

## **MOBILE APPLICATION DEVELOPMENT LAB – (6CS4-24)**

### **Project:- QuizMaster**

#### **Introduction:**

The project is a quiz game application developed for Android devices using Java and Android Studio. It features a series of multiple-choice questions where users can select either "True" or "False" for each question. The questions are displayed sequentially along with corresponding options. Upon selecting an option, the user receives immediate feedback through toast messages indicating whether their choice was correct or not. The "Next" button allows users to progress to the next question. At the end of the quiz, the final score is presented on the screen. The application's layout is designed to be user-friendly, with clear alignment and spacing for enhanced usability.

#### **MainActivity.java:-**

```
package com.example.quizgame;

import android.os.Bundle;
import android.view.Gravity;
import android.view.View;
import android.widget.Button;
import android.widget.TextView;
import android.widget.Toast;

import androidx.appcompat.app.AppCompatActivity;

public class MainActivity extends AppCompatActivity {

    private TextView questionTextView;
```

```
private Button trueButton;  
private Button falseButton;  
private Button nextButton;  
private TextView scoreTextView;
```

```
private String[] questions = {  
    "1. Android is an operating system developed by Apple.",  
    "2. Java is a programming language.",  
    "3. The capital of France is Rome.",  
    "4. OpenAI developed the GPT-3 model.",  
    "5. Mount Everest is the tallest mountain in the world."  
};
```

```
private boolean[] answers = {  
    false,  
    true,  
    false,  
    true,  
    true  
};
```

```
private int currentQuestionIndex = 0;  
private int score = 0;
```

```
@Override  
protected void onCreate(Bundle savedInstanceState) {
```

```
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);

questionTextView = findViewById(R.id.questionTextView);
trueButton = findViewById(R.id.trueButton);
falseButton = findViewById(R.id.falseButton);
nextButton = findViewById(R.id.nextButton);
scoreTextView = findViewById(R.id.scoreTextView);

updateQuestion();

trueButton.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        checkAnswer(true);
    }
});

falseButton.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        checkAnswer(false);
    }
});

nextButton.setOnClickListener(new View.OnClickListener() {
```

```

@Override
public void onClick(View v) {
    currentQuestionIndex++;
    if (currentQuestionIndex < questions.length) {
        updateQuestion();
    } else {
        showFinalScore();
    }
}
});
}

```

```

private void updateQuestion() {
    questionTextView.setText(questions[currentQuestionIndex]);
}

```

```

private void checkAnswer(boolean userAnswer) {
    boolean correctAnswer = answers[currentQuestionIndex];
    if (userAnswer == correctAnswer) {
        score++;
    }

    String toastMessage = userAnswer == correctAnswer ? "Correct!" :
    "Incorrect!";

    showToast(toastMessage);
}

```

```

private void showToast(String message) {

```

```
        Toast toast = Toast.makeText(this, message, Toast.LENGTH_SHORT);
        toast.setGravity(Gravity.CENTER, 0, 0);
        toast.show();
    }

    private void showFinalScore() {
        questionTextView.setVisibility(View.GONE);
        trueButton.setVisibility(View.GONE);
        falseButton.setVisibility(View.GONE);
        nextButton.setVisibility(View.GONE);
        scoreTextView.setText("Final Score: " + score + "/" + questions.length);
        scoreTextView.setVisibility(View.VISIBLE);
    }
}
```

### **Activity main.xml:-**

```
<?xml version="1.0" encoding="utf-8"?>
```

```
<RelativeLayout
```

```
xmlns:android="http://schemas.android.com/apk/res/android"
```

```
xmlns:tools="http://schemas.android.com/tools"
```

```
android:layout_width="match_parent"
```

```
android:layout_height="match_parent"
```

```
tools:context=".MainActivity">
```

```
<TextView
```

```
android:id="@+id/questionTextView"
```

```
android:layout_width="wrap_content"
```

```
android:layout_height="wrap_content"
```

```
android:textSize="24sp"
```

```
android:text="Question"
```

```
android:gravity="center"
```

```
android:layout_margin="16dp"
```

```
android:layout_centerHorizontal="true"/>
```

```
<Button
```

```
android:id="@+id/trueButton"
```

```
android:layout_width="wrap_content"
```

```
    android:layout_height="wrap_content"
    android:text="True"
    android:layout_below="@id/questionTextView"
    android:layout_marginTop="50dp"
    android:layout_centerHorizontal="true"
    android:layout_marginEnd="16dp"

    android:backgroundTint="@color/button_background_color"/
>
```

