**GoToZero**

**Programming Language**

JAVA

**UI library**

JAVA FX

**Game Name:**

GoToZero

**Goal of the Game:**

The goal of the game is through the mathematical operations addition and subtraction to reach a score of 0.

**Objects:**

* **Background**
* Background menu – background image for menu
* Background game – background image for game
  1. **Menu**

The Main menu gives the player the following options:

One Player - starts the game with one player

Two Players - starts the game with two players (TO DO)

Help – describes the goal of the game and controls of the player (TO DO)

HighScore – shows high-scores (TO DO)

Quit – exits the game

* 1. **Falling objects**

Falling object number – falling numbers with random value

Falling object sign – falling mathematic signs corresponding to the mathematical operations of addition, subtraction, multiplication and division(TO DO)

Falling object symbol – falling symbols (like $, %, #) which have an unpredictable outcome for the score(TO DO)

* 1. **Main Player**

Object controlled by the player, representing a female ninja who runs side to side and collects the falling objects

* 1. **Static Objects**

Score – object, which shows current score

Timer – object, which shows time elapsed since the game has begun (TO DO)

Mathematical operations – object, which show current operations which changed randomly after a few second.

* 1. **Other Objects**

Pause – the player can pause the game at any time with the button Pause(TO DO)

Exit – the player can exit the game at any time with the button Exit(TO DO)

**GamePlay:**

When the player starts the game, a game menu is shows with options for One Player, Two Player, Help, High Scores, and Quit

* 1. **Select button One Player**

- starts a new instance of the game with the background game image

- a random three digit number is shown on the screen, which is the score the player has to reach

- starts the game timer

- the mathematical operations start changes

- a random number of falling objects begin their fall from the top of the screen

- each object has its own individual “fall” lane and speed

- the player(aka the ninja) is spawned at the bottom of the screen

* 1. **End Of The Game**

- the game ends when the current score reaches 0

- the timer is stopped and the time elapsed is written on the screen(TO DO)

- the player’s score is compared to the High Scores(TO DO)

- the player can enter a username, if his score is within the top 5(TO DO)

- through a back button, the player can return to the Main Menu(TO DO)

* 1. **Help**

- shows the game goal and typical gameplay

* 1. **Highscore**

- shows the top 5 scores the their corresponding user names

* 1. **Quit**

- Exits the game

* 1. **Pause** (TO DO)

- the player can pause the game at any point, but the falling objects become hidden while the game is paused.

## TO DO in next version

* 1. Support Two players
  2. Add Help screen with description of the controls and game goal
  3. Add HighScore screen display the Top 5 best players
  4. Add HighScore logic, compare the current score of the player with the HighScore result and display in HighScore screen if it is in Top 5
  5. Add symbols signs as falling object to mess the current score of the player when catch them.
  6. Add Timer in the game which need to start with Zero and continue while the Player Go to Zero.
  7. Add HighScore screen with input field to enter the name of the player after game over.
  8. Add Pause menu of the game with button “P” or Esc. When the player release the button the game is pausing and main menu is displayed with Resume, Help and Quit. Buttons.
  9. Add different Avatars of the player “girl”, “boy” or “ninja” and player can choose one of them.