An Emotionally Engineered,
Graveyard Management Simulator
Which Carefully and Reverently
Moves its Audience

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The Art Game

ITGM 737: Game Balance

Winter 2014

Preface - Targets

0.1 Design Target

The objective behind the design for this game was to realize a work of art. But as the word 'art' can be greatly subjective, it was important to first establish a concise design target to serve as the criteria for whether the objective had been reached. The design target for AfterVille was to elicit the following reaction from the player: "Wow! This is the best art game I have ever played." AfterVille stimulates this reaction through a respectful exploration of memories, loss, the relationship between joy and sorrow, and how both are healthy emotions.

0.2 Target Market

AfterVille's target market is women aged 45+.

0.3 Strategies

This target demographic, identifying frequently as a 'non gamer' demographic, is known to be drawn to mobile and social games, and to be more responsive to art games than a traditional or younger gaming audience, provided that they have been adequately informed that they are about to play a game that violates expectations, For reference, see the game 'Passage.' As both the mobile and social platform come with preconceived expectations about gameplay, it is important for marketing strategy to posture AfterVille as different, to advertise it through blogs and groups instead of focusing on download volume, and to focus on the benefit of the message and emotional movement.

This target demographic also has a certain suite of childhood memories which are different from those of the average gaming demographic or young person, and which will be more compelling due to age and other stressors than they will likely be to the development team, putting a strong weight on maintaining team vision and accurate design bibles,

0.4 Tactics

While many of AfterVille's tactics for eliciting emotion, creating beauty, and achieving art game status via its target objective may seem self evident or obvious in some ways, it is important to highlight some key tactics and the reason they will prove effective with this market. The use of sepia tone conjures nostalgia because it is the form in which they are used to seeing childhood images either of themselves or of their parents. Most stimuli are associated with the outdoors because their childhood was non-digital and in general usage of the seasons can evoke memories and

nostalgia because of its periodic attributes and the sensation that time is passing.

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2 Overview

2.1 Background

As alternate reality game designer Jane McGonigal points out in *Reality is Broken: Why Games Make Us Better and How They Can Change The World,* thinking about death once weekly is healthy for a person and contributes positively to lifelong happiness. In fact, thinking about death can be one of the factors that contributes to optimism and a good life. It can motivate us to take better care of ourselves, and help us manage sadness, anxiety, and other emotions.

2.2 Game Description

AfterVille is a graveyard management game in which the player is both medium and curator for a graveyard inhabited by ghosts, and must help bring peace both to the living and the dead.

2.2.1 Name

AfterVille

2.2.2 Genre and Theme

Management Simulation. Curating a graveyard, mediating for ghosts, bringing peacefulness to visitors.

2.2.3 Style

Isometric, hand drawn, 2D graphics, using a mixture of color and sepia tone.

2.2.4 Platform

iOS and Kindle Fire

2.2.5 Target Audience

Men and women aged 50-65.
*Note: This game is not suitable for individuals who are emotionally or mentally unwell, as it may contain strong emotional triggers.

