Game Design Document

v 1.0

Change Log

09/09/22   v0.1   GDD Draft Start Date

16/09/22   v0.2   GDD First Draft

20/09/22   v0.3   Reworded and altered Mechanics section, Supplemental Sections Added, Art Bible linked, Controls altered.

21/09/22   v0.4   Added audio influences, Game loops altered, Elevator pitch made, Health bar UI explanation, Milestones completed, Overview completed, Unique Selling Points completed,

25/09/22   v0.5   Added Technical Limitations, UI Design example,

28/09/22   v0.6   Changed game name to 'Chumpkins'

12/10/22   v0.7   Changes to GDD based on Teacher Panel Feedback - Defined trap damage and fire spreading, Determined Dead Player influence on game, Determined Camera PoV, Defined Health and Movement Speed interactions.

19/10/22   v0.8   Changes to GDD based on Industry Panel Feedback - Added Panic Button, Defined spawning locations of traps, Reviewed Dead Players, Added Game Conclusion

21/10/22   v0.9   Team members signing GDD Agreement.

10/11/22   v0.10   Changes to GDD based on Alpha testing feedback. Striking out Dart Traps, Part of stuffing, Ghost players,

11/11/22   v0.11   Further changes to the GDD based on Alpha testing feedback. Changing traps values (damage/timings), Changing Combat values (cooldowns), Changing options in Game Conclusion. Striking out Health Bar Scaling.

18/11/22   v0.12   Added laser trap to Traps.

30/11/22   v0.13   Changed Roll name to Dash in Combat, Changed Roll name to Dash in Controls, Changed approximate game length in Session Loop, Removed yaw variation in Camera POV. Changed number of traps in Core Mechanics, Removed ghost players from Exit Loop.

2/12/22   v1.0   Released Gold Build

Table of Contents

OVERVIEW

Genre	Arena Brawler, Beat 'em Up, Party Game
Platform	PC
Point of View	Angled Top Down
Theme / Mood	Friendly, Happy, Stylized, Brawling, Party
Target Audience	Teenagers, Family, Party Game Enthusiasts

Elevator Pitch

"Cuddly plushies, releasing their inner warrior as they fight to become the most loved toy in the house, in this four person, arena brawler, party game"

Game Overview

Chumpkins is a 3D, multiplayer battle arena game in which plushies battle and attempt to knock other players into various traps laid out across the map to become the last plushie standing. The game will feature 2 - 4 players in local multiplayer competing in combat, players win by being the last plushie left standing, with players taking damage by getting caught in traps placed throughout the map.

Setting Overview

Chumpkins is set in the bedroom of a child who likes to collect soft plush toys. The toys have come alive and are fighting for superiority and are fighting one another on top of the child's bed whilst avoiding dangerous traps that have been scattered throughout the arena.

Unique Selling Points (USP)

Chumpkins is a fun party brawler with stark contrasting traps, aiming to infuse the fun party sensation with survival tension.
The main selling points are:

- 4 player party game
- Plushie characters and world
- Simple gameplay
- Stark contrast metallic traps

GAMEPLAY

Core Mechanics

Mechanic 1: Traps

One of the core mechanics of the game is the traps which will be found scattered across the map(s). Traps will take 4 different forms:

Spike Traps

Upon collision with a Spike trap players immediately take 20 damage.
Spike traps are activated by a pressure plate and after it has been triggered, have a 3 second cooldown.

Saw Blades

Upon collision with a Saw Blade trap, players immediately take 20 damage.
These traps are constantly active (starts one side, travels to the other, then travels back to the initial side).

Fire Traps

If a player walks into an active Fire trap, players will take 25 total damage. 5 damage immediately and the remaining 20 damage over 4 seconds, as the player will be on fire.
Players cannot put out their fire. If a player who is on fire runs into another player, the other player is also set on fire for the remaining time on the initial player. (taking 5 damage per remaining second. E.g. If a player collides with a player who has been burning for 3 seconds, the player hit will only receive 10 fire damage (initial 5 damage and 1 second burn remaining).
Fire traps are activated sporadically, and have a 2 second cooldown after activation.

