

CS 195 Practicum:

Icannhas Inc. Internship

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2011-46060

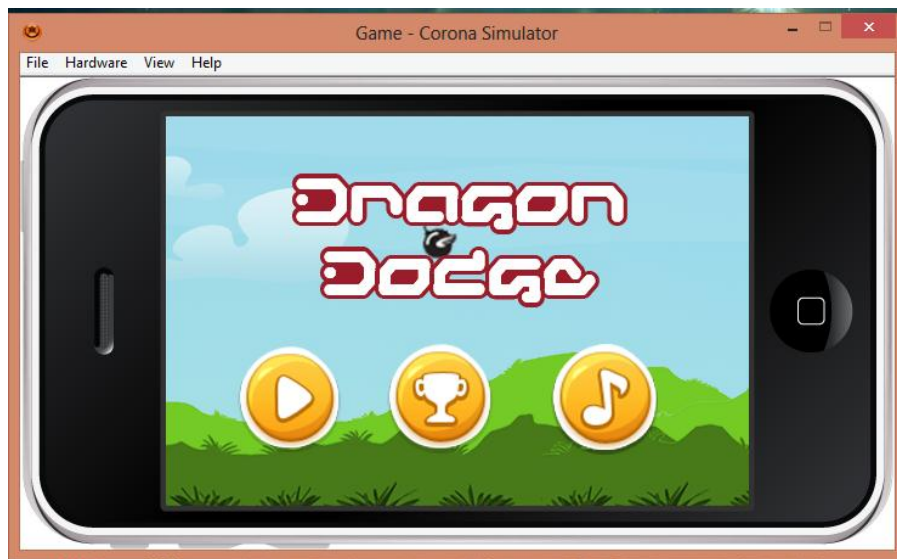
My internship at Icannhas Inc. focused on game development and programming. We learned to use the mobile development framework Corona and Lua to create cross platform mobile games and Unity3D for 2d and 3d games.

Game Development in Corona SDK

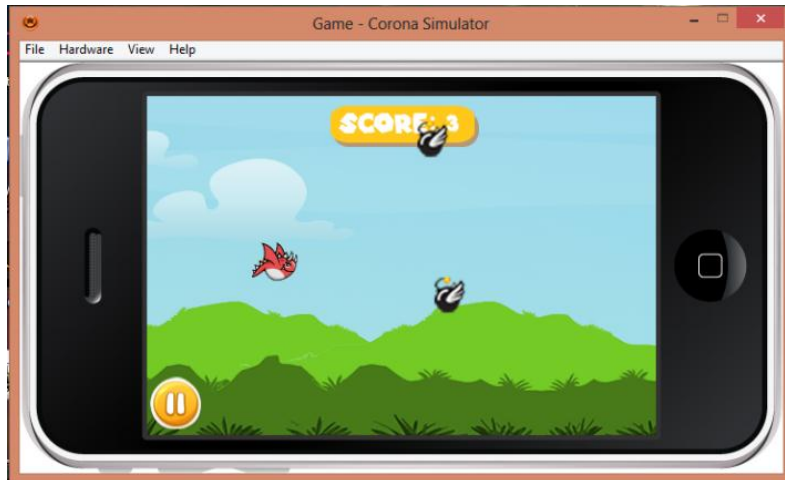
First Week: Creating a Mini Game in Corona

Our first assignment was to learn Corona/Lua by creating a short mobile game. The specifications include displaying elements (i.e. images, sprites, text, display groups), event-handling (i.e. touch and enterframe), audio (sound effects and background music), multiple screen handling, and saving data. In addition, the game was to be complete with main menu screen, pause popup and gameover screen.

