Experiment3.2

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Subject Name: Mobile App Development **Subject Code: 21CSH-355**

1. **Aim:** Design the Android application using menus and action bar.

2. **Objective:** The objective of designing an Android application using menus and the action bar is to create a user-friendly and consistent interface that allows users to navigate, access functionality, and perform actions efficiently.

3. Input/Apparatus Used:

- **Android Studio:** The official IDE for Android development. Download and install Android Studio from the official website: Android Studio.
- **Android SDK:** The Android Software Development Kit (SDK) is essential for developing Android applications. Android Studio usually comes bundled with the SDK, but you may need to update it through the SDK Manager within Android Studio.
- **Java Development Kit (JDK):** Android apps are primarily written in Java or Kotlin. Make sure you have the Java Development Kit installed. Android Studio supports JDK. You can download it from the Oracle website: Java SE Downloads.
- **Android Virtual Device (AVD) or Physical Android Device:** You need a device to test your Android application. You can use an emulator (AVD) that comes with Android Studio or a physical Android device connected to your computer.

4. Procedure/Code:

Java Code:

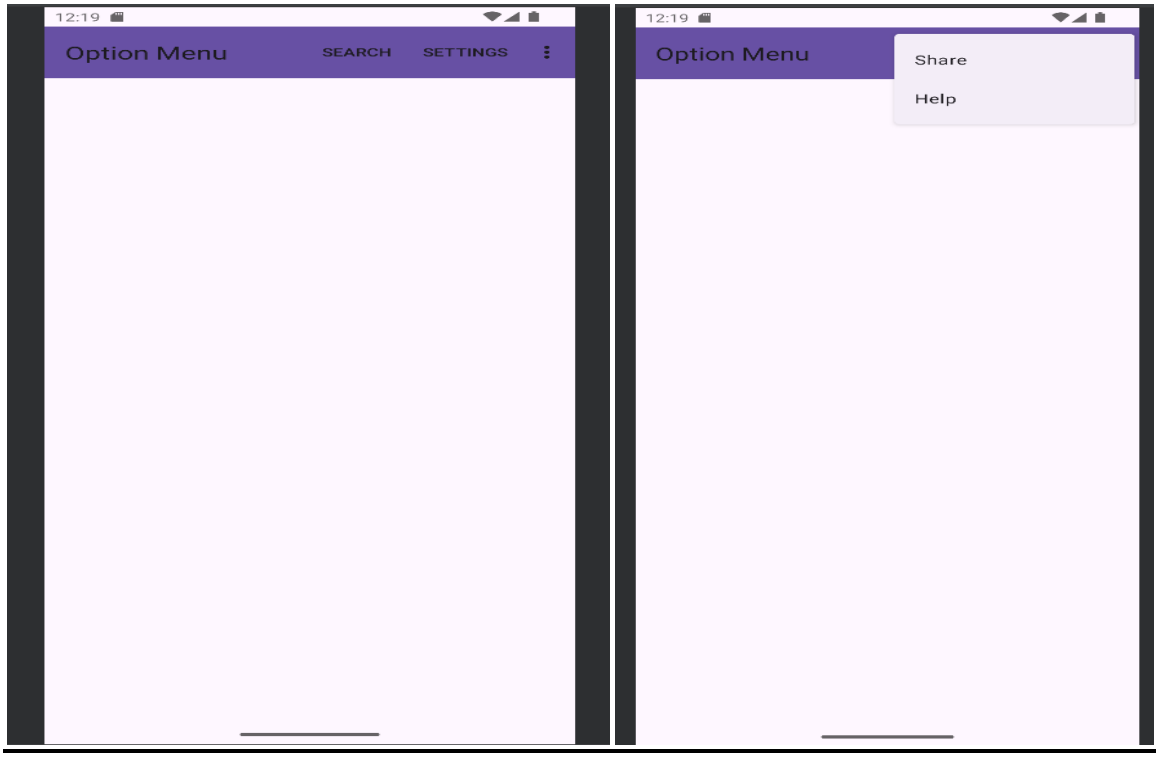
```
package com.example.optionmenu;

import android.os.Bundle;
import android.view.Menu;
import android.view.MenuItem;
import android.widget.Toast;
import androidx.appcompat.widget.Toolbar;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

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

     // Initialize the Toolbar
     Toolbar toolbar = findViewById(R.id.toolbar);
     setSupportActionBar(toolbar);
  }


  @Override
  public boolean onCreateOptionsMenu(Menu menu) {
     getMenuInflater().inflate(R.menu.options_menu, menu);
     return true;
  }

  @Override
  public boolean onOptionsItemSelected(MenuItem item) {
     int id = item.getItemId();

     if (id == R.id.action_search) {
        // Handle search action
        Toast.makeText(this, "Search clicked", Toast.LENGTH_SHORT).show();
        return true;
```

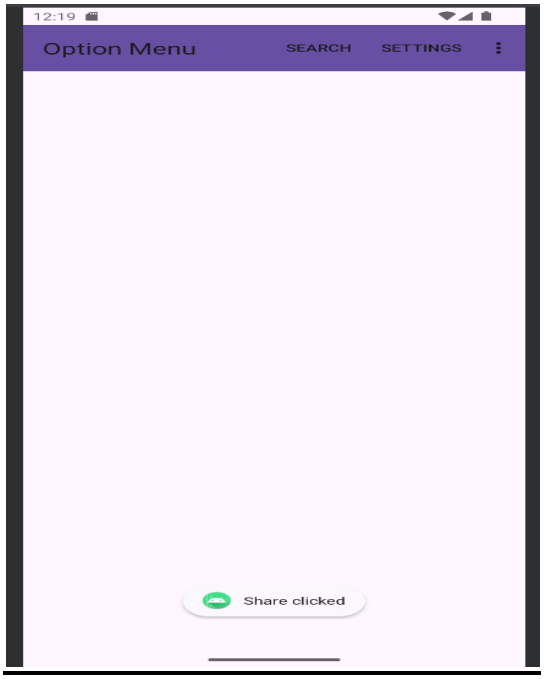
```
        } else if (id == R.id.action_settings) {
            // Handle settings action
            Toast.makeText(this, "Settings clicked", Toast.LENGTH_SHORT).show();
            return true;
        } else if (id == R.id.action_share) {
            // Handle share action
            Toast.makeText(this, "Share clicked", Toast.LENGTH_SHORT).show();
            return true;
        } else if (id == R.id.action_help) {
            // Handle help action
            Toast.makeText(this, "Help clicked", Toast.LENGTH_SHORT).show();
            return true;
        }
        return super.onOptionsItemSelected(item);
    }

}
```

Option_menu.xml code:

```
<menu xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto">
<item
        android:id="@+id/action_search"
        android:title="Search"
        app:showAsAction="ifRoom" />
<item
        android:id="@+id/action_settings"
        android:title="Settings"
        app:showAsAction="ifRoom" />
<item
        android:id="@+id/action_share"
        android:title="Share"
        app:showAsAction="ifRoom" />
<item
        android:id="@+id/action_help"
        android:title="Help"
        app:showAsAction="ifRoom" />
</menu>
```

5. Output:


12:19
Option Menu
SEARCH
SETTINGS
12:19
Option Menu
Share
Help


12:19
Option Menu
SEARCH
SETTINGS
Share clicked

6. Learning Outcomes:

1. I have learned the process of installing Android Studio, a tool for Android app development.
2. I understand the importance of configuring SDKs and virtual devices for a smooth development environment.
3. I now understand the significance of testing applications on a virtual device, ensuring a well-prepared development setup.