Phase 0:

Name of Team: We are Groots				
First name: Ethan	**Last name:** Mackay	**York Email:** ewmackay@my.yorku.ca	**Lecture Section:** M	**Lab Section:** 1
First name: Sebastian	**Last name:** Landry	**York Email:** landry03@my.yorku.ca	**Lecture Section:** M	**Lab Section:** 4
First name: Pallob	**Last name:** Ghosh	**York Email:** pallob07@my.yorku.ca	**Lecture Section:** M	**Lab Section:** 1
Project Title: Project 2048				
Project Description: 2048 is an already established game. The game consists of a 4x4 grid with numbered tiles that the user adds together by swiping in one of four directions. In order to combine the tiles they have to be the same number. Squares of either 2 or 4 are added to the board after every swipe. The goal of the game is to receive a high number on the tiles. High scores will be saved in a file. We will consider adding an additional API (weather, stocks, etc.) as we get further into the Project and have a better understanding of time. https://github.com/Can1Cyp2/2048				

(https://www.researchgate.net/figure/A-state-in-the-game-2048-in-which-a-tile-of-value-8192-has-been-reached_fig1_324690855)

Phase 1:

Functional Requirements:

- The objective is to combine the same numbered tiles to reach a high score.
- Users can set a point goal before they start a game, or they can play default mode(2048).
- The user can access this game, “2048”, on an android device through android studio.
- The application is designed for single player use. (- Sebastian)

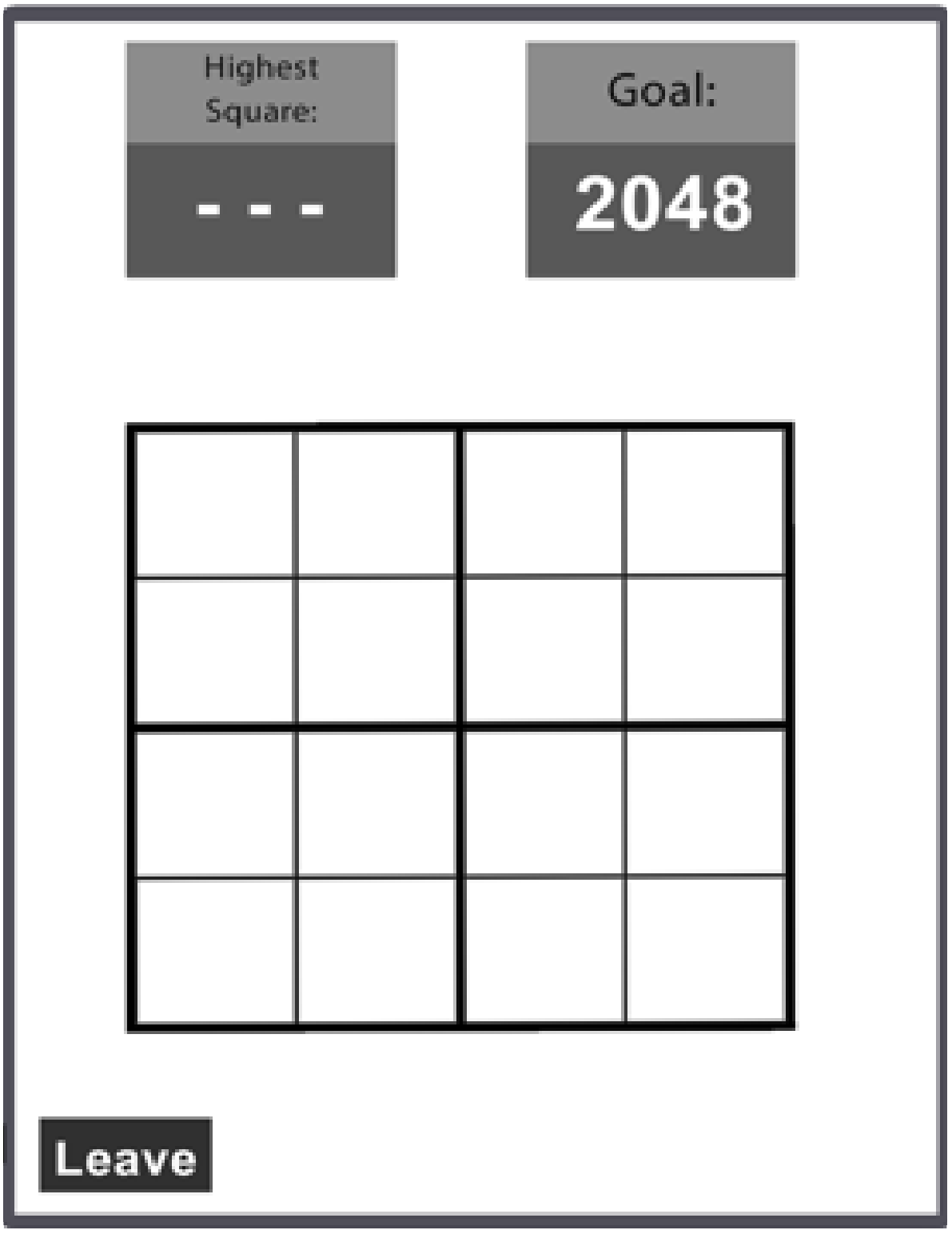
- The game board will consist of a grid of 4 by 4 with the help of 2D Array.
- A number 2 or 4 will appear randomly within the grid as we move along with each turn of the game.
- A scoreboard will be displayed above/below the game board for the player to keep track of their score as they move along the grid.
- A winner message will be displayed at the end when the customised/default(2048) score is reached. (- Pallob)

