

# Hasan W. Project – Detailed View (v1)

By Bill Weis

## Requirements:

1. Be able to use voice commands to control the Invacare bed
2. Be able to control the TV by voice
3. Be able to get the attention of others throughout the house when he needs help
4. Be able to use accessibility features of an Android phone

## Solution – High Level:

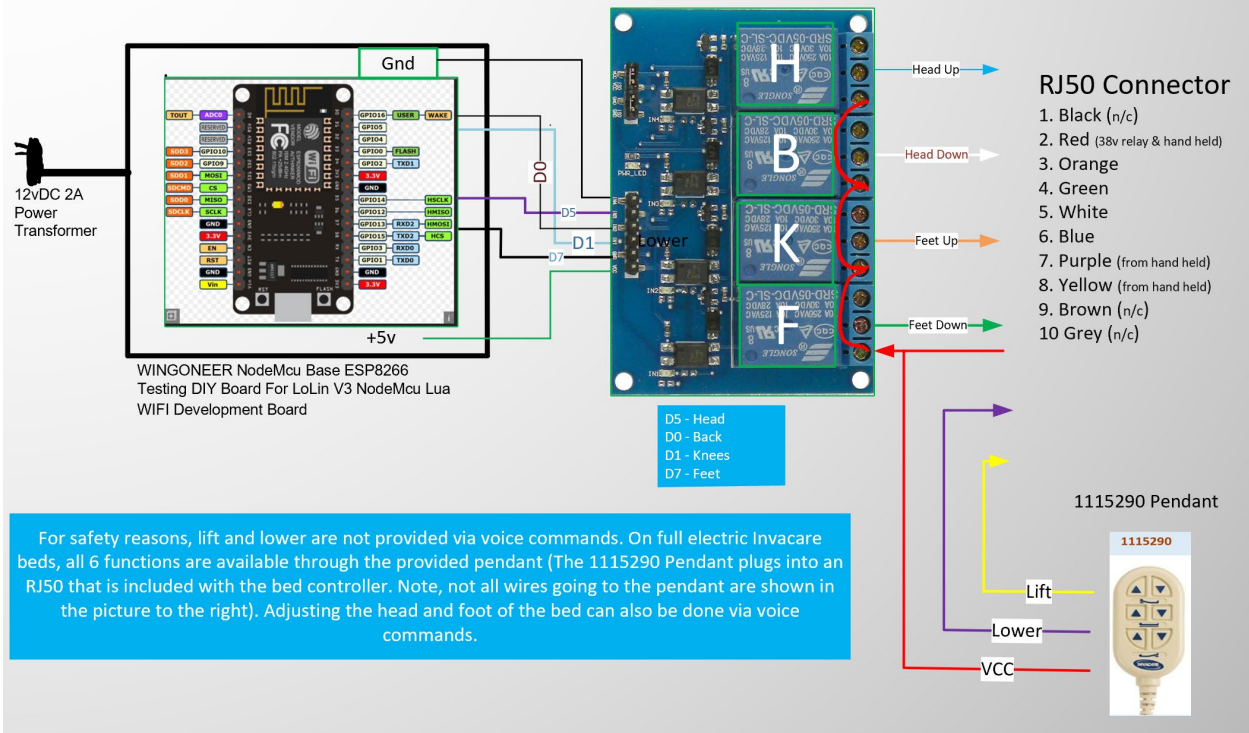
1. We designed a solution which allows Hasan to control the Invacare bed by voice
2. We provided an Amazon Fire TV Cube so Hasan could control all desired functions of the TV
3. We provided a few Google mini's so Hasan can use the broadcast message to get the attention of caregivers
4. We provided a Google Pixel3 phone so Hasan can use the phones accessibility features

## Details of the Solution

1. **Voice Control his bed** – Hasan has a full electric Invacare bed with hand pendant 1115290. We provided Hasan with several voice commands that run for different durations to move the head/foot end of the bed up/down. For safety reasons we do not provide voice commands of lift and lower (aka Hi Lo features). The Hi Lo feature is generally used by the caregiver and we provide a manual means of controlling Hi Lo. Since this Invacare model uses simple contact closure in the pendant for all 6 functions, we are able to provide a connection on our voice activated controller that allows Hasan to plug in their existing hand pendant which provides full manual control of the bed should wifi/internet go down.

The voice activated bed controller design can be found on the next page.

**Voice Controlled Bed Controller for Hasan, mechanical relays to drive the  
Invacare Full Electric bed, manual control for Lift and Lower  
Bill Weis 8-12-2021  
S/N 20064.02**



2. **Be able to control the TV by voice** – We provided Hasan with a Amazon Fire TV cube so he can use voice commands to call up programs on Amazon Prime, Netflix and YouTube. Hasan can also fully control power and volume levels of the TV.
3. **Be able to get the attention of others throughout the house when he needs help** – We provided two Google Minis to add to the one he already had so Hasan can use the broadcast feature to Google minis located in various parts of the house when he needs to request help.
4. **Be able to use accessibility features of an Android phone** – Hasan was interested in trying some of the accessibility features of the Google Pixel3 phone and we provided the phone.

**Resources**

- [Amazon Echo](#) Alexa Fire TV Cube support 888-280-2073
- [Google Home getting started](#)
- [Google Home Help Forum](#)