2.2.6 Emotional Objective

Using the theme of death, and by alternating long periods of joy with short periods of sadness, AfterVille promotes long term emotional well-being.
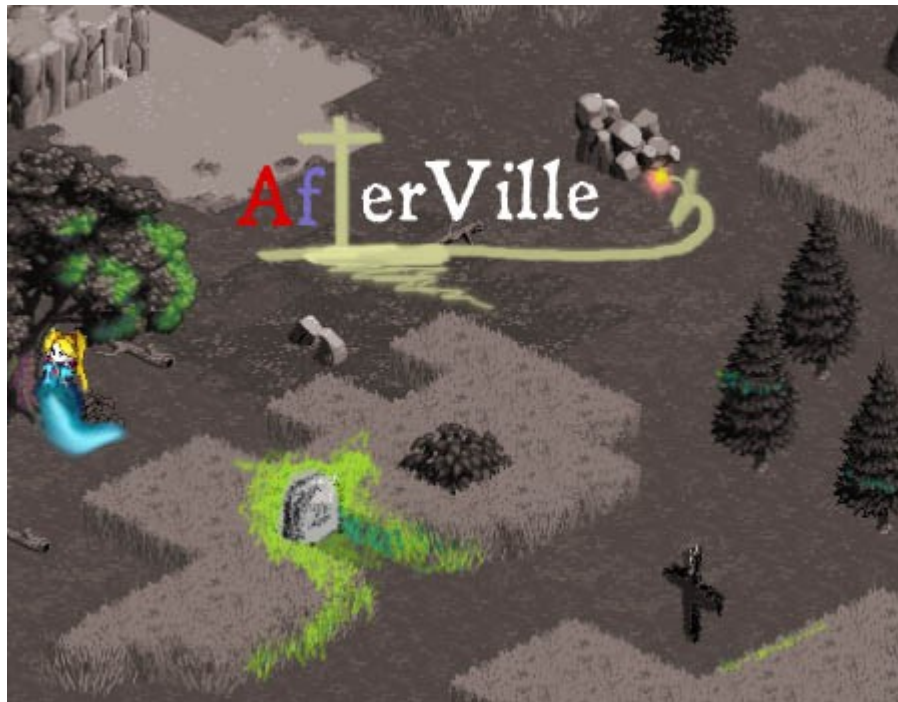
2.3 Project Motivation

My Thesis research focuses heavily on how video games can be used to improve a person's mental health. This assignment is a beautiful opportunity to explore one of the more frightening techniques for living the good life: thinking about death. By framing this game in the artistic lens, I am able to free myself up to explore sad and nostalgic emotions which I otherwise might be afraid to provoke in my audience.

2.4 Artistic Overview

While playing AfterVille, a player is immersed in somber memories. At first the game seems to be entirely in sepia tone, like a worn photograph. Then ghosts appear as beacons of color, wandering through a beautiful park and past quiet graves. They touch objects that remind them of their loved ones, leaving smudges of color behind. The player, acting on behalf of the ghosts, is tasked with bringing peace and closure to living relatives. The player places objects of emotional significance or plays specially chosen music for visitors. By meeting the final needs of the dead, the player remembers their own real loved ones and the affection they feel for them.

The trees and grass move gently in the wind, and a child visiting the park is laughing. Then suddenly a siren wail begins to fade out of the background and the music becomes less melodious and more lonely. The siren wail reaches full volume and a pop up menu reveals that a new ghost will be joining the park. Hopefully, the player will cry. The expression of sorrow is vital for healing. But then the tender and mundane management of a city of colorful personalities, all touching and imparting color onto their environment and their living relatives, draws the player gently back into the game. The new ghost is sitting with his grandson at a picnic.

The color of the ghost and the sepia of the real world, symbolizes this near paradox: Thinking about death is important for life. It is significant that new visitors to the graves have no color; and that the ghosts are not only colored but able to spread color.

The color comes to symbolize 'something' important, something spiritual, something lively instead of draining, and something we living people *need* and which we cannot obtain elsewhere. It tells McGonical's story; that thinking about death *enhances* our lives.

The choice of a management simulator to tell this story could not be more fitting. In this guise the graveyard cannot help but becomes a type of park. Unlike rollercoaster tycoon, however, the 'status' bars of the visitors read neither 'amusement' for amusement parks, nor health or food or any other currency. In AfterVille, the only status bar on any ghost or visitor is: Peacefulness.