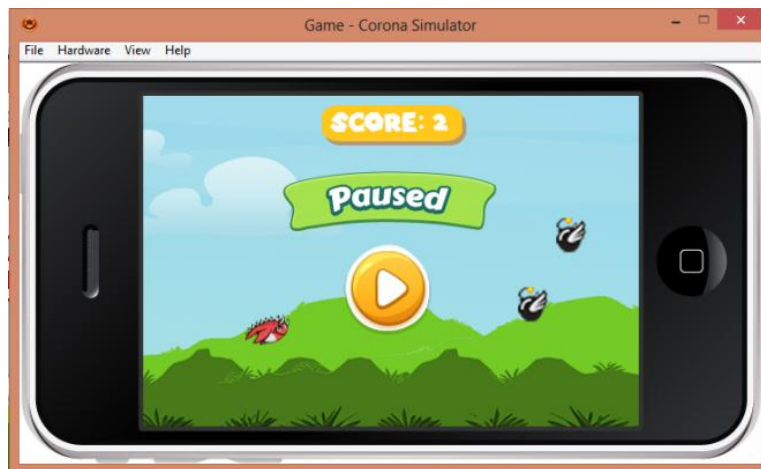
The game I created was much like a variation of Flappy Bird (i.e. tap screen to go up). The player controls a dragon that dodges bombs; hence the name Dragon Dodge.