Laser Traps

During the waves of traps a laser trap will spawn. The laser trap will move left and right sweeping across the map. The laser trap is low and can be jumped over by Chumpkins. If a Chumpkin is hit by the laser trap the Chumpkins takes 5 damage.
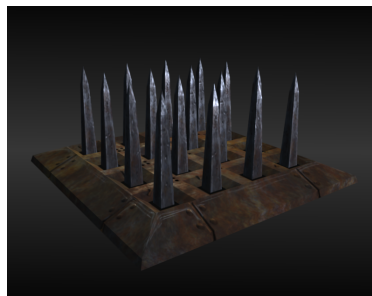
Example of a floor spike trap

Mechanic 2: Combat

Combat is a core part of Chumpkins as it is the main way in which the players interact with each other and directly interacts with the 'trap' mechanic, as the main objective of the game is to knock other players into the aforementioned traps using a 'Hit'.
Combat can be split into both offensive and defensive mechanics.

Offence - Hit

Players have the ability to use an offensive "Hit" which they can use to knock back other players. This will generally be used to try and knock others into traps to reduce their health/lives.
Players can use this attack by pressing B (Xbox)/Circle (PlayStation) on their controller.
Once a player has attacked, the attack will go on a 0.75 second cooldown, to prevent players spamming attack.

Defence - Block

Players have a defensive ability to block enemy attacks. The block mechanic will be used to significantly reduce the knock back of an opposing player's attack. Whilst a player holds a block, they are unable to move, incentivising the player to not hold the block the entire round.
After a player has successfully blocked an attack, that player's block will be put on a 4 second cooldown, preventing them from spamming the block continuously.
Players can use the block by pressing RB or LB (Xbox)/ R1 or L1 (PlayerStation) on their controller.

Defence - Dash (Panic button!)

Players will also have a defensive ability 'Dash'. The dash is used as a last ditch effort to get the player out of a situation in which they would otherwise be in lots of trouble (for example, all 3 other players working together to shove them into a trap). The dash makes a chumpkin move quickly in a direction the player chooses.
Once in the dash, the player is unable to change their trajectory. After the dash, the ability has a 3 second cooldown. This is to prevent dashing becoming the main way of moving.
Players can use the dash by pressing X (Xbox)/ Square (Playstation) on their controller.

Two players in Fall Guys using combat abilities.

Mechanic 3: Health/Lives

Players will have 100 health as well as three lives. The player's health is visually represented as the stuffing within their character.
When a player takes damage their character loses stuffing, visually represented by a stuffing particle effect as well as the character model becoming more limp / deflated.

When the player's health becomes zero and they no longer have any stuffing their character loses a life, after losing a life the player is respawned at one of the spawn points with their health reset to 100. If the player has no lives left when they reach zero health, their character dies and they are out.

Players health percentage in Smash Bros and a damaged bear leaking stuffing.

Other Mechanics

Other Mechanics 1: Game Conclusion

The Chumpkins play area will be rectangular.

After a set amount of time, traps will spawn around the outside of the play area. These rows will decrease the play area significantly, forcing players closer to each other and making it much easier for a player to be hit by traps.

Once all but one player has had their lives and stuffing fully depleted the game is finished. Once the game is finished, players are brought to a podium screen. This screen shows off the winner, and is where players can choose to either go back to the main menu, quit the game or play another game.

Image depicting rows of spike traps spawning and reducing play area

Controls

Example controls shown on an Xbox controller

Chumpkins Controls (using xbox as reference)
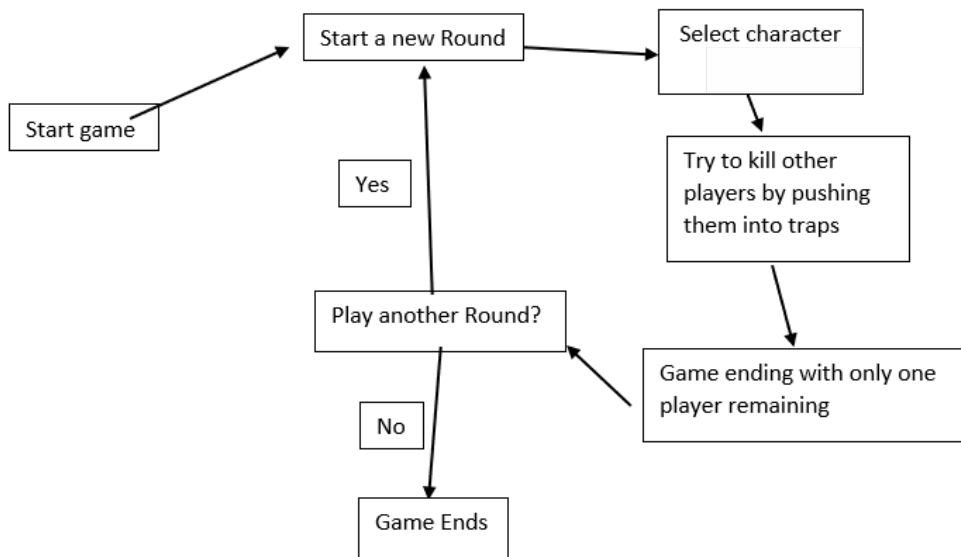Left Stick - Movement
Start - Pause/Menu
A - Jump
B - Hit
X - Dash
RB or LB - Block

