Digital Clock - Need of the Hour

What do we intend to do?

We intend on providing a smooth and easy to use interface for a digital clock to the users.

It is a commodity everyone uses in their daily lives and we aim at providing everyone with a clock which shows as well as saves time of the users.

There are different time zones, time formats collaborated in the application providing users with a variety of choices and allowing him to expand his horizons.

There is a special alarm feature built which sets the alarm and has a different ringtone for every separate day to break away from the monotonicity of the same song everyday.
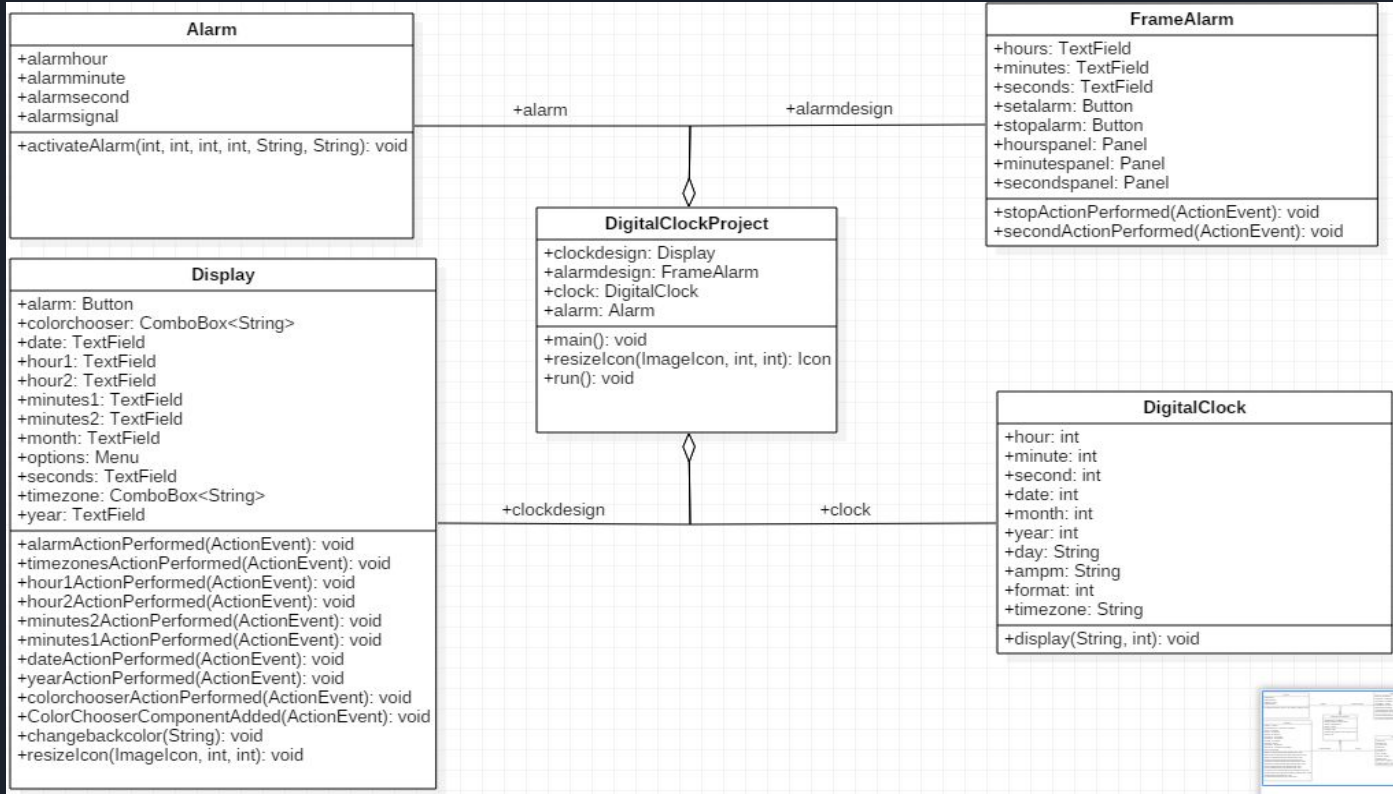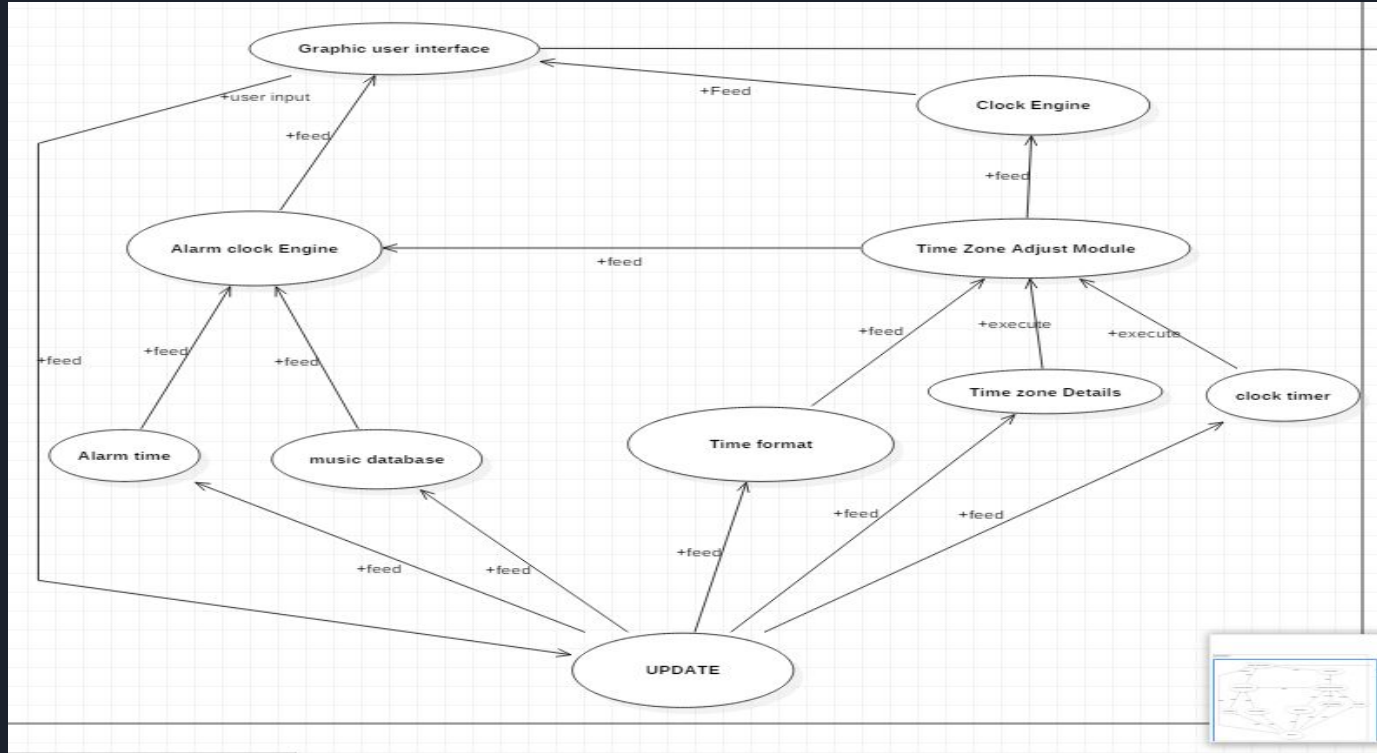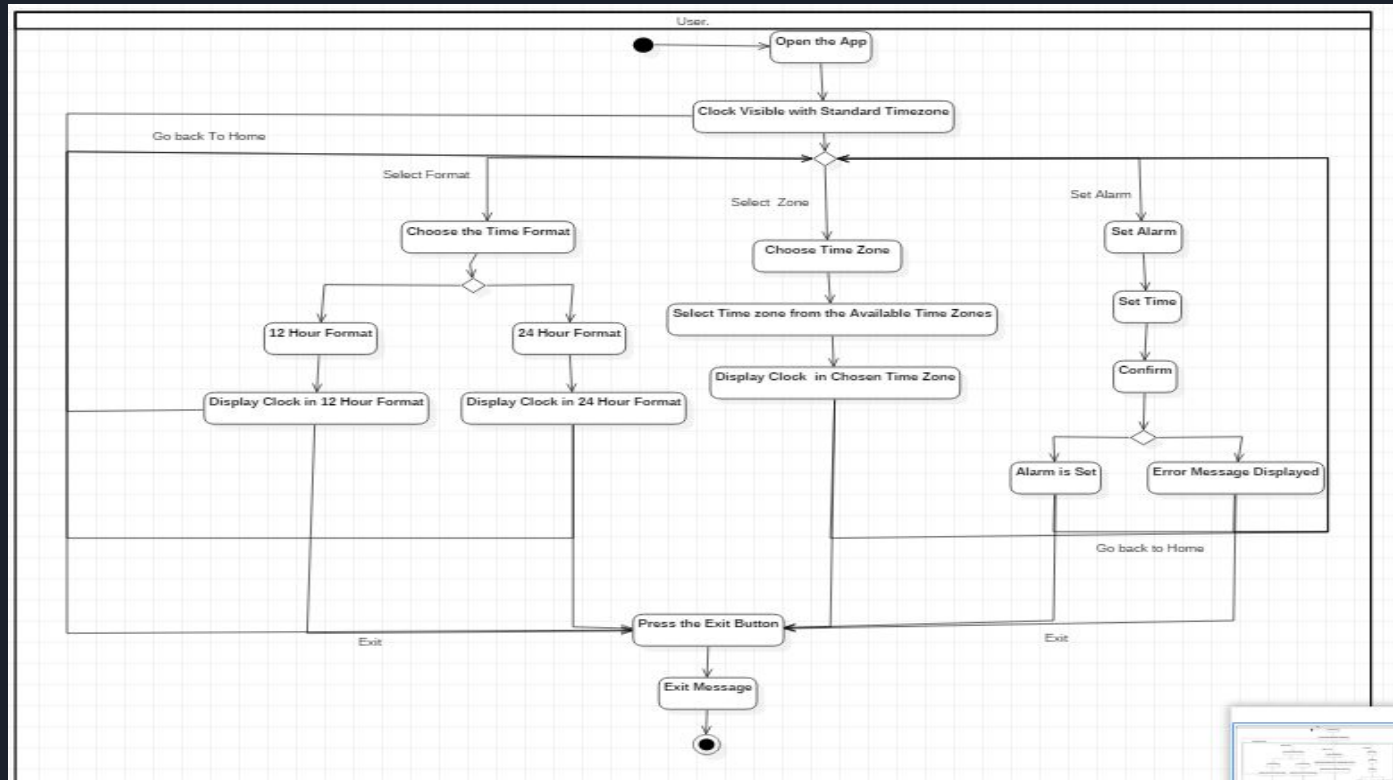
Languages Used :

