

## Game Project Treatment Document

### Game Title -

Icebreaker

### Group Leader -

Stephen Long - sjlong@wpi.edu

### Group Members -

Tech:

Paul Orvis – pworvis@wpi.edu

Stephen Long - sjlong@wpi.edu

Art:

Michel Sabbagh - mksabbagh@wpi.edu

Sean Welch - spwelch@wpi.edu

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## 1-Elevator Pitch -

You have ice powers and are auditioning for a superhero team. You have a three day trial period to prove yourself, and each level takes place in one of the three days. At the end of each level you are evaluated based on the time you take to reach the end of the level, the amount of collateral damage you caused, and how many enemies you defeat.

## 2-Detailed Description -

### 2.1-Setting:

Shackleton City, a fictional West Coast metropolis that's loosely based off Los Angeles and San Francisco.

### 2.2-Protagonist/Antagonist:

Snow Angel is the protagonist of the game. He is attempting to join the superhero team by proving his might through several trials. He has the ability to control ice and use it offensively and defensively as well as a means of transportation.

## 2.3-Game Narrative:

You play as Snow Angel, a brand new superhero with cryokinesis (that is to say, ice powers) who is auditioning for the Superhero Team known as Halcyon. His “Entrance Exam” is a three day trial period (over the course of a three day weekend) to prove that they have what it takes to be a member of the team. The three criterion for which you will be judged are speed, efficiency, and collateral. Your performance will be evaluated by Halcyon’s representative, Big Rock Candy Mountain, a former Hobo whose skin is encased in a crystalline substance that increases his strength and durability.

## 2.4-Primary Objective:

The primary objective is to join the superhero’s guild by beating each of the three levels.

## 2.5-Game Mechanics:

### 2.5.1-Movement:

This game will utilize WASD movement and spacebar for jumping.

When standing on solid ground (brick, dirt, etc etc), the player character will be able to run around normally, speed up/slow to a halt quickly, and turn around instantaneously.

When standing on an icy patch (Created platforms, Iced ground, etc...), the player character will be able to reach higher top speeds than they were previously able to, but they will also not be able to stop as quickly (they skid to a halt and speed up a lot more slowly).

The player will also be able to cover various walls in the area with ice, which will enable

him to climb up/wall jump up walls. Once the player has covered a wall, they can latch onto ice-covered parts of the wall and move up/down (using W and S). If at any point the player is latched on to a wall, they can leap off by pressing A or D to do a small jump off of the wall. If the icy patch the player is climbing melts away, the player will simply drop straight down.

### 2.5.2-Attacks:

There are two kinds of attacks; kinds that drain energy and kinds that do not. If the player is out of Ice energy they will be unable to execute their stronger, energy-powered attacks.

- Ice Punch (Tapped): The player throws a punch forward and deals moderate damage to any enemies that are directly in front of the direction he is punching. Takes no energy.
- Ice Kick (Charged version of Ice Punch): the player surges forward in a flying kick. Any enemies in the path of the kick are pushed backwards and take moderate damage. Takes minor energy. (NOTE: Ice Kick can be charged in mid-air, and if released in mid-air, the player loses falling momentum and shoots in the direction they are currently facing.)
- Snowball Throw (Tapped): The player throws a snowball straight forward (at a slight arc). Upon hitting an enemy, the enemy will take damage. If it hits a wall, a patch of ice will form on the wall. (Can be used in mid-air). Takes no energy.
- Blizzard Throw (Charged version of Snowball Throw): The player throws a strong gust of icy wind in front of themselves. If the wind hits an enemy, and if the enemy has low enough health, the wind will freeze them into a solid block (as well as dealing minor damage). Any civilians hit will also be frozen into a solid block. Upon hitting an enemy, the wind will get gradually smaller (and will dissipate if it hit enough enemies). If the

wind hits a wall, it will create a larger icy patch than the previous version, and the gust will dissipate. Takes moderate energy. (Can be used in mid-air, but releasing a gust of wind in mid-air will push the player in the opposite direction as they are facing).