<Button

```
    android:id="@+id/falseButton"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="False"
    android:layout_below="@id/trueButton"
    android:layout_marginTop="20dp"
    android:layout_centerHorizontal="true"
    android:layout_marginEnd="16dp"

    android:backgroundTint="@color/button_background_color"/
>
```

<Button

```
    android:id="@+id/nextButton"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Next"
    android:layout_below="@id/falseButton"
    android:layout_marginTop="20dp"
    android:layout_alignParentEnd="true"
    android:backgroundTint="@color/next_button_color"/>
```

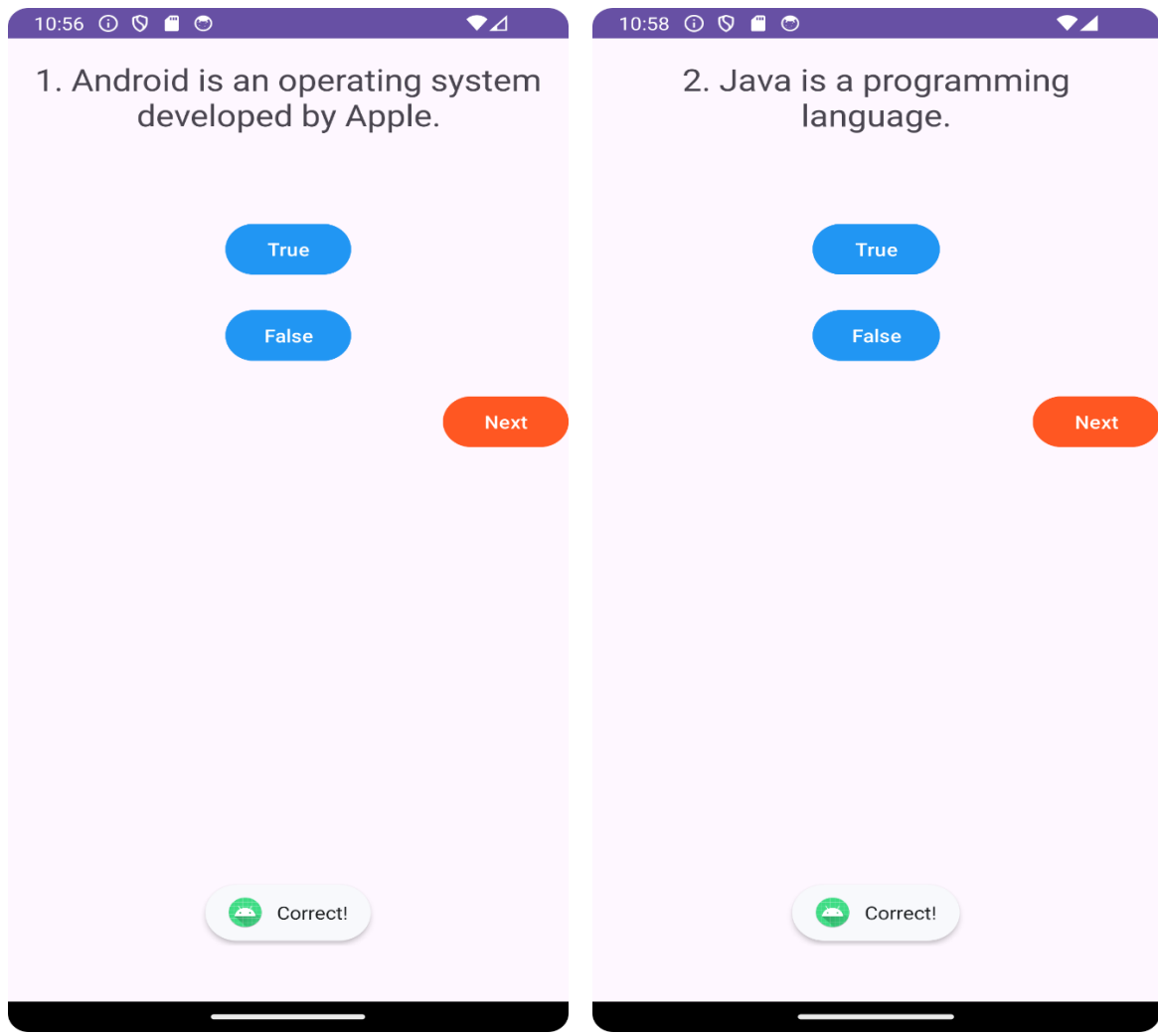
<TextView

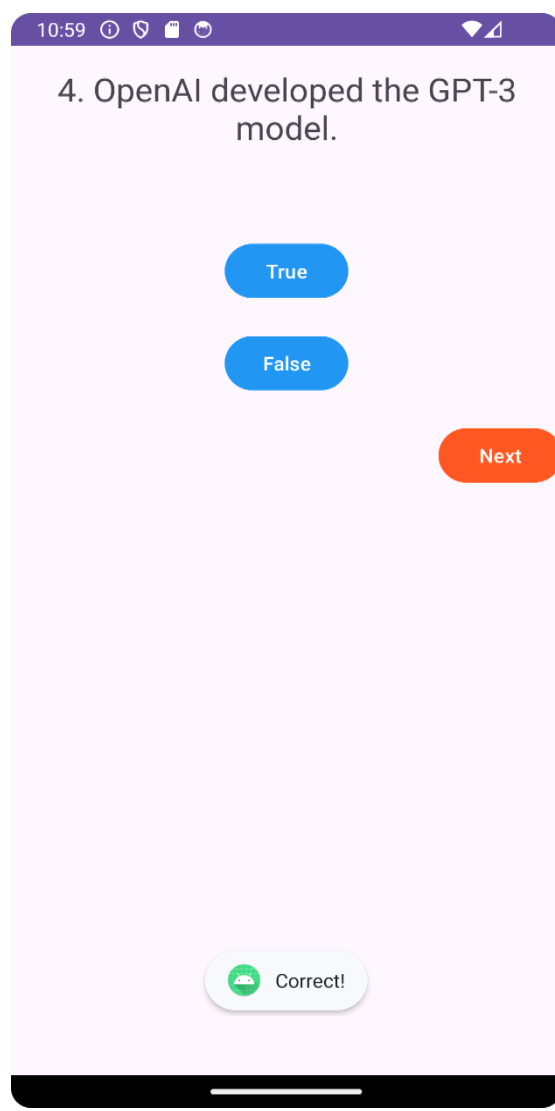
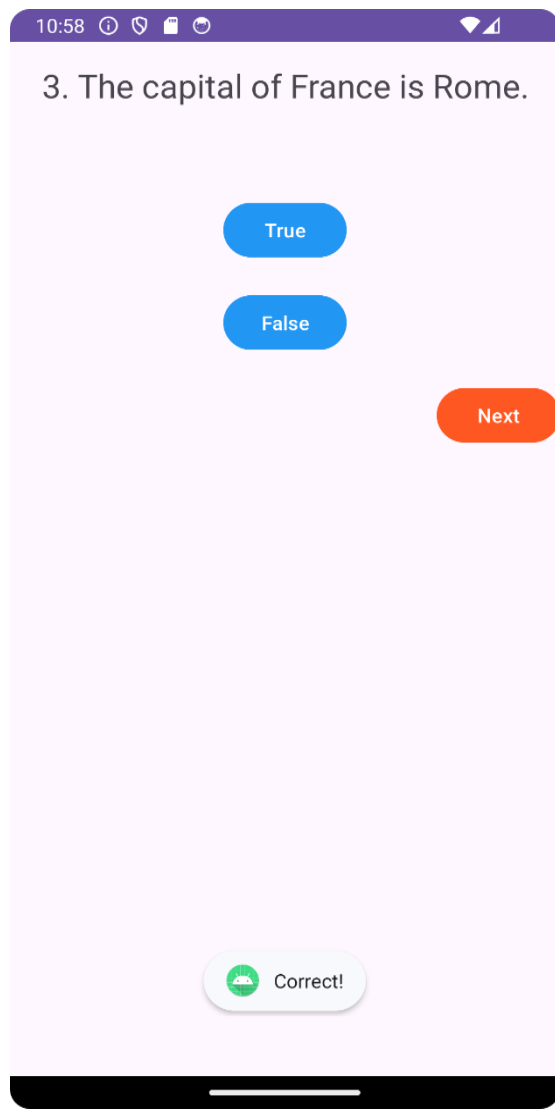
```
    android:id="@+id/scoreTextView"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:textSize="20sp"
    android:text=""
    android:gravity="center"
    android:layout_centerInParent="true"
    android:visibility="gone"/>
```

