Design Document for:

Unfeel Tournament

The Feel-Good Fighting Game

"Feel, don't conceal!"™

Written by Alexia Bareno, Raymond Lam, Jasmine Nguyen, Joseph Park, Kevin Permana, and Kaung Tun
Version # 4.0

Tuesday, December 6, 2016

Design History

In this section of the document, we intend to show you the design progress that we have made for Unfeel Tournament during its development. Like with every document, it will walk you through step by step; therefore, we will be showing you what we were able to complete during each version. Many design documents change while game development is in progress, so we want to portray that progression of change here.

Version 1.0

Version 1.0 includes some minor changes to the original document after creating the initial design for the project.

Included in the changes are:

1. Creation of philosophy within game
2. Answered “Common Questions”
3. Added to Feature Set

Version 2.0

Version 2.0 is where we included many major ideas about the game. Here, we include the general features of what we wish to achieve in this game.

Included in the changes are:

1. Adding more Feature Sets
2. Adding in the Game Characters
3. Adding in Multiplayer Game

Version 3.0

Version 3.0 contains many additions to the game, including the finalization of the UI and gameplay. These changes are refinements to our original ideas.

Included in the changes are:

1. Additions to the feature set
2. Adding in Single Player Gameplay
3. Adding in Musical Scores
4. Added to philosophy within game
5. Added to miscellaneous stuff
6. Added to User Interface

Version 4.0

Version 4.0 contains major changes to the document after finalizing the game.

Included in the changes are:

1. Additions to Appendix
2. Additions to Feature Set

3. Additions to Game World, Rendering System, Lighting Models, and Game Engine.
4. Additions to the World Layout
5. Additions to Game Characters
6. Additions to User Interface
7. Additions to Weapons
8. Revision of Musical Scores
9. Additions to Single Player/Multiplayer Game
10. Additions to Character Rendering

Version 5.0

Version 5.0 contains the final revision within the document.

Included in the changes are:

1. Revision of the entire document to ensure consistency/grammar.
2. Revision of game overview (common questions)

Game Overview

Philosophy

Philosophical point #1

This game aims to be a 2D multiplayer fighting game with an interesting backstory involving four characters who each represent a type of emotion. We understand that it is nearly impossible to achieve something that has never been achieved before, so we are taking a simple concept and adding our own story to it. We have found that many fighting games do not exactly have a story or a theme to its characters. Instead, many of these games would have several random characters that do not necessarily fit together, but nonetheless fight each other for some unexplained reason. The general fighting concept is the same: “a fight to the death.” The game will be made with an existing engine, Unity, but the art will be a mixture of pre-made and new art.

Philosophical point #2

Our game will run on any computer regardless of whether it has Unity or not. We want to create the game using Unity, as opposed to other engines, because we know that it will help us create a fun game for others to play much more easily while still having the powerful tools included in more complex engines. We understand that Unity does have a steep learning curve, but we know that the payoff of using Unity will be worth it. Our target platform will be on Windows as we are most familiar with that OS.

Philosophical point #3

We plan on making this game a multiplayer game only. We will not be able to include a single-player experience due to time constraints. Fortunately, the addition of 3 other players will only add to the exciting experience of playing a fighting game.

Common Questions

What is the game?

This game is a fast-paced 2D multiplayer fighting game similar to “Super Smash Bros.” The game pits different characters, emotions, against each other in various levels. Players must utilize the surrounding environment, and the weapons and items scattered throughout the level to fight to the death. The last emotion standing is the winner.

Why create this game?

We chose a 2D multiplayer fighting game because we are all familiar with fighting games. Not only is the game super easy to learn, it is also fun to play. Fighting games can get extremely competitive, and it already has a huge community and audience. However, we specifically chose to create this type of game because we believe that not many fighting games have a specific theme and story to it.

Where does the game take place?

This game takes place in a child’s, Billy’s, mind. The emotions of his mind have escaped and have traveled to distant “lands” imagined by the Billy.

What do I control?

The player controls a little block-man emotion. The player can choose their emotion at the start of a new game.

How many characters do I control?

Players can only control one block-man emotion at a time. However, the player has the choice of 4 different emotions at the beginning of each game: Happy, Sad, Angry, or Worried.

What is the main focus?

The player's main goal is to win the battle against the other players, as emotions, so that the winner's emotion can become the true emotion of Billy's mind.

What is different?

This game is different from other games of the same genre because this game actually has a theme to its fighting. Many fighting games have random characters added into it, and it normally does not make sense. Our fighting game has a purpose.

Feature Set

General Features

- 4 worlds
- Block-man emotion players
- 2D graphics
- 32-bit color
- 2D multiplayer arena

Multiplayer Features

- Up to 4 players
- Local competitive multiplayer

Editor

- 4 pre-made levels
- No editor

Gameplay

- Unique weapons catered towards “emotions,” and provide different playstyles
- Items that allows the user to have a temporary advantage of players, like having more health, restoring health, and moving faster.
- Unique faces based on attacking, dying, getting hurt, etc.
- A “controls” selection on the main screen that allows the user to check their controls in an easy manner.
- UI that is familiar, yet different from other fighting games.
- Hand-picked music from websites that give out free music.
- Levels represent different emotions’ homes.
- There is timed gameplay: it is set by the user and ends when the time is up.

- The player can choose the amount of lives the players will start with in the game.
- The player can choose how many people will play the game (up to 4 players).
- The player is given descriptions based on each emotion when they click on them (when selecting a character).
- Post-game statistics that shows the players' kills, deaths, damage dealt, and damage taken.
- Post-game story based on the winning emotion.

The Game World

Overview

Our game takes place inside the mind of a boy named Billy. He has imagined several lands that capture how he would feel if he were to find himself in them. Each of these lands correspond to a certain emotion and it is in each of these lands where the emotions will fight to see who gets to take control over Billy's brain.

All the game platforms are laid out in a way that is easy for user to navigate through. The artwork appeals to the user's emotion. Each level displays a different type of tone that sets the game apart.

