TankAttack - Design

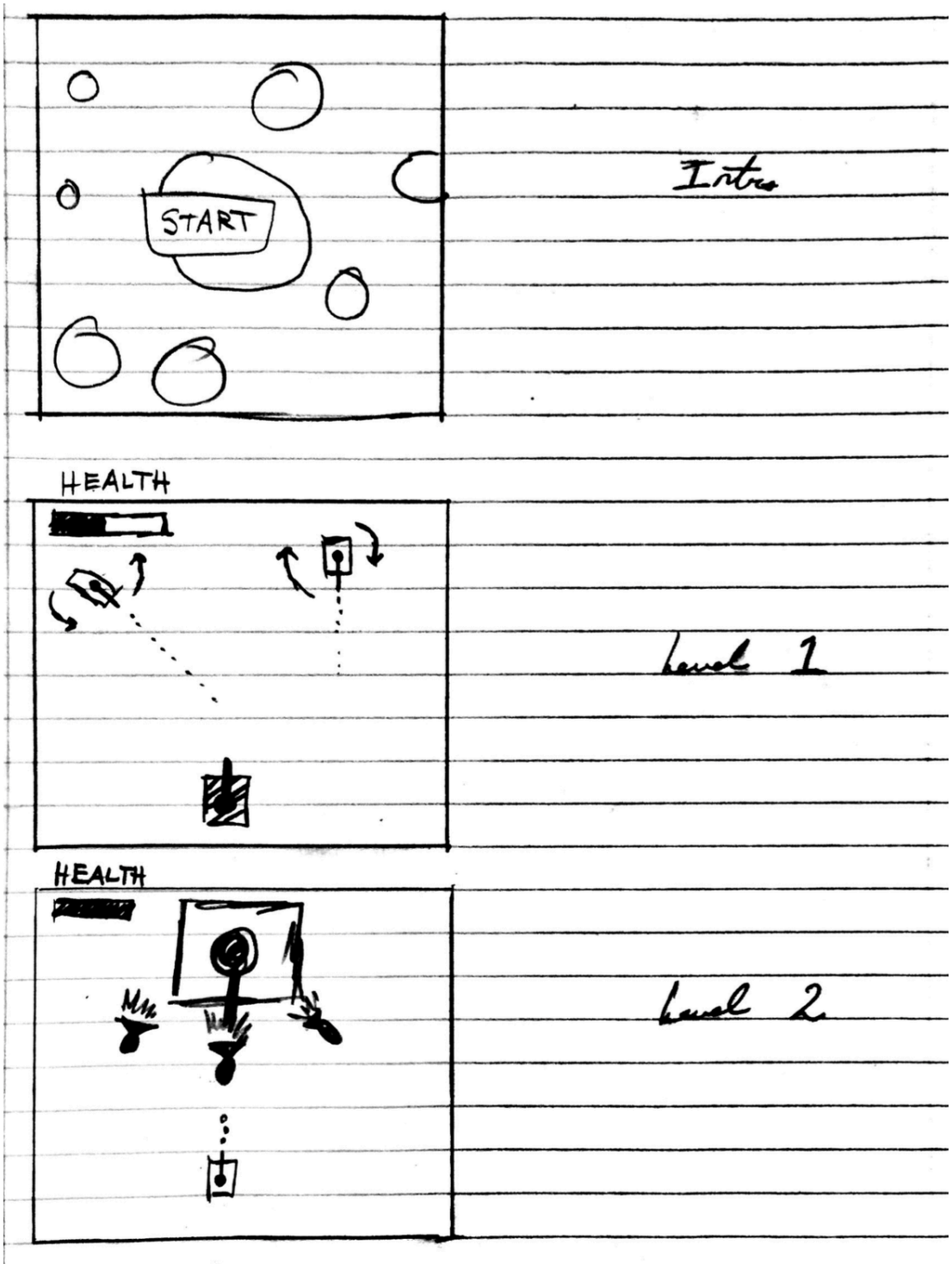
by Ruslan Ardashev ('15)

CS 308
Assignment 1, Part 1

Table Of Contents

VISION 2
GENRE 3
TITLE 3
GOAL 3
BASIC MECHANICS 3
HOW LEVELS DIFFER 3
IMPLEMENTATION DETAILS 4
  ROLE OF "TankAttack" – MAIN CLASS 4
  WORLDS 4
  SPRITES 4

VISION



GENRE

The genre of the game is "Top-Down Shooter."

TITLE

"TankAttack" -- The title originates from my obsession with a game called "Tanks" as a little boy, and also stems from my continued interest in the first popular iPhone game, "Tanks" (creative title). I figured "TankAttack" is at least marginally more exciting than "Tanks."

GOAL

Destroy all enemy tanks.

BASIC MECHANICS

CONTROLS

UP, DOWN, LEFT, RIGHT to move about.
SPACE to fire.

CHEATS

Pressing "H" freezes all opponent tanks.
Pressing "F" restores your health.

HOW LEVELS DIFFER

Level 1

Defeat all rogue tanks in Level 1. These are novices that have their gears stuck and / or do not really know how to operate a tank.

Level 2

Defeat the boss tank. Not only does he possess a very powerful, large tank, but is intelligent and skilled. Oh, and his tank can fire three K.O. missiles at once.

IMPLEMENTATION DETAILS

The following is a high-level description of how the game will be implemented:

ROLE OF "TankAttack" – MAIN CLASS

The *TankAttack* class which extends a JavaFX2 Application will be primarily responsible for:

- Switching Levels and anything to do with the stage
- Creating instances of Worlds / Initializing

TankAttack has important, public, static variables such as:

- Frames per second
- Game width
- Game height

WORLDS

Worlds are responsible for:

- Animation
- Containing an ArrayList<Sprite>
- Updating on each cycle

Two subclasses of World:

- FirstWorld
- SecondWorld

World inherits from nothing, and is an abstract class.

SPRITES

Three subclasses of Sprite (currently as of this writing):

- Player
- Bullet
- Enemy

Sprite inherits from the JavaFX2 ImageView and is an abstract class.