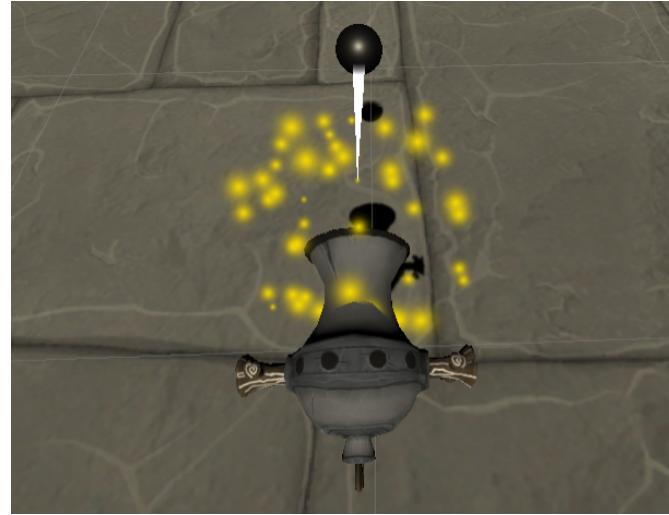


Shoot Them Up Design Document (GDD)



'Fire in the hole!' - Group 3

Table of Contents

- 1 Game Overview
- 2 High Concept / Genre
- 3 Unique Selling Points
- 4 Platform Minimum Requirements
- 5 Competitors / Similar Titles
- 6 Synopsis
- 7 Game Objectives
- 8 Game Rules
- 9 Game Structure
- 10 Game Play
 - 10.1 Game Controls
 - 10.2 Game Camera
 - 10.2.1 HUD
- 11 Players
- 12 Art
 - 12.1 Setting
 - 12.2 Level Design
 - 12.3 Audio
- 13 Procedurally Generated Content
 - 13.1 Environment
 - 13.2 Levels
 - 13.3 Visual Arts
 - 13.4 Audio
 - 13.5 Minimum Viable Product (MPV)
- 14 Wish List
- 15 Bibliography

Game Development Team Members:

PRODUCER

Yousif Jabbo, Kenny Nguyen,
Hoang Tran, Quyen Luu

PRODUCTION MANAGER

Yousif Jabbo, Kenny Nguyen,
Hoang Tran, Quyen Luu

PRODUCTION COORDINATOR

Yousif Jabbo, Kenny Nguyen,
Hoang Tran, Quyen Luu

GAME DESIGNERS

Yousif Jabbo, Kenny Nguyen,
Hoang Tran, Quyen Luu

SYSTEMS/IT COORDINATOR

Yousif Jabbo, Kenny Nguyen,
Hoang Tran, Quyen Luu

PROGRAMMERS

Yousif Jabbo, Kenny Nguyen,
Hoang Tran, Quyen Luu

TECHNICAL ARTISTS

Yousif Jabbo, Kenny Nguyen,
Hoang Tran, Quyen Luu

AUDIO ENGINEERS

Yousif Jabbo, Kenny Nguyen,
Hoang Tran, Quyen Luu

UX TESTERS

Yousif Jabbo, Kenny Nguyen,
Hoang Tran, Quyen Luu

1 Game Overview

Title: Shoot Them Up

Platform: PC Standalone + iOS & Android.

Genre: Shooting Game, Carnival

Rating: (10+) ESRB

Target: Any gamer.

Release date: May, 2021

Publisher: Fun Game Production

Shoot Them Up will bring you back to the basic carnival game of skill which requires the Player to show their skills by aiming the targets and hitting them with the cannon as their weapon. Remember that the carnival operators calculate the difficulty for each level, starting from the easy levels to harder levels, to let the Player have the chance to win; however, is it true? Let's play and find out. Bonuses are hidden and ready to be claimed in many different ways.

2 High Concept / Genre

The concept for this game is Shooting Game. This game will set the Player in a context of an ordinary carnival game where you will have a limited amount of cannonballs to shoot and take down all the boxes that are placed on the holder. Increase the number of cannonballs by reaching a specific high score in a level.

3 Unique Selling Points

- Simple yet practical.
- Easy to play.
- Unique music.

- Different levels with different difficulties.

4 Platform Minimum Requirements

PC: Windows XP, Vista 7, 8, or later. macOS

5 Competitors / Similar Titles

Cannon Balls 3D by Famobi

6 Synopsis

Imagine yourself to participate in the basic carnival games but the only game that is interesting to you is shooting. In order to get the prize in this “game of skill”, show people that you are a skillful player by knocking down all the boxes.