Java

Swing

UML Class Diagram

Alarm

+alarmhour
+alarmminute
+alarmsecond
+alarmsignal

+activateAlarm(int, int, int, int, String, String): void

FrameAlarm

+hours: TextField
+minutes: TextField
+seconds: TextField
+setalarm: Button
+stopalarm: Button
+hourspanel: Panel
+minutespanel: Panel
+secondspanel: Panel

+stopActionPerformed(ActionEvent): void
+secondActionPerformed(ActionEvent): void

+alarm   +alarmdesign

DigitalClockProject

+clockdesign: Display
+alarmdesign: FrameAlarm
+clock: DigitalClock
+alarm: Alarm

+main(): void
+resizeIcon(ImageIcon, int, int): Icon
+run(): void

Display

+alarm: Button
+colorchooser: ComboBox<String>
+date: TextField
+hour1: TextField
+hour2: TextField
+minutes1: TextField
+minutes2: TextField
+month: TextField
+options: Menu
+seconds: TextField
+timezone: ComboBox<String>
+year: TextField

+alarmActionPerformed(ActionEvent): void
+timezonesActionPerformed(ActionEvent): void
+hour1ActionPerformed(ActionEvent): void
+hour2ActionPerformed(ActionEvent): void
+minutes2ActionPerformed(ActionEvent): void
+minutes1ActionPerformed(ActionEvent): void
+dateActionPerformed(ActionEvent): void
+yearActionPerformed(ActionEvent): void
+colorchooserActionPerformed(ActionEvent): void
+ColorChooserComponentAdded(ActionEvent): void
+changebackcolor(String): void
+resizeIcon(ImageIcon, int, int): void

DigitalClock

+hour: int
+minute: int
+second: int
+date: int
+month: int
+year: int
+day: String
+ampm: String
+format: int
+timezone: String

+display(String, int): void

+clockdesign   +clock

Use Case Diagram

Activity Diagram

CRC Card - 1

DigitalClockProject	
Acts as a model to support decoupled structure of the project.	Timer Task
Works as bridge between frontend view and and backend models.	
Starts functioning as soon as project build starts using run function implementation.	
Uses ActionListener as EventListener for listening to click events.	

CRC Card - 2

Digital Clock	
Has function to set all time related attributes	DigitalClockProject
Uses the current timezone and time format to set time	
Sets all clock attributes when the function display is called	

CRC Card - 3

Alarm	
Is used to store any and all alarms set by the user	DigitalClockProject
When the activateAlarm() function is called, the current time is compared with all the set alarm times	
In case the current time is the same as an alarm time, an audio clip is played based on the day of the week	

CRC Card - 4

FrameAlarm	
Frame to set alarm.	DigitalClockProject
It appears as a dialogue box when user wants to set alarm .	Display
The time format will be same as set in main clock.	

CRC Card - 5

| Display	
This is main Frame display of clock.	DigitalClockProject
It will display time in desirable format (12/24 hour format).	
It will display date in day/date/year format.	
It will provide options for changing time zone, background colour, a button for setting alarm.	

Digital Clock - The Clock
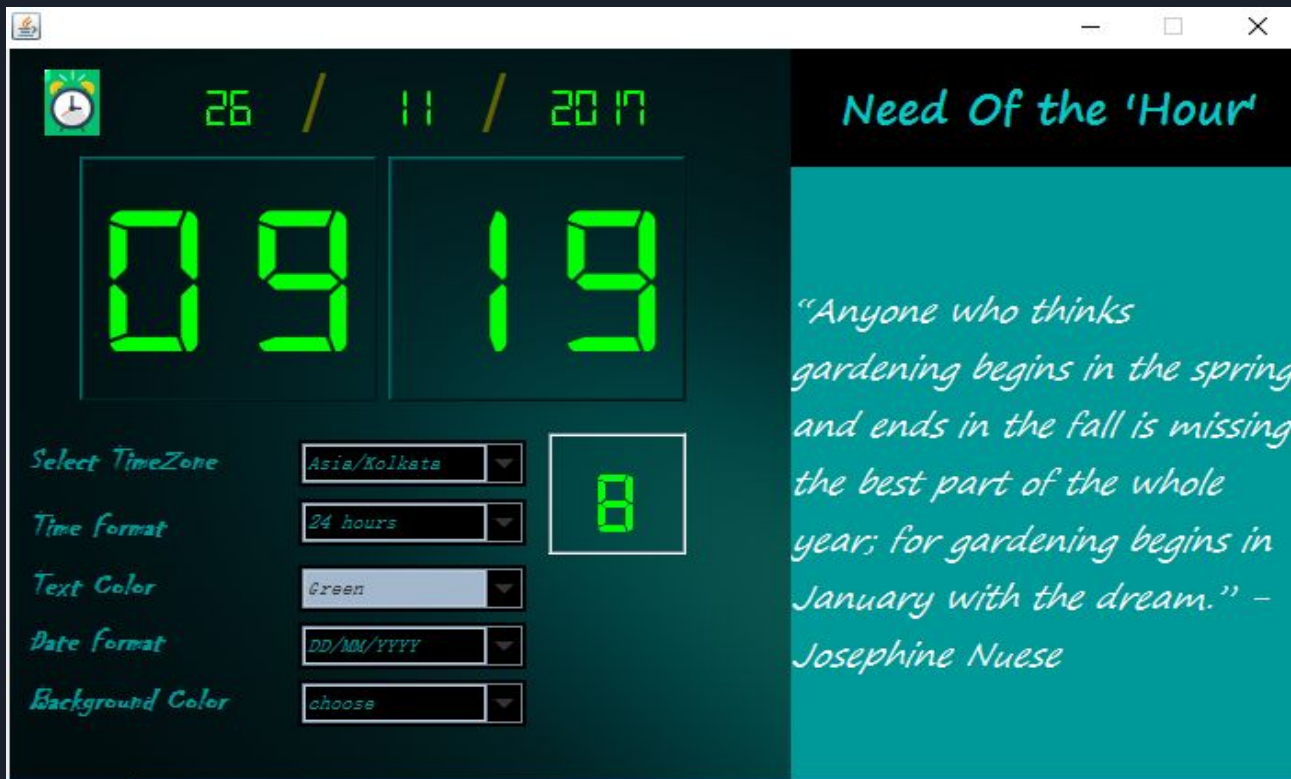
Digital Clock - Changing the TimeZone

