

Christmassacre

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Executive Summary

Teaser/Hook

Santa Claus is here to wreak havoc on the undead and he's going to take back the North Pole with force! Jack Frost has turned the North Pole people against Santa, so with the help from the newly added cannon to his sleigh, he sets out to take it back.

Value Proposition

Christmassacre is a side scrolling holiday-themed shoot-em-up game for the light hearted gamer to solve their need of getting a new high score and a sense of achievement after completion.

Major Risks

Time mismanagement

Illness / Personal days

Key Deliverables

- Project Plan and Design Document
- Group Process Book
- Final Presentation
- Video footage of game

Timeline

Iteration 1: Moodboards for all assets, Basic movement, Shooting, and Basic enemy AI

Iteration 2: Asset creation: 6 enemies/obstacles, powerup, and UI. Programming: Enemy spawning and dying, Level progression

Iteration 3: Asset creation: Main boss, Main character, 4 parallax environments. Programming: Power ups, UI Coding, Point Tracking

Final Iteration : Saving, Improved Enemy AI, Bug Fixing; Finishing unfinished assets

Team

Robby Rutkofske (Lead/Art)

Justin Lai (Programming)

Chloe Stetson (Art)

Mira Harmon (Art)

Meghan Casey (Art)

Design Document

Teaser/Hook

Santa Claus is here to wreak havoc on the undead and he's going to take back the North Pole with force! Jack Frost has turned the North Pole people against Santa, so with the help from the newly added cannon to his sleigh, he sets out to take it back.

Value Proposition

Christmassacre is a side scrolling holiday-themed shoot-em-up game for the light hearted gamer. This solves their need of getting a new high score and a sense of achievement after completion.

Final Deliverable List

- Project Plan and Design Document
- Group Process Book
- Finished Unity Game File
- Video footage of game

Story

Jack Frost has poisoned and turned the people of the North Pole against Santa! Now, Santa must defeat Jack Frost to turn everyone back to normal again.

Target Audience(s)

Potential employers

DAGD Professors

Casual Gamers

Design Requirements

Creating a game that is fun for those who are looking for a light hearted side scrolling action game. That keeps the player engaged and wanting to continue playing to achieve the highest score.

Design Constraints

Audience: Casual Gamers, Young Adults

Genre: Arcade shoot-em up

Technical (incl. Platform): PC game made with Unity

Win/Loss Conditions

Win: Player beats all levels & final boss.

Lose: Player's health is ≤ 0 .

Game Mechanics

ABILITIES:

Radial enemy screen wipe - Kills all enemies on screen

CONTROLS:

W, A, S, D - Movement

Mouse - Aim

Left-click - Shoot

Space - Power Up activate (screenwipe)

Right-click - Easter egg ability (The Flying Dutchman)

OBJECTS:

.PNGs

(The pixel size for each of the canvases is 256 x 256)

(Each asset is an animatable sprite sheet)

- Exploding presents
- Ornaments
- Flying penguins
- Elves riding on reindeer
- Evil gingerbread men

- Evil nutcracker soldiers on toy planes
- Santa Claus (Protagonist)
- Coal (Bullets)
- Cookies and Milk (Powerup)
- Jack Frost (Boss)
- Icicle (Boss Bullets)
- Ice Pillar (Boss Ability)

