SUPER ADVENTURE MAN 2

3D

Game Design
Project 2, Part 3
Group #3
By: POLYHEDONISTS
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Concept

- Side scrolling beat-em-up
- Isometric perspective that implements 2D and 3D elements
- Satire and affectionate parody of game tropes from the 1980’s and 1990’s.
Story

- “Super Adventure Man” was a very successful game from the 1990s
- “Super Adventure Man 2 : 3D” is a reboot that has a major shift in gameplay, mechanics, and style
  - Sam (the Protagonist) Does Not Like
- Story follows Sam as he tries to stop the development of “Super Adventure Man 2”
- Eventually Sam learns that change isn’t bad, and works with Development to finish the game.
Primary Mechanics

- **Combat System - Overview**
  - Player uses a weapon to hit enemies and do damage while attempting to avoid being hit
  - Player Health Bar
  - Collection system for buffs

- **Enemy AI**
  - Different enemy types behave differently
  - Players must learn how to deal with each enemy

- **Level Progression**
  - Entering a room spawns a group of enemies
  - Kill all the enemies unlocks the hallway to the next room
Primary Mechanics

- **Movement**
  - 8 rigid axes of movement
  - Double tap arrow keys for dodge roll

- **Controls**
  - WSAD or Arrow Keys to move, Z, F to attack, Double tap a direction to dodge

- **Score**
  - Combo increases by 1 every time an enemy is hit
  - Score increases by 10*Combo
  - Combo resets to 1 when Sam takes damage
Other Mechanics

● **Striking**
  ○ When the Player strikes enemies, they get briefly stunned

● **Lock on to nearest Enemy when striking**

● **Health Pickups**
  ○ Enemies have a 20% chance to drop a heart
  ○ Hearts heal Sam for 1

● **Camera always attempts to maintain an intelligent angle, orthogonal to the flat player**
  ○ Simply following the player can result in the player being invisible
Enemies

Cube
- Slowly moves towards player
- Most basic enemy
- 3 Health

Pyramid
- Strafes around player
- Flies in to attack
- Requires fast response
- 2 Health

Tetrahedron
- Stationary, fires lasers
- Shakes when it recharges
- 4 Health
Tools and Software Used

- **Programming**
  - Unity

- **Art/Sprites**
  - Photoshop
  - Inkscape
  - openSCAD
  - 3DS Max
  - Piskel
  - MS Paint

- **Music**
  - 3mle
  - LMMS
  - Musescore
Reward System(s)

- Plot advancement
- Satisfaction of success
- Combos and Points
- Health Restores
Points of Emphasis

- Art style reminiscent of 1990’s games
- Themed Maps/Levels
- Emphasis on the game being ‘incomplete’ by Development
Goals Accomplished - Working Engine

- Controllable player
- AI Enemies
- Health and Damage
- Enemies spawn on trigger
- Rooms appear as enemies are killed
- Bosses
- Dialogue System
Goals Accomplished - Almost All Original Assets

- Handmade models (except for Unity primitives)
- Original Sprites (Credit to Robert Olsen)
- Original Music
- Level backgrounds
- Scripts

Two exceptions: Sound Effects, Font
Future Development Features

- More levels
  - City, Space, “Level 9”
- Other weapons
  - Big Sword, Stick, Ranged Weapon
- Other Enemy Types
  - Enemy that ground pounds, A rolling sphere
- Expanded Moveset
  - Strong attack, Jumping attack, Thrust attack
More Future Development Features

- High score tracking
- Lock on
- Knock back
- More bosses
  - Blast Lightspeed, Sam 2
- More story and cutscenes
- Main Menu and Game Over Screen
Modeling Sprites (A how-to method)

Rotating sprite renderers in Unity has an odd effect. To combat this:

- In Photoshop, make an all-black version of the Sprite image
- Import the Photoshop image into Inkscape, convert to a path, export as DXF
- Import into openSCAD, extrude it as a model, save as STL
- Import into 3DS Max, map texture, export as OBJ
- Import OBJ into Unity
Main Theme  (Chiptune ver)

Boss Fight
Unused Artwork / Music

City Streets Theme

(To play music within your Browser, connect your Drive to “Open with Music Player for Google Chrome”, as Google doesn’t seem to support music on Drives anymore. Florida Tech accounts only, sorry!)
Unused Artwork

Space Theme

Dreamy
Fast
Unused Artwork

The “Unfinished” Level Theme

(Wireframe)
Difficulties Faced

- Persuading Unity to render things properly
- Switching from Git to Unity Collab (Unity Collab is better!)
- Unity API Quirks
- Visual Studio and Monodevelop are both bad
- Complicated physics, geometry and calculus based code for AI behaviors
- Initial poor design choices weren’t corrected
  - Unity Editor - millions of public variables
  - Finite State Machines - initially jerryrigged, eventually painful
- Waiting on the guy to do the thing that he needs to do for you to do your thing and you know exactly what I mean
Lessons Learned

- Start early!
- Be very (very, very) specific on what your game is about before starting to program
- Unity Colab is much easier to use than Git for unity games
Lessons Learned

- It’s easy to make up a song. Getting it to somewhere around a minute and a half takes work. Filling out the song is a nightmare. Making the music loop isn’t very fun either.
- Once you figure out a process, write it down
- When making sprites and art, CTRL+Z and CTRL+S is your friend.
Lessons Learned

- Plan before you work
- Don't spend too much time planning instead of working
- Be careful when working in the same Scene as someone else at the same time.