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## Final Demo Report

*This report will provide more information on my specific contributions to the final demonstration.*

The code that I contributed to can be found in `lightControl.py` which contains all the functions required to send http requests to the bridge given a specific room number. This is how we can ensure that the correct lights are turning on/off as we transition between the rooms. There is also a function used to set the brightness of a group of lights to a specific brightness. It also provides a way to setup the bridge in for your local network and saves the internal IP address of the bridge as well as the provided username in a json file. This information is needed every time we need to send a command directly to the bridge. The setup function will also determine if there is already a json file saved in which case it will just read in the IP and username from the saved file.

### Results:

As seen in the demonstration video, the correct lights were being turned on as we got close to the rooms they were in. Originally, I had planned to show that we could keep multiple groups of lights on if the user was standing in the middle of 2 rooms. However, due to a change in our implementation this could not be shown. The change in our implementation will be discussed further in the final document, but in short, the quality of the hardware we used to test did not allow for a stable connection to be maintained between the Raspberry Pi and the routers which resulted the triangulated positions being very inaccurate. Our new implantation just uses shortest distance to determine location instead so only one group of lights can be turned on at a time.

Either way, the demonstration shows that the correct lights were being controlled as we transitioned between rooms and there was an acceptable amount of delay between the request being sent and the lights being affected (approximately 1 second).