

D. Y. Patil College of Engineering and Technology, Kolhapur
Department of Computer Science & Engineering

Class: SY-A

Subject: AOOC

Experiment no: 15

Group No. : 15

Mini Project

Title of Mini-Project: Alarm Clock For Heavy Sleeper

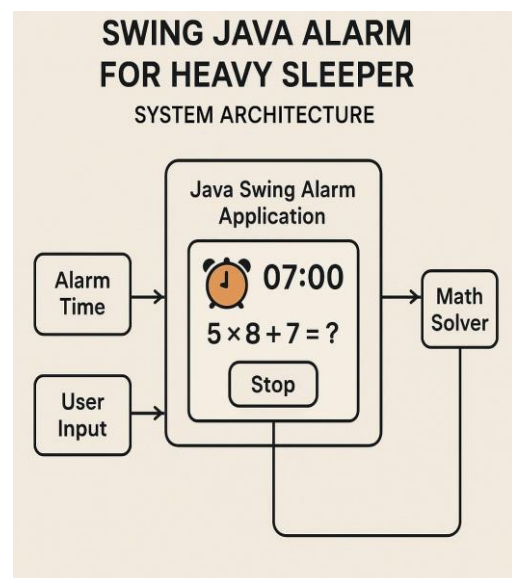
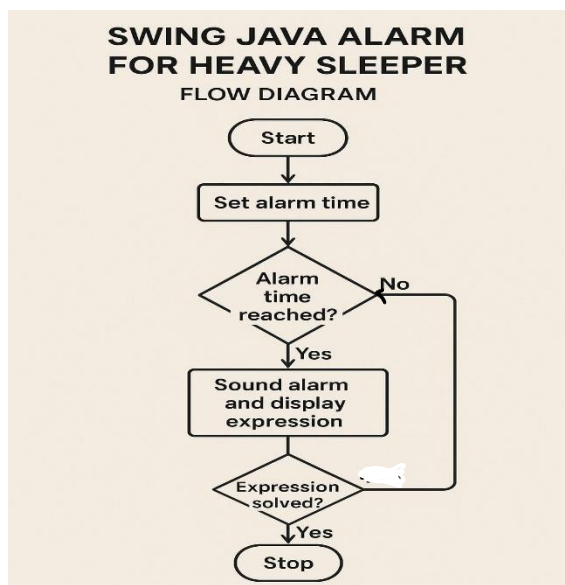
Problem Statement:

Many heavy sleepers tend to miss or ignore traditional alarm clocks, leading to oversleeping and missed commitments. This project aims to develop an alarm clock application that requires users to solve a puzzle to stop the alarm, ensuring they are mentally alert and awake.

Introduction:

This mini-project is a Java Swing-based desktop application designed to help heavy sleepers wake up more effectively. Unlike conventional alarms that can be easily dismissed, this alarm requires users to solve a simple math puzzle to deactivate it. The system integrates real-time clock functionality, alarm scheduling, audio playback, and interactive UI components to ensure that the user is mentally alert before turning off the alarm.

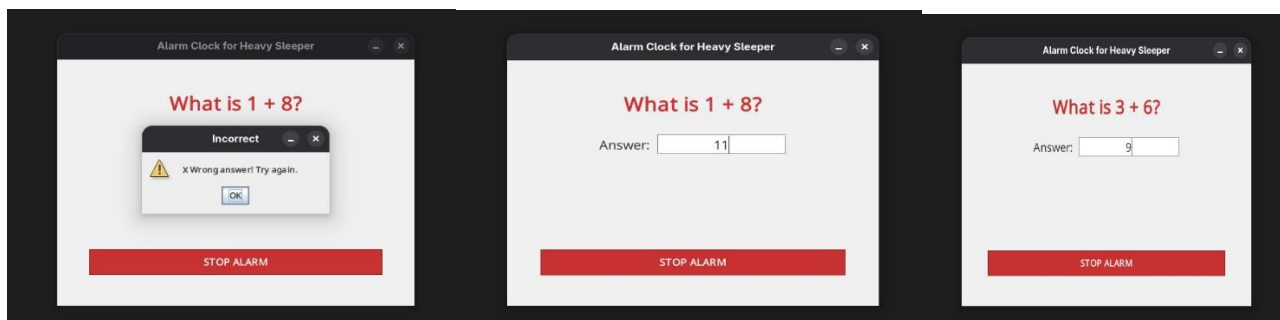
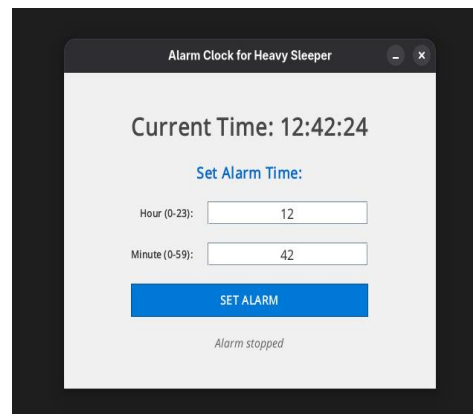
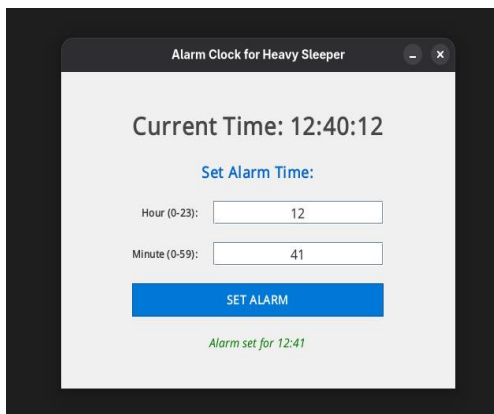
System Architecture:



Module description or working of system:

- **AlarmPanel (Alarm Setting Module):**
Allows the user to input and set an alarm time. It displays the current system time in real-time and shows the set alarm time.
- **AlarmController (Logic and Alarm Control Module):**
Manages core functionalities such as setting the alarm, checking the current time, triggering the alarm, and switching between panels. It also handles sound playback and puzzle generation.
- **PuzzlePanel (Puzzle Verification Module):**
When the alarm goes off, this panel displays a randomly generated math puzzle (like "What is $7 + 3$?"). The user must input the correct answer to stop the alarm sound.
- **MainPanel (Navigation Controller):**
Acts as a container using CardLayout to switch between the AlarmPanel and PuzzlePanel based on the state of the alarm.

Screenshots:



Group Members:

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