CS 5394
Texas State University
Project Description
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Team members:
Morgan Langlais, Carla Zacarias, Anisa Yniesta, Philip Fitzgerald, Stephen Gross

Smart PyControl

Nearly 30% of U.S. consumers have purchased or installed a smart home product in the past year. With the rise in automation there is a need to provide customized control to users. We will attempt to create a Python-based, desktop application to control a variety of smart home devices.

The user will open the app from their desktop and be presented with the UI. With the application, users will have the ability to add devices including lightbulbs, televisions, speakers, and door locks. Each device type will have a different section. Users will be able to control light bulbs by turning them on, off, or dim. For each light bulb they will be presented with two buttons: one to turn the bulb on and one to turn the bulb off. Thermostats will be able to be controlled with a simple sliding scale. They will be presented with a slider that allows them to select the desired temperature in Fahrenheit. A television or speaker control may have a power on/off button as well as volume control. Finally, door locks will have a lock and unlock control.

Additionally, the application will include a logging section. We will setup a database on the backend to log each interaction the user has with the app. For every control change the user makes, that event will be logged with the event, user information, and a timestamp. The app will also provide the ability for users to see historical logging data. For instance, if a light bulb suddenly turns off, the user may login to the app and open the logging tab which will pull the events from the database for them to view.