

Duelworlds
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Game Design Documentation
Savannah College of Art and Design

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except where specifically mentioned otherwise.*

Duelworlds

For Game Design Documentation Class

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II. Design Overview

1. What is *Duelworlds*?

Terminology

The term *Duelworlds* refers to a digital, mobile game, its mythos, and the product body that encompasses it.

Intellectual Property

Duelworlds centers on its own, newly created intellectual property.

Design Approach

This design utilizes a holistic approach in order to establish, propagate, and leverage the new *Duelworlds* mythos.

2. Design Objectives

Emotion

Build an emotional bond between the player and a miniaturized digital companion. This companion will be called ‘the hero.’

Gender Inclusive Game Design

Target women and casual gamers. Increase the variety of games that women have available to them. Give women opportunities to enjoy genres that game designers have traditionally excluded them from. As a result, draw more women into gaming.

3. Subordinate Design Objectives

Artificial Life

Improve on the experience provided by pet-rearing games to seize and leverage a pre-existing market.

Affective Computing

Improve on affective computing to complement artificial life experience. Create a reasonably complex affective AI so that the hero appears to be intelligent, adaptive, and emotional.

Legitimate Augmented Reality

Improve on augmented reality games to complement artificial life experience. Avoid using augmented reality as a ‘gimmick,’ by weaving it intimately into the game play.

Console-Quality Mobile Game

Develop and position game a highly polished, console-quality game like Nintendogs, instead of permitting it to be grouped with the surplus volume of low quality, ‘time-waster,’ mobile games.

Best Friend

Improve on techniques to create an immersive environment where the game boundaries are blurred, to create the illusion that the character really is the player's best friend, increasing the development of the emotional bond.

Community

Facilitate the development of a community surrounding the game, the creation of user-generated content, and social opportunities for gamers.

III. Game Overview

4. Quick Facts

Razor Statement

Duelworlds is a fantasy, AR adventure game for casual players. Nurture, train, and lead a virtual hero into a dying world to fight against the evil Hungry Ones. Be advised that your hero has a mind of his own, and will bond with, protect, and occasionally even defy you!

Genres

Casual, adventure game. Fantasy, alternate-reality setting.

Target Audience

Women aged 13-65.

Platforms

Duelworlds is being developed for the iPad 2 gaming platform. The game will then be ported to next-generation tablet devices.

Duelworlds requires a hand-held device with a LCD touch screen and a rear-mounted camera. The device must be capable of augmented reality in such a fashion that the player appears to be looking ‘through’ the screen of the device at the world, as if they were looking through a window. The device must also have a robust processor and graphics hardware. The device must be wireless enabled, and preferably 3-4G.

5. Description

Somewhere on the blackened world of Agon, your hero is dying. You have never met this person face-to-face, but your destinies are entwined. Together, you may stand a chance at saving both your worlds.

Your hero has been fighting losing battles for many years now. Agon is in the final stages of a war against the unstoppable Hungry Ones. If his world should fall, Earth will be open to invasion. Yet hope is not lost! *Duelworlds* will permit you to travel to Agon. Perhaps there, you can make a difference!

Go to Agon, and scour the battlefield for your new companion. Even with *Duelworlds*, you will only be able to travel there as a small and fragile avatar. You won’t survive for long on your own! Your only hope is to find your hero quickly, and bring him back to Earth to recuperate.

Hurry now and find him (or her!) before it’s too late!

Meet your hero! On Earth he can stand in the palm of your hand, but that doesn’t make him any less tough. Nurse him back to health and help him grow into the hero he needs to become. Travel him with Agon and coax him through the trials and tribulations of his epic quest. Chastise him if he doesn’t listen to your instructions the first time. Teach your hero the refined art of dueling, and learn from him in turn.

Work alongside your hero to rescue orphans, push back enemy legions, uncover forgotten culture, overthrow tyrants, and traverse the gloomy abyss of the Hungry Ones' lands.

When things turn dark, just remember, you're not alone; your hero will follow you from Agon to Earth, and you can always rely on him to protect you! Take the time to develop a relationship with him by encouraging or condemning his actions. Unravel his past and sculpt him for the future. As he grows, find yourself playing alongside a monstrous anti-hero, a crude barbarian, a daring swashbuckler, or a dependable champion.

Bring the realm of *Duelworlds* into your own home through the use of AR. Look through your iPad and see countless creatures roaming around your feet. Villages are built into the floor and walls, and monsters patrol dungeons in the distance. Meet other heroes and spar against them, or work together to overcome dangers. Interact with Agon refugees or- hey!- maybe it would be fun to play matchmaker for your oblivious little companion!

Welcome to *Duelworlds*!

IV. Game Play

6. Game Play Overview

At a Glance

Duelworlds is an adventure game. The player exists in a 3D world. He or she moves around in the environment and interacts with objects, items, and characters. The majority of all interactions occur between the player and the hero. Building an emotional bond with the hero serves as a cornerstone of the game.

Forms of Play

Duelworlds facilitates several different kinds of play, each focused on a different attribute of the target audience. Over a given gaming session, a player will interact emotionally with the hero, explore a virtual world, solve puzzles, embark on quests, defeat bad guys, take pictures, and socialize with other players.

The player and the hero are the duel protagonists of the game. The player is the thinker, planner, and puzzle solver. The hero is the physical component, who enacts the player's plans.

Gameplay in *Duelworlds* is classified into several categories. These categories are 'nurture,' 'cards and dueling,' 'adventure,' and 'socialize.'

Modes of Play

Duelworlds takes place in several modes. The modes are, 'Overland Adventure,' and 'Combat,' and 'AR.' These modes take place in one of two settings, 'Agon,' or 'Earth.'

7. Nurture Overview

Nurture gameplay consists of spending time the hero. The hero is driven by a robust, emotion/goal-driven artificial intelligence. Gameplay consists of interacting with that engine.

The hero strives to understand the player as the player learns to understand him. He has positive traits and flaws. At any given moment, he may be either helpful or uncooperative. By learning the hero's motivation for his actions, the player can encourage him to change. In turn the hero tries to learn the player's motivations, to illicit the kind of behavior *he* wants to see.

Player Actions

Nurture gameplay permeates the game space at all times. The hero's AI is constantly reacting to the player's actions. Nurture gameplay dominates when the player is directly addressing the hero.

To address the hero, the player taps on him to bring up a pinwheel context menu that describes a tree of potential interactions. The player then selects an action from the menu.

When addressing the hero, the player may utilize one of several techniques (or tones) to approve or disapprove of something, express a feeling, attempt to generate a feeling in the hero, attempt

to elicit an action from or an emotional change in the hero, or share information with him. The manner in which the player interacts with the hero generates an emotional response within him, and causes him to react in different ways.

Satisfaction of design objectives

Permitting rich interaction with the hero facilitates emotional bonding between the player and hero.

Impact on game mood

Through nurturing the hero, the player is able to shape him into the type of companion that they find interesting. The player can treat the hero as if he were a friend, child, paternal figure, romantic interest, or even an aloof guardian. The player can encourage an affectionate relationship between themselves and the hero, or between the hero and another character. The player can also abuse the hero, to create a moody and dark anti-hero.

Impact on plot progression

A strong relationship between both entities is necessary for the player to guide the hero optimally through a given level. A well-developed hero learns a player's limitations, and increases the aid he is able to render when a player is unable to correctly solve a problem. A poorly-developed hero, who has not learned to trust the player, may refuse to embark on a difficult level, or attempt to solve a dangerous puzzle.

Sources of Frustration and Mitigations

Deadlock

The largest source of frustration for the player will be any situation that permanently renders a character 'deadlocked.' Deadlocked is defined as a state the hero enters into from which it is impossible for the hero to return. It may occur as a result of the hero's complex AI engine.

There are several different kinds of deadlock which can occur. The first is in which a combination of characteristics locks in a section of the hero's personality and makes it impossible to change. This greatly reduces the customization of the hero and makes it impossible for the hero to be 'trained.' This source of frustration is mitigated by identifying key points where characteristics may create a deadlock, and introducing loopholes to circumvent them. Close monitoring of hero copies server side will also be utilized to identify previously unforeseen deadlocks.

A second form of deadlock may occur in that the hero becomes so consumed in negative traits and behaviors that his negative traits create a positive feedback loop- that is, that his negative traits cause him to get worse and worse, no matter what the player does. This form of deadlock is easily mitigated by giving the hero a natural 'compatibility' factor with the player, which permits the player to influence him more easily proportional to how badly his negative traits outweigh his positive ones.

8. Cards and Dueling

Overview

Playing cards have an integral role in *Duelworlds* mythos because they form an integral part of the game's primary combat mechanic: dueling. The hero is also capable of playing a wide variety of card games with the player, each as a mini game.

Combat

Duelworlds combat mechanic is nontraditional in that it builds up from a card game. This card game, *The Duel*, was designed specifically for *Duelworlds* and emphasizes the experience of undergoing an epic cinema duel while at the same time relying on the same player skillsets inherent to games like rummy, and solitaire.

The Duel is taught in-game to the player as a card game previous to actual combat, in order to wean casual gamers gently into the adventure gameplay. Combat proceeds in a fashion similar to a mini game.

Combat Speed

When playing *Duelworlds*, the player is allowed to specify an action speed level. At high action speed levels, combat proceeds in real time with new cards continuously being drawn and discarded, and without pausing to wait for user moves. At low action speed levels, combat proceeds in a complete turn-based fashion, with each turn needing to be definitively concluded by the player. The number of enemies present in a level is adjusted depending on action speed, with higher action speeds having more enemies. This allows players to play the game in the way that they are most comfortable.

Nurture Progression

Dueling is widely prevalent in *Duelworlds*. It is a stage for player-hero bonding due to its role as the game's primary combat mechanic. The hero's AI accounts for the player's weaknesses as more duels are fought. As one of the end goals of nurture play is to mold a perfect hero, increasing the hero's competency with a weapon is necessary

Plot Progression

Dueling and playing card games are a common game mechanic for resolving quests. The plot of *Duelworlds* revolves around defeating very powerful enemy legions.

Social Progression

Whenever two heroes meet, it is possible for them to engage in duels and friendly spars. When two heroes duel, they permit their players to compete indirectly, and also offer the players a chance to share nurturing strategies.

9. Adventure

Overview

Adventure gameplay consists of questing. The player seeks out and accepts a quest, and then attempts to fulfill the requirements of that quest.

Adventures are composed of combat, story, and puzzle-solving elements. Puzzles may be traditional, logistical, social, or based on the physics-engine.

Plot progression

Duelworlds' plot is quest-driven, and therefore can only be satisfied through adventure gameplay. All quests consist of at least a small social component with another character, even if it is just in giving instructions to the hero, causing overlap between adventure gameplay mechanics and other forms of play.

Break Time

The speed at which the player progresses through the plot is bottlenecked by mandatory break times. The hero has an energy meter, which depletes slowly over the course of an adventure. The hero requires rest in order to perform optimally. The hero rests while the game is off.

Break time exists as a result for the hero's need for rest, but it is capitalized upon as a means for getting players to take breaks, extending the adventure's playtime, and requesting that the player spend more time interacting with the hero. It also provides a framework through which the player can later understand the consequences for 'failure' as simply a request that the player take a break and rest.

Break time can be circumvented through the purchase of certain items to revitalize the her.

Player Actions

General

In general, the player interacts with any and all things by tapping on them and bringing up a context menu, from which options can be selected. The player even interacts with the hero in this fashion. The player may also request that the hero interact with an object by first selecting the appropriate request from his context menu, and then tapping on something else and selecting from a new context menu what the player would like him to do with that thing.

Character Interaction

Players may interact with other characters, although other characters do not possess an organic AI. Plot-centric characters have scripted dialog trees which must be traversed appropriately to further the plot.

Object Manipulation

Frequently the player must manipulate the environment in some way in order to solve a problem. The player cannot directly interact with most objects because the player's avatar is too small and weak. Most of the possible interactions are grayed out, and can only be enacted indirectly through the hero.

Interacting with an object may yield a scripted behavior, such as interacting with a box to gain access to the items stored in it. Alternatively, interacting with an object may produce an effect that is handled by the game's physics engine, such as throwing a rock.

Obstacle Traversal

In order to solve logistical problems, the player must interact with or ask the hero to interact with certain features of the landscape. For example, the player may ask the hero to climb a rope, scale a cliff face, or walk across a balance beam.

Items/Equipment/Inventory

The player manages the hero's inventory, as well as any other inventory-like spaces, such as storage chests. The game features a Diablo-styled inventory. Some items act like portable objects, or like tools, which modify the interactions available through the context menu. These items are then used for puzzle solving. Other items must be equipped to enhance the hero's in-game skills.

Magic

The player's avatar is equipped with a few unusual abilities, which allow the player to assist the hero. These abilities are strategic in nature, permitting the player to boost the hero's skillset, peer around corners, or give him a temporary energy boost.

While in Agon, the player is capable of touching the hero at any time and teleporting safely back to Earth, to get him and the player out of danger.

Satisfaction of design objectives

Providing opportunities for the hero to act heroically facilitates emotional bonding between the player and hero.

Sources of Frustration and Mitigations

There are several sources of frustration that may result from adventure gameplay. The first is that a puzzle or obstacle may require more time to resolve than the player has on hand, which is mitigated by forcing the game to save continuously, and letting the player pause mid-puzzle.

The second source is that a puzzle may be too difficult for a player to solve. This is mitigated by permitting the player to modify the game's difficulty level, and also by providing the hero as a puzzle-solving assistant.

The third source is that the speed of the on-screen action may be overwhelming to the player, who may or may not be familiar with gaming. This is mitigated by permitting the player to modify the game's action speed level. At its slowest speed, the game's combat becomes turn-based, and the game will pause in critical situations to give the player time to look around and think on his or her actions. A second mitigation is present in that the hero will take charge and attempt to rescue the player from any dangerous situation, reducing the pressure on the player to react perfectly or immediately to a stimulus.

The fourth source is that a gap may occur between play sessions in which the player forgets what they were doing. Furthermore, the traditional means for mitigating this frustration is by giving the player a text-based journal, which the casual gamer will frequently be unwilling to read due to time constraints. Instead, this frustration will be mitigated by a visual journal of snapshots

accompanied by annotations. It will be compiled from the hero's memories upon the request of the player.

Another source of frustration rests in the fact that severe failure at a task results in the hero becoming injured and incapable of continuing an adventure. When this happens, the hero is not killed and the game is not reloaded; instead the player and hero leave Agon and return to Earth until the hero has recovered. This design makes certain to mitigate this frustration because an analysis of the target audience shows that players will be more responsive to low penalties for failure.

The mitigation takes several forms. Firstly, the hero is capable of forming an opinion on the chances of his success when performing a series of actions, and will protest if he feels a situation is dangerous. Secondly, the hero may offer his own possible solutions for a problem. Thirdly, the levels are laid out so that it is not easy to damage the hero to the point where he must be removed from play. Fourthly, the player's ability to teleport the hero back to Earth allows the player to escape dangerous situations.

Another mitigation for this frustration is inherent in adventure-play's use of break time. In the event that the hero is removed from play, the game is designed to treat the situation as a break-time or period of relaxation. Hints for solving the problem on the next run-through are then present by interacting with the hero and other characters.

Lastly, a final mitigation for this frustration rests in the player's ability to purchase items to help the hero recover faster.

10. Socialize

Overview

Upon game launch, social play will only be available in free mode. Future add-ons will include the ability for two heroes and one player, or two heroes and two players, to collaborate in order to play through an adventure. A player may temporarily borrow another player's hero to go on adventures with, assuming the original player grants permission.

The *Duelworlds* product body will also include several additional elements, including a web portal and a virtual presence for the hero both on the *Duelworlds* website, and on social networking sites such as Facebook, on which the hero will occasionally 'post.' Each of these elements requires its own design, for which further development work is still necessary.

Meeting Other Players

Players will be capable of meeting online on a web portal hosted to facilitate *Duelworlds* social play, and by identifying family members and friends who also play through use of aps on social networking sites.

Players are also capable of identifying the presence of another player in free mode- that is, while walking down the street. In-game options permit the player to transmit GPS data and utilize SLAM to monitor where other players' heroes are and show them on the screen. Other players

cannot directly see and interact with one another through their hand-held devices, but they can interact through their heroes, who will travel out a short distance to meet other heroes in their areas. Players can also pass notes to their heroes, and have them delivered to other characters.

At a short distance, two players can engage in a duel against one another, and both watch as their characters interact. Two players who have confirmed a friendship can send their characters to visit one another and request duels, even long distance.

Player Actions

Players can play socially by creating content for consumption by the community. Within the game, players can take pictures with or of their heroes, make scrap books, tape short movies, post stories that are supported by a pictorial record from the hero's memory, and post minigame results. Using modified toolsets derived from those used by the game developers, they can also create custom adventures, character actions, and minigames, for upload to and download from the *Duelworlds* website.

Players can interact directly with one another by staging duels between heroes and playing minigames. Two players may also trade with one another for objects and items.

Satisfaction of design objectives

Social play is the mechanism by which *Duelworlds* plans to build a community around itself and encourage women gamers to share *Duelworlds* with one another for purposes of social gaming and collaboration.

11. Overland Adventure Mode

Setting

Agon.

Overview

Overland Adventure Mode is the mode that predominates while the player and hero are on Agon. As its name suggests, it is where the majority of adventure play takes place. It resembles an adventure game such as Legend of Zelda, in which the character is exploring and roaming freely throughout a 3D realm.

Movement

Player

The player character controls a small, hovering avatar from First Person POV. The player moves this character using a circular area on the iPad screen where the thumb of one hand rests. The player looks around (manipulates their camera) by touching the screen and dragging, or making a 'pinching' gesture to zoom in/out for a better view.

Hero

The hero will loosely follow the player on his own initiative. When the player walks a sufficient distance away, the hero will follow. The hero will not remain idle. The distance he moves from the player, the idle pastimes he engages in, and the goals he chooses to fulfill, are linked to the dramatic tension and danger of a moment.

Base Camp

{{DO NOT FORGET ME}}

12. Combat Mode

Setting

Agon, Earth

Overview

Combat is a mini-game, discussed previously under Cards and Dueling in Gameplay. Visually, it occurs wherever combat has been initiated. A ‘dueling circle’ appears that contains the combatants. If the action speed has been lowered from real-time, Everything outside of the dueling circle freezes in place while the actions for a turn are being decided. After the actions have been decided, characters outside the dueling circle may move a small distance and enter into combat, while the results of the actions are being resolved.

Moving Between Combat Mode and other Modes

Combat mode must be initiated by an attack, whether it is an attack of the enemy on the player, the enemy on the hero, or the hero or player on the enemy. Combat ends when all enemies are defeated, or when either the enemies or the hero and player leave the dueling circle in a retreat.

13. Free Mode

Setting

Earth

Overview

Free mode uses the capabilities of the gaming platform to deliver a different experience to enhance nurture and social play elements. It is used to help sate the design objective of creating a more emotionally compelling character. It implements AR to help satisfy this objective.

In free mode, the player no longer sees a virtual world on their iPad, but instead sees their own home as seen via the iPad’s camera. Digital characters are then placed naturally in the virtual world and can be acted on using real-world objects (such as the player’s hands) through means of the game’s physics engine. No AR cards or tokens are used; the system makes use of SLAM technology to gain a view of the surrounding environment in real time and then naturally place the characters.

Free Mode is predominantly governed by nurture and social play.

Movement

The player moves their mobile device around like a viewport, to get the view they desire of their surroundings. By moving from area to area, they will uncover more digital features embedded in the world they inhabit.

Network

Using iPad Wireless, SLAM, and GPS technology, Duelworlds creates an online database of all unit and object locations worldwide. Therefore, two players playing *Duelworlds* side by side will see the same augmented reality objects, including one-another's heroes. See Monetization. The hero is active in free mode whenever the player is not playing. He is updated through the network, and will attend to his needs, write journal entries, and seek out resources if he should run out of food.

Physics Engine

As previously noted in adventure play, the player is too weak to manipulate most objects in Overland Adventure Mode. In free mode, the player is able to affect the physics engine through on-screen context menus, and by manipulating the environment with his or her hands.

Living Space

The player designates an area in free mode in which to set up a living space for the hero. This living space contains game objects, items, and storage areas with which the hero can interact, and which he can use to tend to his needs if the player should log off for some time.

Graceful Failure

This design has been structured so that free mode will fail gracefully if its AR capabilities should become unreliable.

During the first few levels of play, players are incapable of harming their heroes with the physics engine. Afterwards, players have the option of keeping the physics engine off. This protects the player from frustration and emotional harm, in the event that certain contextual circumstances (such as a damaged gaming device or unforeseen technical issues) should render free mode difficult to use. Technical support, wands and tokens will be to assist with free mode for similar reasons.

In the event that free mode cannot understand the surfaces it sees, cannot identify solid ground on which to initially place a character, or loses its orientation, a floating 'islet' will be constructed on which to temporarily place the character.

In the event that the free mode loses track of where a character should be, the character will be returned to a location nearby where it was last seen, but outside of the player's field of view.

The free mode will adapt to the environment as it is interpreted at run time. If initially a character was to be placed in a given location, and a wall is now seen to occupy that location, either the character will be moved to a new location, or a cave will be constructed into the wall for the character to inhabit.

Player Translocation

During the first levels of the game, the player sets up a free mode city of Agon evacuees to serve as hub for trade and interaction while in free mode. This is to ensure that each player is given the freedom to place the city in an area they have easy access too, so that they can interact with the in-game economy.

Once per month it is possible for the player to uproot the Agon evacuees and move them elsewhere. This will permit a player to take the village ‘with’ them on long vacations, or in the event of a move.

