MyUtility - A multipurpose GUI application

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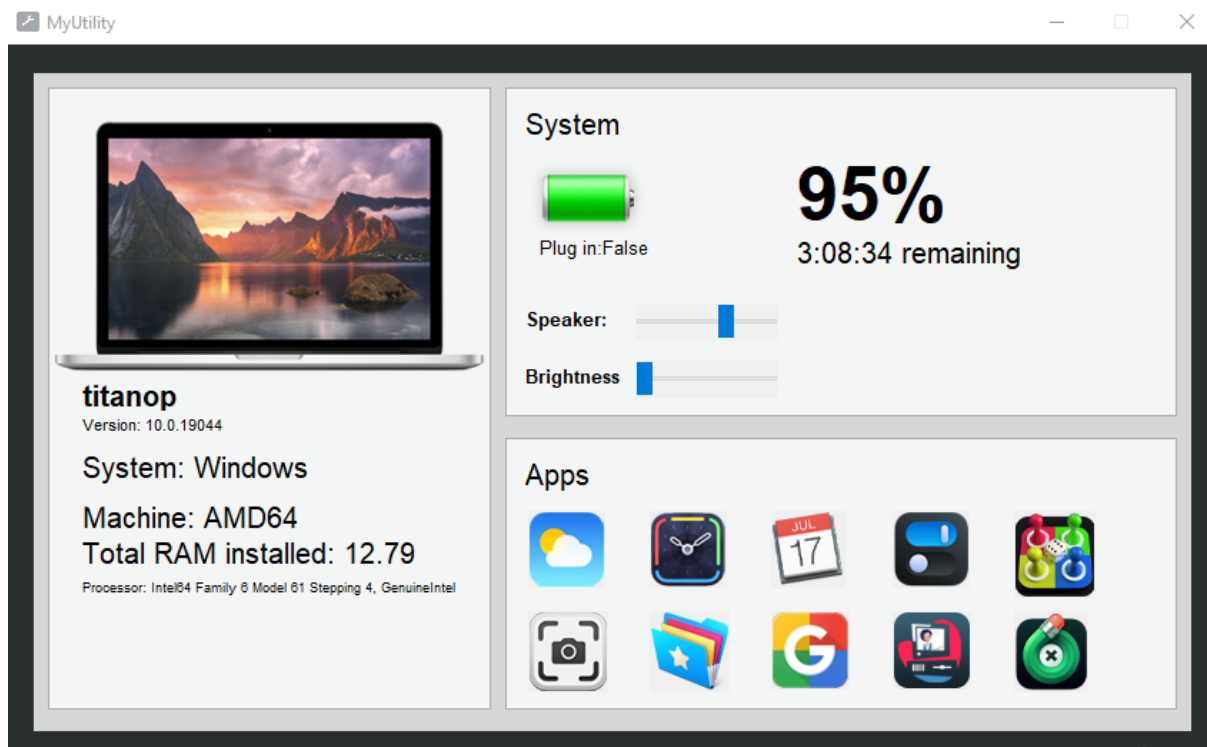
Project Introduction:

The MyUtility application is a utility tool developed using the tkinter module in Python. The application provides a range of useful features and tools to the user, including system information, battery status, brightness and volume control, weather and time information, a calendar, and various application launch buttons.

Goal:

The goal of this project was to develop a utility tool that provides a range of useful features and functionality to the user in a single, convenient interface. The application was designed with ease of use and aesthetic appeal in mind, with a focus on providing a smooth and reliable user experience.

Description:

The application was developed using the Model-View-Controller (MVC) design pattern, with separate modules for the model, view, and controller components of the application. The model component was responsible for retrieving system information, weather and time data, and controlling screen brightness and volume. The view component was responsible for creating the user interface, including the various widgets and buttons used in the application. The controller component was responsible for managing the interactions between the model and view components.

Homepage of MyUtility Application

The application was designed with ease of use and aesthetic appeal in mind, with a focus on providing a smooth and reliable user experience. The user interface of the application was designed to be intuitive and easy to use, with clear labels and icons indicating the different sections of the application. The brightness and volume control sliders were designed to be intuitive to use, allowing the user to adjust their settings with a simple drag of the mouse.

Github link: https://github.com/totan10/MyUtility.git

Tech used:

The MyUtility application is a utility tool developed using the **tkinter** module in **Python**.

Various Python modules were utilized to implement different features and functionality in the application. These modules include psutil, screen_brightness_control, ctypes_callable, pycaw, geopy, timezonefinder, pytz, tkcalendar, and PyAutoGUI.

- **Psutil:** Used to retrieve system information such as CPU usage, disk usage, and memory usage.

- **Screen_brightness_control:** Used to control the screen brightness.

- **Ctypes_callable:** Used to control the system volume.

- **Pycaw:** Used to control the volume of specific applications.

- **Geopy:** Used to retrieve weather information based on the user's location.