3 Mechanics

3.1 Overview

3.1.1 Scenario

The player begins with an expanse of land and several graves placed on an isometric map. The player is capable of building on, manipulating, and placing objects on this map. Characters exists, both human and ghost, who roam the park freely. The ghosts are semi-permanent residents of the park, and the humans are simply daytime visitors. The player has a 'credibility' meter which serves as an objective measure of how successful they are in the game. The player also has a sum of money, and a part of the interface indicates the year (Year 1 to begin with) and the season (Spring to begin with).
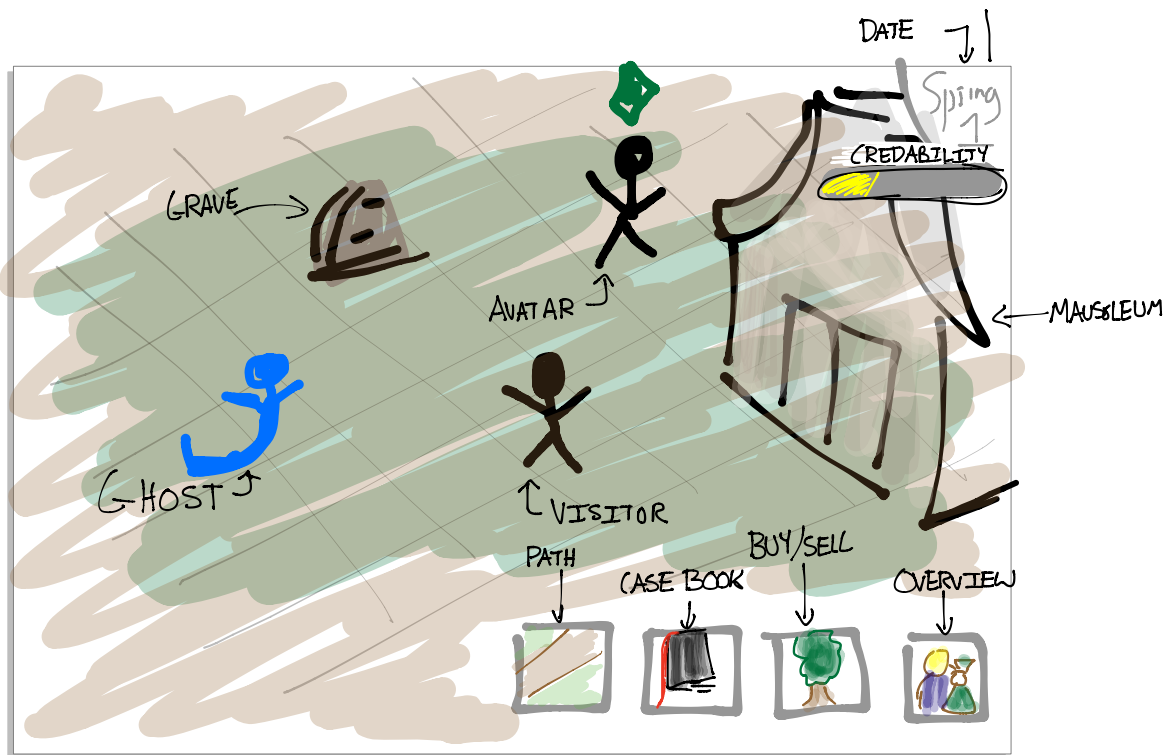
3.1.2 The Player

The player has a customized avatar walks around the the park, but the player has a bird's eye view and can look around independently of the avatar. This disconnect between the player's control and the avatar's motions can be witnessed in Farmville. The avatar wanders until the player begins to interact with objects or characters, whereupon the player will proceed to the requisite locations to perform the tasks needed of it.

The player has a number of skills:

1) Charisma, used to get infrequent visitors back to the park, especially when ghosts have a task for the player concerning that visitor.

2) Haggling, used to obtain difficult items

3) Forgery, for when the player is trying to convey something from the ghost to a living relative and decides to use a letter that was 'written shortly before death.'

4) Appropriation, used to track down and find items significant to the ghost in the 'outside world' which have become lost, stolen, or otherwise misplaced.

5) Psychiatry, used to counsel ghosts in the Therapy stage.

6) Drama, used to pull off staged schemes that the ghost asks for the player to put together.

