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**Micro Project Proposal**

**CheckBox Selector using Toast**

**1. Aims/Benefits of the Micro-Project:**

The aim of creating a checkbox selector using Toast messages in an Android application is to provide users with a simple and intuitive interface for selecting options. By implementing this feature, users can easily toggle checkboxes to make selections, and they receive immediate visual feedback through Toast messages indicating their selections. This approach enhances user experience by offering clear and concise notifications, ensuring users are informed about their actions within the application.

**2. Course Outcome Addressed:**

- a checkbox selector using Toast messages in an Android application encompasses several key learning objectives and achievements.
- Moreover, the implementation of the checkbox selector with Toast messages encourages students to practice error handling and debugging techniques. They learn to anticipate and handle potential issues that may arise during user interactions, ensuring the robustness and reliability of their applications.
- Overall, the course outcome empowers students with valuable skills in Android development, user interface design, and user experience optimization, preparing them for future projects and careers in mobile app development.

**3. Proposed Methodology:**

- an Android application follows a systematic approach to ensure a smooth and efficient development process.
- Initially, thorough requirement analysis is conducted to understand the specific needs of the feature, including the number and functionalities of checkboxes, as well as the behavior of Toast messages upon selection or deselection.
- Once the design plan is established, the implementation phase commences using Kotlin or Java within the Android Studio IDE.

#### 4. Action Plan:

Sr. No.	Details of Activity	Planned Start date	Planned Finish date	Name of Responsible Team Members
1	Search the topic	18/08/2023 2:00pm-3:00pm	19/08/2023 2:00pm-3:00pm	Rushikesh Sakharam Karlekar
2	Search the information	25/08/2023 2:00pm-3:00pm	26/08/2023 2:00pm-3:00pm	
3	Design Flow Diagram	01/09/2023 2:00pm-3:00pm	03/09/2023 2:00pm-3:00pm	
4	Design of Code	15/09/2023 2:00pm-3:00pm	16/09/2023 2:00pm-3:00pm	
5	Execution of Code	29/09/2023 2:00pm-3:00pm	30/09/2023 2:00pm-3:00pm	
6	Perform White Box Testing	06/10/2023 2:00pm-3:00pm	07/10/2023 2:00pm-3:00pm	
7	Maintenance	13/10/2023 2:00pm-3:00pm	13/10/2023 2:00pm-3:00pm	
8	Finalizing Project with its Report	20/10/2023 2:00pm-3:00pm	21/10/2023 2:00pm-3:00pm	

**5. Resources Required:**

<b>Sr.No.</b>	<b>Name of resource / material</b>	<b>Specification</b>	<b>Quantity</b>	<b>Remarks</b>
1	Computer	WINDOWS 11, 8GB RAM, 256 GB SSD	1	
2	Browser	Chrome	1	
3	Development Tools	Android Studio	1	

**6. Names of Team Member with Roll No.:**

<b>Sr. No.</b>	<b>Enrollment No.</b>	<b>Name of Team Member</b>	<b>Roll No.</b>
1	2110950072	Rushikesh Sakharam Karlekar	20

**Mr. Kazi A.S.M.**  
**Name and Signature of the Teacher**

**Micro-Project Report**  
**CheckBox Selector using Toast**

**1. Rationale:**

The rationale behind implementing a checkbox selector with Toast messages in an Android application stems from the need to provide users with a straightforward and intuitive method for making selections within the app. Checkboxes serve as familiar and convenient UI elements for users to indicate their choices, whether it's selecting preferences, filtering content, or making multiple selections.

**2. Aims/Benefits of the Micro-Project:**

- Efficiency.
- Accessibility.
- Accuracy.
- Data Management.
- Scalability.

**3. Course Outcomes Achieved:**

- Display message on screen using Android Studio.
- Develop XML program to demonstrate use of components.
- Perform operations on TOAST method in Android.
- Develop functions for given problem.

**4. Literature Review:**

implementation of checkbox selectors with Toast messages in Android applications reflects a broader interest in enhancing user interaction and experience within mobile interfaces.

However, existing literature on mobile UI design emphasizes the importance of providing clear and immediate feedback to users during interactions. Toast messages, known for their unobtrusive nature and brief appearance, have been recognized as effective tools for conveying feedback without disrupting the user flow. Studies have highlighted the significance of feedback mechanisms in improving user satisfaction, reducing errors, and enhancing overall usability.

## 5. Actual Methodology Followed:

### 5.1 Source Code:

#### Activity\_main.xml

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

    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical">

    <TextView
        android:text=""
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"/>

    <TextView
        android:text=""
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"/>

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_gravity="center"
        android:text="CheckBox Selector using Toast"
        android:textStyle="bold"
        android:textSize="30sp"/>

    <TextView
        android:text=""
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"/>

    <CheckBox
        android:id="@+id/checkBoxApple"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Apple" />

    <CheckBox
```

```
android:id="@+id/checkboxBanana"  
android:layout_width="wrap_content"  
android:layout_height="wrap_content"  
android:text="Banana" />
```

```
<CheckBox  
    android:id="@+id/checkboxOrange"  
    android:layout_width="wrap_content"  
    android:layout_height="wrap_content"  
    android:text="Orange" />
```

```
<CheckBox  
    android:id="@+id/checkboxGrapes"  
    android:layout_width="wrap_content"  
    android:layout_height="wrap_content"  
    android:text="Grapes" />
```

```
<CheckBox  
    android:id="@+id/checkboxMango"  
    android:layout_width="wrap_content"  
    android:layout_height="wrap_content"  
    android:text="Mango" />
```

```
<CheckBox  
    android:id="@+id/checkboxPineapple"  
    android:layout_width="wrap_content"  
    android:layout_height="wrap_content"  
    android:text="Pineapple" />
```