World Level #1: Mountain Level

One of the levels is based on a mountainous region. Here, mountains can be seen in the background, with clouds above it. The physical part of the game consists of platforms: some floating, and others extended far above the ground. Falling is a real danger on this level, as these platforms are very high up. In this level, there is also much more vertical space; there are more platforms that are much higher than the other ones, compared to the other three levels.

World Level #2: Graveyard Level

There is another level based on a graveyard. Unlike the mountain level, this level is much more flat. There are some floating platforms, but they are not too far above the others. The level is decorated with tombstones and dead trees. The platforms themselves resemble the ground, with bones buried within. In the center of the level, a large full moon illuminates the level and the night sky. This level, other than the moon, is much darker than the other three levels.

World Level #3: Snow Level

The third level is a snowy level. Here, you can see mountains with snowy peaks in the distance, with a large snowy forest covering the base. The platforms are covered in snow, and the fairly brightly-lit night sky is clear with stars. The platforms have ice blocks, snow mounds, and snow-covered trees. Beneath the platforms lies the cold water.

World Level #4: Space Level

The final level is a space level. Unlike the other levels, this is not based on an area on Earth, but rather on space. Here the background is simply the dark vacuum of outer space. However, it is filled with life: there are stars and planets in the distance, and even alien creatures. Here the platforms are a some kind of futuristic platform. This is a unique level, in that it features a ceiling that prevents jumping too high. However, the same can not be said for the floor, as falling would mean your death!

The Physical World

Overview

The physical world is comprised of different levels. There is no real connecting physical world, other than the thematic one that this world is really a figment of Billy's imagination and mind. However, each of the different levels are based on general real-world areas.

Key Locations

Each of the four levels are based on real-world areas:

1. The Mountain Level
2. The Graveyard Level
3. The Snow Level
4. The Space Level

See World #1, #2, #3, and #4 above for more detail.

Travel

As stated previously, there is no real concept of a connected world; thus, there is no concept of travel between areas of the world. This "travel" is instead performed by choosing a level in the level selection screen in the main menu.

Scale

As this world is a creation of Billy's mind, the scale is something you would see from a child. Thus, you play as these emotions that are just a bit smaller than the ice blocks you see in the snow level, and you find trees just as small as these emotions. The scale used is not supposed to adhere to real life, nor is it supposed to be accurate. It is meant to be a colorful representation of how a child would imagine these places.

Objects

The objects of the game include: items, weapons, characters, and the levels themselves.

See the "Objects Appendix" for a list of all the objects found in the world.

Rendering System

Overview

The game will be rendered in 2D via Unity. All objects will have a sprite associated with it, which are cut and created from 2D images.

2D/3D Rendering

The game will be rendered in 2D via Unity. All of the sprites and objects found in the game will be rendered in 2D.

Camera

Overview

The camera will be dynamic, meaning it will be moving about, zooming in and out. The purpose of this is for the camera to always focus on the players, instead of the level.

Camera Movement and Zoom

The camera will always try its very best to fit all of the players onto the screen. This means, if the players move away from each other towards the edges of the level, the camera will zoom out to fit them all. Likewise, if the players move closer to each other, the camera will zoom in so that the players can be seen clearly. Similarly, the camera will move its position to follow the players.

Camera Bounds

As always, there are minimum and maximum sizes the camera can have. The camera will never zoom in so much that the surrounding areas are out of view. This goes against the camera's purpose to clearly show and focus on the players and what they can do. Similarly, the camera will never zoom out so far that the players can barely be seen.

Game Engine

Overview

We are using Unity as our game engine, and the default programming language is C#. By using Unity, we are forced to learn the steep learning curve in a short amount of time. However, we intend to ultimately create a beautifully-made game, despite the learning curve. Also, by using Unity, game will be more accessible. The building options are much simpler and easier to use, and users that have operating systems that support Unity will be able to enjoy the game.

Animation and Sprites

Unity handles the creation and usage of animation state machines in our game. We only simply set the triggers for transitions between animation states, and Unity handles the rest. Unity also handles the sprites similarly.

Sound Engine

Unity also handles the audio engine. We store the audio clips, and determine when to play each audio clip. Unity also provides audio mixers for us to handle interactions between different audio sources and channels.

2D Physics Engine

Unity has a built-in physics engine for both 2D and 3D. This handles things like force, friction, and gravity. As a result, we do not have to implement falling and moving; we simply add a force to an object, and Unity does the rest.

Collision Detection

Our game handles collision detection. Almost everything that happens is a result of a collision that is detected by the Unity engine. When Unity detects a collision, it sends a signal to the colliding objects which we can then use in-script to handle what to do for that collision. For example, things like landing on the ground, not falling through platforms, falling out of the level, bumping into other players, getting hit by bullets, and picking up items are all handled by collision detection.

Lighting Models

Overview

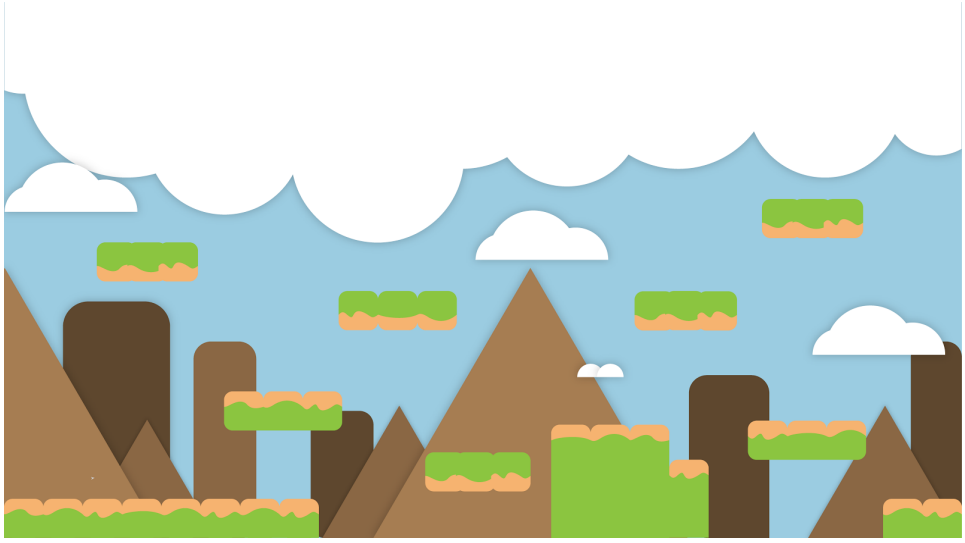
The lighting model used in the game will be just the stock lighting from Unity. The entire level will be completely lit, so there will be no shadows. This works well, as our game is in 2D, and there is no need to differentiate between different z-levels. Since Unity handles this, and we do not have to deviate from the default settings.