These skills level up upon successful use and there is never a strong penalty for failure. Players who find themselves without the requisite skill level to meet a challenge must wait for smaller challenges to arrive. That is fine; there is no penalty for delaying completion of a task except that the player will have to use Charisma to attract an infrequent guest back to the park

3.2 Core Gameplay

The primary gameplay mechanic is the manipulation of objects within the park. These objects can be functional or for decoration, and many have upgrades. All of them can function as triggers. Players receive a set of tasks from other characters in the game, and receives them mostly from ghosts as part of 'counseling' sessions that the player performs with the ghost. These tasks are given after a story-driven dialog takes place.
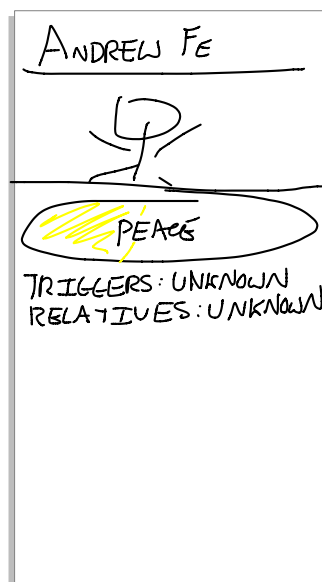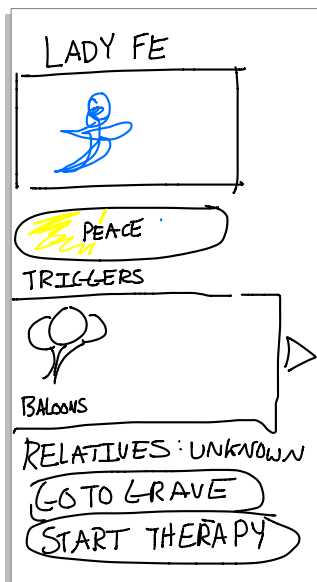
3.2.1 Defining "Trigger."

For this section, we shall stick to one definition of the word 'trigger.' Here, 'trigger' is not used to refer to things which might provoke a reaction from the player. Instead, it is used to refer to in-game

objects, organized by the player, which will provoke emotional reactions in *in-game characters.*

3.3 Basic Objectives

Ghosts and humans in the park have 'peace' meters. It is the player's objective to maximize these meters. Ghosts with maximized peace meters help the player interact with visitors. And when visitors have maximized peace meters, they contribute to the credibility of the cemetery, which in turn raises the amount in donations that the cemetery receives monthly (in short, the player's salary and the money with which they play the game).

3.3.1 Ghosts and Peace

Ghosts attain peace in two stages, and go through two additional stages afterwards.

3.3.1.1 Therapy Stage

In the first stage the ghost has difficulty remembering the truth of its life and is very emotional and inarticulate. The player acts as a therapist for the ghost, and after a short dialog, the ghost reveals clues. The player must use these clues to purchase and place items they believe will attract the ghost, or take the ghost to where these items might be available. It is a bit of the guessing game. When the player successfully guesses the item the ghost will try to remain around instances of that item. Over time, and depending on how many of that 'trigger' are present, the ghost will gain 'peace' and become more articulate and less vague. This process continues several times until the ghost can recall how it died and realizes it has some kind of unfinished business.

3.3.1.2 Unfinished Business Stage

The ghost now feels they must do something before they leave the world, and will charge the player with a task. These tasks fall into one of these categories:

1) Scripted events that are expressed mostly through dialog and use of the aforementioned player skills.

2) A 'scheme' in which the ghost asks the player to set up some environmental triggers to resemble a past event, such as a situation from a person's childhood. The ghost shares an image of what the past event looked like and the player does their best to recreate it with what they have. If successful, the visitor will be moved and linger around the scene, with peace steadily increasing.

3) A 'sign' in which the ghost asks the player to provide environmental triggers that will send some type of counsel to a visitor, such as encouragement, direction, forgiveness, or love.

4) A 'memento' in which the ghost asks the player to set up for the visitor to find something specific, to remind the visitor of them and to assure the visitor that they are still watching over them.

5) A 'present' in which the ghost asks the player to provide something in the environment that they know will make the visitor happy, such as a place to fish, beautiful flowers, or a nice gazebo.