7 Game Objectives

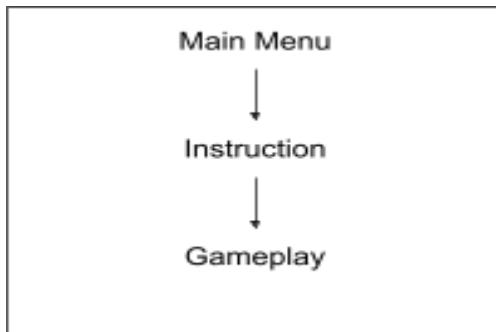
The objective of this game is to shoot the appearing boxes with a fixed amount of cannonballs. There are 8 levels in the game, the objective would be to beat all of the levels of the game.

8 Game Rules

The rule of the game is simple. You are given a limited amount of cannonballs. Your job is to shoot all the boxes down to earn points and get to the next level. Each higher level will contain more boxes and more obstacles. The highest score will be recorded based on the numbers of boxes you knock down throughout the game. You get 2 new balls for every 1000 points.

9 Game Structure

The Game starts with a Splash Screen with the name of the Game Developer name: Fun Game Production. After that The game takes you to the main screen where you can choose to play the game or see the credits.



After you finish the Game there is a win screen, if you lose there is a different screen for Game over.

10 Game Play

10.1 Game Controls

The controls of this game are very straight forward. Use the arrow keys to aim the cannon and press space to fire a cannonball.



The Player can push Esc Key to pause the game while playing.

10.2 Game Camera

Static Camera that looks above the cannon.

10.2.1 HUD

The HUD of the game displays the current number of cannonballs available to shoot in the top left corner. The score is displayed and updated in the top center of the screen. There is a button on the top right corner for pausing the game.

11 Players

The player is a cannon that can shoot balls towards the boxes.

12 Art

12.1 Setting

This game takes place in a medieval themed setting. The cannon, boxes, and platforms match this theme. The skybox is customized with photos from nature.

12.2 Level Design

The level of difficulty increases as the player progresses through each level. Each level consists of different variations of target blocks and moving platforms. The variations will become more complex as the level numbers increase.

12.3 Audio

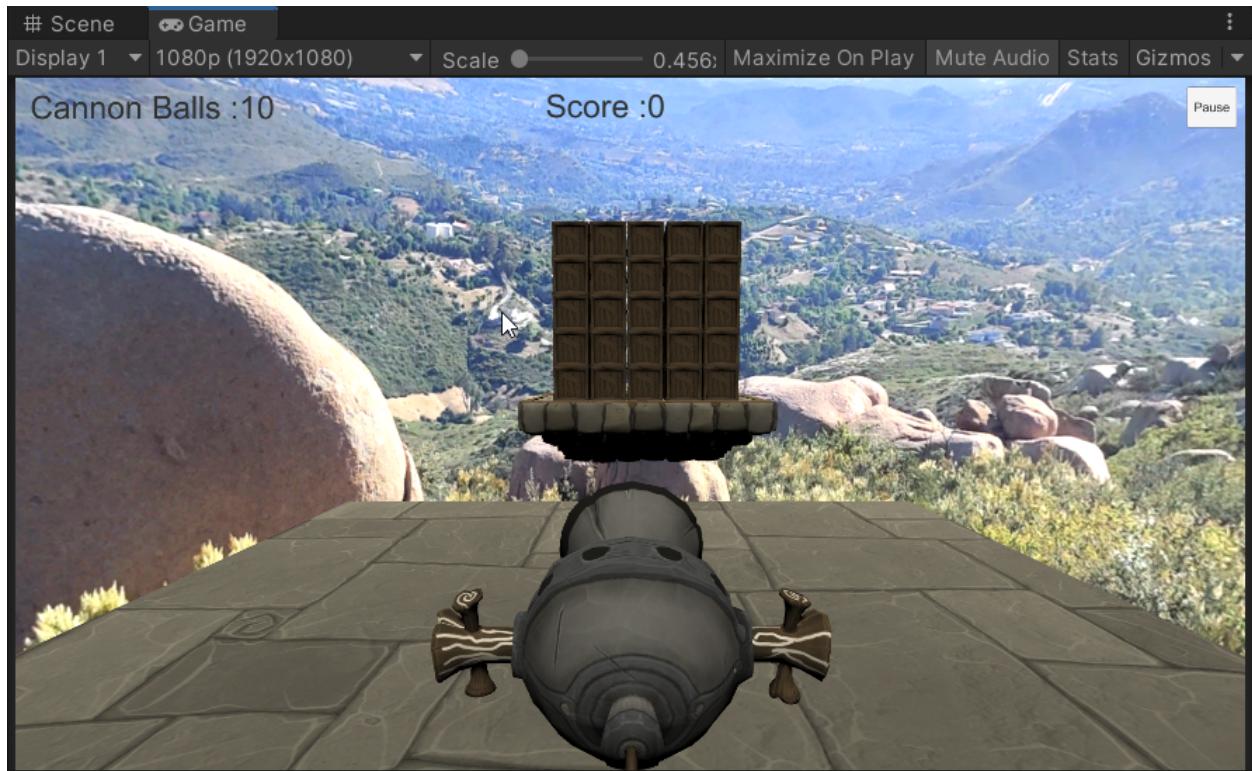
There are three different background music that are played during certain scenes of the game. One for the main menu, one for the in game levels, and one for the game over scene. Additionally there are sound effects when shooting the cannon and when a cannonball hits a box.

