Hero in Disguise

Game Design Document

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1 Overview

This is a design document for the game Hero in Disguise. This document will go over features, decisions, and scenarios that are planned to be implemented for the game.

1.1 Terminology

Term	Definition
Player	The person that is playing the game.
Character	The in-game person that the player is controlling.

1.2 Game Summary

Hero in Disguise is a game where the player takes on the role of an average teenager who discovers a special alien device that allows them to transform their appearance into any thought imaginable. Along with appearance, the device lets them choose from a variety of weapons and special abilities that they can swap out whenever they wish.

The character is then tasked with defeating an alien race that wishes to enslave Earth and is after the now holds. Throughout the game, the character will have the ability to use his powers to fight off the alien invaders, while also performing acts of heroism or evil around the city. Depending on the actions the character performs, the city will either revere or hate them.

1.3 Vision Statement

"To give the player a **tailored experience** of the **life of a person with superpowers** who must **decide how to use their powers** while **keeping their identity secret**."

- "Tailored experience" – The player has the ability customize their character's appearance and abilities.
- "Life of a person with superpowers" – The player can experience not just the action parts, but the drama and stress that comes with having superpowers.
- "Decide how to use their powers" – The player can choose whether to use their powers for good or evil; by helping, ignoring, or harming those in need.
- "Keeping their identity secret" – The player's actions can jeopardize the character's identity, so they have to be cautious when disappearing to change into their secret identity.

1.4 Why Would People Play This Game?

The main draw that this game has is the ability to experience the day in the life of a super-powered teenager. Many people grew up wanting to have superpowers, fight crime, save the day, etc. Even more than that, they wanted to do it their way. Sometimes this coincides with the powers that other superheroes had, but they may have wanted a different costume or a slight variation on their powers. Hero in Disguise is a way to fulfill that dream we always had as kids, with the customization and morality choices systems that have become popular in today's video games.

2   Game Engine

This section contains information related to design decisions for the game's engine. The feature set that the game will require will be discussed here along with different game engines that can fulfill this need.

2.1 Engine Requirements

This section will discuss features of the game that will be need to present in the game engine.

2.1.1   Required Features
- 3D Graphics & Modeling
- Advanced Collision Detection

2.1.2   Optional Features
- Dynamic Loading of Models/Textures
- Dynamic Map Generation
- Multi-platform Support
- Controller Support
- Internet Connectivity

2.2 Microsoft XNA

Microsoft XNA looks to be a non-viable option at the moment. Currently, there is no known future support for this engine and the only long-term support is through an open source version of XNA using the open source version of C#. There are still many bugs and it seems to have more hoops involved to get code working than with normal XNA. This essentially ruins the ease-of-use that XNA provided.

2.3 Unity

Unity provides an easy to use interface, with a built in store that can be used to purchase and download models, textures, and other assets. This will allow for great use of already created items. There seems to be a fair amount of examples online to help with development and their documentation is laid out well.

The main issue with use of Unity stems from the unknown of dynamic programming in Unity. Currently, there is not enough knowledge of whether you can dynamically load or generate content, which could be a problem for randomized content.

2.4 DirectX
http://www.directxtutorial.com/

DirectX seems to be a complex, but viable option. There are plenty of tutorials out there and many books that covers tons of topics for learning. If DirectX was chosen, it would make sense to stick to DirectX 9 or 10 since there would be more examples available and would increase compatibility with older hardware.

Using DirectX will add a very large development cost for graphics programming, as well as collision detection, but will allow for more customization and advanced features. This also means that things such as network connections and controller support will have to be added by native means.

2.5 Decision

3 Gameplay Mechanics

This section covers information about general gameplay mechanics and functionality.
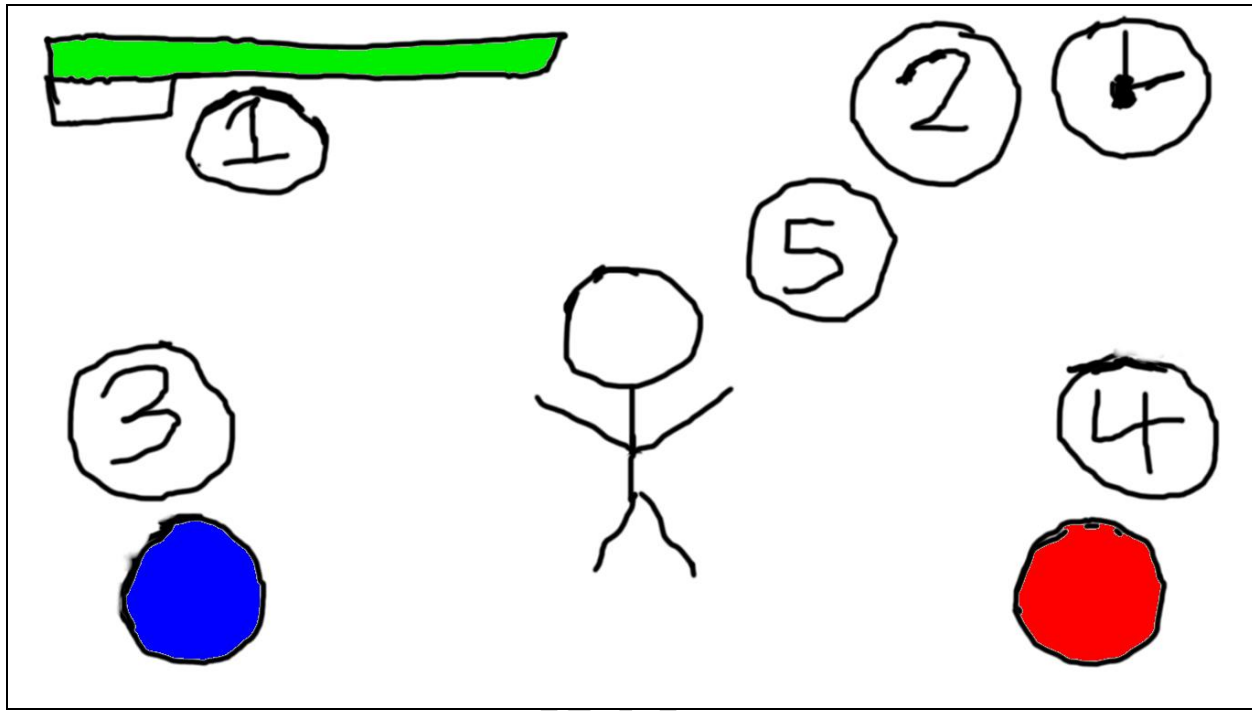
3.1 Main Interface

Fig 3.1 – Main Interface

The above picture shows a general overview of the in-game interface. Below is a list of the number items in the picture and their functionality.

1. Health Bar – This shows the character's health bar, numbered health, and any status effects.
2. Current Time – This shows the current in-game time of the world.
3. Selected Weapon Power - This shows the currently selected weapon power and any information related to its usage.
4. Selected Magic Power – This shows the currently selected magic power and any information related to its usage.
5. Character – This is the character that the player is controlling.

3.2 Character Control & Movement

The player is controlled in two ways, their physical movement and their camera perspective. The player's movement is controlled by the keyboard or controller, with specific keys corresponding to the direction of movement. For example, there will be 4 keys assignable on the keyboard for forward, backward, left, and right movement; while for the controller, there will be full 1:1 movement direction for the left control stick.

The game is shown through a 3rd person behind camera, so the camera view will always be away from them. The camera is controlled through the by the mouse or the controller, with general directions mapping to the same directions. For example, the mouse horizontal movement will map to the camera's horizontal movement, just as the controller's right stick's horizontal movement will.

Other than standard movement and looking, the character will be able to jump, allowing them to reach higher locations. Initially, their jump will be will be constrained to only a few feet. However, with later upgrades, they will be able to jump higher and possibly do double jumps or high thrust jumps.

3.3 Main Menu

During gameplay, the player can visit the main menu by pressing the menu button. The menu button by default will be the Escape key on the computer and the start button on a controller. While in the menu, the game is paused and no events in the game's world will continue until the main menu is closed. The main menu allows for the player to do the following:

- View the character's current stats
- Look at the acquired special powers and select the ones to use
- Level up abilities and special powers of the player
- Change game options

3.4 Combat Mechanics

Combat in the game standard beat-em-up style, in the style of games such Devil May Cry, inFamous, and Kingdom Hearts. The character will use an assortment of attacks, jumps, dodges, and combos to defeat the enemies. Combat situations will be organic, in that they will occur when the character gets close enough to the combatants, that they will notice and begin attacking the character.

3.5 Special Powers

Combat is mainly accomplished through the use of special powers given to the character by the alien device. The character will be able to select up to two powers to use at a time, but will be able to swap them out from a pre-registered set of power that the player has created. The powers that the player can use have a large range of diversity. Below is a list of some example sets of powers:

- Weapon – Allows the player to create a physical manifestation of a specific weapon, such as a sword, bow, axe, etc.
- Magic – Allows the player to generate a specific element and use it on enemies, such as water, fire, smoke, etc.
- Augmentation – Enhances the player's abilities by bestowing a passive bonus to them. This is a power that must be equipped to reap its benefits, meaning it will take the spot of a normal power. Some examples are damage boost, speed increase, combo time slow down, etc.

These powers all have limitations of use that vary. Below are some examples of usage limitations:

- Timer – When the power is used, a recharge timer will commence. Once the timer has completed, the power will be useable again.
- Energy – The power has a limited amount of uses based off of an energy gauge. Each use of the power consumes a unit if the energy, with energy gradually recharging over time. When the energy gauge becomes completely depleted, the power's system becomes overloaded and the character must wait for it to full recharge before they can use it again.
- Passive – The power cannot be user directly, but instead is constantly turned on for the character. As long as the character has the power equipped, they will get its effects permanently.
- Unlimited – The power has no usage restrictions and can be used as much as the character desires.

The character may select up to two powers to use at a time by assigning one power to each piece of the alien device. While the power is equipped to the alien device, the character can use that power. Each piece of the alien device can have a set of powers that it may switch through on the fly. Three different powers can be assigned to each piece of the alien device, totaling in six different powers that can be used at a time. This allows for the character to easily switch between a pre-set selections of powers without having the player open the main menu every time to change them. Each power may only be selected once for both of the alien devices. This ensures that the same power can't be use twice at the same time.

Powers have the ability to grow and become more powerful. When the character defeats an enemy in combat, the alien device gains experience points, which can be used to level up the character's powers. When a power is leveled up, it usually increases the strength of the power's ability. Below is an example of a few powers and their states at different levels:

- Heal – Restores a percentage of the character's health
    o Level 1 – 15% health restoration
    o Level 2 – 25% health restoration
    o Level 3 – 35% health restoration
- Lance – Allows the character to use a lance
    o Level 1 – 3-combo attack
    o Level 2 – Adds an additional combo move that stuns enemies within a small radius of the character
    o Level 3 – Increases range of all combos moves by 25%
- Ice – Allows the character to freeze the air around an object instantly
    o Level 1 – Base attack
    o Level 2 – Increases range of attack by 25%
    o Level 3 – Reduces cool down of power by 35%

3.6 Character Customizability

One large aspect of the game is the ability to custom the appearance of the character, allowing the player a unique experience that they feel more attached to. Below are some of the features that the player can choose from a preset list on the character:

- Name
- Gender
- Skin and eye color
- Height and weight
- Hair color and style
- Clothing (top, bottom, headwear, footwear, optional pieces)

Once the character finds the alien device, the player then has the ability to choose the appearance of the character's super-powered alter-ego from a preset list:

- Alter Ego Name
- Clothing (top, bottom, headwear, footwear, optional pieces)
- Theme music (this can possibly be imported from the player's local computer)

One aspect of customizability is the altering of normal and alter-ego clothing. For each possible clothing piece, there will be a set of pre-defined color schemes that the player can select from. They can also select one custom color scheme that the user has the ability to edit in game. The editor for the custom color scheme will be a grid-based pixel editor. The player can use a selection of colors to edit the pixels of the mesh that will go on the model. This custom mesh will be saved permanently onto the computer for use later.

