# Heaven has Fallen

*Fight your way to make a new one*

Document by Traveen Weerasooriya (she/her)

# Changelog

V0.1 – 24/02/2023 Initial creation of design document and first pass of all design considerations.
V0.2 - 28/03/2023 Second pass of all design considerations. Adjusted naming of various sections. Creation of Design Pillars section and additional notes section, level design elements section and various sections under “Gameplay Systems”.
V0.3 - 01/03/2023 Third pass of all design considerations. More description of player aesthetics in Gameplay Systems.
V0.4 - 03/03/2023 Fourth pass of all design considerations. Completed Game Loop and Market Research sections.
V0.5 - 09/03/2023 Final pass of design considerations before pitch. Clarified on various parts including “Design Pillars”, “Selling Points”, and “Overall Scope and Future Milestones”

# Table of Contents


**Table of Contents** 2
**Additional Notes** 3
**Game Overview** 4
Elevator Pitch 4
Unique Selling Points 4
Gameplay Overview 5
Player Progression 5
Setting Overview 5
Game Design Pillars 5
**Gameplay Design** 6
Gameplay Systems 6
Universal Player Character Mechanics 6
Sunset Cutter 7
Sunrise Striker and the Power Wheel System 7
Empowerment of Attacks 8
Enemies and Bosses (WIP) 8
Interactable Pickups 9
Level Objects and Features (WIP) 9
Gameplay View (WIP) 9
Cutscenes 10
Save File System 10
Emergent Gameplay Considerations 11
Open Ended Strategy 11
Health Management 11
Player Control 11
Implementation of Controls 12
Game Loops 13
Universal Game Loop 13
Moment-to-Moment Loops 13
Combat Loops 14
Other Level Loops 14
Session Loop 15
**Other Game Elements** 16
Level Design Elements 16
Level Creation Process (STC) 16
Different Level Types 16
General Level Layout 16
Art and Visual Design Elements 17
Art Influences 17
General Mood Board 17
Environmental Narrative Design (WIP) 18

UI Elements 19
Gameplay UI 19
Menus 19
Flow of Menus 20
Audio Elements 20
Music Influences 20
**Market Research** **21**
Target Audience 21
Competition Analysis 21
Overall Scope and Future Milestones 21
**Supplementals** **22**
Sunrise Striker Powers (WIP) 22
**References** **24**

# Additional Notes

Things to keep in mind in order to contextualise document:

- Terms:
  - Angel - Referencing player controlled character
  - Tiles - Refer to Level Creation Process
- Formatting:
  - **Bold normal text** - Additional comments related to design document
  - *Italics normal text* - Values/text which are intended to be examples

# Game Overview

| | |
|---|---|
| **Genre** | Action, Hack-N-Slash |
| **Platform** | PC (Steam), Xbox |
| **Point of View** | Third Person, Orthographic  view |
| **Theme/Mood** | Sci-Fi, Distant Future, Post Apocalyptic, Intense (Battles) |
| **Core Aesthetics** | Challenge, Discovery |
| **Target Audience** | Ages 17+, All genders, Players looking for a challenge, Fans of a Boss Rush game structure |

## Elevator Pitch

This is a Hack-N-Slash game about gaining power in a post-apocalyptic world abandoned by those who already tried. A fallen angel appears on Earth with the aim of climbing to the top of the universal food chain and establishing a new heaven. Using one blade to cut reality into pieces, and a sister blade to channel an entire arsenal of elemental power, the fallen angel is able to tackle through threats within Earth, all the way to the far reaches of Space.

## Unique Selling Points

- Hack-N-Slash Game that focuses on dueling bosses using an arsenal of different skills/powers to utilise.
- Boss duels where both the player and enemy have ways to constantly make each other threatening.
- An overworld between boss encounters, helping to give downtime to the player between fights, and provide them exploration and immersion.

# Gameplay Overview

"Heaven has Fallen" is a Hack-n-Slash with an Orthographic view.
The player controls an unnamed angel to fight through enemies and bosses of all kinds of scale and style.
The angel is given two blades to cut down foes with:

- The Sunrise Striker that contains the different elements of the Universe.
    - Depending on the elemental power selected, it can provide various utility benefits.
    - Gain additional or enhanced powers from defeating bosses.
- The Sunset Cutter that provides massive damage at close range. Additionally, it can power up the attacks from the Sunrise Striker with the right positioning and timing.

Bosses are dueled in arenas and are core for player progression. Boss attack patterns can range from unrelenting chases to more strategic bullet hells.
Before fighting bosses in Arenas to power up and progress the game, the player has to go through Trials.
In-between the fights is a world to explore and progress the narrative, and obtain small permanent health-ups.

## Player Progression

- The game is separated into three acts:
    - Act 1 and 2 have six bosses, and Act 3 has four bosses.
- After defeating all arenas in each act, the player has access to the next act.
- After defeating three of the bosses in Act 3, the fourth and final boss is open for the player.
- Defeating that boss finishes the game and the player wins.

## Setting Overview

The player is an unnamed angel starting on a post apocalyptic Earth.
The environments of the game scales out as the game progresses in three acts:

- Act 1 - Player traverses through areas in Earth
- Act 2 - Player traverses through the Solar System, and lands on planets and satellites with environments plagued by human influence
- Act 3 - Player traverses through various special phenomena in the far reaches of space

## Game Design Pillars

- Duels with Constant Mutual Threats
    - Bosses have attack patterns ranging from relentless chasing, bullet hell patterns, etc.
    - If the boss/enemy sprite is visible in the level, it can receive damage with a very low invulnerability grace period.
    - Also applies to players, but has a drastically longer grace period.
- Open Ended Strategy
    - The angel has many tools they can actively switch between to assist in clearing arenas
    - The player can choose to fight bosses in any order within each act
    - Precise movement to keep all Powers viable
- World Ruined by the war between Man and Nature
    - Humanity's conquest over the entire universe, and the subsequent rebound from nature, has left collateral damage and ruin
    - The environments and bosses are built around being representatives of the actions that caused the area to fall into ruin, or representing the sins of humanity plaguing the area.

# Gameplay Design

## Gameplay Systems

### Universal Player Character Mechanics

These are mechanics that are presented to the player consistently in almost every part of the game. The player needs to constantly manage these mechanics when exploring the levels or tackling bosses.