13 Procedurally Generated Content

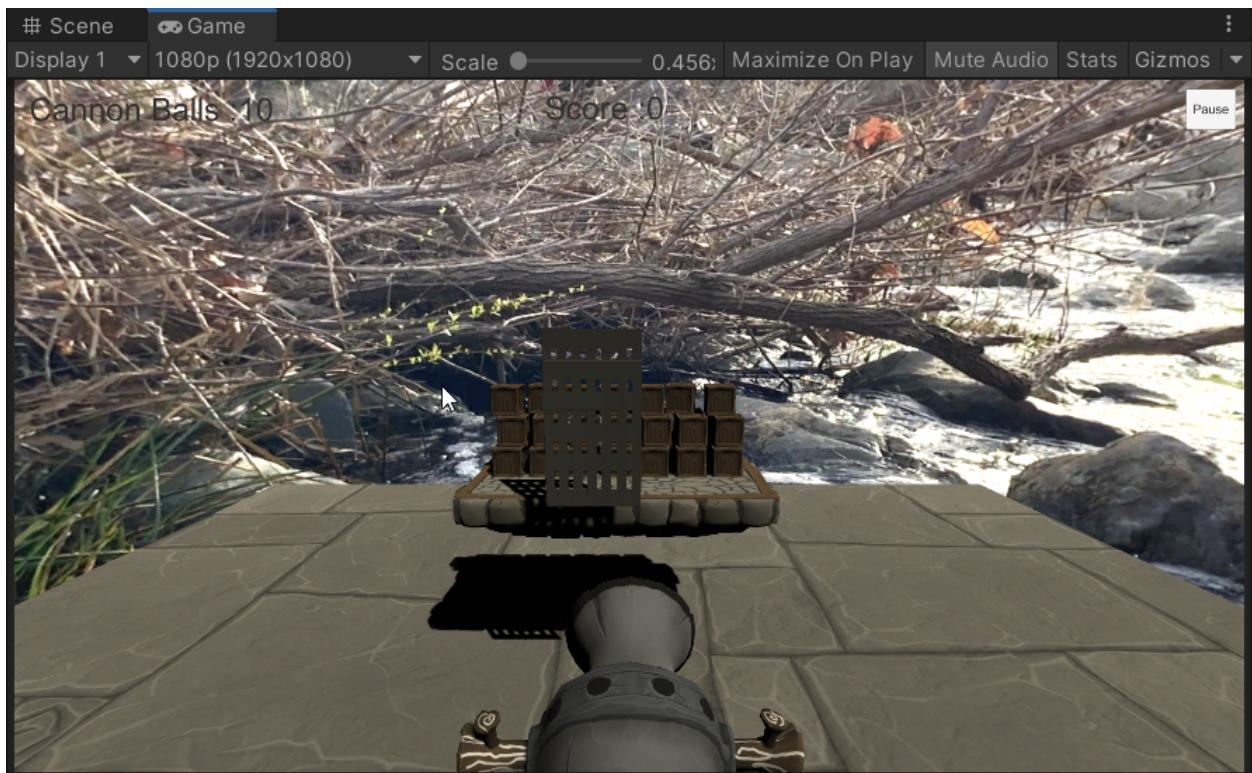
13.1 Levels

There are eight levels in this game. The player must complete each level before moving on to the next. Once all eight levels have been completed the player wins. If the player fails to complete a level then it is game over. The levels start easy and then go up in difficulty.