ATTRIBUTES

- Health
- Powerup meter
- Score/high score
- Number of enemies defeated

VALUES

- Backgrounds
- Enemies/Obstacles
- UI
- Programming scripts

BEHAVIOR

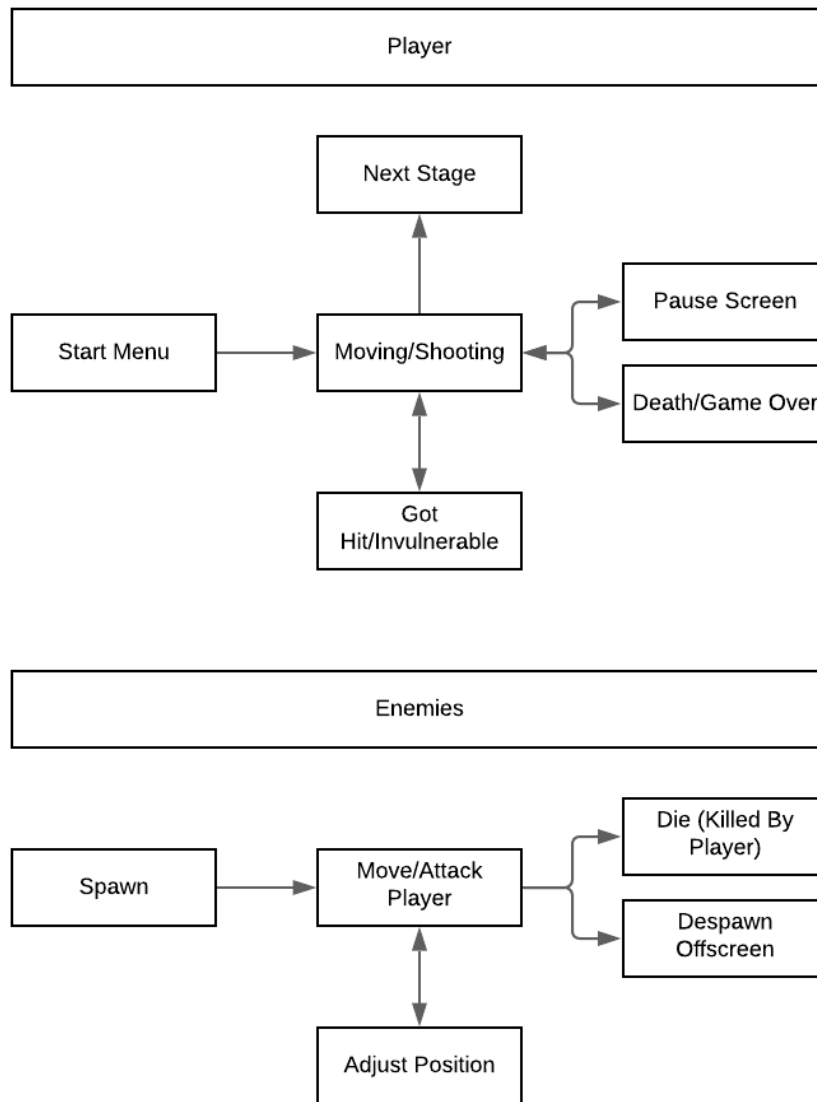
Player behavior

- Movement to dodge and get the angle on enemies
- Collecting power ups
- Shooting enemies
- Activating the power ups

Enemy behavior

- Rushing at the player
- Setting up for a faster rush on the player
- Shooting the player
- Spawn/despawn offscreen
- Icicle attacks (Jack Frost only)

