



BAHRIA UNIVERSITY, (Karachi Campus)

Department of Software Engineering

Open Ended Lab -1

Semester Fall 2023

Course Title: Software Application & Mobile Devices

Course Code: SEL-448

Course Instructor: Engr. Adnan Ur Rehman

Class: BSE-6(B)

Lab Instructor: Engr. Hamza

Name: Shoaib Akhter

Max. Marks: 12 Marks
79290

Reg no: _

Time: 1:30 hours

Date: _____

INSTRUCTIONS:

- Submit the task on LMS within given time.
- Include your name or enrollment number in the page footer.
- Your file name should be in the given format:
 - [Class Section] [Complete Name] SMAD(OEL1) i.e., BSE1C Usman Ali SMADOEL1

Question no 1

Scenario:

(CLO 4, Marks: 10)

You have been tasked to Implement an Android application using Android Studio and Java. The aim of the app is to provide users with a convenient tool for setting and managing alarms on their mobile devices. With the increasing reliance on alarms in our daily routines, this app will serve as a reliable wake-up assistant, ensuring users never miss important appointments or tasks.

Tasks:

1. **User Interface Design:** Design an intuitive and user-friendly interface that allows users to easily set, edit, and delete alarms. Include features such as a digital or analog clock display, a list of existing alarms, and options for customization such as alarm tone selection and snooze settings.
2. **Alarm Functionality:** Determine the core functionalities of the alarm system, including the ability to set one-time or recurring alarms, specify the time and date for each alarm, and configure additional settings such as vibration or gradual volume increase.
3. **Install Using ADB or AVD:** Install the Implemented Application in your Android Device or Virtual Device.

Note: Provide all Screenshot (xml & .java) files of all Classes in Implemented Application in the Submission file in pdf format

Activity_main.xml:

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical">

    <!--Added Time picker just to pick the alarm time-->
    <!--gravity is aligned to center-->
    <TimePicker
        android:id="@+id/timePicker"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_gravity="center" />

    <!--Added Toggle Button to set the alarm on or off-->
    <!--ByDefault toggleButton is set to false-->
    <ToggleButton
        android:id="@+id/toggleButton"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_gravity="center"
        android:layout_margin="20dp"
        android:checked="false"
        android:onClick="OnToggleClicked" />

    <!--"OnToggleClicked" method will be implemented in MainActivity.java -->

</LinearLayout>
```

Theme.xml

```
<resources xmlns:tools="http://schemas.android.com/tools">
    <!-- Base application theme. -->
    <style name="Base.Theme.Assignment1"
parent="Theme.Material3.DayNight.NoActionBar">
        <!-- Customize your light theme here. -->
        <!-- <item name="colorPrimary">@color/my_light_primary</item> -->
        <item name="colorPrimary">@color/colorPrimary</item>
        <item name="colorPrimaryDark">@color/colorPrimaryDark</item>
        <item name="colorAccent">@color/colorAccent</item>
    </style>

    <style name="Theme.Assignment1" parent="Base.Theme.Assignment1" />
</resources>
```

Color.xml

```
<?xml version="1.0" encoding="utf-8"?>
<resources>
    <color name="colorPrimary">#0F9D58</color>
    <color name="colorPrimaryDark">#0F4C2E</color>
    <color name="colorAccent">#9D0F9B</color>
</resources>
```

AlarmReceiver.java

```
package com.example.assignment1;
import android.content.BroadcastReceiver;
import android.content.Context;
import android.content.Intent;
import android.media.Ringtone;
import android.media.RingtoneManager;
```

```
import android.net.Uri;
import android.os.Build;
import android.os.Vibrator;
import android.widget.Toast;

import androidx.annotation.RequiresApi;

