Project Proposal: ITS iOS Quiz App

Project Description

Problem to be Solved

- Existing app does not include a mobile database to store user data
- Have more frontend screens and make sure all screens are linked to the others and connected to the backend
- Replicate Android studio app and create the optimal IOS application

Proposed Solution

App Functionality

Last semester we started a mobile application using swift for ios devices with the goal of recreating an application like Quizlet to provide students on-the-go learning options. We split into a frontend and backend team last semester, the frontend team worked on Figma prototype, designing UI/UX, and coding up UI on the app with swift. The backend team worked with databases, implemented various app functionalities, and set up framework.

We planned to continue working on both the frontend and backend this semester. We hope to add more functionalities to the app and solidify the previous screens.

Required Features:

Display more questions and get screens up and moving: formats: MC, SA, flashcards
- MC: multiple-choice → pick one option based on the question (system decides whether the user got it right or wrong)
- Term Matching: type one-word vocab term corresponding to given definition, right or wrong is based on exact string match
- Flashcards: show the front of flash card, the user reveals back of the flash card, the user determines whether they got it right or wrong, and add a feature where people could go to the next question
- Potentially be able to collect user responses and store them in the database, so each user has their own id and password, as well as their quizzes data.
- Allow users to choose various topics to study
- Create more wireframes of the pages that should be created and implemented using figma
- Make a progression of the UI and wireframes to demo on the final presentation day

- ○ BACK END: Be able to replicate these screens and wireframes for the final demo using swift as well

Future Required Features:
- Setup figma and wire frames to show app progression and potential uses
- Generating quizzes tailored to a content area based on the android studio application
- Make back end progress setting up the api and data collection if possible
- Make the application look aesthetic
  - ○ Based off of the figma and UI research to be conducted
- Streamline/Refactor development process

Future Semester Features:
- Allowing students to pick from various quiz sets
- Enabling students to be able to add and create their own flashcard sets.
  - ○ Potential for a desktop version of quiz app
- Charing flashcard sets and study material on the app
- Short answer questions and implementing more options to create progress on the app as time goes on

Benefits Of This App

- Convenience: Quick and easy for students to use since the majority of them are on their phone already. Since it will be an iOS application, it will be better integrated with Apple devices.
- The application will have a cleaner UI than the previous Quiz App. The shift away from Android Studio will also allow for better feature development.
- Provides a targeted learning plan for students who are struggling with a certain concept by prioritizing certain content
  - ○ Many times when students are stuck, they are not sure where they are lacking in knowledge - the ML model would provide them questions that would be specifically catered to their skill set

Potential Problems and Pitfalls/Other Areas for Research

- Setting up the swift application
  - ○ Most of the members are new to swift and to the team so it will be a learning experience for many members
  - ○ We want to add the same compatibility as the Android Studio App
  - ○ Incorporate and set up a plan for future members of the VIP to continue and implement
- Research what the optimal backend and front end setups will be and implement them

Implementation

Software and Development Tools

- SWIFT
  - Mobile Application
- Database
  - Cloud-based MongoDB
- Libraries: TBD
- UI-UX wireframing: Figma
- GitHub for File Management
  - Git Kanban Board for workflow management
- Figma
  - Any other Prototyping and diagramming/application flow mapping

Project Goal For This Semester

Last semester, a few of the vip members started the creation of QuizApp using Swift. The goal was to recreate an application like Quizlet that allowed us to enable users to create flashcards, study sets, and quiz themselves using an app. The goal for this semester is to set up the mobile application using SWIFT for ios devices with an emphasis on recreating more functionality and setting up the back end mobile database for this semester. This will require standardizing the UI, setting up the backend framework for future uses and implementation, and continue working on the old project. We also want to develop and maintain a good understanding of application creation and implementation and make Swift better than android studio's version of the quiz app. This semester we would like to focus on 3 main things: adding more wireframing and UI, setting up the back end mobile database, and lastly making sure the application can have more new functionalities and be up to par with Android studio functionality. This will ensure the app is well set up to be implemented further in the coming semesters.

Milestone	Date Due (Hard deadlines are in **bold**)	Status
Project Plan Draft	**01/30/2023**	Complete
Finished up Project Proposal	02/06/2023	In progress
Create a new github repo for this project	02/13/2023	Not started
Set up Swift environment	02/13/2023	Not Started
Make sure everyone is familiar with using github and that their machines work	02/25/2023	Not Started

Split into Teams and Start Work Backend and front end: assign tasks and basics	02/25/2023	
Front end - figma and create wireframes for the application RESEARCH swift features	03/30/2023	Not Started
Continued work - depends on previous progress - see requirements section RESEARCH swift features	—	Not Started
Continued work - depends on previous progress - see requirements section	—	Not Started
Continued work - depends on previous progress - see requirements section	—-	Not Started
Continued work - depends on previous progress - see requirements section	—	Not Started
Prepare for Demo + Final Touches	**Not Yet Announced**	Not Started
Demo		Not Started
Project Cleanup and Final Documentation		Not Started
Final Presentation		Not Started
Final Peer Review		Not Started
Project Submission and files due		Not Started

Group Membership

Member Skill Sets

Member	Time Commitment and Credits	Skills and Interests
Sanjit Pingili	6-8 hours/week (2 credits)	JavaScript, Java, SQL, Basic HTML and CSS, Android Studio

Zhen Hong Tan	6-8 hours/week (2 credits)	Java, Python, HTML/CSS, C/C++, SQL
Sakshi Deshpande	6-8 hours/week (2 credits)	Java, JavaScript, HTML/CSS, React, Python, C/C++, SQL
Devang Ajmera	6-8 hours/week (2 credits)	Java, Python, Basic HTML/CSS, SQL
Sabina Ajjan	4 - 6 hours/ week (1 credit)	Java, Basic HTML/CSS, basic SQL
Alvin Fabrio	6-8 hours/week (2 credits)	Java, Python, C/C++, basic SQL
Rishi Nopany	6-8 hours/week (2 credits)	Java, Python, SQL, Android Studio, MongoDB, Express.js, React, JavaScript
Samarth		
Sahana Krishnan	6-8 hours/week (2 credits)	Java, Python, SQL, Android Studio, MongoDB, Express.js, React, JavaScript

Task Assignment and Participation

Team Logistics
- Project Manager/Facilitator - Updates tasks/timelines, checks in on progress, schedules meetings, facilitates meetings
  - Zhen Hong Tan
- Scribe - Takes notes during meetings; works with Project Manager to disseminate notes
  - Rotation as of now
- Logistics - Makes sure everything is turned in on time and deadlines are met
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Work Division
- Front-end developers + UI/UX redesign - Swift and coding up UI for Quiz App
  - Sanjit Pingili
  - Sahana Krishnan
  - Varun Patel
  - Sakshi Deshpande
- Back-end developer: implement the mobile app database - work with front-end developers
  - Zhen Hong Tan

- - - Alvin Fabrio
    - Rishi Nopany
    - Devang Ajmera
- Designing + design interfaces implementation overall
    - Samarth Parameswar

Communication Resources

- Weekly meetings Mondays 7:00-8:00 pm EST via Zoom
- Scheduler: Lettuce Meet
- Google Drive: meeting notes, design documents
- Groupme or imessage group chat for chatting daily