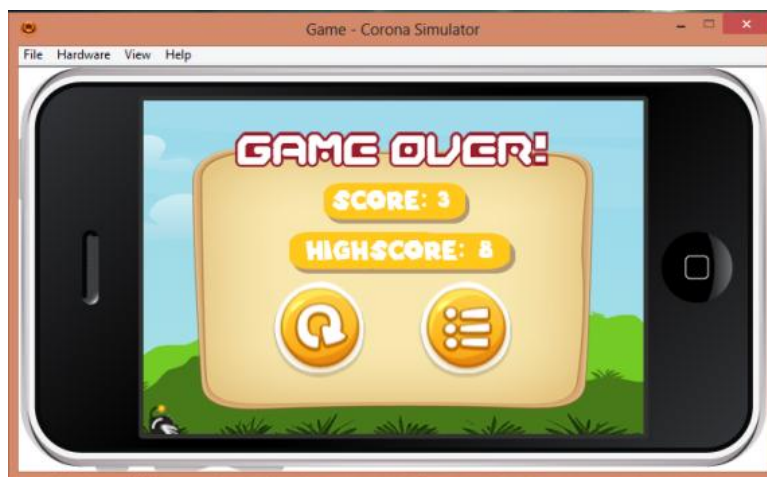
Main Menu Screen



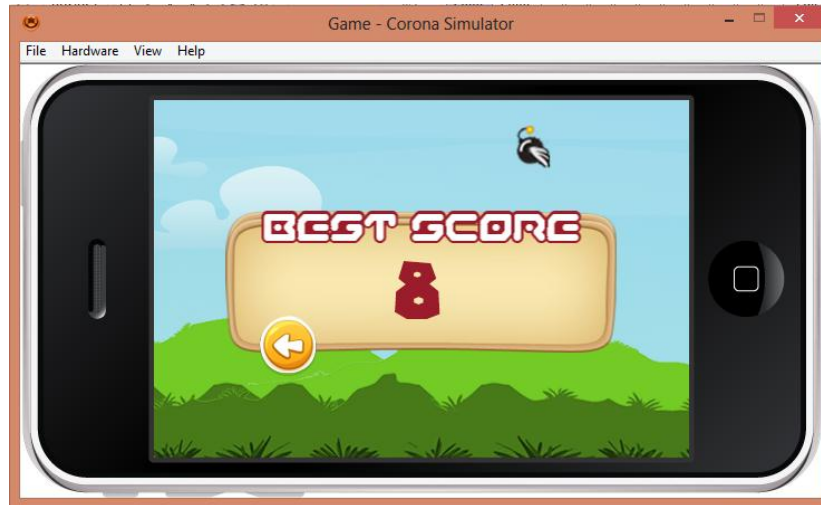
In-Game Screen



Pause Popup



Game Over Popup



High Score Screen

```

C:\Users\sssa\Dropbox\Internship\DragonDodge\mainGame.lua - Sublime Text
File Edit Selection Find View Goto Tools Project Preferences Help
mainGame.lua
15 function scene:createScene(event)
16   screenGroup = self.view
17   pauseGame = false
18   touch = false
19
20   --Background Side Scroller
21   bg = display.newImage(screenGroup, "imgs/bg_sky.png", W/2, H/2)
22   grass1 = display.newImage(screenGroup, "imgs/bg_grass.png", W/2, H/2)
23   grass1_copy = display.newImage(screenGroup, "imgs/bg_grass.png", (3/2)*W, H/2)
24   grass2 = display.newImage(screenGroup, "imgs/bg_grass2.png", W/2, H/2)
25   grass2_copy = display.newImage(screenGroup, "imgs/bg_grass2.png", (3/2)*W, H/2)
26
27   grass1.speed = 4
28   grass2.speed = 6
29   grass1_copy.speed = 4
30   grass2_copy.speed = 6
31
32   --Flying Dragon
33   dragonSheetData = require("imgs.dragon_sheet")
34   dragonSheet = graphics.newImageSheet( "imgs/dragon_fly.png", dragonSheetData:getSheet() )
35   dragonSequenceData = {
36     frames = {1, 2, 3, 4},
37     time = 450,
38   }
39
40   touchInst = display.newImage(screenGroup, "imgs/touch.png", W/2, H - 25)
41   dragon = display.newSprite(dragonSheet, dragonSequenceData)
42   dragon.name = "dragon"
43   screenGroup:insert(dragon)
44   physics.addBody(dragon, "dynamic")
45   dragon.collide = false
46   dragon.x = 120
47   dragon.y = 100
48   dragon:play()

```

Code Snippet from mainGame.Lua

Second- Third Week: Creating a clone of the game Lumos: The Dying Light

Our second task was to recreate the game Lumos: the Dying Light by Ralph Pineda which can be downloaded for free in Google Play. It features dark monsters scurrying towards the light. The objective of the game is to tap, flick, or slice the monsters away to keep the light glowing for as long as possible. The challenge in making the game is that each enemy spawns at certain times as the level of difficulty of the game increases with time.



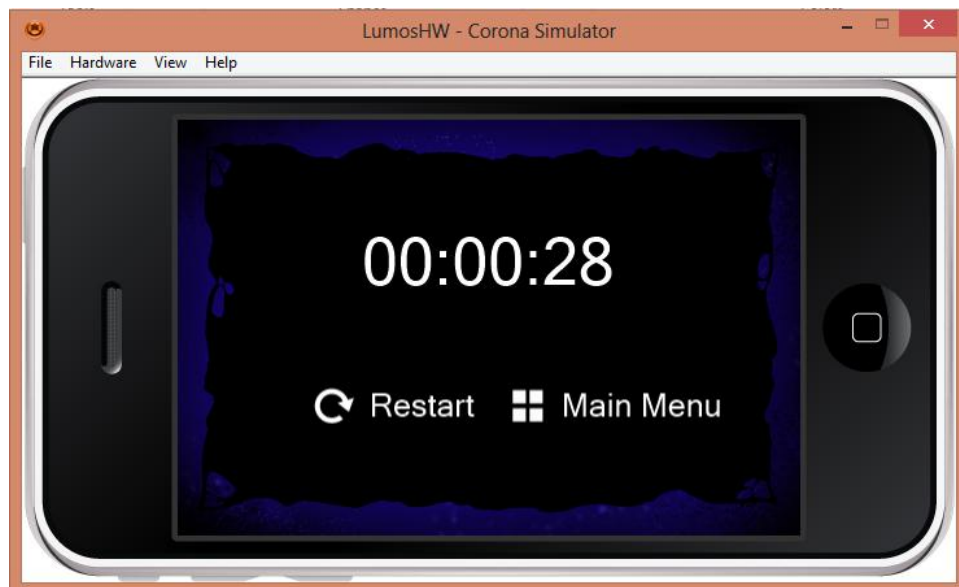
Lumos Main Menu



Spectres, Dark Mites, and Tendrils



Pause Popup



Game Over and Display Score

Game Development in Unity Game Engine

Fourth – Fifth Week: Creating a 3D Game in Unity3d

Our third homework was to learn Unity 3d with C# as the scripting language by developing another mini game. The specifications were similar to that of our first task.

