QUIZ APP USING ANDROID STUDIO

A PROJECT REPORT

Submitted by

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BONAFIDE CERTIFICATE

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ABSTRACT

This project report details the creation of a mobile quiz application using Android Studio, designed to provide an engaging platform for users to test their knowledge on various topics. The application targets a broad audience, including students, educators, and quiz enthusiasts, offering a user-friendly and intuitive interface. Key features include multiple-choice questions, timed quizzes, real-time scoring, and user progress tracking, all developed using Java within the Android Studio environment.

The report covers the project's objectives, system design, implementation process, and testing methods. It highlights the challenges encountered during development and the solutions implemented to address them. Additionally, it discusses potential future enhancements to improve functionality and user experience. This project aims to showcase the effective use of Android development tools and best practices in creating a robust mobile application.

ACKNOWLEDGMENT

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INTRODUCTION

In today's digital age, mobile applications have become an integral part of our daily lives, providing convenience, education, and entertainment at our fingertips. Among these, quiz applications have gained significant popularity, offering an engaging way to test knowledge and learn new information across various subjects. This project focuses on developing a mobile quiz application using Android Studio, aimed at delivering an interactive and enjoyable learning experience.

The primary motivation behind this project is to create a versatile platform that caters to a diverse audience, including students preparing for exams, educators seeking to create engaging learning tools, and quiz enthusiasts looking for entertainment. The application is designed to be user-friendly, with a clean interface and intuitive navigation. It incorporates features such as multiple-choice questions, timed quizzes, real-time scoring, and progress tracking to enhance the user experience. By leveraging the capabilities of Android Studio and Java, this project aims to build a robust and reliable quiz application that meets the needs of its users while adhering to best practices in mobile app development.

1.1 PROBLEM STATEMENT

The project aims to address deficiencies in existing mobile quiz applications, including poor user interfaces, inadequate feedback mechanisms, and limited accessibility. By developing a user-friendly app with real-time feedback and a diverse range of quiz topics, the goal is to enhance user engagement and promote effective learning experiences for a broader audience.

1.3 AIM AND OBJECTIVES OF THE PROJECT

The aim of this project is to create and execute a system enabling hospitals to analyze and visualize data, tackling the difficulties brought about by an expanding population and a corresponding rise in the quantity of patients. The intention is to give hospitals the tools they need to analyze this data as statistics, enabling them to decide how best to allocate their resources and improve overall operational effectiveness. With Dash for visualization and for data administration, the system will give users immediate insights into important KPIs. It also provides a 24/7 real-time resource count for emergency rooms.

CHAPTER 2

LITERATURE SURVEY

Mobile quiz applications stand at the intersection of education and entertainment, offering users a dynamic platform to engage with learning content while enjoying the interactive quiz experience. With a focus on enhancing knowledge retention and user engagement, these apps capitalize on the flexibility and accessibility of mobile devices to provide learners with an immersive learning experience anytime, anywhere. By integrating features such as real-time feedback and gamified elements like leaderboards, developers aim to create an environment that motivates users to actively participate and continuously improve their understanding of various topics.

To achieve this goal, developers follow agile methodologies, ensuring iterative development cycles that prioritize user feedback and usability principles. By embracing an agile approach, developers can swiftly adapt to evolving user needs and preferences, refining the application's design and functionality iteratively. With a strong emphasis on usability and user experience, coupled with the incorporation of gamification strategies, mobile quiz applications strive to become effective tools for both formal and informal learning, catering to a wide range of users seeking engaging and educational content on their mobile devices.

3.1 DEVELOPMENTAL ENVIRONMENT

3.31 HARDWARE REQUIREMENTS

The hardware requirements may serve as the basis for a contract for the system's implementation. It should therefore be a complete and consistent specification of the entire system. It is generally used by software engineers as the starting point for the system design.

Table 3.1 Hardware Requirements

COMPONENTS	SPECIFICATION
PROCESSOR	Intel Core i5
RAM	8 GB RAM
GPU	NVIDIA GeForce GTX 1650
MONITOR	15" COLOR
HARD DISK	512 GB
PROCESSOR SPEED	MINIMUM 1.1 GHz

3.31.1SOFTWARE REQUIREMENTS

The software requirements document is the specifications of the system. It should include both a definition and a specification of requirements. It is aset of what the system should rather be doing than focus on how it should be done. The software requirements provide a basis for creating the software requirements specification. It is useful in estimating the cost, planning team activities, performing tasks, tracking the team, and tracking the team's progressthroughout the development activity.