The World Layout

Overview

Each level represents each emotion. They act as the emotion's home state, figuratively. They are based on real-world areas, like mountains, snowy forests, etc.

The Mountain Level



This level reflects Happy McHappyface's emotional state. Because of his happiness, the level is well-lit and filled with vibrant colors. The green platforms represent his uplifting spirits. The clouds represents how pure his feeling are.

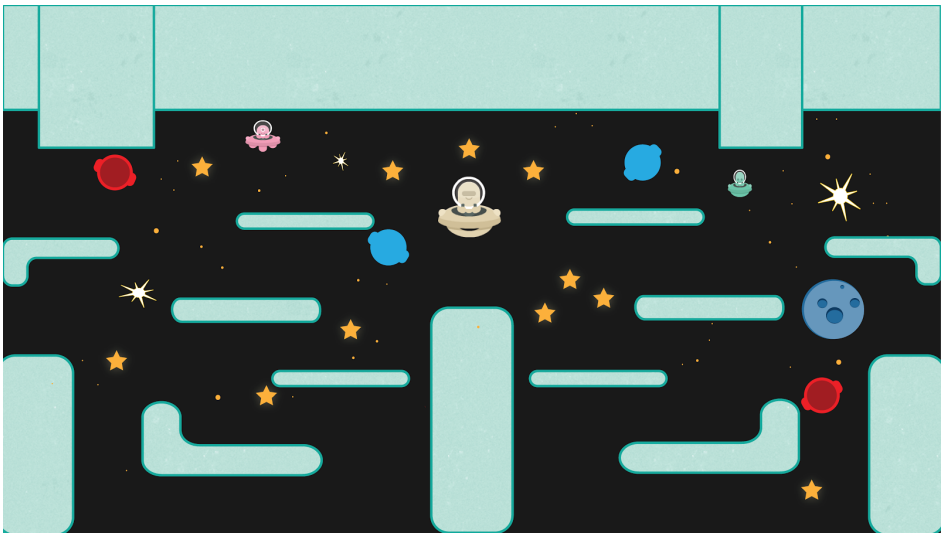
The Graveyard Level

This level is modeled after Saddle McSadface. Because of his sadness, the level is very gloomy, dark, and mysterious. The dark setting represents the emptiness in him. Overall, the layout is a physical representation of how he feels about the world.

The Snow Level

Wanda McWorry is constantly worried. The snow level is physical representation of herself. Even though snow is considered beautiful, it can be very stressful. Snow can cause a lot of inconvenience. When heavy snow traps people inside their own homes, it causes worry and anxiety.

The Space Level



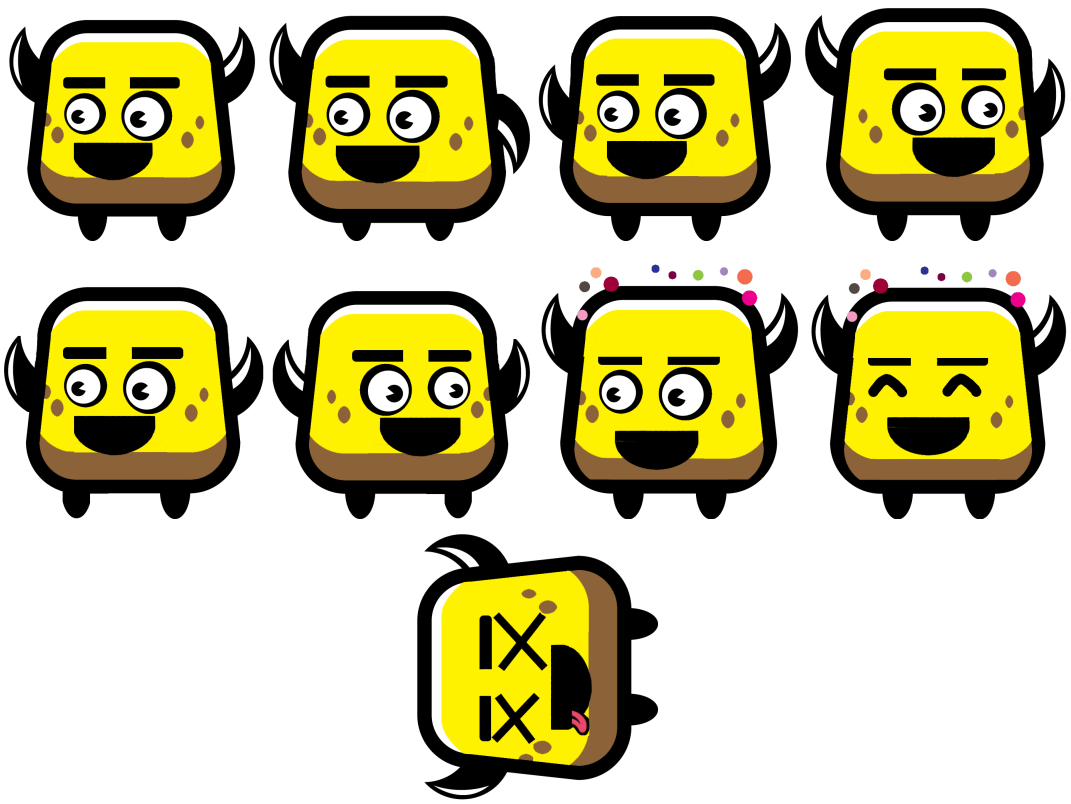
This layout represents the emotional state of Angie McAngerface. Because of her constant anger, darkness surrounds her. In this scenario, planets represent people, and the stars represent Angie's anger. When stars explode, it affects their surroundings, like the planets. This represents Angie's anger building up overtime; when she can no longer hold her anger, she lashes out.

