Space Invaders Remake

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Introduction

For our final Software Design project, we wanted to take a game that many of us have played as children and reproduce it in JavaFX. For this reason, we want to recreate Space Invaders, which was an arcade game made in the 1970's where the user controls a spaceship at the bottom of the screen which is used to shoot and defend from descending aliens which can shoot and attack the user. The main objective of the game is to simply shoot these 'waves' of aliens down and prevent them from reaching the bottom of the screen, but this could branch out to levels or sequences of increasing difficulty, depending on how far we get in the project.

Features to Implement

- (KEY) User controls spaceship and can shoot/move
    - (Time Permitting) Possibly implementing multiple ways to control
- (KEY) One working, descending alien wave to defend
- (KEY) Defense blocks which absorb a number of shots from aliens
    - (Time Permitting) A later implementation would have shots damage sections of the blocks
- (2ND TIER) Multiple types of enemies in the game
    - (Time Permitting) Different types of attacks for enemy types
- (2ND TIER/Time Permitting) Score System
- (Time Permitting) Multiple waves of increasing difficulty or bosses
- (Time Permitting) Power-Ups (Time-Freeze/Temporary Gun Boost)
- (Unlikely/Time Permitting) Co-op Mode!
- (Time Permitting) Control section in menu that gives user the controls for the game

Design Pattern

We plan on using a model-view-control design pattern to implement this game. We plan on having different classes that implement different objects in the game such as the spaceship, the ufos, and the barriers. We will most likely end up using inheritance from one superclass to create these objects. Each object will then implement an interface so that they have different functions that they do not inherit from the superclass.

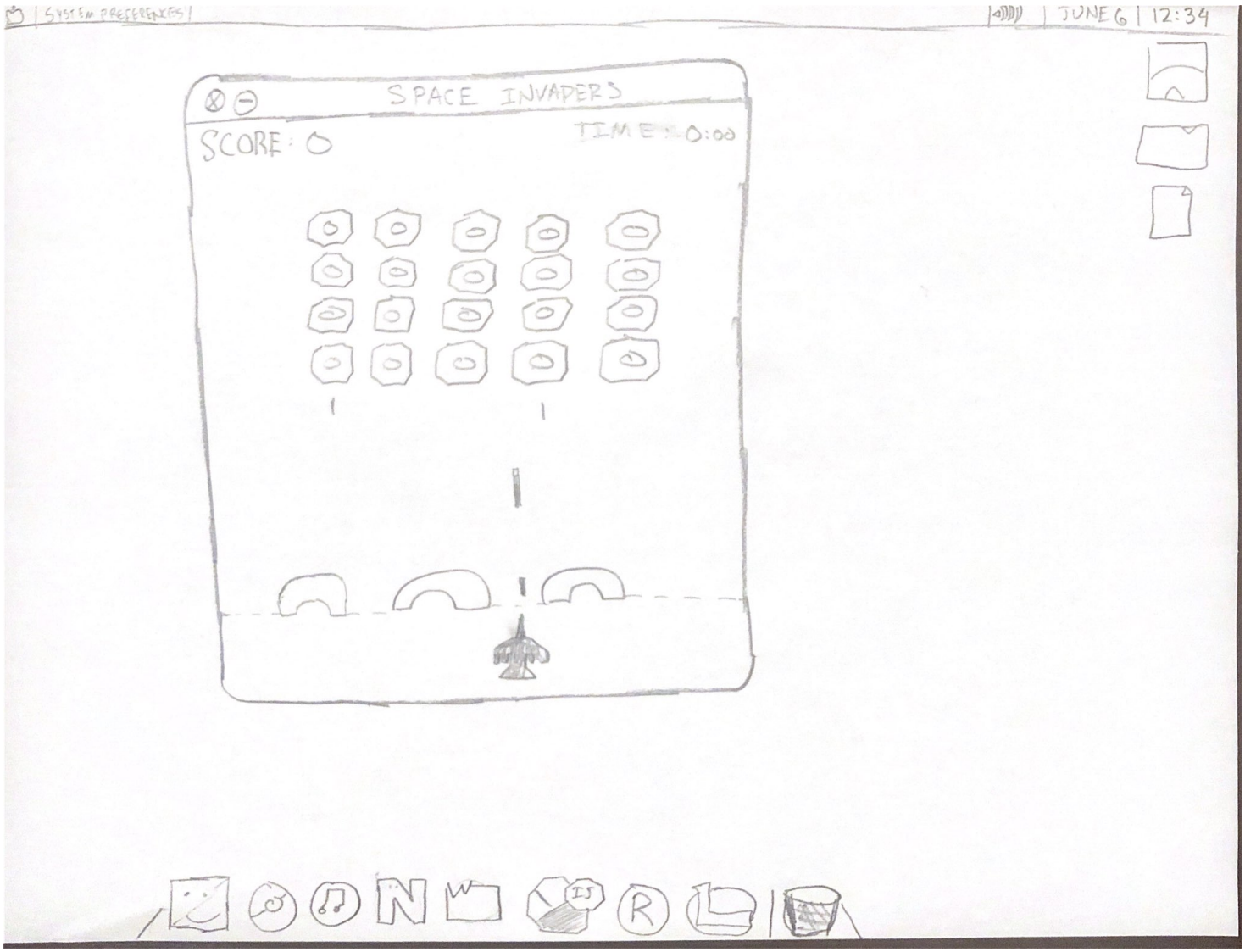
Roles

Visual Lead - *Paul Reich* - Responsible for creating the view of our game. How will things look? A very large part of this will be learning how to visually represent objects, shots, defense blocks, possibly the score and menu.