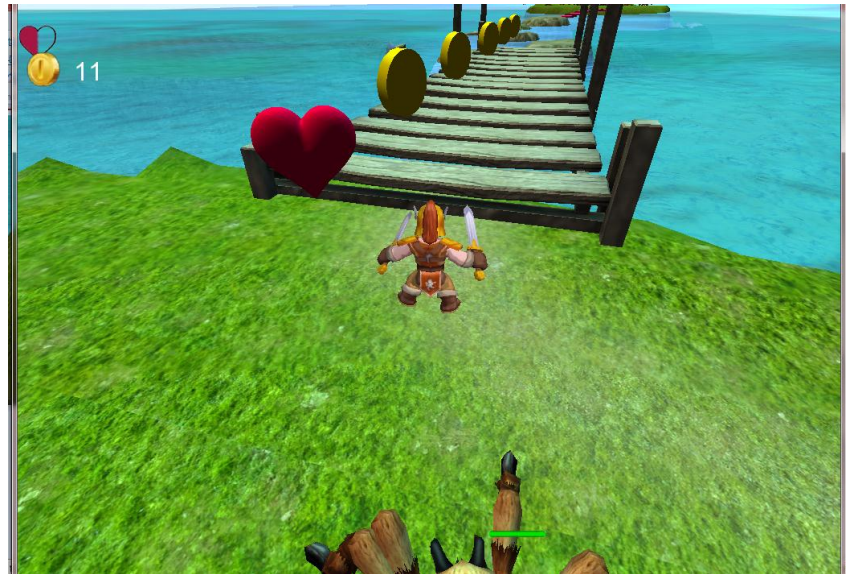
My game was a 3d Platformer Game similar to Crash Bandicoot. The player must collect coins, jump through obstacles, and battle spiders while retaining his health.



Use Mouse to rotate and WASD + spacebar to control character



Click to attack spiders



Collect coins and obtain hearts to regain health

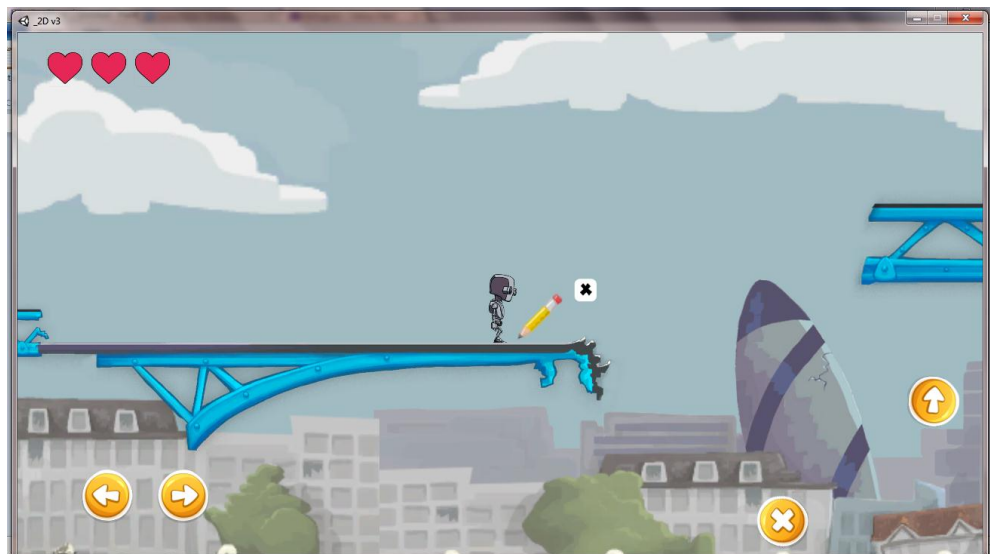
Sixth Week: Creating a 2D Game with Unity2d

For the final game, I decided to try my hand at creating a 2d platformer game using Unity2d. I created a game called Robot vs. Aliens.