Android Studio would be required.

CHAPTER 4

PROJECT DESCRIPTION

4.1 METHODOLODGY

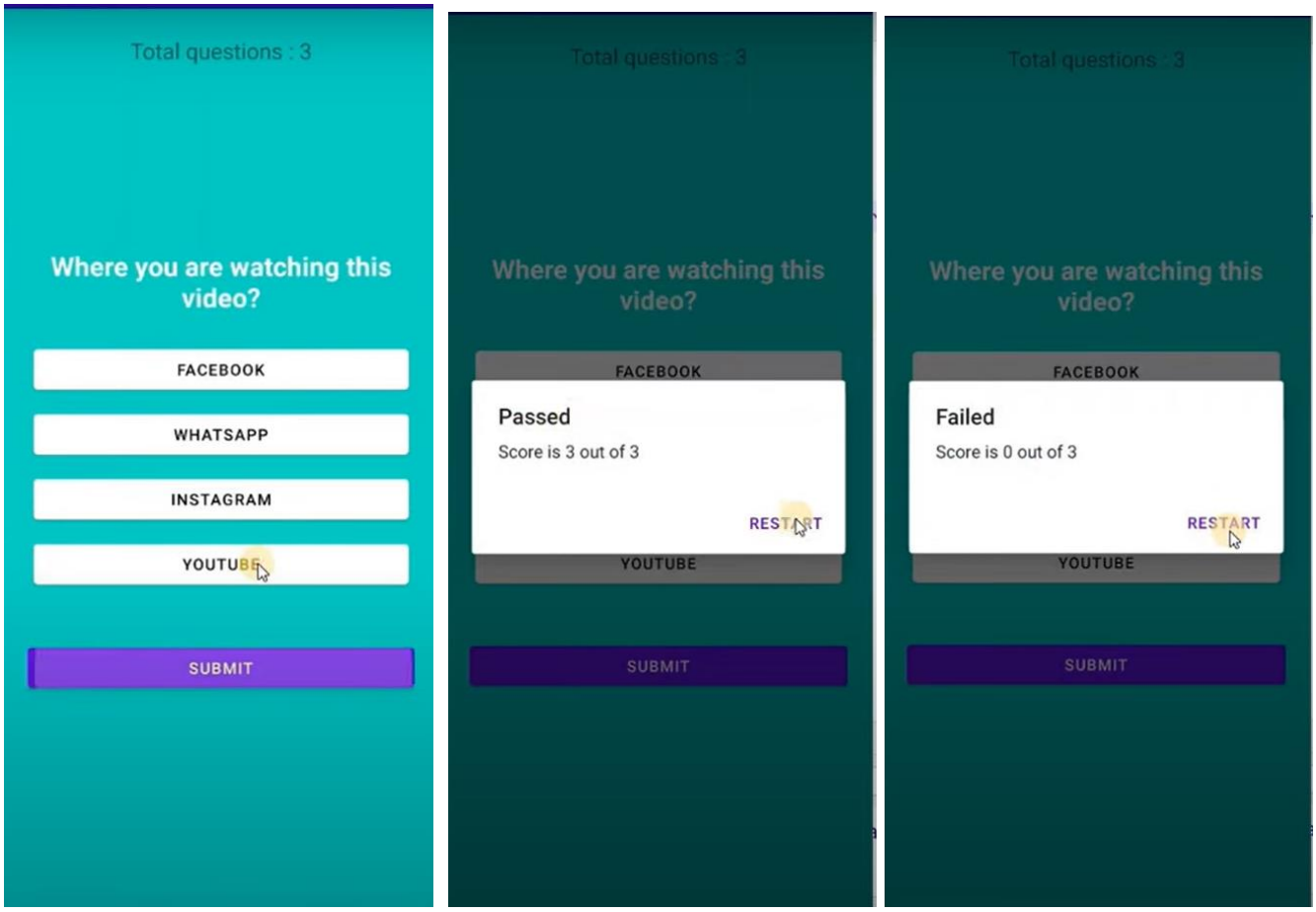
The mobile quiz application will be developed using a step-by-step approach. First, we will gather and document the requirements, focusing on creating a login screen and a quiz page. Next, we will design wireframes for these screens and outline a simple system architecture.

In the development phase, we will use Android Studio to build the user interface and implement the login functionality. We will then code the quiz feature, which includes loading questions and handling user responses. After development, we will test the app to ensure everything works correctly, fixing any issues that arise. Finally, we will prepare the app for release and distribute it to users, followed by ongoing maintenance and updates to address any user feedback or bugs.