Level 1:



Level 2:



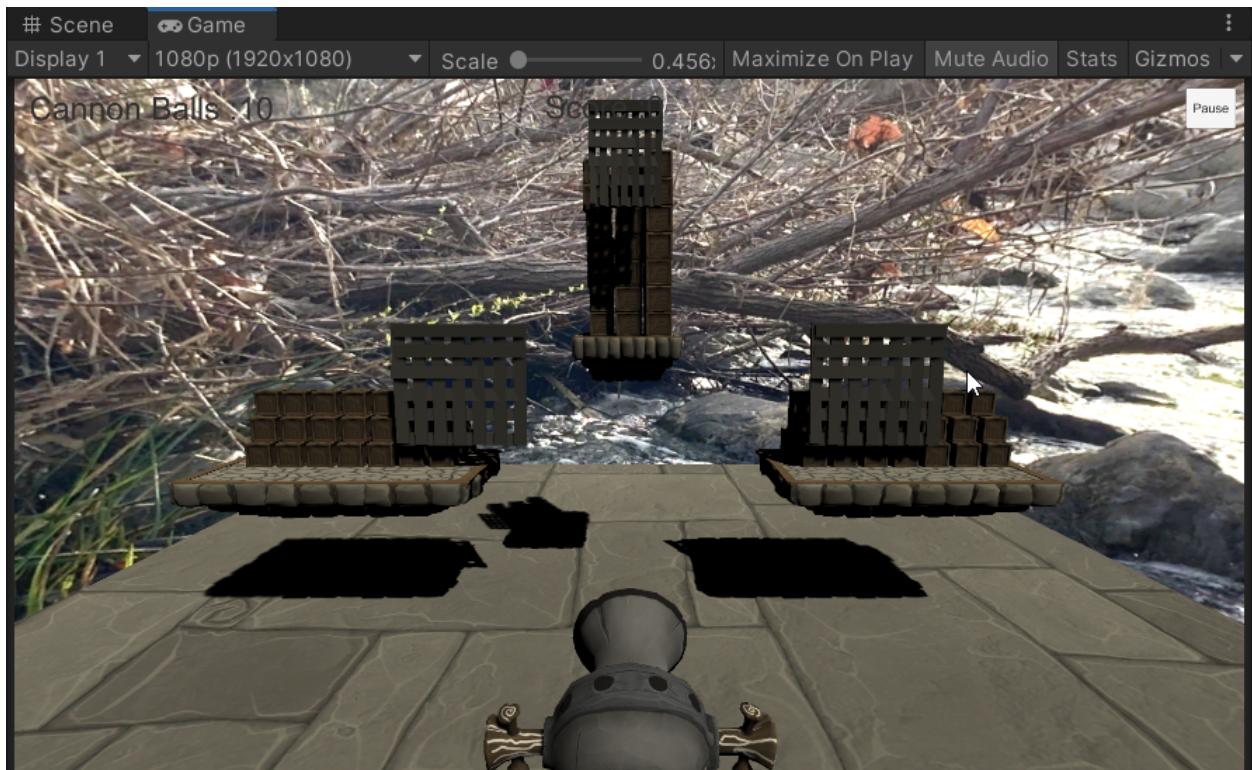
Level 3:



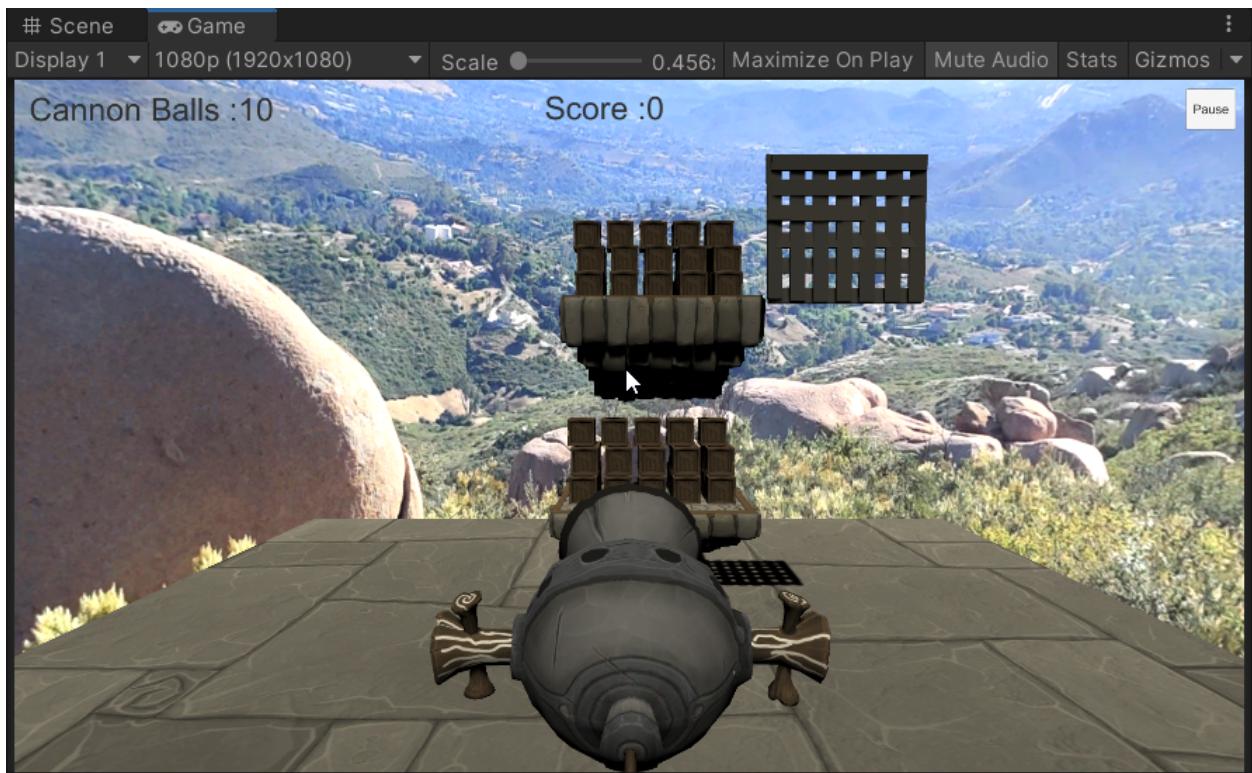
Level 4:



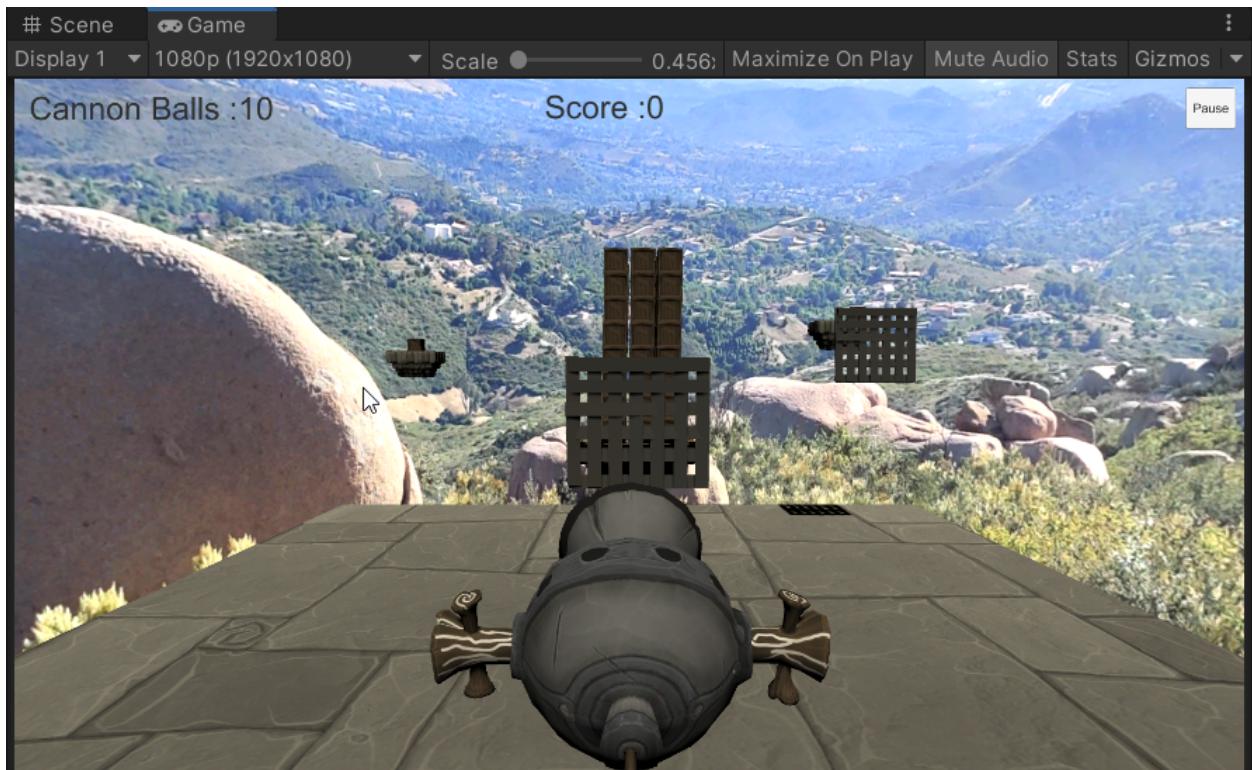
Level 5:



Level 6:



Level 7:

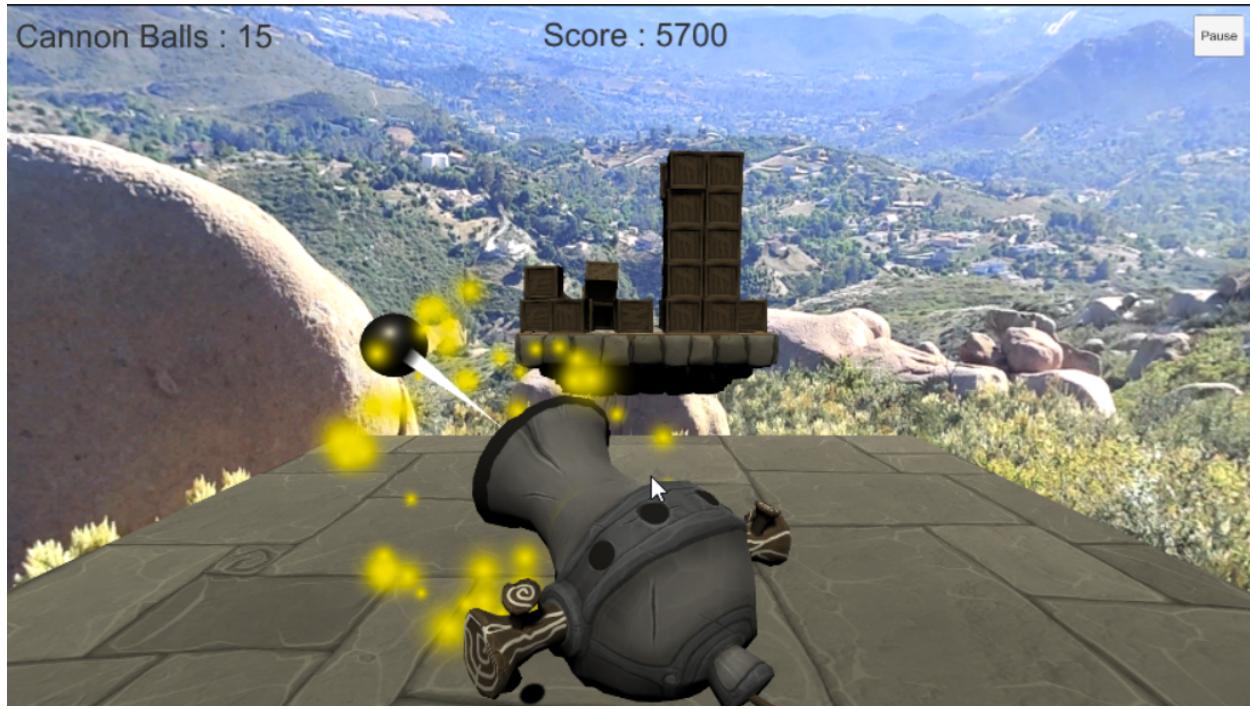


Level 8:



13.2 Visual Arts

There is animation when the boxes break. And there is a particle effect when shooting the ball from the cannon. The Cannon has a recoil animation. The ball has a trail effect too.



