

Release Summary

Heading:

Product name: Math Arena

Team name: Math Arena Team

Date: March 11, 2025

Key User stories and acceptance criteria:

1. **User Story:** As a student, I would like to have a variety of arithmetic practice problems to choose from
 - a. Should be able to select basic arithmetic problems to do, i.e. Addition, Subtraction, Multiplication, Division
 - b. The UI for selecting the problems should be clear and easy to understand
2. **User Story:** As a student, I would like to be able to adjust the difficulty of what I practice to optimally improve my skills
 - a. There should be a configuration for the type of problems users would like to use for addition & subtraction, multiplication, and division.
 - b. Configuration for addition & subtraction should be figuring the number of numbers,
3. **User Story:** As a student, I want my answers automatically validated to save time checking them manually
 - a. User will be told if their answer is correct or not
4. **User Story:** As a gamer, I would like to feel rewarded for getting problems correct
 - a. Add a score counter to keep track of the amount of problems the user has gotten correct compared to the amount they got incorrect
 - b. Everytime a problem is solved correctly the counter goes up
5. **User Story:** As a competitor, I would like to see my achievements
 - a. Implement a page that shows the user's overall statistics such as score,
 - b. Make awards that will be given whenever a user statistic reaches a certain threshold

Known Problems:

1. Accessing to pages: settings, flash, previous. These pages can be accessed by changing the name of the url. The settings page should not be accessed unless you are a signed-in user. The current issue this causes is that the user can change the theme of the background (which should not be allowed unless you

are a signed-in user). The flash or previous page should not be accessed anytime. If accessed to the flash or previous page, it might crash the web game.

2. Sign-up: We have not yet implemented a way so that we can verify that a “real” user is signing up to play the game. For now, our game allows anyone to create email accounts to play our game (which is not good in production). We need to update it with gmail verification or phone verification in the future.
3. Reset Password doesn’t currently check that the user is currently an authorized account in the database.
4. Progress page currently displays random data, it is not true data pulled from firebase.
5. Inputs to the configuration page for problems have error handling issues, it should error out when users enter some invalid inputs.

Product Backlog: Provide a list of the high priority user stories and bug fixes that can serve as a guide for a follow-on project.

Listing from High to Low priority user stories

1. As a user, I would like to make sure my account is secured so that no one access it without authorization
 - a. Ensure that the user has to verify first before being able to login
2. As a user, I would like to see my progress data and improvements for future use
 - a. Using real data rather than random generated data
3. As a competitor, I would like to show my performance to others
 - a. Creating user profile pages for each players, being able to share it to other players
4. As a gamer, I want to be able to customize my avatar so I can express myself
 - a. Creating custom avatar pics that are stored in firebase such that users can choose what avatar they want

Note: There will be no penalty for system failures during the project review that are due to known problems.

We have deployed our web page so that users can actually use it (still have some bugs to fix though)

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