STATE DIAGRAMS



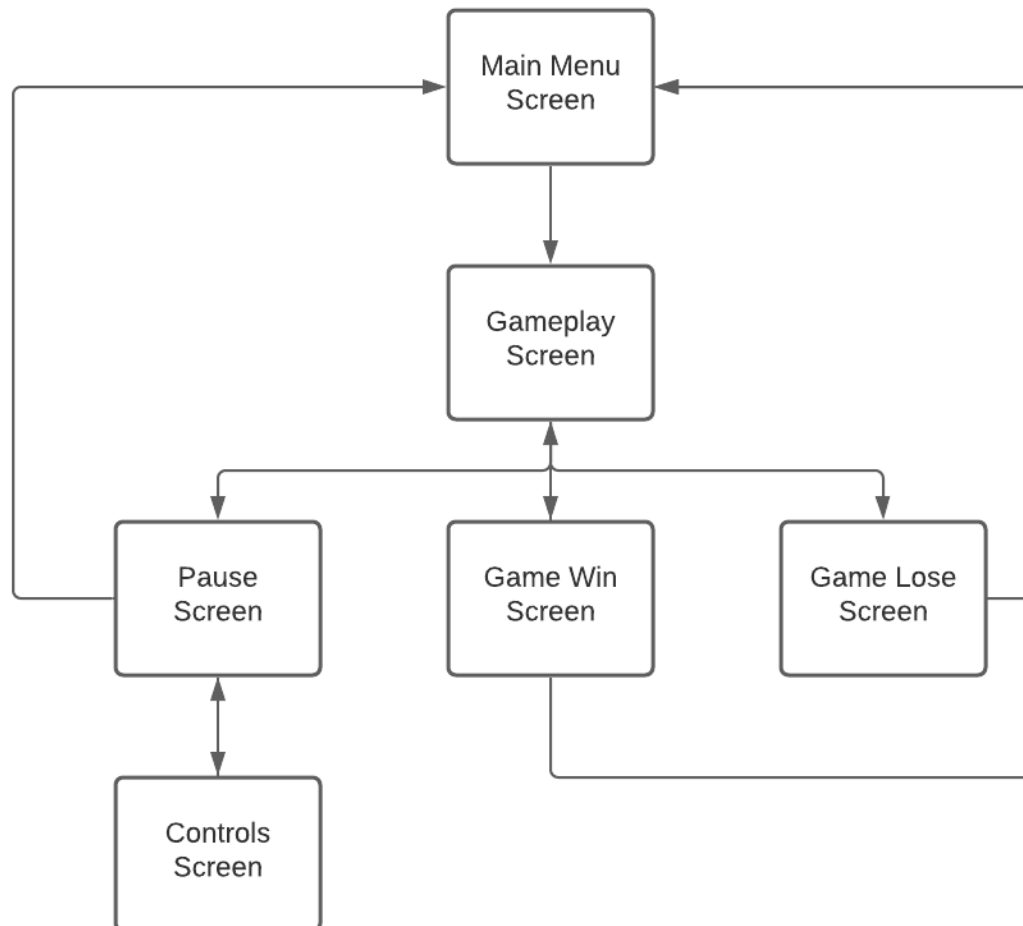
GAME PLAY LOOP

Player: movement and shooting

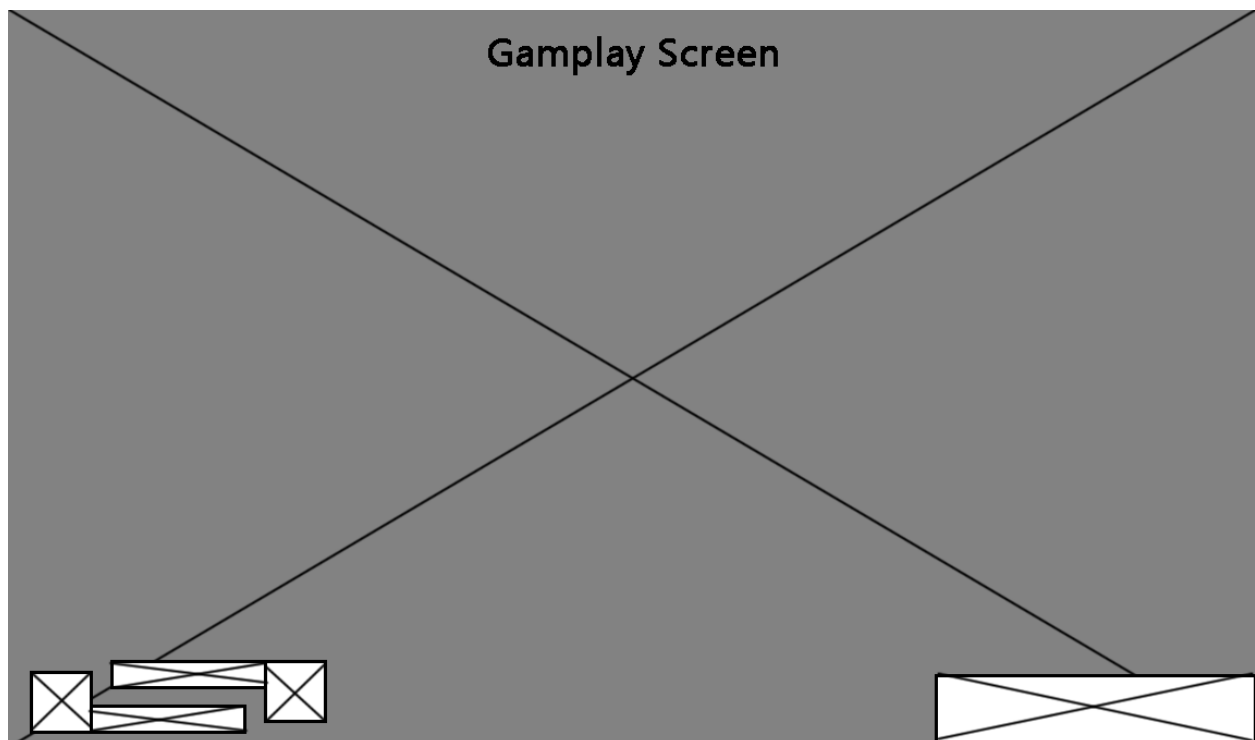
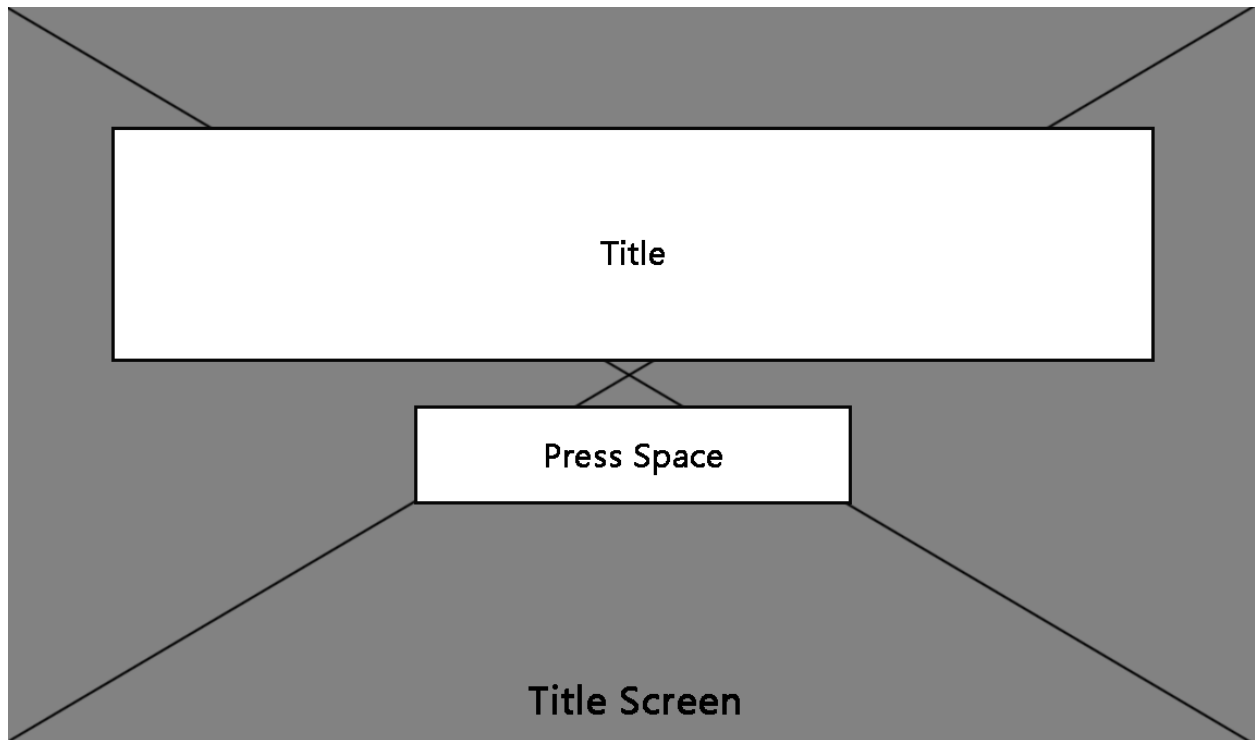
Enemies: following and shooting AI