14. Menus and Interfaces

Saving and Loading

There is no menu or interface for saving and loading. The game is saved automatically every few seconds, and is loaded automatically at runtime. A backup copy of the game is kept client side in the event that file corruption should occur. The saving procedure reduces chances for corruption by building a new temporary file in its entirety before swapping the entire new file in for the previous save. The game is also backed up server-side.

Options

There is a menu for configuring game options, including difficulty level, romance level, action-speed level, graphics and sound options, parental controls, and other options.

Inventories

The player can access the inventories of objects, as well as of the hero, and manage them. The game has a Diablo-styled inventory.

Online Store

The player can access the game’s online store and engage in micro-transactions.

Library

The player can view permanent add-ons to the game that have been purchased through the game’s online store, such as item packs that alter the items carried by in-game merchants.

In-Game Stores

In-game stores are run by NPCs in the game world, and are bought with in-game currency. They do not resemble inventory screens. They resemble product catalogs.

Context Menus

As mentioned previously in gameplay, most in-game interactions are carried out through pinwheel context menus that describe trees of interaction possibilities.

Cards and Dueling

Dueling and card games are, like minigames, assigned their own interface. In dueling, the player’s ‘hand’ is displayed on the screen. The areas that must be touched to select a ‘card’ for

play are kept as close to the sides of the screen as possible, so that it is still possible to access context menus on screen without accidentally clicking on ‘cards’, or vice versa.

Minigames

Each mini game is assigned its own interface.

Object Placement

There is an inventory-like interface for the selection, placement, and management of objects for the hero’s living space, as well as an AR-based mechanic for placing objects.

15. Situations Strategies (Card)

One of the goals of the card game was to create emergent game-play, in a fashion similar to chess or mahjong.

A Powerful Defensive Strategy

One possible defensive strategy is for a player to hold onto one or two power up cards and a counter parry card. The circling phase proceeds with the player discarding any feint cards and reserving most normal cards. The player may want to make sure he or she has a read intent card in play in case the opponent is holding a feint card. The player then just continues in the circling phase until the opponent attempts to initiate a push. The player then immediately plays a counter-parry. The player spends the read intent card, if necessary, to counter any of the opponent’s feints, and to make sure the strike hits. The player also uses power up cards as necessary to make sure the strike will subtract at least one energy token from the opponent.

Situations (Digital) *The Hero Loses a Duel*

There are three types of fights in *Heroes*, a friendly spar, a tournament duel, and a genuine duel. The player has the opportunity to forfeit a duel every few card plays. A forfeited duel means defeat for

Friendly spars have no ill consequences. Friendly spars can occur between heroes, or between a hero and a friendly NPC.

Tournament duels can occur between heroes, or between a hero and another NPC. There is a chance that the losing hero in a friendly duel will be injured, although not for an extensive period of time. Tournament duels are fought for specific reasons, such as in real-world gaming tournaments and in-game dueling tournaments.

Genuine duels occur between golems (enemies) and heroes, and between hostile heroes. The loser of a genuine duel always ends up injured (unless the duel is forfeited), presenting a strong incentive never to lose a duel! Losing a duel corresponds to a ‘game over’ screen in a traditional game. If submersed in the RPG, the game immediately ends and the hero is returned to the player in a very battered state. The hero can return to the game later and will reappear at a preassigned check point.

Injured heroes are capable of fighting and playing in the RPG but have greatly reduced abilities while doing so, according to the severity of their injury. When the hero is fresh, the character can be healed back to full health quickly by the player applying bandages. As the hero becomes more developed and stronger, the only means the player has to restore the hero quickly to full health is to purchase better medical supplies from the in-game micro-transaction store.

Situation: Sure, We'll Fight the Dragon!

An NPC has just finished explaining that a terrible fire-breathing golem-dragon is raining hell down on a nearby village. The player elects to go and investigate, but receives a surprise! When the player agrees, her hero turns around and gives her a look of incredulous disbelief. The player tries to move on with the game, but when she directs the hero to move towards the village, he doesn't budge! Confused, she comes back to find that the hero is standing with his arms over his chest, giving her a very dirty look. He knows he can't take on a dragon.

But the player wants to at least check out the situation, and proceed down a different game route than normal. The player taps on the hero and receives a list of social interactions she could try. She hesitates between, 'scold' and 'beg,' but then wanders over to 'incentive.' She's got a limited time to play and doesn't have the luxury of playing through the little 'begging' mini-game.

She taps on incentive and briefly scrolls through her list of purchased items and, finding nothing she thinks he'd like, she brings up the in game store and taps on a one-cent blue cape. Her hero blinks, winces, sighs, and then holds out a hand for the cape. The player purchases it and gives it to him. After putting it on the player shakes his head. He still thinks this is a crazy idea, but now he's willing to follow her.

V. Artistic Direction

16. Visual Technical

All graphics are to be low polygon and slightly geometrical, using only enough polygons to rough in the basic shape of the character. Whether the character's facial features are to be modeled or implemented solely through textures is a decision to be made by the production team. See the Playstation 1 game *Legend of Legia* for an aesthetically pleasing implementation of this style.

It is preferable that anti-aliasing be enabled, to avoid the jagged look of graphics seen in games like *Nintendogs*, but as the success of *Nintendogs* shows, this is not strictly necessary.

The use of the models in free mode means that it would be beneficial if the final game were capable of dynamically lighting a scene at run-time. If this should prove technically unfeasible, the game should gray out textures that are father away, to simulate distance.

Stylistic

Emphasis should be removed from detailing models and placed instead on producing richly colored, hand-painted textures.

The world of *Duelworlds* features a highly eclectic blend of cultures. The inhabitants and architectural style of a *Duelworlds* town is not dominated by any one ethnic or cultural group or cultural style. Instead, a Chinese pagoda may be found side by side with an Egyptian granary and a Victorian-era mansion. There should be no mitigation of architectural styles, and nothing should be colored or textured in a visually recessive way. The environment must always appear rich and visually stimulating, even to the point of being slightly overwhelming, so long as it remains possible to distinguish objects from one another, and identify walk-able surfaces.

This visual style is used to complement adventure play, and should make the game feel vaguely similar to point-and-click adventure games marketed towards women and casual audiences.

The heroes themselves should not be overly cute, or super deformed or exaggerated. Their heads and eyes should be only slightly larger than normal, to facilitate a very slight doll-like appearance and to ensure that these features are visible, and otherwise should be lanky and tall with reasonably proportioned body parts and broad shoulders. The heroes should appear very tough (or elegant, depending on the hero's archetype). The player should be able to take the hero seriously, and to be able to imprint upon them as an embodiment of heroism. It should be conceivable to blow up an image of the hero and place him or her on a movie poster for an action/adventure movie, and for it to seem like he belongs there.

Visual Characteristics Based on Gender.

Male and female heroes should both embody the essence of heroism, but not necessarily of perfection. Both genders should appear healthy, tough, slightly rough, attractive, and strong. It should not be the case that male heroes are less attractive than female heroes.

Over-exaggerated sexual dimorphism should not be apparent; both female and male heroes should appear roughly the same height, weight, and strength. A good model for comparison would be if two heroes with identical physical appearance data, each of a different gender, could be clearly identified as twins.

As an example, a female and male barbarian should have thick, lush hair, appear slightly scruffy, feature equally visible scars, have a well-defined musculature, and have attractive facial structures. Both should be equally stocky at the waist, with the male having broad shoulders and the female having rounded hips and moderately sized breasts.

Amor should not be unreasonably sexually dimorphic, in that the female should have no more skin exposed than the male, and the breasts should not factor majorly, if at all, into the armor's shape.

Due to the nature of the target audience, it is crucial that no female characters be hyper sexualized.

It is also important to remember that the hero is not the player's avatar. The hero does not necessarily represent the player's perfect ideal of beauty, but rather the player's perfect ideal of heroism. Therefore anyone looking at a female hero must immediately understand that she is just as competent and protective as the male hero.

It is possible for female characters other than heroes to appear vulnerable; however, equally vulnerable male characters must then be provided for balance. What the player does with these characters is up to their individual play style and personal beliefs, but both are necessary to prevent alienation of the female player base.

The pool of actions available to a character depends on the character's traits, which are derived from the player's profession and the questions asked during character selection. As no trait can be fundamentally married to a gender, it is important to note that all actions and items can be used equally by both genders, but not necessarily by all professions. Future design work is therefore necessary in this area. Care should be taken not to alienate players either by making it difficult to create characters that defy gender norms, or to alienate other players by making it too easy and letting them accidentally create a character that makes them feel uncomfortable.

If in future design cycles the designer creates traits such as 'effeminate' and 'masculine,' these traits should be named so that they are clear as to their results, but do not include the words 'feminine' or 'masculine' in their names. Possible alternate names are 'sensualized' and 'tough'.

17. Audio

Music

(Further research and design are necessary in this area. It is possible that music should not be implemented in free mode, or that it should be implemented later using items such as phonographs.)

Music for *Duelworlds* can be divided into four categories:

1. The music that dominates nurture play, free mode, and ‘safe’ environments. This music should be unobtrusive and friendly, and should be similar to the music used in *The Sims*.
2. Dynamically generated music using vertical sampling that is used in unsafe environments, and which should be constructed of classical music components. This music alters based on environment and surrounding threat.
3. The music that plays during climaxes in adventure play. This music must be carefully selected for its ‘epic’ feel, and should have qualities similar to classical music songs like Richard Wagner’s *Ride of the Valkyries* or Karl Orff’s *O Fortuna*, or movie and video game music such as those songs produced by companies like Two Steps from Hell.
4. Music that is implemented later as an add-on, through which the player replaces the previous three music types with music of their choice, such as classic rock.

Sound

Sounds design should be emphasized during game development, with all sounds being rich, informative, and satisfying. Female and casual players have been shown to be more responsive to aural stimuli as a source of stimulus, feedback, and reward. Successful actions should yield encouraging sounds, while unsuccessful actions should yield un-encouraging ones. In fact, error sounds will be used as a form of ‘punishment,’ in lieu of player injury or death in many situations.

Voice

The hero is mute and cannot speak, for reasons left unexplained but possibly having to do with trauma. He is capable of whistling, humming, (in the case of the barbarian, he can sort of throat-sing), grunting, snarling, hissing, and laughing. In this sense, his voice over is similar to Link’s from the *Legend of Zelda* franchise.

Additional design and research work is necessary to determine if it is necessary or feasible to provide more detailed voiceovers for other characters, or whether it is acceptable to rely on text in the manner of *Legend of Zelda*.

VI. Game Narrative

18. Background

Earth is in danger. And when I say 'Earth,' I don't mean a digital world modeled after Earth. I mean the world you live in. Everything and everyone, from your Great Aunt Ethel, to your downstairs gaming hideout, to your favorite fast food restaurant, are all in grave danger.

*Earth possesses a twin. This dying world is called Agon, and it is in the final stages of war against the unstoppable Hungry Ones. Use the *Duelworlds* game to witness the devastation on Agon. Know that if Agon falls, Earth will be next. Agon is Earth's Twin.*

There is hope only while Agon stands, and we need people like you to fight for its survival. You are a Twinned Spirit; your soul is bound to the spirit of one of Agon's great but overburdened heroes. At your side, he will become an unstoppable champion. But first, you must find him; and you are only able to send a small and vulnerable avatar into his world. Rush to rescue him from a losing battle, restore him to health, and then lead him back to reclaim his homeland and save his people.

Twinned Worlds

Duelworlds is an alternate reality game, in that it requests that the player pretend it's real, and in that it takes place on Earth. The *Duelworlds* mythos contends that there are two worlds in alternate dimensions, Agon and Earth (or Alea, as the inhabitants of Agon call Earth, 'Alea'). These worlds are 'twins,' and as such they have a number of unique properties in relation to one another.

The Hungry Ones, *Duelworlds* primary antagonists, are cross-dimensional beings. They are in the process of devouring Agon. As they succeed in doing so, portals open up between Earth and Agon that allow inhabitants of one world to manifest as tiny incarnations in the other world. If Agon holds firm, Earth will be spared from invasion.

The people from Agon and Earth share a number of attributes. They would both qualify as human, and share some visual and cultural attributes. However, there are some subtle differences, such as the fact that Agon's people do not appear to care about ethnic or cultural differences, and are almost eclectic in their wild and colorful display of widely different cultural traits. Agon also seems to reflect cultures from a very wide range of Earth history. The people are also extremely competitive, and believe that nothing is fated or outside the realm of their control (including defeating the Hungry Ones) which has given them the moral boost necessary to keep fighting their (apparently losing) battle against the invaders when lesser people would have crumbled.

The Hungry Ones

The Hungry Ones appear as enormous, shadowy monsters made of dripping debris. They do not kill people, but rather knock them unconscious and drag them away. Such people are never seen

from again, and are believed to become Hungry Ones themselves. Not much theoretical knowledge is known about the Hungry Ones, such as where they came from or why they're always hungry. What is known is that they've been 'eating' Agon, taking it over inch by inch, and turning it into wastelands, tar fields, and deep abysses.

Hungry Ones can eat almost anything, including the words off a printed page, at which point the knowledge fades somewhat from the minds of those who know it. It is believed they may be after a book that contains the rules of Agon's *Duel*, and if they consume it, the *Duel* will be lost and Agon's inhabitants will become helpless against the invasion.

The Assault on Agon

The Hungry Ones have been attacking Agon for one hundred and thirty years, but Agon's inhabitants can live to two hundred years of age, and there remain many elders who recall the world before it came under assault.

Twinned Spirits

Twinned Spirits are a person from Earth (the player) and a person from Agon (The hero) who have a unique bond. These individuals can 'sense' one another, even at a great distance (the skin used for hero-selection makes use of this sense), and instinctively know and are compatible with one another (which is why the hero will always love the player.) When united, twin spirits become more powerful.

Spirits from Earth are skilled in leadership and support, while spirits from Agon are more physically powerful. The player, as a spirit from earth, is better at puzzle solving and logical reasoning, and has supernatural abilities. These abilities include the ability to open portals or boost the hero's skills.

19. Characters

All in-game characters have their appearances randomized to some extent, although not necessarily their personalities. Further research and development is necessary in this area, to determine whether their names can also be randomized, to help personalize each game for its player.

Introduced Level One

The Player

The player's avatar is *not* the hero. On Agon, the player has a first person POV camera completely independent from the hero; on Earth, the player is physically present, in real life, as a distinct entity from the hero.

On Agon, the player is said to be piloting a tiny hovering avatar that can only get a certain distance above the ground. This avatar has a range of magical abilities, and its own hit points, but it is very vulnerable and frail, and incapable of affecting the world physically. The player does not see their own avatar unless looking at the hero's diary entries, which include snapshots from the hero's POV. The player's avatar will be customizable in an add-on.

The hero is capable of physical grabbing the player's avatar and pulling it out of harm's way.

The Hero

The hero is the player's mute but very expressive and emotional companion. He is driven by the complex and emotional AI described in Game AI- Game Mechanics. Expressive, heroic, rough around the edges, but ultimately loyal, the hero is the player's best friend and constant ally. The hero is also capable of physical feats the player is not, including manipulating objects and combat. The player must interact constantly with the hero in order to proceed through the game. Heroes are individualized and unique to the player.

Ari

Ari is another twinned spirit who has answered the call to protect Agon, and serves as the player's guide and introduction to *Duelworlds*. She takes the player through 'finding' (selecting) his or her hero, and assists with the tutorial phase, before leaving to return to affairs on Agon. She will be a returning character. A few more additional characters similar to Ari will be introduced later on to give players a 'peer group' in the event that they don't live in an area with many other *Duelworlds* players.

The Mentor

The Mentor is nameless, and is merely referred to as 'old man,' or 'old woman.' He or she is of the opposite gender to the hero, and serves literally as the mentor character, as described in the archetypical hero's journey, and performs all the duties of the mentor necessary for sending the hero and player off on their journey, and assisting them along the way. He or she likes eating a very strange dish, such as stinky cheese, or fish-head soup.

The Juggernaut

There are different types of Hungry Ones. Juggernauts are extremely massive, powerful Hungry Ones that rank at the top of the Hungry One 'hierarchy,' as far as anyone understands. No one has ever successfully defeated one in battle. When the player first meet their hero, the hero is attacking and being defeated by a Juggernaut.

Introduced Level Two

Dynae

Dynae is the leader of the town, and was a hero in her youth. She is not convinced that an evacuation is possible, or that the player or hero are qualified to lead it.

Timorous

Timorous, or Tim, is a young boy whose parents were fighting in the same battle the player rescued their hero from (and therefore the parents are likely dead). His last remaining relative is his uncle, who is a monk at the monastery. His uncle- along with the rest of the monks- have not yet arrived in now. He is very knowledgeable about math and statistics, is very anxious, but in an apparent contradiction, loves skateboarding. He likes eating grapefruits.

Elder Pashan

Elder Pashan is the head monk at the monastery, and he will not leave the monastery without a sacred artifact. The player must free the artifact from its casing, proving to Elder Pashan that they are from 'Alea' and that they will be able to get the monks back to the town safely. Elder

Pashan is very devout, somewhat high-strung and impulsive, paranoid, but also clearly quite wise in the way of books and ancient artifacts. He and the Elder get into an old-person fight, in which they both try to out-old and out-wise one another. He smokes a very long pipe, and has a cane.

Keliel

Keliel is the boy's uncle, who arrives badly injured at the town soon after Timorous has asked the player to embark on a quest to find him. He explains that there are monsters and traps in the way, and the monastery is in desperate need of aid, or it will be unable to evacuate. Keliel is very brave but peaceful. He taught Timorous how to skateboard, and makes a phenomenal Shepard's pie.

Minda

Minda is the last child the player and hero help evacuate from the town while it is under siege. The hero then has to carry Minda during the final confrontation with the Juggernaut- the same Juggernaut who nearly killed him in Level One- and is unable to fight back while he is protecting her. She is very spunky, and throws rocks at the Juggernaut and calls it names.

The Townspeople

The townspeople are brave folk who are reluctant to evacuate when the hero and player suggest it, especially while the hero and player have no evacuation plan. When the Mentor and Elder Pashan determine that it is possible for the player to evacuate the townspeople by portal to Earth, the player and hero prove their worth, and the extent of the enemy army is revealed, the townspeople change their minds and will go through with the player and hero's plan. The townspeople are all of different ethnicities, and each should have a set of randomly assigned likes and dislikes concerning food, favorite color, etc, as well as a few strong traits independent of ethnicity. The goal is for the townspeople to be very characterized and somehow make a strange sort of sense, but at the same time for them to be very eclectic.

The Monks

The monks are resemble Buddhist Monks. They also wear shawls trimmed with brightly painted bird feathers, and straw hats. They are of a wide variety of ethnicities, and maintain beards whose lengths correspond with their ranking in the monastery's hierarchy. The monks are capable of playing musical instruments, and will do so on the return journey from the monastery. The music they play is classically Chinese. However there is a single monk who is Scottish and enormously tall, who plays the bagpipes in the back of the line of monks, whose instrument is barely audible, and who fights Hungry Ones at the rear of the column by kicking them.

VII. Level Progression

20. Overview

Terms

For the purpose of this section, it is necessary to define some terms. In particular, this section will strive not to use the word 'quest.' The word quest is used liberally by other sections of the document. Some examples are hero objectives (also called quests, because this is where heroes store information about quests), quests as they are offered by in-game NPCs in order to perform some relatively concise task, quests as applicable to stories, where they can refer both to minor dramatic arcs or major dramatic arcs, expansion packs or add-ons that include new levels and adventures, the hero's journey, and so forth.

- Objectives: Hero Objectives.
- Tasks: Important activities that the player must do in order to advance their progression in the game. These are typically called 'quests' in RPGs. quests that do not further the main plot are called side-quests. Here, these side-quests will be referred to as side-tasks.
- Setting, or Backstory: The back story of *Duelworlds*, and the 'quest' the heroes are tasked with in order to rid it of Hungry Ones.
- War: Describes the conflict against the Hungry Ones, in lieu of another word such as 'main plot' or 'quest,' which have been repurposed for other uses in this section.
- Level: A space in which adventure play takes place, and which is part of an adventure, and which is segregated from other levels based on its location, internal action, subplots, and chronological location, for ease of reference.
- Intermediate Space: A space in which nurture play takes place in between levels.
- Adventure: A series of related levels, typically released together, tied together by a single dramatic story arc. The full game of *Duelworlds* will include a single, long adventure that follows the hero's journey, of which the first two levels will be available in the free demo. Future adventures will be released in expansion packs, as download-able content.
- Arc, or Plot: The story component of an adventure. Subplots define small or subtle stories that take place within the scope of an adventure, advance the main plot, or are otherwise subservient to the main plot. The main plot, or main dramatic story arc, is always understood to be the driving force of the adventure, and to be directly relative to the setting (either the plot is about exploring the setting and moving things forward, or it is about a distraction from the setting and relaxing)
- The hero's journey: the archetypal hero's journey as described by Joseph Campbell in *The Hero with a Thousand Faces*.

The Hero's Journey

The setting of *Duelworlds* is an environment in which players and heroes are at all times fighting for the survival of the twinned worlds, Earth and Agon (The heroes' homeland). *Duelworlds* will include a single prebuilt adventure, which will offer approximately 50-60 hours of gameplay. Two short levels will be available for players who only download the free demo.

The adventure's plot will closely follow the hero's journey. The two sample levels will conclude at the 'threshold' of the hero's journey, which is the dramatic moment at which archetypal hero makes the decision to go all in and follow the story to its conclusion. This threshold shall then act as a hook for drawing in the player and getting them to buy the full version of the game.

The player's hero will go through the same emotional stages present in the hero's journey, including an initial refusal of the quest, to help the player empathize and to pull the player through the same emotional stages.

