

## 1. Welcome Screen (Landing Page)

Filename: activity\_main.xml

Purpose: The main screen welcoming the user and providing navigation options.

xml

Copy code

```
<?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"
    android:gravity="center"
    android:padding="16dp">

    <TextView
        android:id="@+id/welcomeText"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Welcome to EcoDrive"
        android:textSize="24sp"
        android:textStyle="bold"
        android:gravity="center"
        android:paddingBottom="16dp" />

    <Button
        android:id="@+id/startButton"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Start Tracking" />

    <Button
        android:id="@+id/communityButton"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="View Community" />
</LinearLayout>
```

## 2. Tracking Screen

Filename: activity\_tracking.xml

Purpose: Displays tracking information, such as travel mode and carbon footprint.

xml

Copy code<?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"
    android:padding="16dp">
```

```
<TextView
    android:id="@+id/modeOfTransportText"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Mode of Transport: "
    android:textSize="18sp"
    android:paddingBottom="8dp" />
```

```
<TextView
    android:id="@+id/distanceText"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Distance Traveled: "
    android:textSize="18sp"
    android:paddingBottom="8dp" />
```

```
<TextView
    android:id="@+id/carbonFootprintText"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Carbon Footprint: "
    android:textSize="18sp"
```

```
android:paddingBottom="8dp" />
```

```
<Button
    android:id="@+id/stopTrackingButton"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Stop Tracking" />
</LinearLayout>
```

### 3. Community Screen

Filename: activity\_community.xml

Purpose: Displays a leaderboard and community goals.

xml

Copy code

```
<?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"
    android:padding="16dp">

    <TextView
        android:id="@+id/communityTitle"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Community Goals"
        android:textSize="20sp"
        android:gravity="center"
        android:paddingBottom="16dp" />

    <ListView
        android:id="@+id/leaderboardList"
        android:layout_width="match_parent"
        android:layout_height="wrap_content" />
```

```
<Button
    android:id="@+id/backToHomeButton"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Back to Home"
    android:gravity="center" />
</LinearLayout>
```

#### 4. Settings Screen

Filename: activity\_settings.xml

Purpose: Allows users to adjust app settings such as preferred travel mode.

xml

Copy code<?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"
    android:padding="16dp">
```

```
<TextView
    android:id="@+id/settingsTitle"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Settings"
    android:textSize="20sp"
    android:paddingBottom="16dp" />
```

```
<TextView
    android:id="@+id/travelModeLabel"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Default Travel Mode:"
    android:textSize="16sp"
```

```
android:paddingBottom="8dp" />
```

```
<Spinner
    android:id="@+id/travelModeSpinner"
    android:layout_width="match_parent"
    android:layout_height="wrap_content" />

<Button
    android:id="@+id/saveSettingsButton"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Save Settings" /></LinearLayout>
```

## 5. Carbon Footprint Summary

Filename: activity\_summary.xml

Purpose: Shows a summary of the user's carbon footprint data over time.

xml

```
Copy code<?xml version="1.0" encoding="utf-8"?>
<ScrollView xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:padding="16dp">

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:orientation="vertical">

        <TextView
            android:id="@+id/summaryTitle"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Carbon Footprint Summary"
```

```
        android:textSize="20sp"
        android:paddingBottom="16dp" />

<TextView
    android:id="@+id/totalDistanceText"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Total Distance: "
    android:textSize="16sp"
    android:paddingBottom="8dp" />

<TextView
    android:id="@+id/totalFootprintText"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Total Carbon Footprint: "
    android:textSize="16sp"
    android:paddingBottom="8dp" />
</LinearLayout>
</ScrollView>
```

These XML layouts cover key screens for the EcoDrive app. Let me know if you need further customization or additional features!

Here are the Java classes corresponding to the XML layouts for the EcoDrive project. These classes handle user interaction and functionality.