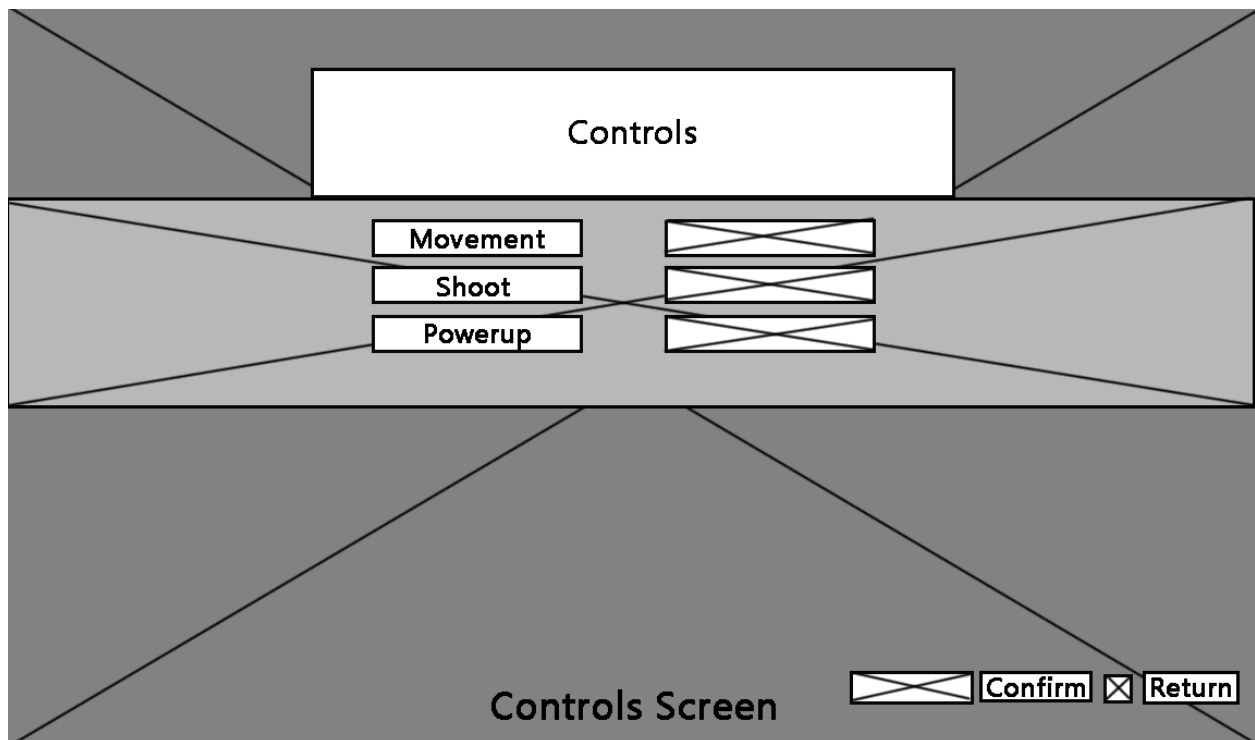
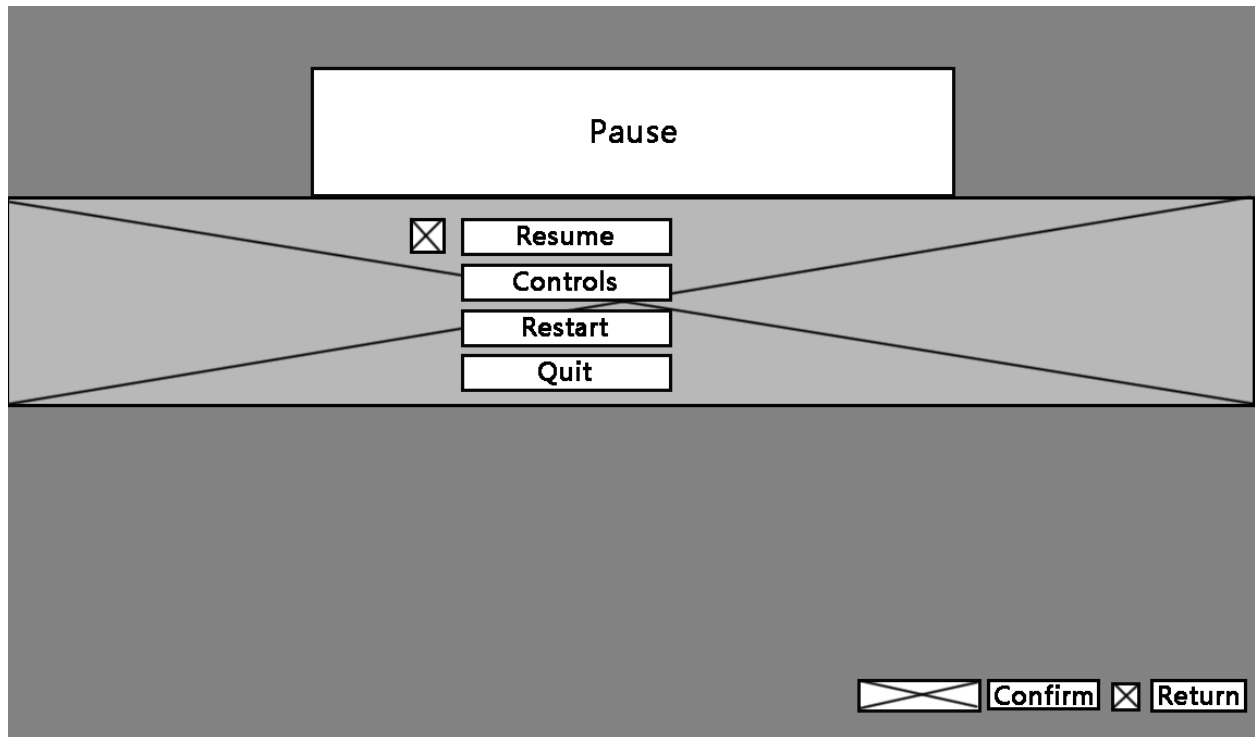
User Interface