21. Sample Levels

Level One: The Ashen Battlefield

Overview

This level includes the character selection process, tutorial information, and setting exploration. Dramatically, it is the hero's call to adventure, especially for the player. Although it plays something like an interactive cut scene, the exact manner in which it introduces the tutorial to the player, explains the setting, facilitates character selection, generates immersion, handles abnormal player input, and facilitates emotional bonding, is essential.

Progression

- When the player begins a new game, the game launches in a pseudo Free Mode, in that the game uses augmented reality.
 - As the game is loading, the loading screen contains instructions about how to position the iPad for best results, & has a mini-window for showing what the iPad 'sees'. It does its best to ensure the game will run properly.
 - The game loads in AR mode first before character selection, to make sure that the player has already experienced success with AR previous to going through the emotional process of character selection.
 - Navi is heard, imploring the player to 'hurry.'
- After a moment, a portal begins to open in AR mode.
 - **The portal waits for the player to approach it.**
 - Navi continues to be heard, imploring the player to hurry if they do not approach the portal.
- As the player approaches the portal, they can lean over it like a table and examine a rendered image of Agon on its surface.
 - The game then begins giving an exposition of its back story, focusing on the nature of Agon and the twinned worlds.
 - The exposition is interrupted by a ripple of red across the screen, sounds of battle, and a louder plea to hurry.
- The portal grows and engulfs the screen. The player is traveling by portal. The game shifts to virtual mode.
 - The portal loading screen displays information on how to move and interact with

objects. This is to assist the female audience, who will be more comfortable if given instruction ahead of time.

- Travel by portal ends; the screen now shows Agon in overland adventure mode, but from above the surface of the planet.
- Navi appears. She looks similar to how the player's in-game avatar appears. It is implied she is another 'player.' Navi starts giving setting information in a casual manner.
 - “You are feeling your hero, your spirit twin. He is fighting here on Agon. I have helped you send an avatar of yourself into this world so that you can find him. He will die if we don't save him. Hurry!”
- Navi instructs that the player should follow her.
 - **The player is given control of their own movement.**
 - **If the player does not follow Navi, instructions appear on the screen.**
 - **If the player goes the wrong way, Navi exclaims “Not that way! Follow me!” and instructions appear on screen.**
 - This area of the level is shaped like a hallway, or wind tunnel, facing down towards the planet. Moving forward, towards Navi, causes progression downward towards the planet. Progress and speed is measured by the increasing size of the planet, as well as stardust that trails past the player.
- Certain processes occur while the player is following Navi.
 - **The game slows down forward motion if the player has yet to complete one of these processes. The game does not let Navi get too far ahead of the player.**
- Navi delivers more exposition, explaining that the player is linked to a hero and that she and the player are currently going to rescue him from a helpless battle.
- Navi asks questions about what the player can 'sense' about the hero, which she says will help them find him.
 - **The player must interact with Navi via context menus to answer her questions.**
 - **If the player does not interact with Navi, instructions appear on the screen.**
 - This is the process by which character individualization occurs. The hero will be generated based on the answers the player gives.
- The duo gets beneath Agon's cloud layer.
 - Navi instructs the player to look around
 - **The player must look around to continue.**
 - **If the player does not look around, instructions appear on the screen.**
- The duo gets close to Agon's surface.
 - Navi asks more questions and gives more exposition.
 - The player starts getting distressing, cloudy feedback impressions from all parts of

the battlefield.

- Navi asks what the hero's profession is.
- **The player chooses the profession from a cloudy array of faces, each representing one archetype of hero. Hovering over one of the faces lets the player see an animation of the character fighting.**
- The duo arrives at a ghastly battlefield, where heroes are fighting against Hungry Ones.
 - Navi takes the player to a location where the chosen archetype of hero can be found. The heroes are fighting a massive Hungry One (The Juggernaut).
 - The collection of 5-7 heroes fighting the Juggernaut represents a 'litter' of heroes (much like a litter of kittens) that the player selects their hero from.
- Character selection
 - **Normal player movement controls are suspended.**
 - The player circles the litter as it fights. Navi stays in view.
 - **The player can cycle through the litter members, interact with Navi, or interact with a hero.**
 - **Interacting with the hero only provides the option for the player to select that hero.**
 - **Interacting with Navi lets the player tell her that their hero is not present in order to get a new litter, or state that they chose the wrong profession to bring up the menu of archetypes again. The player can also talk to Navi about the questions they answered earlier, to change their answers.**
- A Complication!
 - Navi asks if the player is sure they have selected the right hero, but the player is not given the chance to answer, as there is an interruption. The significance and permanence of the player's choice is about to be demonstrated dramatically.
 - The interruption: a new Hungry One uses some strange ability that binds the player to the ground, and the Juggernaut roars, sending rocks, heroes, and the player flying.
 - Navi flies above the player, crying out in dismay that the player cannot fly well anymore.
- Navi coaxes the player through an overland movement tutorial
 - She stresses that getting back to the hero immediately is of utmost importance.
 - This area of the level is also linear, but visually stimulating and dramatic, with debris and heavy rocks being thrown about.
 - **The player must move forward to proceed. Normal movement control returns.**
 - Two obstructions land in the player's way, and Navi explains the finer points of the movement controls, such as how to back up and strafe to navigate around them.
 - At the end, the player reaches the hero they chose.

- Confirmation
 - **Normal player movement controls are suspended**
 - The hero is thrown to the ground as the player approaches. He is badly injured.
 - The Juggernaut approaches him slowly, stepping out of clouds of ash. The player is purposefully placed as low as possible, to maximize the dramatic potential of this shot, which should be very moving. Perhaps when the hero is thrown, debris strikes the player and causes their avatar to also fall to the ground.
 - The hero glances at the player.
 - Navi says that if he is your hero, to touch him quickly and to spirit him out of there.
 - **The player may tap the hero and select the option to reach out to him.**
 - **If the player does this, the hero and the view port shimmer, and then the player and hero are traveling by portal, back to earth.**
- **If the player waits**
 - This sequence has exceptional dramatic value, and helps preserve immersion by refusing to let the player stretch out the sequence. It is put into place also to protect the emotions of the player, who despite the earlier tutorial might somehow accidentally fail to select their hero in enough time, and should not accidentally lose him.
 - **If the player waits and lets the enemy approach, the hero scrambles backwards and looks at the player in a panic.**
 - **If the player continues to wait, the Hungry One comes up to him and reaches towards him with one hand, and the screen clouds to black.**
 - A query comes up on screen, with which the player can interact. It asks “Is this your hero?” It waits for an answer
 - **If the player selects no, they are whisked back to archetype selection**
 - **If the player selects yes, the screen un-clouds.**
 - The Hungry One notices the player, something that is emphasized by adjusting the camera subtly so that it feels as if the player has just instinctively jumped, and is now focusing straight on the Hungry One's face.
 - The Hungry One lowers the hand that it was using to reach for the hero, and lifts its other hand to reach for the player.
 - The hero moves, dives, grabs the player, holds the player protectively. The hero and view port shimmer, and then the player and hero are traveling by portal, back to earth.

Intermediate Space One: Refusal of the Call

Overview

The player and hero have just been through a very dramatic (and perhaps slightly traumatic!) Level One. The stages of the game are paced with intermediate spaces between them where the player and hero can rest and recover from all the excitement. In this Intermediate Space, the

storytelling continues into Free Mode. The hero, traumatized and disheartened by the battle he just lost, does not want to return to Agon to take up the fight. His spirit has been crushed.

This intermediate space serves as a tutorial for nurture play, and introduces the player to the future combat mechanic of the game in a safe setting, using the card game the combat mechanic was based on. After the climactic introduction, this intermediate space lets the player relax and goof around a little.

Progression

- The player and hero have just returned from Agon.
 - While AR mode is loading, it once more contains instructions for positioning in the iPad to obtain the best results. The next scene is going to have a lot of emotional impact, and needs to render properly.
 - Very basic abstract instructions for how AR mode will work, including the fact that the context menu interface still exists, is also displayed
- When the loading screen ends, the game is in Free Mode. The world fades in to view, and the hero is sitting down in front of the iPad, badly injured and clutching at his wounds.
 - He glances frequently at the player.
 - Navi's voice is heard and she soon appears.
 - **If the player waited in the previous level, Navi will comment on how the hero protected the player.**
 - Navi remarks on the hero and how injured and distraught he is, and reflects that the player ought to help him, earn his trust, and settle him down a little.
- Naming
 - Navi asks the hero for his name, and makes the startling discovery that the hero is mute.
 - Navi asks if the player happens to know his name.
 - **The player must input the hero's name.**
 - The hero responds to whatever the player inputs with a scripted, raised eyebrow look that is left intentionally vague, so as to cover a response to a wide variety of names.
- Navi gives the player items and currency, and walks the player through tending the hero.
 - **If the player does not respond to her instructions for a period of time, they will appear on screen.**
 - **The player must bandage and feed and water the hero in order to continue.**
 - **In this level, Navi will prevent the physics engine from doing any harm onto the hero, to make sure the tutorial and initial bonding process proceeds as planned. The hero will also not react to any attempts to harm him. This protects new players who may be struggling with the iPad, and keeps devious ones from straying from the key game path too soon.**
 - **The hero's internal update mechanism will be regulated by the tutorial during**

this time. His needs will not degrade, and he will not form goals, perceptions, etc. except as allowed by the tutorial.

- **If the player waits, and does not attend to the tutorial, nothing happens. Time stands still.**
- During this time, Navi elaborates on the connection between the player and the hero, and that the two instinctively ought to recognize one another.
- Navi mischievously suggests that the player pet the hero.
- **If the player pets the hero, the hero's AI reacts accordingly with displeasure. Navi then laughingly comments that the hero is not a pet, and that in fact it appears he thinks he's a little bit of a bad boy.**
- Navi departs.
 - Navi explains that it may take some time for the hero to recover, and that she has to return to Agon, to her own hero, to help in the fight against the Hungry Ones.
 - She suggests spending time setting up a tent for the hero, interacting with him, and asking him to teach the player how to play duel.
 - Before departing, she teaches the player how to bring up the in-game help menu.
 - The rest of the tutorial will proceed through silent prompting by means of on-screen instructions.
 - **The player must fulfill each of these three tasks before the hero will recover**
- The hero is traumatized, as per scripting! His heart is not in the battle.
 - The way he expresses his trauma is unique to his character attributes.
 - **Nothing the player does changes his mind.**
 - **The hero starts reacting to the physics engine normally, and updating his internal state normally. He will also update while the game is off.**
 - Shortly after the hero recovers, another character appears off camera, and the hero moves slightly in this character's direction to get the player to turn and look. This other character is the mentor. The mentor is a gender opposite to the hero.
 - Navi is the one who told the mentor about the player and their hero.
 - The mentor introduces herself as a friend who has taken an interest in the player and the hero, and just came from Agon.
 - The mentor translates the hero's scripted thoughts of helplessness, lack of confidence, & unwillingness to keep going, so that the player can understand what is happening.
- The mentor promptly sucks the hero into Level Two, the threshold adventure.
 - She explains that because of the battle the hero lost, a village is in jeopardy of being overrun by the Hungry Ones.
 - The hero (being protective) is spurred to action and will ask the player to go with him to Agon (in his mute way, through thought bubbles), to help evacuate the village.

- The mentor surmises they have a few days before the Hungry Ones reach the village, and recommends the duo prepares first.
- The elder offers to train the duo.
- The hero is still traumatized; he does not want to be a protagonist, just to stop a slaughter from occurring. He wants to evacuate the village, not learn to fight.
- **The player can take part in the training anyways, without him.**
- **The player must embark on the second quest to continue.**
- **If the player does not embark on the quest within a few days, the hero disappears for a few hours and returns badly injured. The mentor will explain that the hero went alone and managed to delay the enemy, but was badly hurt in the process.**
- **If the player starts up the game while the hero is missing (he updates his status independent of whether the game is on, through the network), they have the option to quickly rush to his side, and will find he's a little battered but is waiting for the player at the beginning of the level.**
- **The mentor will supply basic items like food and water if the player runs out in this time.**
- The mentor explains the mechanism for how the player can use their own 'special abilities' to teleport themselves and the hero to Agon.

Level Two: Threshold Guardian

Overview

Everything that makes the rest of the game playing must be present in this level, because when it ends the player will be left with the decision of whether or not to commit to buying the full game. At the conclusion of level two, the player must be so invested in the character and in the story that they are willing to pay any price to continue. The drama inherent in Level Two will even be slightly higher than the next few levels to follow. The level will end with the hero starting to understand that he cannot escape the battle; the next intermediate space will see him committing fully to the hero's journey.

Bold notation will no longer be used for player actions in progression write-ups, due to the fact that the game is becoming less scripted.

Progression

- The game begins with an obstacle course in the form of a dangerous cliff side. As this is the player's first *real* adventure, or at least the first component that's more than an interactive story, the game must provide a tutorial for puzzle solving, terrain navigation, and combat.
 - While proceeding through this level, the village can be seen off to the left side of the cliff. At first it appears peaceful; then it starts to respond to the oncoming army, and begins to get roused to a panic with the sound of alarm bells ringing.
 - The mentor is with the player and the hero.
- At the end of the obstacle course, the player comes to a high cliff that the people in the town cannot reach. From here, the player and hero can see a massive oncoming army devastating

everything in its path, and that there is a monastery between the town and the army.

- The mentor expresses that she believes the villagers do not know the extent of what is coming for them, and that Agon's people are very brave and it will be difficult convincing them to flee.
- The trio: player, mentor, and hero; proceed downward into the town, and find that the people there are unreceptive to the plan to flee.
- The hero does not know what to do. The elder proposes the quest of helping out around town to secure defenses and try to convince people to be ready to flee.
 - The hero and player are given three tasks involving logistical and social puzzles while exploring the town. The town has fifty houses and three hundred inhabitants.
- The player and hero meet Timorous, who is trying to find someone to go to the monastery to find out why the monks and his uncle have not returned to the town yet. His uncle is probably his last surviving family member; he explains that his mother and father were both present in the same battle that the player rescued the hero from.
 - As the hero starts to depart, the uncle arrives, badly injured. The player and hero must rescue him and tend to him medically.
 - Failure in non-lethal game situations will not result in the hero becoming injured, but instead in a simple fade to black and a return to a previous check point, where a message concerning the failure conditions will be displayed.
 - The uncle explains that the danger coming is beyond what the town can solve on its own, and that the monks are hemmed in by advance scouts and traps.
 - The uncle will depart to go to the town leader to explain the situation while the player and hero embark to go to the monastery. Urgency is stressed.
- Route to the monastery
 - The route to the monastery is filled with traps and enemies.
 - The hero and player come to a trap which surprises them, and is scripted. They tumble into a huge pit and are unable to get out. The hero grabs the player protectively on the way down.
 - The duo is stuck for awhile. The hero starts having a breakdown as his mood plummets. The sounds of distant Hungry Ones siege units starting to fire on the city cause him to become even more upset, and the player's view port shudders slightly as semi-cloudy images of the battlefield from before- from the hero-selection process- are shown.
 - The player must interact with the hero to calm him down; he is unresponsive to orders, and it is the only thing the player can do at the moment.
- The Mentor.
 - The mentor appears over the rim of the pit; she has found the player and the hero. She tosses pitons down into the pit, and coaxes the duo to find a way out.
 - The mentor mentions that sounds of siege were coming from the monastery earlier,

and that it may have already been destroyed.

- The hero wants to cut his losses and get back to the town to help with the evacuation.
- The mentor explains she's discovered the monastery has an artifact that the player can use at a spot just east of town, to open a portal to earth for the whole town to pass through.
- The player must convince a reluctant hero to go through with the mentor's plan for the game to proceed.
- The mentor then uses previously undisplayed martial arts abilities to cut down a tree! The tree falls over the pit, and the game can proceed.
- The route to the monastery continues.
- The monastery
 - The monastery is somewhat damaged, but calm. The monks explain that another hero (maybe Navi's) has stalled the enemy advance and damaged their siege. This provides intense relief from the dramatic tension that was held at the bottom of the pit.
 - The puzzles at the monastery are calm in nature. Three tasks involve collecting supplies for the retreat. A final puzzle at the monastery to remove the artifact from its casing, convinces the monastery leader to trust the player and commit to following the player and hero back to town.
- The first retreat
 - The player and hero protect the monks on their route back to town. The return journey is much faster than the outgoing journey had been, as the monks used the items obtained during the monastery puzzles to cross obstacles.
 - Hungry Ones assault the caravan of monks during this time. The player and hero are directed by the mentor to where the next Hungry One will appear
- The teleporter
 - The hero and player split up for the first time since this started, so the hero can help prepare for the evacuation while the player, monks and mentor set up the teleporter with the monastery's artifact. This is a traditional rune-shifting puzzle.
 - The player returns to the village to find the hero, who will express some form of gratitude (or deny that he feels gratitude) based on his personality.
- Evacuation
 - The town of three hundred individuals evacuates in real time, not off camera.
 - The hero, player, and mentor are responsible for rescuing stragglers from enemy Hungry Ones. The mentor splits up from the hero and player in order to cover essentially half the town. Cries for help lead the hero and, by token the player, through the town to where the next stragglers are.
 - The player and hero have to help ten stragglers; some of them require battles to be fought, others need help freeing stuck wagons or ferrying items.

- By the end of the evacuation, the town is under siege, on fire, and badly damage.
- The final straggler is one of the children from earlier. Before the hero and player can retreat with the child...
- The Juggernaut
 - The Juggernaut- the same Juggernaut that nearly killed the hero during character selection, bursts onto the screen.
 - The hero cannot fight well because he picks up the child and carries her instead.
 - The player has to navigate the debris created by crumbling houses and enemy cannon fire in order to keep themselves and the hero away from the Juggernaut's swings, while at the same time selecting combat moves to keep the hero dodging.
 - The hero will solve these logistical puzzles if the player is not able to do so, but will become injured in the process.
 - The child throws rocks at the Juggernaut and taunts it.
- The Mentor!
 - The mentor appears and attacks the Juggernaut with a kick so powerful it knocks the monster back. She tells the hero and player to run.
 - The player and hero must navigate their way back to the teleporter.

Intermediate Space Two: Over the Threshold

Overview Only

This intermediate space starts out slightly more tense than the last one, because the player and hero do not know what's happened to the mentor just yet. They reunite the child with her mother (who turns out to be the leader of the town).

The evacuees will be settling down and building a new town on Earth, so the player must designate where they ought to build it. The Mentor will return an hour afterward, uninjured, and talk to the player and hero. She says that unless someone stops the Hungry Ones and takes back Agon, that there will be more burnt villages, more children with lost or missing relatives. Worse, if the attack doesn't stop, one day soon the Hungry Ones will break free of Agon and invade Earth, and then there will be nowhere left for anyone to run to.

The mentor will then depart. Over time, if the player does not purchase the full game or start on Level Three, the hero will start thinking about Agon and his desire to return and bring the fight to the Hungry Ones.

VIII. Game AI – Game Mechanics

22. Introduction

Overview

The hero's affective AI engine is responsible for carrying a large portion of the game. While adventure, social, and card/dueling gameplay are, to some extent, optional, nurture gameplay

permeates every corner of the game. The hero's affective AI rests at the core of all emotional bonding, which is a primary design objective, and is used as the primary means for drawing women into participating in the other forms of gameplay.

Each hero is somewhat unique, although each is created based on a set of parameters.

Synopsis

Initial Construction

At his core, the hero is constructed of **Traits**, which directly or indirectly live at the root of all of his behavior. At any given time, he has a **Mood**. His mood governs the expression of **Facets** of his personality, each of which has different traits. His mood is composed of **Emotions**.

Developed Over Time

His mood may be altered at any time by a **Feeling**, which is also built from emotions. He develops **Relationships** with people and things, which are made of **Memories**, **Models**, and feelings. Memories are records of past experiences and models are generalized understandings as to how a person or thing operates.

Requirements

The hero has **Objectives** which govern not only the quests he takes up, but also his ideal state of existence. The hero also has **Needs**, which are inherent to all heroes and govern basic bodily and psychological requirements. He has **Desires** which are non-essential requests based on his traits.

Interpretation

He perceives **Threats** and other events in his surrounding environment using **Perceptions**, and guesses at their consequences using **Inference**.

Forming Actions

To determine what to do with himself at any given moment, the hero analyzes threats, objectives, needs, and desires, and then forms **Goals** for dealing with them. He then satisfies those goals by initiating **Actions**. The actions available to a given character are modified by the rest of his characteristics, but are first and foremost tied back to his traits. The player may also interact with the hero by performing actions. Each action includes a **Tone**, which is made up of feelings and **Techniques** for obtaining a desired result.

Definitions and Components

The hero AI is made up of a hefty number of interrelated parts, on his means of interacting with the player are equally complex. The names of each component are described below.

'Characteristic' is used as a generic term describing all possible character components, including those used in character creation, skills, and personality.

23. Personality Components

Overview

The hero's personality is his most complex component. Two conflicting and overarching forces primarily drive him: Emotions and Objectives.

Traits

Traits describe a hero. Every character has a selection of good, negative, and neutral traits. A character's traits are weighted to model how strongly they affect the character. The pool of available traits is handcrafted by the designer. Traits are responsible for the vast majority of all hero behavior. The traits for any given hero are selected based on an algorithm required to follow a set of guidelines. Not all heroes are created equal; some have more traits than others.

Tags

Traits are tagged by function, and category to assist the character-creation algorithm, to help the algorithm meet its requirements and create a reasonably balanced character. Categories are specified during the trait implementation process, and are used to link traits indirectly to the actions they weight.

Affect Traits

Questions asked and answered during the hero selection process, as well as the chosen archetype, influence a hero's traits. The majority of the character's traits are randomly designed given parameters that govern a subset of possible choices.