- Player stats
    - Maximum Health: The health cap of the angel. additional healing cannot go past the cap.
        - *100 Max HP at the start*
    - Top Speed: How fast the angel can move using movement inputs
        - *6 tiles/sec*
    - Base damage: Value that all attacks will base their total damage on.
        - *100 base damage at the start*
- Directional movement system governed by directions relative to camera angle.
    - The movement is either a keyboard, or a joystick if player has a controller.
    - Full 360 degrees of movement
        - Keyboard players should be able to input multiple movement Inputs for the combined direction of movement.
    - Blocked by walls
    - Instantaneous acceleration: When starting or stopping an input, the angel needs to instantly change speeds to their top speed.
        - For keyboard: The speed is immediately at angel's top speed.
        - For Joystick inputs: The angel's base speed is multiplied by the fraction of the joystick input distance from its max. *Scales linearly from x0 to x1.*
    - This system provides the player with tight and responsive controls that react immediately to what they want to do.
        - Also provides a large degree of freedom that is different between joystick and keyboard controls.
- Aiming: Where the angel faces when launching attacks
    - Full 360 degree of freedom of input
    - Priority system for keyboard+mouse:
        - Highest priority facing aiming input AND attacking
        - Lower priority facing where angel moves with movement input
        - Lowest priority facing closest present enemy in range
        - If no enemies are nearby and when not attacking, face aiming input
        - If mouse not found, face last known facing angle
    - Priority system for controller:
        - Highest priority facing aiming input
        - Lower priority facing where angel moves with movement input
        - Lowest priority facing closest present enemy in range
        - If no enemies are nearby, face last known facing angle
    - The Priority system for aiming is to provide the player freedom in targeting attacks by allowing aiming attacks to the enemy, while still being able to aim elsewhere if needed.

## Sunset Cutter

The Sunset Cutter is a singular large scissor blade that deals high damage at close range. Additionally can be thrown out to deal damage in groups and at range. The player starts off with this blade for the first few combat encounters to get used to close combat encounters.
The largest form of damage being at a melee range The melee attacks being a combo rewards the player with being closeby to the enemies for an extensive amount of time.

- Input that plays an automatic combo of slashes
    - *3 hit combo*
        - *hit 1: 125% multiplier; 120 degree slash 2 tile range; 0.3s before next slash*
        - *hit 2: 125% multiplier; 120 degree slash 2 tile range; 0.3s before next slash*
        - *hit 3: 200% multiplier; 60 degree slash 4 tile range; 0.75s before cycling back to hit 1*
- Releasing that input to throw out the blade
    - Blade is thrown in direction of aiming and at a set distance from where it was initially released
    - Damages enemies that come into contact with blade at any point in the path, with a hit cooldown to limit damage on bigger enemies
        - *Damage multiplier: 70%*
        - *Hit cooldown: 0.5s*
    - Returns back to the player after reaching distance
    - Deals damage to enemies in contact with blade
    - Empowers other attacks: Refer to Empowerment of Attacks

- Influence: A weapon in the Calamity Mod for Terraria, Ark of the Cosmos

## Sunrise Striker and the Power Wheel System

After getting used to the Sunset Cutter, the player then gets the Sunrise Striker. It is the other scissor blade that pairs with the Cutter, and is what governs the majority of extrinsic player progression while also a core combat tool with various attacks focused on assisting the player in ways outside of just damage.
The player is able to choose from the many different powers gathered from bosses. Appropriate usage of them will greatly assist the player in progressing through the game.

- Singular attack that does various actions depending on currently activated Power
    - Each Power has its own damage multipliers, animations, cooldowns and various additional stats
- Later in the game, be able to fuse pairs of Powers and gain the benefits of both
- Power Wheel to select active Power
    - Displays obtained powers in a set order
    - Getting more powers will increase the number of sections in the Power Wheel
    - When Powers are combined, it doesn't decrease the number of sections
        - Instead, both the base Powers involved will be replaced with the fused Power
- For full list of Powers, refer to the Supplemental: Sunrise Striker Powers

- Influence: A weapon in the Calamity Mod for Terraria, Biome Blade

## Empowerment of Attacks

When any of the Sunrise Striker's attacks pass through the thrown Sunset Cutter Blade, it boosts those attacks in various ways.

- Boosts damage and speed of projectiles when passing through any part of the thrown Sunset Cutter.
- Boosts damage of attacks directly using the Sunrise Striker blade if they pass through the "centre" of the thrown Cutter
- Boosts damage and range of Dash/Lunge if going through the "centre" of the Cutter
- **Full list of boost effects TBD**
    - *eg: Lunge: Doubles damage and extends range by 4 tiles*
- Rewarding the player for precise use of both weapons provides the player various forms of satisfaction:
    - Overcoming the challenge of fights with precise attacks and positioning
    - Providing a sense of fantasy working together by bringing the scissor blades together for a "snip"

## Enemies and Bosses (WIP)

The core challenge and gateways to progression throughout the game. Various enemies have niche uses in areas such as trials, but a large majority are found in specific arenas.

- Enemy stats are similar to angel, having health, base speed and base damage
- All bosses except final boss grant *+10 Max Health* to angel when defeated
- Boss Progression:
    - Act 1
        - Have to fight first boss of Act after a forced Trial run
            - Boss grants the Dash Power when defeated
        - Rest of the 5 bosses can be fought in any order, and defeated for the other Sunrise Striker Powers
    - Act 2
        - Have to fight first boss of Act after entering Trial
            - Boss grants *+30 base damage to angel*
        - 4 of the bosses can be fought and defeated in any order
        - Have to fight one more boss to go to Act 3
            - Boss grants *+70 base damage* to angel
    - Act 3
        - Fight and defeat 3 bosses in any order
            - Bosses grant the fusion upgrades for Sunrise Striker Powers
        - After those bosses are defeated, unlocks final boss
- Boss design pillars:
    - Representative of and/or Accounting for the Sunset Striker Powers
        - Act 1 bosses represent the Powers they drop
        - Act 2 bosses represent each of the Powers, and the Powers adjacent to them in the Wheel
        - Act 3 non-final bosses represent the Fused Power they drop
        - Final boss accounts for the entire arsenal
    - Corruption, metaphorical and physical to line up with game design pillar 1
    - Constantly threatening attack patterns to line up with game design pillar 2
- Design of Enemies that are of a lower tier are usually tied to the design of the boss
    - Drastically simpler or weaker patterns that a boss may have
- Enemies respawn whenever re-entering a level
    - Various exceptions to some enemies who are killed permanently, such as all bosses.
- **List of enemies and bosses TBD. Needs to be worked with Arena and Environment lists.**

## Interactable Pickups

Various Pickups that can be picked up by the angel.
List of pickups:

- Health Regeneration pickups
    - Various sizes of Regeneration pickups that have a chance to be dropped
        - **The drop rates of the packs and who they are dropped by will be in the Enemy and Boss List**
    - | | | | |
      |---|---|---|---|
      | *Size;* | *Small;* | *Medium;* | *Large* |
      | *HP/sec;* | *25;* | *50;* | *50* |
      | *Duration;* | *1;* | *1.5;* | *3* |
- Permanent health upgrades
    - Interact to obtain
        - Interacting input needs to be held for 0.5s to pick up the item near the angel.
    - *Grants +25 Max Health*
      *Only 10 in the game*
    - The rarity and hidden quality of these pickups satisfy players' sense of Discovery from being able to find them.
        - Completionists would also have their sense of Challenge satisfied from the feeling of completing the game from finding all of them.