Game Loops

```
Start game ──────► Start a new Round ──────► Select character
                        ▲     │                    │
                   Yes  │     │                    ▼
                        │     │            Try to kill other
                        │     │            players by pushing
       Play another Round?    │            them into traps
          │        ▲          │                    │
          │        │          │                    ▼
       No │        └──────────┤            Game ending with only one
          ▼                   └────────────player remaining
       Game Ends
```

Moment to Moment Loops

While in the level the player must make decisions based around where they are positioned on the map, and where the other players/traps are positioned. They must decide where they should move based on these things, they must also decide what combat mechanics they should use. Whether the best option is none at all, or if they should attack/block/dash.

Level Loops

The player will spawn into the level, they will locate all traps as well as where the other player's are. They will then use the traps to hurt the other players until they die and there is only one player left alive, at which point the level will end.

Game Loop

A game loop starts with players starting a new game where they will then play through a round. The last player left who hasnt run out of their 3 lives wins the round. They are then brought back to the victory screen, where players can either choose to begin another game, or to stop and return to the home menu where they can close the game.

Session Loop

Players get on and start a game. This game will last around 2-4 minutes, depending on how long it takes for all players but one to lose all their lives. Once that game ends, the players can choose to either start another game, or stop playing.
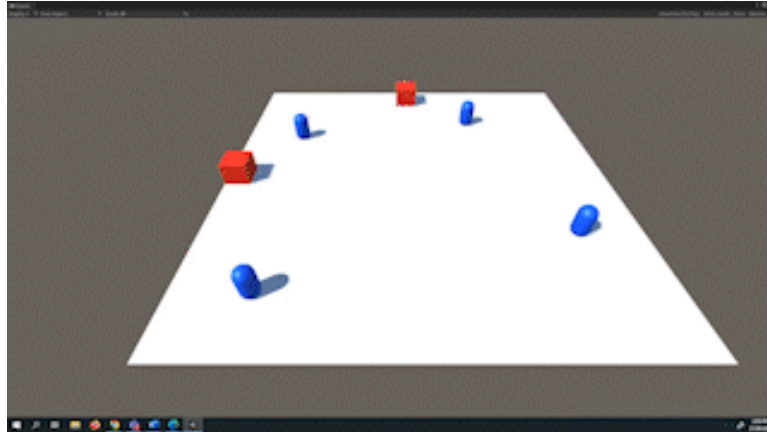
Exit Points

Each round of Chumpkins is the last man standing. The exit points for Chumpkins are at the end of each match, once all players except the winner have been eliminated.

Prototype Method

Once early scripts have been implemented and the initial core of the game has been made, a greybox level will be made to test out the sizing of the map, distribution of traps and allow testers to determine whether the feel of the players is suitable or needs adjusting.

Greybox

GIF of a greybox level. (Red = Traps, Blue= Players)
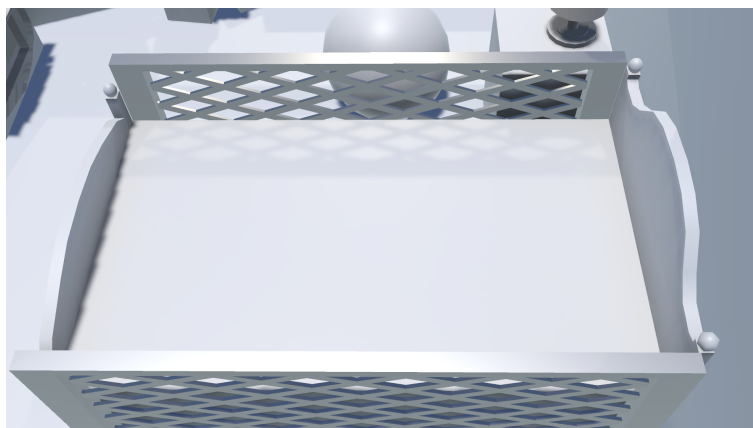
LOOK & FEEL

