

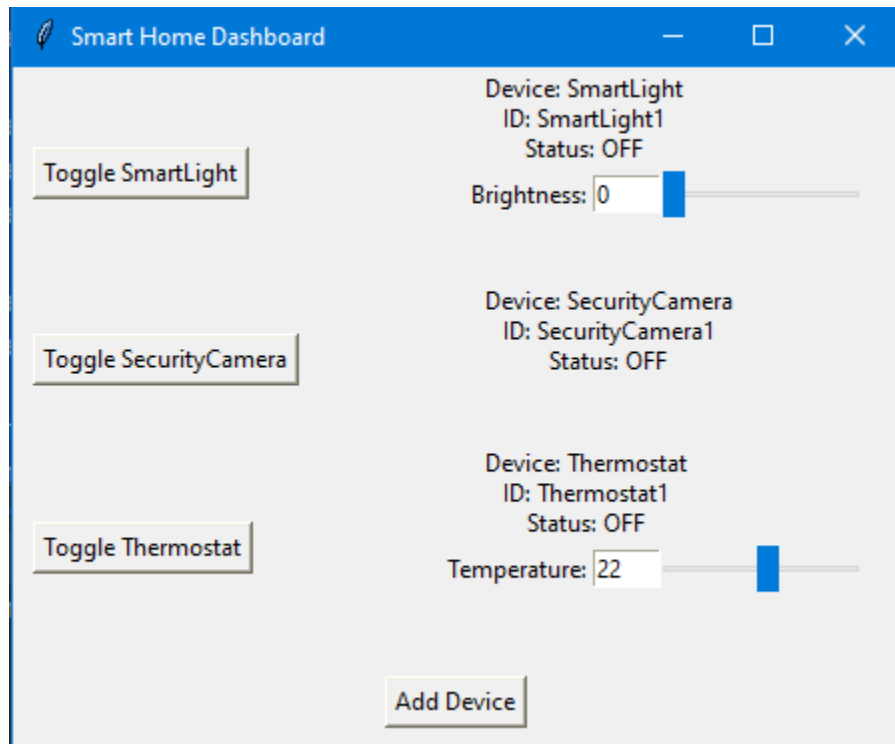
IOT Smart Home Simulator

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23 November 2023

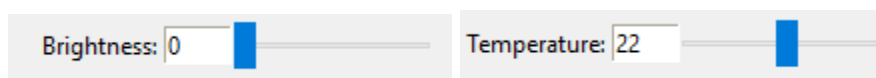
The Graphical User Interface (GUI) for the IoT Smart Home Simulator has been developed in Python using the Tkinter library. To utilize the GUI, execute the SmartDeviceGUI.py code, and the GUI will open in a window. The simulator comes pre-loaded with three default device types:

1. Smart Light
2. Security Camera
3. Thermostat

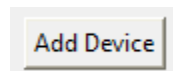


The user can interact with the devices via toggle buttons to switch them ON or OFF, reflecting the status changes accordingly.

Additionally, the temperature of the thermostat can be adjusted using a scroll bar, while brightness control is available through a separate scroll bar.



For adding new devices, the user can click the "Add Device" button.

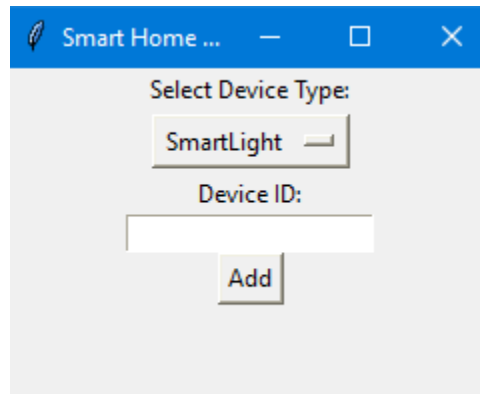


This action triggers a smaller window to appear, displaying a dropdown menu featuring available device types for addition.

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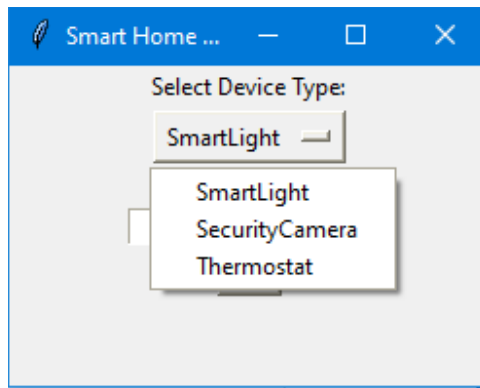
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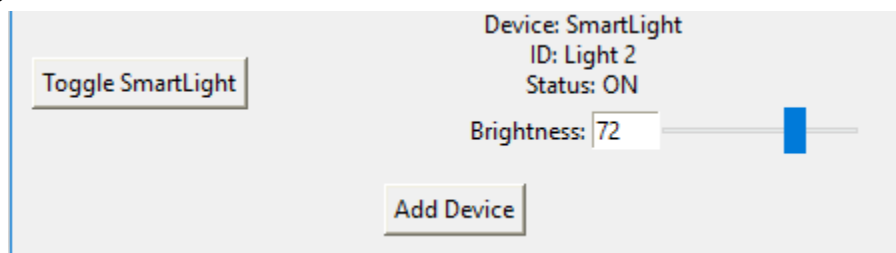
A screenshot of a software window titled "Smart Home ...". Inside, there is a section labeled "Select Device Type:" with a dropdown menu currently showing "SmartLight". Below this is a text input field labeled "Device ID:" which is empty. At the bottom of this section is an "Add" button.

The user is prompted to select a device type from the dropdown and assign a device ID.



A screenshot of the same "Smart Home ..." window. The "Select Device Type:" dropdown menu is now open, showing a list of options: "SmartLight", "SecurityCamera", and "Thermostat". The "Device ID:" field remains empty, and the "Add" button is still visible at the bottom.

After adding a new device:



A screenshot of the main interface of the IOT Smart Home Simulator. On the left, there is a "Toggle SmartLight" button. On the right, the device information is displayed: "Device: SmartLight", "ID: Light 2", and "Status: ON". Below this, there is a "Brightness: 72" label next to a slider control. At the bottom center, there is an "Add Device" button.