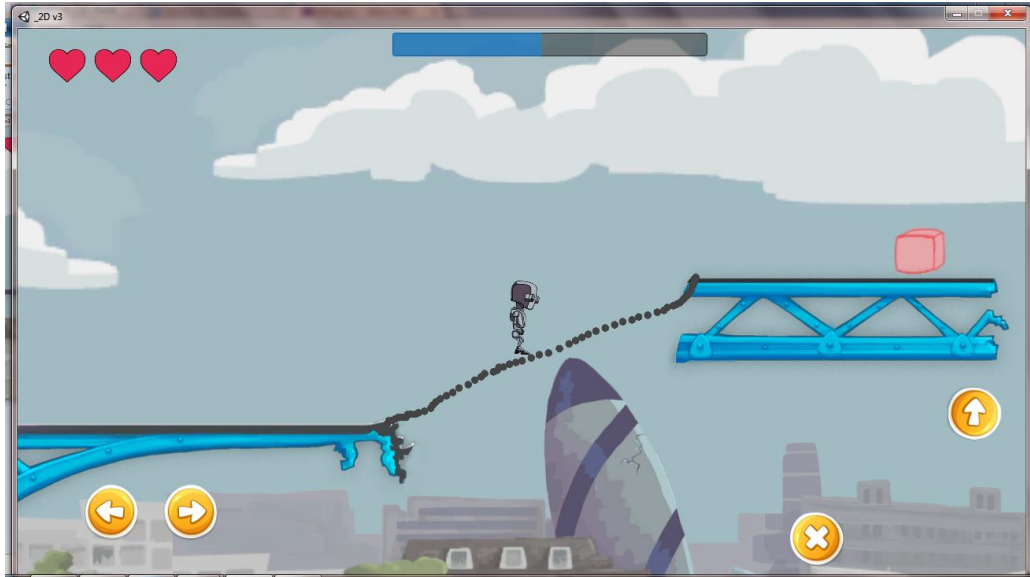
The game mechanics are as follows:

- The player can move left and right and jump by pressing WASD on the keyboard or by pressing the game user interface for mobile
- The player can draw and erase paths on the screen (using mouse on pc and touch input on mobile) upon obtaining the pencil and the eraser. Player can switch between pencil and eraser by pressing Q (on pc) or pressing the pencil/eraser button at the bottom right corner of the screen (on mobile). The pencil can also be used to trap enemies.
- The player's pencil has limited lead which decreases as the player uses the pencil.
- Upon obtaining the bazooka, the player can blast enemies by clicking/tapping on them to lock target. The player can now switch between the bazooka, the pencil and the eraser by pressing Q or tapping the bottom right button.

Note: All art and graphics were taken from the Unity Asset Store and are free.

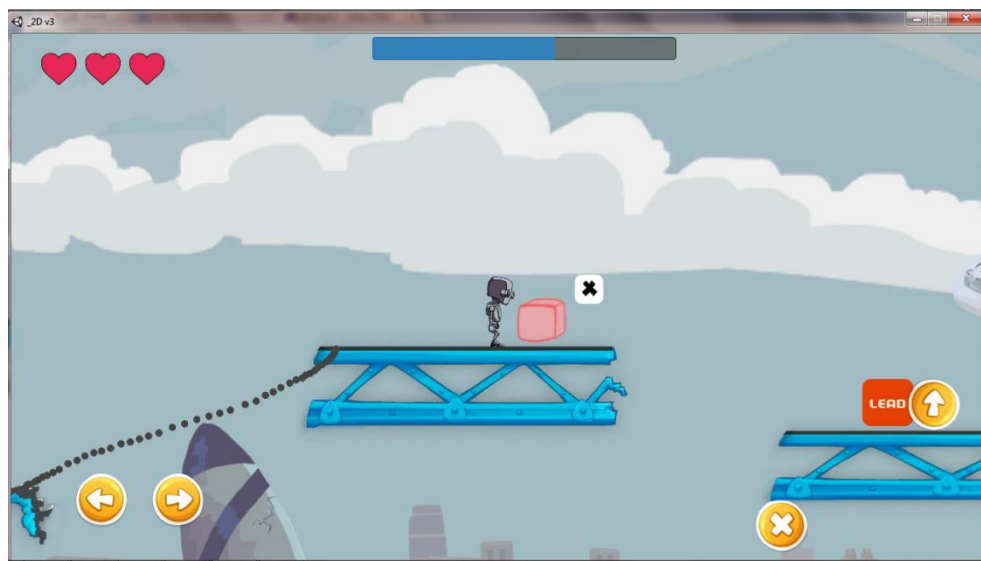


Player obtains pencil.