## Level Objects and Features (WIP)

Various features and objects in levels that have special effects.

- Checkpoints (CP): Save points for the angel to respawn whenever they die.
    - Can only have 1 checkpoint active
        - Disables previous checkpoint when activating a new one
    - Two types:
        - Interactable CP: Interact to activate
        - Entrance CP: Level entrances may also be marked as a CP
    - Respawns angel to full health and all cooldowns refreshed.
- Cutscene Markers: Refer to next section
- Regeneration: Heals angel over time while in it
    - *Variable depending on situation*
- Damage/DoT: Damages angel over time while in it
    - *Variable with type of DoT*
- Wind: Automatically moves the angel in a set direction and set constant speed
- **Additional area features may be needed and listed**

## Gameplay View (WIP)

- In gameplay, Angel should take up *about 1/12* of the screen's height at 16:9 aspect ratio at default zoom
- *At a 16:9 fullscreen aspect ratio, the player can view 48 tiles by 27 tiles at default.*
  *Angel would then be 2 tiles tall and 1 tile wide.*
- Depending on certain arenas, bosses or attacks, it may zoom out to show more of the place on the screen
- Centre camera on angel always whenever they are playable

## Cutscenes

Takes away player control to focus on narrative. Cutscenes are relatively short, and serve as either contextual narrative clues, or to keep up the pace in Trials and Arenas.

- Cutscene features
    - Concise while communicating all the important narrative for that time
    - Camera never centres on angel until transitioning back to gameplay
    - No/very little dialogue
    - When cutscene starts, zooms in and moves camera so that angel is out of centre
    - When cutscene ends, zooms out to whatever zoom level required for gameplay and centres back onto angel
- Each unique cutscene has an ID
- Activates from various means
    - Activating cutscene markers
    - Various times when progressing in an arena
    - After cutscene was seen, disable all activation methods with the same ID
- The aim is to minimise downtime for the player, and therefore minimise slow pacing.
    - In arenas, the cutscenes can be used to provide sensation to the player when seeing boss transitions/deaths

## Save File System

How the player preserves their progress in the game

- Save files
    - Can only choose from save files in main menu
    - When creating a new game, prompt player for which file to use
    - A maximum of 5 files
- Saving
    - Automatically save over designated file when using Interactable CPs
    - Prompt player whenever boss is defeated
        - Save over designated file when they agree
- Content in a save
    - Obtained interactable pickups
    - Cutscene IDs of already viewed cutscenes
    - Arenas already beaten
    - Other permanent flags
    - Act that the player is in
    - Sunrise Striker Power that was selected at the time

## Emergent Gameplay Considerations

### Open Ended Strategy

It is a central design pillar to give players freedom within each act. These need to be taken into consideration:

- Tackling arenas in any order within each act
- No limitations on powers available for player to use in the arenas and trials
    - Utilisation of only specific Powers while avoiding usage of other Powers

### Health Management

The player character's Health is a major factor of the game, and has to be tuned in various ways. These aspects need to be considered when adjusting the difficulty of combat encounters:

- Abundance/scarcity of health regen pickups
    - The kinds of health regeneration pickups specific enemies drop.
    - Drop chance of those pickups
- Healing and cooldown of the Nullify skill, and its upgrade the Flurrywheel
- Damage values/multipliers of enemies and bosses

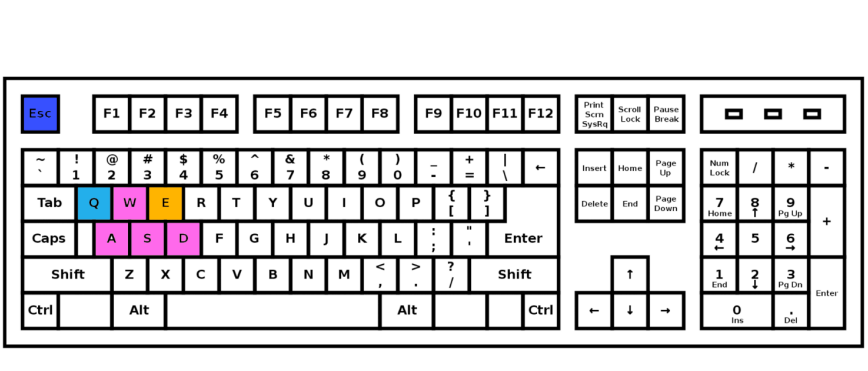
## Player Control

1) Directional Inputs to move around the playing area and navigate menus
    a) On a controller, may be joystick inputs
2) Inputs to aim attacks
    a) On PC, will be mouse inputs with a visible cursor
3) Sunset Cutter and Interacting with objects in the World- Combined into one input
    a) Hold it down for an automatic slashing combo
    b) Release it to throw outwards
    c) If interactable object is in front of angel, prioritise interact
4) Sunrise Striker - Controlled by one input. Does various actions depending on power selected
5) Input to select next Sunrise Striker Power in Power Wheel
6) Input to select previous Sunrise Striker Power in Power Wheel
7) An input to bring up the Pause Menu.

## Implementation of Controls

| Input no. | Color code | K+M Binding | Controller Binding | Rebindable in settings? |
|---|---|---|---|---|
| 1) | #ff6cee | WASD Keys | Left Joystick and D-PAD | PC+Keyboard: Yes<br>Controller: No |
| 2) | #bf86ff | Mouse Movement | Right Joystick | No |
| 3) | #00c937 | Left Mouse Button (Mouse 1) | Left Bumper and A Button | Yes |
| 4) | #fb0505 | Right Mouse Button (Mouse 2) | Right Bumper and B Button | Yes |
| 5) | #ffb700 | E Key | Y Button | Yes |
| 6) | #24b2ee | Q Key | X Button | Yes |
| 7) | #3b52ff | Esc Key | START Button | Yes |



