

- ❖ Course Module : MIT3206 – Mobile Computing
- ❖ Course Lecturer : Senior Lecturer Gihan P. Seneviratne Sir

❖ Assignment 2 : Current Date and Time - Updated When Ever You Click on the Screen

❖ Used Android Studio : Android Studio Koala | 2024.1.1

❖ GitHub Private Repository Link :

<https://github.com/NavinduMadusanka/Assignment2-MIT3206-22550119.git>

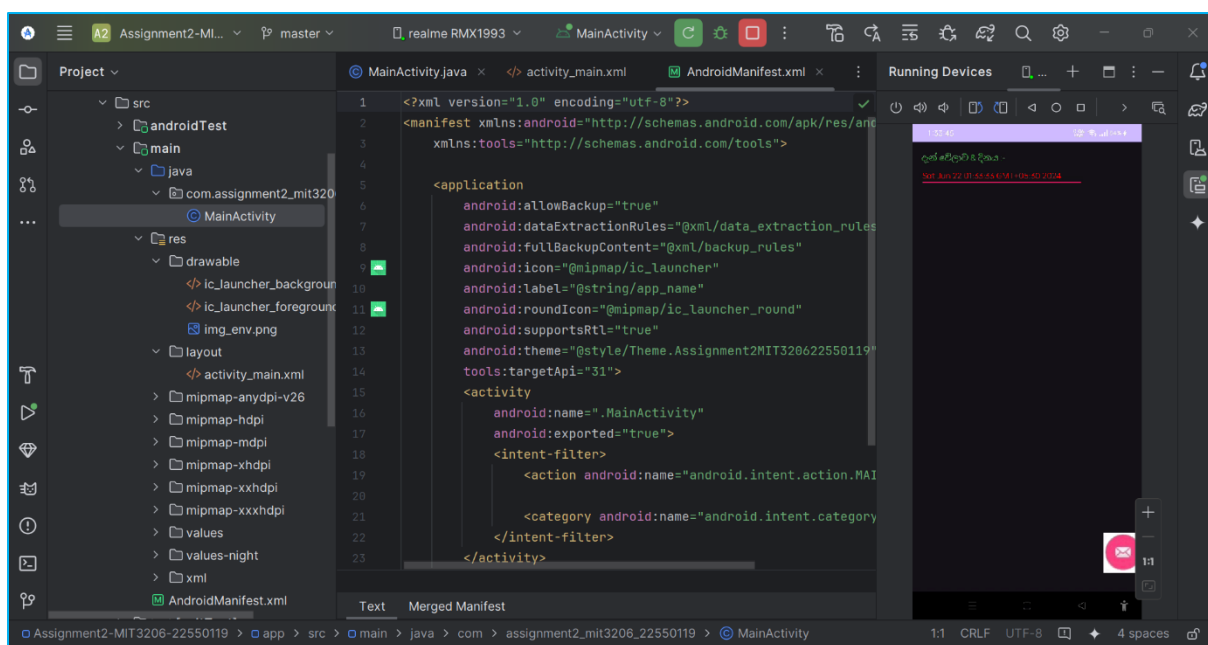
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## **Assignment 2 : Current Date and Time - Updated When Ever You Click on the Screen**

Below is a summary of what I have learned and focused on in this assignment.

### **1. Android Components**

- **API level**

Android Version	API Level	Version Name
Android 7.0	24	Nougat

- **Classes**

The AppCompatActivity class is used in this assignment.

This is a compatibility library that back ports some features of recent versions of Android to older devices.

- **Methods**

The onCreate() & onClick() methods are used in this assignment.

It is functioned when an activity is loaded & click on screen.

- **Permissions**

No special permissions have been granted for this project.

- **Newly learned key points in this assignment**

- Inserting sub layout within the main layout  
LinearLayout within ConstraintLayout
- Creating a variable  
TextView dateView;
- Concatenate the text.  
android:text="දැන් වේලාව & දිනය :-"

- Text colour  
`android:textColor="#4CAF50"`
- Background Colour  
`android:background="#E91E63"`
- Insert an Image  
`<ImageView`
- Drawable folder  
`app:srcCompat="@drawable/img_env" />`

## 2. Outline of approach to develop the application

- **Design Issues**

At first it was difficult to find onClick action.

