



## Proposal for a Capital City Quiz Mobile Application

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# WorldWise

Sharpen your geography skills by answering capital cities  
of countries in the world.

# Introduction

This document outlines the proposal for a mini-project to develop a Capital City Quiz mobile application called **WorldWise**, a native Android mobile application. The purpose of this app is to provide users with an interactive and engaging way to test their knowledge of world capitals. The application will present a series of multiple-choice questions and provide immediate scoring upon completion, as detailed in the provided UI mockups.

## **1. Statement of the Problem**

Many high school students struggle to remember the capital cities of different countries. Geography is often taught in a way that feels boring or hard to connect with. Because of this, students lose interest and don't build strong knowledge about the world. This can affect their performance in school, limit their curiosity about other countries, and make them feel less confident in global conversations.

While many digital quiz applications exist, they often suffer from several drawbacks that create a barrier for users:

1. **Overly Complex:** Many apps are bloated with unnecessary features, user accounts, and complicated navigation.
2. **Intrusive:** Users are often forced to deal with excessive advertisements or require a constant internet connection, limiting accessibility.
3. **Lack of Focus:** Applications try to cover too many topics at once, preventing a user from having a simple, focused "pick-up-and-play" experience.

Our user is Hana, a 17-year-old high school student who enjoys learning through games and apps. She wants to improve her geography knowledge but finds textbooks tiring. She uses her phone daily and likes short quizzes that are fun and easy to play during breaks or free time.

### **1.2 proposed Solution**

WorldWise is a mobile quiz app made for high school students who want to learn capital cities in a fun and simple way. The app shows a country name and gives four capital city options. After answering, the user gets instant feedback and can try again if they got it wrong. The app also keeps track of scores so users can see how much they've improved. It's designed to be easy to use, quick to play, and helpful for remembering capitals through repetition.

## **2. Project Objectives**

### **2.1 General Objective**

The main objective of this project is to design, develop, and implement a functional, user-friendly, and interactive "Capital City Quiz" mobile application.

## 2.2. Specific Objectives

To achieve the general objective, the following specific tasks will be completed:

- To develop the User Interface (UI): Implement three distinct screens (Start, Question, Results) using XML, ensuring the layout and design match the provided makeups.
- To implement the core quiz logic: Write the Java code to manage the quiz flow, including:
  - Loading a predefined set of questions and answers.
  - Tracking the current question number.
  - Validating the user's selected answer against the correct answer.
- To manage application state: Ensure data (like the user's score) is correctly calculated.
- To handle user interaction: Implement onClick listeners for all buttons (Start Quiz, answer options, Next, Play Again, Exit) to ensure the application responds correctly to user input.
- To provide clear user feedback:
  - Visually highlight the user's selected answer.
  - Enable the "Next" button only after an answer is chosen.
  - Display the final, accurate score.

## 3. Scope

- A fixed, predefined list of 10 capital city questions.
- A linear quiz flow (Start -> Quiz -> Results).
- Scoring based on the number of correct answers.

- All features and UI elements shown in the provided mockups.

## 4. Technology Stack

- **Platform:** Android
- **Programming Language:** Java
- **UI/Layouts:** Figma & XML
- **Development Environment:** Android Studio

## 5. Methodology

The project will be developed in a phased approach to ensure each component is built and functions correctly.

### Phase 1: Project Setup & UI Development (XML)

This phase focuses on creating the visual "skeleton" of the application as per the designs.

1. **Initialize Project:** Set up a new Android Studio project configured for Java and Android.
2. **Create Activities:** Define the three main Java classes for the screens: `StartActivity.java`, `QuizActivity.java`, and `ResultsActivity.java`.
3. **Develop XML Layouts:** Create the three corresponding layout files:

### Phase 2: Logic & Data Implementation

- Create a `Question` class (or data structure) in Java to hold the question text, a list of options, and the index of the correct answer.
- Create a list or array of these `Question` objects to serve as the question bank.

### Phase 3: Testing & Debugging

- Run the application on an emulator or physical device.
- Test all user flows: starting the quiz, answering questions, and viewing results.
- Ensure the scoring logic is accurate and all buttons function as expected.

## 6. Final Deliverables

- The complete and compilable Android Studio project source code, including all `.java` and `.xml` files.

- A runnable APK file that can be installed on an Android device.

## **7. Team Members & Roles**

Solomon Timiso	Project Lead
Lidiya Simeneh	UI/UX designer
Fenan Gadisa	Android Developer
Tebarek Zewude	Android Developer
Tseganesh Tarekegn	Android Developer