Art Style and Mood Board

Art Bible
https://docs.google.com/presentation/d/1tagYn2v4Xhz6iWZUKOTnHnhYFgyEcmw3cOp5uc7Y6Vo/edit?usp=sharing

Camera Point Of View

For Chumpkins the angle of the camera will be 55 degrees. It will move across the map and zoom in and out based on the position of the players.

Example camera Point of View.

Art Influences

The art style of Chumpkins is a mix of soft friendly plushies and shiny semi-realistic metals. The environment and players will use a soft / plushie artstyle, which will be heavily contrasted by the much more sharp / shiny metals used sparingly throughout the level, specifically in the traps and other points of interest.

Details of the first art influence

It Takes Two

The aspect of It Takes Two that will influence this game is the stylized realism art style. This art style will attract players of all ages and encourage a wide range of players.

https://en.wikipedia.org/wiki/It_Takes_Two_(video_game)
https://www.hazelight.se/games/it-takes-two/

Screenshot of a cutscene in It Takes Two.

Details of the second art influence

Happy Tree Friends

The aspect of Happy Tree Friends that will be brought into this game is the combination of happy friendly characters combined with a violent dangerous world.

> https://en.wikipedia.org/wiki/Happy_Tree_Friends
> https://mondomedia.com/channel/HappyTreeFriends/videos
> https://happytreefriends.fandom.com/wiki/Happy_Tree_Friends_Home

Lumpy from Happy Tree Friends stuck in a trap.

Audio Influences

Audio design aims to be similar to a child's cartoon, with darker, scarier sounds for traps/weapons. The characters in the game are stuffed animals, while the traps are rusty, sharp objects and thus the audio will reflect this. This is why the following audio influences were chosen.

Toy Story 2: Buzz Lightyear to the Rescue

The noises Buzz makes within the game are what we are taking influence from. When Buzz performs a double jump, his wings deploy. When they deploy this plastic moving sound plays. This is because he is a toy and his wings/ backpack would be made out of plastic and therefore make that sound.

https://en.wikipedia.org/wiki/Toy_Story_2:_Buzz_Lightyear_to_the_Rescue

In game screenshot of Buzz who just deployed his wings, which produced a plastic(the wings) moving against plastic (the backpack) sound.
Source: http://speed-new.com/toy-story-2-buzz-lightyear-to-the-rescue-full-pc-game

Saw (video game)

In this game, there are many metallic, sharp traps. These traps have scary, rustic noises. These sounds are perfect for the game as they heavily contrast the lighter, cartoonish toy sound effects of the game. This makes the traps appear more threatening and scary for the player.

https://en.wikipedia.org/wiki/Saw_(video_game)

In-game screenshot of a character in the saw game with the 'Reverse bear trap" on their face. This trap, when activated, makes a sharp metal sound, as it rips through the character.
Source: https://www.youtube.com/watch?v=K64DkTPPdGs

Mechanic Influences

First Mechanical influence - Movement

Game Name - Fall Guys

The movement of Chumpkins is inspired partially by Fall Guys, the aspects of the movement which inspire our game are the semi-floaty controls and the 'bouncy/jiggly' physics.

https://en.wikipedia.org/wiki/Fall_Guys
https://www.fallguys.com/en-US

Player characters running in fall guys.

Second Mechanical influence

Game Name - Super Smash bros

Chumpkins is partially influenced by Super Smash Bros, as the combat interactions are changed depending on the health of the player, in Chumpkins the more health the player has the less knockback they receive, as the player loses health they gradually take more knockback.

https://www.smashbros.com/en_AU/
https://en.wikipedia.org/wiki/Super_Smash_Bros.


The player has received more knockback from the same move.

