

# Software Architecture Document

Version 1.0

for

# Math Rush

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## **1.Introduction**

This SAD specifies the inner working of the application Math Rush. Math Rush is a web application software designed to facilitate the learning of addition, subtraction, multiplication and division. This document explains the architecture of the project by supplying the final version of the Architectural representation, Architectural requirements, Use Case, Logical view, Deployment Implementation view, process view, Deployment physical view, and quality insurance.

### **1.1 Purpose**

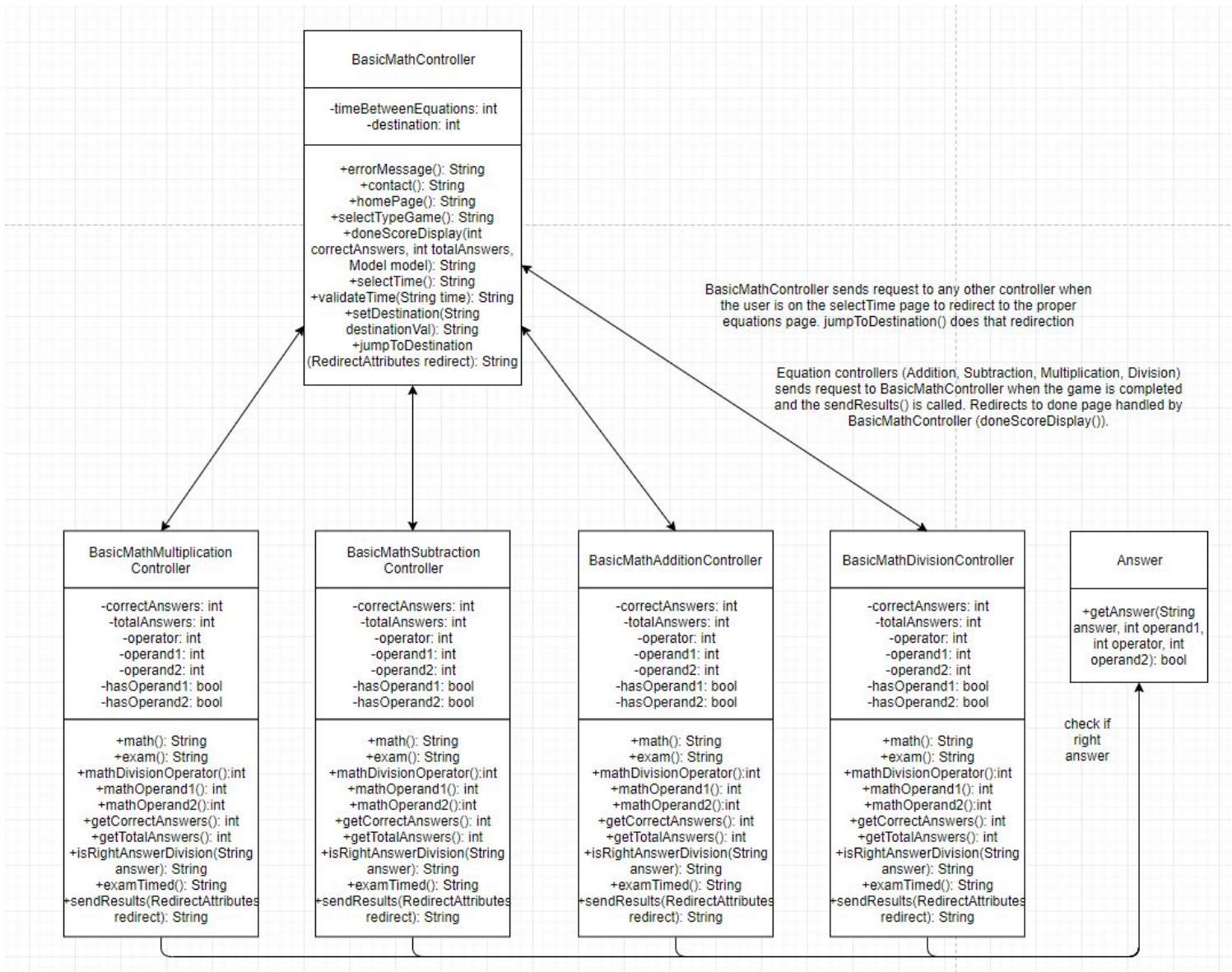
The purpose of Math Rush is to facilitate the learning of addition, subtraction, multiplication and division by providing a simple method to provide random operations to test the user's knowledge. Math Rush can also make someone learn how to do these operations with its integrated simulations that reproduce the operation and the steps to get to the answer. It can also test someone's rapidity at answering those questions, which can become useful when competitions are made as to who might know better their additions, subtractions, multiplications, and divisions.