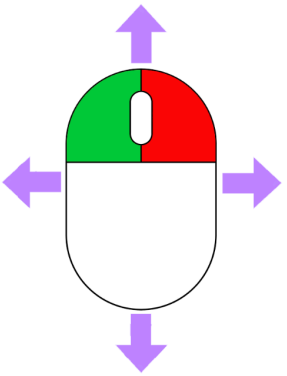
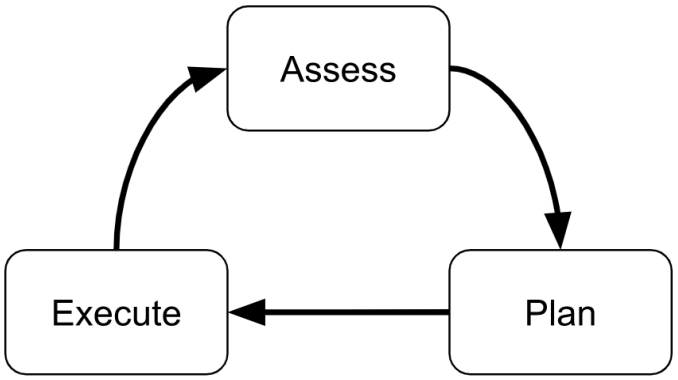



Fig. 01, 02: Table and Colour coded visualisation of inputs on an XBox One controller, and on keyboard + mouse. [1]

## Game Loops

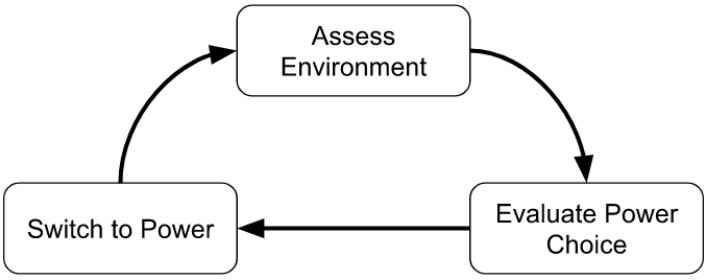
- Notes:
    - Blue Sections signify alternate loop paths caused by the game having/unlocking them, or from them being chance based
    - Orange Sections signify alternate loop paths caused by player choice
    - Lines with no arrowhead show that loop section may relate to another loop

