Python Project #2

Python Library Phue

The main purpose of this python library is to allow for greater of your Philips hue light bulbs. That wouldn’t be capable with just using the included app. As the Phue library allows and ultimate control over your philips hue light bulbs. As the app that is available is full of different features to control, as you can connect to different voice assistants personally I use siri. Now the reason you’d want to connect and control using this python library is for the ability use it a bridge to create new use caes that help you in your daily life.

One of the two different use case for a python library like this is to be used is to create another way for communication with people who are hard of hearing. As easy warning system, this idea has come to me with more people with deaf children explaining how they communicate. An example of this is that can’t knock on there door as this may not hear that. So one way to get around this is to flicker the lights, but this includes opening the door. So with this program you could set up a button outside the room that flickers the light as a replacement for knocking. Along with the endless possibilities you could make different light patterns mean different things.

Another way this program can be adapt to real world functions is that your able to give control of your lights to a python program. This essential creates a bridge to unlimited possibilities, as you can now connect the lights to any external device with WIFI connectivity. Where you create an alert that the oven timer is done, with the lights flashing as an indicator. This feature allows a better chances that the alarm going off will be noticed. The best part of this example is that its not limited to one item. This also works with washer and drying machines as long as the machine are capable of connecting to the python system. Also even if you can’t directly connect to the machine. You could in theory use a microphone that will trigger the alert when the trigger sound is played by the machine.

The core functions of the python library Phue are very basic, but when linked together can create so many possibilities. As you can control every aspect of the lights. To start listing off all the function of turning lights on and off the function called on. The next function is controls brightness name is bri with the values being (0-254).

The next three functions control the color the color of the light bulbs. One important note for these functions is that the light bulbs need to be able to change color. As just telling the lights to change colors will not give them the new feature. You can control color the function name hue with value range being (0-65535), the color saturation being named sat with value being in between (0-254). The last color function being called xy this gives the programmer the ability to choose a precise color within the CIE 1931 color space. The next function is close to color change but is fundamentally different. As color temperature does change the color of the light given off by the light. What make this different is that unlike the real color change that can be adjusted is two different spectrum. The color the temperature can only be adjusted on a single spectrum. Based off of color temperatures seen from different lights throughout time as you can have a cool light similar to a led, or warm light as seen from a incandescent light bulb. The name to call this function is ct with the values being in between (154-500).

The next functions to be brought up are control the different affects that can be introduce to the system. The transition timer can be used this a less aggressive alarm or alert system as a gentle changing of the colors to tell you the oven is done. Another fun function is the alert function as you can use this function to create a rave party the lights blinking on and off. This function’s name is alert. The next function is called effect, this function allows the user to add different effects to the light. As this includes the ability to cause lights to go through color loops.

on: Turns the light bulb on or off.

bri: Sets the brightness of the light bulb (0-254).

hue: Sets the color of the light bulb as a hue value (0-65535).

sat: Sets the color saturation of the light bulb (0-254).

xy: Sets the color of the light bulb as an xy coordinate in CIE 1931 color space.

ct: Sets the color temperature of the light bulb in mireds (154-500).

Transitiontime: Sets the duration of the transition to a new state in multiples of 100ms (default is 4).

alert: Sets the alert effect of the light bulb (e.g. blink or breathe).

effect: Sets the dynamic effect of the light bulb (e.g. color loop).

Colormode: Sets the color mode of the light bulb (e.g. 'hs' or 'xy').