Player draws path using mouse to cross between platforms.

Pencil Lead Bar (Top, Blue) decreases upon pencil usage.



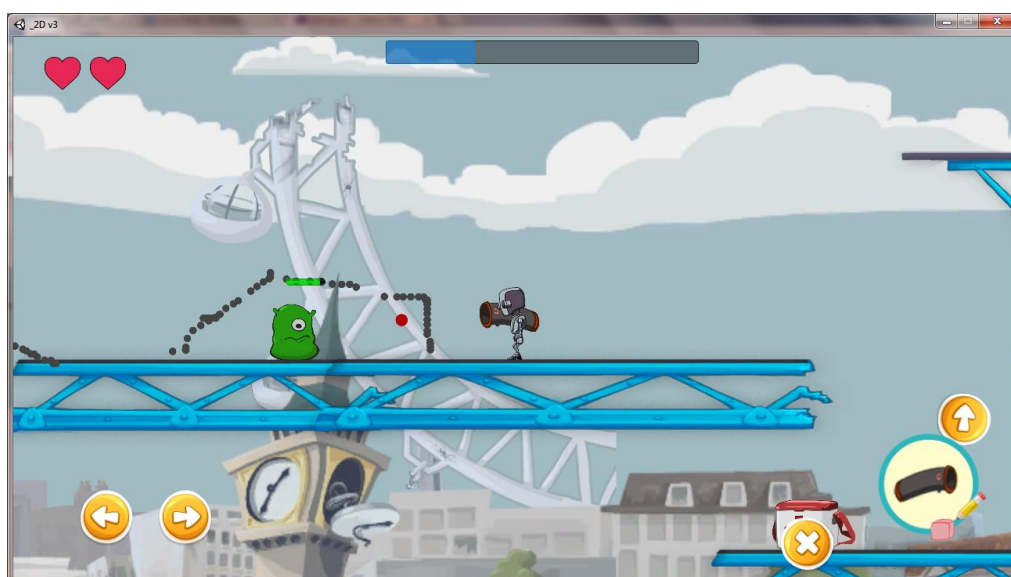
Player obtains eraser.



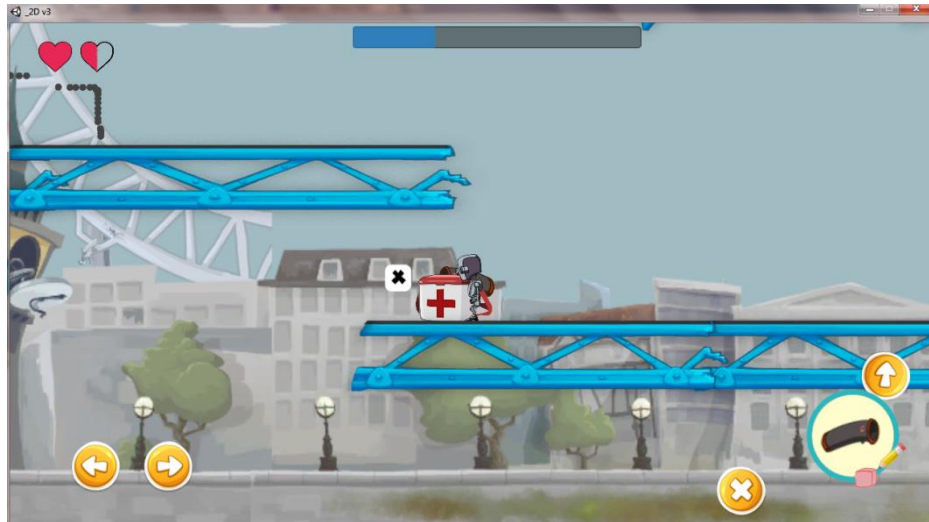
Player can now switch between pencil and eraser by pressing Q. Icon at the bottom right changes upon switch.