### **1.2 Scope**

This document directly represents the implementation of the Book your Book project. All final architectural information on the system, at deployment, is mentioned. As the system is being maintained this document should be updated. This will ensure that the system remains easily maintainable, thus slowing down its aging process.

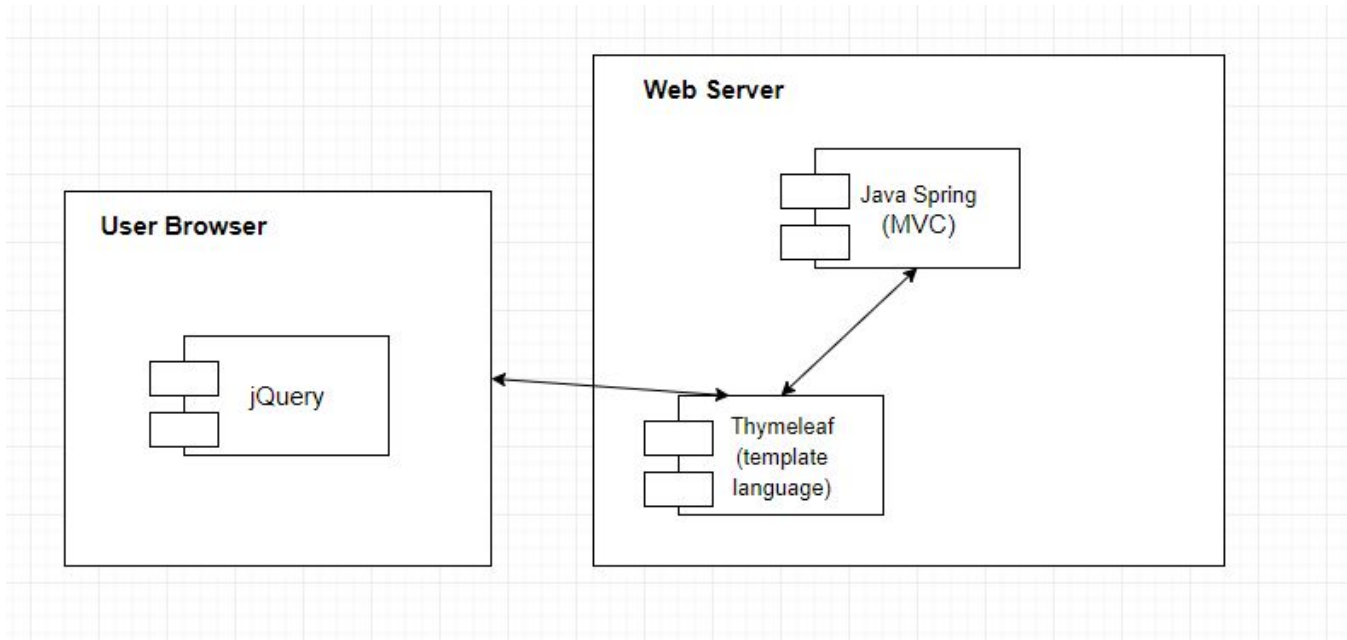
2. Architectural Representation

2.1 Logical View



1 to 1 relationship between the controllers.

2.2 Deployment (Physical) View



| Name         | Type                | Description   |
|--------------|---------------------|---|
| User Browser | web browser         | Used by a user to interpret web pages.  |
| Web Server   | Heroku Cloud Server | Heroku offers cloud services allowing developers to run web servers for free. |

Information on the different files

contact.html

Gives the information relating to myself to know me better and to be able to contact me.

error.html

This is the page that the user will get redirected to if there is any problem resolving a request sent to the web server (page not available, 404)

gameMathDone.html

After having answered X questions (defined in the html files, and verified on the backend before redirecting to this page), the user is directed to this page. This page offers basic statistics and useful information.

homePage.html

This is the first page that the user is supposed to fall on. It presents what this web site is all about.

lookingAhead.html

This page gives ideas to the user as to where to look to get more knowledge in the field of mathematics.

randomMath... .html

These pages are all for playing a certain operation, either division, addition, multiplication, or subtraction. There are three types: practice, exam, or timed exam. Practice offers the solution if the user gets it wrong by giving a simulation that shows what the process is to get to the answer. Exam simply evaluates the user and the score is being counted. There is no help whatsoever (so no simulation) in this mode. Very similar to the exam mode, there is the timed exam mode. In this mode, the user has limited time to answer the questions. If he/she gets overtime, then he/she loses a mark.

selectTime.html

This page is used between the actual display of the timed exam version of the game and the selection of the timed exam in the selectTypeGame page. It allows the user to select how much time will be allowed to pass before removing a mark because the question was answered too late.

selectTypeGame.html

This page allows the user to look at all the different types of modes the game can be played in.

Scenario #1: