

Assignment 3 : Get the Given User Interface

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() method is used in this assignment.

It is functioned when an activity is loaded.

- **Permissions**

No special permissions have been granted for this project.

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

- **TextView new line (multiline)**

Simply we can put an '\n' on text where we want to create a new line as.

Example : `setText("Line1 \n Line 2"),`

`android:text="UCSC\n2019"`

- **tools:targetApi="34" in AndroidManifest.xml**

2. Outline of approach to develop the application

- **Design Issues**

I couldn't find how to use different text sizes in same textview with multiline.

- **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.

- Hardcoded string "UCSCn2019", should use @string resource
- Hardcoded string "ආයුබෝවන්**", should use @string resource
- Hardcoded string "MIT3206", should use @string resource
- Hardcoded string "ANDnMIT3106", should use @string resource

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

3. Layout & Attributes

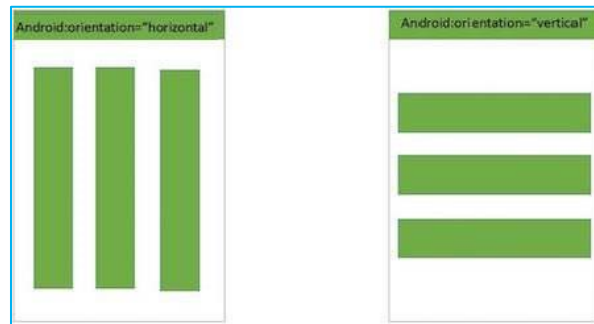
- **LinearLayout**

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.

Android LinearLayout is a view group that aligns all children in either vertically or horizontally.

In this assignment I used vertical orientation layout.



Android Orientation Layout

▪ **Layout Attributes & Other 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 | Description |
|----|---|---|
| 1 | <code>android:textAlignment="textStart"</code> | The text aligns to the start of the paragraph |
| 3 | <code>android:lineSpacingMultiplier="1.25"</code> | Spacing between lines of text of TextView |
| 4 | <code>android:layout_height="wrap_content"</code> | View should have a height which corresponds to the height of the content it contains. |
| 5 | <code>android:textAllCaps="false"</code> | Disable all caps programmatically |
| 6 | <code>android:baselineAligned="false"</code> | App's layout has to do in order to Align its children's baselines |

4. Running the Application on my android mobile device

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.

My android mobile device display setting is set as dark mode option.

