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# OVERVIEW

## General Idea

Use a see-saw and a weight to launch your character to the target utilizing various objects, abilities, and avoiding obstacles.

## Target Audience

Teen or Everyone …. ?

## Target Platform(s)

iPhone OS (iPod touch, iPhone, iPad, eventually Droid), PC, Mac

# Core Mechanics

## Overview

These mechanics are the heart of the game. Since the game is about launching a character to a target, the core mechanics deal with the **See-Saw & Character**.

### See-Saw

The See-Saw is the primary tool used by the player to advance through the game. The See-Saw launches the characters when a weight is dropped on the opposite end.

### Wedge

The player is able to move the wedge back and forth a small amount, equal to about ¼ the length of the board, by touching the object and sliding it on the screen (mobile) or by pressing the left/right button (pc). This will change the pivot point of the See-Saw and allow for different trajectories when the character is launched.

### Weight

The player is able to move the weight up and down within a certain range to change how much force the character is launched with. This is done by touching the weight and dragging it up or down on screen (iPhone) or pressing the up/down keys (pc). The weight is then dropped by touching one of the action buttons (ANY OF THEM?)(iPhone) or pressing the space bar (pc). It will then proceed to fall by gravity onto the See-Saw and the character is launched accordingly.

# Gameplay

## Overview

Gameplay describes the overall game experience—what the player does in the game to win. It is divided into sections that should be defined in as much detail as possible.

## Goal

The goal of the game is to get your character to the end of each level, and eventually through each world until the game is won.

## Gameplay Components

These describe the means by which the player can get their character from the beginning to the end of a level.

### Launching

The one thing the player will do the most is launch a character using a weight and the See-Saw. At the beginning of each launch, the player will do two things:

1. Choose where to put the wedge
2. How high to start the weight

They can change either of these at anytime before they drop the weight. When ready, they will press a button to perform the drop (perhaps the A/action button) (or let go of the weight object on the touch screen), letting go won’t work because they may want to change the wedge position after they change the weight position.RSJ. There is no more interaction dealing with launching after this until the character stops moving and it is determined that the player can continue onto the next check point, level, or world (they have enough lives left).

#### Move wedge to desired location

GUI components will allow the player to move the wedge left & right, thus the pivot point of the see-saw platform. A range indicator will show up when they touch the wedge (mobile) or press the corresponding button (pc) showing them where the wedge is in relation to the maximum/minimum range movement allowed.

#### Move weight to desired drop height

GUI components will allow the player to move the weight up and down, thus affecting the force with which the character is propelled into the air. A range indicator will show up when they touch the weight (mobile) or press the corresponding button (pc) showing them where the weight is in relation to the maximum/minimum range movement allowed.

### Controlling Character after launch

The player will be able to control their character after they have been launched according to their abilities. They will do this through the use of the keys (PC) or the GUI buttons (mobile).

# Features

## Overview

All features that the game contains will be listed here. Features being what the player can do and how they can interact with the game.

## A Features

## Interactive Objects

Interactive objects are objects that the player can interact with directly and use to achieve the checkpoints and end goal of each level. They can help or hinder the player. An example of a helpful interactive object would be a jump pad which would spring the character into the air to get over a wall. The jump pad could also be a hindrance if it launched you straight into spikes. Some objects may require player input in order to interact with them, others may not.

## Character Control RSJ

Similar to a 2D platformer, the player will be able to use a direction pad (4 cardinal directions) to perform limited navigation through levels. Also, two Action Buttons will be available which allow the player to perform certain abilities as they utilize upgrades. The player will start with the ability to briefly shift their momentum left/right by pushing the left/right arrow buttons. They will not start with any abilities that utilize the Action Buttons.

## Upgrade System RSJ

Upgrades are placed strategically through the course of the game in certain levels. These upgrades will provide your character with the ability to perform new actions and utilize more of his surroundings to get to the next goal. These upgrades will be visually shown on your character by corresponding meshes becoming visible or perhaps different textures. If the player is having a difficult time finishing a level due to not acquiring an upgrade, a visual hint will be displayed telling the player what they are missing and where they should look for it.

