

**R1** The application shall contain games to reinforce learning of mathematical concepts

**R1.1** A game shall be composed of a series of randomly generated mathematical problems for the user to solve

**R1.1.1** Each problem shall be composed of two operands and an operator

**R1.2** The operator used in generating a game's problems shall be selected by the user

**R1.2.1** The possible operators shall be addition, subtraction, multiplication and division

**R1.3** The games' operands shall be randomly generated

**R1.4** Each game shall have user-configurable parameters

**R1.4.1** The game duration shall be configurable by the user

**R1.4.2** The number of problems shall be configurable by the user

**R1.4.3** The range of numbers shall be configurable by the user

**R1.4.3.1** The specified range shall limit the operands when the operator is addition, subtraction or multiplication

**R1.4.3.2** The specified range shall limit the dividend when the game type is division

**R1.5** A game will end when the specified duration or number of questions has been met or if the game is manually ended by the user

**R2** The application shall implement a graphical user interface (GUI)

**R2.1** The application shall show a main menu on initial launch

**R2.1.1** The main menu shall contain buttons to user profile, games, and tutorials

**R2.2** The GUI shall contain a tutorial section

**R2.2.1** The tutorial screen shall display high-level tutorial categories for the user to choose from

**R2.2.2** The tutorial categories shall display drop-downs of their contained tutorials upon being tapped

**R2.2.3** The user shall be taken to the appropriate tutorial upon tapping a contained tutorial

**R2.2.3.1** The tutorial shall be a text-based activity with scrolling

**R2.2.3.2** The user shall be able to navigate back to other menus from the tutorial

**R2.3** The GUI shall contain a games section

**R2.3.1** The GUI shall provide a game select screen for the user to select from the application's games

**R2.3.1.1** The game select screen shall display categories for the user to choose from

**R2.3.1.2** The user shall be taken to the game options screen upon tapping a category

**R2.3.2** The GUI shall provide a game options screen for user to configure the game parameters

**R2.3.2.1** The game options screen shall display options for the user to manipulate game time duration

**R2.3.2.2** The game options screen shall display options for the user to specify the number of questions

**R2.3.2.3** The game options screen shall display options for the user to specify whether or not scores will be shown during the game

**R2.3.2.4** The user shall be taken to the appropriate game upon tapping a game start button

**R2.3.3** The GUI shall provide a way for the user to play the application's games

**R2.3.3.1** The in-game screens shall contain a button to end the current game

**R2.4** The GUI shall contain a section for viewing the user's statistics

**R2.4.1** The statistics screen shall display high-level statistics categories for the user to view

**R2.4.1.1** The high-level categories shall be displayed in a scrollable, horizontal bar

**R2.4.2** The information within each category shall be presented graphically

**R3** Tutorial

**R4** User profile

**R5** Feedback