Project Description: The smart strip uses commands fed through a google home (or any google device) to control various sockets on a power strip. This is accomplished with a google home, raspberry pi, a relay board, power strip, and various free coding software.

Particle is a company that creates WIFI based microcontrollers, but more importantly, has a very convenient IDE that can be used to program a Raspberry Pi. This mitigates the need to SSH into the Pi every time one wants to upload code. Using guides online, code is uploaded to the pi that once done, allows the Particle IDE to upload any code directly to the Pi via the internet by the click of a button.

The second reason Particle is used, is for the ease of use with connection to IFTTT. IFTTT stands for If This Then That and is a free web based application that allows for the creation of “applets”. These applets are simple conditional statements that can be triggered by a variety of different things that is all handled by IFTTT. For this project, applets where made that when a command is given to google, a trigger event is sent to the particle project. The particle project, depending on the event, will then tell the raspberry pi what relay on the board to switch on and off.

The way the project is set up allows for one to log into the IFTTT app, and easily modify the command they want to say to google and what relays to turn on and off for said command. On top of that, the IFTTT allows for button widgets to be made that can trigger these relays as well.

Below is the dismantled power strip. The stirp was taken apart, and the positive terminal was split at each port. Wires were then soldered and run to the relay board. The final port was rewired to the main power supply as a port that could be used to power the Pi when plugged in. The color coded jumper wires would then be connected to the Pi’s GPIO pins.