13.3 Audio

Name	Category	Description
Main.mp3	Background music 1	Plays during Main Menu
InGame.mp3	Background music 2	Plays during levels 1/2/3
GameOver.mp3	Background music 3	Plays during Game Over
cannonfire_sound.wav	FX	Cannonball's sound
Hit_sound.wav	FX	Hitting target sound

13.4 Minimum Viable Product (MPV)

- ❖ Built for the PC platform
- ❖ Playable from start to finish

14 Wish List

- Create more challenges
 - ❖ There will be some black boxes which decrease your numbers of cannonballs if you mistakenly shoot them.
 - ❖ The boxes will be placed in some moving platforms.
- Put the player under pressure
 - ❖ The player will be given a fixed amount of time to knock down all the boxes.
- Different Cannons to choose from.
- Saving levels
 - Allow the player to return to a completed level.

15 Bibliography

Program used to make the sound: Bfxr

Program used to make the 3d models: Paint 3D (Windows)

Code reference: Unity User Manual (<https://docs.unity3d.com/Manual/index.html>)

Game engine: Unity Hub

3D Models:

Jabbo, Y (2021). *Box.fbm*[Unpublished manuscript]. San Diego State University

Nguyen, K (2021). *cannon3dmodel.fbm*[Unpublished manuscript]. San Diego State University

Jabbo, Y (2021). *floor.fbm*[Unpublished manuscript]. San Diego State University

Jabbo, Y (2021). *Holder.fbm*[Unpublished manuscript]. San Diego State University

Animation:

Tran, H (2021). *Animated Platform*[Unpublished manuscript]. San Diego State University

Jabbo, Y (2021). *Box Animation*[Unpublished manuscript]. San Diego State University

Jabbo, Y (2021). *Box Animation Controller*[Unpublished manuscript]. San Diego State University

Nguyen, K (2021). *Box Idle Animation*[Unpublished manuscript]. San Diego State University

Nguyen, K (2021). *Cannon*[Unpublished manuscript]. San Diego State University

Luu, Q (2021). *Company*[Unpublished manuscript]. San Diego State University

Nguyen, K (2021). *Cube*[Unpublished manuscript]. San Diego State University

Tran, H (2021). *Move_platform*[Unpublished manuscript]. San Diego State University

Tran, H (2021). *Platform Animation*[Unpublished manuscript]. San Diego State University

Nguyen, K (2021). *Recoil*[Unpublished manuscript]. San Diego State University

Luu, Q (2021). *Splash*[Unpublished manuscript]. San Diego State University

Luu, Q (2021). *Title*[Unpublished manuscript]. San Diego State University

Audio:

Nguyen, K (2021). *cannonfire_sound.mp4*[Unpublished manuscript]. San Diego State University

Luu, Q (2021). *GameOver.mp4*[Unpublished manuscript]. San Diego State University

Jabbo, Y (2021). *Hit_sound.mp4*[Unpublished manuscript]. San Diego State University

Jabbo, Y (2021). *Holder.fbm*[Unpublished manuscript]. San Diego State University

Luu, Q (2021). *InGame.mp4*[Unpublished manuscript]. San Diego State University

Luu, Q (2021). *Main.mp4*[Unpublished manuscript]. San Diego State University

Materials:

Nguyen, K (2021). *5.mat*[Unpublished manuscript]. San Diego State University

Jabbo, Y (2021). *cannonball.mat*[Unpublished manuscript]. San Diego State University

Jabbo, Y (2021). *Cannon.mat*[Unpublished manuscript]. San Diego State University

Jabbo, Y (2021). *CannonBallTrail.mat*[Unpublished manuscript]. San Diego State University

Tran, H (2021). *level 3 skybox.mat*[Unpublished manuscript]. San Diego State University

Tran, H (2021). *level 4 skybox.mat*[Unpublished manuscript]. San Diego State University

Luu, Q (2021). *Level2&8.mat*[Unpublished manuscript]. San Diego State University

Luu, Q (2021). *Main&Credit 1.mat*[Unpublished manuscript]. San Diego State University

Jabbo, Y (2021). *SkyBox Level 1.mat*[Unpublished manuscript]. San Diego State University

Nguyen, K (2021). *SkyBox Level 5.mat*[Unpublished manuscript]. San Diego State University

Nguyen, K (2021). *SkyBox Level 6.mat*[Unpublished manuscript]. San Diego State University