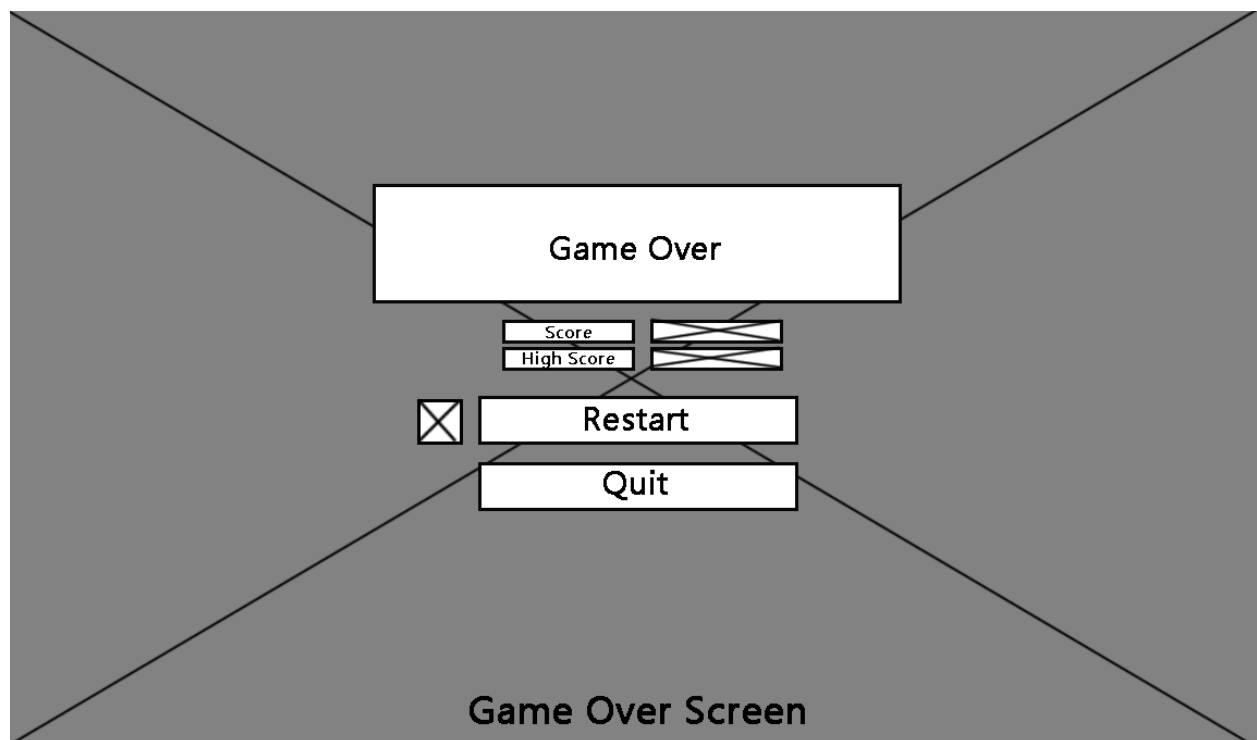
Sitemap:



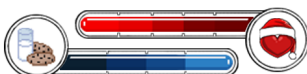
Wireframes:







Finished UI Design:



PAUSED

RESUME
CONTROLS
RESTART
QUIT



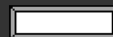
CONFIRM



RETURN

CONTROLS

MOVEMENT:
SHOOT:
POWERUP:



CONFIRM



RETURN



Style Guide (Aesthetics):

Theme: Christmas horror

Style: 2D side-view pixel art

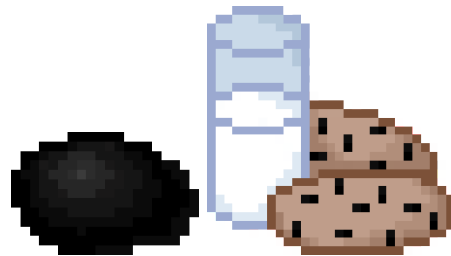
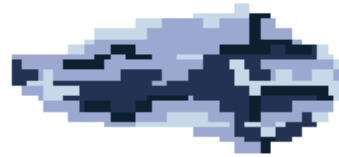
Tone/Mood: Festive (Christmas), Eerie, Tedious

Colors:



Concept Art:

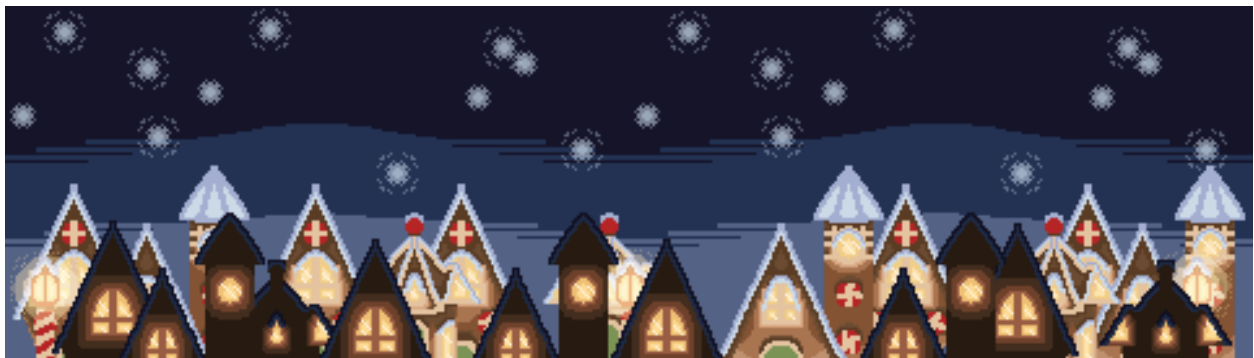




Environment: Winter wonderland/horrorland



1



2



3

¹ Santa's Workshop background

² Gingerbread Suburbia background

³ North Pole background



4

⁴ Candy Cane Forest background

Project Management and Production Plan

Timeline

Project Start Date:

October 24th, 2020

Project End Date:

December 7th, 2020

Deliverables List

Deliverable	Format	Technical Requirements	Comments
Executable Game	.exe	Computer	Executable game file
Unity File(s)	.Unity	Unity Engine	Compilation of game assets
Video Footage	.mp4	Computer/Monitor	Video file showing game off
Project documentation	.doc	Computer	Document showing off game development. This includes the group process book