- The user has the option to restart/reset a board whenever they choose to through the use of a reset button
- A high scores menu will keep track of the top scores achieved on the device
- A main menu will be the first thing displayed to the user upon opening the app, consisting of a “Play Game” button, as well as a button for the “High Scores” menu

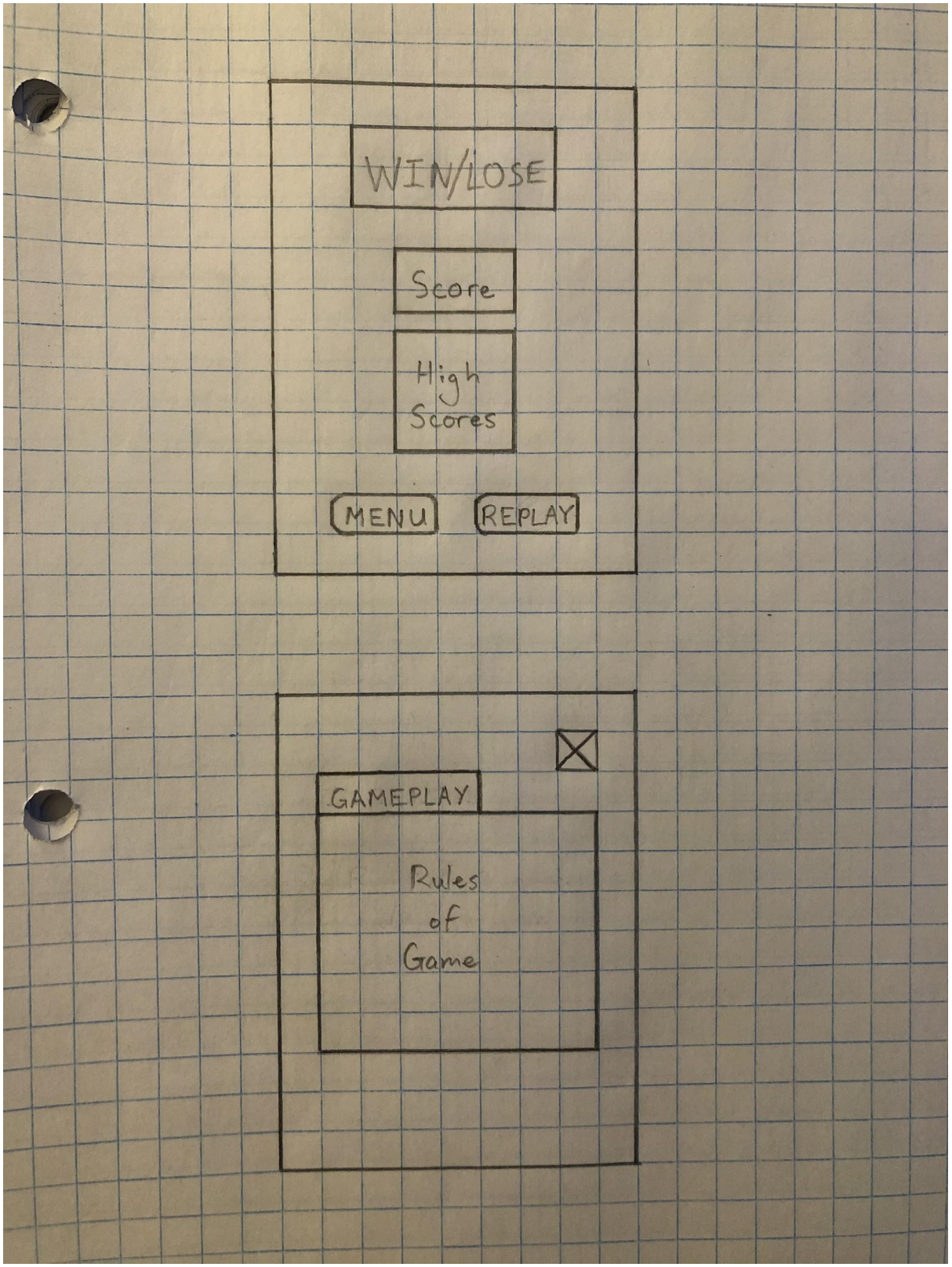
- Ethan

Phase 2:

- Sebastian

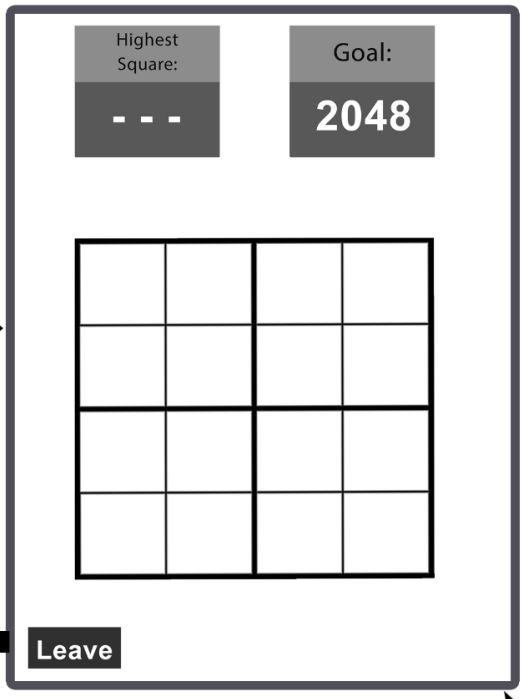


- Sebastian


WIN/LOSE
Score
High Scores
MENU
REPLAY
GAMEPLAY
Rules of Game

- Ethan

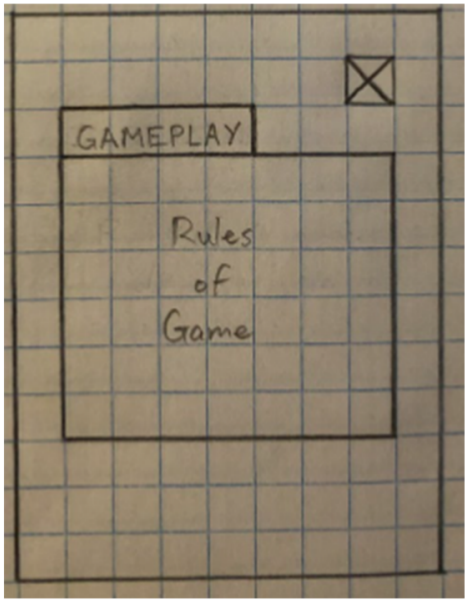
Main Screen



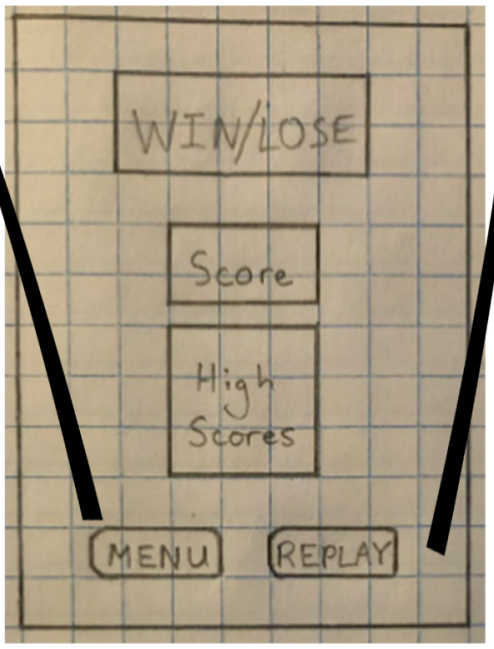
Game Screen

(a pop-up appears if the instructions button is clicked)

(When the user wins or loses this screen is shown with the accompanying text)

