## Introduction:

This program is an implementation of the classic Snake game written with Java and JavaFX. The game follows the usual rules of Snake: eat food to gain length, and if your head (the leading pixel of the snake) runs into its body or the wall, you die. We added additional options by including an Options Menu and a Leaderboard. The Leaderboard includes the name, score, and date of the top ten players. The Options Menu allows the player to choose from several options for the speed of the snake and the size of the map.

## Background & Motivation

Team Jormungandr quickly decided we wanted to program a game, preferably a simple and well known one. After some discussion and considering options such as Pac-Man and a game similar to popular mobile game, Doodle Jump, we decided on the Snake game. The game title, Jörmungandr, is inspired by the mythological Norse sea serpent, which was said to be so large it circled the world.
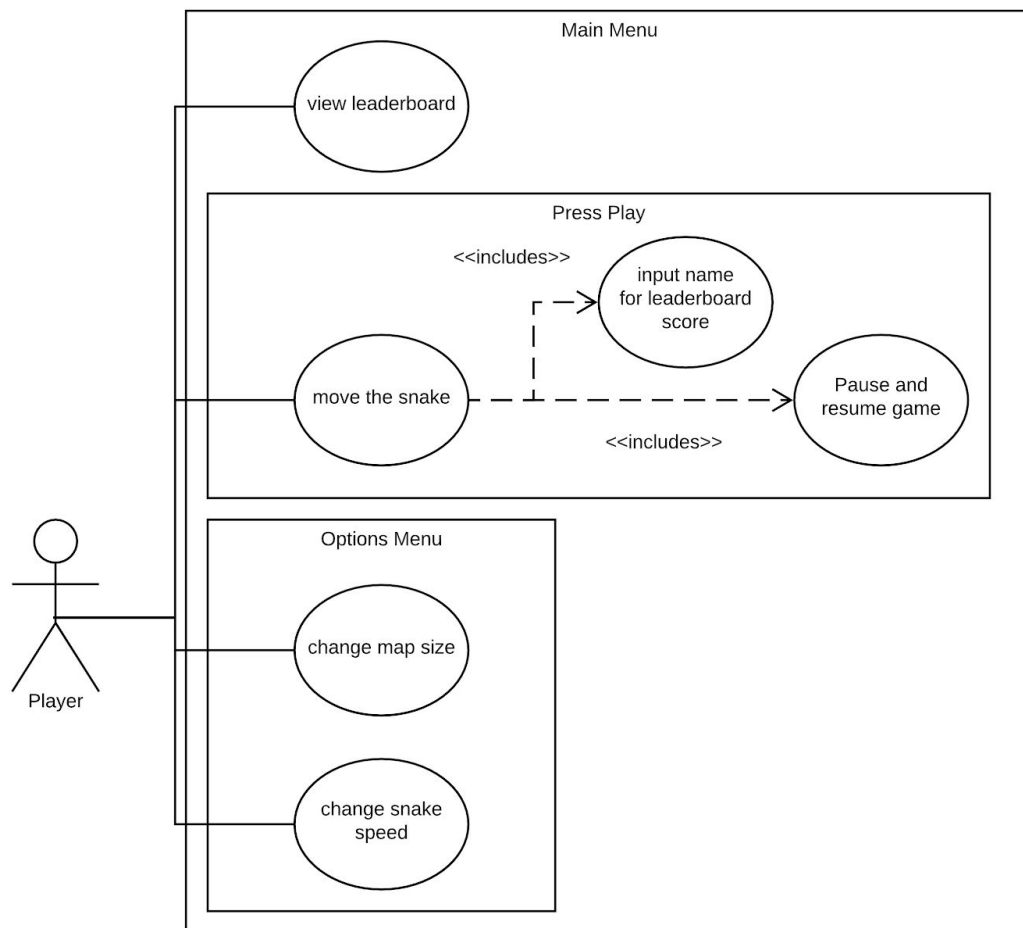
## Instructions

The program has four primary screens: the main menu, the game screen, the Options Menu, and the Leaderboard. The main menu provides a concise explanation and instructions about the program.

To start the game, press the "Play" button on the main menu. Pressing this button will start the game. Controlling the movement of the snake is as simple as using the w-a-s-d keys for directions of up-left-down-right, respectively. The game instructions are as follows: Collect food by moving the snake into the food to elongate your snake, thus increasing your score. There is a pause button below the game screen for the player's convenience. Pressing this button will result in the game pausing and a resume button appearing to resume playing. Avoid moving the snake into itself or the borders of the game screen, as doing so will result in the snake dying and the game being over. Once the game is over, a death message will appear, prompting the player to press the "Back to Main Menu!" button. Pressing this button will summon an input for the player to attach their name to their score for the leaderboard. Additionally, the "Back to Main Menu!" button can be pressed pre-snake-death if the player so chooses. If no name is input, the name for the score will default to "Anonymous."

The Options Menu allows the user to change the the size of the game "map" and the speed of the snake movement. These features can be changed using the provided dropdown menus for each feature. To apply the changes, the user must hit the "All set!" button, before returning to the main menu.

The Leaderboard features a list of the top ten scores achieved in the game. Accompanying the scores are the name of the player who achieved the score and the date in which they achieved it.