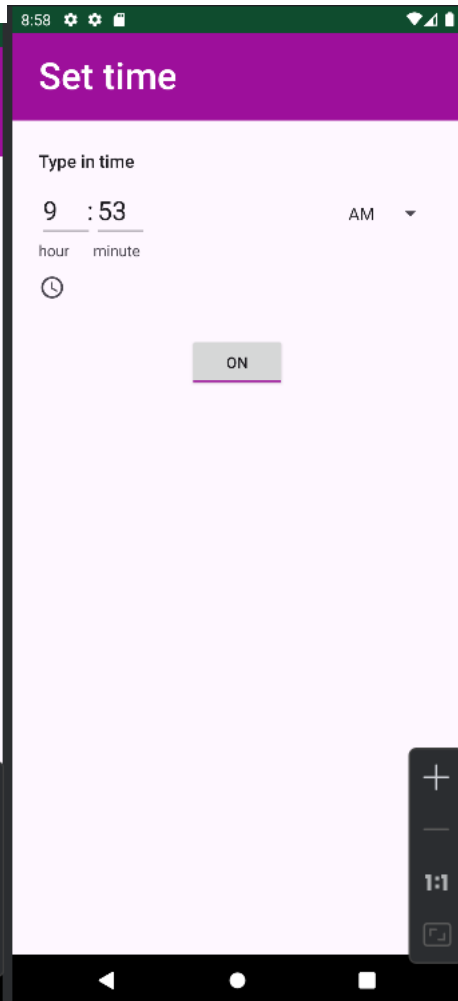
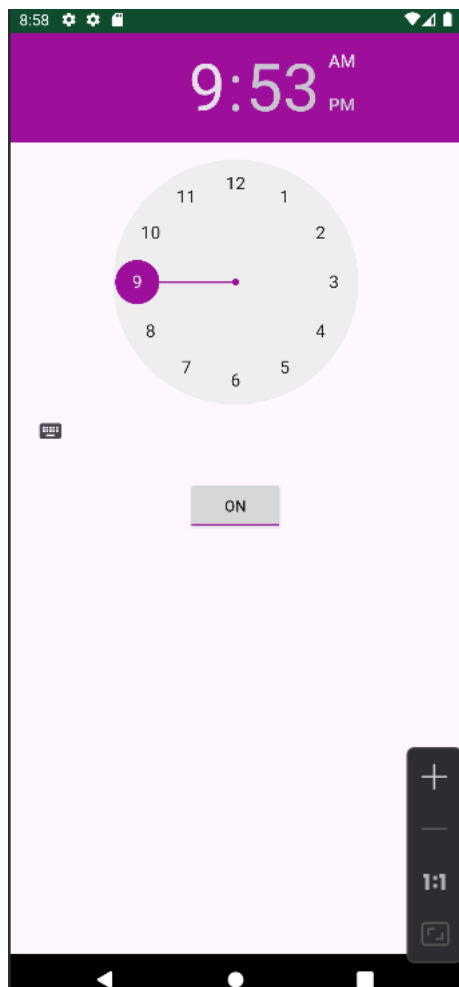
public class AlarmReceiver extends BroadcastReceiver {
    @RequiresApi(api = Build.VERSION_CODES.Q)
    @Override
    // implement onReceive() method
    public void onReceive(Context context, Intent intent) {

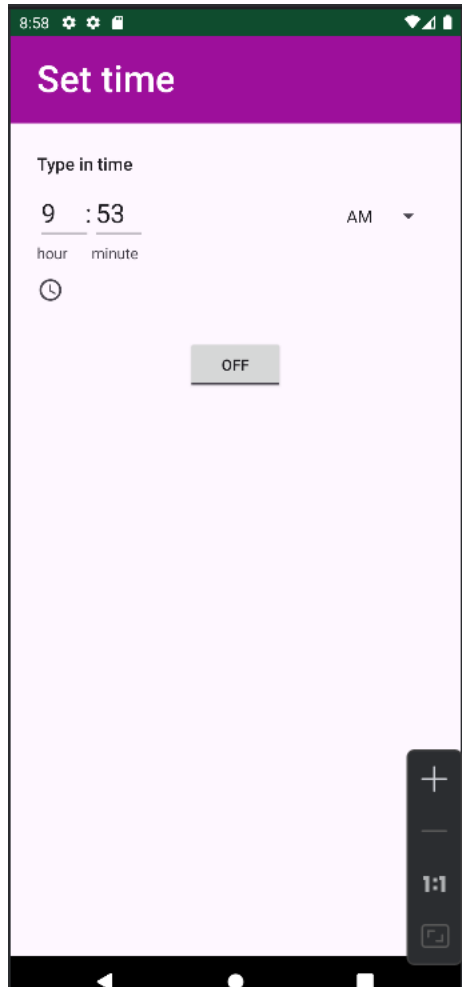
        // we will use vibrator first
        Vibrator vibrator = (Vibrator)
context.getSystemService(Context.VIBRATOR_SERVICE);
        vibrator.vibrate(4000);

        Toast.makeText(context, "Alarm! Wake up! Wake up!",
Toast.LENGTH_LONG).show();
        Uri alarmUri =
RingtoneManager.getDefaultUri(RingtoneManager.TYPE_ALARM);
        if (alarmUri == null) {
            alarmUri =
RingtoneManager.getDefaultUri(RingtoneManager.TYPE_NOTIFICATION);
        }

        // setting default ringtone
        Ringtone ringtone = RingtoneManager.getRingtone(context, alarmUri);

        // play ringtone
        ringtone.play();
    }
}
```





TASK # 02: Viva

(CLO6, Marks: 02)