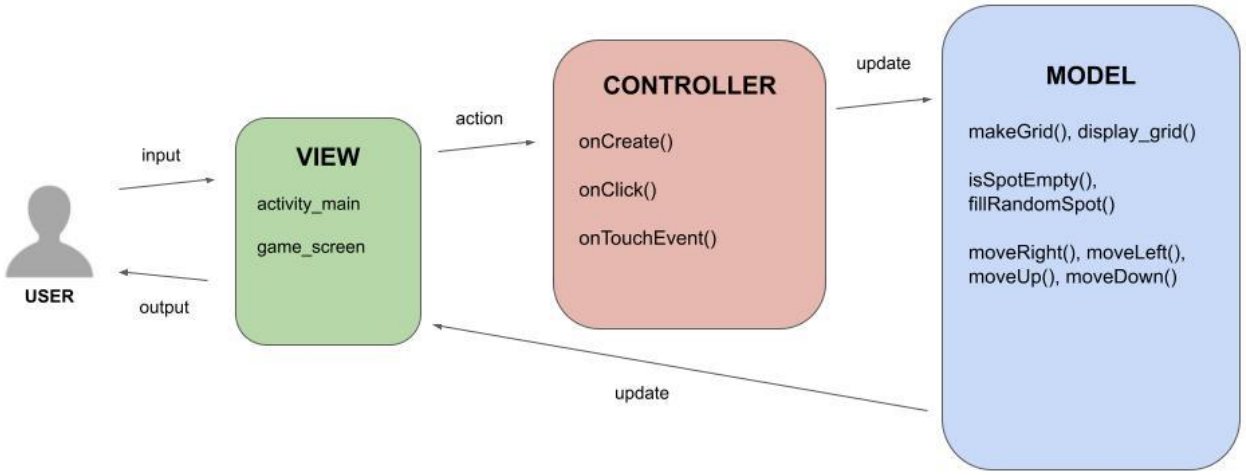


Instructions Screen



Win/Loss Screen

Phase 3


USER
input
output
VIEW
activity_main
game_screen
action
CONTROLLER
onCreate()
onClick()
onTouchEvent()
update
MODEL
makeGrid(), display_grid()
isSpotEmpty(),
fillRandomSpot()
moveRight(), moveLeft(),
moveUp(), moveDown()
update