- **Tips**

I have included the Sinhala Unicode software (Sinhala / Tamil Kit provided by ICTA) to make it easier to enter Sinhala text.

- **Warnings**

The following warnings appeared.

- `<View>`: Using left/right instead of start/end attributes
- `datelabel <TextView>`: Hardcoded text
- `datelabel <TextView>`: Insufficient text color contrast ratio
- `imageView <ImageView>`: Image without `contentDescription`
- `imageView <ImageView>`: Using left/right instead of start/end attributes
- `datelabel <TextView>` is covered by `linearLayout <LinearLayout>`

These are few warnings. But the function is working as properly.

### 3. Layout & Attributes

- **ConstraintLayout**

ConstraintLayout is a layout on Android that gives adaptable and flexible ways to create views for apps.

ConstraintLayout , which is now the default layout in Android Studio, gives you many ways to place objects.

We can constrain them to their container, to each other.

- **LinearLayout**

LinearLayout is a view group that aligns all children in a single direction, vertically or horizontally.

We can specify the layout direction with the android:orientation attribute.

I builded LinearLayout with ConstraintLayout in this assignment.

- **Layout Attributes**

In this assignment I will mention only the special items that I have just learned.

Following are special attributes and applied to the layout in this assignment.

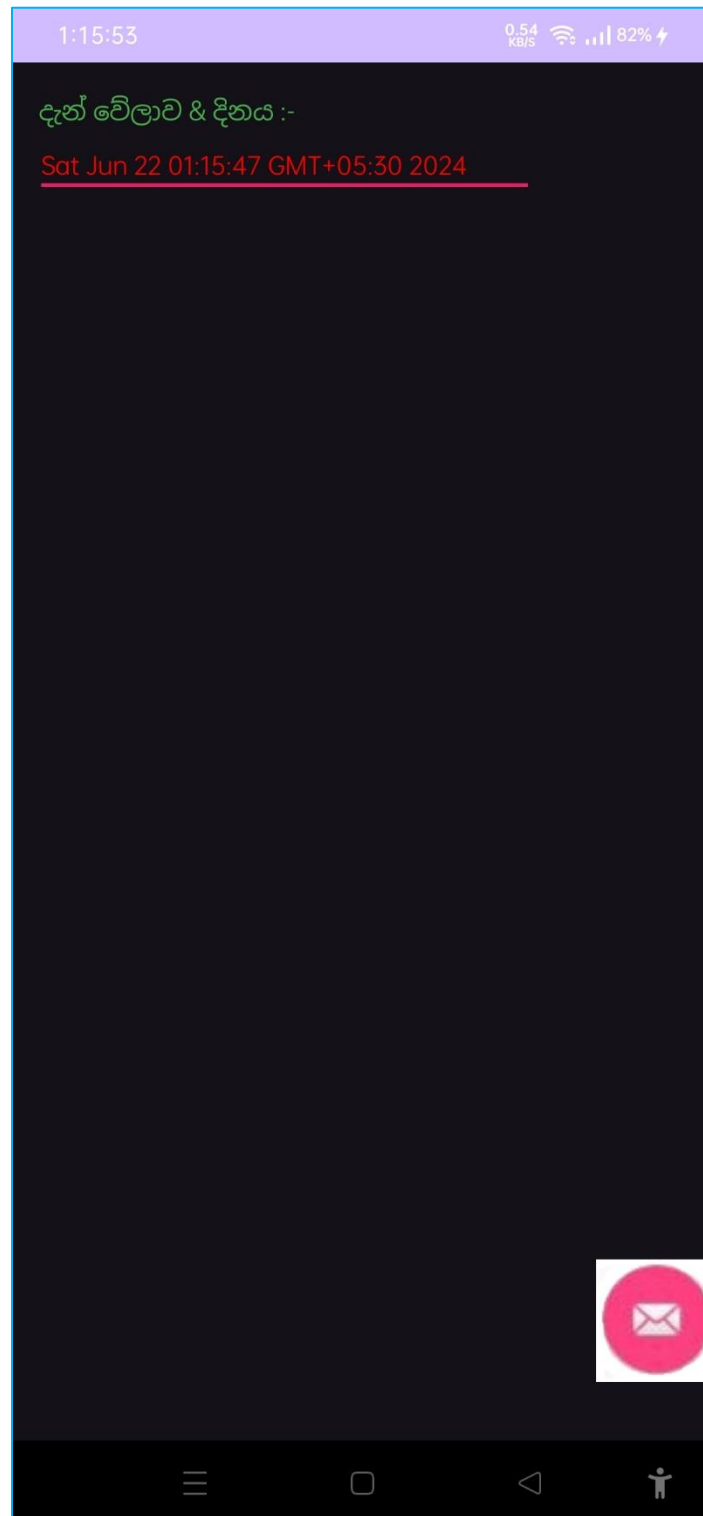
No	Attribute	Attribute & Description
1	android:textColor="#4CAF50"	Defines text color .
3	<ImageView	Displays image resources, for example Bitmap or Drawable resources.
4	android:background="#E91E63"	Defines background color.
5	android:text="දැන් වේලාව & දිනය :-"	Concatenate the text using "&".
6	android:orientation="vertical"	It means that whatever view take inside the LinearLayout will be shown in screen by vertical.