Game Characters

Overview

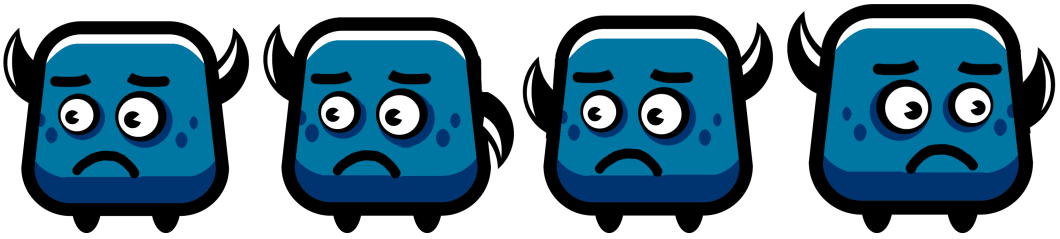
There are 4 different characters available to the players. All characters will represent a different emotion.

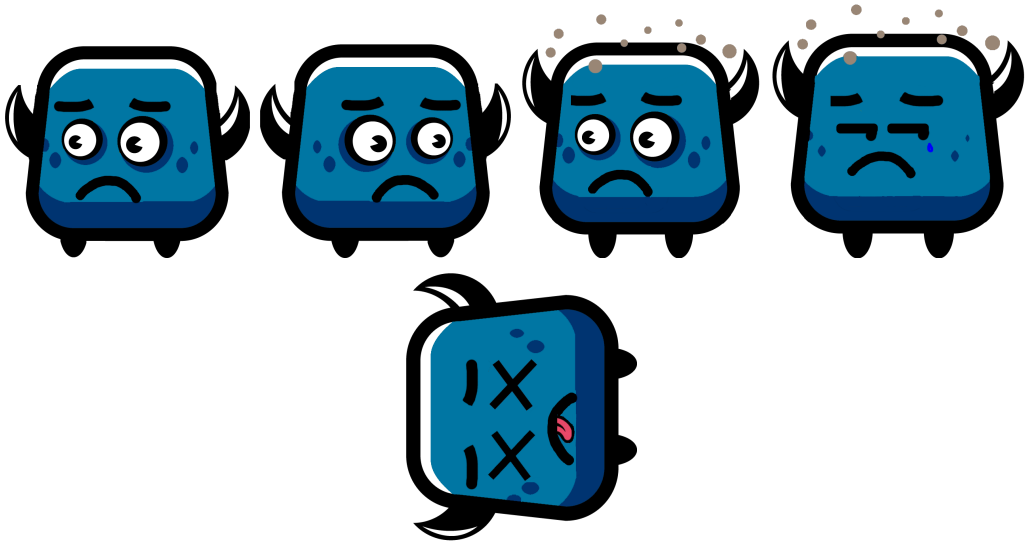
Happy McHappyface



Happy McHappyface believes the way to true happiness is to “fake it till you make it.” He wants to enforce a strict policy against others that will force them to smile and be happy… for their own good, of course.

