-ID
3. Designed a microcontroller solution to transmit the RF codes to the Kensgrove ceiling fan
4. Use voice to contact caregiver using either Alexa or Google
5. Installed an Amazon Fire TV Cube so Robert can voice control his TV/entertainment.
6. Designed a microcontroller solution to control the head and foot ends of the bed via voice commands. The Hi Lo function is only possible via the provided hand control and is not voice enabled for safety reasons.
7. We provided a TP-Link AV1000 Powerline WiFi Extender (TL-WPA7510 Kit) Powerline adapter with Dual Band Wifi.


Details of the Solution

1 – Be able to voice control lights in his room – We shipped (4) Sunco A19 wifi bulbs that Robert can control via voice commands to Alexa or Google. He can turn the bulbs on and off, dim, and change colors.

2 – Make phone calls using voice – Robert can make phone calls using either Alexa or Google.

3 – **Be able to control his Kensgrove ceiling fan using voice commands** – We built a microcontroller-based solution that enables Robert to use voice commands to turn the fan on/off and change speeds.

Robert Cook – Voice controller for
Kensgrove Ceiling fan
Remote UC7225T S/N 21092.03
3/10/21

1k Ohm

Fan

Wind

Increase

Decrease

SSRs

Wigoneer Base Provides Gnd to SSRs
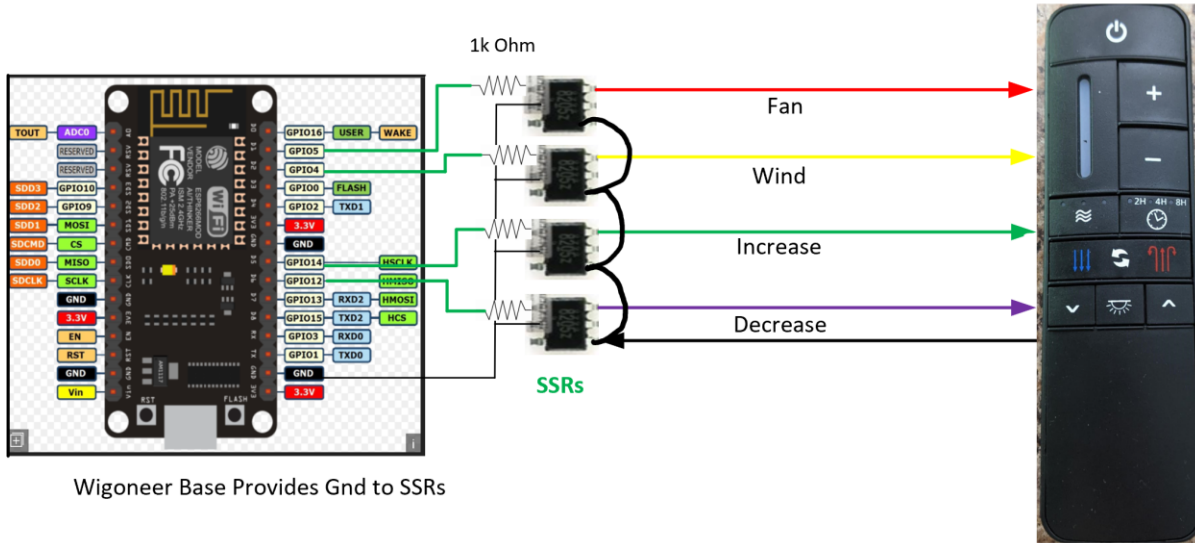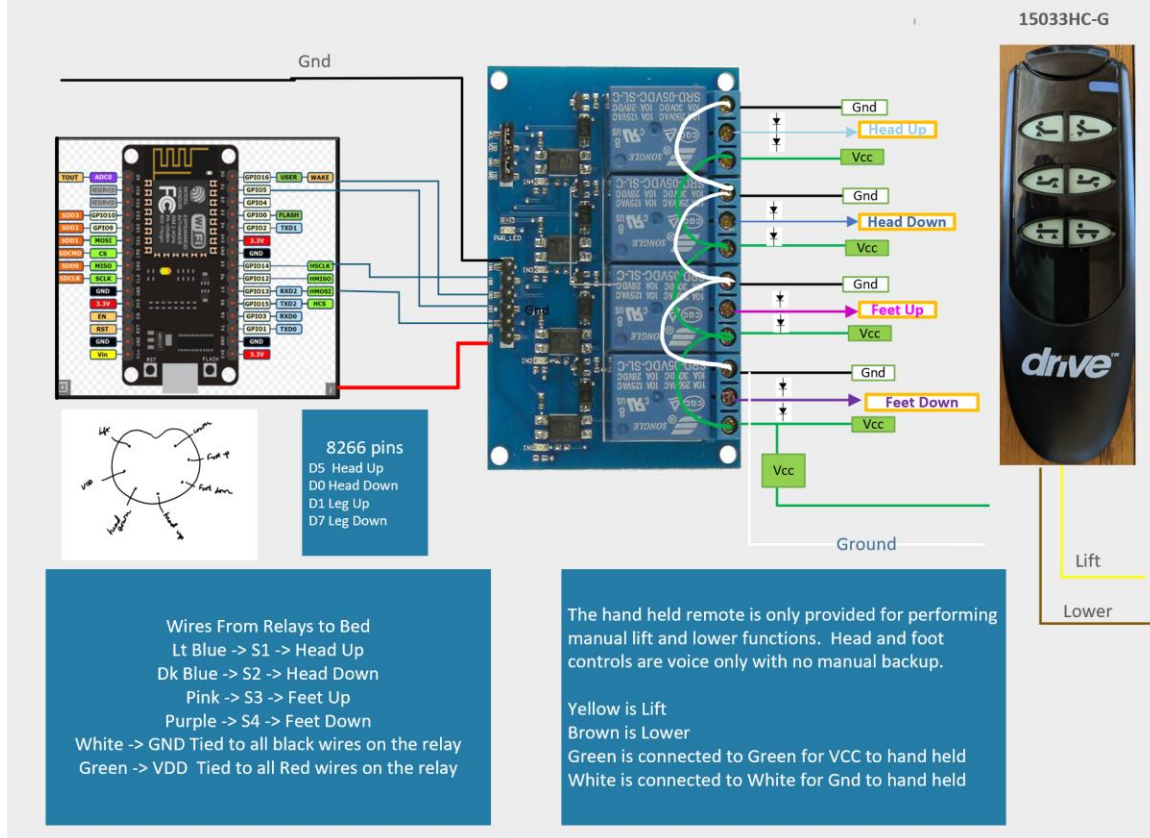
Remote – Soldered Connections to SSRs