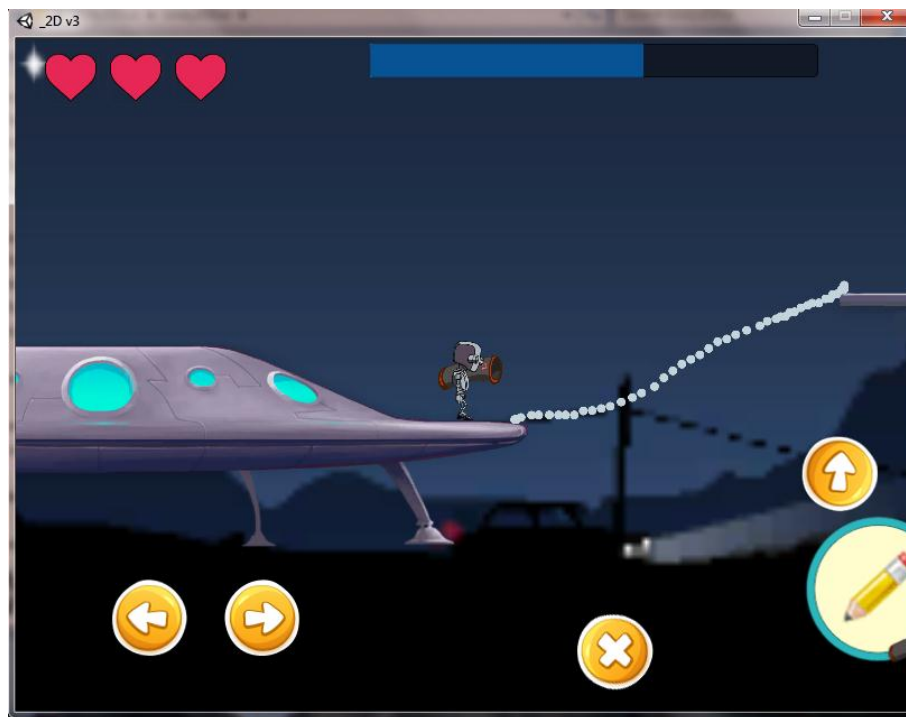
Player can use pencil to trap enemies.



Player can blast enemies upon obtaining bazooka.



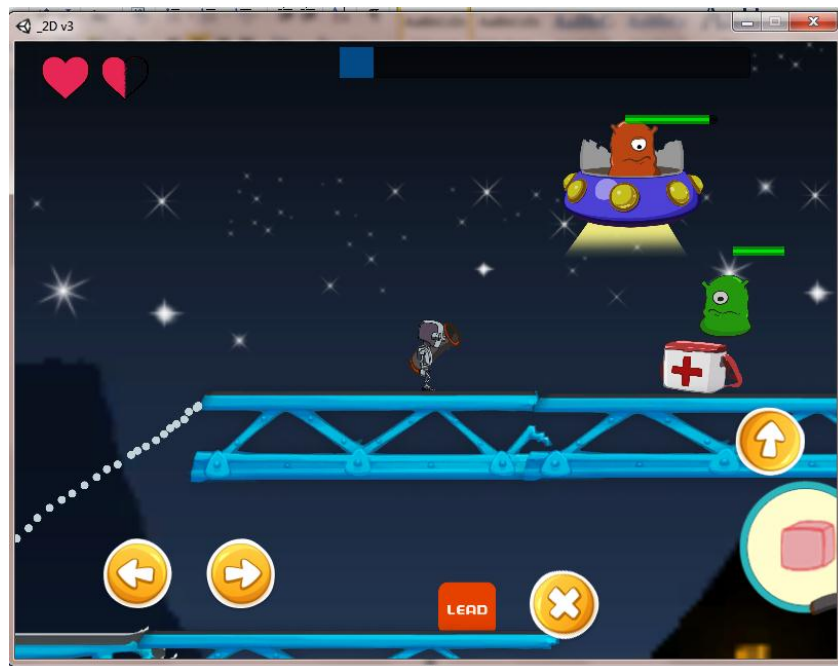
Obtain health packs to regain health.