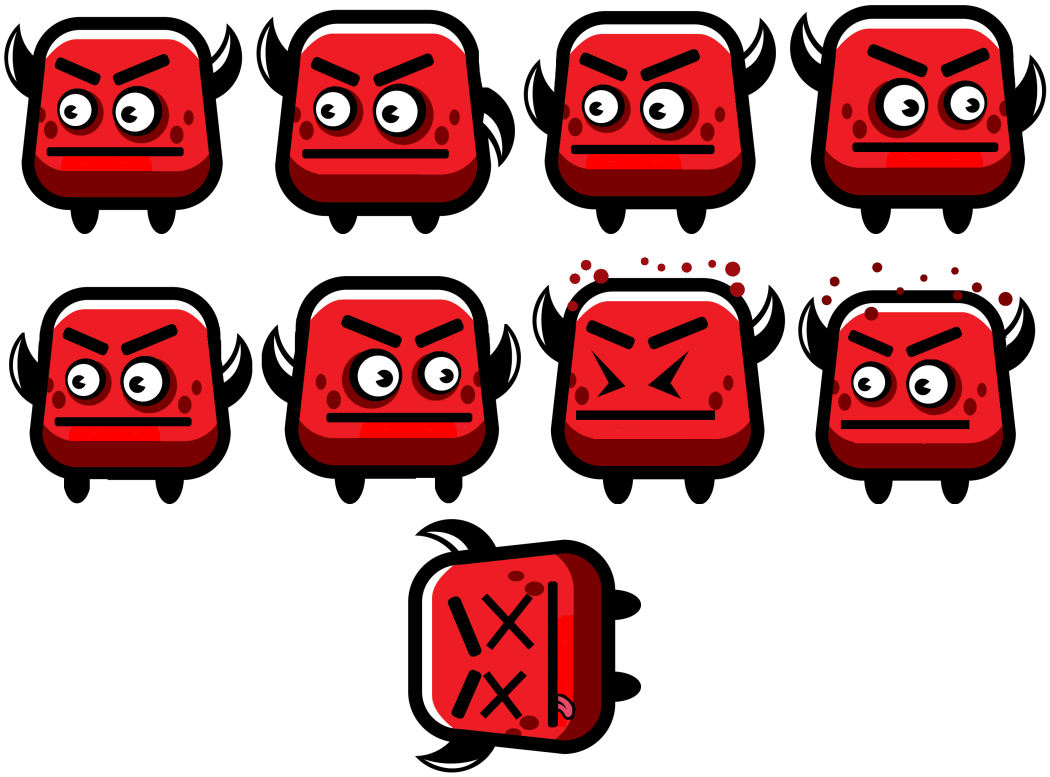
Saddle McSadface





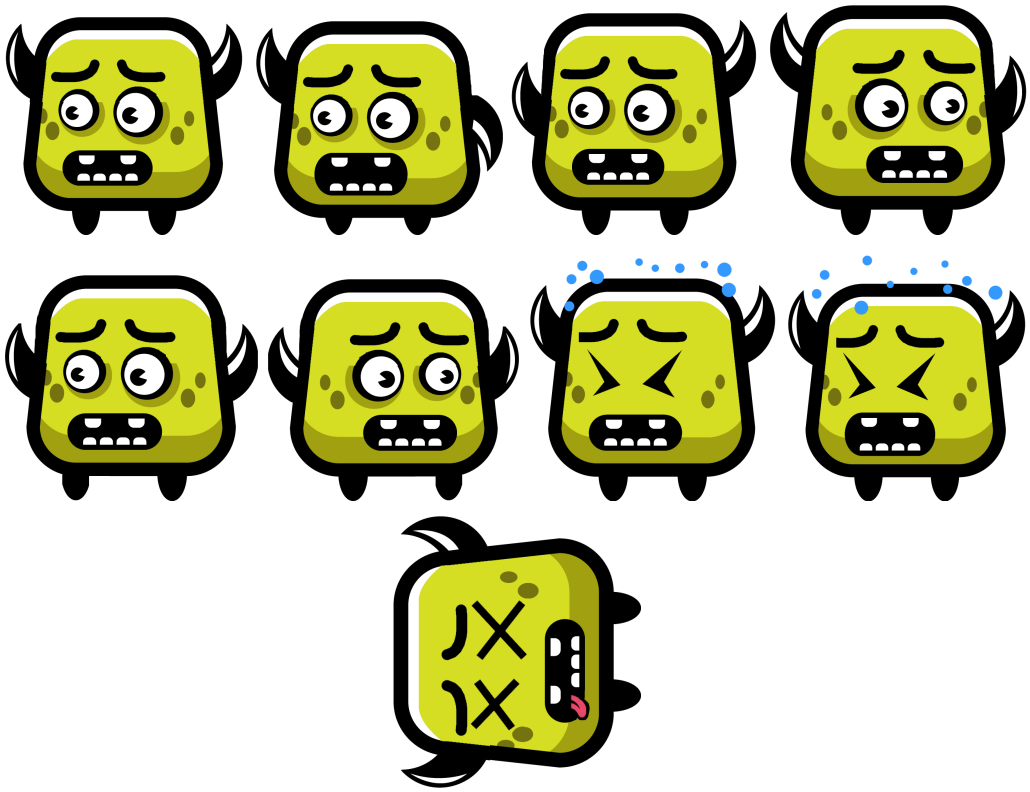
He is willing to tear others down to bring them to his depressive levels, so they can all mourn the state of the world together.

Angie McAngerface



Angie McAngerface just lost her dog and needs to let off some steam. Some people just want to watch the world burn.

Wanda McWorry



Wanda McWorry is anxious and always on edge. She means no harm but can not control herself when she is hit with a frantic panic attack. There is no telling what she will do next.

Creating a Character

The player will not be able to create or personalize their character, but they will be able to choose which character they can play. If the user decides to play Happy McHappyface, then that character will be theirs during the fight.

Enemies and Monsters

The enemies will be the other emotions. The player will try and defeat the other emotions in the arena.

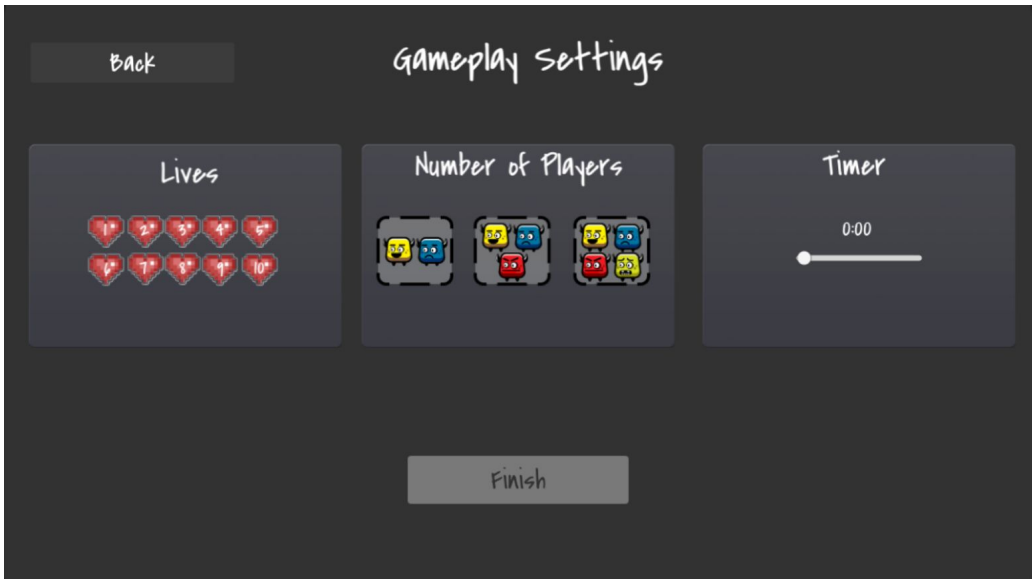
User Interface

Overview

The user interface is entirely created on Unity using their in-game options and other free assets within the Unity Store.