- **Timezonefinder:** Used to retrieve the user's timezone based on their location.

- **Pytz:** Used to display time information in the user's local timezone.

- **Tkcalendar:** Used to create the calendar widget in the application.

- **PyAutoGUI:** Used to automate tasks such as taking a screenshot or launching a web browser or application.

Features:

The utility application will have the following features:

- **Display of PC details:** The left frame of the application will display various details of the PC such as the operating system, processor, RAM, and storage.

- **Battery details:** The right upper side of the application will display the current battery status of the PC, including the remaining battery life and charging status.

- **Brightness and Volume tools:** The right upper side of the application will also include tools to adjust the brightness and volume of the PC.

- **Quick access to frequently used applications:** The right bottom side of the application will display 10 buttons of different applications, which includes weather, digital clock, day-night toggle, camera open, open Google, open YouTube, calendar, etc.
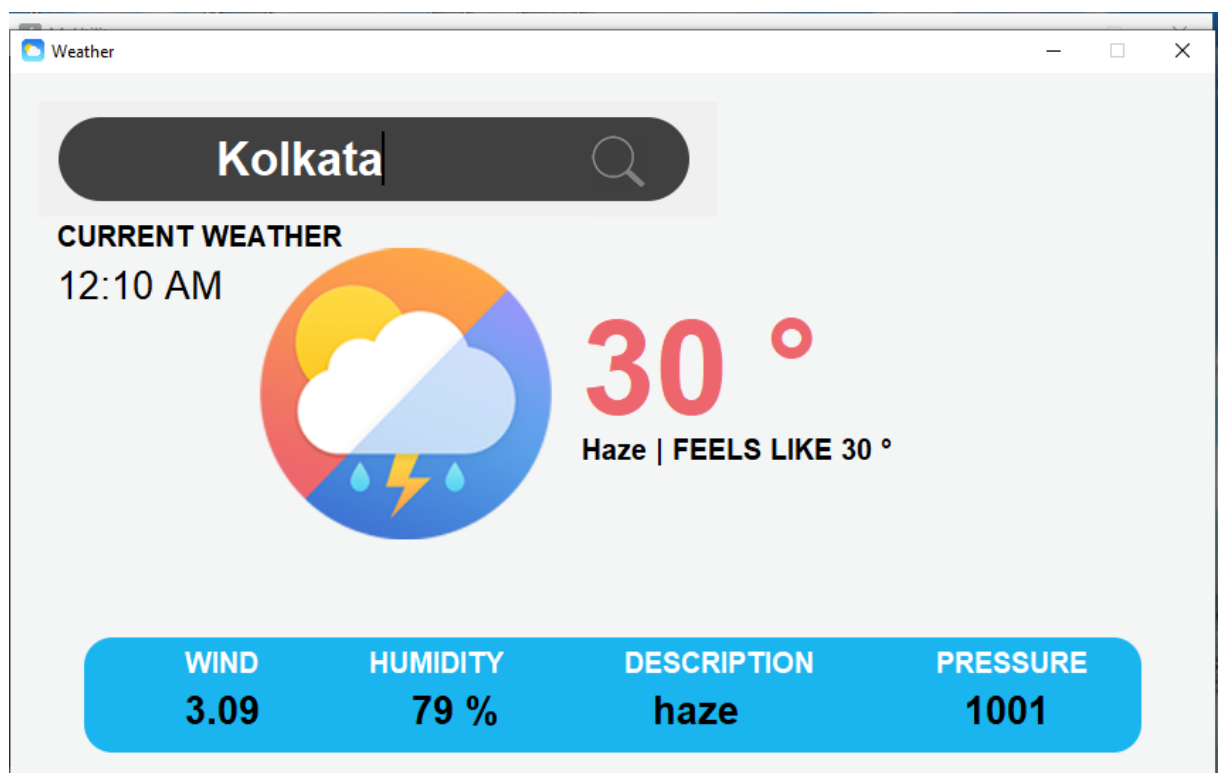
Weather Application

Implementation:

The utility application will be developed in Python using the Tkinter library. The Tkinter library is a standard GUI library for Python that provides a set of tools for creating graphical user interfaces.

The application will be divided into two frames; the left frame will contain the PC details and the right frame will contain the battery details, brightness and volume tools, and the buttons for accessing different applications.

For displaying the PC details, various system commands will be used, such as the platform module for getting the operating system details, **psutil** for getting the processor and RAM details and the storage details. These details will be displayed using labels and frames in the left frame of the application.

Conclusion:

Overall, the MyUtility application is a versatile and convenient utility tool that provides a range of useful features and tools to the user in a single, easy-to-use interface. The application serves as a useful tool for users looking to quickly access a range of different functions and tools without the need to navigate between multiple applications or windows.

Future Directions:

Future improvements to the application could include additional features such as a notepad, calculator, or file transfer, as well as optimizations to existing functionality such as the weather and time display. User testing could also be conducted to gather feedback and identify areas for improvement.

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