CHAPTER 5

RESULTS AND DISCUSSIONS

5.1 OUTPUT



CHAPTER 6

CONCLUSION AND FUTURE ENHANCEMENT

6.1 CONCLUSION

The development of the mobile quiz application successfully showcases the creation of a simple yet effective Android application using Android Studio and Java. By implementing a secure login system and an engaging quiz interface, the project achieves its goal of providing a user-friendly platform for knowledge testing. The structured approach, involving requirement gathering, design, implementation, testing, and deployment, ensured that the application met its primary objectives efficiently. The resulting app is intuitive and accessible, catering to a wide audience, from students to quiz enthusiasts, thereby fulfilling its intended purpose.

FUTURE ENHANCEMENT

Looking ahead, several enhancements can be made to improve and expand the mobile quiz application. Introducing additional question types such as true/false, fill-in-the-blank, and matching questions can diversify the quiz experience. Allowing users to select quiz categories will provide a more personalized experience. Implementing a leaderboard and achievements system can foster a competitive environment and motivate users through badges and rewards. Enabling offline mode will make the app more accessible by allowing users to download quizzes and participate without an internet connection.

APPENDIX

SOURCE CODE:

Activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout
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="@color/teal_200"
   android:padding="24dp"
   tools:context=".MainActivity">

   <TextView
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:id="@+id/question"
      android:textStyle="bold"
      android:text="This will be the question"
      android:textColor="@color/white"
      android:textSize="24dp"
      android:textAlignment="center"
      android:layout_margin="20dp"
      android:layout_above="@id/choices_layout"/>

   <LinearLayout
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:id="@+id/choices_layout"
      android:layout_centerInParent="true"
      android:orientation="vertical">

      <Button
         android:layout_width="match_parent"
         android:layout_height="wrap_content"
         android:id="@+id/ans_A"
         android:layout_margin="5dp"
         android:backgroundTint="@color/white"
```

```
            android:text="Ans A"
            android:textColor="@color/black"/>

        <Button
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:id="@+id/ans_B"
            android:layout_margin="5dp"
            android:backgroundTint="@color/white"
            android:text="Ans B"
            android:textColor="@color/black"/>
    </LinearLayout>
    <Button
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/submit_btn"
        android:text="Submit"
        android:layout_below="@id/choices_layout"
        android:layout_marginTop="40dp"/>
</RelativeLayout>
```

MainActivity.kt

```
import android.app.AlertDialog;
import android.graphics.Color;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.TextView;

public class MainActivity extends AppCompatActivity implements
View.OnClickListener{

    TextView totalQuestionsTextView;
    TextView questionTextView;
    Button ansA, ansB, ansC, ansD;
    Button submitBtn;
    int score=0;
    int totalQuestion = QuestionAnswer.question.length;
    int currentQuestionIndex = 0;
    String selectedAnswer = "";
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
```

```
        setContentView(R.layout.activity_main);

        totalQuestionsTextView = findViewById(R.id.total_question);
        questionTextView = findViewById(R.id.question);
        ansA = findViewById(R.id.ans_A);
        ansB = findViewById(R.id.ans_B);
        ansC = findViewById(R.id.ans_C);
        ansD = findViewById(R.id.ans_D);
        submitBtn = findViewById(R.id.submit_btn);
        ansA.setOnClickListener(this);
        ansB.setOnClickListener(this);
        ansC.setOnClickListener(this);
        ansD.setOnClickListener(this);
        submitBtn.setOnClickListener(this);
        totalQuestionsTextView.setText("Total questions : "+totalQuestion);

        loadNewQuestion();
    }

    @Override
    public void onClick(View view) {

        ansA.setBackgroundColor(Color.WHITE);
        ansB.setBackgroundColor(Color.WHITE);
        ansC.setBackgroundColor(Color.WHITE);
        ansD.setBackgroundColor(Color.WHITE);

        Button clickedButton = (Button) view;
        if(clickedButton.getId()==R.id.submit_btn){

if(selectedAnswer.equals(QuestionAnswer.correctAnswers[currentQuestionIndex]))
{
            score++;
          }
          currentQuestionIndex++;
          loadNewQuestion();

        }else{
          //choices button clicked
          selectedAnswer  = clickedButton.getText().toString();
          clickedButton.setBackgroundColor(Color.MAGENTA);

        }}
```

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