Visual/Back-End Bridge - *Nick Reeves* - Must get a basic understanding on how the back-end of the project works as well as the visual aspects so we can have a smooth process of using our objects and events which we develop in the back-end within our visual environment.

(2x) Back-End Interactions - *Peter Keel/Ben Schwartz* - Designing and creating how the game will operate, including how we will represent location and movement on the screen in terms of coordinates, which actions are permitted, creating objects and methods within these objects that allow the back-end of our project to connect smoothly with the visual aspects.

Of course, each group member should also feel obliged to work on any given part of the project and should end up with a solid understanding of each aspect of the program at the culmination of our course.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SPACE INVADERS
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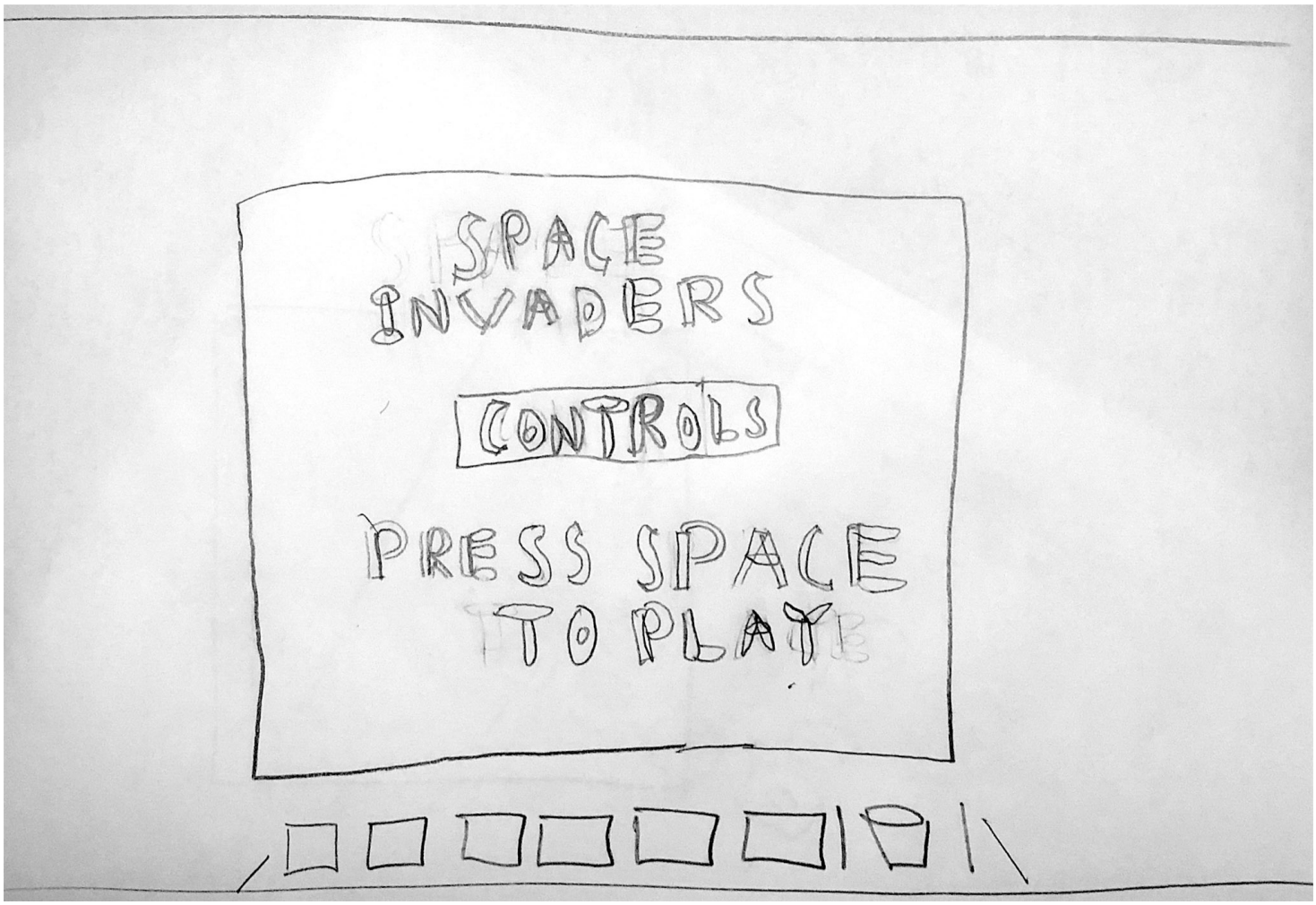
SPACE
INVADERS
CONTROLS
PRESS SPACE
TO PLAY