Explained in detail here:

## B Features

## Camera Zoom

There will be two “modes” that the camera operates in during the course of gameplay. The player will be able to switch between the two any time before they launch. They will be able to move the weight and wedge while zoomed out and initiate the launch, at which point the camera would do a quick zoom back in before anything would start to move. To zoom in/out there will be a button in one of the screen corners.

1. Zoomed in
   1. Focuses on the see-saw, with the weight in view. Camera will always be positioned back far enough so that the weight is in view at all times.
2. Zoomed Out
   1. Focuses on the entire level’s center based on where the goal is and where the see-saw is currently located.

## C Features

## Level Editor

## Visual Character Customization RSJ

Various aspects of your character’s appearance can be changed and customized as you obtain currency. The currency comes in the form of robot-related, tech-type stuff (Circuit boards, resistors, metal, etc). These can be obtained as the player navigates through each level. When you complete a level you will have an opportunity to use your currency to purchase

## Ragdoll Physics

When the character dies the model is no longer controlled by animations and switches to being a ragdoll.

# Worlds

## Overview

Each world is described with a general feel, art-style, and the types of objects used & introduced in it. Each world consists of ten levels. Once a world is complete, the next world is “unlocked” along with a special ability/abilities depending on how well the player did on each level. RSJ

## World One

It introduces the jump pad, rope, and spikes (ground & walls).

## World Two

## World Three

## World Four

# Levels

## Overview

Describes the details of each level separated by worlds. Each level could have a name, or it could just be Mario-style??? E.g. 1-1, 1-2, 1-3, etc. RSJ

## World One

### Intro

### Level One

### Level Two

### Level Three

### Level Four

### Level Five

### Level Six

### Level Seven

### Level Eight

### Level Nine

### Level Ten

## World Two

## World Three

## World Four

# Objects

## Overview RSJ

Objects are the obstacles the characters will advance through as the levels progress. The character will react with each object in a certain way, eventually being able to interact by character abilities.

### Spiked Wall

Characters will usually have to fly, over and/or threw the wall. If the character interacts with the wall they will (die or jump off). – When can they jump off???

Die – Smack into the wall and bounce off.

Get stabbed threw body and stick to spikes with blood splatter.

Jump Off – accelerate at an upwards 45 degree angle in the opposite direction.

### Jump Pad

Characters will bounce and jump off this object to propel themselves forward, up or down through the level. Certain springs characters will always bounce off of, others the characters can pass through.

Bounce – Using ragdoll physics, gravity and dynamics will propel the character forwards.

Jump – Gain extra acceleration and distance using ragdoll physics, gravity and dynamics

### Rope

Rope may take many different forms: chain link, regular rope, vines, wires, etc. Rope may be hanging from various places/objects throughout the levels. It acts strictly according to natural physics, meaning it hangs down freely until the character grabs onto it and swings according to any momentum of the character until let go of. To grab onto the rope the player has to press the A button. If the player wishes to continue holding onto the rope they must keep the A button held, when they let go the character will jump off and their current momentum will carry them accordingly. The character may also move up and down by pressing the respective button. They will

### Pulley Rope System

Ropes may also double as a pulley in various locations. It can cause another object to begin to move, usually after a period of time that object will go back to its previous position. To activate the pulley system you simply have to grab onto the rope and let your weight pull it down. As the object moves back to its original position the rope will also retract to its original position.

### Levers

Enter description here

### Buttons

Enter description here

### Spike Pit

Any interaction with this object will cause instant death to the character causing a drop in lives. The character will get stabbed through the body and stick to the spikes with blood splatter.

### Water Pool

Any interaction with this object will cause instant death to the character causing a drop in lives. The character will smack the surface and gradually sink to the bottom of the pool.

### Acid Bath

Any interaction with this object will cause instant death to the character causing a drop in lives. The character will smack the surface causing the (green) pool of acid to bubble, the characters flesh to dissolve and his skeleton to pop back up on the surface.

# Character Actions RSJ

## Overview

These are things the character can perform, whether through user input or automatically. They have to do with interactions that can occur with the game world – objects and regular ground/walls. They can be actively used by requiring the player to press a button or simply passive (activated automatically, such as currency collection).

### Wall Jump

A wall jump may be used when the character collides with a wall that is open (no spikes or deadly things). To perform the wall jump the player must press the A button when the character is within roughly an arm’s length. If successful, the character will be propelled upward and away from the wall at about a 50 degree angle.

### Jump

The character will be able to press the A button to jump. A jump will generally just give the character more velocity in the up direction…although it may be desirable to jump in a specific direction at some point during the game.

### Grab/Release Rope

When the character comes within a certain range of a rope (any section of it), roughly the character’s arm length, they have the option to “grab” onto the rope. This causes the character to be confined to the physical limits of the rope. In order to perform a rope grab, the player must press the A button at the appropriate time. If they wish to continue holding onto the rope they must continue to hold down the A button.

### Side to Side Movement

The player can move small amounts side to side to slightly influence his direction and velocity. This is accomplished by pressing the Move Left or Move Right button and holding it down. The amount of influence will be limited to roughly .25 seconds or until the button is let go of, after which the player must let go of the button and press it again if they wish to influence the movement more. ALTERNATIVELY: the movement could be limited to one use between contacting surfaces (of any type not lethal). In this case, the influence would last 1 to 1.5 seconds or until the button is let go of. ONE MORE ALTERNATIVE: the influence would last until the button is let go of, but this seems least desirable as it offers too much control and little strategy of having to choose correct timing.

### Collecting Currency (bolts, etc)

As the player progresses through levels there will be object(s) for the player to collect. These objects may be of a few different types. As the player gets near them, roughly within an arm’s length of the character’s body, the objects will be magnetized towards the player and finally end up going into the character’s head where they are stored. This currency can later be used to purchase upgrades and also acts as the player’s health, such as the coins in sonic.

# Art - RSJ

## Overview

This section lists all the art needed & used in the game. Include pictures of concepts or ideas if you feel like it. Explain designs out – the look, feel, how they will work with various interactions in the world (like a jump animation with jumping from a wall, how would it work?)

## Animations - REQUIRED

### Jump Regular

Utilized when a normal jump is executed, whether it be off of a spring, maybe off of a rope, or anything that requires a vertical jump.

### Jump Wall

Utilized when performing a wall jump.

### Rope Swing

May not need an animation for this…

### Rope Grab

Reach arms up and grasp onto rope with one or two hands

### Rope Climb

Grab the next link

### Idle

* Waiting for launch

## Animations – SECONDARY

### Flail

### Jump Boost

### Rope Pulley pull

### Falling (if different than flail)

### Momentum Forward

### Momentum Backward

### Head Spin

## HUD

### Movement directions (mobile)

* Left
* Right
* Up
* Down

### Button 1 (mobile)

* Action button one (like ‘A’ button on Nintendo)

### Button 2 (mobile)

* Action button two (like ‘B’ button on Nintendo)

### Wedge movement indicator

* Side to side range, looks like mile converter on a map key, horizontal bar with a vertical notch on each side and a middle notch.
* An arrow will indicate where in the range the wedge currently is

### Weight movement indicator

* Same as wedge movement indicator except flipped sideways

### Lives

* Text as well as an image indicating that the number represents lives

### Menu Buttons

* Text can be dynamically placed in these with code
* One shaded texture for up and one for down

### Mouse cursor (PC)

* Something cool besides the regular pointer

### Current Level

* May just be text, but a nifty little graphic may be in order as well

### Current World

* Same as current level

# Input RSJ

## Overview

Any interaction the player has with the game as far as buttons are concerned is described in detail here.

### See Saw (all keys only useable BEFORE the launch is started)

* PC
  + W – Move weight up
  + S – Move weight down
  + A – Move the wedge left
  + D – Move the wedge right
  + SPACE – Drop the weight to begin the launch, any See Saw-related keys are no longer functioning until another launch is setup. (this button may be Action Btn 1 for mobile purposes)
* Mobile
  + Weight – touch and drag to move up/down
  + Wedge – touch and drag to move left/right
  + Action Btn 1 – touch to drop the weight

### View

* PC
  + Z – Toggle zoom in/out ( or click on zoom image in upper-left corner )
* Mobile
  + Touch zoom button in upper-left corner

