# Pseudocode

We decided to create some Pseudocode for the main functions of the game in order to help better understand what skills would be required to achieve our vision. It will also help outside parties to understand the source code along with the comments that are contained within the code itself. Please see ‘Pseudocode’ section of the appendices document for pseudocode that was created when planning for implementing additional features but was removed.

## damage pseudocode

### player gets hit

If player is hit by enemy attack  
 corresponding value of damage is removed from health bar   
else if value of damage is greater than value of health bar  
 player dies

### Player dies

If player dies   
 game is over

If game is over  
 game over screen pops up  
 gives player option to use regeneration ability if purchased  
 allows player to restart

### Enemy gets hit

If player hits enemy with attack  
 enemy takes damage

If damage value is greater than enemy health  
 enemy dies  
 player gets points

## Points pseudocode

### level completion points

If player completes level  
 Certain amount of points are awarded

### Bonus points

If player gets combos  
 points are awarded based on multipliers

Points are awarded based on the average position of infection meter

## Player pseudocode

### player movement

If w key is pressed   
 player character moves up to top of screen/back of map

If a key is pressed  
 player character moves to left of screen

If s key is pressed  
 player character moves to bottom of screen/front of map

If d key is pressed  
 player character moves to right of screen

### Player combat

If right mouse button is clicked  
 minigun fires bullets

If left mouse button is clicked  
 special weapon is fired/pickup ability is used

If r key is pressed   
 minigun will reload

### Player direction

If mouse is moved left   
 player character will rotate to the left

If mouse is moved to the right  
 player character will rotate to the right

## enemy pseudocode

### enemy type 1(melee) behaviour

If player is not in the vicinity of enemy   
 charge towards player’s position  
else if player is in vicinity  
 use melee attack to cause damage to player

### enemy type 2 (martyr) behaviour

If player is not in the vicinity of enemy   
 slowly make way towards player’s position  
else if player is in vicinity  
 explode to cause damage to player

If friendly cells have spawned  
 slowly make way to friendly cells’ positions  
else if friendly cells are in enemy vicinity  
 explode to cause damage

### enemy type 3 (shooter) behaviour

If player is not in vicinity of enemy  
 begin firing bullets at player’s position  
else if player is in vicinity  
 retreat away from player and begin firing at player’s position once far enough away

### enemy type 4 (brute) behaviour

If player is not in vicinity of enemy  
 slowly make way to player’s position  
else if player is in vicinity  
 use ground pound attack to cause damage

## Friendly cells pseudocode

### Friendly cells behaviour

If no enemies in vicinity of friendly cell  
 remain idle  
else if enemies in vicinity of player character  
 attack closest enemies to player  
else if enemies in vicinity of friendly cell  
 attack closest enemies

## Power-ups/weapons pickups pseudocode

### picking up power-ups/weapons

If f key is pressed near power-up/weapon  
 player picks up and stores power-up/weapon

If player has power-up/weapon stored and f is pressed over new power-up  
 power-up/weapon will not be switched