3.7 Morality System

The game will feature a morality system in which the player's decisions in the game will affect how other people view the character and could possibly open up or lock out events. The type of morality decisions that should be presented in this game don't necessarily need to be good vs. evil, but are more focused on interest vs. apathy. Even though the character has been given an amazing gift, how the player chooses to use it will shape the world around him. Whether that means using the powers for good, evil, or simply not using them at all. There are three ratings that the character has that influence the perception of people and possible story event:

- Hero – A high value in this rating means the character has used their powers to help the people of the city and stop any wrong doings. They always ensure that no harm comes to civilians and always do the right thing.
- Evil – A high value in this rating means the character has used their powers to harm the people of the city and causes harm. They usually seek to gain themselves at the expense of others or simply just want to watch the world burn.
- Apathy – A high value in this rating means the character has chosen to not use their powers for the city. They usually ignore any sort of confrontation, either through cowardice or lack of interest.

Each stat influences the other, in that as one stat goes up, another will go do:

- Hero Increase – Evil Decrease, Apathy Decrease
- Evil Increase – Hero Decrease, Apathy Decrease
- Apathy Increase – Hero Decrease, Evil Decrease

It will be possible to have points in each rating, essentially giving the public a mixed view of the character. Based on the rating of the character, different events and decisions will open up to them, leading up to one of four unique game endings. There will be and ending for each rating and a standard ending if no rating triumphs over the others.

Below are two example scenarios detailing main story and side story morality choice and what the outcome and consequences are of each possibly decision:

3.7.1 Morality Scenario 1

The character encounters an enemy alien base that has captured a group of human. Upon closer investigation, the character notices that they have been performing experiments on the humans and are nearing completion of their study. In a short time, they will begin killing off the captured humans and will detonate a bomb that will destroy their base, removing any trace of what happened there.

The character has a very short amount of time, as the aliens are preparing to vacate the base and start the detonation timer. After some quick analysis, the character surmises that he would have just enough

time to save what humans are alive in the base before it explodes, but would not be able to find out any information about the base and allow the aliens to escape with their research data to make them more powerful. **(BRANCH A)**. If the character chooses to ignore the humans, a straight attack on the enemies would weaken their numbers and make future battles easier, possibly preventing the research from getting off the base and maybe allowing the character to save a small portion of the humans. **(BRANCH B)** The character can also try to go straight for the bomb and attempt to stop the detonation process. This will allow them to investigate the base for resources and information, but could endanger some of the humans and still allow the aliens to escape with the research **(BRANCH C)**. The player can also choose to detonate the bomb directly, which will kill all the aliens and humans, along with destroying the base. This will greatly weaken their numbers and destroy their research, preventing the alien's technology upgrades **(BRANCH D)**.

- Branch A – The character will be seen as a hero, saving all of the humans that had been captured, but will allow the aliens to escape. Their heroic rating will raise by a large amount.
- Branch B – The character will be seen as daring for pursuing the aliens, but reckless for not saving many humans. Their heroic rating will raise by a small amount, but their apathy rating will raise by a moderate amount.
- Branch C – The character will be seen as resourceful, trying to save the humans while also allowing for investigation of the alien base, but not as a complete protector. Their heroic rating will raise by a moderate amount, but their apathy rating will raise by a small amount.
- Branch D – The character will be seen as evil, who only cares about eradicating the enemy instead of saving others. Their evil rating will raise by a large amount.

3.7.2 Morality Scenario 2

The character encounters a woman being pick-pocketed by a thief. Upon initially discovering the situation, the character has the ability to investigate the situation by moving towards it or can simply ignore it and continue on **(BRANCH A)**.

If the character gets close enough to the situation, all the members of it will notice him. The character can then fight with the thief without harming the woman **(BRANCH B)**, harm the woman during the fight or solely **(BRNACH C)**, or leave the situation without doing anything **(BRANCH A)**.

- Branch A – The character will be seen as not caring and will raise their apathy rating by a small amount if they were not seen near the situation and by a larger amount if they were.
- Branch B – The character will be seen as a protector of the city and will raise their heroic rating.
- Branch C – Depending on additional circumstances, the character's evil rating will rise by a certain amount. If the woman is hurt solely without defeating the thief, the character will be seen as a menace and their evil rating will rise solely. If the woman is hurt, but the thief is defeated, the hero will be seen as reckless. This will cause their heroic and evil ratings to rise, either negating each other or one increasing slightly

3.8 Open World Map

To give the game a great "super hero" feel, the player will be able to adventure across the game city. This will allow for exploration while playing through the game. Some example games that this is based off of are Grand Theft Auto, Spider-Man, inFamous, etc. As the character moves through the city, random events will take place within a near vicinity. Some example events are people being attacked, enemy

alien groups, or special case events. The character will also have the ability to wander around the city and let people see him/her.