Third Mechanical influence

Game Name - Gang Beasts

Gang Beasts is a mechanical influence in the level design of Chumpkins as both games feature level design which incentivises players to use their environments to defeat other players. The majority of Gang Beasts levels have at least one way of using the environment to kill your opposition, whether it be throwing them off the edge of the map, or into some kind of obstacle, this is similar to Chumpkins as the level is filled with dangerous traps which the players can use to deal damage to their opponent.

https://en.wikipedia.org/wiki/Gang_Beasts
https://gangbeasts.game/
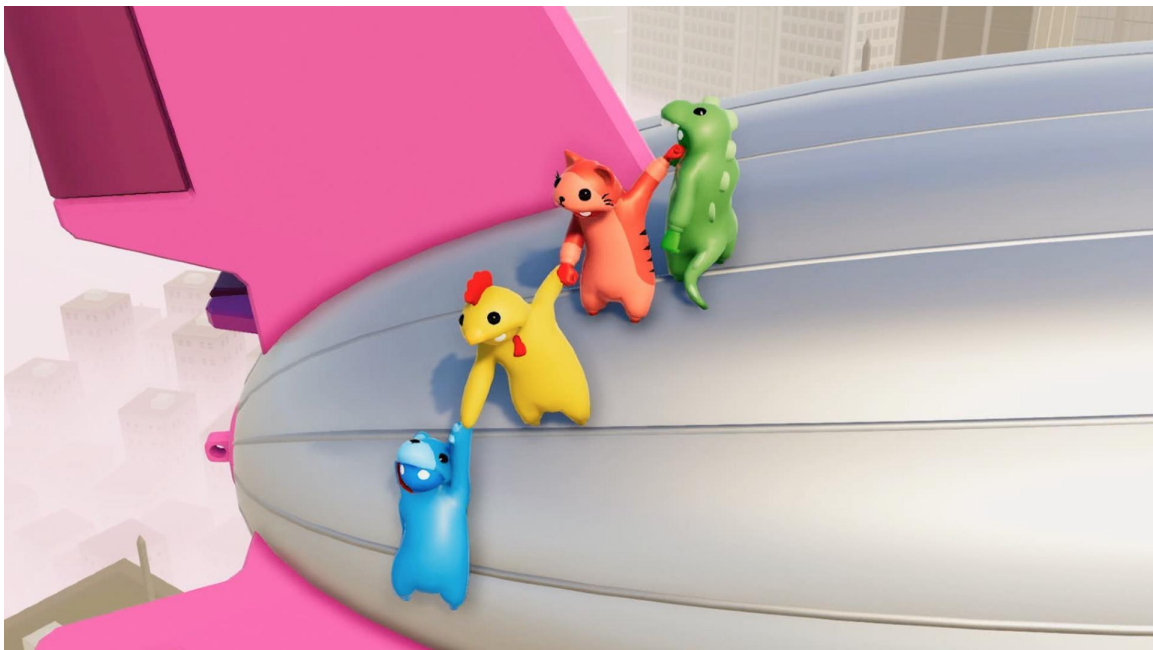
A Gang Beasts player about to be dropped off the side of a blimp

SCOPE & RESOURCES

Team Members

Producer
- Sam Benson

Designers
- Sam Benson
- Henry Breust
- Ethan Calcatjicos
- William Rushby

Artists
- Luna Botezatu
- Max Burns
- Todd Fanning
- Catherine Joore
- James Stone
- William Stone

Programmers
- Harley Clark
- Finn Davis

Scope Overview

The completion of this project is expected to take 10 weeks, with 4 weeks of pre-production and prototyping and 6 weeks of development.

Design Scope
> https://docs.google.com/spreadsheets/d/1WfkuCo-EQyCqIt0beJkugC8Pcv9rqwjv8QbOtp0W90Q/edit?usp=sharing

Art Scope
> https://docs.google.com/spreadsheets/d/1Z_27pIo1RFnX1IbdAHiGcAT5P_b-YMbxvxktjW_eojU/edit?usp=sharing

Programming Scope
> https://docs.google.com/spreadsheets/d/1Jfj9VF03jrE5BSB5o5YbNBK_8C78yBne/edit?usp=sharing&ouid=113659728685005082207&rtpof=true&sd=true

Milestones

For Chumpkins there are four major milestones to hit. These are:
- Pre-Production - 21/10/2022
    - All Pre-Production documents complete and a prototype made.
- Alpha - 04/11/2022
    - All core functionality implemented into the game. Greybox/Blockout level.
- Beta - 18/11/2022
    - All core functionality, extra features added, textured correct models (some colours) for level.
- Gold - 02/12/2022
    - Completed game, finalised functionality, finalised textures.

