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Major Project One – Report

11/7/16

Dr. Marmelstein

*Github repo:*

<https://github.com/JonMorales22/MajorProject1>

*\*Note: Master branch has project to be graded*

*Game Operation:*

Standard platforming game with straightforward operation. Player has starts with 3 lives and has 3 health points. Coming into contact with an enemy or hazard (sawblades) consumes a health point. Falling of the screen also consumes a health point and restarts the player at the beginning of the level.

Consumables:

* + - **Heart** – replenishes 1 health
    - **1up** – Cat head that gives player extra life
    - **Coin** – increases score by 100

Hazards/Enemies:

* + **Runner** – enemy that runs between two points
  + **Sawblade** – Spinning blades of wanton destruction and mayhem that move between 2 points

Controls

* + - **Arrow Keys** - movement
    - **Spacebar** - jump
    - **Escape** – Quits current level and goes to “High Scores” screen.

*Special Features:*

* **Log Bridge (Levels 1&2) –** created using hinge joints
* **Snowball (Level 2) –** Player pushes against a snowball to increase its diameter and mass until a certain threshold. The increase in diameter and mass is proportional to the velocity of the snowball.
* **Snow Particle System (Level 2) –** simple particle system the simulates snow fall.

Known Bugs

* On build, if the graphics quality chosen is below “Good,” then the scrolling effect on the start menu/highscores screen scrolls extremely fast.
* Occasionally if you build and then run the project, when you go through the Main Menu and select a level, the level will not load correctly; only the background and nothing else will appear. This is resolved if you just run the project again (no rebuilding necessary).

*Disclosure:*

**Sounds:**

**\*all sounds from freesounds.org unless noted**

* + *Footstep*

*(couldn’t find url)*

* + *PlayerDeath*

*https://www.freesound.org/people/Replix/sounds/173126/*

* + *CoinSound*

*https://www.freesound.org/people/ProjectsU012/sounds/341695/*

* + *PlayerInjury*

[*https://www.freesound.org/people/CastIronCarousel/sounds/216781/*](https://www.freesound.org/people/CastIronCarousel/sounds/216781/)

* + *Door/Chest Open ­*

https://www.freesound.org/people/Slanesh/sounds/31768/

* + *HeartSound*

https://www.freesound.org/people/rhodesmas/sounds/320657/

* + *1upSound*

<https://www.freesound.org/people/fins/sounds/171580/>

**Sprites:**

**-** *Main Character* – Cat – GameArt2D.com

*http://www.gameart2d.com/cat-and-dog-free-sprites.html*

**-** *Enemy* – Fighter – OpenGameArt.org

*http://opengameart.org/content/platformer-base*

*- Coin*

https://www.colourbox.com/preview/11901677-dollar-coins-rotation.jpg

- *Bridge*

*https://tcrf.net/images/5/5b/WLSIbridge.png*

- *Snowball*

*http://vignette3.wikia.nocookie.net/pottermore/images/9/99/Snowball-lrg.png/revision/latest?cb=20130412122815*

*- Heart*

*(couldn’t find url)*

**-** *Chest* Sprite - http://www.psalgo.com/

http://cdn.vgws.com/psalgo/images/ps\_gall/ps1de/psdx-sheet-chest.png

- *Saw Blade*

http://creativenerds.co.uk/wp-content/uploads/2012/07/saw.jpg

- *Backgrounds for Parallax*

[*https://www.youtube.com/watch?v=30OuWY1UfcQ*](https://www.youtube.com/watch?v=30OuWY1UfcQ) *(provided in link under info)*

**Tilesets**

* + *provided by Gameart2D.com*

**Scripting**

* + Applied concepts from and modified the PlayerController, PlayerStats and ApplyDamage scripts provided by ***Learning 2D Game Development*** textbook.
    - *PlayerController* – added functionality to tell the Animation Controller to change to “falling” and “injury” states
    - *PlayerStats* – modified to interact with a HUD script that displays the player’s stats to the screen

What I learned:

* how to create animations, both frame and motion based.
* basic elements of game design
* Unity has weird quirks that make some things that seem simple difficult to implement.
* Using a combination of MonoDevelop Debugger with Unity Log to debug code
* Even simple games are a LOT of work.