4 Example Scenarios

This section will have detailed examples of the situations in the game. This will help to give a better feel for gameplay use and some of the options that players have as they progress through the game.

4.1 Example Missions

The character wakes up in the morning to get ready for school. The character has had their powers for around a week now and has become fairly accustomed to them. The character gets ready, says goodbye to their parents, and begins the walk to school. Since the character has done some high profile work over the past couple of days, they decide to walk there rather than use their powers.

As they are on their way to school, the character notices a human walking very oddly past them. They can't put their finger on it, but something just seemed odd about the person. The character pauses for a moment and decides whether it is worth investigating. If they decide to investigate though, they'll be late to class again and definitely receive detention; meaning could miss other opportunities later to use their powers. If the character decides to investigate, skip to **BRANCH 2**, otherwise continue on.

BRANCH 1

The character ignores the odd human, chalking it up to an early morning and continues on to school. While the character is at school, they overhear a pair of classmates talking about something. As they listen in closer, they hear one of them mention that they just saw a news update on their phone about an attack on a bank in the area. The character sighs and they loath the fact that their parents have yet to give them a smart phone. The character then can choose to try and get to the bank or ignore it and stay in class. If the character chooses to try and go to the bank, skip to **BRANCH 1.1**, otherwise continue on.

The rest of the day continues on like any normal school day and the character begins their walk back home after school has ended.

Skip to **ENDING 1**.

BRANCH 1.1

The character asks if they may go to the rest room and the teacher allows it. While the character is in the hallway, they make a quick dash out the back door. The character is then given a waypoint to the bank and left to get there at their own will. Once the character reaches the bank, they notice the police blockading the entrances to the bank. Depending on the character's rating, the police will allow the character to enter the bank freely (high heroic) or will attack on site (high evil). The character has a few options to enter the bank, but are mainly broken up into the main entrance, side entrances, or the rooftop entrance. All entrances will lead to the same story advancement, but they will face a different set of enemies.

Once inside, the character notices that the robbers act very similarly to the odd human that they noticed earlier in the day. One of the robbers begins to attack the character and after a few hits on the enemy, it is revealed that they are one of the enemy aliens wearing a special cloaking device. After defeating the aliens in the main lobby, the character notices hostages being moved into a back room as other aliens

make their way towards the vault. The character can then choose to go after the hostages or continue on into the vault. If the character decides to go on into the vault, skip to **BRANCH 1.1.2,** otherwise, continue on.

BRANCH 1.1.1

The character heads towards the back room to help the hostages. Inside the back room, they see a decent number of aliens guarding the hostages. The character dispatches the aliens and gets the hostages out the front door towards the police. As the rest of the hostages make it through the front door, the character sees a small group of aliens moving out of the vault. Once dealt with, the character notices that they dropped small amount of the stolen gold, preventing some of it from being stolen.

Skip to **ENDING 2.**

BRANCH 1.1.2

The character makes their way further into the bank and down into the underground vaults. In there, they discover the aliens are gathering all the gold. The character does not understand why at first, but later discovers that they are using the gold as a means to create a weapon. The gold will be used build the electronics since it conducts electricity but can resist the corrosive elements of the power source to the weapon. As the character nears the main force in the vaults, they sees another group heading towards the hostages inside the bank. The character can choose to continue into the vault to prevent the aliens from escaping with the gold or stop the other group heading towards the front doors where the hostages and police are. If the character continues into the vault, skip to **BRANCH 1.1.3**, otherwise, continue on.

The character high tails it after the alien group heading towards the hostages and the police. Once back at the main lobby, the character fights off the escaping aliens. A small group of the original hostages emerge from the back room and out the front doors.

Skip to **ENDING 3.**

BRANCH 1.1.3

The character continues on into the vault to stop the aliens from getting the gold. After the aliens are defeated, the character finds most of the gold has been kept safe. The character can then choose to take some of the gold for himself or head back to the lobby. If the character decides to take some of the gold, their evil rating will raise by a moderate amount.

Skip to **ENDING 4**.

