Senior Switch Man

By:

G.veda sri lakshmi, 22WH1A05D5
D.Neha, 22WH1A05D6
K.veda sree, 22WH1A05D7
farhana tabassum, 22WH1A05D8
Sanvika, 22WH1A05D9

AGENDA

- Problem Statement
- Modules and Python Packages
- Explain the packages where it is used in your code.
- Contribution of team
- Execution of final code

Problem Statement

- microcomputer that could control 16 switches around a home. your program can exercise the following functions related to the switches:
- turn any or all switches on
- turn any or all switches off
- query the state of any or all switches
- specify a time of a day command to on it once or every day

Modules and Python Packages

Python Package	Purpose
tkinter	Used for creating the graphical user interface (GUI).
datetime	Handles date and time operations for scheduling commands.
PIL	Processes and displays images in the GUI.
pygame	Plays sound effects when executing commands.

Packages and where they are used

- tkinter:
  Used to create the main graphical user interface (GUI) for the Switch Control Panel application. In the code, tkinter is used to create and manage the main application window, entry fields, buttons, labels, and text widgets. The GUI elements like the login screen, command entry field, "Run Command" button, and result text box are all created using tkinter.

- datetime:

    Utilized for handling date and time operations in the application. The datetime package is used to get the current time when executing commands ($\text{current}_t ime = datetime.now().time()$).

  It is used to parse and convert time strings to datetime objects ($get_t imefunction$) $for schedulingcommandsatspecifictimes$. The package also helps in displaying the time in a specific format.

- PIL (Python Imaging Library):

    Used for image processing and displaying images in the GUI. In the code, PIL is used to load and display images representing the ON/OFF state of switches. The images are loaded using the PhotoImage class from PIL (img0, img1, img2, img3, img4, img5, img6)

- pygame:
  Used to play sound effects when the user executes commands. The pygame package is used to initialize and manage the audio functionalities (pygame.mixer.init()). It is used to play the sound effect of a click when the "Run Command" button is pressed (sound=pygame.mixer.Sound('click.mp3')).

Contribution of team

Roll No	contribution
22WH1A05D5	Used for creating the graphical user interface (GUI).
22WH1A05D6	Handles date and time operations for scheduling commands.
22WH1A05D7	Processes and displays images in the GUI.
22WH1A05D8	Plays sound effects when executing commands.
2WH1A05D9	Plays sound effects when executing commands.

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THANK YOU