Technical Limitations

The production of Chumpkins is limited by a few things. These include:
- Being limited to four controllers, as more than four players will congest the game and separate maps would have to be made to accommodate extra players.
- Chumpkins is limited to local multiplayer as online multiplayer cannot be achieved by completion date.
- Lastly, due to the lack of AI Chumpkins has to be played multiplayer.

Supplemental

Below are various Supplemental sections that go into more detail. (Such as Upgrades, Levels, Enemies, Puzzles, Shop, Styles, etc.)
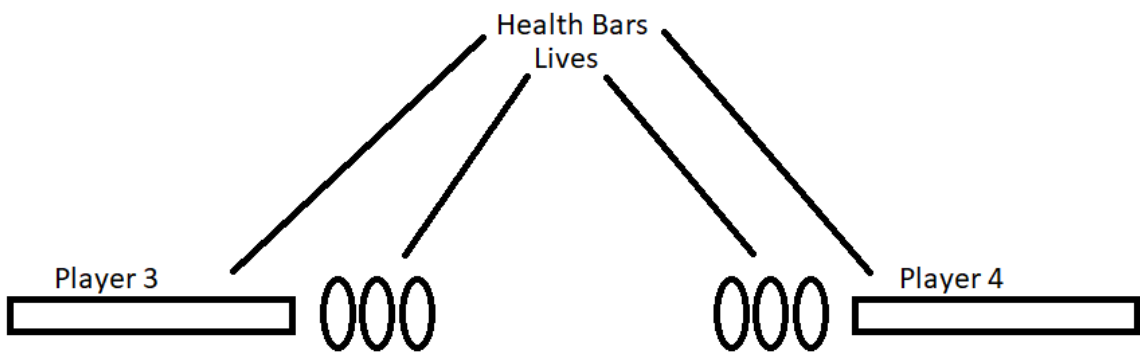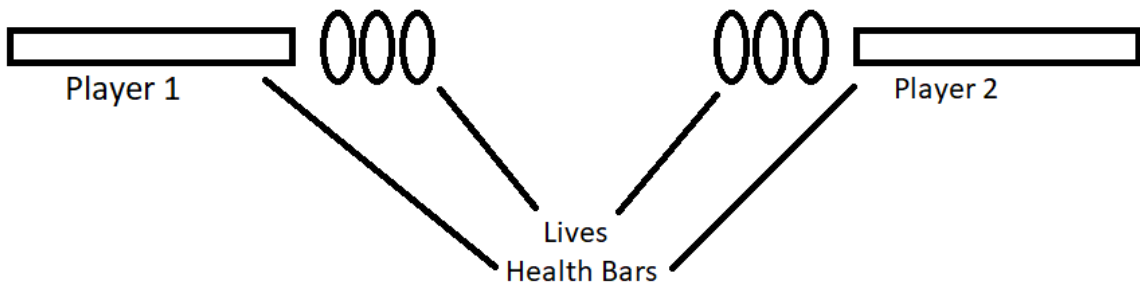
Level Design

