**Software Requirements Specification**

**For**

**Group 1 Space Invaders**

**Prepared by: Tenzin Wangchuk**

**Daniel Yuen**

**Samanta Chowdhury**

**Ahmed Ahmed**

**Ferdinand Tettey**

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CISC 3140-ET6 Design & Implementation

Group 1 Specifications

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**Revision History**

**Name Date Reason For Changes**

Tenzin Wangchuk 10/9/18 Updated basic outline and rules of the game

Samanta Chowdhury 10/26/18 Added table of contents

Ferdinand Tettey 10/26/18 Updated Section 1.1

Daniel Yuen 10/30/18 Added more content on graphics

Ahmed Ahmed 10/30/18 Updated 6.3

Tenzin Wangchuk 11/5/18 Updated table of contents

Added header number

Updated section 2.1

Daniel Yuen 11/19/18 Updated table of contents

Added revision history section,

Changed “Overview” to “Introduction”

Tenzin Wangchuk 11/20/18 Added game states to graphics

Samanta Chowdhury 11/22/18 Updated Game Assets, Sprites added

Tenzin Wangchuk 11/25/18 Removed “spaces” in revision history

Daniel Yuen 11/26/18 Updated game asset table layout, character

points distribution.

Updated section 8-Phaser CE

Ahmed Ahmed 12/3/18 Removed eraser from projectiles and enemy

movement from list of sounds played

Daniel Yuen 12/3/18 Updated Sections 2.2, 3, 4, 5, 6

**1- Introduction**

**1.1-Purpose**  
The objective of this project is to create a game that is a version of Space Invaders. The original Space Invaders is a Japanese shooting video game developed by tomohiro and released in 1978 by Taito. The creation of this game was inspired by the War of the World and Star Wars.

**1.2-Reference**

Accessing SVN Repository

URL: https://svn.riouxsvn.com/invadergame

**2 -Game Outline**

**2.1- Main Menu:**

* + The game begins with the Main Menu. The “Start Game” prompt (center screen) along with a “Instructions” and “Volume” option below it.
  + Once the player chooses “Start Game”, the game begins with the player positioned in the bottom-center of the screen.

**2.2- Gameplay:**

* + The player will score points by attacking the enemies and avoiding the enemies attacks.
  + Each time the player is hit, the enemies are frozen and player will lose one life.
  + When all enemies are destroyed the screen is cleared and you are prompted to a new screen with “You Win”.
  + Player can earn points by attacking the enemies and extra points by attacking the bonus enemy..

**2.3- Game Over:**

Once the player is hit by the enemy three times and loses all available lives or after the lowest enemy reaches the horizontal axis just before the barriers.

**2.4- Point Distribution:** Player can gain points from attacking enemies and point distribution depends on the enemy:

* + - Enemy on the First Row: 30 Points
    - Enemy on the Second Row: 25 Points
    - Enemy on the Third Row: 20 Points
    - Enemy on the Fourth Row: 15 Points
    - Bonus Enemy: 50 Points

**2.5- Additional Features:**

* + Current Game Score
  + Count of Lives

**3- Game Controls**

At the start screen the player start the game by pressing “Enter”. The player can also press “V” to toggle volume and “N” to view the instruction for the game. Once the player has started the game, the “left” and “right” arrows on the keyboard can be used to move the player left or right on the screen. The “Space” key on the keyboard will allow the player to shoot projectiles towards the enemies.

**4- Game Assets**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Player** | **Projectiles** | **Lives** | **Explosion** | **Faculty Bullet** | **Background** | **Barrier** |
|  |  |  |  |  |  |  |

|  |  |  |
| --- | --- | --- |
| **Blood Splatter** | **Volume On** | **Volume Off** |
| **https://lh5.googleusercontent.com/2Dnpdsr2S_3TjaAJZGk_S6Zdpo6TT80KOuLibbcBAytHeTMceYprDWLVxLWxmk0qQhxNEEWLI3i71Ht_lh4gHjKryZC67jEAdhI8Ybt46rQzn8sQaiN3UEXkZpwtnZhirTAg37NT** | **https://lh3.googleusercontent.com/-ItWlf-qpjv06bY6J4pldKt_WM_1xhr6ak54Z2tQC4IwshB2l83ansWmK8ye-vRollWthCWzwkYePLp_1pA4OoxTcvEp_aH2YtGLrwccNQLJoqnqNzZmLC4kOcOEiECM0mCjlKRD** | **https://lh5.googleusercontent.com/i7b60F51fAE92KGh177siqXm7lKiCJEJ049AcgfqkE4lqujvydzFjF645SZX6e-VEOqOrrIXUPqarFsB0Zc74k7jWiqVEGy71B90y-RfzvXWSipF2udYkT9T8ZkUg7u2BLcKyy8V** |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Enemies** | **Trustee** | **Row 1** | **Row 2** | **Row 3** | **Row 4** |
| **Points** | **50** | **30** | **25** | **20** | **15** |

**5- Game Rules**

* All new games start players with 3 lives displayed by 3 icons on the top left of the screen.
* A player’s current score is displayed on the top right of the screen.
* Player can only move left and right.
* There is a small area of boundary on the left and right side of the screen (neither player nor enemy can cross).
* When a player starts (or dies) they begin at the bottom center of the screen and all projectiles are removed.
* Player can only shoot projectile upwards one at a time (only one projectile can be present on the screen).
* The player must attack all the enemies and avoid the enemies’ attacks without losing all available lives.
* Each hit by the enemy would cost the player one life.
* There are 11 barriers (protect the player against the enemies projectiles) starting right above the horizontal axis of the player.
* These barriers completely disappear when the lowest enemy reaches the horizontal axis just above it.
* These barriers can be destroyed in 1 hit, by the player or enemy.
* To win the game the player must kill all enemies.
* When attacked, each enemy starting from the lowest row is worth 15 points, 20 points, 25 points, and 30 points.
* There will have a bonus enemy in which when attacked, the player will earn 50 points.

**6- Graphics**

* Screen Resolution: 800x600
* Sounds included for:
  + Game Over screen
  + Background music during gameplay
  + Winning the Game
  + Enemy sounds
    - Attack by an Enemy- unique sound played
    - Enemy hit
      * Regular Enemy
      * Special Enemy(exploding trustee) -Wilhelm Scream sound
* Gameplay sprites:
  + Playable Character - Student
  + Enemies - Administrators
  + Bonus Enemy - Trustee
  + Projectiles - Image of pencil
  + Explosions
  + Barriers
  + Blood Splatter
* Game States
  + Music During Gameplay- unique sound played
  + Main Menu- no sound played
  + Game Over- unique sound played
  + Winning the Game- Unique sound played

**7- Communication**

* In order for the members of the group to communicate with each other, whatsapp and slack has been used.

**8- Programming Language**

* To develop this project, the languages being used are HTML, CSS and JavaScript.
* Phaser CE framework for JavaScript will be used.