**User Guideline**

The landing page requests login credentials before the dashboard can be accessed. *Figure* 1 shows the server requesting user to input login fields. Correct credentials can lead to dashboard home while incorrect credential is dismissed and followed by a subsequent login request.

A screenshot of a computer

Description automatically generated

Figure 1. Smart Home Authentication

Correct credentials “admin” for username and “admin” for password leads to the dashboard homepage. *Figure* 3 shows the ESP32 Smart Home Dashboard.

A screenshot of a computer

Description automatically generated

Figure 2. Landing Page Upon Successful Login

A successful logout is shown in *Figure* 4. To complete the logout process, user must close all browser tabs. Logout can be achieved by clicking Logout button as shown in *Figure* 3 (top right).

A screenshot of a computer

Description automatically generated

Figure 3. Logged Out Page

A successful login and dashboard homepage is shown on *Figure* 4 along with sidebar navigation to three other pages: Lights, Appliances, and Climate. The user icon on top right can be used to log out from the dashboard.

A picture containing text, monitor, screenshot, electronics

Description automatically generated

Figure 4. Smart Home Landing Page

A screenshot of a computer

Description automatically generated

Figure 5. Front Door On

A screenshot of a computer

Description automatically generated

Figure 6. Back Door On

Front Door LED and Back door LED can be turned On/Off as show *Figure* 5 and *Figure* 6, respectively.

A screenshot of a computer

Description automatically generated

Figure 7. Security System Armed

Security system is activated and is on armed state as shown on *Figure* 10.

A screenshot of a computer

Description automatically generated

Figure 8. Garage Door Open

A picture containing text, monitor, screenshot, black

Description automatically generated

Figure 9. Fan 10 Seconds Timer On

The timer slider is set to 10 seconds and switch is toggled for fan (see *Figure* 10).

The fan is turned on and switches off automatically upon scheduled time. *Figure* 15 shows brushless motor driven by motor driver IC.

A screenshot of a computer

Description automatically generated

Figure 10. Selecting Cyan Colour

On festival light card in the dashboard, cyan colour is picked. The colour picker can pick a distinctive combination of 16.8 million colours.

A screenshot of a computer

Description automatically generated

Figure 11. Bedroom Light Dimmed to 10 Percent

On bedroom card, light brightness is set to 10% as shown in *Figure* 14.

Light can be seen dimmed down or brightness can be increased by the slider.

A screenshot of a computer

Description automatically generated

Figure 12. Garage Light Turned On

On *Figure* 15, gas leakage card is expanded and the form with email address and gas threshold level are filled and submitted.

A screenshot of a computer

Description automatically generated

Figure 13. Set Gas Leakage Email Alert

A screenshot of a computer

Description automatically generated with low confidence

Figure 14. Temperature and Altitude Charts

A computer screen capture

Description automatically generated with low confidence

Figure 15. Altitude and Pressure Charts

*Figure* 16 and *Figure* 17 shows charts with data plots on each sensor readings on the climate page. Top graph shows temperature readings followed by altitude readings and pressure readings at the end.