### Character Controls

* PC
  + D – Put more momentum to the right for a short time
  + A – Put more momentum to the left for a short time
  + W – Use any upgrades that have to do with the UP direction (jetpack)
  + S – Use any upgrades that have to do with the DOWN direction
  + J – Action button 1, normal character actions (grabbing rope, boosting, wall jumping, etc)
  + K – Action button 2, triggers use of any character upgrades that are not immediately direction- related
* Mobile
  + RIGHT Arrow – Put more momentum to the right for a short time
  + LEFT Arrow – Put more momentum to the left for a short time
  + UP Arrow – Use any upgrades that have to do with the UP direction (jetpack)
  + DOWN Arrow – Use any upgrades that have to do with the DOWN direction
  + Action Btn 1 – any character actions not associated with upgrades
  + Action button 2 – triggers use of any character upgrades that are not immediately direction- related

# Upgrade System RSJ

## Overview

The upgrade system contains all game functionality related to the character gaining abilities. These abilities come in different forms, some may allow the character to move in different ways, others will give the player the ability to jump off of walls or get an extra boost from a jump pad. There are two types of upgrades: essential and non-essential. Essential upgrades are required to beat subsequent levels and non-essential upgrades are cool and handy to have but not absolutely necessary.

## Purpose

The upgrades are designed to add a layer of skill in completing the game. As the game progresses the level of difficulty will increase not only through level design, but also through the addition of more abilities. The level design will require the player to use the right abilities in the right way and/or at the right time to get through certain areas. Abilities serve to drive the player to attain more in the way of upgrades, and also provide a fresh challenge to the player as they get more proficient at playing the game. Some upgrades may simply be minor and not truly necessary to complete later levels.

## Visuals

Upgrades will be represented by the actual mesh that becomes visible on the character once attained, or in some cases a texture will be modified and possibly a visual effect as well.

## Attaining Upgrades

The two different upgrade types are attained in different ways, which are described below. Upgrades cannot be lost once they are attained.

### Essential

Essential upgrades are attained from defeating bosses. The boss will be an example of the functionality so the player isn’t left in the dark as to how the upgrade may be used.

### Non-Essential

These upgrades are attained through collecting various forms of currency throughout levels. Once you have the appropriate amount for an upgrade, you can purchase it between levels.

## Upgrades (in order of appearance)

### Boost

* 1. Activated With
     1. Action button 2 (B)
  2. Functionality
     1. Gives the character an extra boost off of a jump pad in the UP direction. It increases the velocity of the character in the direction that the pad is facing by 150%
  3. Use Requirements
     1. There is a specific window of time when the player must execute the boost for it to work. The window is the distance from the jump pad equal to the length of the character’s lower leg. It applies both before contact with the jump pad and after.
  4. Visual properties
     1. Changes the feet area of the robot.

### Wall Jump (obtained with boost)

* 1. Activated With
     1. Action button 2 (B)
  2. Functionality
     1. Allows the character to jump off an open area of wall. When executed, the jump will cause the character to jump in a direction opposite the wall and up at roughly a 60 degree angle.
  3. Use Requirements
     1. Must be within 1.5 arm’s length away from the wall when the button is pressed.
  4. Visual properties
     1. Changes the feet area of the robot.

### Increased Bolt Attraction Range (Come up with a good name for this)

* 1. Activated With
     1. PASSIVE
  2. Functionality
     1. Increases the range with which bolts are magnetically attracted to the player.
  3. Use Requirements
     1. Must be within two arm’s length of your body
  4. Visual properties
     1. A slightly different texture or mesh could be placed at the location of the area where the bolts are stored (or the mechanism that attracts the bolts)

### X-ray site for trigger mechanisms

* 1. Activate with
     1. PASSIVE
  2. Functionality
     1. Allows the player to see where triggers are located such as pulleys buttons or levers.
  3. Use Requirements
     1. NONE
  4. Visual Properties
     1. The objects will be highlighted to set them apart slightly. Some type of glow around the object (shader-based)

### Optical Precision

* 1. Activate With
     1. Active before weight is dropped
  2. Functionality
     1. Increases the distance that the current trajectory is drawn
  3. Use Requirements
     1. Be on the see saw
  4. Visual Properties
     1. The amount of spheres that project outwards will increase & give the player a more accurate and complete visual of where their current launch settings will take them.