Github Repository Link:
https://github.com/CSCI-3308-CU-Boulder/3308Summer21_300_6

Your application must have a GUI, a database/API data source, a middle layer connecting your UI to your data. So make sure to consider these core requirements when designing the architecture of your application. You are allowed to update the architecture if necessary later.

Team Number

- 301-6

Team Name

- Adult Swim

Team Members

- Jonathan William Noranbrock ~ jono5589@colorado.edu
- Logan Park ~ logan.park@colorado.edu
- Timothy Wilson ~ tiwi7412@colorado.edu
- Alex Ojemann ~ aloj7980@colorado.edu
- Zach Wrubel ~ zachary.wrubel@colorado.edu

Github Usernames:

- Logan: LoganPark-CUBOULDER
- Jon: jnoranbrock
- Alex: aloj7980
- Tim: tiwi7412
- Zach: Zwrubel23

https://csci-3308-summer1-6.atlassian.net/secure/Dashboard.jspa?selectPageId=10000

Application Name

- Math Whiz-ard

Application Description

- A web app that allows users to create an account and practice basic math problems.This web application is designed for kids, ideally in elementary or middle school who are looking to improve their basic math skills. The Math Whiz-ard is an application that can help improve grades and test scores. Unlike Pearson practice tests; however, our product allows the user to practice as much or as little as they need to feel comfortable with the subject. In addition, unlike

Skip Math; our product will be free, making it more accessible and have more features and different mathematical problems and solution sets to offer more variety.

- A login screen will lead the users to the main home page of the application. From there the user will select from a subset of modes what they intend to do. Each mode will lead the user to a set of math problems that will have to be solved to proceed to the next. The user may select practice modes that will allow them to practice math problems in a range of difficulties from beginner to advanced problems.
- The user interface will be simple with clear and concise options for where to go next so children and adults can use it easily. The user can go at their own pace while practicing and will not be penalized for getting problems wrong.

Vision Statement

To provide a fun and accessible means for elementary and middle school students to succeed and thrive in math.

Version Control

https://github.com/CSCI-3308-CU-Boulder/3308Summer21_300_6

Development Method

We will be using the Agile/Scrum method to complete our project. This methodology allows us to focus on small features and create sprints to create small portions of working parts to demonstrate and test. This method has five repeating steps as follows:

Step 1: Product Backlog Creation
Step 2: Spring planning and creating backlog
Step 3: Working on Sprint
Step 4: Testing and Product Demonstration
Step 5: Retrospective and the next sprint planning

Jira Dashboard Link for our Agile/Scrum Methodology:

https://csci-3308-summer1-6.atlassian.net/secure/Dashboard.jspa?selectPageId=10000

Communication Plan

We have each other's contact information in a group-chat to keep in contact!

- Jonathan William Noranbrock (703-789-1046)
- Logan Park (732-823-8140)
- Timothy Wilson (949-528-5361)
- Alex Ojemann (720-244-0232)
- Zach Wrubel (312-806-1577)

We meet weekly from 7pm - 9pm MST on Thursdays to work on the project.

Meeting Plan

Tim - Weekdays anytime after 4:30 or before 1:15
MST Logan: M-F Evening to night
Alex - Thu-Sun after this class or Mon-Wed between class end and 6 PM
Jon- M-F after 6:30PM
Zach - Anytime other than weekends is ideal.