## 1. Main Activity (Welcome Screen)

Java File: MainActivity.java

java

Copy code

```

package com.example.ecodrive;

import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        Button startButton = findViewById(R.id.startButton);
        Button communityButton = findViewById(R.id.communityButton);

        startButton.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Intent intent = new Intent(MainActivity.this, TrackingActivity.class);
                startActivity(intent);
            }
        });

        communityButton.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Intent intent = new Intent(MainActivity.this, CommunityActivity.class);
                startActivity(intent);
            }
        });
    }
}

```

## 2. Tracking Activity

Java File: TrackingActivity.java

java

Copy code

```
package com.example.ecodrive;

import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.TextView;
import androidx.appcompat.app.AppCompatActivity;

public class TrackingActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_tracking);

        TextView modeOfTransportText = findViewById(R.id.modeOfTransportText);
        TextView distanceText = findViewById(R.id.distanceText);
        TextView carbonFootprintText = findViewById(R.id.carbonFootprintText);
        Button stopTrackingButton = findViewById(R.id.stopTrackingButton);

        // Example values, replace with live tracking logic
        modeOfTransportText.setText("Mode of Transport: Car");
        distanceText.setText("Distance Traveled: 10 km");
        carbonFootprintText.setText("Carbon Footprint: 2.3 kg CO2");

        stopTrackingButton.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                finish(); // Stop tracking and return to previous screen
            }
        });
    }
}
```



### 3. Community Activity

Java File: CommunityActivity.java

java

Copy code

```
package com.example.ecodrive;

import android.os.Bundle;
import android.widget.ArrayAdapter;
import android.widget.ListView;
import androidx.appcompat.app.AppCompatActivity;
import java.util.ArrayList;

public class CommunityActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_community);

        ListView leaderboardList = findViewById(R.id.leaderboardList);

        // Mock data for leaderboard
        ArrayList<String> leaderboard = new ArrayList<>();
        leaderboard.add("Alice - 50 kg CO2 Saved");
        leaderboard.add("Bob - 45 kg CO2 Saved");
        leaderboard.add("Charlie - 40 kg CO2 Saved");

        ArrayAdapter<String> adapter = new ArrayAdapter<>(this,
            android.R.layout.simple_list_item_1, leaderboard);
        leaderboardList.setAdapter(adapter);
    }
}
```

#### 4. Settings Activity

Java File: SettingsActivity.java

java

Copy code

```
package com.example.ecodrive;

import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.Spinner;
import android.widget.AdapterView;
import android.widget.Toast;
import androidx.appcompat.app.AppCompatActivity;

public class SettingsActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_settings);

        Spinner travelModeSpinner = findViewById(R.id.travelModeSpinner);
        Button saveSettingsButton = findViewById(R.id.saveSettingsButton);

        // Populate Spinner with modes of transport
        String[] modes = {"Car", "Bike", "Public Transport", "Walk"};
        ArrayAdapter<String> adapter = new ArrayAdapter<>(this,
        android.R.layout.simple_spinner_item, modes);

        adapter.setDropDownViewResource(android.R.layout.simple_spinner_dropdown_item);
        travelModeSpinner.setAdapter(adapter);

        saveSettingsButton.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                String selectedMode = travelModeSpinner.getSelectedItem().toString();
                Toast.makeText(SettingsActivity.this, "Default mode set to: " + selectedMode,
```

```
Toast.LENGTH_SHORT).show();  
    }  
});  
}  
}
```

## 5. Summary Activity

Java File: SummaryActivity.java

java

Copy code

```
package com.example.ecodrive;  
  
import android.os.Bundle;  
import android.widget.TextView;  
import androidx.appcompat.app.AppCompatActivity;  
  
public class SummaryActivity extends AppCompatActivity {  
    @Override  
    protected void onCreate(Bundle savedInstanceState) {  
        super.onCreate(savedInstanceState);  
        setContentView(R.layout.activity_summary);  
  
        TextView totalDistanceText = findViewById(R.id.totalDistanceText);  
        TextView totalFootprintText = findViewById(R.id.totalFootprintText);  
  
        // Mock data for summary  
        totalDistanceText.setText("Total Distance: 120 km");  
        totalFootprintText.setText("Total Carbon Footprint: 28 kg CO2");  
    }  
}
```