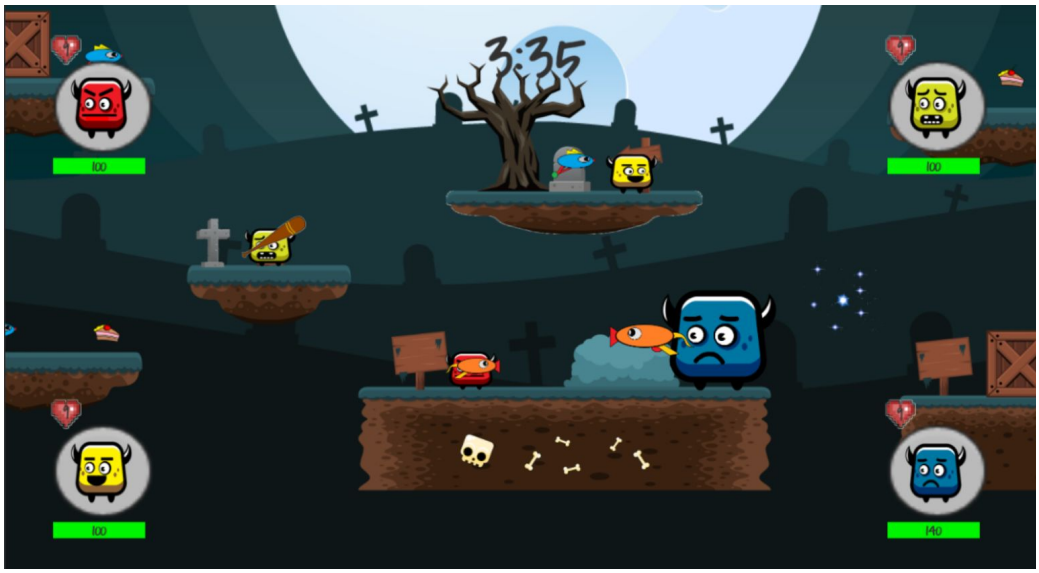
Main Menu User Interface

Main Menu: The buttons are “SF Generic_0” from “Unity Samples: UI,” the font is “CoveredByYourGrace” from Google Fonts, and the background is made entirely by our team member Alexia Bareno.



Gameplay Settings: The heart icon is from Gamingbits.com. The border surrounding the different number of players is “DottedRoundedRect” also by “Unity Samples: UI.”

In Game User Interface



In game: The health bar is made entirely from the pre-set images in Unity, which are “Background” for the image, and “UISprite” and green coloring for the slider. The circle holding the character is “Knob” from Unity.

Post Game User Interface

Results Screen: The table is made from using multiple “UIMask” images from Unity. The button is “InputFieldBackground” also from Unity.

End Story Screen: The border surrounding the story is “DottedRoundedRect” from “Unity Samples:UI”, and the button is still “InputFieldBackground” from Unity.

Weapons

Overview

Each weapon is based on one of the emotions. However, every weapon is usable by every character. On top of that, the weapons are modeled after somewhat childish things. This is due to the taking place in Billy's mind.

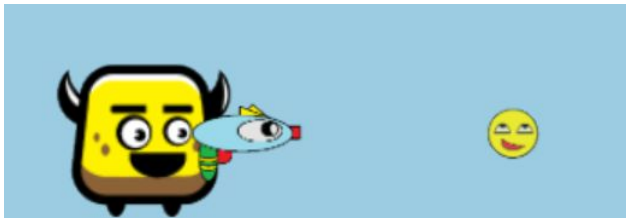
Happy Weapons

Happy's weapons are bubble guns that shoot small bubbles that resemble happy faces.

Happy Bubble

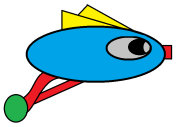
Happy likes to force the rule of happiness. His weapons fire small happy faces, each of which contains a small amount of happiness.

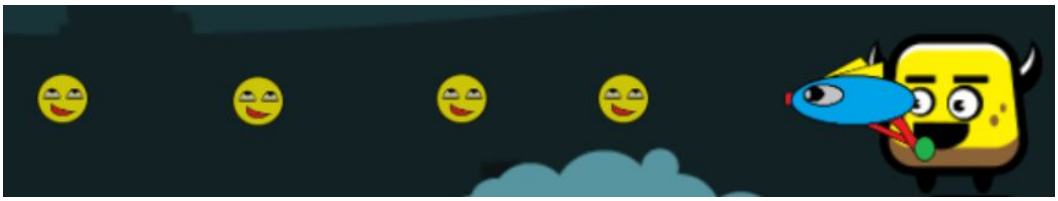
Bubble Gun



The Bubble Gun is a basic gun. It fires happy faces at a reasonable rate, and does reasonable damage. Overall, it is a basic, mediocre gun.

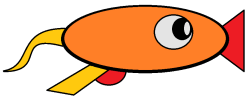
Assault Bubble Gun

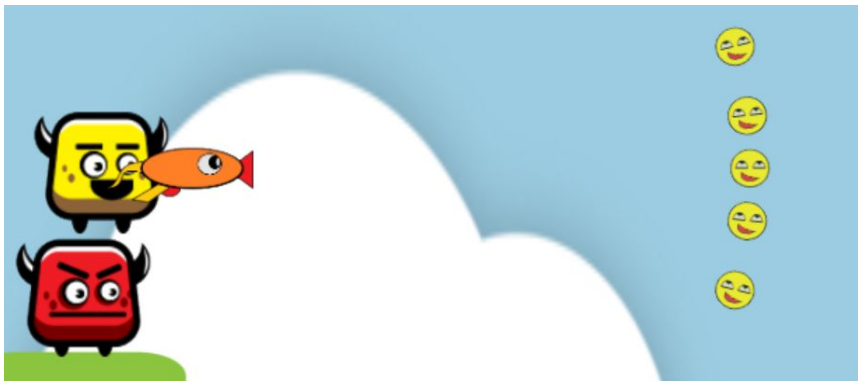




The Assault Bubble Gun as an advanced version of the Bubble Gun. It fires happy faces at a much faster rate. However, as a result of the increase in happy faces per minute, the power of happiness is diminished. The Assault Bubble Gun does less damage per hit.