BRANCH 2

The character quickly turns around and trails after the odd human. They go down a few blocks and then into an alleyway. The character creeps into the alleyway and hides behind a trash can. As they peer over, they notice the odd human press a button on a small device. The brick wall at the end of the alleyway dissipates, revealing a tube with a pad in the middle. As the odd human walks towards the tube, the character can choose to move towards them now or wait till they are gone and follow behind them. If the character chooses to move now, skip to **BRANCH 2.1**, otherwise continue on.

The character waits for the odd human to get in the tube and the doors to close. A churning noise can be heard coming from the tube, like an elevator groan. After a few seconds, the character steps fully into the alley and begins to move towards the tube. Suddenly, the air in front of the tube begins to look hazy and the fake brick wall fazes back into reality. The player walks up to the brick wall and checks it out. It feels completely solid, even more so than a brick wall should normally feel. A few hits with a power weapon don't even make a dent in it. The character has a feeling that this is enemy alien related, but it looks like there is nothing more that they can do. They quickly leave the alley and rush over to school. Skip to **BRANCH 2.2**

BRANCH 2.1

The character rushes out from behind the trash can and runs toward the odd human. The odd human notices the player and lets out a loud screech and begins to attack the player. After a few hits, it is revealed that they are one of the enemy aliens wearing a special cloaking device. After defeating the alien, the character makes their way into the tube and descends down into a long shaft.

The character emerges in a small bunker housing alien technology. A group of aliens are working on machinery and weapons, most likely preparing for an attack of some sort. The aliens quickly notice the character walk out of the elevator and spring into action. The majority of the group run towards the character while a few run towards the back of the bunker. The ones in the back hop on to a teleporter and vanish, with the last one dropping a bomb down to destroy it after it warps away. This traps the aliens left in the bunker, but prevents the character from going after them.

After the character dispatches the aliens left, they explore around the bunker to investigate what the aliens were planning. Although the character can't decipher most of the equipment there, they do notice a hologram showing the city with a bank highlighted on it. Seeing as how the character dispatched the aliens here, there's a possibility that whatever they were planning at the bank might not happen. The character can choose to head over to the bank or ignore the situation and head to school. If the character chooses to head to the bank, skip to **BRANCH 1.1**. If the character chooses instead head to school, skip to **BRANCH 2.2**

BRANCH 2.2

The character makes it back to school, but is late. As they get closer, they notice the assistant principal standing by the door, reading a newspaper. He quickly looks up, notices the character, and makes a motion to come towards him. The player is then sent to class, but then is brought to detention right afterwards.

Skip to **ENDING 1**.

ENDING 1

While the character is on their way home from school, they notice several ambulances pass by them. As the character looks towards the direction they were coming from, they notice several police cars outside a bank. Whether hearing about the incident previously or just learning it for the first time, they surmise that people were hurt during a bank robbery and perhaps this would not have occurred if the character had been there.

The character's apathy rating will increase by a moderate amount due to the lack of involvement.

ENDING 2

The character makes their way into the vault and notices that rest of the aliens have escaped with all the gold that was in the vault, except for the gold recovered from the last group of escaping aliens. The character then returns to the lobby and sees the small bag of gold. The character can choose to leave the gold or take it to be converted into experience points. If the character chooses to take the gold, their evil rating will increase by a small amount.

After the character chooses, they are greeted by the police and thanked for saving the hostages, saying that lives are more important than money.

The character's heroic rating will increase by a large amount.

ENDING 3

The character makes their way into the vault and notices the rest of the aliens have escaped with all the gold that was in the vault. The character returns to the lobby and is greeted by the police. They thank the character for their help, but wished more of the hostages had been saved.

The character's heroic rating will increase by a moderate amount and their apathy rating by a small amount.

ENDING 4

The character meets the police in the lobby as they are beginning to search the premises. The character is thanked for getting rid of the aliens, but are told that they should have saved the hostages.

The character's apathy rating will increase by a moderate amount.

4.2 Example Side-Missions

5 Story

This section will outline the back story of the game, the main progress points, and any possible large story splits that can occur based on player actions.

5.1 Character Background

5.2 Alien History

5.3 Opening Story

6 Special Powers

This section will list of all of the special powers in the game, going into detailed explanation of their uses and their different levels.