Traits Affect

Traits have the following impact on the game:

- Needs
 - Traits may influence how quickly or slowly a need develops.
- Desires
 - Traits may influence what desires a character develops.
 - Traits may influence how frequently and how quickly or slowly a desire develops.
 - Traits may also influence how quickly or slowly the desire will die, if it is unfulfilled.
 - Traits may also decide how the character reacts to having a desire unfulfilled.
- Actions
 - Traits may make new actions available to the character, or weight actions differently.

- Goals
 - Traits can influence a character's willingness to fulfill a goal.
- Reactions
 - Traits can influence a character's perception of an event
 - Traits can influence a character's interpretation of an event.
 - Traits can influence the feelings derived from an event.
 - Traits can influence a character's reaction to a technique.
- Inference
 - Traits may set new defaults for assumptions for how the character makes inferences.
 - Traits may influence how a character uses and feels about what is inferred.
- Moods
 - Traits may influence a character's mood.
 - Traits may influence how a character's mood changes over time.
- Relationships
 - Traits may work with relationships to alter a character's reactions.
 - Traits may work with relationships to alter a character's inferences.
- Combat
 - Traits may alter how a character behaves in combat.
- Details
 - Traits may influence a character's favorite color, favorite food, etc.

Emotions

Emotions do not exist independently as members of the character.

Emotions are used to describe moods and feelings. Emotions operate on a fuzzy logic system. There are two different kinds of emotions, simple and complex. Simple emotions deal with membership of a single element; complex emotions deal with membership of multiple elements

and the relationships between those emotions. Moods are always simple. Complex emotions shall be discussed further under feelings.

There is a finite set of simple emotions. Below, they are defined in couplets and sets. The reasoning for this will be further discussed in interpretations.

It is important to remember that not every couplet or set requires one of its members to be present in a given emotion. An emotion may simply be ‘Serous,’ or it may be ‘A little angry, very serious, slightly sad, too exhausted, and more and more helpless.’

Good and Bad Emotions

For a well-adjusted hero, good emotions are generally pleasurable to have, and bad emotions are generally not pleasurable to have. The hero will attempt to maximize good emotions and minimize bad emotions. Some traits may upset this ideal state.

- Good or Approval vs. Bad or Disapproval
- Absolved or Repetitive vs. Angry
- Happy vs. Sad
- Relaxed vs. Stressed
- Amused vs. Bored
- Brave vs. Frightened
- Competent vs. Helpless or Vulnerable
- Excited vs. Exhausted
- Content vs. Deprived
- Confident vs. Confused

Flavors of Emotions

These emotions are neither inherently pleasurable or painful, although some are more likely to yield positive or negative consequences.

- Serious vs. Playful
- Responsive vs. Defiant
- Personable vs. Aloof
- Contemplative vs. Impulsive
- Aggressive vs. Passive
- Respectful vs. Disrespectful
- Romantic vs. Parental
- Surprised

Improper Expression and Misinterpretation

Emotions are most frequently misinterpreted within each of the good and bad categories, and across couplets in which an emotion is expressed with low membership, especially if other feelings are present. In general, emotions belong to the following lesser categories, under which misinterpretation can occur:

Negative

- Defiant
- Impulsive
- Aggressive
- Disrespectful

Positive

- Responsive
- Nice
- Contemplative
- Passive
- Respectful

Playfulness can be confused with any strong positive emotion but representative, or it can be confused with impulsive or disrespectful. Serious can be confused with all strong negatives, contemplative, and respectful.

Misinterpretation across paternal/romantic lines is difficult by design, and not because it reflects real-life, to refrain from alienating the player.

Moods

The mood governs the general psychological state of the character at a given moment in time.

Used below, the word ‘mood’ may apply to a constant, singularly instantiated mood engine that is inherent to the character, in which case the mood is ‘expressed’ by various flavors. The character’s mood is in this sense an omnipresent and ever-changing part of the character.

The word ‘mood’ is also be used directly for a strong expression of one of those flavors, which include representatives such as ‘angry’ and ‘distracted.’ Used this way, moods are not eternal and may disappear and resurface.

There is a finite set of mood types/moods.

Affects Mood/Causes Moods

Feelings and traits affect moods directly. Indirectly, moods can be affected by anything that generates a feeling.

Moods Affect

Moods affect the weighting of traits. They may be used to alter the likelihood of an action being chosen to satisfy a goal. They may be used to alter the character’s willingness to satisfy a goal. Moods may be expressed explicitly in actions.

Types of Moods

The mood has a number of flavors, or types of moods. Its membership to each flavor is expressed through fuzzy logic sets. Most obviously, all emotions are mood flavors.

There are also special mood flavors:

- Psychotic
- Adrenaline Burst
- Private
- Dramatic

Mood and Feelings

The mood manages all of the instantaneous feelings felt by the character, and is over time modified by those feelings. When the mood is subpoenaed to factor into a goal or action weighting, feelings are also factored in. Over time, a sustained or frequently reoccurring feeling modifies the mood. Feelings are the only means by which the mood is directly impacted.

Facets

Moods are in charge of managing the layers of a character's personality, called his or her facets. Each facet has its own traits, or alternate weightings of traits present in the primary facet. Moods control the character's behavior by modifying the weighting of each layer and blending it into the main personality.

A character has a different facet for every mood.

Facets are composed of traits, as well as an overlay of additional relationship emotions and memories.

Special Moods

Psychotic is a mood that occurs if the character is perpetually in a bad mood for too long a period of time. The psychotic mood has a completely defined set of character traits derived from the initial character traits, but now independent from them and with a very negative lean. If a character becomes psychotic, the psychotic layer instantly replaces the primary personality layer until the mood is resolved.

Adrenaline Burst is a mood that occurs if the character perceives a threat at the 'panic' level and is rushing to deal with it. Adrenaline burst replaces the primary personality layer. Adrenaline Burst is derived from the character's main personality, but only extremely powerful traits, or traits that influence perception or combat, are present during an Adrenaline Burst mood.

Private and Dramatic are both on rungs above the main personality in terms of getting at the 'heart' of the hero. They contain only positive traits and positive relationships, and are applied to the main personality like normal moods. Dramatic is above Private. The Private mood manifests when threat is low and the hero is alone with the player. The Dramatic mood manifests when dramatic tension is high during adventure play. When the player intentionally attempts to tweak the hero's, those traits alterations are birthed in the Dramatic personality and slowly migrate down to the Private and primary personality layers. As a rule, the hero always thinks much more highly of the player on the Dramatic layer.

Mood Factors

Mood factors can be modified by traits, and influence how likely it is that a mood will sustain itself or level out, as well as whether the character appears emotionally sluggish or bipolar.

Balance Factor

The tendency of the character to slide towards emotional neutrality on each mood scale with time if nothing exerts force to maintain it. Increases in power over time.

Snowball Factor

The ability of a very strong emotion to maintain or grow itself if not tended to. It first increases in power over time, and then decreases as the emotion fizzles out.

Delay Factor

Moods are fed from feelings over time, and are a little unresponsive. A character with a long delay requires a feeling to be maintained for a long time in order for it to effect the mood, and may appear emotionally dull, while a character with a short delay may appear bipolar, hot tempered, easily amused, or any other number of traits.

Feelings

Feelings do not exist independently as members of a character. Feelings may belong to the mood, a memory, a model, a tone, or a memory.

The hero forms a feeling concerning everything he can perceive. A feeling is similar to a short-term mood. All feelings are composed of an emotion and a direction. The direction describes who or what the feeling is targeted towards. Feelings are used as a storage receptacle and transport for emotional information.

As a Child of Mood

As part of the moods, feelings have a lifespan and the memory to which it is also a child. This memory is a storage receptacle for an event that will be further digested by the character and used to update his long-term AI.

Complex Feelings

Complex feelings, like jealousy, basically have multiple interrelated targets. They are a combination of multiple feelings with links between their targets, or in which a target has certain properties relevant to the other. For instance, jealousy is the feeling of anger directed at a character as a result of the character possessing or possessing the attention of something with which the character has a positive feeling.

Complex feelings arise naturally, but a collection are also defined by the designer for use in traits and actions.

Relationships

A relationship is a description that is owned by its originator. They describe a 'thing' and the bond the originator has with the 'thing.' For ease of reading, this 'thing' shall be called an 'object,' but note that it may also be a character. The hero's description of the player and his bond with the player are both contained in a relationship that belongs to his personality.

Relationships contain several components, including a model of the object to which the character is relating, the general emotion the character feels defines the relationship, the character's compatibility with the given object, and a collection of long and short-term memories relevant to the relationship.

Relationships Affect

Relationships alter the reaction and inference processes by altering the character's perceptiveness, as well as the likelihood that a given reaction or inference will be formed. They may cause the character to form idle goals concerning the relationship. They alter the likelihood of an action being chosen to satisfy a goal. They may alter the character's willingness to satisfy a goal. Relationships may also be expressed explicitly by the character.

Relationships are an extremely important part of the inference process, because they contain the models that describe an object, and from which inferences are actually made.

Diary and Frames

The character keeps an internal diary, or log, of events that led up to the present. This log is organized chronologically, into frames. Frames can only contain so much information before they must be reduced, generalized, and compressed. The character's most recent events are cataloged in extremely specific memories. After memories age, they are compressed into vaguer memories, and frames are combined to include longer spans of time. A memory's power governs how quickly it is compressed. The models used to represent these memories emphasize generality over accuracy.

The hero uses this diary to understand change over time, and may use it when engaging in a 'thinking' action, in which more advanced AI algorithms are used to try and interpret an event. Frames can also be referred to as a general whole, and be the target of actions. For example, the hero can express frustration concerning a frame that encompasses a battle or one that encompasses an entire week.

The hero also uses this diary to remind a player what the player had been doing if the player has not played the game for a while. Lastly, the hero uses the diary in several extraneous applications, including the Facebook component.

Model

Models are the tools through which a character describes what he knows about the world. There are a few different forms of model, depending on the object that the character is modeling and the degree of specificity needed to define the model. There are three kinds of models: case models, heuristic models, and compound models.

Case Model

Case models are used to accurately describe an event. They are made when an event occurs, are highly specific, are then used, and are then either filed away as evidence to support a heuristic model, or discarded. Case models may either be digested or undigested. A digested model has

been partially explained by the hero, and contains information about whether or not the heuristically models used as explanation need to be updated.

There are several primary kinds of case models. The first models what properties an object is observed to have. The second models an action. The third models macro data such as the presence of lava. The fourth models the generation of feelings.

A digested model has the following attributes:

- A list of events perceived to be the results of the action, if any.
- A list of explanations for the action.
- The attributes of the action that have not been satisfactorily explained, if any.
- A list of contradictions the action poses to current explanations, if any.

Heuristic Model

Heuristic models contain case models and statistical information. They describe behavioral patterns, and monitor both their own accuracy and the range of cases that they are accurate for.

Compound Model

Compound models are a collection of Heuristic models that describe an object. Characters and objects require compound models.

Models Are Used

Models are used stochastically to make inferences, but they represent the hero's understanding of an object. For example, the hero's model for his player describes everything he knows about his player, including the player's favorite colors and their usual reaction to him scratching his butt. The hero is constantly refining his model of the player in an attempt to better understand the player, and elicit better results from them. Models also let a character assist with solving problems by permitting him to recognize familiar elements of certain puzzles and pointing them out to the player.

Creating Heuristic Models

The goal of the hero is to balance the simultaneous maximization of the situations to which the model will apply (make the model as generalized as possible), while simultaneously maximizing its accuracy.

Memories

Memories are records of past events.

Memories may be specific or vague. Specific memories contain a case model, a weighting that gauges the power of the memory, an age, and the feeling that the event caused in the hero. They also contain a visual snapshot of an event, captured by taking a picture of an in-game event from the character's point of view. This snapshot is taken by placing a camera at the hero's head level, and directing the camera towards the event.

Vague memories contain heuristic models that generalize what happened over a period of time, as well as a snapshot from one event that contributed to the vague memory.

Memories always belong to the internal diary, and may also belong to a relationship.

Memories may be long or short term. Short term memories are only stored until such time as the AI has time to fully digest them. Long term memories are made from significant short term memories, and are retained over time.

Certain memories, like the moment the hero met the player, have an infinite lifespan.

Needs

Heroes have ten needs, which are evaluated on a scale of -100 to 100. The player's goal is to balance these needs and try to keep them between -25 and 75. If they fall too low, they will negatively impact the character's mood. If they remain too high or too low for extended periods of time, they will have a negative impact on the character's behavior through the introduction of a negative trait.

1. Sustenance
2. Sleep
3. Physical Comfort
4. Hygiene
5. Attention
6. Physical Exercise
7. Mental Exercise
8. Affection
9. Fun
10. Control

The Need 'Control' is unique to this application and not found in the Sims. If low, the hero feels like he does not have enough control of his life, exhibits resentment and rebellion, and may not listen to the player and wander away from important tasks. If high, the hero cocky, and may also ignore the player and try to do things he is actually incapable of doing. Control is sated by giving the hero possessions, and asking for and approving of his opinions.

The Need 'Affection' is not found in the Sims. It is different from Attention. Attention is a need for social interaction. Affection is a need for evidence of being wanted. A character deprived of affection will exhibit low self-confidence, loneliness, and detachment. A character given too much affection will become spoiled and clingy.

Desires

Desires are created only from traits, and from no other sources.
(This area requires further development)

Objectives/Quests

Objectives, or Quests are long-term goals that the hero has, as well as the importance the hero attaches to that goal. Whenever the hero agrees to work on a quest alongside the player, that quest is added to his objectives. The hero also has additional hidden objectives, which often cannot be met and are used as guiding forces for the hero to determine his willingness to pursue a given course of actions.

Hidden objectives include the hero's desire to minimize bad emotions and maximize good emotions, to protect the player, and to develop a strong relationship with the player. Another hidden objective that can be obtained later by the hero, is the objective to woo the player.

The hero can determine if a course of action is in line with solving an objective, or if it is directly contrary to the objective, such as entering or leaving a zone related to a quest, and will behave appropriately. He can form feelings based on objectives. He will experience negative feelings if an important objective is being avoided. This is the mechanic by which the hero experiences helplessness if he finds himself separated from the player.

24. The Interaction Process

Goals

Goals are short-term objectives, but are grouped in the interaction process instead of in the character's personality because they represent the mechanical way in which problems are solved. Rather than embodying a quest, they outline a specific plan of action, for which each step is complete. When the hero is selecting what to do with himself, he evaluates his situation and then compiles a list of goals that can solve his problems.

Everything a hero can do is represented in a generalized form as a goal. Sample goals include defending a character, attacking, moving, satisfying a need, satisfying a desire, eating an item, using an object, manipulating the physics engine, requesting information and expressing a feeling.

Goal Hierarchy

Goals are carried out based on the following hierarchy, with nodes closest to the top being weighted much higher than nodes closest to the bottom. There is overlap between layers, with high needs taking precedence over low threats, and high desires taking precedence over low needs.

1. React (Hero has been hit, and the animation for being hit is playing)
2. Following Player Instructions
3. Dealing with Threats
4. Satisfying Needs
5. Satisfying Desires
6. Idle Behaviors.

When there are no threats or player instructions, and no extreme needs or desires, the player will sprinkle his goals with idle behaviors.

Goal System

The entire goal system is divided into the Core Goal Engine, the Instanced Goal Engine, Core Goals, Instanced Goals, Core and Instanced Abstract Goals, and Core and Instanced Executable Goals. Core goal components define the realm of possibilities, where instanced goal components define what the hero has chosen.

Core Goal Engine vs Instanced Goal Engine

The Core Goal Engine contains all possible goals, as well as filtered arrays of pointers to those goals, for easy access. The Instanced Goal Engine drives the hero, and contains the following components

- Primary high-level goal
- Any secondary goals he is also working on
- All current goals, which he may or may not be working on
- Filtered arrays of pointers to his goals for easy access

Goals and Instanced Goals

Interface classes so that abstract and executable goals can be accessed similarly. Instance Goals also contain the following components:

- w: A descriptor of the hero's desire to complete the goal, based on his motivations and emotions, which does not factor in his odds of success.
- a: A descriptor of the hero's ability to complete the goal, given physical obstructions and inferred odds of success.
- Priority: a descriptor that is a function of a and w
- Priority Threshold: if this is a primary or secondary goal, this is the priority threshold another goal will have to overcome in order to replace it. A function of priority.
- Time estimated to complete goal, used to calculate a.
- Goal Subtypes.
- Choices made as a result of a goal, including actions selected for fulfilling goal. Choices percolate to the top of a goal tree for easy access.

Abstract and Executable Goals

There are two forms of goals, abstract and executable. Abstract goals are broken down into executable goals. An example of an abstract goal is 'fulfill sustenance need,' which is broken down first into 'eat something,' then 'locate item,' 'obtain item,' 'eat item,' and then finally into 'list all known items,' 'choose item that matches desired properties from available list,' 'determine location to move to,' 'move to location,' 'open receptacle,' 'pick up item,' and lastly 'eat item.'

Each goal is handcrafted by the designer. Abstract goals contain logic for how they must be broken down into smaller goals.

Goal Subtypes

Goals are classified into subtypes, which governs which goals can be carried out at the same time. For example, the goal of remaining close to the player character can be carried out at the same time as thinking about pizza, humming, and whittling. The available subtypes are

How broken down the goal is:

- Abstract
- Executable

What the goal seeks to accomplish

- Active: goal is to explicitly do something
- Involuntary: goal is forced upon character by game state, and has infinite priority
- Prohibitive: goal is to prevent certain conditions from occurring
- Enabling: goal is to bring about certain conditions

Decision making

- Select Target: for future action, such as food to eat
- Cognitive: more advanced AI processes are being called on to solve a problem.

Taken from selected actions for easy access.

- Uses legs: goal animates legs.
- Uses arms: goal animates arms/upper-body.

Uses face: goal animates face.

Goals Make Choices

Choices such as where to eat, where to move, or what action to perform.

Goals May Execute Actions

When it is time for a goal to be executed, if an action is necessary, the goal polls a list of all possible actions, and uses traits, mood, and relationships to weight each action. The goal engine then selects an action to perform from the list of possibilities, and performs it.

Goals May Become Impossible In the Middle of Their Execution

When a goal becomes impossible to perform, the hero determines whether an alternative means for solving the high-level goal is possible by tracing backwards through the breakdown of the goal and trying again once a step becomes viable, or the results of the step are still viable. An impossible goal loses its priority.

Actions

Goals execute actions. Goals are the plan through which the character's requirements are sated; actions are the physical motions that carry out those plans. A plan may be 'move here,' but an action actually moves the model's bones.

The pool of actions available to a hero is determined based directly on the hero's traits, emotions, and relationships.

Actions consist of:

- An immediate outcome, such as subtracting a value from a need meter, or initiating combat.
- A tone technique.

- Desired outcome, such as modifying an emotional state
- An animation.

Actions are tagged according to

- The goals they satisfy
- Traits they exemplify
- Tone technique
- Feelings associated with them
- What parts of the model they animate

Actions may animate the face, upper body, lower body, or any combination of the above.

This allows the rest of the system to reference, weight, and use them through tags and boolean logic.

The term ‘action’ is also used to describe the actions that other characters with lesser AIs are performing, as well as involuntary ‘actions’ such as a rock being in motion, or at rest.

Perceptions

The term ‘perception’ is an interpretation of the game state from the point of view of a character. Perceptions have not yet been digested by a character. A perception is made every time a character’s AI updates.

The exact contents of a perception varies depending on the game’s mode. In general, a perception looks at any scripted events, the observed changes in the states and actions of objects, the character’s own internal state, any macro-data associated with a level, and any alterations in terrain. A perception consists of a complete threat analysis, and newly constructed models that describe all perceivable and relevant actions.

Model digestion

Model digestion is the process through which the hero seeks explanations for, and makes inferences from, models. When processing constraints allow, the models passed to the hero will be fully digested. Models are not digested during an adrenaline burst. Undigested models are stored for later digestion as memories, and their lifespans may expire before they are digested.

Affect Perceptions

The hero’s perception accuracy can be affected by traits and relationships. The reasons and inferences inherent in models are built directly from relationships, and may be effected by traits.

Quick Perceptions

Quick Perceptions are made every turn in which a potentially threatening action takes place, or state is observed. Quick Perceptions are streamlined versions of Perceptions, and in times of great threat occur much more frequently. It represents the hero’s ability to react immediately if a friendly character is believed to be in danger.

In Quick perceptions, a hero takes the set of changes in actions and states in potentially

threatening objects and compares them to friendly characters, and vice versa. The hero does a quick and sloppy threat analysis. If a threatening or panic-level threat analysis is made, a mock goal of the threat is constructed.

If the goal can overcome the hero's current primary goal, then an update of the hero's goals is made using the new threat analysis. No other updates to the AI are made. The hero enters into the adrenaline burst mood. The AI update timer is reset. No memories as a result of a quick perception, except to infer possible threats, and so no feelings are formed. This is intended behavior, as the hero's mind has not yet caught up to his body.

If the goal cannot overcome the hero's current primary goal, the threat analysis is discarded, and play proceeds as normal.

Mood does not factor into a quick perception; the hero's adrenaline burst mood is always used to make the perception.

Threat

Threats are defined one per 'initiator,' per 'target,' and have a flavor. When used as part of perceptions, threats are divided into composite and individual threats. Composite Threats track the target and overall flavor of threat against the target, and hold an array of Individual Threats, each of which has an initiator and an individual flavor.

The flavor of a threat is described by a fuzzy logic set described by the following elements: Panic, Threatening, Ambient, Normal, Calm; as well as High Medium and Low membership to each level. Panic-level threats represent the certainty of imminent harm to a friendly character if the hero does not intervene, while a threat analysis with high Calm membership will cause the character to relax and perhaps become more affectionate.