Bubble Blaster





The Bubble Blaster is a modified version of the Bubble Gun. Instead of shooting only one happy face, it shoots five! Of course the same rule that applies to the Assault Bubble Gun applies to this one as well: each happy face has much less happiness in it. Thus, the Bubble Blaster does less damage per hit, but it packs a much larger punch when all five hits!

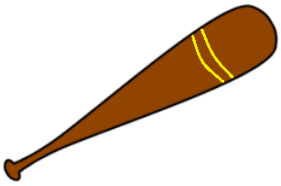
Angry Weapons

Angry's weapons are military grade. They are so dangerous that each weapon can easily destroy the world.

Angry Bubble

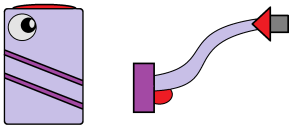
The Angry Bubble is powered by Angry's unquenching anger.

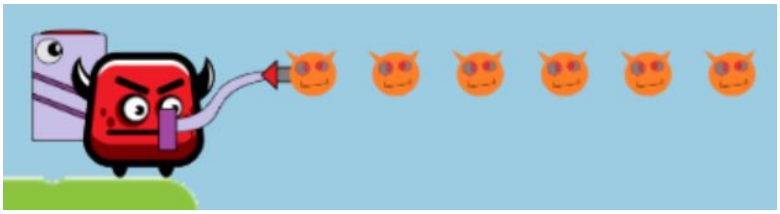
Baseball Bat of DOOOOM



The Baseball Bat of DOOOOM has a great destructive power deep inside. Its power is unleashed when it strikes another emotion, pushing them far away.

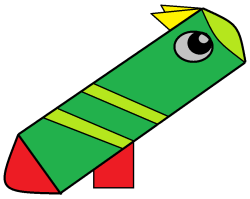
Bubble Beam

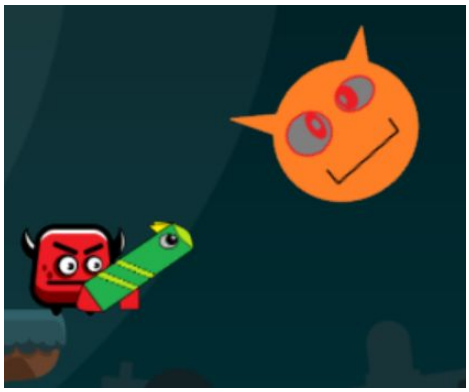




The Bubble Beam fires a stream of Angry Bubbles. It burns anyone unfortunate enough to be caught in its path with anger. The Bubble Beam sacrifices its range for its extreme fire rate. Handle with caution!

Bubble Launcher



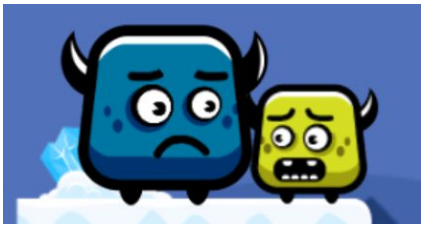


The Bubble Launcher spits a giant Angry Bubble at an angle before dropping on its enemies. It creates a large explosion upon impact, releasing the anger stored within. The Launcher deals large amounts of damage, at the cost of very limited ranged.

Sad Weapons

In order for Sad to stay at his peak sadness, he does not have a weapon. Instead, he is left with only one item.

Cake

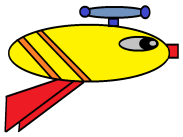


The Cake heals whomever eats it, at the cost of temporary obesity.

Worried Weapons

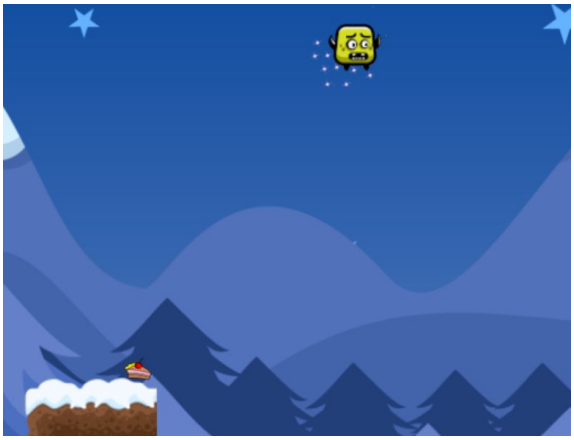
Wanda's weapons are made specifically so that Wanda never has to be near others.

Bubble Sniper



The Bubble Sniper shoots a very fast bubble that only trained eyes can see. The Sniper has an extremely long range and very high damage, at the cost of its fire rate.

Power Star



The Power Star provides a temporary buff to whomever wields it. It gives the user the power to run away very quickly. The Star gives a boost to movement speed and jump

Musical Scores and Sound Effects

Overview

In this section, we list the different sound effects and musical scores that can be found in our game. We did not create any of these, instead we found royalty-free sounds and music online and have provided links to where we found them.

Red Book Audio

We are not using Red Book Audio. Instead, we were grabbing free music (.wav and .mpg) from Freesound.org, Soundbible.com, and Opengameart.org.