- Ice Block: Any enemy or civilian hit by a Blizzard will become an ice block. Once they are an ice block, they can be thrown forward by the player character (the player character does this by punching the frozen block). While the ice block is sliding forward, any enemy in the way of the block take significant damage and are knocked back. If an enemy encased in ice is thrown into a wall, the ice block shatters and the enemy is killed. If an enemy stuck inside an ice block is untouched for a long enough period of time, they are thawed out and the ice block disappears.
- Igloo: The player encases himself in a bubble of ice. While in the igloo, he takes significantly reduced damage, and regains a small amount of health over time. While in an igloo, he constantly lowers his own energy and is completely immobile. In addition, the ground beneath the player becomes an icy patch.
- Ice Maelstrom: The player unleashed a blast of ice, freezing all enemies and civilians on the screen into ice blocks (as well as dealing some significant extra damage on top of the freeze effect). Takes all of the players energy.

### 2.5.3-Environment Interaction:

Icy Patches: When the wall of the environment is hit by a snowball (or blizzard throw), an icy patch will temporarily form. When the walls are coated with ice, the player is able to latch onto the walls by coming into contact with them. Once the player is latched onto a wall, they can move up and down freely on the patch of ice by using the W and S keys respectively. They can also jump off of the wall horizontally by double tapping A or D

(to jump left or right), or by double tapping W (to jump straight up). After a period of time, the ice will melt off of the walls (and dissipate into nothingness). If the player is on the ice as it melts away, they will fall normally.

There are also icy patches on the ground. The effect that these have upon the player is that when a player stands atop an icy patch, they will be able to achieve higher walking speed than they normally would be able to reach. The penalty to this is the player has more difficulty accelerating and decelerating while on a patch.

#### 2.5.4-NPCs:

CIVILIANS (Backbone of Society): Citizens that are walking around the level. If they get injured in the process of beating the level, your “grade” will go down (the player takes significant damage).

#### THUGS (Public Enemies):

- **Basic Thug**: The archetypal burglar. Wears black and white stripes and a ski mask. Attacks by punching. Medium speed, low damage, low health.
- **Biker Thug**: A stronger and faster version of the basic thug. Rides a motorcycle, attacks by driving by the player and hitting them with a punch. Speedy, and deal decent damage. Low health.
- **Boss Thug**: A big and Bulky version of the burglar. Wears jeans and a wifebeater, has five o'clock shadow and is partially bald. Attacks with a melee weapon (baseball bat, club, chain, etc...) High damage and high health, but very slow. Gradually get faster as health decreases.

ROBOTS (Used by Halcyon to train newcomers and test their abilities):

- Training Robot (Edge Lord): Uses melee attack (molten sword) to damage player.  
Medium health, medium damage, low speed
- Flying Drone (Sweepers): Uses ranged attack (laser turret) to damage player. Low health, medium damage, high speed.
- Factory Unit: Lobs explosives at player, consistently has the chance to spawn Training robots and/or flying drones. Immobile, but has large health and thrown explosives have an area of effect. Explodes on death (dealing damage to anything near it).

MINIONS (small enemies to be defeated on boss level):

- Hot Topic Punk: Short and stubby, but fast and mean. Sprints up to player and exhumes hot steam. While spewing steam, if the player is in the immediate area, they will take large damage for as long as they remain near the hot topic punk.
- Spikey Punk: Lanky, cowardly, likes to stay at a distance. Attacks the player by lobbing spikes at them and moves around briskly. The spikes explode a few seconds after hitting the ground (but if they hit the player directly they will break)
- Crash n' Smash Punk: Bulky, chiseled, intimidating, loud, and brutish. Carries a large sheet of metal he uses as a shield. Attacks by moving forward and slamming the shield into the ground, dealing heavy damage to anyone nearby who is not in midair. While immediately about to attack (winding up for a shield smash), and while recovering from a shield smash, the Crash n' Smash Punk takes normal damage. Otherwise he has

significant damage reduction, and moves at drastically reduced speed. Is at all times immune to knockback effects.

### BOSSES:

- **Bigger Fish:** A Leviathan from the depths. Large enough to take up one half of the screen, and stays stationary on that one half of the screen for the entirety of his fight.