GPIO5 - D1 (Remote) = Power on Fan
GPIO4 – D2 (Remote) = Wind
GPIO14 – D5 (Remote) = Increase
GPIO12 – D6 (Remote) = Decrease

4 – Use voice commands to contact his caregiver – We provide two amazon echo dots and two google minis. With Amazon echo Robert can use the 'Drop In' feature to establish an intercom-like experience with the caregiver's echo dot. He also has the ability to use Google to broadcast a message to the caregiver's Google mini.

5 – Use voice to control his TV – We provided an Amazon Fire TV cube to control his Samsung TV.

6 – Use voice to control his full electric Drive bed – We provided Robert with a microcontroller-based solution that allows him to raise and lower the head and foot ends of the beds with timed commands that run for various durations. We do not provide voice commands for the Hi Lo feature of the bed, but we do provide a hand control which can be used by the caregiver to perform the Hi and Lo feature.

RobertC - Drive Full Electric Bed with remote 15033HC-G
2/28/21 S/N 19039.03

15033HC-G

Gnd

Gnd
Head Up
Vcc

Gnd
Head Down
Vcc

Gnd
Feet Up
Vcc

Gnd
Feet Down
Vcc

Vcc

Ground

8266 pins
D5 Head Up
D0 Head Down
D1 Leg Up
D7 Leg Down

Lift

Lower

Wires From Relays to Bed
Lt Blue -> S1 -> Head Up
Dk Blue -> S2 -> Head Down
Pink -> S3 -> Feet Up
Purple -> S4 -> Feet Down
White -> GND Tied to all black wires on the relay
Green -> VDD Tied to all Red wires on the relay

The hand held remote is only provided for performing manual lift and lower functions. Head and foot controls are voice only with no manual backup.

Yellow is Lift
Brown is Lower
Green is connected to Green for VCC to hand held
White is connected to White for Gnd to hand held

1. **7 – Roberts room is 60 feet from the router, so we added a Wifi Extender**
   - We provided a TP-Link AV1000 Powerline WiFi Extender (TL-WPA7510 Kit) Powerline adapter with Dual Band Wifi.

Resources
Amazon Echo
Alexa Support (Contact Support via the Amazon Alexa app - can have them call your number)
Google Home getting started
Google Home Help Forum
Google Home Support   Phone number for Google Home hardware support = 855-971-9121 (24/7 days a week)
Logitech Harmony Knowledge Base
Logitech Harmony Support Phone # for Support = 866-601-5644 (M-F 8am to 6pm PST)
Lifx
Wemo Support Phone number for Support = 1-844-745-wemo (9366)