

USER MANUAL

SMART HOME

22CDS0439

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Overview:

The Smart Home Lighting System allows users to manage lighting in their homes with customizable presets. You can add rooms, toggle light statuses, delete presets, and remove rooms from existing presets. The system saves data in a JSON file, ensuring that your configurations persist even when the program is closed and reopened.

System Requirements:

- Python 3.x
- The program uses built-in Python libraries: os, json, and input.

How to Run the Application:

1. Download the code: Clone or download the repository containing the smart home lighting system.
2. Run the script: Open a terminal or command prompt, navigate to the folder where the script is located, and run the following command:

```
C:\Users\L E N O V O>python "C:\Users\L E N O V O\OneDrive\Desktop\22CDS0439 PYTHON PROJECT(SMART HOME)\Smart Home.py"
```

Replace python "*C:\Users\L E N O V O\OneDrive\Desktop\22CDS0439 PYTHON PROJECT(SMART HOME) \Smart Home.py*" with the actual path of your script if it's different.

- 3.The system will load and present a main menu with available options.

How to Use the Application:

Once the application starts, you will see the main menu with options to:

1. Add Rooms: This option lets you add new rooms to a preset. You will be prompted to provide the preset name and the rooms you want to add.
2. Toggle Light: Allows you to toggle the light status (ON/OFF) of a room within a preset. You'll need to select the preset and room to toggle.
3. Delete Preset: Removes an entire preset from the system. You will be asked to confirm before deletion.
4. Delete Room from Preset: Lets you delete a specific room from a preset. You can remove rooms one by one until you choose to stop.
5. Exit: Exits the program.

Example Walkthrough:

Step 1: Add Rooms

After selecting Option 1 (Add Room), you'll be prompted to input a preset name (e.g., "Living Room Preset").

Next, you'll enter the names of rooms to be added to the preset (e.g., "Living Room", "Kitchen", etc.).

Step 2: Toggle Light

Select Option 2 (Toggle Light).

Choose a preset from the available list.

Pick a room from the preset, and toggle the light status (ON/OFF).

Step 3: Delete Preset

Select Option 3 (Delete Preset).

Choose the preset you want to delete from the available list.

Confirm the deletion.

Step 4: Delete Room from Preset

Select Option 4 (Delete Room from Preset).

Choose the preset from which you want to delete rooms.

Select one or more rooms to delete, and the system will remove them.

Step 5: Exit

Once you're done, select Option 5 (Exit) to close the program.

Data Storage:

The system saves all presets, rooms, and light statuses in a JSON file (smart_home_data.json).

When the program is restarted, it will load the data from this file and display the current configurations.