3.3.1.3 Waiting Stage

This ghost is largely at peace, and is waiting for a relative to die and attain before they are willing to 'cross over.' Spouses 'cross over' together. Beginning at the end of the Unfinished Business Phase and through the Waiting Stage, this ghost will spread color to objects in the park. Usually these are objects that the ghost liked or which were used in one of its tasks. Augmented objects provide peace to visitors. Ghosts will also interact directly with their relatives in this phase. They will follow their relatives around and join them in activities in the park, such as fishing, sitting on a bench, or picnicking. At the grave site, they will put their hand on their relative's shoulder. This process will cause their relatives to gain peace rapidly.

3.3.1.4 Crossing Over

This ghost is ready to cross over. Ghosts who are ready to cross over notify the player and make a big show of things. They disappear in a dazzling sunbeam. Ghosts the players earn at the ends of levels never enter in to the Crossing Over stage.

3.3.2 Humans and Peace

Humans obtain peace in several ways.
1. After fifty percent, their peace increases the longer they are in the park.
2. By being near environmental triggers they like.
3. By being the target of a successful ghostly 'task' carried out by the player.
4. After being the target of a successful 'task,' by being near environmental triggers that remind them of their dearly departed relative.
5. By being near environmental objects which have been augmented by ghosts.

3.4 Long Term Objectives

As the player's credibility meter fills up, the seasons change. Each year can be considered a 'level.' When the winter arrives, they are confronted by an end-of-level 'boss' ghost. This ghost appears to be an undead monster, but is actually a ghost who has been unable to find closure for hundreds of years, and no longer has any decedents to visit them. The player's 'Credibility' bar flashes and the player is caught in winter until they are able to maximize the boss ghost's 'Peace' meter and give them closure.

The ghost will then take on a more palatable shape, and will stay with the player as an adviser with certain abilities. New Year's day arrives when this happens, and the year changes.

At this point the credibility bar will undergo a shift. The old color of the progress bar will become the new background color of the credibility bar, and a new color of progress bar will emerge from the left. The cycle will begin again for the next year, with new items and upgrades unlocked.

3.5 The Interface

3.5.1 Basic Object Manipulation

The screen is navigated using native touch screen metaphors such as swiping to pan, and pinching to zoom. The interface cannot be rotated. Objects and characters can be interacted with by tapping on them, which brings up a small panel. Buildings, which can be constructed later, such as the Mausoleum and Chapel, have a 'look inside' button that opens up a small sub-map that shows off their layout and allows for them to be edited.

MAUSOLEUM

Occupancy: 5
Condition: Good
Style: Gothic +
(Upgrade)
(Maintain)

(Look Inside)

LORRIE SMITH'S GRAVE

GHOST: IN THERAPY
CONDITION: GOOD
STYLE: SIMPE
(UPGRADE)
(MAINTAIN)
(FIND GHOST)

(DECORATE)