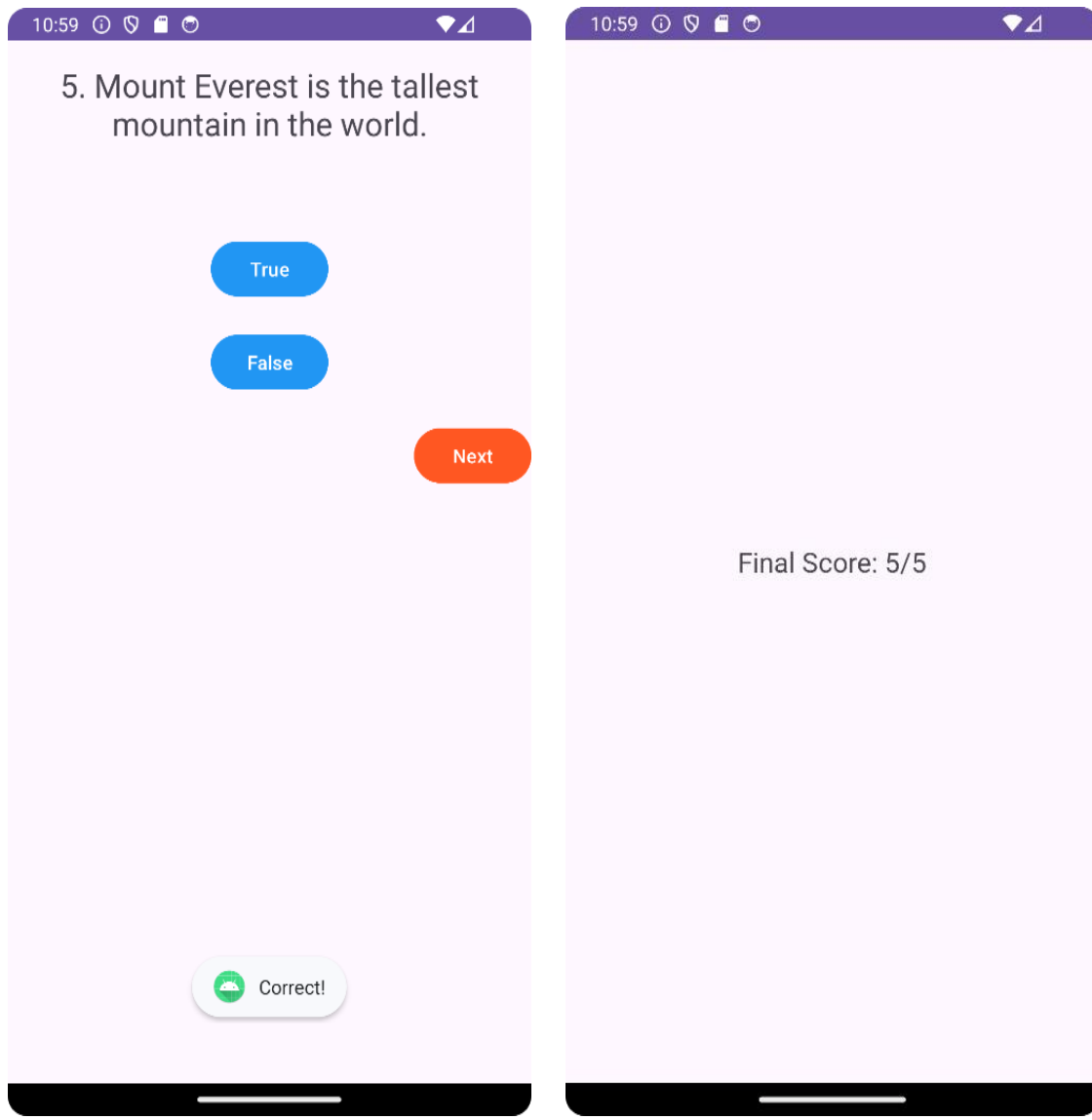
</RelativeLayout>



## Snapshots of the project:-







## **Results:-**

QuizMaster is an interactive quiz game app where users can test their knowledge by answering a series of true or false questions. With a user-friendly interface, it provides immediate feedback on each answer and displays the final score at the end of the quiz.