Potentially, threat could be ascertained entirely through inference, but an algorithm is in place to assist the hero in quickly reacting to enemies and potentially harmful objects under the influence of the physics engine, to speed up Quick Perceptions and ensure that the hero reacts appropriately to these stimuli early on in the game, before relationships have been developed.

Tone

A tone is a description of the *way* in which something is done. An action may have desired results, but a tone- and a character's reaction to a tone- govern whether those desired results happen. Some tones are written explicitly into context menu options for the player to choose from; others are implied.

Tones are made up of a feeling that is expressed, a feeling that they attempt to create, and a technique. The success of a tone in bringing about an action's desired results is dependent on the character's perception of the tone, including the feeling that is apparently expressed, the feeling that is apparently trying to be created, the feeling that is actually created, and the technique.

Techniques

- Mean vs. Nice
- Honest vs. Lie
- Straightforward vs. Reverse Psychology
- POV: Superior vs. Peer vs. Subservient

- Personalized vs. Big Picture
 - Rough vs. Polite
 - Expressive vs. Retentive
 - Offer exchange vs. Bribe
-
- Utilizes: Guilt, Cuteness, Trust
 - Physical, Cerebral, Social, Emotional

Tone Success Definition

A ‘successful’ tone brings about the action’s desired outcome, if any. Unless the tone’s desired outcome was explicitly to create a feeling, success is not directly linked to what the character feels as a result of the tone- only to whether the desired outcome was achieved. A tone may be only partially successful, in which an outcome similar to the desired outcome is achieved instead.

By default, all tones are equally successful, but in practice this would only be true against a character with no traits or relationships. A character’s traits and relationships are what make a technique more or less successful at any given moment.

Negative/Positive Reactions

A tone’s success is not directly linked to whether the reaction is negative or positive. If the desired outcome is achieved, the tone is successful regardless of how the hero feels about the tone. A negative reaction is when the hero forms a bad feeling in reaction to a tone. A positive reaction is when the hero forms a good feeling in reaction to the tone.

In general, the hero seeks to maximize good emotions and minimize bad ones. In terms of reactions, this does not manifest in the hero ‘changing’ his feeling so as to feel better about something. Instead, the hero’s relationship will deteriorate as a result of a negative reaction, and his relationship will grow as a result of a positive reaction.

Tone (Mis)Interpretation

Actions and their tones are the substance that characters make perceptions from. Characters do not always make accurate perceptions. When issued from another character, a tone only conveys partial information about the other’s emotions, and does not come prepackaged with an explanation for why the tone has been chosen.

While searching for explanations and making inferences, character match up current events against preexisting models. Characters may misinterpret tones naturally, due to character flaws, or as a result of trying to match a preexisting model.

A character can misinterpret either feeling, as well as the tone technique itself. Tone techniques are misinterpreted across couplet lines only, wholly based on traits and inference.

25. Character Selection

Overview

Heroes are not created directly by the player, but are rather created for the player based on inputs the player gives, and then selected from. The experience generated by this process is similar to

the emotional experience of selecting a kitten from a litter. Emphasis is placed in choosing, rather than creating.

The player answers several questions about the hero that will set parameters from which a 'litter' of potential heroes will be created. Afterward, the player selects one as their hero. A litter contains 7-8 heroes.

Synopsis

Archetype contains an **Ethnicity**, **Gender**, and **Profession**, and yields **Appearance** and other characteristics.

The Archetype

One of the most important selections that the player makes is their hero's archetype. Archetypes enforce the largest number of parameters of all questions that the player is asked; they form the basic pattern that the character will follow. Archetypes are defined by the designer. Each archetype includes a 'profession.' Archetypes are named after their professions; professions are not shared between Archetypes. Four archetypes are: Barbarian, Musketeer, Samurai, and Swashbuckler.

Each Archetype is predominantly identified with an ethnicity. Ethnicity is not important to gameplay; it is largely a tool for differentiating characters. An 'ethnicity' is defined as a set of parameters from which the character's physical appearance is derived from. It does not impact other attributes. Only a single character of a different ethnicity is generated during litter creation time. The Barbarian is usually Mongolian, the Musketeer is French, the Samurai is Japanese, and the Swashbuckler is Spanish.

The profession of an archetype governs parameters for the generation of the character's appearance, traits, and starting skillset.

Each Archetype is predominantly identified with a single gender; only a single individual of the opposite gender will be generated during litter creation time. The Barbarian and Swashbuckler are usually male; the Samurai and Musketeer are usually female.

The final appearance of the character is procedurally generated based on profession, ethnicity, and gender. Appearance is defined as the exact model and texture that the hero will use in-game.

Character Refinement

An entire new litter of heroes may be requested by the player. Alternatively, the player may tell the system that it wants heroes similar to one present in the litter. This is a means by which a picky player can hone in on ideal facial features, or a player can opt for a different gender or ethnicity of hero.

26. Character Thinking

(This section will be predominantly covered in equations, models, and explanations of those models. It describes how the hero's component parts interact with one another in order to

produce his behavior. It also illustrates how the game 'plays' the player, with the hero trying to modify the player's actions)

Ideal State

The hero maintains track of his own development and engages in reasoning by maximizing 'reward.' Reward is progression towards the hero's ideal state. This state is one in which the character has maximized happy emotions and minimized unhappy emotions, and, as his relationship with the player develops, to maximize the player's happy emotions and minimize the player's unhappy emotions.

The AI Process

The AI will attempt to form a quick analysis of threat (or Quick Perception) every game cycle. A detailed AI update will occur over several game cycles, on an update timer. A quick perception is an analysis of all threats in the area by matching perceived dangerous objects against ally locations. The hero then determines whether or not a goal based on the most severe of these threats is enough to unseat the hero's current primary goal.

The hero's normal AI process involves the hero receiving input from the user in terms of an action, forming a perception of that action, finding explanations for that action and making inferences from it, forming a feeling on the action, re-evaluating his game state, determining his primary goal, pairing an action to that goal, and executing the action.

AI Explanations

The hero forms explanations of his surroundings using heuristic models, through case-based reasoning. The character essentially records a set of 'cases' that describe a given heuristic, and a set of statistics that describe the application of the cases.

AI Inferences

The hero forms inferences with the explanations and records that it has stored previously, again through case-based reasoning, and through other AI techniques that allow the hero to postulate as to the cause of an action. The hero's primary candidates for causes are a set of 'default' characteristics that describe a 'blank' character, and the hero's own personal characteristics. If neither cause can explain an event, he searches for others.

AI Strategies

The hero forms objectives to attain his Ideal state based on a collection of explanations and inferences, when he's given some time in which he has no immediately needs to sate, and there is time for his AI to form more complex analyses. These objectives may to refrain from teasing the player about their weight, so as not to earn a very negative reaction.

IX. Game Mechanics

27. Cards and Dueling

Card Game Mechanics

Overview

The card game consists of 76 cards. There are 27 unique 'move' cards that can represent an attack or a parry. Each card has 3 symbols. Each of these symbols is chosen from a pool of 3 possibilities. Every combination of these possibilities is represented in the 27 resultant cards. Two of each move card occurs in the deck. There are three unique face cards: The Counter Strike, the Read Intent, and the Feint. For of each face card appears in the deck. Then there are eight power-up cards and four wild cards. Each player has ten energy tokens, representing their ability to outlast their opponent. Every time two energy tokens are lost, the player's hand shrinks by a single card.

Setup

Shared by the players are a deck, a play pile, and a discard pile. Each player has a reserve hand, which is laid face-up and visible to the enemy, and is dealt a hand of six cards. Combat is a matching game. The orientation of matching symbols on the cards describes whether a card is a good match or not.

Circling

The players begin the game in a circling phase, in which each player tries to refine their hand of cards. The game begins in a phase called 'circling' in which the players take turns drawing and discarding cards to try and refine their hand. A player can discard an unwanted card to the discard pile, or place the card in their personal reserve hand. A player can draw from their personal reserve hand as if it were the deck.

The Attack

When one player feels it is time to attack, they try to start a 'push'. They play a card that they hope the defender cannot match. If they succeed in initiating a push, they gain an advantage over the defender. The defender's job is to avoid attacks and to try and either halt or even reverse the push.

Object

The object of the game is for an attacker to lay down cards that the enemy cannot parry. Doing so forces the enemy to expend energy tokens to avoid a hit. Once the enemy loses enough energy tokens, the amount of cards they can carry in their hand decreases. A player loses the game when they run out of energy tokens.

Game Combat Mechanic Translation

Overview

The game still consists of the same move, face, power-up, and wild 'cards,' although the deck is unlimited. The hero's and enemy's attributes, skills, and equipment modify the base effectiveness of each 'card,' as does the terrain layout. The 'cards' are displayed visually as a

collection of symbols, and no longer strongly resemble playing cards. The hero is also capable of learning additional special moves, which manifest as face cards, and can obtain items that alters how many cards the player can hold, and what unique maneuvers (such as a mulligan, which is when the player discards all of their cards and draws new ones to replace them) the players can perform.

Realtime Combat

Although combat is technically presented in real-time, without actually pausing between turns, there is a timed 'delay' between all actions, represented by the character's speed. This is to give the player enough time to think about which card to play, and react to the enemy's cards. If the player does not select a card defensively in time, a random card is chosen to defend with. If no move cards are available to the player, the game treats it as if the player had played the worst possible defensive card, and disposes of one of the player's cards at random.

Multiple Enemies

When facing multiple enemies, defensive cards must be played against each enemy, and offensive cards can only be played against a single enemy. The player's hand is not expanded, demonstrating the advantage multiple fighters have against a single adversary. When facing down multiple enemies, their attacks are staggered in order to give the player time to respond to each.

Energy

The hero's need for rest increases by an amount proportional to how much energy was lost over the course of the fight

Forfeiting/Teleporting/Retreating

A duel in AR mode can be forfeited at any time to remove the player from danger. In Overland Adventure Mode, the player can teleport the hero back to earth to achieve a similar effect. In Overland Adventure Mode, moving the hero to the edge of the dueling circle permits him to retreat, at which point he exits the duel and may attempt to outrun the next enemy attack to avoid dueling any longer.

Losing a Duel

If the player loses an unfriendly duel, the hero is injured as a result, and must be coddled and spend time recovering.

28. Customization

Overview

Duelworlds provides a subtle variant of avatar customization in that it permits the player to customize the hero, in a manner similar to customizing a virtual pet. The player is capable of customizing the hero's personality, skills, equipment, and living space.

Personality

It is possible to customize the hero's behavior at the start of play, and over time. When a player first selects their hero, they are asked a series of questions and asked to pick a final hero from a resulting 'litter.' These questions influence the starting personality (And stats/skills/equipment) of the hero, which provides some customization. Further customization of the personality can be achieved through social interaction.

Small immediate changes may occur directly to the hero's present behavior if he is receptive to the player's suggestions. This mechanic works by the hero making a model of the player's suggestions and then applying a positive feeling towards it, and storing it in their relationship for later use in goal and action weighting.

Based on the premise that the hero truly does love his player, the game also permits the slow change of the hero's traits over time, even when he is not particularly receptive to the player's suggestions. The game integrates changes in behavior into the hero's dramatic and private personalities over time, and these can percolate downward into the main personality through interactions when the hero is in a dramatic or private mood.

Skills

Each hero starts out with a given set of skills that reflect his unique strengths and weaknesses, based on his profession and personal traits. After character selection, the player must then train the hero in relevant skills in order to improve his abilities.

In *Duelworlds*, skills are not scalar values. Skills are collections of experiences, or models, which have certain attributes and permit a hero to succeed in similar situations. A hero who has an experience similar to the current task will be able to perform it well; a hero who does not will not be able to perform it well. Players must therefore work to train the hero in every way possible, and focus on building unique models to ensure he is proficient in a wide variety of fighting styles, able to recognize the weaknesses of a large number of enemies, and employ a good quantity of bread-baking techniques, to ensure that he is the best hero for a given job.

(Further design work is necessary in the skills area in order to ensure the skills feel congruous with, and not extraneous to, the rest of the game. Emphasis must be placed on social interaction, and appeal towards women. Attention must also be paid to how skill development is revealed to the player, so that casual gamers are not frustrated by seemingly unintuitive solutions.

Skills should feel organic, in a way similar to the combat system and hero's AI, rather than being stagnant and numerical as is found in some traditional combat systems. Skills should provide motivation for and rewards for social interactions, rather than existing as self-contained units.

To avoid the need for designers to create a large volume of data, most skills should be object-specific; that is, that the hero gains experience with interacting with an object/character of a certain category and in a certain way, and that his experience should apply most strongly to identical situations, relatively strongly to related situations, and lightly to distantly related situations.

Some skills should be tied to AI algorithms or scripted material. An example for the former would be an AI for playing minigames with the player, and an example for the latter would be clues that an astute hero could give if a puzzle should prove too challenging for a player to solve alone.

A character may require initial training in a skill in order to attempt it at all, such as a 'rage' skill that barbarians can enter in to, or the ability to play a certain minigame.)

Equipment

Players are able to customize their hero based on what items they equip him with, and how they choose to augment those ideas. In order to empower players who gain pleasure from dollhouse-styled game play, the appearance of an item of armor in *Duelworlds* is not eternally related to its effectiveness.

To facilitate this game mechanic in terms of story, a substance called 'heart wire' has been integrated into the *Duelworlds* mythos. 'Heart wire' is a powerful, supernatural thread that is woven into items in a complex manner in order to strengthen them. Players are able to strip items for different varieties and grades of heart wire and then integrate them into items of their choice. To ensure that the player experiments with a wide variety of items, certain skill levels are necessary to extract certain grades of heart wire, forcing the player to occasionally don a new piece of equipment to gain its benefits, or else spend time interacting with the hero to upgrade his skills.

With training, almost every item in *Duelworlds* can have its unique properties extract in the form of heart wire. However because it takes skill training time to extract each flavor, players are forced to collaborate socially with other players to get the heart wire they would like, or else make meaningful decisions about which items matter most to them, and which skills are the most important to train.

Living Space

Players are allowed to designate living spaces for their heroes, which are game spaces where they are allowed to build him a home, in a fashion similar to *The Sims*.

The hero's living space is not utilized for plot progression; instead it serves as an environment in which the player and hero can interact, and as a source of customization of the hero for the player. Objects may be obtained or purchased from the surrounding environment, or the online store, and placed in the hero's living space. Items may be stored in boxes in the living space, including food which the hero can eat while the player is not present. The living space ideally contains objects the hero will use to take care of himself between or during game sessions, such as a bed to sleep on, games to play with, or tools to practice skills with.

(The living space is designed to be somewhat minimalist; such as a tent with a camp fire outside of it. Further design and research work is necessary to determine if more elaborate homes, like those found in the *Sims*, are feasible or necessary for player enjoyment)

Downloadable Content

It is not the case that all possible customization options are loaded when the game is first purchased. The game will download new customized pieces as needed in order to keep the final size of the game low and to permit new content to be introduced. The hero will even start with certain possible actions and will be able to download new actions later if their personality becomes sufficiently different. Other actions can be purchased by the player.

X. Women: The Target Audience

29. The Target Audience

The target audience for *Duelworkds* is women aged 13-65.

This demographic is primarily made up of casual gamers and non-gamers. Even gamers who demonstrate hard-core devotion to a game typically play stereotypically 'girl' or 'casual' games, such as Barbie, Doll-maker, or Facebook games.

Target Audience Segmentation

There are specific segments of the chosen demographic to whom this game will specifically appeal. These are:

1. Non-gamers; women who do not currently believe that games are an entertainment form meant for their use, and cannot hold entertainment enjoyment for them.
2. Casual-gamers; women who already understand that games are a legitimate entertainment form, but currently think that certain games, genres, and themes associated with this game are not entertainment forms meant for their use.
3. Casual and hardcore gamers; or women who already know that many game genres are open to them, and may have come from hardcore games or from casual adventure games like Legend of Zelda.
4. Women who collect dolls, like to play with dolls, or enjoy doll-house or doll-maker games, such as The Sims
5. Fangirls; women who enjoy heroic characters in other media such as movies and books, and who cultivate obsessions specifically for characters from the action or adventure genre material, such as *Starwars* or *Pirates of the Caribbean*, *Batman*, *Final Fantasy*, or *Bleach*.
6. Card and Bingo Players: women who like playing games like solitaire or physical or online rummy, but have never migrated up the games ladder to games with characters and plots.
7. Women who like games that involve nurturing digital life, such as Tamagotchis, Pokemon, or Neopets.
8. Social Gamers: women who already play games of one sort or another, from table-top bingo to Farmville, but do so primarily for the social interactions with other people.
9. Storytellers: women who are already familiar with nonlinear storytelling 'games,' or games like the Sims or Second Life, who use games to tell stories, and create a lot of user-generated content. These people frequently lead the game community.
10. Women who use online worlds as a medium for personal expression and definition.
11. Women who are lonely, or seek some form of companionship.
12. Women who are gamers, but are alienated by pre-existing games for women for being 'dumbed down.'
13. Feminists.
14. Young girls, who have no pre-existing exposure to games.
15. Maturing women, who have previously played games targeted towards a younger demographic, but have matured in what sort of material interests them.

16. Older women, who did not grow up with games and are suspicious of their entertainment potential.
17. Fifteen-minute gamers, who have played games such as Angry Birds or Farmville, but have never gotten in to deeper games.
18. Men, who want to find a game that they can play and enjoy playing with casual gamers, such as girlfriends or daughters.

Reaching the Target Audience Through an Intermediary Secondary Audience

Regardless of how good a game is, or how accurately it targets an audience, the game will never be played if it never reaches its target audience. A unique issue posed by targeting women is that a significant percentage of the target audience either has never gamed, or does not identify with gamers.

While the design for *Duelworlds* contains a wide variety of strategies for directly addressing its target audience, the design also invests in attracting a secondary audience of people who already identify as gamers, and implanting in them the idea that this game would be a perfect fit for someone they know who is in the Target Audience. These gamers may only ever play free demos for or read about the product, but the line of communication between them and the target audience will be vital for delivering *Duelworlds* to its targets.

Why Aren't More Women Gamers?

This design will utilize four models for why more women aren't gamers in order to understand the means by which more women might be drawn to gaming. The first is that it is culturally normal for boys to take risks very casually. Men will attempt to play a game with only a very limited understanding of how the game is played, without fear of failure, and will be incentivized by failure to take even greater risks. Women will not attempt to play a game until they understand it, resent failure, and will be unwilling to take risks if they were punished for taking risks in the past.

The second model will support the third. The very first individuals who became acquainted with video games were the early adopter engineers who first investigated the capabilities of computers and then produced the games in question. Computer Engineering was a male-dominated field. Computer Engineers made games that other computer engineers would admire. Nothing about these games is *inherently* masculine, per se, but the very first games required an appreciation for math and science in order to appreciate; and there were precious few male mathematicians and scientists. Video games became identified as 'nerdy,' and there were few female 'nerds.'

Over time, this appellation of 'nerdy' has disappeared somewhat from video games, but the third model presented will reveal why it had such a lasting impact on the absence of female gamers.

The third model is that the cultural tendency of people to seek out entertainment activities with their own genders and within their own professions has posed unique problems for the migration of games across gender boundaries. Movies were an easier media to perpetuate across gender borders, because they did not require any skills to be passed from one individual to another for the purpose of viewing them. Playing video games, however, requires that the player develop certain skills, or that they be taught those skills from someone else in their peer or family groups.

Fathers tend to spend more time introducing their sons to their own entertainment passions than their daughters; this is manifested in how a father will teach his son to play ball, but not necessarily his daughter. Computer Engineering was a male-dominated field. This produced a significant number of fathers who passed gaming on to their sons. At this point, any given boy's peer group contained a number of other boys who were familiar with games, and who could spread the game throughout their peer group. This effect snowballed. But because gaming was restricted to a male-dominated professional circle for such a long period of time, an entire generation had to pass for those boys to grow up into adults, and for gaming to leave its professional boundaries and become socially normal.

At this point, casual gaming slowly began to appear, and transfer began across gender boundaries, which introduced women to gaming. However, because of the length of time that games were dominated by a single gender, a significant number of games shut out female players, usually unintentionally, by employing design strategies specifically targeted towards men. This is the fourth model for why more women are not gamers: game designers don't bring women to gaming.

Games for Women

This design takes the following view: There is no such thing as games for women, because there is not such thing as an abstracted form of 'fun' which only one gender appreciates. It is not the case that men like one kind of game, and women like another. There is nothing about the puzzle genre that makes it inherently more appealing to women, nor about the fighting genre that makes it inherently more appealing to men.

Nevertheless, the majority of women play different games from the majority of men, and an explanation must be found as to *why* so that the target audience can be reached.

Certain games, intentionally or unintentionally, appear sexist or at least sexually stereotyped, and that these games are designed and marketed with the attached connotation that they are not for women. Women perceive this connotation, and will not buy the game.

A given woman typically has less exposure to video games than a male player, and thus has developed less video game, 'skill.' She is not used to participating in violence, cannot keep track of the same number of variables, is not as receptive to fast-paced visual information, has to developed the same fast-twitch reaction speeds, and has less of a pre-existing interest in video games and peer pressure from her social group to keep her invested should a game prove difficult. These are not gender-inherent, but instead result from experience, exposure, and familiarity.

Men and women are equally competitive. However, the ways in which it is culturally normal for them to express their competitive nature differ. Women are more likely to pick routes that involve social collaboration, negotiation, compromising, and careful planning. If they are competitive, they prefer to compete indirectly, or as part of a team. If she is playing a directly competitive game like cards, she prefers to play it in a social setting, or that it contain a social element like bluffing.

