Python Alarm Clock Project Report

Introduction

This project is a simple Python-based alarm clock using the Tkinter library for the GUI and the time module for tracking the current time. The alarm clock allows users to set an alarm in 24-hour format and alerts them when the time matches the alarm.

Objective

The objective of this project is to demonstrate how Python can be used to build a graphical application for setting alarms, allowing users to input the time in hours, minutes, and seconds.

Features of the Project

1. User-friendly GUI for setting alarm time.
2. Ability to set the alarm in 24-hour format.
3. Real-time tracking of system time to trigger the alarm.
4. Uses a message box to alert the user when the alarm goes off.

Step-by-Step Explanation of Code

1. Tkinter is used to create a GUI with inputs for hours, minutes, and seconds.
2. The 'set_alarm' function compares the current system time with the input alarm time.
3. The alarm runs in a separate thread to avoid freezing the interface.
4. The program alerts the user with a popup message when the alarm time matches.

Conclusion

This project demonstrates how Python can be used to build basic GUI-based applications that interact with the system clock. By extending this project, features such as recurring alarms and custom alarm sounds can be added.