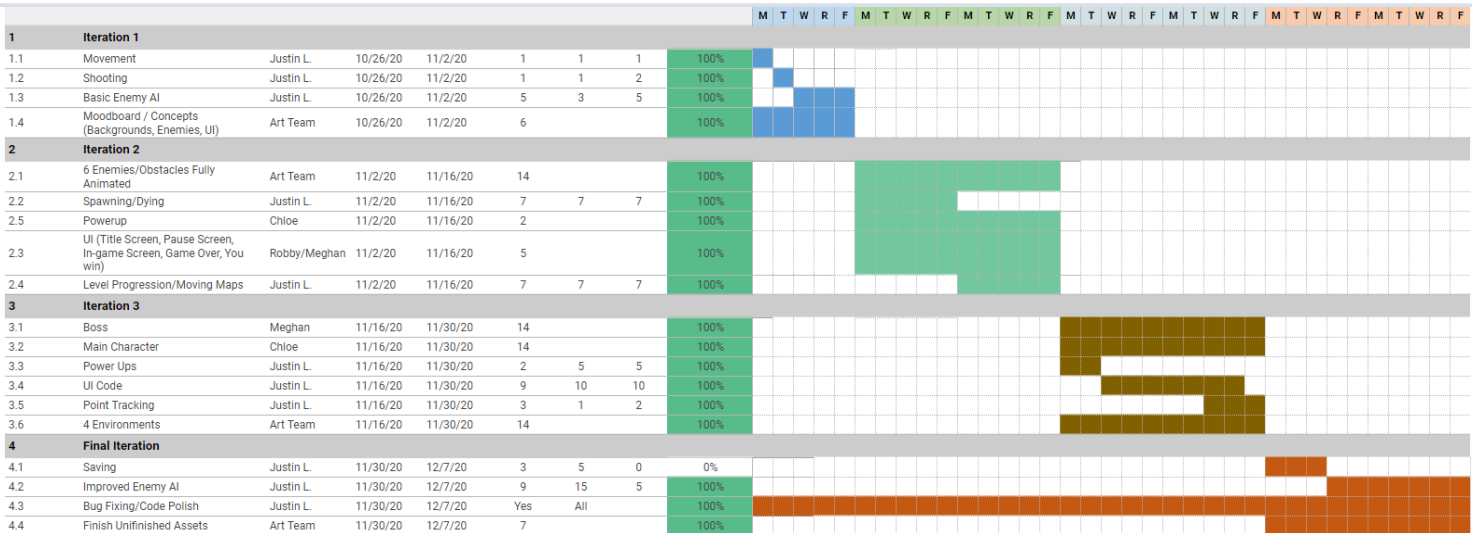
Gantt Chart

Link:

https://docs.google.com/spreadsheets/d/1XNeHVPdTB2h_eSfsC8P4SGZpBjWibt1AHwVjeVszUT0/edit#gid=1115838130

GANTT CHART TEMPLATE

PROJECT TITLE	Chrismassacre	COMPANY NAME	DAGD315 Group B
PROJECT MANAGER	Robby Rutkofske	DATE	10/24/20



Role Description

Roles	Authority	Responsibilities
<ol style="list-style-type: none"> Project Manager Programmer Artists 	<ol style="list-style-type: none"> Team Management Programming Art assets 	<ol style="list-style-type: none"> Assigning tasks, keeping everything on track Game Mechanics Art Assets

Responsibility Chart

Tasks:	Project Manager	Programmer	Art Team
Assign Tasks	X		
Design Characters	X		X
Design Environment	X		X
Program		X	
Animate	X		X
Audio	X	X	X

Contact Info

Justin Lai:

Email: laij3@ferris.edu

Robby Rutkofske:

Email: rutkojr@ferris.edu

Meghan Casey:

Email: caseym1@ferris.edu

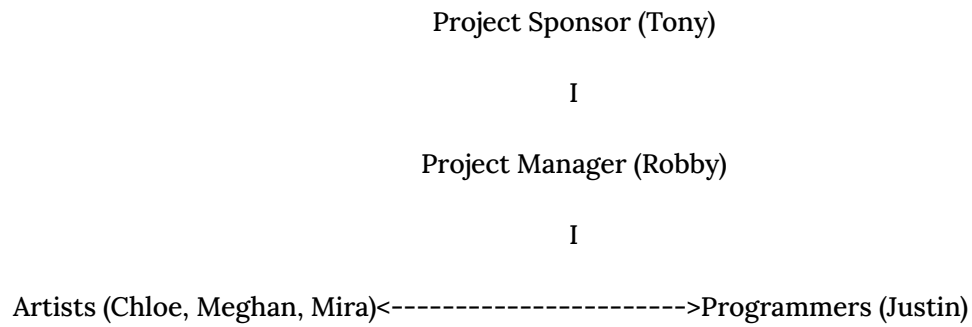
Chloe Stetson:

Email: stetsoc@ferris.edu

Mira Harmon:

Email: harmonm4@ferris.edu

Prioritized Stakeholders



Direct Stakeholders

Chloe Stetson
Justin Lai
Meghan Casey
Robby Rutkofske
Mira Harmon

Indirect Stakeholders

Ferris Faculty
Game Users

Production Support Systems

File Sharing and Communication

- Discord
- Google Drive
- GitHub / GitKraken

Software

- Photoshop (Art assets/UI)
- Pyxel Edit (Art assets)
- Unity (Asset implementation/Programming)

Hardware

- Drawing tablet
- Windows 10 PC
- Keyboard and mouse

Communication Plan

Reason	Channel	Audience	Timing	Responsible	Comments
Weekly Meeting	DAGD315 Discord Channel	Project Team	Weekly - Tuesdays @ 6	Robby	
Weekly Checkup	DAGD315 Discord Channel	Project Team	Friday/Saturday	Robby	Checkup to see progress on current asset
Meet as needed	DAGD315 Discord Channel	Project Team	As needed	Robby	

Quality Assessment

Category	Expected Quality
Characters	Professional
Animations	Professional
Background Art	Professional
Aesthetics	Professional

Risk Assessment and Mitigation

Low Concern		Medium Concern		High Concern	
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Likelihood: 1 = Unlikely, 2 = Infrequent, 3 = Possible, 4 = Likely, 5 = Near Certain