Men and women have long been engrained in slightly different social roles, and so the optimal forces for motivating each gender are somewhat different. Women are more receptive to cries for help than threats, altering the minimal requirements for a story that can interest them. They are also keener on obtaining explanations for a given behavior, and become frustrated and disinterested when explanations are not provided. A female player who is not given a reason *why* she has to defeat a given enemy is insufficiently motivated by the immediate threat the enemy presents- especially if the enemy appears to be minding its own business-, and will be disinterested in pursuing the confrontation.

Because she is less openly confrontational, the average woman enjoys games that test her problem solving and visual recognition capabilities, such as puzzles. She doesn't always mind vague outcomes where a distinct victor isn't unanimously recognized, such as in *The Sims*. To be drawn into an adventure game, 'winning' is an insufficient incentive; she must be compelled by her desire to see the game's resolution, a desire based on her investment in the story and its characters.

Most women, if they game, are casual gamers. This means that the female audience can be treated as having many of the same attributes as the casual game audience. It should be possible to pick up and set down a game at any time, and to play frequently but only for very short time periods. The game should be able to provide emotional satisfaction and experiential reward in a short period of time. Feedback should be clear, intuitive, or preferably both. The manner in which the game works should be up-front and honest; game mechanics should not be hidden such that they can only be discovered through extensive trial and error.

Especially if the story is of great importance, the game may contain no unnecessary 'filler' levels, because the casual gamer is not as willing to spend time with the game as the hardcore gamer. The game must contain instructions or tutorials, which are explicit, easy, and comprehensive. Beating the game must be possible, even for a player with almost no skill. The gamer must have the freedom to challenge themselves or take things easy almost immediately, as their whims dictate.

Hitting the Target Audience

All of the design decisions made during the production of this document have hinged strongly on providing the correct stimuli to the target audience.

Male Dolls – Hero Genders

Players are asked to select a hero with whom they can bond emotionally, and whom they identify as heroic. It is therefore assumed that most players will select a hero of the opposite gender. If this is untrue, an examination of game usage must be conducted to determine why, in case the game has ineffectually postured itself, and is not being used for its intended play purposes.

However there is a potential risk raised by experience gathered in the toy industry. Male dolls traditionally sell worse than female dolls. However, while this risk is flagged, it is not believed that it will factor in to the successfulness of the game. The reasoning is that dolls are only for display; the success of a male character is located much more strongly on his capacity for action. Although *Duelworlds* permits the player to treat the hero somewhat like a doll, his immense

capacity for heroic action- and his ability to protest the player's actions- completely expunge any displeasure he may have generated for being less attractive on display.

This is also the reasoning behind why the hero is deliberately not available as a doll-like toy. The plush toy is designed to generate tactile pleasure, while the statuette can capture an image of the hero mid-action. The success of male characters in cardboard cutouts and posters is already well-documented, and does not need to be addressed.

Sliders, Controls, and Options

The game includes romance, violence, difficulty, and action speed sliders, and provides for parental controls. The romance sliders are present to protect younger children from being romanced by the hero, which may appear overprotective to certain parents. The violence slider is included to protect potential players who are against violent video games. The difficulty slider is included to protect casual gamers. The action speed slider is included to protect older gamers, who have a much slower perception and reaction time, who need more information explicitly available, and who need that information portrayed as clearly and slowly as possible. Older players who feel like the game is moving too fast for them, and that they are unable to understand what is going on, will feel upset by the game and reminded of their age. Furthermore, a slow action speed setting permits them to engage in combat as if playing a card game, which will be more familiar to players in the card-game demographic. There is a degree of overlap between all four of these categories.

Why This Genre?

Why an adventure game focused on combat and action? Why not just a casual game, or a point-and-click adventure? Why not follow a more mainstream trend, such as those set by the success of Angry Birds, Farmville, online bingo, or interactive fiction?

To be short, those markets are oversaturated. The exceptional success of these games has created a large collection of poor quality knock-off products, reducing the perceived quality level of any game resembling the originals. A game company can continue to design products for this market in an attempt to unseat Farmville, much like MMOs are struggling to unseat World of Warcraft, or social media sites try to unseat Facebook. On the other hand, there are additional opportunities to be found by offering different products, that provide different experiences for markets that have not yet been properly exploited.

Will an Action-Based Adventure Game Work?

One already has. *Legend of Zelda* is extremely popular among casual gamers and women. Unlike other casual game markets, however, the adventure game market is not oversaturated. There is a significant subset of women who action and adventure media; in fact, many women gravitate towards adventure films such as *Pirates of the Caribbean*, *Star Wars*, *Iron Man*, or *Twilight*, as well as anime or dramatic video games, such as *Final Fantasy*. These women are epitomized by the fan girl demographic.

Traditionally, games with digital companions cast the player as actor, and the companion as advisor. *Duelworlds* does the opposite. This tactic places a protective buffer between the casual gamer and the game's action. It frees the casual gamer from the responsibility of correctly timing

jumps, attacks, and other potentially frustrating actions, lowering the spatial skill level necessary for play. It places increased emphasis on puzzle-solving and social interaction with the companion. Furthermore, the companion serves as an aid to help a struggling player through a complex puzzle. This reduces player frustration. *Duelworlds* harnesses the willingness of women moviegoers to *admire* characters capable of such moves, and follow and support them, without forcing them to execute the moves themselves.

Why AR?

The inclusion of AR (Augmented Reality) restricts the game to more expensive tablets and prohibits its inclusion on eReaders and smart phones. It is included because it is capable of delivering a kind of experience that alternative methods simply can't. It brings the hero into the player's living space, dramatically increasing immersion and making him more 'real' to the player. Sorrow that a player might feel towards a digital character who exists only in a virtual world is mitigated by the hero's ability to interact with and inhabit the physical world, and especially his ability to engage in activities while the player is not currently playing.

AR enhances the imaginative play and pleasure of the user, and in turn enhances their emotional attachment to the hero and their willingness to emotionally bond with a digital character.

AR also provides for unique and intuitive input methods for players who are not familiar with games, and for the visceral and very natural sensation of interacting- physically- with a character. In almost all digital life games, the player is restricted in their interactions with their creature. In Nintendogs, this manifests as the player only being able to pet their animal in a single way, and in having the petting action involve touching a stylus to the screen and moving it back and forward. The gesture becomes hollow, exhibiting none of the tactile pleasure inherent in actually touching a digital pet.

AR- and in specific SLAM- permits the player to pick up, cuddle, pet (although he may strongly disapprove of being pet), play ball with, kiss, grasp, dress, bandage, throw, drop, catch, smack, thumb-wrestle with, and even play cards with their digital companion, all with their actual hands.

Violence

Studies have shown that female players are not necessarily more opposed to violence in video games, or to in-game combat, but that they require story-based motivations for participating in this combat. The violence will be received better if the level design makes other conflict resolution approaches possible, the violence is not senseless, the violence is not over-the-top, and the violence is morally sensitive.

Tablets vs Handheld Consoles

Duelworlds is designed as an NDS-quality game for tablets. The iPad is the best-selling tablet currently available. It has thus far sold approximately one third of the units as the NDS handheld console, but it has been on the market less than one third of the time. With tablet adoption on the rise, and handheld console adoption relatively stable, there is a clear demand for high-quality games that can take advantage of the iPad's unique properties, and to deliver an experience the NDS cannot.

The unique property of tablets include increased screen real-estate, intuitive, non-gamer controls, enhanced capacity for downloadable content, eschewing a manufactured cartridge, integration with online stores and websites, the ability to port and upgrade a game naturally as new tablets are released, increased access to non-gamers, the ability to continuously release expansion packs and DLC, the increase feasibility of free demos and micro-transactions, the pre-existing demonstration of working SLAM technology, the absence of competitors in many genres, and the enhanced processor and memory capabilities.

There is a unique hurdle in developing games for the iPad, in that mobile platform games are not perceived to have the same quality and polish as console games. This issue must be explicitly addressed by marketing tactics. This is why *Duelworlds* is defined by the statement: *Duelworlds* is an NDS-quality game for tablets.

Tablet computers are casual gaming platforms, with fewer barriers to entry than hand-held consoles. They are owned and utilized by people who do not identify as gamers, and they do not have the stigma of being considered a toy for children. According to Neilsonwire there has been a dramatic increase in the number of tablets and smart phones owned by women.

There has been an even more dramatic increase in the number of eBook readers owned by women. The fact that the iPad can be used as an eBook reader will allow the game to tap into this audience by offering additional incentives for customer to purchasing a tablet instead of a dedicated eReader, and for the intermediary audience to buy tablets instead of dedicated readers for women as gifts. There is also the potential to create an adaptation of the core game, reduced in function, for release on phones and eReaders (other than the Kindle) for enticing players to purchase a full-fledged tablet. *Duelworlds* has the potential to be a 'killer app' for women, for tablets.

30. Game Offerings

This section deals with various game audiences, their reasons to play *Duelworlds*, and sources of pleasure, appeal, frustration, and reward.

Nurture Play - Specific

General

The player derives pleasure from the novelty of having a digital companion. The surprisingly complexity and variety of the hero's choices causes the player to construct a mental narrative and model for the companion, which also yields enjoyment. She sympathizes with his condition, and feels pain and guilt if he is injured, and fear if he is in danger, causing an adrenaline-response in her.

The player may select a character of the same gender, and thus derive pleasure from trying to generate a romantic relationship between the hero and another character. Alternatively, if the players are of the same gender, pleasure is derived from the hero's attempts to woo the player.

Target Audience

The player derives pleasure from interpreting the hero's actions and trying to mold him into their personal image of an ideal hero. The player derives pleasure from mothering the hero, by tending to his injuries and chastising him when he puts himself in harm's ways. She is annoyed or frustrated when he is disobedient, but also amused, and experiences great pleasure when she gets him to listen to her. The hero's small size and the fact that he relies on the player for physical and emotional sustenance, allows *Duelworlds* to deliver the same forms of pleasure associated with raising affectionate pets.

The AI provides additional enjoyment by letting the hero exhibit protectiveness and adoration towards the player. His negative characteristics appeal to the tendency of some women to gravitate towards 'bad boys,' while a large number of underlying positive attributes reward players for the efforts they make to change him. In this way the player is able to break down the hero's 'walls' and earn the right to see the hero's more vulnerable characteristics.

The ability to equip the hero appeals to women who enjoy dress up, or collect dolls. Match-maker enjoyment is derived if the player chooses to encourage a romantic relationship between the hero and an in-game character, and maternal frustration is present if he should prove resilient to her suggestions.

Although frustration and disappointment may occur temporarily while the hero is unreceptive to the player's suggestions, pleasure is eventually derived from the organic nature of the character, and how success in any given task is a function of social forces instead of numerically defined skills. She is empowered by her ability to use social savvy to resolve major issues.

If she is frustrated by a problem, the game channels her frustration into relief and admiration by permitting the player to rely on the hero for assistance. Alternatively, if she is capable of solving the problem on her own, the game rewards her with the hero's admiration.

Non-Target Audience

The interactions with the hero permit a player to 'tweak' the hero's potential for combat success in a new and novel way, which comes with unique difficulties and intuitive solutions.

A non-target-audience player derives pleasure from the same aspects of the game as the target-audience, because the design of the game facilitates these aspects to be cast in multiple lights.

This type of player derives pleasure from molding an ideal hero, but in a very different way than the target audience. For instance, the player can experience pleasure in asserting their social dominance, by teaching the hero not to be protective.

Other General

The player derives traditional forms of pleasure associated with the action-adventure game genre, including pleasure from the dramatic storyline, from overcoming challenges, from facing

down powerful adversaries, from behaving heroically, and from solving problems in a creative manner.

The player also derives pleasure from either admiring or directing a competent companion, depending on whether the player's personality type is more supportive or aggressive.

Target Audience

The player gains pleasure through being able to see the hero in action. The barrier between player choices and in-game actions allows the hero to act out all of his actions- even his failures- gracefully, which causes a certain pleasure in his competence.

The player gains pleasure by being part of the team that is saving the world; by being partnered with a competent companion, and by having a front-row seat to so much excitement. They enjoy using their own, casual-gaming skills to evidence visible change and achieve meaningful results. However, these women are strong in their own right, and derive extensive pleasure from the fact that the game does nothing to demean or patronize them, and distinctly leaves them as the leader and brains of the operation.

Successful relationships and teams involve equal give and take; *Duelworlds* provides the pleasure of having a functional and successful team that is then used to solve amazingly complex problems.

The player also experiences the drama inherent with the story much more keenly and intimately, understanding it to be the focus of the game. The story is the player's motivator and guide, and the player follows its emotional twists while at the same time sympathizing with the hero, who is jumping through the same emotional hurdles, and who will both offer and require emotional support.

Non-Target Audience

The non-target audience imprints much more on the hero than the target audience, causing them to connect more strongly with the action on screen. They turn the combat speed gauge to the max and enjoy the fast-paced action on screen, and the adrenaline rush of puzzles that now sport timers. Unwilling to sit back and let their hero do all the work, they derive pleasure in refining each one of his moves, until he becomes something of an extension of themselves, a manifestation of their own heroism, their own internal protector.

This type of player derives much more satisfaction from being the leader of the team, and enforces their leadership position in the relationship more forcefully by making it an integral part of adventure play.

This type of player has traditionally obtained more stimuli from adventure play than from nurture play, and so will use nurture play to augment their usual adventure play experience.

XI. Product Body

31. Introduction

Overview

Aside from the main game of *Duelworlds*, the product body contains several additional planned components, including sequels, promotional products, and merchandise. The *Duelworlds* product body is designed specifically to reach and satisfy its specific target audience, with the additional focus of generating interest in non-target groups that it is believed will pass their knowledge of the game on to the targets.

Intellectual Property

There is an extensive amount of material available for the creation, expansion, and leveraging of a robust *Duelworlds* product body. Sources for these products include all in-game characters, good and evil, all object items, in-game locations and levels, all user-generated content, mini game play, the combat mechanism, and in-game music. Additional IP domains can be incorporated into the *Duelworlds* mythos seamlessly in order to expand product body opportunities

User Generated Content & The Hero

Duelworlds provides the tools for the player to generate a large volume of content. At the lowest level, this entails screen-shots taken of in-game play, but opportunities are also available to craft item appearances, and whole levels and alternate stories. It is important not to overlook the fact that the hero himself qualifies as a source of user-generated content; he is unique to the player from the moment he is created, and is sculpted by the player at every moment afterwards.

As *Duelworlds* focuses so strongly on building an emotional bond, and on creating fairly immersive gameplay to provide an environment for bonding, there are many opportunities to leverage that user-generated content as part of the product body. Although it is more expensive, it is expected that players will be very willing to purchase individualized products through web order.

Generic Content

Generic content is content that is held in common by all iterations of *Duelworlds*, content that the players have in common, such as the appearance of some NPCs and all enemies and items. This is a library of content that the players share and will be able to identify by sight. This content is therefore useful for branding.

It is important to provide an array of products that can be purchased in-store by players and their relatives, both to help posture the game as professional, and to provide another route for reaching the target audience.

32. Game

Porting

Duelworlds requires the entire range of its platforms system resources, which can be used in marketing to demonstrate the game's advanced nature. It will ported onto next-generation tablets

that meet the appropriate platform requirements, although its initial launch on only the iPad2 will bring attention to the tablet for its dual-core processing unit, which again can be used in marketing.

Add-ons

After launch, *Duelworlds* can be augmented by a potentially unlimited list of add-ons, designed both by the original production team, third-party software designers, and the fan-base. Planned add-ons include a music add-on, additional quests, multi-player quests, a 'breaking the fourth wall,' romance add-ons, facial and voice recognition add-ons, and even a psychiatrist add-on for analyzing the hero's personality and determining why he is misbehaving. Another planned add-on would allow the player to alter his or her in-game avatar, altering its coloration and features.

Sequels

Its modular nature insures that *Duelworlds* will be permitted a long lifespan, in which downloadable add-ons will serve as a constant stream of expansion packs. Like the Sims, however, it will eventually become realistic to produce *Duelworlds2*, which will feature upgraded graphics, physics, augmented reality, artificial intelligence, and social components. Because of the plethora of add-ons available for *Duelworlds*, it is important to design for the fact that *Duelworlds2* will initially feature a slow adoption rate unless it launches with a large number of add-ons, or unless it features radically improved technology over the original *Duelworlds*. Further design considerations when producing a sequel are listed in the appendix, and include the fact that it must be possible for the hero to be ported into the sequel.

Game Extensions

Unlike add-ons, game extensions are multi-media components that take the *Duelworlds* hero and bring him into other forums, beyond the walls of the game itself. There is a planned Facebook component that will permit players to hook a Facebook account up to their *Duelworlds* game, and allow their hero to leave diary entries on their Facebook wall. Other game extensions would include a browser or Facebook game that permitted the player to check up on and feed their hero, or play other minigames or engage in other activities nonnative to the iPad game. *Duelworlds* will also create, host, and maintain a community website to which players can go to interact, upload user generated content, and download other user generated content.

AR Collectable Cards

Further design is needed in this area. It is possible to use AR cards to bring new items into the game. In this way, players can buy a pack of thirteen or fourteen AR cards, like a booster pack for a collectable card game. These cards can then be brought before the game camera in order to introduce them into the game.

33. Promotional Card Game

The *Duelworlds* game mechanic is based on a fully developed card game, which can be published and distributed to generate interest in the game, especially by targeting it towards families. The nature of the card game, which novel, based on magic, and family-friendly, will be instrumental in promoting the game to both the intermediary and target audiences.

As a card game that contains a bluffing component, *The Duel* card game also has the potential to be directly appealing to older female card-players, who have not yet become interested in digital games.

Alternative skins

The simple card game mechanic is reusable, and can be easily reskinned as a respectable, character-free card game to make it more familiar to the older card-playing demographic, or a dating game, to make it more interesting to younger women. It can also be reskinned using characters and symbols from pre-existing action/adventure movies and books, to target the fan-girl demographic.

AR Cards

Duelworlds can use its unique approach to augmented reality to snag a portion of the early adopters audience by flaunting its AR abilities in a format that computer enthusiasts are already familiar with. These AR cards can include both *Duelworlds*' original characters, and characters licensed from pre-existing intellectual property and distributed through a means like the McDonald's happy meal, or inside action figure toy boxes. By generating hype concerning its technological capabilities, *Duelworlds* can get early adopters excited about the game, and encourage them to pass on their knowledge of it to the actual target audience.

34. Merchandise

The game's Mentor will be used as a unifying character that persists from game version to game version, and is an identifiable component of every *Duelworlds* game, for merchandising purposes.

Toys

Duelworlds will provide customizable statuettes and plush toy heroes for web order, and generic content statuettes and plush characters for purchase in-store. This area requires more design. It is possible to supply 'randomly generated' plush toy heroes and statuettes in store, and include with each toy a code for obtaining a visually identical hero in *Duelworlds*.

Clothing and accessories

Duelworlds will provide customizable T-shirts, change purses, and , full-sized cardboard cutouts, and posters for purchase by its players based on their heros' appearances, or using in-game screen shots taken by players and web orders, as well as non-customizable T-shirts for the Mentor and generic hero archetypes.

Paper Products and Miscellaneous

Duelworlds will provide customizable and generic cardboard cutouts, posters, mugs, coasters, for purchase by its players. Customizable products will be based on the individualized appearance of a hero.

35. Monetization Strategies

Pricing

Overview

The pricing of *Duelworlds* is an extremely important point that will require further research and analysis work before it can be definitively set. The issue with pricing *Duelworlds* is that if the price is set too low, the game will not be able to posture itself as a high-quality, console-style game; on the other hand, the iTunes store thrives primarily on small purchases, and *Duelworlds* may have difficulty being downloaded at all if it is attached to a console-game price.

The Sims3, for example, is a \$60 USD PC game with \$40 expansion packs. On top of this, the game has an online store, through which a tremendous amount of money can be spent in micro transactions. While made by a smaller production team, *Duelworlds* offers a vaguely similar game-play experience. NDS games are typically \$20-\$40 USD. On the complete other side of the spectrum, the vast majority of iTunes games are less than a dollar or two, and the most expensive iTunes games are usually no more than \$30.

Two Models

The key to pricing lays in marrying the traditional distribution model associated with the NDS with the instantaneous and viral new distribution model in wide use on the iPad. The game must be playable according to the experience desired by the player, with the freemium model being supported by an in-game store, and the traditional model being supported by in-store boxes. The two models are designed specifically to support one another, so the benefits of both can be attained.

Freemium

The freemium model permits the user to have a casual relationship with the game, picking and choosing the exact content they want to download and minimizing the amount they need to pay up front. At the same time, the overall quality of the freemium experience postures the game as *worth* upgrading, as worth the additional investment. The limitations of the freemium experience should feel natural, as opposed to artificially limited, and its limitations should be made clear up-front.

Traditional

The in-store boxes draw on the quality, stability, and reputation of the established traditional distribution model, permitting the user to buy whole ‘expansion packs’ filled with content, at a discount from the freemium model. The freemium model provides flexibility and easier monetization among populations with lower disposable incomes, while the traditional model helps provide a framework in which the game can succeed as a console-level product for the iPad.

Content

Through the freemium model, the player will be able to purchase and download add-ons to the game, such as equipment, items, objects, quests and levels, minigames, forms of interaction, functionality (like the ability to have multiple heroes), actions, and character archetypes. Through the traditional model, sets of these add-ons will be available as expansion packs.

Economy

Further design work is necessary in this area. It is vital that extensive attention be paid to the design of the in-game economy, which will greatly influence the social element of play. It is possible that the game will have multiple forms of currency, or that it will keep real-world currency separate from in-game currency. The focus of the game should be on delivering a rich and pleasurable experience to all end-users, freemium and traditional, not just to a selection of hard-core end-users with a lot of money. The joint activities of a large number of customers satisfied with the game they are playing is held as valuable; the exact value that will carry the game through a long lifespan.