- Main Menu: https://www.freesound.org/people/FoolBoyMedia/sounds/347848/
- Sad World: https://www.freesound.org/people/TheWorkingBamboo/sounds/108487/
- Worried World: https://www.freesound.org/people/Setuniman/sounds/165046/
- Happy World: https://www.freesound.org/people/cabled_mess/sounds/335361/
- Angry World: https://www.freesound.org/people/Cebuana/sounds/250754/
- Being damaged: https://www.freesound.org/people/LittleRobotSoundFactory/sounds/270327/
- Walking noise: https://www.freesound.org/people/FxKid2/sounds/362610/
- Being hurt: https://www.freesound.org/people/cabled_mess/sounds/350925/
- Death: https://www.freesound.org/people/DrMinky/sounds/167074/
- Results Screen: https://www.freesound.org/people/zagi2/sounds/204196/
- Bubble gun: http://soundbible.com/2067-Blop.html
- Cake Splatter: http://soundbible.com/1081-Splat-And-Squirt.html
- Jump: http://opengameart.org/content/sprint-jumpinteraction-sound-yo-frankie
- Menu select items: http://opengameart.org/content/gui-sound-effects
- Pick up item: http://opengameart.org/content/picked-coin-echo
- Explosion (1): https://www.freesoundeffects.com/free-sounds/explosion-10070/
- Sniper sound: http://www.freesound.org/people/EMSIarma/sounds/108852/

Sound Design

We did not create any sounds. Thus, the sound design consists of finding suitable sounds and music for the tone and theme of the game.

Single-Player Game

Overview

Unfortunately, due to the nature of our game, there will be no single-player experience. We believe that playing with other people is the best part of action games. That is why we made our game specifically for that reason.

Story

There is no single-player story, as there is no single-player. However, there is a story for the multi-player. It will be harder considering the player will have to act as two emotions; however, it is still about emotions fighting to be the one to rule the brain.

Hours of Gameplay

There is no single-player; thus, there are no hours of gameplay for single-player. However, the multiplayer is meant to be played again and again. As it is a fighting game, the game is comprised of rounds, each taking up to 5 minutes. Thus, the hours of gameplay are potentially infinite.

Victory Conditions

The player will win when they are the last emotion standing, or if the timer has run out, whoever played “the best.”

Multiplayer Game

Overview

Since our game is primarily a multiplayer experience, the game will support 2 - 4 players playing locally.

Max Players

Up to 4 players can play one game, using a mixture of keyboard and controllers.

Servers

The game is entirely local, so there are no servers.

Customization

The player can customize the multiplayer experience by choosing different characters to play. The user will have the option to decide which character he/she can play. The weapons are also randomly generated, so each player will have a different experience playing the game.

Internet

The game will have no network features. This is due to time constraints, and the complexity of implementing such a feature.

Gaming Sites

We do not intend to support gaming sites.

Persistence

Neither our world nor game is persistent. There is no feature or concept of saving statistics or having some form of personal objects that players can carry between games. Our game is one where every match is simply a brand new match; there is no evolution of objects or players. The 100th match is just the same as the very 1st match.

Saving and Loading

It will not be possible to save a multiplayer game and reload it. The user will have to exit the game entirely. Since many fighting-style arena games do not have save features, we decided that it would not make sense if we implemented one either. If the player exits a game, the match will be over. The player will have to start an entirely new match to play again.

Character Rendering

Overview

Fortunately, Unity handles the rendering of all of the sprites and objects. We only provide the images for Unity to render, telling the engine when to render what image at what location; therefore, there are no details to talk about.

World Editing

Overview

There is no world editor. The levels are set, and there is no option to create one yourself; therefore, there are no details to talk about.

Extra Miscellaneous Stuff

Overview

This section will be geared for any ideas that we have or anything else that does not make sense to add within the rest of the document. We will try to implement these features; however, due to time constraints and other obligations, these most likely won't end up in the final product of the game.

Junk I am working on…

Crazy idea #1: Implementing a networking feature.

Players will be able to play the game with other players on different computers. They do not have to be using the same screen to play the game.

Crazy idea #2: Implementing AI within the game for a single-player experience.

If a player does not have other people around them to play the game, our game will implement an AI feature that allows the user to play with themselves. The AI will be smart and have several difficulties that are customizable.

Crazy idea #3: Level editor

Players will be able to create their own levels, placing platforms, spawns, and other objects. They will be able to set the background, control which item spawns where, etc.

Crazy idea #4: A more customizable match

Players will be able to customize their match settings even more. This includes: choosing which items can spawn, the damage, speed, fire rate of different weapons, starting health, movement and jump speeds, gravity, etc.

Crazy idea #5: Moving obstacles and animated background

Each game level will consist of some kind of animated object that users can interact with. The background can either help characters out by providing them with items or it can kill them by knocking them out of the map.

“XYZ Appendix”

This appendix acts as a reference for the user if they want to know where we got something (like where we got our User Interface or Animation from). Anything that will be referenced will be in this appendix.

“Objects Appendix”

Characters

1. Happy McHappyface
2. Angie McAngerface
3. Saddle McSadface
4. Wanda McWorry

Weapons

1. Happy Bubble
2. Bubble Gun
3. Assault Bubble Gun
4. Bubble Blaster
5. Angry Bubble
6. Baseball Bat of DOOOOM
7. Bubble Beam
8. Bubble Launcher
9. Cake
10. Bubble Sniper
11. Power Star

Levels

1. The Mountain Level
2. The Graveyard Level
3. The Space Level
4. The Snow Level

“User Interface Appendix”

The user interface was entirely created using the features already installed in Unity, and the “Unity Samples: UI” (https://www.assetstore.unity3d.com/en/#!/content/25468) asset within the Asset Store in Unity.
The font is “CoveredByYourGrace” by Google Fonts (https://fonts.google.com/specimen/Covered+By+Your+Grace).
The lives heart icon was by Gamingbits.com (http://www.gamingbits.com/general-gaming-news-bits/videogame-companies-aiding-in-japan-earthquake-relief-efforts-how-you-can-help-and-donate/).

“Character Rendering and Animation Appendix”

We used the original art design for the “Green Horn Monster” from Bevouliin (http://opengameart.org/content/bevouliin-green-horn-monster-sprite-sheets), but we changed the general character to create the other characters (angry, happy, and worried) and the movements for running, jumping, fighting, and getting hit.

“Story and Artworks Appendix”

The game levels were entirely designed by using “Kenney” (http://kenney.nl/assets) game assets to construct platforms and overall artwork of each level. Game stories and theme were inspired by various artwork found at (http://opengameart.org/)