

**App Name:** Matrix

**Specification** {Add-Standard-Easy: [title, etc.]}

We want to develop an app that allows the user to generate and print out pseudo randomized math questions as a customized math worksheet. The math questions will be at an elementary school level from various subtopics; such as addition, subtraction, multiplication, division, and least common multiple.

Each worksheet will be customizable; allowing users to choose their desired topic (and subtopic), difficulty level (easy, medium, or hard), number of questions, and the format of the question (horizontal or vertical view). Furthermore, users will have the ability to customize formatting details including worksheet title, instructor name, and font size. Once the user generates the worksheet, a single local PDF of the worksheet will be created, including an answer sheet on a separate page. The user will also have the ability to save and download the PDF. Finally, the app will store each user's information, such as personal details, user history (ex. parameters of previous worksheets created), and user scores (which can be inputted by the user).

Example UI on the next page.

Home Screen

**Matrix**

**A Math Worksheet Generator**


Username

Password

**Log in**

**Register**


**Back**

Profile 

**Start New Worksheet**

**User History**

**Back**

Profile 

**Choose Topic**

**Addition** ⓘ

**Subtraction** ⓘ

**Division** ⓘ

**Multiplication** ⓘ

**LCM** ⓘ


...

Will include:

- User details
- User scores
- User history

Each Topic will have an additional page with subtopics

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Profile 

**Addition**

**Standard** ⓘ Example Grade level


**Fraction** ⓘ

**Pictures** ⓘ

...

There will be difficulty options

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Profile 

**Easy** ⓘ For example, easy addition would have 1 number

**Medium** ⓘ

**Hard** ⓘ

**Back**

Profile 

**Worksheet Customization**

Title

Number of Questions

Font Size

Question Format

Horizontal  
Vertical

**Generate Worksheet**

**Preview**

**Download**

**Use Default Settings**