Novel Advertisement Technique

Overview

Very few gamers notice graphic ads except to be annoyed by them; the value of Internet banner ads has depreciated through generations of users who have been taught to ignore them. The few ads that include sounds, or video ads such as those available on YouTube, have also been met with considerable displeasure. It has been the case for many years now that TV services have permitted viewers to fast-forward through TV commercials. Google Ads, in using tags and keywords, was a successful innovation in online advertisement. However, it stands to reason there is another way: a better way.

The Hero

The hero is, at all times, trying to understand the player. He works to unveil the player's emotional composition, to understand the player's traits, to figure out what makes the player tick, so that he can maximize his reward. He has a vested, natural, and very human interest in learning all he can about his player. As he learns, he creates statistical models for understanding the player, and can form reasonable heuristic models for predicting how his player will act- within the realm of the universe as he knows it.

A few other interesting circumstances are also true. The hero is also connected to a network, and at all times is uploading this statistical model to the network as the system makes backup copies of him. The hero is on a GPS-enabled device. The hero's story involves the hero coming from his fantastical world into earth, to live with the player; so seeing modern brands in-game won't be too jarring. It seems an easy and intuitive jump that the game system could use statistical information harvested from the hero's models to advertise nearby locations to the player.

That is *not* how *Duelworlds* will advertise. If *Duelworlds* forwarded advertisements through the hero's mouth, it would cause him to appear inhuman, disintegrate user trust, and abuse any emotional bond the player had. If *Duelworlds* advertised on screen, it would appear unprofessional and alienate the user with its accuracy.

There is one more set of applicable parameters, which create a unique environment for advertisement: the hero has a personality. He likes certain foods, shapes, colors, styles, music groups, entertainment pastimes, smells, and luxury objects. Certain heroes like hamburger; others prefer salad. He also loves his player, and will be able to understand and remember if the player goes to a location and then expresses a positive experience with that location. Given a set

of companies, which have chosen to advertise with *Duelworlds*, a GPS location, a hero with a given personality, and a statistical information about the user, the hero can advertise the companies that meet either his needs or his player's in the most intuitive and primitive way possible: word of mouth.

A hero who likes hamburger will be aware of all locations nearby that are advertising through *Duelworlds*, and will ask the player if the couple can go visit a nearby fast food restaurant. A hero who knows his player likes sundresses and the color red, will encourage the player to go to a nearby fashion boutique and, upon arrival, can suggest they look for a red dress.

Expanding Implemented GPS Locations as Advertisement Strategy

The way in which companies can advertise through *Duelworlds* is indirect but effective, because it appears natural to the player and therefore is not questioned. Companies advertise through *Duelworlds* by making their locations and services known to the game system. Once the game system knows about these locations, so does the hero. The hero will then naturally gravitate towards any locations that provide services that he likes, and tug the player along with him. The hero will naturally show a preference for certain restaurant and certain types of food, consistent with his personality.

With no scripted behavior and no force-fed words, the hero becomes nothing more insidious than a child who is already well informed on a brand, and is exerting influence on their 'parent' to make a purchase. Even if the player cannot presently go to the location in question, the hero successfully drops brand names. If the player is disinterested in a venue the hero likes, the player will eventually make it known through their actions; as the hero's statistical model of the player changes, the pool of venues they select from becomes more fine-tuned.

Miniature In-Game Advertisements

When *Duelworlds* is first launched, it will not be appropriate to advertise immediately, while the game is still gaining traction. According to the *Duelworlds* story, miniature people from Agon are slowly migrating to earth. Some time after launch, after the game has gained some traction, it will be conceivable for these miniature people to have learned earth's ways, and to have developed an interest in earth culture. At this point, it will become appropriate to include small tidbits of earth culture in free mode, such as miniature flying zeppelins that have advertisements on them.

Venues for Heroes

The AR component of *Duelworlds* is maintained by an online network, which places objects into the real world through means of GPS positioning. The game downloads virtual objects in the player's vicinity, and renders them. Therefore, not only can the hero be aware of nearby venues, but also the game can actually place miniature counters and products into the real-world venues, for the hero to shop at while the player is busy. While the player goes to McDonalds and orders a happy meal, they can see their hero walking up to a miniature counter and purchasing a miniature hamburger from a miniature worker with in-game currency.

XII. Marketing

36. Market Analysis

Artificial Life, Pet Games

Chief competition comes from several different kinds of artificial life games. These include pure pet rearing games, such as *Nintendogs* for the NDS, pet-fighting games such as *Black & White* for the PC and *Pokemon* for the NDS, handheld digital pet games like *Tamagotchi*, and online pet-rearing games based on minigame mechanics, such as *Neopets*. There is near-direct competition from the Playstation Move's *EyePet*, which uses augmented reality in conjunction with a pet-rearing game.

As of August 2011 *Nintendogs* had sold 23.46 million copies, seizing approximately 16% of the entire Nintendo DS market (Jones, 2011). According to its producer Ubisoft, *Petz: Dogz2* and *Petz: Catz2* for the NDS, have 22 million copies sold (Dobra, 2011). The three newest *Pokemon* sets, including *Diamond*, *Platinum* and *Pearl*, *Heart Gold* and *Soul Silver*, and *Black* and *White*, had sold 48.41 million units, or almost one unit for every three NDSs sold (Jones, 2011). As of 2011, *Neopets* had approximately 180 million users (Neodex, 2011). *Black & White* and *Black & White 2* sold approximately 3 million copies (Develop, 2008). As of 2011, Bandai was aiming to have its 80 millionth *Tamagotchi* sold worldwide (Bandai Co., Ltd., 2011). In September 2011, *EyePet* was the number one selling game for the Playstation move, with just shy of 1 million copies sold (Zollicoffer, 2011).

The newest games with which *Duelworlds* will compete are *EyePet & Friends*, launched fall 2011, *Nintendogs + Cats*, launched March 2011, and *Petz Fantasy*, launched June 2011.

Dollhouse Games

As *Duelworlds* involves taking care of a distinct virtual person, it receives pressure from *The Sims*, and, specifically, *The Sims: Medieval*. As of May 2011, *The Sims* franchise had more than 150 million copies sold (Sacco, 2011). *The Sims 3: Pets* was the third top selling video game in PC Entertainment as of March 2012, and the *Sims Medieval* was the top nineteenth.

iPad and iPhone Games

Duelworlds will be competing to stand out among the wide variety of available iPad games. Among these are 'snack games' such as *Angry Birds*, which exist on freemium and advertising models, and more traditional games such as *Infinity Blade II*. Some noteworthy competition in the realm of pet raising are *Pocket Creatures* by Tactile Entertainment, *Touch Pets Dogs 2* and *Cats 2* from Ngmoco, and *My Horse* from NaturalMotion Games.

In the realm of action and adventure games, noteworthy competition exists in *Jules Verne's Return to Mysterious Island* by Chillingo Ltd, *Dream Chronicles* by PlayFirst, Inc, *Hero of Sparta* by Gameloft, and *The Secret of Monkey Island: Special Addition* by LucasArts.

Proof of concept for an elaborate 3D game on the iPad2, and for SLAM, can be found in the games *Ball Invasion* by 13th Lab (13th Lab, 2012) and *Deadspace* by Electronic Arts. Proof of

concept for utilizing a box as a selling tool for an iPad game can be found in the game *Crayola Color Studio HD*.

Adventure Games

Some of *Duelworld's* most noteworthy competition in this arena comes from the *Legend of Zelda* franchise, which as a franchise, as of March 2012, has 52 million copies sold, with 5.65 million units sold of *The Legend of Zelda: Twilight Princess* (Video Game Sales Wiki, 2012), which launched in 2006, and whose November 2011 release of *The Legend of Zelda: Skyward Sword* (Nintendo Co., Ltd., 2012) saw 3.42 million copies sold in just one month.

The *Fable* and *Portal* franchises, by Ubisoft and Valve respectively, are also noteworthy market competition. These games have slightly larger female audiences. The first revolves around building a customized heroic character which the player controls, and the second is a puzzle game and first person shooter.

Puzzle Games

Duelworlds, as a game for women that uses casual game mechanics, has some competition in the form of other puzzle and card games. Competition is found in the game *Portal* and *Little Big Planet* by Media Molecule as well as games such as *Plants vs. Zombies* and *Bejeweled*, both by Popcap games.

37. Marketing Strategies and Tactics

Overview

There are several marketing strategies available for employment by *Duelworlds*, depending on further decisions made by the production team, and the availability of willing partners. The marketing strategies of *Duelworlds* are intimately tied with its merchandizing and monetization strategies.

Free Demo

The free demo will be available through iTunes, and will consist of a large amount of nurture play functionality, as well as the first two levels of adventure play. These two levels will conclude with the 'hook', the 'crossing the threshold' moment of the hero's journey, which will be engineered to invest the player emotionally in the story and get them to purchase the rest of the game. The free demo will be limited in functionality so that even players who just want to interact with the hero have a motive for upgrading or at least purchasing items and other online add-ons.

The Hero

Due to the emotional bond forged between player and hero, through use of the hero's elaborate AI, it is possible for the hero to advertise *himself* to the player. There are benefits and dangers to this setup.

The primary danger lies in the fact that the Hero may only advertise by virtue of his inherent properties. If the Hero breaks the illusion that he is a living thing, and that he has a mind and an intelligence of his own, the player will perceive the advertisement and be severely alienated. This

scenario concludes with the player will becoming hyper sensitive to and also unreceptive to advertising attempts, and they will likely discard the game.

Yet within the parameters of his personality and normal operating behavior, the hero is capable of advertising himself, with little to no outside assistance from the designer. He is emotive, he genuinely likes whoever his player is, he wants to bond with the player, and he wants opportunities to be heroic. It is his natural state to exert emotional compulsion on the player in the same way a kitten might, compelling them first to bring him home and later or provide for him. His desire to behave heroically even provides a perfectly legitimate means by which he can learn about new quests (add-ons) and then express a desire to go on (have the player purchase) them.

The hero has tremendous power both as a hook to draw in the player, and an anchor to hold on to them. It is a powerful marketing strategy to get the hero into the player's hands as quickly, painlessly, and cheaply as possible, and to get players to share their heroes with non-players, to get players to interact with and become attached to them.

It is also vitally important that this time period in which the player is first bonding with the character be as polished, clean, and professional looking as possible, with no advertisements or other clutter. To bond with a character emotionally requires that the user trust the game. Using the hero as a marketing tool therefore requires the creation of an emotionally safe environment in which the player feels they can trust the game designer to provide an emotionally satisfying experience.

Intermediary Audiences

Overview

It is expected that the target audience will be difficult to reach directly, due to the underdevelopment of channels through which video game related information could pass from a game designer to a target audience composed primarily of non-gamer women. *Duelworlds'* marketing strategy therefore relies heavily on community building, word of mouth, and on first attracting other audiences, which will then pass knowledge of the game on to the target audience.

Early Adopters

Duelworlds provides a new synthesis of up-and-coming technology and gameplay mechanics, in a blend that early adopters haven't seen before. The 'wow' factor is expected to draw in plenty of early adopters, who will exist as an intermediary market between the game and its end target market. This audience must be carefully cultivated, expanded, and extended, and the audience must also be made to see as a product intended not only for them, but also for the target audience. This can be facilitated by tactics such as ensuring *Duelworlds* is being discussed in relevant technology magazines, blogs, and online news hotspots.

Friends and Family

While the target audience is explicitly women, it is expected that traditional gamers in the target audience's environment, such as friends and family, will play the game first. Ensuring that some of the best mini games available in the free and full version can be played with an additional real-world person, and encouraging frequently usage of the game's AR functionality can help

leverage this market. The Facebook add-on also makes use of this target audience. Attracting and maintaining a portion of this audience requires a general and overall polish to the game, with a stronger focus on adventure play; but it can also be bolstered through use of AR cards, toys, and the novel in-game advertising approach I will discuss in monetization,

Professional Overview

It is an interesting phenomenon that iPad games are generally less well respected than console games of equal quality. Buyers trust iPad games less, and see them as time-wasters instead of as legitimate software applications (which, ironically, it appears that games have come to be). For this reason, they are not willing to pay as much for an iPad game as they would for a NDS game of equal quality. This may be rooted in the history of online browser games, such as those found on the online website *Newgrounds*, as well as to the overwhelming tide of low-quality knock-off apps that have flooded the iTunes store. It appears to be strongly related to the fact that iPad games simply do not appear to be as professional as NDS games.

The Box

Independent from the digital front, where the game is marketed by means of its free demo, the *Duelworlds* will also come in a box. This is because the box- the existence of a box- is professional. The box will be made to look almost exactly like a NDS game box, but will feature 'For the iPad' on its cover. Within the box will be a CD containing bonus information, as well as step-by step instructions for downloading the final game on to the iPad and codes for upgrading the free demo to the full version. Also included will be a manual. It is possible that the box will include additional add-on codes and pieces of merchandise, to be determined by the production and marketing teams.

Merchandise

Off-the-shelf merchandise such as statuettes, plush toys, and posters will include information about where the game can be downloaded online. This marketing technique, however, should be executed in a professional fashion. The production team will look to the success of the *Webkinz* stuffed animal line for instruction on how to properly tie a physical toy to a virtual version of that toy. In the event of the inclusion of randomized *Duelworlds* toys for sale in-store, picking up a plush *Duelworlds* doll must feel like picking up a *Webkinz* plush animal.

Brand

The production studio will design a high-quality brand and logo for itself, and will ensure that the logo is visible on the box and all promotional material for the game. The inclusion of the logo postures the game as a high-quality, professional product, made by a trustworthy studio that is invested in the long haul.

XIII. Appendix: Considerations

38. Ethical Considerations

Emotional Bonding

To be successful as a game centered on emotional bonding with the character, *Duelworlds* requires the trust of its user base. *Duelworlds* then constructs an emotional vulnerability (the character) in each and every user. This vulnerability is useful because it is used to leverage the character. However, in order to maintain user trust, it becomes *Duelworlds*' responsibility to protect that vulnerability from harm.

The following constraints **must** be observed:

1. It shall be impossible for any given hero to become unrecoverable by the game system, and returned to its original user. This includes situations where the gaming device is lost, save data is corrupted, the player has been caught cheating, the player has been caught violating the Terms and Conditions of play, the account has not been logged into for several years, the gaming device is stolen, the gaming device is changed, the server has been wiped by hackers, or a password and user name have been lost.
 - a. It is permissible that the system may only be able to recover an older version of the character, but this backup copy must be no older than thirty days.
2. In the event that it is necessary to terminate the *Duelworlds* server, an exit plan will go into effect that will permit all users to download their heroes, and every reasonable course of action will be taken to inform the user that the hero is in threat of deletion.
3. A sequel to *Duelworlds* must be able to successfully port a hero from *Duelworlds* into the sequel with minimal personality data loss. Porting a character into the sequel must not irreversibly destroy the original hero, in the event that the player perceives the sequel to be lacking and wishes to downgrade.
4. Heroes cannot die.
5. Heroes cannot be parted from their players. Penalties for player misuse of software, such as in instances of hacking, must only restrict game functionality (i.e. forbidding a player to access the game's network).
6. Any and all means by which the player might be penalized must be clear to the player, and very difficult to unintentionally initiate.
7. At all costs, the game design will avoid taking control of the hero away from the hero's AI in order to push an agenda, such as advertising. This is to protect the player's relationship with the hero.

Advertisement and Statistical Modeling

The combination of the games's SLAM AR technology in Free Mode, GPS, an online network, and the hero himself who takes screenshots of his world and has statistical modeling capabilities, leads to the inevitable conclusion that the company that produces *Duelworlds* will have access to a lot of very private information about the player. This information is proprietary to the production company, and must be extremely closely protected for the continued survival of the game, and to prevent more serious issues, such as allegations that the production company is spying illegally on its customer base.

The following constraints **must** be observed:

1. The game system does not automatically upload screenshots to any service, or back them up, unless it is to a private information storage service set up by the player such as iCloud, which is not run by *Duelworlds*.
 - 1.1. Screenshots taken of the game in AR mode are not accessible to the production company unless the player voluntarily chooses to upload them.
 - 1.2. The game does not have a setting that would permit screenshots to be automatically used by any service aside from those mentioned in step 1; the upload of each screenshot or set of screenshots must be approved manually.
2. Information obtained about the 3D layout of a real-world environment through SLAM will not be retained by the system in any way; only the location of virtual objects is stored.
3. Information about the player learned through statistical models is proprietary, and under the game's protection. The information shall not be harvested. It shall not be used by anyone, except the virtual hero.
 - 3.1. There is only one exception to the above rule: it may be used for research purposes, in house, for the production company to better understand its user base.
 - 3.2. Research papers concerning player psychology derived from the information may be published, as long as the information is protected.
 - 3.3. The information shall be kept anonymous.
 - 3.4. The information shall not be given or sold to any outside entity.
 - 3.5. The only entity that should use the information directly to interact with the player is the hero.
 - 3.6. The only means by which the production company has to take advantage of the information is to alter the array of real-world things that the hero is aware exists, or to implement more functionality through which the hero can utilize the information.
 - 3.6.1. Additional functionality will only be added to the hero if it will make him behave in a natural fashion, in line with his pre-existing personality.
 - 3.7. The production company will unveil to the public any and all means through which it uses the information.
4. At all costs, the game design will avoid taking control of the hero away from the hero's AI in order to push an agenda, such as advertising. This is to protect the player's relationship with the hero, as discussed in ethical considerations.

39. Technological

The major technological hurdle of the game revolves around the implementation of the SLAM-based Augmented Reality technique. This technique restricts the game not only to tablets, but very specifically to high end-tablets with powerful processors, and therefore largely to the realm of the iPad2. In the event that SLAM implementation should prove difficult, or that it should become desirable to extend the game onto alternative platforms such as smart phones, the game's technology level can be downgraded to the use of AR cards, wands, and tokens for AR interaction. Further design will be necessary to implement these components.

40. Behavioral

During the production and marketing of the game, the teams involved must focus strongly on the target audience. While sitting in Best Buy, the *Duelworlds* box must cry out to middle-aged housewives and loudly proclaim, “I was designed *for you*.” In fact, it should probably feature an ordinary woman holding or sitting beside their digital hero. And to add some romantic intrigue, the hero will probably be male, and perhaps life-sized.

The premise of *Duelworlds* is that the player is tasked with selected a heroic companion with whom they are going to bond emotionally- perhaps even romantically. Based on this statement alone, it is presumed that most players will be most comfortable playing with a hero of the opposite gender. To determine how the game is being used, an analysis of player gender and profession choices must be made during play testing, as well as the motivation behind these choices. For example, if players are routinely selecting either all male or all female hero, it may be a sign that something is wrong. If all the heroes are female, it may indicate the game is being used as a doll-making app, and the overland adventure mode is not being utilized.

In some instances, both a large number of men and women will play a game using female avatars. The men may state that this is because the female avatars are prettier, and the women may state this is because playing a male avatar feels ‘wrong’ (Ray, 2004). Female dolls also traditionally outsell male dolls by a wide margin (Olson, 2011).

There is a unique problem inherent in an adventure game made for women: the female hero must be perceived as having equal power and physical appeal as the male hero or the game will be viewed as sexist and perpetuating negative gender stereotypes. Yet, at the same time, a female character of exceptional toughness who displays rough-around-the-edges character flaws may be judged extremely socially unappealing to other women, and emasculating to men. Care must be taken that the female hero is properly balanced. Although the game is targeted towards women, and the women are supposed to select male heroes, the female heroes may make or break the game

If players are routinely selecting characters of the same gender and still using the overland adventure mode, then research is necessary to determine why it is players have made these selections, so that marketing can be postured more adequately. What mental model have the players constructed for their heroes? Does the hero represent the player in another life, or is the hero a protective figure like a parent or elder sibling? If players show no preference for gender, the reasons for this behavior should be studied; it may be because both characters appear equally heroic, or it may be for another reason.

41. Intellectual Property

General

Duelworlds is built on a completely new body of IP, and care should be taken to preserve its integrity. All assets created for *Duelworlds*, including in-game entities, art, characters, locations, quests, dialog, stories, original music and sounds, and appearances of reoccurring characters are proprietary.

Unusual

Protected as components of *Duelworlds* complete IP body are the emotional engine that drives the hero, all information created and stored by that engine, and all research derived from that information. The *Duelworlds* combat system, the symbols used for that system, and actual cards made from that system, are also *Duelworlds* IP.

The information created and stored by the emotional engine of a hero should be protected in the same fashion as a credit card number. It should not be sold, lent, or transferred, except to return it to the player to whom it belongs. It should not even be analyzed directly, only anonymous through use of statistical analysis, for use in researching the game's player base.

Licensing *Duelworlds* IP

Care should be taken to protect the *Duelworlds* IP so that it can be leveraged later on. Care should also be taken to preserve the game's immersive, alternate-reality quality, establish and maintain the game's delicate marketing posture, and remain in contact with the game's target audience.

No part of the *Duelworlds*'s mythos, or the games or game components should be licensed exclusively to any one company or device; only rights to exclusively produce one form of merchandise for a set amount of IP. In face, licensing of *Duelworlds* IP should occur primarily in the form of merchandising. If *Duelworlds* or the company that owns the *Duelworlds* IP is sold, care should be taken to ensure that the purchasing company understands and agrees to the game's ethical considerations.