### Universal Game Loop

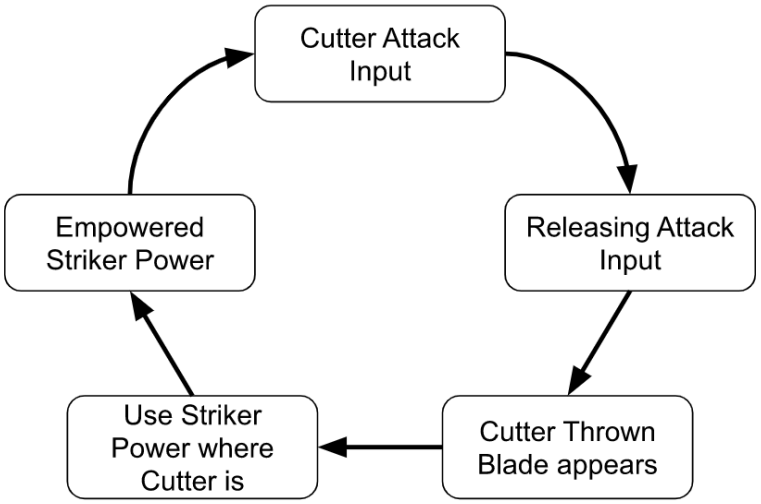



### Moment-to-Moment Loops

- Choose Different Power

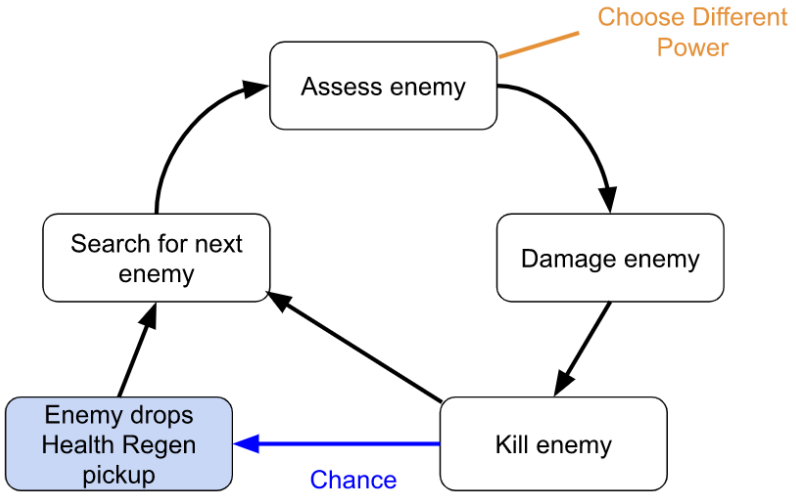



- Achieve Empowered Power

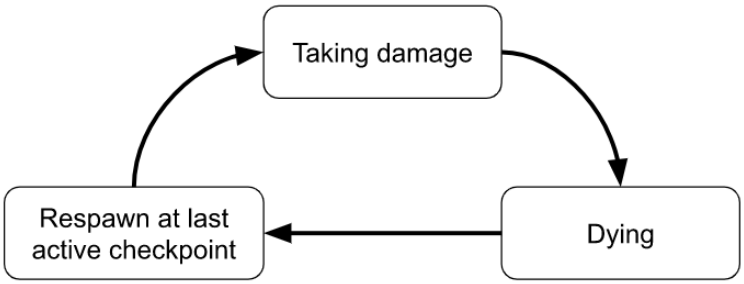


## Combat Loops

- Killing Enemy

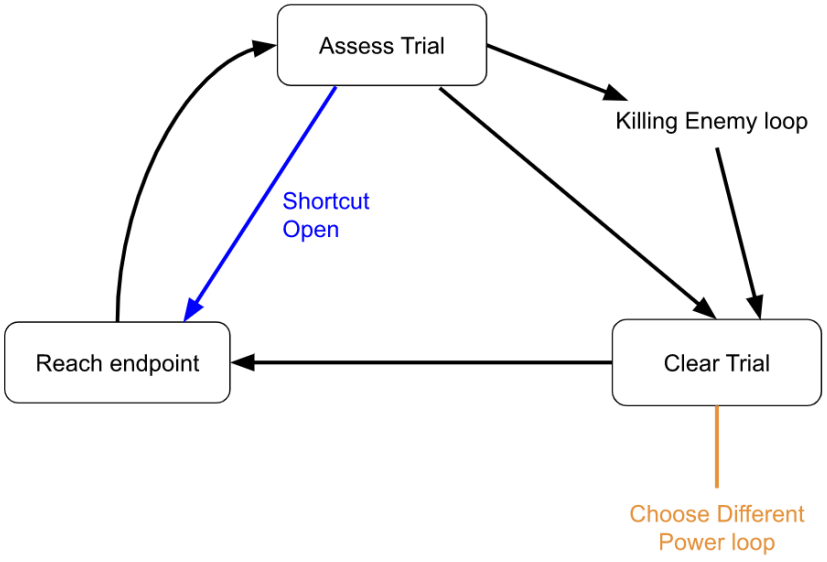



- Dying

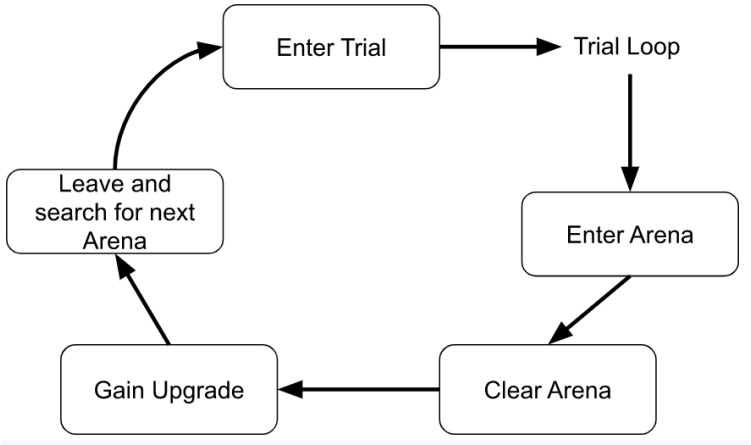



## Other Level Loops

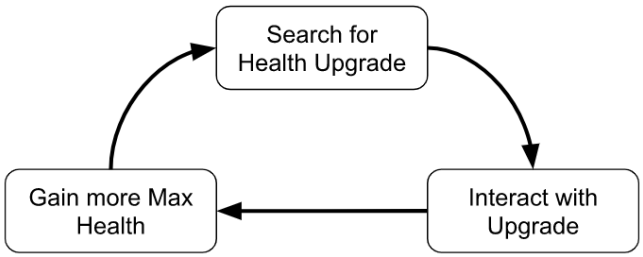
- Trial Loop



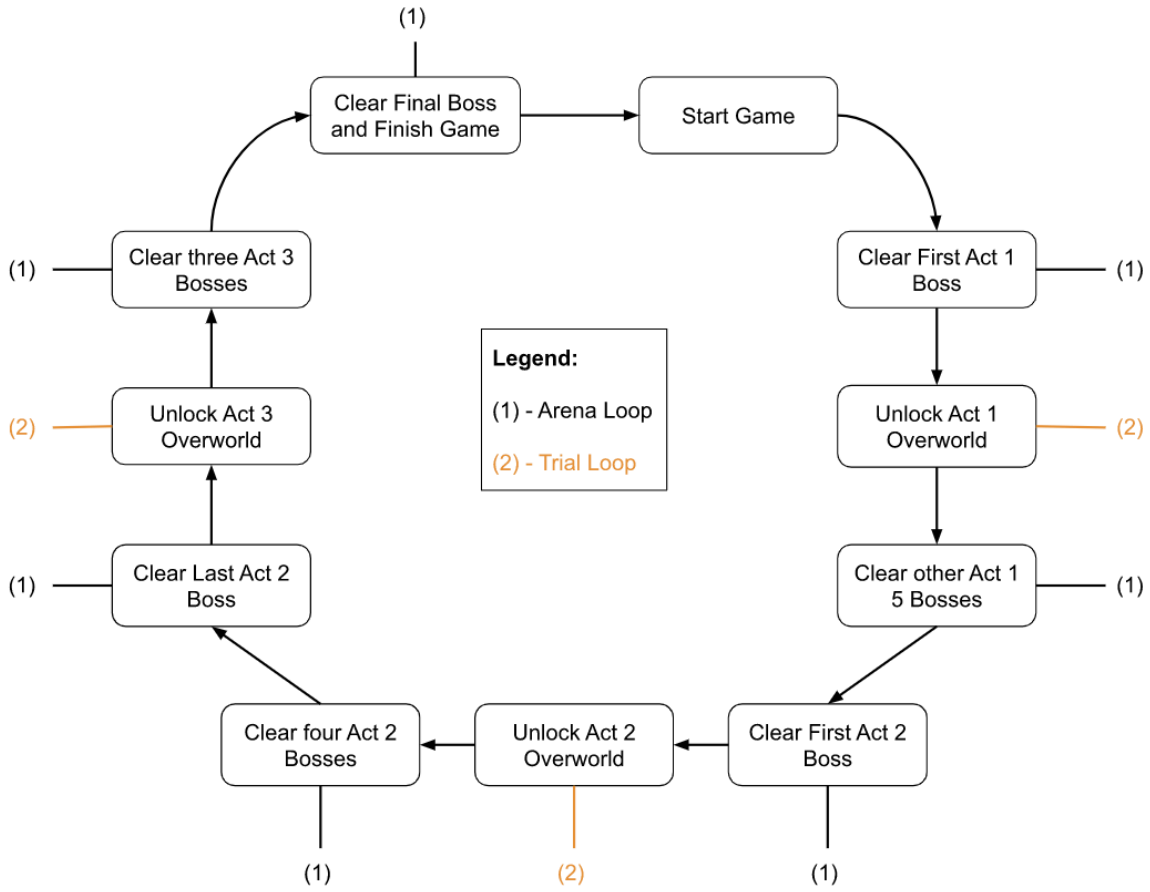
- Arena Loop




- Get Health Upgrade




## Session Loop



# Other Game Elements

## Level Design Elements

### Level Creation Process (STC)

For streamlining level creation, Maps are created in a system of tiles and layers.

- Level visuals is done by laying sprites out as regular sized tiles in a space
- Collisions are customised and baked into sprites
    - Different types of collisions for players, projectiles, and enemies
- Different layers for putting sprite tiles
    - eg:
      *Floor tiles: Navigable by any object*
      *Wall tiles: Blocks players, projectiles, and enemies from going through*
      *Trigger tiles: Areas that activate certain effects*
      *Overlay tiles: Tiles any object can go behind*
- Overall should help drive the illusion of a game environment to the player
- Should relieve strain of making entire custom levels in each and every section
- **Effectiveness of this process needs to be determined**

### Different Level Types

The different types of levels to be considered when designing level layouts.