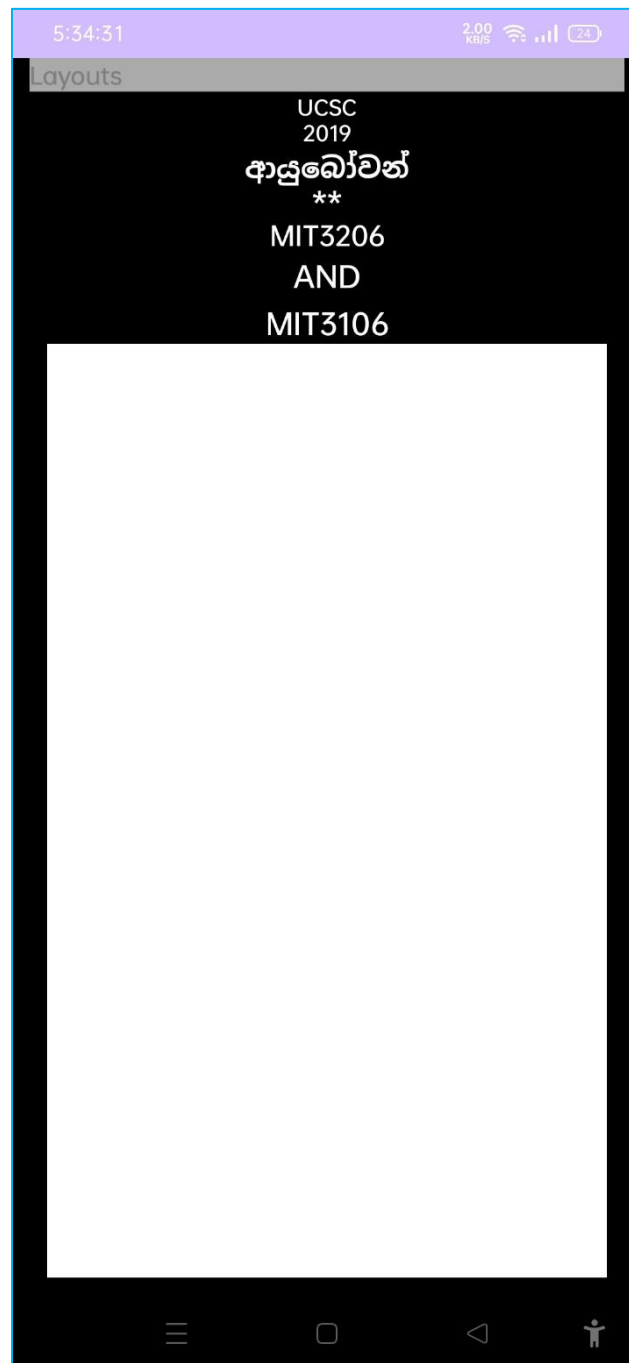


Photo : Assignment3-MIT3206-22550119 in Realme X2 RMX1993

5. Main Coding files

- **MainActivity.java**

```
package com.assignment3_mit3206_22550119;

import android.os.Bundle;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }
}
```

- **activity_main.xml**

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout 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:layout_width="match_parent"
    android:layout_height="match_parent"
    android:background="@android:color/black"
    android:orientation="vertical"
    tools:context=".MainActivity">

    <TextView
        android:id="@+id/textLayout"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginLeft="10dp"
        android:layout_marginRight="10dp"
        android:background="@android:color/darker_gray"
        android:text="Layouts"
        android:textStyle="bold"
        android:textAlignment="textStart"
        android:textAllCaps="false"
        android:textColor="@android:color/tertiary_text_light">
```

```

android:textSize="16sp"
app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.489"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.022" />

```

```

<TextView
    android:id="@+id/textView2"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="UCSC\n2019"
    android:textAlignment="center"
    android:textStyle="bold"
    android:textColor="@android:color/background_light"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="@+id/textLayout"
    app:layout_constraintVertical_bias="0.062" />

```

```

<TextView
    android:id="@+id/textView3"
    android:layout_width="match_parent"
    android:layout_height="39dp"
    android:text="සාමුදායික\n**"
    android:textStyle="bold"
    android:textAlignment="center"
    android:textColor="@android:color/background_light"
    android:textSize="18sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="@+id/textLayout"
    app:layout_constraintVertical_bias="0.15" />

```

```

<TextView
    android:id="@+id/textView4"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="MIT3206"
    android:textStyle="bold"
    android:textAlignment="center"
    android:textColor="@android:color/background_light"

```

```

        android:textSize="18sp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="@+id/textLayout"
        app:layout_constraintVertical_bias="0.257" />

```

```
<TextView
```

```

    android:id="@+id/textView5"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:lineSpacingMultiplier="1.25"
    android:text="AND\nMIT3106"
    android:textStyle="bold"
    android:textAlignment="center"
    android:textColor="@android:color/background_light"
    android:textSize="20sp"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.502"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="@+id/textLayout"
    app:layout_constraintVertical_bias="0.346" />

```

```
<ImageView
```

```

    android:id="@+id/imageView"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:textStyle="bold"
    android:layout_marginLeft="20dp"
    android:layout_marginRight="20dp"
    android:layout_marginBottom="10dp"
    android:background="#FFFFFF"
    android:baselineAligned="false"
    android:textAlignment="center"
    app:srcCompat="@android:drawable/screen_background_light" />

```

```
</LinearLayout>
```


- **AndroidManifest.xml**

```
<?xml version="1.0" encoding="utf-8"?>
<manifest xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools">

    <application
        android:allowBackup="true"
        android:dataExtractionRules="@xml/data_extraction_rules"
        android:fullBackupContent="@xml/backup_rules"
        android:icon="@mipmap/ic_launcher"
        android:label="Assignment3-MIT3206-22550119"
        android:roundIcon="@mipmap/ic_launcher_round"
        android:supportRtl="true"
        android:theme="@style/Theme.Assignment3MIT320622550119"
        tools:targetApi="34">
        <activity
            android:name=".MainActivity"
            android:exported="true">
            <intent-filter>
                <action android:name="android.intent.action.MAIN" />

                <category android:name="android.intent.category.LAUNCHER" />
            </intent-filter>
        </activity>
    </application>

</manifest>
```