Digital Clock - Changing the Time Format
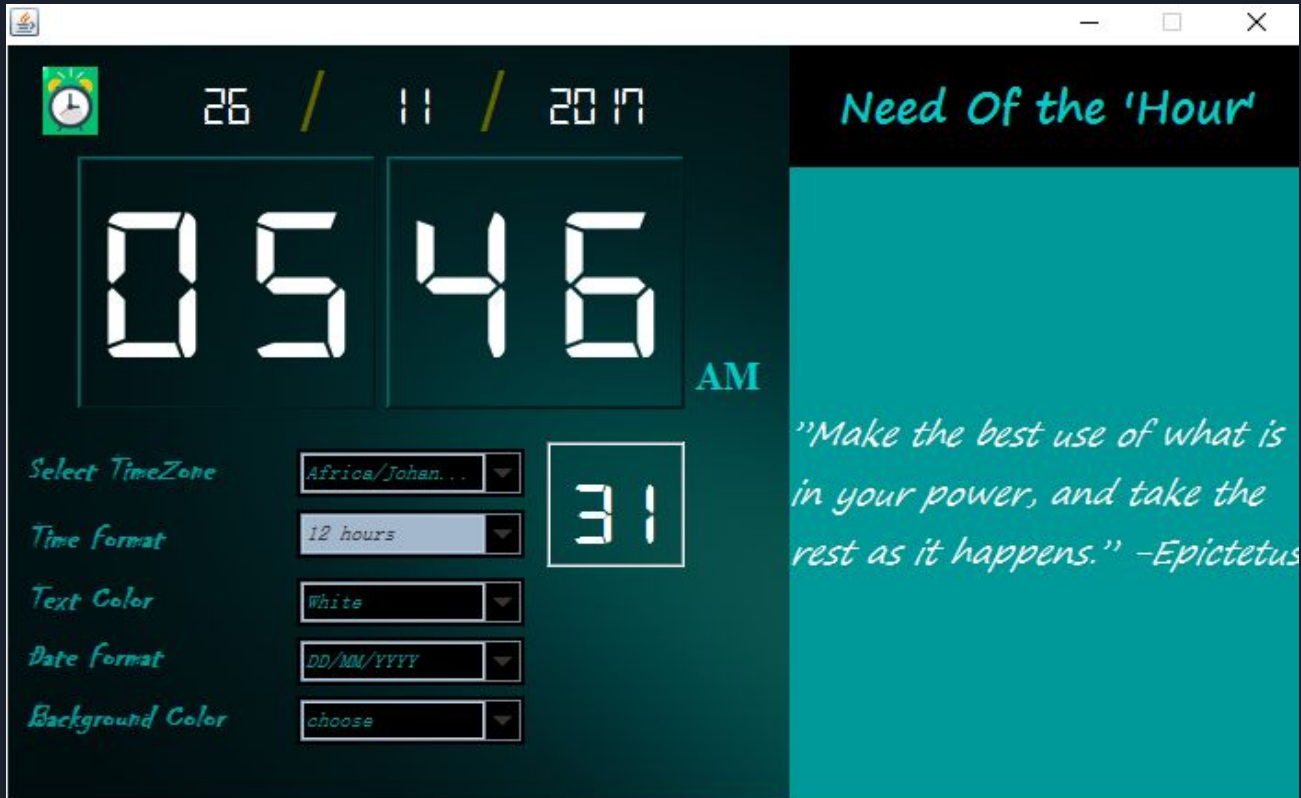
Digital Clock - Changing the Background Color
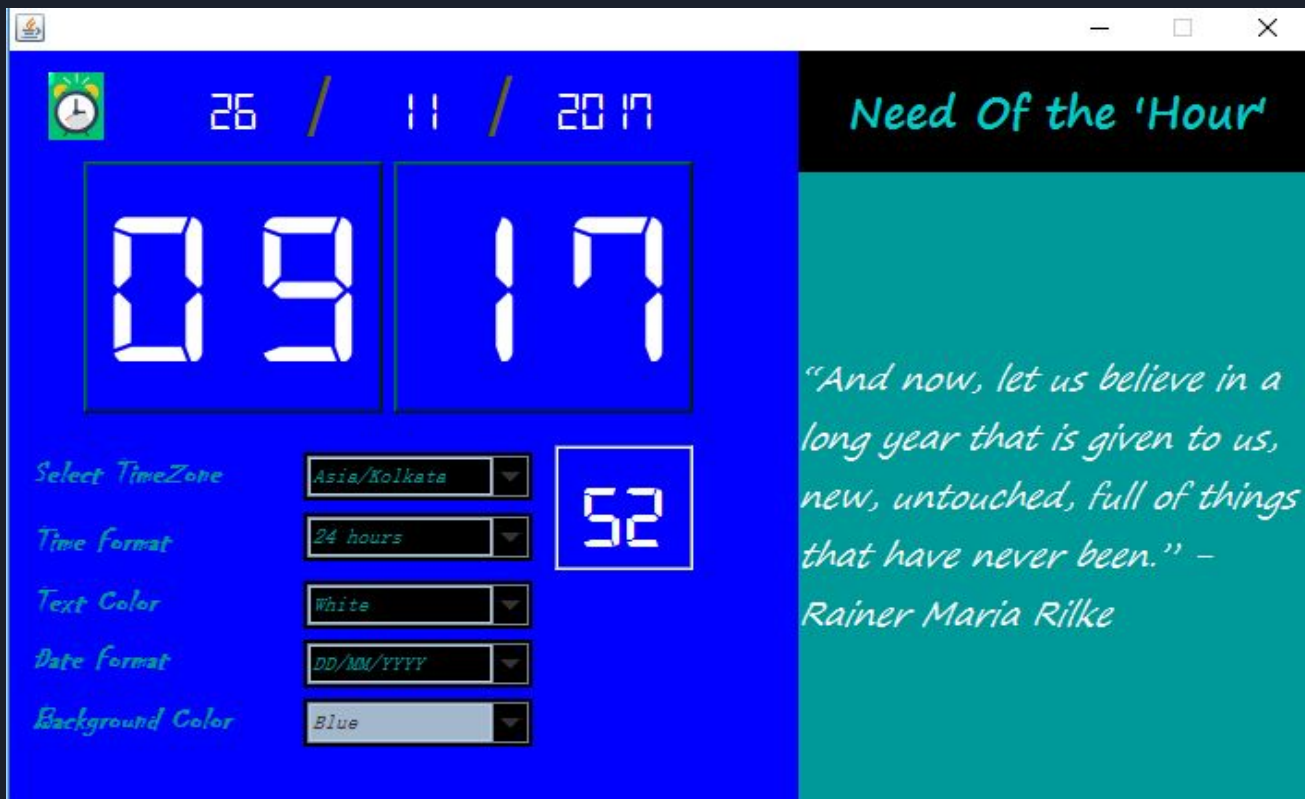
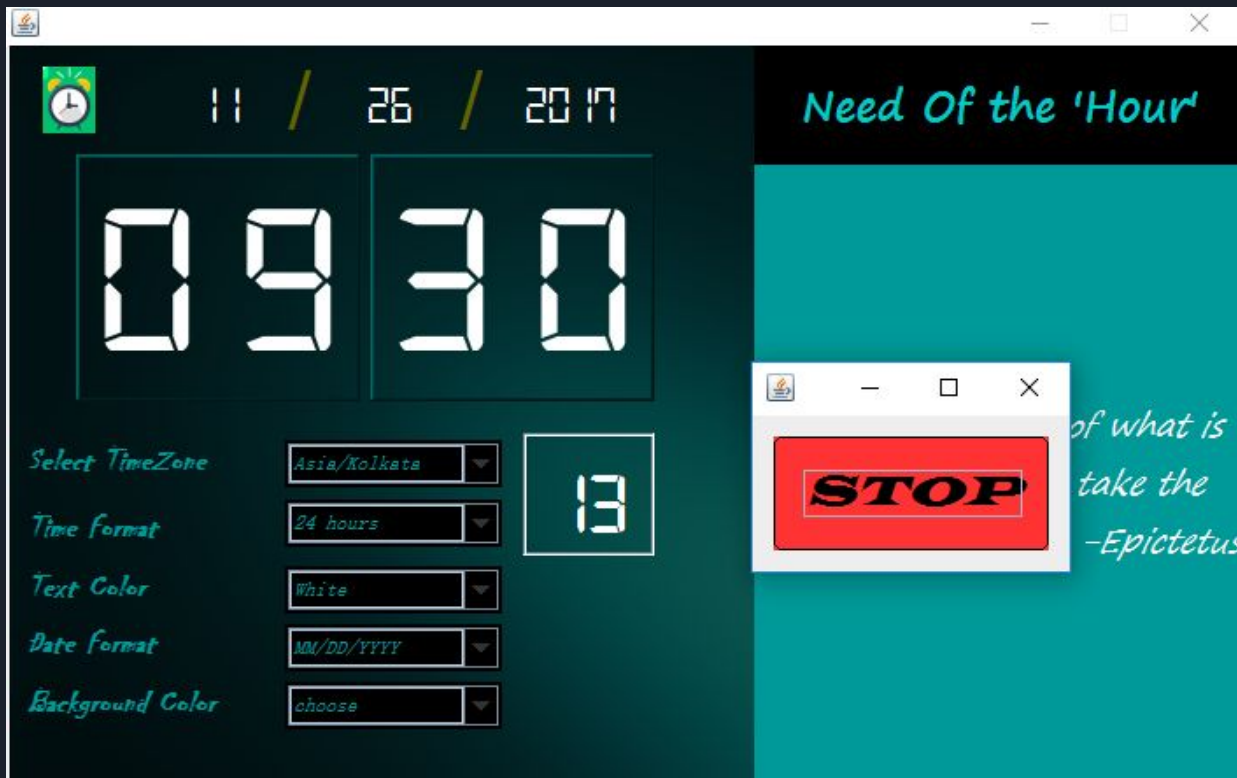# Digital Clock - Changing the Text Color

Digital Clock - Changing the Date Format

Digital Clock - Setting the Alarm

Digital Clock - The Alarm Plays

Digital Clock - The Quotation Show

Another special feature associated with the Digital Clock is the Quotation Feature. As shown in the picture on the right, we have a quotation that displays on the right of the clock and keeps updating every minute to give user a better experience

Digital Clock - The Creators

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Thank You!