Jabbo, Y (2021). *SkyBox Level 7.mat*[Unpublished manuscript]. San Diego State University

Prefabs:

Tran, H (2021). *Animated Platform.prefab*[Unpublished manuscript]. San Diego State University

Jabbo, Y (2021). *Cannon Ball.prefab*[Unpublished manuscript]. San Diego State University

Jabbo, Y (2021). *Distractable Box.prefab*[Unpublished manuscript]. San Diego State University

Jabbo, Y (2021). *DistractableHolder.prefab*[Unpublished manuscript]. San Diego State University

Jabbo, Y (2021). *Floor.prefab*[Unpublished manuscript]. San Diego State University

Tran, H (2021). *Normal Platform.prefab*[Unpublished manuscript]. San Diego State University

Nguyen, K (2021). *PlayerCannon.prefab*[Unpublished manuscript]. San Diego State University

Scripts:

- Luu, Q (2021). *BackGroundMusic.cs*[Unpublished manuscript]. San Diego State University
Nguyen, K (2021). *CannonAnimation.cs*[Unpublished manuscript]. San Diego State University
Luu, Q (2021). *CreditScene.cs*[Unpublished manuscript]. San Diego State University
Nguyen, K (2021). *Destructible.cs*[Unpublished manuscript]. San Diego State University
Jabbo, Y (2021). *DistractableHolder.cs*[Unpublished manuscript]. San Diego State University
Jabbo, Y (2021). *GameManager.cs*[Unpublished manuscript]. San Diego State University
Luu, Q (2021). *GameOver.cs*[Unpublished manuscript]. San Diego State University
Luu, Q (2021). *InstructionScene.cs*[Unpublished manuscript]. San Diego State University
Luu, Q (2021). *MainMenu.cs*[Unpublished manuscript]. San Diego State University
Tran, H (2021). *MovingPlatform.cs*[Unpublished manuscript]. San Diego State University
Nguyen, K (2021). *PlayerController.cs*[Unpublished manuscript]. San Diego State University
Luu, Q (2021). *Splash.cs*[Unpublished manuscript]. San Diego State University
Tran, H (2021). *StopBackgroundMusic.cs*[Unpublished manuscript]. San Diego State University

Scenes:

- Luu, Q (2021). *Credit.Unity*[Unpublished manuscript]. San Diego State University
Luu, Q (2021). *GameOver.Unity*[Unpublished manuscript]. San Diego State University
Luu, Q (2021). *Instruction.Unity*[Unpublished manuscript]. San Diego State University
Jabbo, Y (2021). *Level 1.Unity*[Unpublished manuscript]. San Diego State University
Luu, Q (2021). *Level 2.Unity*[Unpublished manuscript]. San Diego State University
Tran, H (2021). *Level 3.Unity*[Unpublished manuscript]. San Diego State University
Tran, H (2021). *Level 4.Unity*[Unpublished manuscript]. San Diego State University
Nguyen, K (2021). *Level 5.Unity*[Unpublished manuscript]. San Diego State University
Nguyen, K (2021). *Level 6.Unity*[Unpublished manuscript]. San Diego State University
Jabbo, Y (2021). *Level 7.Unity*[Unpublished manuscript]. San Diego State University
Luu, Q (2021). *Level 8.Unity*[Unpublished manuscript]. San Diego State University
Luu, Q (2021). *Main.Unity*[Unpublished manuscript]. San Diego State University
Luu, Q (2021). *SplashScene.Unity*[Unpublished manuscript]. San Diego State University
Jabbo, Y (2021). *Win.Unity*[Unpublished manuscript]. San Diego State University

Sprites:

- Nguyen, K (2021). *castle.jpg*[Unpublished manuscript]. San Diego State University
Tran, H (2021). *level 3.JPG*[Unpublished manuscript]. San Diego State University
Tran, H (2021). *level 4.jpg*[Unpublished manuscript]. San Diego State University
Jabbo, Y (2021). *Level1.jpg*[Unpublished manuscript]. San Diego State University
Luu, Q (2021). *level2&8.JPG*[Unpublished manuscript]. San Diego State University
Jabbo, Y (2021). *Level7.jpg*[Unpublished manuscript]. San Diego State University

Luu, Q (2021). *main&creditback.JPG*[Unpublished manuscript]. San Diego State University
Nguyen, K (2021). *village.jpg*[Unpublished manuscript]. San Diego State University