Below are some initial drawings and artist block outs of ideas for the Chumpkins level.
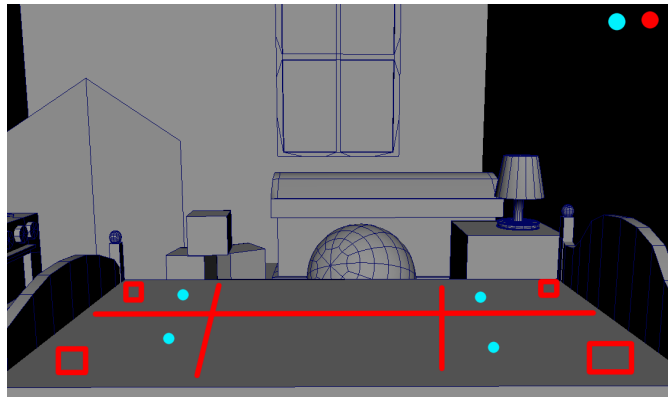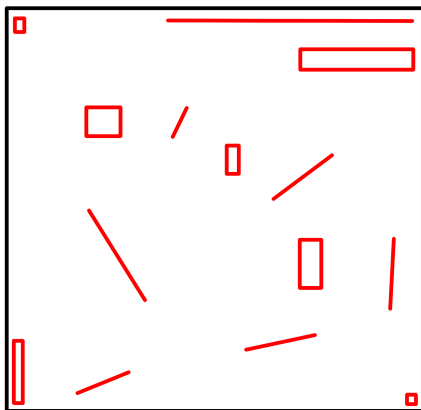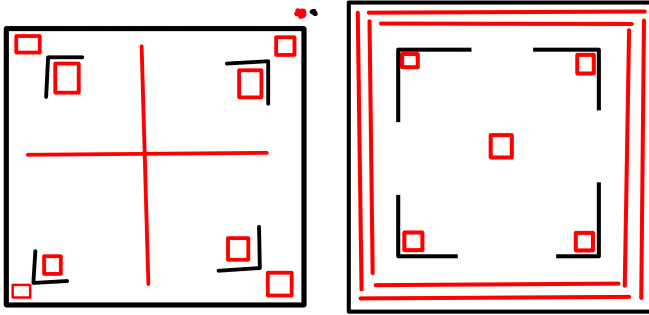
UI Design

Below is an example layout of the in-game UI during a game of Chumpkins. The UI shows the players current health/stuffing and remaining lives.

Player 1

Player 2

Lives
Health Bars

Health Bars
Lives

Player 3

Player 4

Initial example UI for Chumpkins

GDD Contribution

Below outlines the sections of the GDD which were contributed by the following designers.

Sam Benson
- Adjustments to Elevator Pitch
- Game Overview
- Unique Selling Point
- Formatting changes to Core Mechanics
- Art Style and Moodboard
- Adjustments to Dead Players (following teacher panel feedback)
- Camera POV
- Art Influences
- First Mechanical Influence
- Scope and Resources
- UI Design - Layout
- General Formatting Adjustments
- Change Log Formatting

Henry Breust
- Mechanic 3 - Health / Lives / Stuffing
- Adjustment to Other mechanic 1 - Ghost Players (following teacher feedback & industry feedback)
- Second mechanical influence (SSB)
- Third mechanical influence (Gang beasts)

Ethan Calcatjicos
- [Game Loops](#)
- [Controls](#)
- [Elevator Pitch](#)
- [Audio Influences](#)
- [Prototype Method](#)
- [Other Mechanics 2- Game Conclusion](#)
- [Adjustments to Mechanics (following teacher and Industry panel)- Combat, Traps](#)

William Rushby
- UI Design - Health bar scaling
- Initial Level Design drawings
- General grammar and sentence structure improvements
- Parts of Overview table
- Mechanic 1 - Traps
- Mechanic 3 - Health / Lives / Stuffing
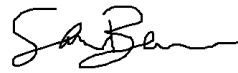
Team GDD Agreement

You sign this document to show that:

- You have read and understood the Game Design Document (GDD) provided by the designers.
- You are happy to work on this game to the best of your abilities.
- You will treat your team members with respect even if you disagree on a topic and you will aim to resolve any disputes that you have.
- You understand that during the production process ideas, mechanics, systems, and required art assets may change and this may impact work that you need to do or have done.

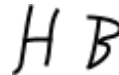**Designer 1**

Name: Sam Benson   Signature: Date: 21/10/2022

Designer 2

Name: Henry Breust   Signature: Date: 21/10/2022

Designer 3

Name: Ethan Calcatjicos   Signature: Date: 21/10/2022

Designer 4

Name: William Rushby   Signature: Date: 21/10/2022

Programmer 1

Name: Harley Clark   Signature: Date: 21/10/2022

Programmer 2

Name: Finn Davis   Signature: Date: 21/10/2022

Artist 1

Name: Luna Botezatu   Signature: Date: 21/10/2022

Artist 2

Name: Max Burns   Signature: MaxB   Date: 21/10/2022

Artist 3

Name: Todd Fanning   Signature: Date:21/10/2022

Artist 4

Name: Catherine Joore   Signature: Date: 21/10/2022

Artist 5

Name: James Stone   Signature: James S   Date:21/10/2022

Artist 6

Name: William Stone   Signature: Date:21/10/2022