**PROJECT BRIEF**

**Minimal Requirements**

Each project will need to provide a certain amount of features/functionalities, so, even when not explicitly mentioned in the project idea, consider that you will need to have:

* a graphical user interface with windows for the main functionalities, in general based on JavaFX
* an authentication system to sign-up/sign-in (GUI and models)
* a persistency system to store/retrieve/update user data (GUI and models)
* one or (more likely) more application windows in which the actual, useful part of the application is performed (again, with GUI and models)

**AI Quiz Generator:** A quiz app where AI creates questions based on a topic.

Short description:

An application where users can request a multiple-choice quiz based on any topic. The AI generates the questions, grades the quiz, and stores the results for future reference. Users can track their quiz history, review past quizzes, and customise their quiz experience.

Project Requirements:

*Core Functions:*

* Authentication
  + Users log in to track their personal quiz history
  + Need a ‘saved scores’ database
* History/Tracking
  + Save quiz results/questions so that it can be reviewed
  + Update quiz results if user wishes to retake the quiz (update to display highest score)
* Quiz
  + User enters a topic, and AI generates multiple choice questions
  + Simple UI to answer multiple choice questions (a, b, c, d)
* Windows
  + Sign in/ log in (see Authentication)
  + Main menu
  + Quiz settings
  + Quiz
  + Quiz history

*Quiz Customisation Options:*

* Different modes – little slider to switch between modes
  + Quiz mode - Timed quizzes with AI-determined durations based on complexity of questions
    - Countdown timer
  + Practice mode – No timer, user can go at their own pace
* User mode – little slider to switch between modes
  + Student mode – Questions given one at a time
  + Teacher mode – List of questions and answers
* Difficulty
  + User can select between a range of difficulty (easy – hard or random)
  + User can also select schooling levels such as high school, university and then grade levels such as year 1, undergraduate etc. (picklist)
* Quiz Customisation – slider to determine number of questions
  + User can specify how many questions they want to be generated
* Gamification – would only be in ‘student’ mode
  + Streak – answers correct in a row
    - For example, 3 questions correct in a row little pop-up box saying, ‘3 in a row!!!’