#### Attacks Include:

- **Acid Gunk Shot:** Fires two streams of acid at differing angles from its eyes. If the player is hit, they will take constant slight damage over time for a brief period
  - **Spitting Water:** Fires a plethora of bubbles at the player. Each bubble is its own projectile, and can be destroyed by a punch or a snowball.
  - **Tidal Wave:** Takes a moderate amount of time to charge. If the player does not deal enough damage to the boss within the charging time, the Leviathan will unleash a tidal wave (which covers the screen and deals unavoidable damage to the player).
  - **Fish Punch:** Lunges at the player and tries to punch him. If punched, the player is knocked prone and takes heavy damage.
- **Steam Punk Bob:** Constantly moves around the screen with the aid of his jetpack. Most of his attacks are made while moving through the air, with the exception of his flamethrower attack (with which he will be walking on the ground). At stages in the boss fight, he will retreat to the background and call for aid from his minions (at each stage he summons a different combination of minions, rising in complexity). After each state, the number of attacks he can do increases. His attacks include:

- Steam Laser: He temporarily pauses in his flight and fires a quick blast from his steam cannon. After firing, he darts to another area of the screen and fires another laser blast.
- Jetpack Exhaust: He flies directly above the player and fires a potent blast of fire, smog, and steam directly downward from the engine of his jetpack. A cloud of smog will form on the ground beneath the jetpack, and will extend outward slightly. If coming in contact with the smog, the player takes damage. While firing exhaust downward, he can slightly move left and right towards the player.
- Punk Bombs: He flies across the top of the screen, dropping bombs down onto the player. Each bomb takes a few seconds to prime up, and will explode with an area of effect.
- Flamethrower: He inserts the fuel from his jetpack into his steam cannon, and temporarily converts it into a vicious flamethrower. While doing so, he deals incredibly high damage, but is also at his most vulnerable. He moves slowly, and cannot fly while the flamethrower is active.
- Punk Nova: He moves to the center of the screen and begins chaotically spinning while firing short bursts from his cannon. He fires lasers, and pulses of steam. Lasers deal the same damage as a regular steam laser, and the pulses of steam deal slightly more damage, but they are slow moving and relatively easy to dodge.

#### 2.5.5-Scoring:

Destroying a Basic Thug, Training Robot, or Hot Topic Punk will award the player 100 points. Destroying a Biker Thug, Flying Drone, or Spiky Punk will net you 200 points. If a player kills a Boss Thug, Factory Unit, or Crash n' Smash Punk, the player will earn

300 points. If the player hits a Civilian, they will have 500 points deducted from their score. Destroying the final boss will award the player with 5,000 points.

### 3-Asset List:

“Snow Angel” Character Model capable of multiple movement and attack animations.

“Civilian” Character Models to populate the city.

“Shackleton City” Backgrounds.

“Enemy” Character Models capable of multiple movement and attack animations.

Leviathan Boss capable of multiple movement and attack animations.

### 4-Technical Requirements:

For each of the Enemy types, a finite state machine will be created to control the actors. Basic pathfinding (get from point A to point B) will also need to be implemented.

Actor Object (contains movement information, etc)

Player object (Contains all info about the player, such as score, energy, different moveset, attacks, etc)

NPC Object (Parent class for all Civilians and enemies. Contains sprite, series of states (for use with finite state machines), and health.)

Civilian Object (child of NPC Parent, only contains speed, sprite, state, and health).

Enemy Object (Parent of each individual Enemy, contains health, sprite, speed, series of states,

available attacks, etc).

(We will have a separate class for each of the 9 basic enemies, each with simple state diagrams to indicate behavior).

Sea Monster (Has its own class)

Steam Punk Bob (Has his own class).

Projectile Parent (contains vector to indicate velocity, and int to indicate speed).

Ice Block (child of projectile)

Snowball (child of projectile)

Blizzard Throw (child of projectile)

Bubble (child of projectile)

Acid Gunk (child of projectile)

Explosive Parent (contains size of area of effect, position, and fuse time)

Steam Punk Bomb (child of explosive)

Thrown Bomb (by the factory bot)

## 5-Style Guide:

The protagonist, based on their black/white contrast, will stick out against a four color (Cyan, Magenta, Yellow, and Black) Backgrounds and Enemies, like a Silver Age (60s-70s) Comic.



