

Product Requirements: Digital Clock Application

1.**Show Current Time:** The application should show the time in hours, minutes, and seconds at any given moment.

2.**Display Current Date:** The program should offer the option to show the day, month, and year of the present time.

3.**Toggle Date Display:** The program ought to offer the user the option of turning on and off the display of the current date.

4.**Set Alarm:** The application ought to let the user set an alarm by entering the hour and minute.

5.**Alarm functionality:** The application should sound an alarm when the predetermined alarm time is reached.

6.**Functionality for a stopwatch:** The program ought to allow users to start one. Up until the user stops the stopwatch, it should show the amount of time that has passed in seconds.

7.**Functionality for a timer:** The program ought to let the user set a timer's duration in seconds. The amount of time left until the timer expires or the user stops it should be displayed in seconds.

8.**Snooze Alarm:** The application should let the user delay the alarm for a predetermined number of minutes. The alarm should sound once more after the snooze period.

9.**User Interface:** For engaging with the different features and settings, the program should have a user-friendly interface.

10.**User input** should be verified by the application to make sure it is in the correct format and falls within allowable bounds.

11.**Error Handling:** The application should gracefully handle any errors and give the user the necessary error messages.

12.**Performance:** The software should offer a responsive user experience and utilise resources in an effective manner.

13.In order for the application to compile and execute on typical C settings, it must be compatible with the C programming language.

14.The software should be portable across many C-supporting operating systems and platforms.

15.**Program documentation** should be thorough and include both comments included into the source code and a user guide or set of usage instructions.

16. **Maintainability:** To make future maintenance and updates easier, the software should be developed with clear, modular code.