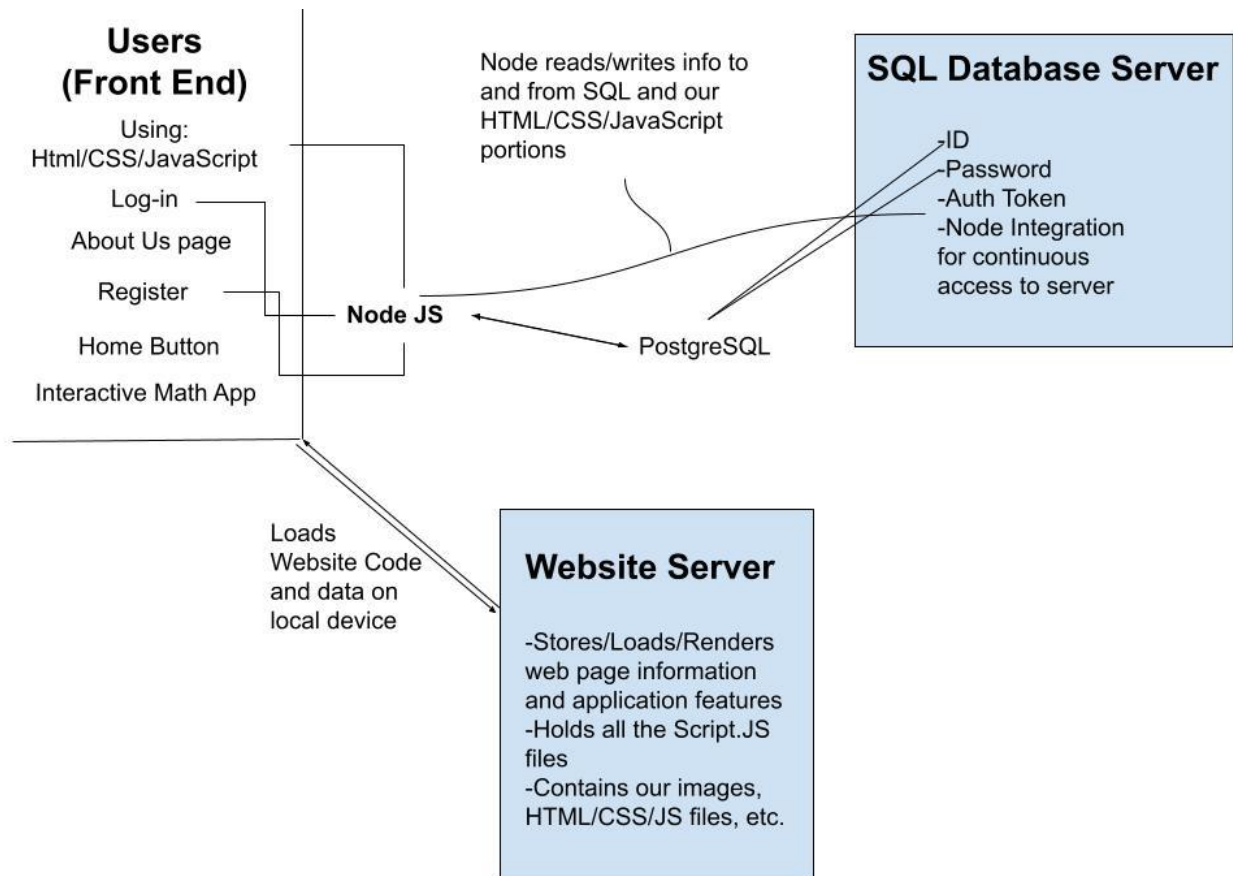**Project Milestone 4**

- **Revised List of Features**

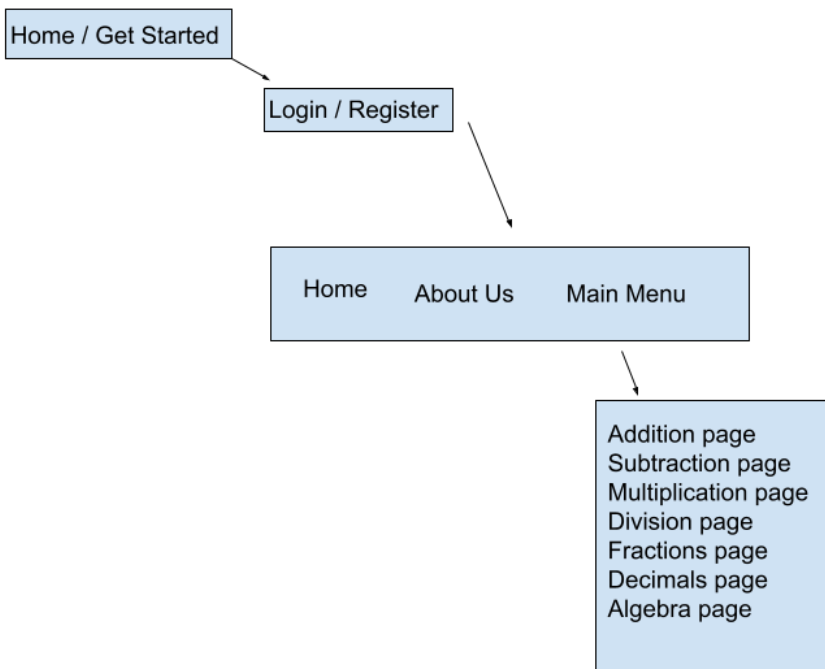This is an updated list of your FEATURES inventory (from Milestone 2).

- It is normal for feature lists to change during the course of a project.
- Some features may have been dropped. Some features may have been added.
- This revised features list should reflect these changes.
- This revised features list should identify the PRIORITY order of how the features will be developed.

TITLE	DESCRIPTION
Log-In Page	We currently have the page built with the right functionalities, we just need to take the information inputted by the users in the ID and Passwords box to contact the server and allow them to access the contents of the application.
Sign-Up Form	We are done with the creation of this, but we are in the process of making sure that this form is making Node js requests as we want to save it to our database.
Main Menu Page	We have updated this page so that it gives the user many options to choose from to practice different kinds of math. This gives the user the option to practice addition., subtraction, multiplication, division, fractions, decimals, and algebra. Each of these will generate problems with random numbers and give the correct solution when the user submits an answer. The bulk of the page is devoted to this, but they can also view an about us page or return to the home page using the nav-bar.
Home Page	We want to make impressionable yet concise pages that explain to our users the different information about our project and our application. For the expert users, we want to have them skip this process, but for new users who are curious about such information, we want to allow them to know more about us and our application! We have now made it so this is the first page a user must see, and it has a get started button that will then take them to the sign in page, where they also have the option to register.