TREE OF ELM

Spirit: (25%)
ENRGY
SELL
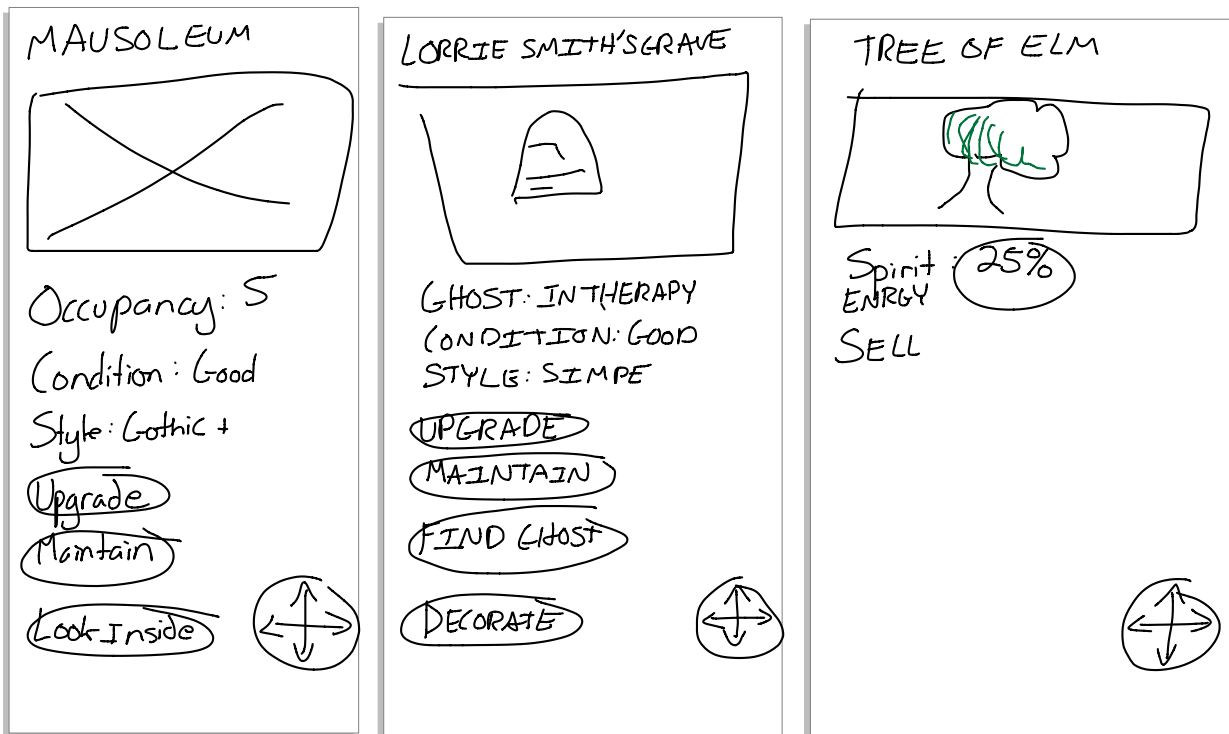
3.5.2 The Case Book

Players can review the cases of all the ghosts within the park, and quickly zoom to their location. The book covers what therapy has been tried, what milestones have been made, any failed or successful tasks, and whether or not the case is closed. The case book can be sorted and filtered.

3.5.3 The Overview Panel

The overview panel tracks growth in the Credibility meter, as well as the donations the player is receiving per month. Here, players can also look at what visitors are currently known to have never reached maximum peace in the park (and so have never donated) and also those visitors who have not been to the park for awhile and whose donations are slacking off.

3.5.4 The Shopping Panel

The shopping panel allows players to buy new items for the park or sell old ones. Items can be bought in bulk but must be immediately placed. The player does not have an inventory. All items, buildings, objects, and graves, can be moved at any time, but they cannot be removed from the park without selling them. Items cannot be moved in to the mausoleum or chapel, or moved out; each area has its own separate shopping panel. Ghosts and visitors cannot be moved.

3.5.5 Path and Wall Editing

Path editing is 'free' in Aftervale. Players must buy a 'supply' of a certain kind of paving material, such as slate paving stones. They can then use any quantity of that paving material over any amount of ground they choose. They can delete and add path at will, at any time, whenever, without additional cost. They can alternate between currently owned paving materials at will. Wall editing is handled the same way.

3.5.6 Proposed Panel: Labor

It is proposed that by the second year, the park may start to be too big for the player to handle without some automation controls or assistants; but we do not want to lower the park size. Instead it may be possible to introduce a Labor panel in year two that the player 'unlocks' and which allows for automation.

3.5.7 Proposed Panel: Terrain Deformer

Some people are perfectionists and will be upset if every piece of land is not being utilized exactly the way they want it. It may be desirable to offer them a terrain deformation add-on that allows them to customize the park to suit them.