- Arenas: Prevents the player from leaving until all bosses and enemies within the arena are defeated.
    - Design of the arena is tied to the design of the bosses and enemies in there.
    - **Needs to be developed in tandem with boss and environment design.**
- Trials: A short section containing enemies and various obstacles in a linear path.
    - When before an arena, implies hints of recommended powers to use on arena through the design
    - Interactable Checkpoints at the end of a trial
    - When trial is completed, a shortcut will open, giving a shorter path between the start and end
    - Trials may also contain permanent health upgrades
- Overworld: Focus on progressing narrative and bridging the environments of trials and arenas together

- Influences for level types:
    - Mega Man series: Levels leading into an arena, and being themed around respective arenas
    - Shadow of the Colossus: Overworld areas in between bosses

### General Level Layout

The general structure of levels in each act:

- Overworld levels
- Trials connected to overworld levels
- Arenas connected to most trials

## Art and Visual Design Elements

This game uses a 16-bit pixel art style for the world, game objects and the menus. The sprites and world times give an illusion of an angled view.

- Each tile in the world has pixel dimensions of 16x16 pixels.
    - Some tiles may be used repeatedly for making textures such as for a floor, walls, etc.
    - Some tiles may be parts of an entire non-interactable point of interest
- All game objects and elements placed in the world are sprites that have to follow the world tile dimensions
    - Attacks and other aspects of the game may use particles
- Animations are at 15 frames per second.
    - The animations should still be clear even when sprites are moving around at different speeds

## Art Influences

- Hyper Light Drifter and Titan Souls: Borderless Pixel Art style
- Terraria: Animated sprites at lower fps compared to game ticks per second

## General Mood Board

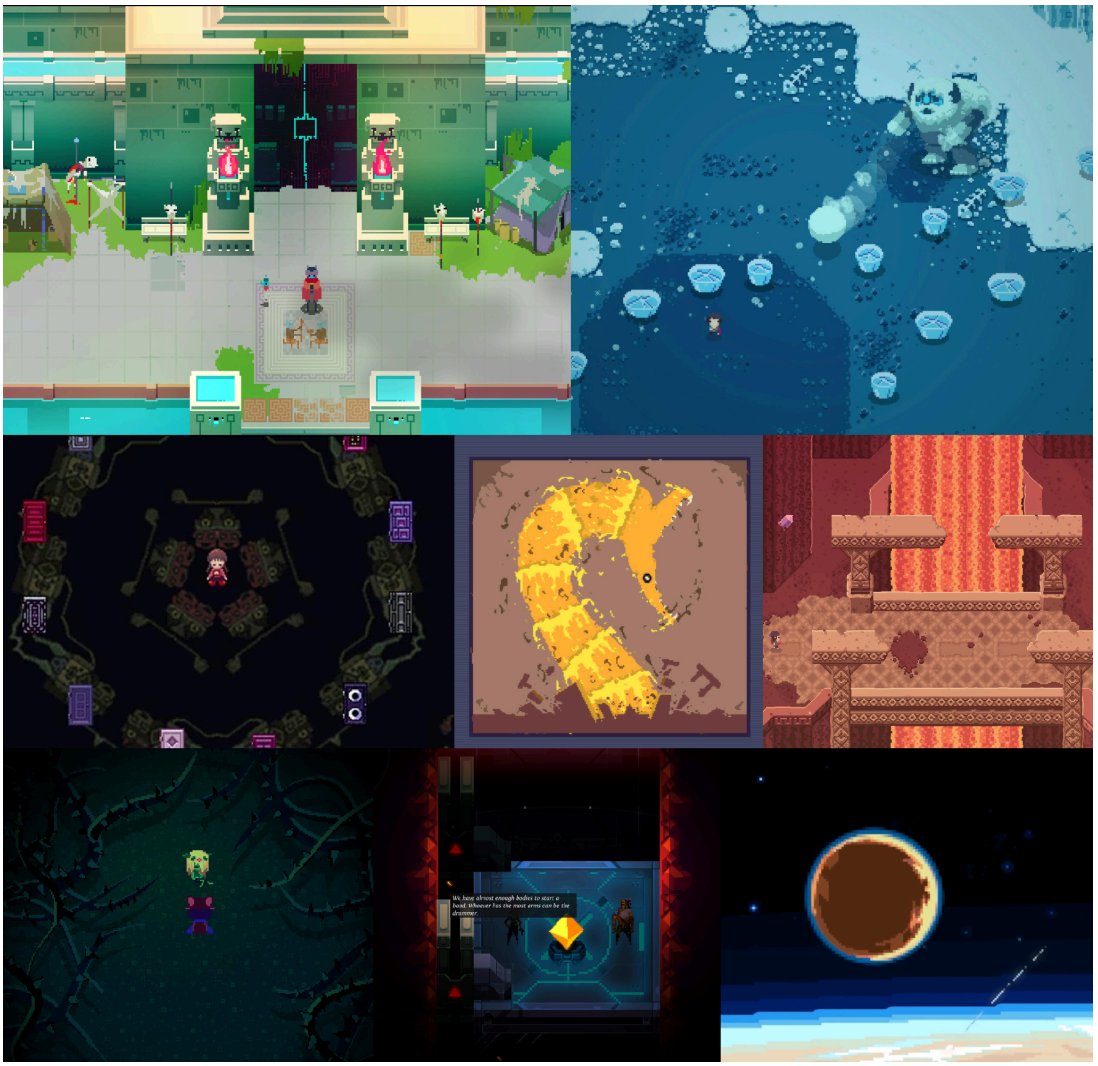


Fig. 02: Mood Board of general artstyle of the game. [2]

## Environmental Narrative Design (WIP)

The story of the world is implied through level environments and bosses.