Progress Report	We are currently in the process of implementing a progress report. This is a huge feature that we want to try to implement. This is because this application is designed for young kids and their parents, and the best way for busy parents to check on their kids' progress would be through their online-progress report! This report will be linked via a database to keep track of their children's progress and achievements for the times they've completed a module or performed well!

- Architecture Diagram

Users (Front End)

Using: Html/CSS/JavaScript

Log-in

About Us page

Register

Home Button

Interactive Math App

Node JS

Node reads/writes info to and from SQL and our HTML/CSS/JavaScript portions

PostgreSQL

SQL Database Server

>ID
-Password
-Auth Token
-Node Integration for continuous access to server

Loads Website Code and data on local device

Website Server

-Stores/Loads/Renders web page information and application features
-Holds all the Script.JS files
-Contains our images, HTML/CSS/JS files, etc.

- Front End Design

```
┌─────────────────────┐
│ Home / Get Started  │
└─────────────────────┘
           \
            \
         ┌──────────────────┐
         │ Login / Register │
         └──────────────────┘
                    \
                     \
                      \
         ┌──────────────────────────────────────┐
         │                                      │
         │  Home     About Us     Main Menu     │
         │                                      │
         └──────────────────────────────────────┘
                                    \
                                     \
                          ┌──────────────────────┐
                          │ Addition page        │
                          │ Subtraction page     │
                          │ Multiplication page  │
                          │ Division page        │
                          │ Fractions page       │
                          │ Decimals page        │
                          │ Algebra page         │
                          │                      │
                          └──────────────────────┘
```

- **Web Service Design**

Currently, we have no plans to use Web-Services, but we will incorporate this once we complete the initial prototype.