#### 4. Running the Application

I was running the android app for testing in my android mobile device.

My android mobile device is Realme X2 RMX1993.

Below is a photo of my android mobile device (Realme X2 RMX1993) while the app was running.



## 5. Main Coding files

- MainActivity.java

```
import androidx.appcompat.app.AppCompatActivity;

import android.view.View;
import android.widget.TextView;
import android.os.Bundle;
import java.text.SimpleDateFormat;
import java.util.Calendar;
import java.util.Date;

public class MainActivity<actionEvent> extends AppCompatActivity {

    TextView dateView;
    Calendar calendar;
    View actionEvent;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        TextView dateView=findViewById(R.id.dateView);
        Calendar calendar=Calendar.getInstance();
        SimpleDateFormat sdf = new SimpleDateFormat("EEE MMM dd HH:mm:ss z
YYYY");
        String currentDateandTime = sdf.format(new Date());
        dateView.setText(currentDateandTime);
        actionEvent = findViewById(R.id.dateView);
        actionEvent.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                setContentView(R.layout.activity_main);
                TextView dateView=findViewById(R.id.dateView);
                Calendar calendar=Calendar.getInstance();
                SimpleDateFormat sdf = new SimpleDateFormat("EEE MMM dd
HH:mm:ss z YYYY");
                String currentDateandTime = sdf.format(new Date());
                dateView.setText(currentDateandTime);
            }
        });
    }
}
```

- activity\_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:app="http://schemas.android.com/apk/res-auto"
xmlns:tools="http://schemas.android.com/tools"
android:id="@+id/main"
android:layout_width="match_parent"
android:layout_height="match_parent"
tools:context=".MainActivity">
```

```

<TextView
    android:id="@+id/datelabel"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="දින දින & amp; දිනය :-"
    android:textAlignment="viewStart"
    android:textColor="#4CAF50"
    android:textSize="15sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.06"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.022" />

<TextView
    android:id="@+id/dateView"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text=""
    android:textColor="#F00"
    android:textSize="15sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintHorizontal_bias="0.107"
    app:layout_constraintLeft_toLeftOf="parent"
    app:layout_constraintRight_toRightOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.063" />

<LinearLayout
    android:id="@+id/linearLayout"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.0"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="1.0">

    <View
        android:layout_width="250dp"
        android:layout_height="2dp"
        android:layout_marginLeft="15dp"
        android:layout_marginTop="62dp"
        android:background="#E91E63" />

    <ImageView
        android:id="@+id/imageView"
        android:layout_width="64dp"
        android:layout_height="65dp"
        android:layout_marginLeft="300dp"
        android:layout_marginTop="550dp"
        app:srcCompat="@drawable/img_env" />

</LinearLayout>
</androidx.constraintlayout.widget.ConstraintLayout>

```