**Full list of environments TBD. Needs to be worked with List of bosses. The ones listed so far are STC.**

- Environmental pillars:
    - Exploited by humans in the past
    - Nature fighting back with varying degrees of success
    - Corruption of the world
        - Act 1 and 2 being narratively from human influence
        - Act 3 being more self aware and literal with game corruption
            - Influence: Transistor
- Act 1 environments: Natural environments plagued by human influence to varying degrees
    - Ancient Underground temple: Housing the Sunrise Striker and Trials for Dashing.
        - Boss Arena sits just outside the Temple fighting against a golem protector. Surrounded by destroyed human facilities.
    - Ruined Seaport: Contains a single working boat for the angel to go on.
        - Arena sits in the stormy seas with a graveyard of ruined oil tankers, and a gigantic worm boss who feasts on the oil.
    - Clonal colony Forest (similar to the clonal colony Pando) with a core tree. Forest has grown over an entire “ancient” city (similar to current times Las Vegas).
        - Arena is the center of the City in an Opera House where the core tree has started.
- Act 2 environments: Extra-terrestrial environments fully conquered by humans
    - Earth Central Palace: Technologically advanced Mountainside fortress housing a legion of brainwashed and forever lost people
        - Arena is the fortress throne room housing the last sentient human, who rules over the legion
    - Venus Superheated Caverns: Dark Underground caverns carved out by a rogue mining module
        - Arena is in the newest caves carved out, where the module chases the angel down
    - Mercury “Abandoned” Mines: Mining facilities on the edge between hot sunlight and cold darkness. Littered with beings who adapted to those environments
        - Arena is a carved out crater in the very middle between light and dark.
    - Sol Fusion Factory: Can only access the inner regions, which house a nuclear fusion factory that is perpetually working.
        - Arena is in the core of Sol that is getting the energy extracted to power the factory
- Act 3 environments: Human creations
    - Neutron Star Field: A range of massive harvester ships dot around the field, next to Neutron Stars ranging between completely exhausted to still working
    - Path to Black Hole Singularity: Final part of the game. Many destroyed human ships and structures would be found on angel’s way to the singularity.
- Act overworld environments:
    - Act 1: Roaming around a continent, condensed down into visit landmarks just outside trials
    - Act 2: Fortress teleport hub to warp to other planets and Sol.
        - Requires security keys to unlock Sol’s teleport
    - Act 3: Transport back and forth between Sol and the Galactic Platform, a hub to launch the angel into the various phenomena controlled by humans
        - Requires security keys to launch into the galaxy’s black hole

## UI Elements

### Gameplay UI

- Health bars:
    - Angel's Health bar as floating element on bottom middle section of the screen
    - When attacking enemies, shows enemy name and their health as floating elements on the top middle section of the screen
    - Bars update immediately whenever damage or healing occurs
- Power wheel highlighting active Sunrise Striker Power and the Powers adjacent to it
    - Located on bottom right corner; setting to change it to bottom left instead

### Menus

- Main Menu: Features the title of the game, the menu options, and animated background art showcasing an environment in the game
    - Whenever entering the main menu, showcased art is random
        - As a result, menu options are in a translucent coloured area, balanced between showing the art while making clear what the menu options are.
    - Menu options:
        - New File
        - Load File
        - Settings
        - Credits
        - (PC only) Quit Game
            - Prompt for quitting game
- New File and Load File Menus: Features all 5 save slot options. Similar menus except for the title of menus
    - Menu Options:
        - 5 Save Slots
        - Overwrite File Prompt: Only appears when selecting a used/existing file in the New File Menu
- Pause Menu: Overlaid on top of paused gameplay with a translucent coloured area under the options
    - Menu Options:
        - Continue (Exits Menu)
        - Settings
        - Quit to Main Menu
            - Prompt for quitting to main menu
- Settings Menu: Features ways to change various settings of the game, separated by sections
    - When accessed from the main menu or pause menu, will only allow exiting back to their respective menus.
    - Menu Options:
        - Video Options section
        - Audio Options section
        - Bindings section
        - Confirm Settings option on top and bottom of menu (Exiting Menu)

## Flow of Menus

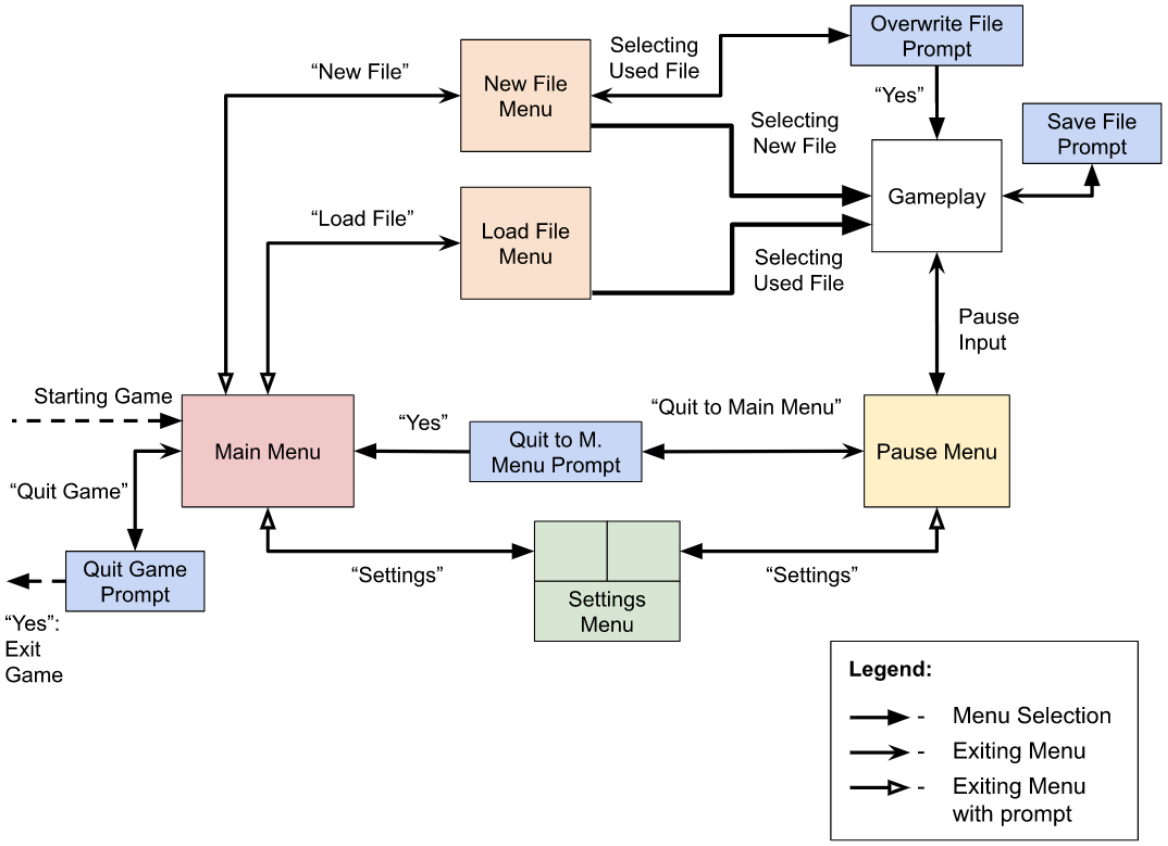



Fig. 03: Flowchart of Menu navigation. Options Menu setting should indicate how the preceding menus are separated.