- **Database design**

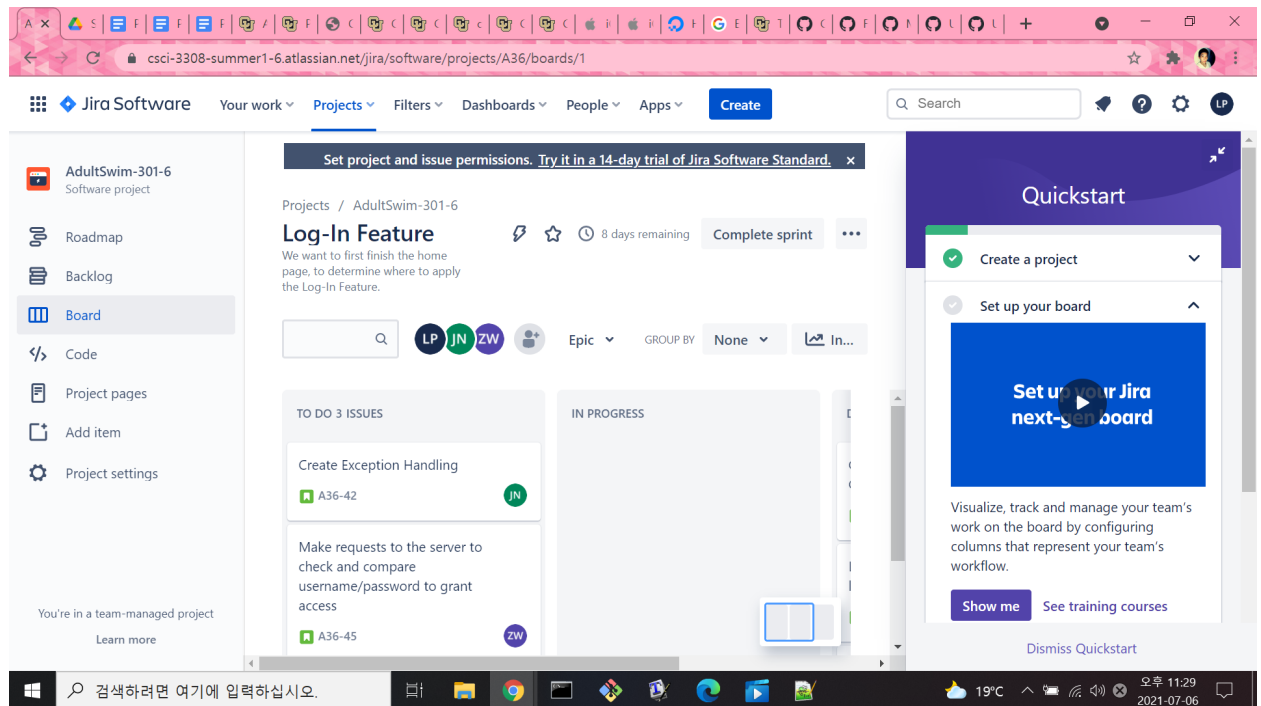We are using SQL for the database. This is in its early stages at the moment.

```
DROP TABLE IF EXISTS users CASCADE;
CREATE TABLE IF NOT EXISTS users(
    full_name VARCHAR(35),
    email_address VARCHAR(320), /* 320 characters is the max length of an email address */
    password VARCHAR(25),
    PRIMARY KEY(full_name)
);

DROP TABLE IF EXISTS user_problems CASCADE;
CREATE TABLE IF NOT EXISTS user_problems(
    problem_type VARCHAR(35),
    numeral_a INT,
    operator VARCHAR(1),
    numeral_b INT,
    answer INT,
    correct INT,  /* number of problems correct, to be incremented when user submits correct answer */
    attempted INT, /* number of problems attempted, to be incremented when user submits any answer */
    CONSTRAINT user_full_name FOREIGN KEY(full_name) REFERENCES users(full_name)
);
```

- **Individual Contributions**
  JIRA:

Tim Wilson - Updated Log, worked on the interactive page with other members of the group and made the algebra page work correctly
https://github.com/CSCI-3308-CU-Boulder/3308Summer21_300_6/commit/e37da0c74a0f67826cce76ab3679dfb0576d9df2

Logan Park - Worked on front end code, mostly focusing on making the home page and login and registration page corrections as well as some other UI features. https://github.com/CSCI-3308-CU-Boulder/3308Summer21_300_6/commit/a57ae4733e ed2380cf9174fe64d6cf10c865862b

Jon Noranbrock - Currently MIA, we don't know where he is.

Zach Wrubel - Worked on front end code and also worked on the interactive math page with some members of the group. Started database structure and get/post for the login page. https://github.com/CSCI-3308-CU-Boulder/3308Summer21_300_6/commit/fc74b774a16 16516a052465caa31bcb225ce6191

Alex Ojemann - Also worked on interactive math page, mostly on fixing and augmenting existing features on the page. https://github.com/CSCI-3308-CU-Boulder/3308Summer21_300_6/commit/acf978de05a 051e71ff6c07a76fed0a6e13850b5

Challenges

One of the challenges we have been facing is the fact that sprints are done in order, and because our sprints did not have much user stories (since we are so close to the end), and were actually allocated to an individual, it made it hard to actually figure out how to get things done within the deadlines. But we rectified this problem and since updated the JIRA to reflect better allocation of workload and has since made good progress.