ICS4U
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Concept Document

Purpose

The project will be an educational tool designed for grade 12 high school advanced functions students and teachers. It will facilitate communication between the teacher and the students while allowing the teacher to receive key information about the success of the students. It will be able to aid students in preparing for the entire course curriculum of MHF4U.

Concept

The actual program produced by the project will be accessible via any internet browser and through android application. Inside the program, there will multiple features allowing students to practice their math competence and it will store data in an online server for both the teacher and students to review.

Client

The client that was chosen is Ms.Damjanschitz, a high school math teacher at Earl of March. She wants an app that can constantly monitor her student's process in the grade 12 advanced functions course. By giving out short problems at the start of class, she can see which students are keeping up with the curriculum and which students need extra help. However, marking questions from all her students everyday is very time consuming and tedious. An app can be created that can display a question and accept the answer would be very useful in her situation. It corrects the answer and keeps track of how many questions they got right and wrong, plus it gives a formative mark at the end of the year.

SDLC

Spiral model is appropriate because we do not have very clear idea of the final project, so by using the spiral we can continually add part and new features to the program.

Learning objectives

The teach can create questions that relates to the unit that the students are on. At the beginning of class, each student will use their mobile devices to solve that question. The application keeps track of the time it takes for each question and also tallies up all the correct and incorrect

answers, and at the end of the semester, helps give the teacher a formative idea each student's grade. There are also options for students to practice with extra questions.

Target Audience

The program will be targeted towards high school to first year university students that would like to practice and review their math skills for their term. It would be targeted towards teachers of those students because they would be the users who would introduce the program to the students. A large demographic of these older teenagers and young adults own mobile devices and should have a machine that can use an internet browser and would allow them to access the application.

Platform

The main program will be available on Android and it's database can be accessed through an internet browser.

Team roles

Haoyang Zhu- Team Manager
YiYang Jiang- Lead Programmer

Features

Electronic Classes	- Teacher is able to sign up an electronic class and provides a class code to students - Using the class code given to students, students can register an account in the classroom and participate in class activities

Warm-Up	- Teacher is able to input a few warm-up questions into the daily classroom - Can have multiple-choice or short answer format - Students input answers within allocated time and receive scoring based on results - Students are able to have results displayed publicly to see how they compete with the rest of their classmates
Practice	Teacher can input homework questions or challenge questions
Competitive Versus	- Similar to quiz applications, it puts students in the class head on with each other and allows practice with a competitive edge - Provides a basic matchmaking system featuring hidden matchmaking rank to match suitable competitors - Allows cross class matchmaking
Statistics	- Each student will have a personal profile which they can see their progress and the teacher will be able to look over - Keeps track of quiz scores and time required to complete
Email alerts	If a student gets questions wrong consistently for a period of time, the application sends a notification to Ms.D alerting her about this student.