Pie Fight League (PFL)
Design Document
Version 5.0
06-09-2009

Hiccups the Clown

Version history

1.0

- An amalgamation from previous unofficial meetings, brainstorming sessions, research, coding, testing, and art development

2.0

- Added "How Innovative" section

- Added "Rules" section

- Updated "Game Details -> Level Settings"

- Updated "Game Design ->Main Focus" section

- Updated "Game Design ->Travel" section

- Updated "Software Development Lifecycle" section

- Removed "Timeline" of implementation plan

3.0

- Updated and added scattered sections throughout

4.0

- Updated for new information

5.0

- Updated Game Overview

- Updated Game Details

- Updated Rules

- Updated Art

  - Added Art Sources

- Updated How Innovative

- Updated Music and Sound Effects

  - Added Audio Sources

- Updated Objects

- Updated Camera

Game Overview

Game Logline

- As Hiccups the Clown, a rookie in the emerging and well-financed Clown Pie Fight League, your mission is to win tournaments and become a professional pie fighter of great renown.

Game Synopsis

- Hiccups the Clown is the newest player to drafted to the major leagues in the extreme sport of professional clown pie fighting. The player must guide Hiccups on his path to becoming a famous pie fighter by winning competitions in the exotic tournament locales. Hiccups must traverse the obstacles of each level to find and eliminate other clowns using his arsenal of pies while avoid airborne pies himself.

Game Details

Game Genre

- 2D Platformer

Level Settings

- Level 1: Carnival

- Level 2: Circus

- Level 3: City

- Level 4: Pie Mountain

Main Focus

- Player focuses on keeping Hiccups safe while exploring the world and eliminating opponents

- Levels are large and broad in scope with many obstacles and movement puzzles/challenges to overcome. Hiccups must search the level to find the enemy Clowns who are hiding in different parts of the level.

- Hiccups must battle the enemy Clowns who have various hit points, whose pie damage varies, and throw pie in different ways.

Level Duration

- Each level is designed to take approximately three to five minutes for a new player, depending on the level. Later levels will be more expansive than early levels.

Travel

- Hiccups can run and jump, represented internally through state changes. The defined states are "Grounded," "JumpingUp," and "Falling."

- The player may enable a compass to direct them towards the nearest enemy clown, if they have trouble locating one.

Game Scoreboard

- Game stats will be displayed in upper portion of the screen. These include current health, number of enemies remaining, current pie type selected, and the amount of ammo remaining for the current pie type (if applicable).

Rules

The action takes place around pie fighting. The user navigates each level to find the other clowns and hit them with pie. The user will be able to begin any level from the start menu, but will miss any benefits they may have acquired on the previous level(s), including the health bonus for completing a level. These benefits are not necessary however, so experienced players may elect to start a later level for a difficulty increase.

Win Condition

- A level is considered "completed" when all enemy clowns on the level have been eliminated, whether by Hiccups himself or other enemy clowns. After a level is completed, the player may hit Start to continue onto the next level, or spend some time to explore the rest of the current level.

Lose Condition

- Whenever Hiccups is struck by an enemy's pie, he loses hit points, which may vary depending on the type of pie. When Hiccups is reduced to zero hit points, he loses a life and must restart the level. When Hiccups is reduced to zero lives, the game is over and the player must restart from the main menu.

Art

Themes

- Carnival: Familiarize yourself with the basic mechanics of the game in this training level.

- Circus: Your first real challenge – fight your way through and show them who they're dealing with!

- City: Fend off attacks in the urban jungle as you search the back alleys for the last survivor – there can only be one!

- Pie Mountain: Breathe deep of crisp mountain air as you nimbly dodge enemy pie while countering with a delicious pastry of your own!

Characters

- Hiccups – the main character

- Jester – a relatively weak enemy, who can only take a couple hits and is slow on the attack

- Monkey on unicycle – a medium strength enemy, with a respectable number of hit points and attack speed

- Big clown – this guy tends not to move around a lot, but can give and take with the best

- Jack in the Box – extremely hyper, Jack will constantly jump in place while throwing pies as if there were no tomorrow

Objects

- Platforms, both angled and unangled

- Pies

    o Standard pie

    o Triple pies

    o Exploding pies

    o Homing pies

o   High-Density pie

- Misc. Objects

    o   Trampolines

    o   Health Drinks

    o   Extra Lives

Background

- Textures to simulate parallax movement, without impacting game play

Splash Screen

- Background of splash screen with all the static information

- 4 textures that are the numbers 1-4 that the user can cycle between to select a level

Art Sources

- http://office.microsoft.com/en-us/clipart/default.aspx

- http://www.pdclipart.org/

- http://www.clker.com/

- http://www.wpclipart.com/

- http://www.nepthys.com/textures/

- http://www.publicdomainpictures.net/

- http://www.veryicon.com/

How Innovative

The 2D platform genre has been implemented extensively. Although not innovative within the genre, there are a number of innovative things about our game with respect to our class:

- We are designing an extensive 2D physics engine so that the hero, Hiccups, can walk, run, and jump realistically on platforms that can be rotated any angle.

- All pies that are thrown interact properly with both the world and enemies without affecting their wielders.

- Parallax scrolling background to help create the illusion perspective

- The option to select a level (primarily for debugging and show of the game)

Music and Sound Effects

Background Music

- The musical group "Toy-Box Trio" has donated their music. Their music will comprise the background audio of our levels. Descriptions of the music include: cheery, whimsical, and carnival flair

    - http://www.myspace.com/toyboxtrio is a link to their MySpace web site and sample music

Sound Effects

- There are sounds for pie collisions, jumping, trampolines, picking up powerups, getting hit by pie and completing a level.

Audio Sources

- http://simplythebest.net/sounds/other_formats/Sun_Audio/sound_effects_AU/people_au.html

- http://www.musopen.com/music.php?type=piece&id=190

- http://www.a1freesoundeffects.com/

Objects

A method in Game1.cs will load the levels depending on which level the user has selected or is playing. Each level includes:

- Initialization of a level – remove everything from the AutoDrawSet, load the new platforms, load new enemies, etc.

- The Hero object – user controlled

- Level wall set object – loads all the level walls

- Enemy set object – loads all level enemies

- SplashScreen object – loads the first screen of the game before game play begins

- Background objects – loads and configures the backgrounds of the level

- Misc. objects, such as trampolines and powerups

Camera

The camera will be a 'lazy camera' in that it will not move up/down unless Hiccups passes beyond a certain threshold from the center, to help prevent motion sickness. The threshold distance is still large enough to allow the player to be able to see above and below him or her without difficulty. Hiccups will always be centered on the screen in terms of how far he is on the left or right however.