## Audio Elements

- Sounds
    - Overall short and snappy, to signify immediate effect
    - Descending order of sounds to emphasise:
        - Angel getting damaged
        - Boss and Enemy Cries
        - Enemy Projectiles Spawning
        - Bosses and Enemies getting damaged
        - Enemy Projectiles being Nullified
        - All other Angel Powers
        - Sunset Cutter Sounds
        - Angel steps and dashes
        - Environmental sounds and other ambient sounds

## Music Influences

- Experimental music and albums that may fit with the themes of an alien post apocalypse with human influence
    - Act 1 Major Influence: Radiohead - In Rainbows
- Environments later on in the act is much less familiar and more corrupted
    - Act 3 Major Influence: Injury Reserve - By the Time I Get to Phoenix

# Market Research

## Target Audience

The game focuses on targeting those who are:

- Familiar enough with fast paced Action games and navigating 2D spaces
- Looking for an experience that allows for open tactics in challenging encounters
- Demographic:
    - Age 17+
    - All genders

## Competition Analysis

Because of the game's genre being Hack-N-Slash with a focus on fighting Bosses, and because of the game production being at an Indie level, the main competition would be games like Cuphead and Furi.

- Cuphead performance stats on Steam [3]
    - 4.1 million units sold since its release on April 2017
        - $19.99 USD per unit, discounted by 7% on average over the last 6 months
        - $62 million USD gross revenue overall
    - 33.3hrs Average playtime, and 18.25hrs Median playtime
    - 96.6% Review score
- Furi performance stats on Steam [4]
    - 415k units sold since its release on April 2016
        - $19.99 USD per unit, discounted by 12% on average over the last 6 months
        - $62 million USD gross revenue overall
    - 17 hrs Average playtime, and 10.2 hrs Median playtime
    - 96.6% Review score

## Overall Scope and Future Milestones

- Required: Pixel artists, animators and musicians
- Prototype method: Vertical slice
    - One of the earlygame boss arenas
    - One of the Striker Powers: Lunge
    - Base Sunset Cutter implementation
    - Empowerment of Lunge
- 16 bosses spread throughout three acts
    - Number of bosses from first to third act: 6 - 6 - 4
- Achieving median playtime of at least 10hrs
    - Similar amount of bosses to Furi
- Achieving price of $19.99
    - Similar price to competitors
- Release on PC through Steam, and on XBox
    - Aiming to be a part of XBox Game Pass

# Supplementals

## Sunrise Striker Powers (WIP)

The list of all powers in order of how they appear in the Power Wheel:

- Base Powers obtainable in the game:
    - Lunge: Hold input and aim in a direction. Launch player at a constant speed, set distance and aimed direction when releasing input.
        - *Lunge travels the equivalent of 4x angel's height in1 seconds*
            - *Distance: 8 tile lengths*
            - *Speed: 8 tiles/sec*
            - *Damage multiplier: 50%*
            - *Cooldown: 2 seconds*
        - Blocked by walls and enemies
        - Player still takes damage from enemy attacks
    - Nullify: Revolve the sword around the angel, destroying enemy projectiles that come into contact
            - *Damage multiplier: 150%*
            - *Heal: 3 HP on first nullified projectile, +1 HP for additional projectiles in same power use*
            - *Range: 3 tiles from angel's upper body*
            - *Cooldown: 8 seconds*
        - Will also slightly heal angel when projectiles are destroyed
    - Grapple: Throw out a long range bolt where the angel aims. When attaching to objects or walls, and while the input is held, pull the character towards the bolt.
        - Pulling can be cancelled early by releasing the input
        - If the object is an enemy, deal damage to that enemy when bolt attaches.
        - Bolt projectile has a limited lifetime before disappearing.
    - Charge: Aim towards the nearest enemy and rapidly move towards them, knocking back the angel and dealing damage to the enemy when they come into contact.
        - If no enemy nearby, charges in direction of movement
        - Ends early if hitting a wall, dealing no damage but still knocking back character
        - angel takes reduced damage during and shortly after charge
    - Thrust: Thrust sword and shoots a projectile wherever the player aims
    - Leap: Move in the opposite direction of the nearest enemy relative to the angel, and leave an explosive charge where they once were.
        - If no nearby enemy is present, leap in opposite direction of movement
- Combined powers:
    - Dash (Lunge+Charge): Aim in a direction, and move in a set path and speed when releasing input
        - Blocked by walls
        - Player goes through enemies
        - Player takes reduced damage during and shortly after Dash
    - Flurrywheel (Nullify+Thrust): Sweep the sword around the player, spewing out projectiles that home into enemies
        - Enemy Projectiles that come into contact are converted into more homing projectiles
        - Will also slightly heal angel when enemy projectiles are converted

    - Combination Bolt (Grapple+Leap): Move in the opposite direction of the nearest enemy relative to the player, and release a homing bolt towards that enemy. When attaching to objects or walls, and while the input is held, pull the player towards the bolt.
        - Pulling can be cancelled early by releasing the input
        - If the object is an enemy, deal damage to that enemy when bolt attaches to them
- **Need to finalise description of all relevant attacks and projectiles, and give example values for every single one.**

# References


1. References for Keyboard+Mouse and Controller Input base diagrams:
    a. Keyboard: QWERTY_keyboard_diagram.svg; Wikimedia. Available at: https://commons.wikimedia.org/wiki/File:QWERTY_keyboard_diagram.svg (Accessed: March 02, 2023).
    b. Mouse: Vecteezy. Available at: https://www.vecteezy.com/vector-art/3399413-simple-illustration-of-mouse-personal-computer-component-icon (Accessed: March 02, 2023).
    c. XBox One Controller: Pinterest. Available at: https://www.pinterest.com.au/pin/768567492654012187/ (Accessed: March 02, 2023).
2. References for Mood Board; in order of top to bottom, left to right:
    a. Hyper Light Drifter. Image available at: https://store.steampowered.com/app/257850/Hyper_Light_Drifter/ (Accessed: February 24, 2023).
    b. Titan Souls. Image available at: https://store.steampowered.com/app/297130/Titan_Souls/ (Accessed: February 24, 2023).
    c. Yume Nikki. Image available at: https://store.steampowered.com/app/650700/Yume_Nikki/ (Accessed: February 24, 2023).
    d. Risk of Rain. Image available at: https://store.steampowered.com/app/248820/Risk_of_Rain/ (Accessed: February 24, 2023).
    e. Titan Souls
    f. OneShot. Image available at: https://store.steampowered.com/app/420530/OneShot/ (Accessed: February 24, 2023).
    g. Dungeon of the ENDLESS™. Image available at: https://store.steampowered.com/app/249050/Dungeon_of_the_ENDLESS/ (Accessed: February 24, 2023).
    h. Dungeon of the ENDLESS™
3. Cuphead - Steam Stats; Video Game Insights. Available at: https://vginsights.com/game/268910 (Accessed: March 03, 2023).
4. Furi - Steam Stats; Video Game Insights. Available at: https://vginsights.com/game/423230 (Accessed: March 03, 2023).