```
<CheckBox  
    android:id="@+id/checkboxWatermelon"  
    android:layout_width="wrap_content"  
    android:layout_height="wrap_content"  
    android:text="Watermelon" />
```

```
<CheckBox  
    android:id="@+id/checkboxPeach"  
    android:layout_width="wrap_content"  
    android:layout_height="wrap_content"  
    android:text="Peach" />
```

```
<CheckBox  
    android:id="@+id/checkboxCherry"  
    android:layout_width="wrap_content"  
    android:layout_height="wrap_content"  
    android:text="Cherry" />
```

```
<CheckBox
```

```

        android:id="@+id/checkboxKiwi"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Kiwi" />

<TextView
    android:text=""
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"/>

<TextView
    android:text=""
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"/>

<TextView
    android:text=""
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"/>

<TextView
    android:text=""
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"/>

<TextView
    android:text=" Copyright (@) - 2024 "
    android:textStyle="bold"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_gravity="center" />

<TextView
    android:text=""
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"/>

<TextView
    android:text="Developed By : Rushi Karlekar"
    android:textStyle="bold"
    android:layout_gravity="center"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"/>

</LinearLayout>

```



## MainActivity.java

```
package com.example.micro;

import android.os.Bundle;
import android.view.View;
import android.widget.CheckBox;
import android.widget.CompoundButton;
import android.widget.Toast;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

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

        // Find all checkboxes
        CheckBox checkBoxApple = findViewById(R.id.checkBoxApple);
        CheckBox checkBoxBanana = findViewById(R.id.checkBoxBanana);
        CheckBox checkBoxOrange = findViewById(R.id.checkBoxOrange);
        CheckBox checkBoxGrapes = findViewById(R.id.checkBoxGrapes);
        CheckBox checkBoxMango = findViewById(R.id.checkBoxMango);
        CheckBox checkBoxPineapple = findViewById(R.id.checkBoxPineapple);
        CheckBox checkBoxWatermelon = findViewById(R.id.checkBoxWatermelon);
        CheckBox checkBoxPeach = findViewById(R.id.checkBoxPeach);
        CheckBox checkBoxCherry = findViewById(R.id.checkBoxCherry);
        CheckBox checkBoxKiwi = findViewById(R.id.checkBoxKiwi);

        // Set listeners for each checkbox
        CompoundButton.OnCheckedChangeListener listener = new
        CompoundButton.OnCheckedChangeListener() {
            @Override
            public void onCheckedChanged(CompoundButton buttonView, boolean isChecked) {
                if (isChecked) {
                    // Show toast with the fruit name when checkbox is checked
                    String fruitName = buttonView.getText().toString();
                    Toast.makeText(MainActivity.this, "Selected: " + fruitName,
                    Toast.LENGTH_SHORT).show();
                }
            }
        };

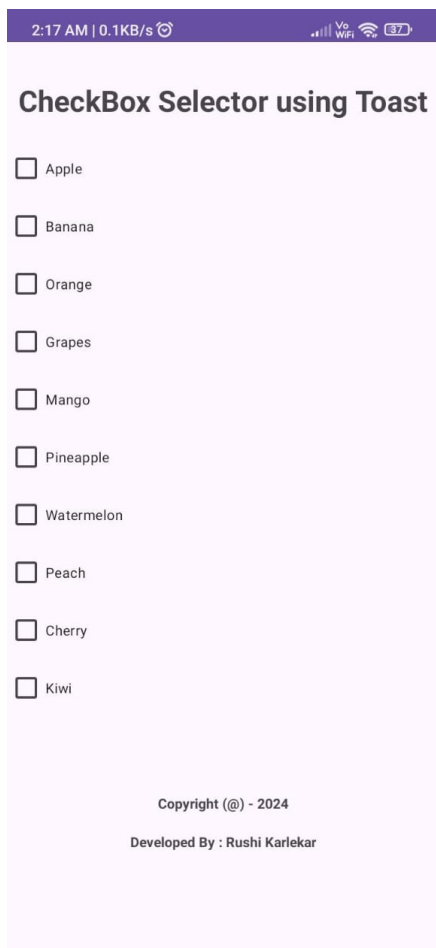
        checkBoxApple.setOnCheckedChangeListener(listener);
        checkBoxBanana.setOnCheckedChangeListener(listener);
        checkBoxOrange.setOnCheckedChangeListener(listener);
    }
}
```

```

        checkBoxGrapes.setOnCheckedChangeListener(listener);
        checkBoxMango.setOnCheckedChangeListener(listener);
        checkBoxPineapple.setOnCheckedChangeListener(listener);
        checkBoxWatermelon.setOnCheckedChangeListener(listener);
        checkBoxPeach.setOnCheckedChangeListener(listener);
        checkBoxCherry.setOnCheckedChangeListener(listener);
        checkBoxKiwi.setOnCheckedChangeListener(listener);
    }
}

```

## 5.2 Output



## 6. Actual Resources Used:

Sr.No.	Name of resource / material	Specification	Quantity	Remarks
1	Computer	WINDOWS 11, 8GB RAM, 256 GB SSD	1	
2	Browser	Chrome	1	
3	Development Tools	Android Studio	1	

## 7. Skill developed / Learning out of this Micro-Project:

Engaging in the development of a checkbox selector with Toast messages in an Android application cultivates a range of valuable skills and fosters significant learning outcomes for developers. Firstly, participants gain proficiency in Android app development, as they delve into the intricacies of building user interfaces and implementing interactive elements using Kotlin or Java within the Android Studio IDE. This hands-on experience provides a solid foundation in mobile development principles and practices.

## 8. Applications of this Micro-Project:

1. You can select any one of the checkbox.
2. You can select any fruit.
3. Toast message will be displayed.

\*\*\*\*\*