Team Meeting Thursday, 7pm-9pm once a week

Meeting Link: https://cuboulder.zoom.us/j/2172365690

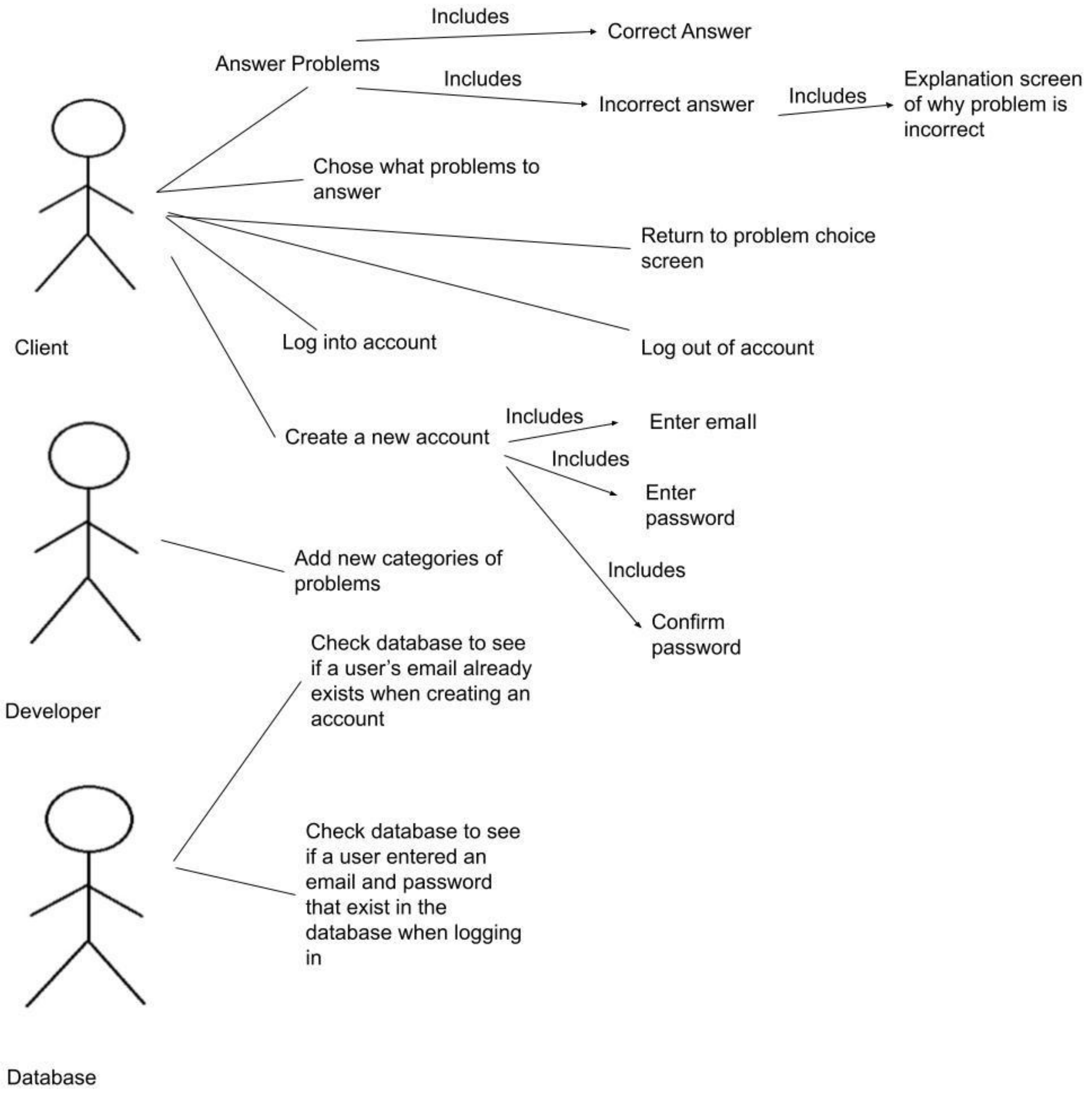
Meeting with Dwight: Thursdays 3pm - 3:20pm
https://www.google.com/url?q=https://cuboulder.zoom.us/j/95832525120&sa=D&source=calendar&ust=1623784447387000&usg=AOvVaw056IalUCdF7wCkc5I-EPTF

Proposed Architecture Plan/Basic Application Architecture for Math Whiz-ard

- Architecture
  - Front End: CSS javascript html
  - Back End: javascript, nodejs,
  - Platform: Web-App

On the front end we will be using html, javascript, and CSS to create an interactive UI for users to interact with on the registration page, main menu, and in each page where they are given math problems. On the backend we will use a mixture of nodejs, and javascript. This will build the core functionality that stores user information and searches for past users, as well as giving math problems and solutions. The front end and back end will communicate simply with links and buttons on the front end that will request the necessary information from the back end. If we have additional time within the 7 week time period, we would like to add some search functionality using PostGRESQL to allow the system to randomly select different sample problem sets and solutions for users to view and study with.

Use Case Diagram


Includes
Correct Answer
Answer Problems
Includes
Incorrect answer
Includes
Explanation screen of why problem is incorrect
Chose what problems to answer
Return to problem choice screen
Log into account
Log out of account
Client
Create a new account
Includes
Enter email
Includes
Enter password
Includes
Confirm password
Add new categories of problems
Developer
Check database to see if a user's email already exists when creating an account
Check database to see if a user entered an email and password that exist in the database when logging in
Database