Licensing Other IP

If other IP is brought into the game, as advertising or as part of marketing, care should be taken to preserve its integrity as specified by the IP owners, but never at the expense of *Duelworlds* IP or design considerations. See Monetization strategies. The ownership of characters, locations, and other assets created to integrate IP with *Duelworlds* should be clearly indicated. All pre-existing characters, locations, or assets belonging to the *Duelworlds* mythos remain the property of *Duelworlds*, and should not be transferred.

User Generated Content

Everything uploaded to the *Duelworlds* community website becomes *Duelworlds* IP. All content created by the user for the game, including objects, items, equipment, adventures, levels, quests, and minigames, are intellectual property. *Duelworlds* should reserve the right to use and reuse this content for promotional, noncommercial purposes. *Duelworlds* should also reserve the right to reverse their own enhanced versions of this content and then release the content for commercial purposes. Screenshots and movies taken of the game, as well as the hero's diary entries are *Duelworlds* intellectual property. The game should reserve the right to use this content for promotional purposes only in the event that the player first makes the property available through the community website, and otherwise transfer all rights onto the player to utilize this material, even if for commercial purposes, to generate hype and further the development of the game community.

XIV. Appendix: Evidence

42. Citations

1. 13th Lab. (2012, 3 12). *13th Lab*. Retrieved 3 13, 2012, from 13th Lab: <http://13thlab.com/>
2. Bandai Co., Ltd. (2011, 3 19). *Documentation of New Products: Tamagotchi iDL*. Retrieved 3 13, 2012, from Bandai Co.: <http://www.bandai.co.jp/press/images/3/60294.pdf>
3. Chao Civic Staff. (n.d.). *Mating and Breeding*. Retrieved 3 13, 2012, from Chao Civic: <http://www.sonicstrike.net/~chao-civic/Breeding.php>
4. Develop. (2008, 4 25). *IP profile: Black & White*. Retrieved 3 13, 2012, from Develop: <http://www.develop-online.net/features/185/IP-profile-Black-White>
5. Dobra, A. (2011, 1 4). *Ubisoft Sales Led by Rabbids, Petz and Imagine*. Retrieved 3 13, 2012, from Softpedia: <http://news.softpedia.com/news/Ubisoft-Sales-Led-by-Rabbids-Petz-and-Imagine-176029.shtml>
6. Gamification Wiki. (2011, 10 30). *Ownership*. Retrieved 3 13, 2012, from Gamification Wiki: http://gamification.org/wiki/Game_Mechanics/Ownership
7. Goetz, G. (2011, 4 21). *The Average iOS App Publisher Isn't Making Much Money*. Retrieved 3 13, 2012, from Gigaom: <http://gigaom.com/apple/the-average-ios-app-publisher-isnt-making-much-money/>
8. Jones, A. (2011, 8 7). *News: Life-to-Date Wii & DS Sales Figures*. Retrieved 3 13, 2012, from n-europe: <http://n-europe.com/news.php?nid=16038>
9. Lexicalist US. (2012, 3). *StarWars*. Retrieved 3 13, 2012, from Lexicalist: <http://www.lexicalist.com/search.cgi?s=starwars>
10. Neodex. (2011, 8 19). *Neopia*. Retrieved 3 13, 2012, from Neodex: <http://webcache.googleusercontent.com/search?q=cache:Z3VxGmDOX7kJ:pinkpt.com/neodex/index.php/Neopia+Neopets+users+million&cd=8&hl=en&ct=clnk&gl=hk&client=firefox-a>
11. Nielsenwire. (2011, 8 2011). *Changing Demographics of Tablet and eReader Owners in the US*. Retrieved from Nielsenwire: http://blog.nielsen.com/nielsenwire/online_mobile/changing-demographics-of-tablet-and-ereader-owners-in-the-us/
12. Nintendo Co., Ltd. (2012, 1 27). *Financial Results Briefing for the Nine-Month Period Ended December 2011 Supplementary Information*. Retrieved 3 13, 2012, from Nintendo Co.: <http://www.nintendo.co.jp/ir/pdf/2012/120127e.pdf#page=7>
13. Olson, E. (2011, 3 21). *The Ken Doll Turns 50, and Wins a New Face*. Retrieved 3 12, 2012, from The New York Times: <http://www.nytimes.com/2011/03/22/business/media/22adco.html>
14. Ray, S. G. (2004). *Gender Inclusive Game Design*. Hingham, Massachusetts, USA: Charles River Media.
15. Sacco, D. (2011, 5 24). *The Sims 3: Generations*. Retrieved 3 13, 2012, from MCV: <http://www.mcvuk.com/retail-biz/recommended/read/the-sims-3-generations/02925>
16. Sendlor, C. (2011, 3 18). *Fanf Fiction Demographics in 2010: Age, Sex, Country*. Retrieved 3 13, 2012, from FFNResearch: <http://ffnresearch.blogspot.com/>
17. Video Game Sales Wiki. (2012, 3 1). *The Legend of Zelda*. Retrieved 3 13, 2012, from Video Game Sales Wiki: http://vgsales.wikia.com/wiki/The_Legend_of_Zelda

18. Zollicoffer, D. (2011, 9 15). *The Playstation Move One Year Later*. Retrieved 3 13, 2012, from Geek Revolt: <http://geekrevolt.com/2011/09/15/the-playstation-move-one-year-later/>

43. Description

Overview

The evidence presented above is divided into several categories, based on function. The majority of the evidence presented is in the form of marketing data. However, other evidence categories are more vital to the structure of the document.

Proof of Concept

A very basic demo of *Duelworlds* will be created for SCAD Spring Quarter of 2012 for a Programming class offered as part of a MFA in Interactive Design and Game Development by the game designer, Melissa Kronenberger. The game's various components will be implemented and tested using several pre-existing tools and libraries, including Matlab for testing the fuzzy logic affective computing AI, Unity 3D for game compilation, and several computer learning algorithms and strategies, including the concepts of Reinforcement Learning Agents, And Cased Base Reasoning.

The newest technology incorporated into the *Duelworlds* game design is the game's SLAM Augmented Reality component, which is demonstrated above by 13th Lab's Ball Invasion game (13th Lab, 2012), and which has made its code available for the use of iOS developers.

Target Audience: Women

A significant portion of the game design process for *Duelworlds* has been devoted to researching the target audience, and new techniques for reaching it using the iPad and casual gaming lenses. However, it was also necessary to remove these lenses in order to see past current trends in an effort to see the causes of modern phenomena.

The book Gender Inclusive Game Design(Ray, 2004) was published before the mobile gaming boom, and goes into detail about the problems that faced females concerning games. This allowed for an analysis of why current trends have been so successful in attracting female and casual audiences, and permitted for a stronger overall game design.

Insights gleaned from this book include the notion that in 2004, almost all software applications targeted towards women took the form of productivity software; that is, that the computer was not postured as an entertainment medium for women (pg. 5). In fact, video games have been targeted towards juvenile men for so long that the hypersexualized way in which they depict the female form unconsciously drives women away (pg. 103).

The book made the argument that women statistically like different games from men because women statistically have less exposure to games than men; with less exposure to games comes a drop in overall game-related skills, which are necessary to play more difficult games like first

person shooters (pg. 11). Ergo, the female demographic resembles the casual game demographic. Furthermore, women are less commonly risk takers; they want to know how to play a game before even starting, and so are annoyed by unintuitive games that require an exploration of the controls. (pg. 70). As they are casual gamers, they are also less responsive to serious penalties for in-game failure, and more responsive to positive rewards (pg. 84, 182).

While women are fiercely competitive, their competition takes a shift in focus. They prefer to work on teams and solve problems through negotiation and social interaction (pg. 45). In fact, the book argues that female disdain for many video games has little to do with an abhorrence of violence, but rather everything to do with motivation for that violence (pg. 48).

Most importantly, the book tackled the issue that making games 'cute' and nonviolent is not a recipe for games-for-women, by discussing how games like *Barbie Fashion Designer* oversaturated a market for girls aged 6-8, but that women grow up and find no games for children ages 10+ (pg. 180).

One of the most important messages taken from this reference text and incorporated into *Duelworlds* is the notion that women are at their core not very different from men when it comes to gaming; they crave respect, entertainment, and proper challenges to suit their skill levels, and they require a peer or relative to draw them into the world of gaming in the first place- an intermediate audience.

The Fanfiction.net (Sendlor, 2011) and Lexicalist (Lexicalist US, 2012) websites were quoted to demonstrate that while women are not the majority in consumers of action/adventure entertainment, they still constitute a significantly large percentage, and are very vocal members of the adventure-genre community.

For example, Fanfiction.net reports that almost 80% of its user base is female, and yet the fandoms that receive the most attention, and for which the most stories are written, are fantasy, action, and horror genres. There are few to no representatives of the romance or comedy genres on Fanfiction.net; those that are accounted for, such as *Twilight*, feature a heavy fantasy or sci-fi components, and extensive action scenes.

The phenomenon of the *Twilight* female fandom is, in itself, proof that an entertainment experience involving a female player bonding with a slightly bad-boy, action hero is not only feasible, but in high demand and short supply. The Lexicalist data for Starwars is not precisely a measure of the popularity of Starwars between genders, but it suffices as a demonstration that there is a significant feminine interest in fantasy, sci-fi, action, and adventure genres.

Traditionally, male dolls have been less successful than female ones. This is a potential flag concerning product development, and one of the major reasons behind which a plush toy is being offered as merchandise instead of a doll. A quick poll of www.Amazon.com as of March 13, 2012, shows that in a survey of *Twilight* brand *Barbie* dolls, the male dolls are selling at a highly discounted price, while female dolls representing characters in bit parts are selling close to their retail price.

An explanation in the possible reasoning for this can be found by studying the *Barbie* franchise's Barbie/Ken breakup, and the viral marketing campaign that revolved around it (Olson, 2011). The success of Mattel's breakup and reunion strategy suggests that the primary problem with dolls is that they are primarily for display purposes, and are designed to show off their carefully perfected attributes: their fashionable clothing and their lovely hair. These attributes are less relevant to a man and so the concept of a doll is slightly less relevant when applied to a male character. Yet by altering Ken and giving him a mission, by sending him into *action*, he becomes the driving force for a widely successful viral marketing campaign.

As further support, the game *The Sims* has been framed as game about virtual 'dolls.' However, these dolls are not for display. Once animated and filled with personality, the display value of the dolls becomes subservient to the story value. Therefore, although the hero of *Duelworlds* can provide pleasure similarly to how a doll does, the fact that female players will likely create male heroes should in no way diminish the success potential of the game; in fact, a large number of female players creating female heroes should be taken as a sign that something may be wrong with the game, and that parts of it like the overland adventure mode are being ignored.

Artificial Life Games

The *Duelworlds* game design has spent significant resources examining the reasons for why players enjoy artificial life games, with a focus on pet games over dollhouse games. This design has taken as one of its primary design considerations that players exhibit a desire for a form of pleasure (Gamification Wiki, 2011) that only pet games are satisfying, because digital pets have been met with remarkable success wherever they appear. The example offered as evidence is the presence of creatures called 'Chaos' in later Sonic games (Chao Civic Staff). These Chaos were introduced as nothing but a simple mini game, in which players could raise and breed digital monsters for fun between missions. The Chaos surprisingly yielded almost unlimited replayability for what otherwise would have been a short game, and were so successful that there exist entire fan communities based on Chao breeding.

However, this design document also holds that while digital pet games are extremely compelling, they nevertheless are missing something crucial, which would assist in the satisfaction of player needs; the majority of digital pet games are not played for long stints of time, only over long chronological periods.

iPad Game

Proof of concept for an elaborate 3D game on the iPad2, and for SLAM, can be found in the games *Ball Invasion* by 13th Lab (13th Lab, 2012) and *Deadspace* by Electronic Arts. Proof of concept for utilizing a box as a selling tool for an iPad game can be found in the game *Crayola Color Studio HD*. A discussion of game pricing was included as evidence to support the view that higher quality iPad games can generate revenue at higher price points, but also to raise a flag about the delicate nature of *Duelworld's* price point, posturing, and other market techniques.

XV. Production

44. Demo

A demo of certain game components will be produced as a result of SCAD's 2012 Spring Quarter of an MFA level programming class, by Melissa Kronenberger.

45. Tentative Production Outline

Budget (Merchandise Included)

\$2 million USD

Team (19 members)

- 1 Game Developer (Kronenberger)
- 2 Animators
- 2 Artists
- 2 Programmer
- 1 Tester
- 1 Sound Designer
- 1 Producer/Tracker/Coordinator
- 1 Copy Editor/ Manager
- 1 Business/Marketing
- 1 Licensing
- 1 Community Manager
- 1 Writer
- 1 Merchandizing
- 1 Delivery Manager
- 1 Spokesperson/Marketing Tactics
- 1 3rd Party Relationship Manager

Time Frame

24 months till release(18 alpha, 6 beta, then release). Game will then require maintenance staff and add-on/expansion development team.

XVI. Appendix: Indiana Jones Proposal

46. Indiana Jones and the Hero's Curse

Created as a mock proposal for LucasArts, this proposal demonstrates that it is possible to link the *Duelworlds* design concept to pre-existing intellectual property if the production team decides that doing so is necessary.

47. Game Overview

Introduction

This proposal is offered to LucasArts by SCAD (Savannah College of Art and Design) for the purpose of requesting permission to design a video game about Indiana Jones, which shall serve as an in-class exercise for a game design documentation graduate class at the Savannah College of Art and Design. The design shall be for a hypothetical product, proposed for the purpose of strengthening the appeal of Indiana Jones among young people and women.

Request

We ask that LucasArts permit the use of the Indiana Jones franchise concepts, by one(1) graduate student (henceforth called 'the designer'), within the boundaries of a graduate level video game design assignment, for the winter 2012 quarter at SCAD in Hong Kong. LucasArts need not provide any other assets, whether physical, digital, or monetary assets, or assets in terms of personnel. LucasArts need not provide a license for the development or distribution of a demo or finished game.

Deliverables

The designer shall develop the game design and all related documentation at the end of the winter 2012 quarter at the SCAD. This design and all documentation shall remain proprietary to the designer and the SCAD. The designer shall have permission to use the design, as is, as a component of her portfolio. A copy of the design and all related documentation shall be provided to LucasArts as a courtesy.

Description

I propose to design an interactive, multi-media product line specifically targeted towards women, children, teens, and college students. The product line shall center on a video game for the digital tablet and smart phone platform. It shall also include a supplementary card game, customizable toy line, customizable T-shirt line, Facebook application, and TV miniseries.

The hand-held video game shall utilize modern and upcoming technologies as a counterbalance to offset Indy's age. New fans shall interact with him through tablets, smart phones, and social media. This shall facilitate them to view the franchise as current, advanced, cool, and applicable to their own lives.

The product shall use casual gameplay mechanics so as to hit the largest possible target audience. To attract more women and children, it shall focus primarily on creative puzzle solving, fun-filled action, character interactions, and storytelling. The goal of the game shall be to invest players emotionally in the Indiana Jones mythos, and to help each player develop a positive idea of their own relationship to the character.

Instead of providing the experience of what it feels like to be the older Jones, the game

shall inspire players with a sense of awe, admiration, and gratitude towards him. To leverage his age, the game shall cast him as the player's mentor, allowing him to speak to, encourage, advise, and joke with the player directly. At the game's climax, he shall commit a heroic act of personal significance to the player.

Indy shall help the player rescue a third character- the player's otherwise strong companion- from dangers that the player could never possibly overcome alone. The player shall be so emotionally invested in the companion that they feel helpless and are desperate to save him/her. This technique shall be the focus of the game. The game's story and mechanics shall center on building this emotional relationship between player and companion, and on integrating Indiana Jones seamlessly into the fatherly figure that helps them through their story.

Indy's character shall be portrayed faithfully to the source material. His relationship with his son Mutt in *Crystal Skull* shall therefore serve as a basis for portraying the older Jones as a mentor. The game shall contain the franchise's familiar, fast-paced, action and combat scenes, which shall be resolved through the aforementioned puzzle-solving game mechanics.

This product shall improve Indiana Jones's image with a new generation of young people and women. Its widespread accessibility, strong storytelling, innovative techniques, modern platform, and sensitivity to the source material shall ensure renewed interest in older Indiana Jones material, as well as new and upcoming works.

Background

Indiana Jones is still America's ultimate, fist-fighting, adventure-seeking hero. *Indiana Jones and the Kingdom of the Crystal Skull* was a hit with families. In fact, for an action-movie franchise, Indiana Jones has always been surprisingly popular with children and women. In modern 2012, His age and setting (1930s – 1950s) have opened up new opportunities for expanding these audiences.

The proposed game shall utilize his age to bring in new audiences by framing him in a different role than he's traditionally been seen in video games. It shall utilize his setting by utilizing 30s and 50s visual styles heavily in its level design. Furthermore, it shall increase Indiana Jones's applicability to youngsters simply by taking the form of a video game. Video games have taken the place movies once held for children. Tablets are the newest and most modern platform for casual gaming, while the current most ubiquitous gaming platform for teenagers is the mobile phone.

Key Game Features

Genre

Puzzle-Solving, Adventure.

Target Audience

Teens aged 13-18 and women.

Rating

Teen

Language

English

Platform

iPad2.

The proposed game shall require a device equipped with a camera that can analyze the basic layout of a real-world environment, has a processor that can handle simulating a complicated AI, and is wi-fi enabled. The platform must also be in widespread use among casual gamers, whose mode of play is facilitated by the portable nature of a handheld device. The goal of enhancing Indiana Jones' image on a broad scale shall also be greatly facilitated by devices that permit users to download games easily and electronically, instead of games that rely on cartridges. (Put a little of this in the background)

Emotional Component

The game shall be designed specifically to elicit an emotional response from the player, which it shall accomplish through storytelling and certain key technologies. It shall artificially place characters and locations in the player's real-world surroundings. It facilitates emotional bonding between the player and a companion character by requiring the player to care for that companion's needs. It helps create a mental model of Indiana Jones as an ageless hero, somewhat like Hercules, by establishing a new framework by which players can relate to him.

48. Game Treatment

Razor Statement

Indiana Jones and the Hero's Curse is the working title for a casual, puzzle-solving, video game design for the iPad game platform, that leverages the player's relationship with a digital companion in order to enhance the heroics and relatability of the Indiana Jones character among young people and women.

Characters

Indiana Jones

The video game casts Indiana in the role of a mentor, enlisting him to coach the player, and then having him behave heroically in a manner that shall have a positive emotional effect on his audience. Several strategies shall ensure that he remains in the limelight. He shall be the only consistently present character with a voice actor in the game, ensuring that he stands out from all other characters, and he provides invaluable tips, advice, and directions while talking the player through each level.

The Companion

The game shall focus very strongly on building a meaningful relationship between the player and a companion. The emotional bond with the companion shall then be leveraged to make Indy's heroics more meaningful. It is one thing to say that Indiana Jones is a hero. It shall be a completely different thing to have Indiana Jones help a rescue a character that the player genuinely cares about.

Gameplay

Two Worlds

The game has two different layers, or worlds. Players are expected to progress through both worlds in order to advance through the game. In general, it is expected that the player shall spend more time in the outer world, which is more casual and easier to pick up and play when short periods of time are allotted. This helps draw in the casual audience, which needs lower barriers to enter the game space.

Outer World

In the outer player, players can then look 'through' their tablets and smart phones at the world around them, where their companion character can follow them on the sidewalk to work each day, and ancient Mayan cities are built into the walls of their school cafeterias. All in-game characters, objects, and locations are miniaturized. The game becomes more personal in this way, and the player can care for their companion character as if it were a virtual pet.

Players can see and play with each other's characters. Indiana Jones visits characters, sends them on missions, or coaxes them to continue playing in the inner world through radio messages. Players have no avatar; they interact with the outlying digital space using their hands.

Inner World

The majority of the game's actual levels and plot progression occur in the interior layer. This is the layer on which Indiana Jones, 'lives.' Players are given an avatar of a small, helpless body, and must be protected by the companion.

Control

The game is played by determining actions to perform in a puzzle-like situation and communicating them to the companion through context menus. The companion then goes through the motions to determine if the puzzle solution is correct.

Plot

The plot focuses on dimensional travel, which creates the illusion that the player is actually entering into Dr. Jones's world while playing the game. The player and their mute, warrior companion shall be the game's tag-team protagonists. Each shall come from an alternate history. Indy shall be the game's third main character, who steps in temporarily as co-protagonist to assist with the story's climax.

Situation

The player and companion have fallen into a pit. Indiana Jones is on the radio with them. The player character has just been traumatized by several booby traps, and so Jones takes a minute to give a sort of pep talk, and walks the player through an analysis of the pit. The player looks around the surroundings and identifies ledges and ropes that can be used to scale the pit. The player has the companion carry them, and then strings together a list of instructions, which the companion carries out. At one point the companion is uncertain of a jump, but the player uses a context menu to select to encourage him, and presses him onward. The pit is scaled, and Jones complements a job well done. He's waiting at the end of the ruins to help the player past a barricade.

Variation

The player incorrectly identifies the route to scale the pit. At one point the companion is uncertain of a jump and the player presses him onward. The two fall quite a distance before the companion manages to catch the edge of a rock. He gives the player a disapproving look. Jones asked, alarmed, if the player is alright. He tells the player to take a moment to rest and then try again, and admonishes the player to be more careful. The warrior has a twisted ankle and shall suffer during certain stunts. At a certain point he might be unable to proceed, and the player shall have to nurse him back to health before the game can continue.

Product Line

The end design for the multi-media product shall also feature a fully-developed card game derived from the game's combat system. It shall feature a plan for the production of customized toys made to look like the in-game warrior, along with customizable T-shirts and posters that feature the warrior back to back with Indiana Jones. The pairing and juxtaposition of the two characters in these and other promotional images, shall facilitate the transfer of the personalized and organic emotional experience the player has with the character onto the less personalized but more heroic Jones.