Level 2 Interface

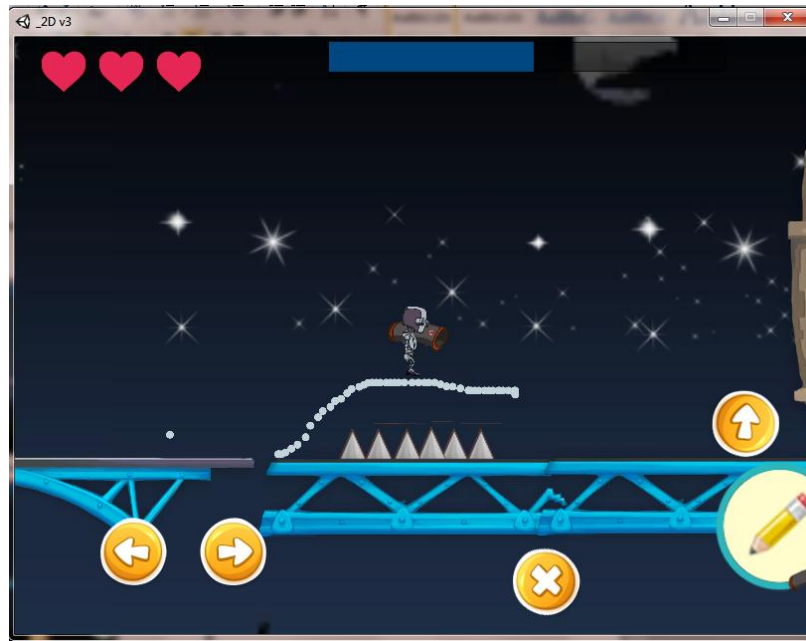


Level 2 Enemies

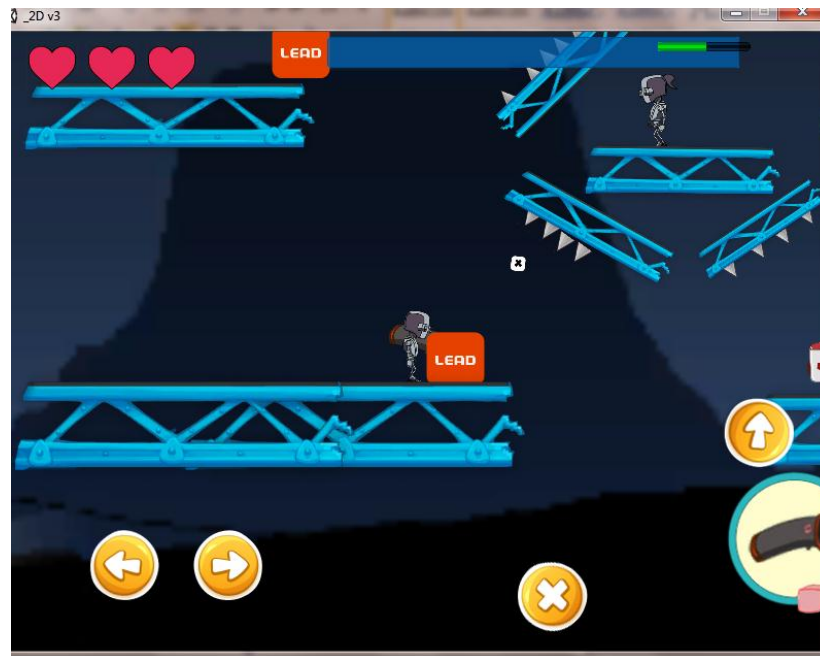


Orange Alien spawns Green Aliens at certain intervals.

Green Aliens can shoot green bullet-slimes at player.



Use pencil to avoid spikes.



Boss Fight: Protect RobotGirl (top right) from the onslaught of Aliens.