Factor	Indicator	Impact	Likelihood	Mitigation
Time Constraints	Heavy workload/other commitments		5	Create a schedule, plan out times for other classes and commitments.
Illness	Corona or other		3	Make time for a day off if needed.
Time Mismanagement	Not keeping up with tasks or meeting deadlines		3	Meet weekly goals. If fallen behind, take extra time to catch back up.
Physical Injuries	Broken bones, torn muscles, etc.		1	Work carefully if possible, plan for time off.
Legal Issues	Not having access to certain software		2	Speak to ferris faculty, find other alternatives, go into lab if needed
Loss of Internet	No home access		1	Go to parents house, go into lab
Hardware Failure	Can't work on device		2	Backup all files, go into lab

Legal Concerns

- Not having the correct versions of certain softwares

Addendums

Background Information

When coming up with the idea for our game, it was around the time of Halloween. We wanted the game to be spooky, but we knew by the time it was finished it would be Christmas season. We decided to implement both holidays into one game with Christmassacre.

Evidence of Research

Pixel art tutorial:

<https://www.youtube.com/watch?v=rLdA4Amea7Y>

How to make parallax backgrounds:

https://www.youtube.com/watch?v=7_qw0tWR3yk

How to animate pixel art:

<https://www.youtube.com/watch?v=mnJb5iwYAmg>

How to make sprite sheets:

<https://www.youtube.com/watch?v=ou8VkQB2sos>

What size is pixel art?

<https://www.youtube.com/watch?v=ad-3dn2qUUs&start=221>

How to make a simple tileset:

<https://www.youtube.com/watch?v=8o16EmvSyNg>

Canvas size for pixel art:

<https://graphicdesign.stackexchange.com/questions/49820/what-canvas-size-should-i-use-to-draw-pixel-art-for-an-8bit-game>

Inspiration Reference



Santa photo 1: <https://www.illetefitness.co/12-lifts-of-christmas-2019.html>

Santa photo 2: https://www.reddit.com/r/PixelArt/comments/7c6q4q/oc_buff_santa/

Pokemon Emerald Credits: <https://www.youtube.com/watch?v=7tEelG9FjXM>

Walt Disney's MultiPlane Camera: <https://www.youtube.com/watch?v=YdHTIUGN1zw>

Similar Project/Genre Reference

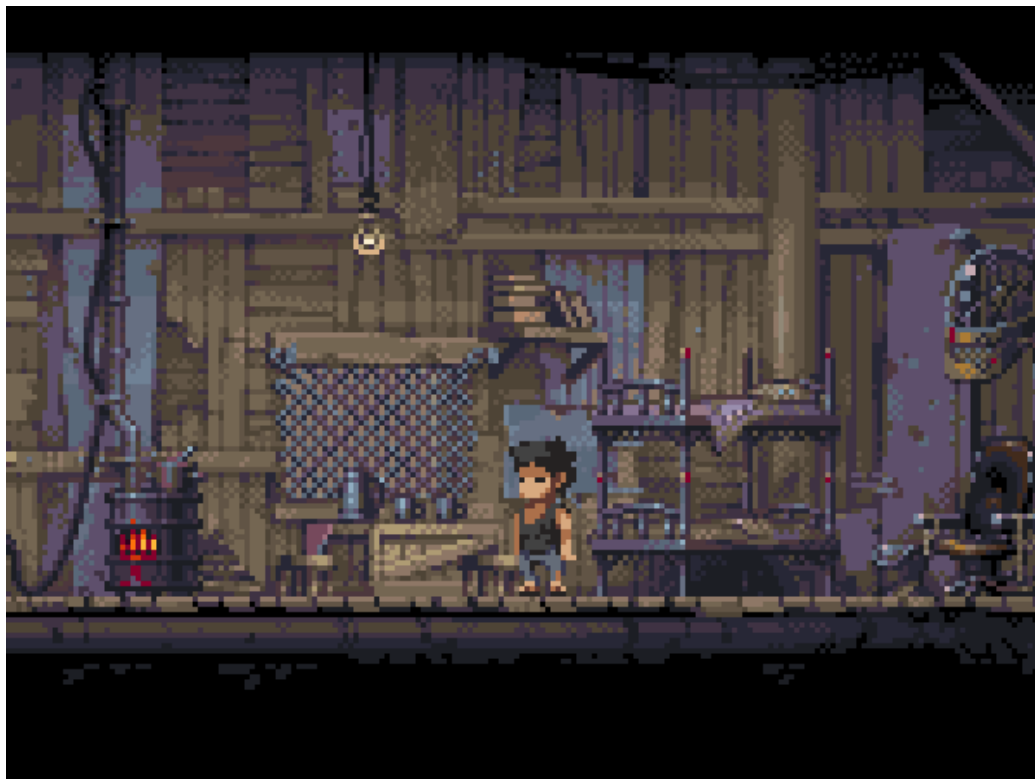


Photo 1: <https://themessengergame.com/>

Photo 2: https://katana-zero.fandom.com/wiki/Studio_51

Hotline Miami: <https://hotlinemiami.com/>