1. Choose Technologies
   1. Swift or Objective-C (iOS): These are the primary languages for iOS app development. Swift is the newer language introduced by Apple, which is gaining popularity due to its modern syntax and safety features. Objective-C is the older language traditionally used for iOS development.
   2. Java or Kotlin (Android): Java has been the traditional language for Android development. However, Kotlin, introduced by JetBrains and officially supported by Google, has gained significant traction due to its modern features, conciseness, and interoperability with Java.
   3. JavaScript (React Native, NativeScript): With frameworks like React Native and NativeScript, developers can build cross-platform mobile apps using JavaScript. These frameworks allow for code reusability across iOS and Android platforms while still providing native-like performance.
   4. Dart (Flutter): Flutter, developed by Google, uses Dart as its programming language. Flutter allows developers to create cross-platform mobile apps with a single codebase. It provides high-performance, customizable UI components, and hot reload for fast development.
2. Implementation
   1. Development tools

I used many tools to complete this application. Those tools are:

* + 1. Android Studio

Android Studio is the official Integrated Development Environment (IDE) for Android app development. Based on the powerful code editor and developer tools from IntelliJ IDEA , Android Studio offers even more features that enhance your productivity when building Android apps, such as:

A flexible Gradle-based build system

A fast and feature-rich emulator

A unified environment where you can develop for all Android devices

Live Edit to update composables in emulators and physical devices in real time

Code templates and GitHub integration to help you build common app features and import sample code

Extensive testing tools and frameworks

Lint tools to catch performance, usability, version compatibility, and other problems

C++ and NDK support

Built-in support for Google Cloud Platform, making it easy to integrate Google Cloud Messaging and App Engine

<https://developer.android.com/studio/intro>

* + 1. LDPlayer 9

LDPlayer 9 is an emulator for PC that lets you enjoy the Android 9 version. This way, you will be able to play all your favorite games in a fast environment with better quality and performance.

Whether you've already used a previous version of LDPlayer or another emulator, the LDPlayer 9 interface is simple, practical, and easy to understand and customize. In LDPlayer 9, you can install the APKs of your favorite games and apps. And, although the Google Play Store comes already installed, you can always add alternative stores, such as Uptodown.

LDPlayer 9 lets you map the controls to be able to use a mouse and keyboard in your games, meaning you can move more easily. The program also supports physical game controllers. There are many settings in LDPlayer 9 for improving your gaming experience. You can configure more than one virtual machine or select, for example, how many system resources you want to use.

In short, LDPlayer 9 is a good, smooth-working emulator with good performance and quality, perfect for players looking to play on PC. If you want to enjoy the latest Android games on your computer, don't hesitate to download LDPlayer 9.

<https://ldplayer-9.en.uptodown.com/windows#:~:text=LDPlayer%209%20is%20an%20emulator,with%20better%20quality%20and%20performance>.

* + 1. SamSung Galaxy J2 Prime

This is a mobile device using the Android operating system. I use this to run the application. The device is connected to the computer via a cable.

* + 1. Trello:

Trello is the visual work management tool that empowers teams to ideate, plan, manage, and celebrate their work together in a collaborative, productive, and organized way.

Whether you and your team are starting something new or trying to get more organized with your existing work, Trello adapts to any project. It helps you simplify and standardize your team’s work process in an intuitive way. But don’t let its simplicity fool you! Trello is user-friendly, yet still able to handle your team’s most robust projects.

This is a quick overview of the things you need to know when you are just getting started with your first project on Trello.

<https://trello.com/guide/trello-101>

* 1. Project Structure:

A screenshot of a computer

Description automatically generatedThe project structure is shown in the figure below. Role of each folder:

+ Models: Stores the model source code of the entire application.

+ Student: Stores Student's functional source code in the application.

+ Tutor: Stores Tutor's functional source code in the application.

+ The remaining class in "com.example.tutorkit": Stores the source code for common features of both Student and Tutor.

+ Layout: Stores the user interface source code of the entire application.

+ Drawable: Stores images, icons,... used in the interface

* 1. Code snippets of important features:
     1. A
     2. B
     3. B
     4. C
     5. D
  2. Development plan

Phase 1: Requirements Gathering and Analysis.

+ Contact with stakeholders to identify project requirements.

+ Literature review about incoming domain as well as technologies and methodologies

and create Literature review document.

+ Identify project attributes (Objective, Aim, Scope, etc.).

+ Create System Requirement Specification (SRS).

+ Obtain user acceptance about the requirements documents.

Milestone: Requirements document approved

Phase 2: System Design and Architecture.

+ Design the system architecture.

+ Design Use Case Diagram.

+ Normalize and design database.

+ Design User Interfaces.

+ Obtain user acceptance about the design documents.

Milestone: Design document approved

Phase 3: Implementation

+ Project development based on the design and requirement documents.

+ Perform unit test during development process.

+ Integrated third-party services.

Milestone: Software completely developed.

Phase 4: Test and fix bugs.

+ Write test plan, include test scenario, test cases and test logs.

+ Perform test based on the test plan.

+ Contact with stakeholders to join in the testing process.

+ Report developers about bugs, prioritize low-difficulty and high-priority bugs.

Milestone: Complete test plan with data.

Phase 5: Create documents.

+ Gathering document from previous phases.

+ Create User Manual document.

+ Obtain user acceptance about documents.

Milestone: All document approved