4 Art

4.1 Aesthetics

4.1.1 Style

The game's art consists of 2D, isometric, hand drawn sprites. When considering art styles for the characters themselves, it is important to understand that this choice draws from tycoon games and village simulators, but not from games like Farmville. Therefore the game should not emulate the super-deformed, extraordinarily large-headed style of Farmville or the Mii characters from Nintendo.

It is important that the different characters are visually distinguishable from one another, for which their clothing, eyes, and hair should be clearly visible, as should motions of the head such as shaking it or nodding it.

For reference, sprites from Final Fantasy Tactics emphasize some of these traits, although the eyes are not highly distinct:

4.1.1.1 Symbolism

By using a style reminiscent of the 'tycoon' games, this project hopes to evoke a sense that the player is indeed managing a park. Graveyards are not heavily frequented areas. By comparing them with an amusement park, and by comparing amusement with peace, we paint graveyards as a place one should go every once in awhile in order to gain a benefit.

4.1.2 Color

The color palette for colored assets is somber, and draws from my previous experience with games that target this demographic. Darks and lights are to be heavily saturated, while mid tones are to be desaturated, to create a slightly vintage look to the art.

Because most of the art will be in sepia tone, it is important to remember that *any* color will stand out and be jarring. Art must have high contrast, such that when it is viewed in monochrome it remains as visually distinct as it was in color. The ground and other 'background' tiles should blend together and fade backwards visually.

As for objects and characters, silhouettes are to be kept comparatively simple, with bold, dark, heavily saturated outlines and volumetric shading to help them stand out. It is highly important to test characters out in sepia against the ground to make sure they are recognizable.

4.1.2.1 Examples

Incorrect: Poor Silhouette

Illustration 1: Strong Silhouette, But Too Flat

Better: Lacks Strong Outlines, Too Small, and Uses Vectors Instead Of Hand-Drawn, But Shows Strong Silhouette and Volumetric Shading

Ideal Sizing and Visual Detail, With Strong Silhouette, But Lacks Proper Outlines. Combine This Approach With the One Above.

4.1.2.2 Symbolism

Color symbolizes spiritual energy in AfterVille. It is a quality of ghosts, and it can only be passed on to the environment through the interactions of the ghosts. It symbolizes the benefit of thinking about death now and then.

4.2 Emotioneering Objectives

4.2.1 Intended Emotional Results and Techniques

AfterVille concerns itself with provoking many sad emotions; however, this is with the goal of later buoying players up to a higher emotional state. AfterVille's truly sad moments are regular but infrequent, both to keep players playing (and benefiting from the effects of the game) and because it is not the intention of AfterVille to depress the player.

At most times while playing, the player 'forgets' the theme of death and feel as if they were managing any other beautiful park. The aesthetic choices in ambient animations and sounds help remind players of children, their own childhood, nature, and the feeling of being outside. The game makes an effort

to show sunbeams, songbirds, and other pleasant ambiance. Many of the ghost's stories and schemes are humorous in nature, as a break from somber themes. Most of the 'new ghosts' arrive in the park with pleasant harp sounds and the delivery of the new grave in an unobtrusive way. By including a park 'Credibility' meter in leiu of an 'Approval' or 'Reputation' meter, the game still resembles a typical tycoon game. And the inclusion of 'boss' ghosts who resemble undead monsters and have been wandering the world for centuries looking for closure, who are not easy to relate to, helps players focus on enjoying the game play.

However, once every few days, AfterVille purposefully attempts to trigger sadness, and it does this through several methods. The ghost stories are carefully paced so that the saddest and most individualized ones show up at designated times. At other times the sadness of the death will be by heralded the arrival of a grave by an ambulance siren and abrupt pop-up instead of the usual harps, signaling a life brought up abruptly short. The use of child ghosts will be very limited.

The game's use of trigger objects and trigger environments to bring peace to visitors and ghosts is designed to test out a range of trigger objects on the player, with the assumption that some will make the player slightly sad or nostalgic. This is intentional. At times, the player is called upon to adopt a dog or cat to use these as emotional 'trigger' objects for visitors. In the spring, the animal will have kittens, and birds nests with chicks will be visible in trees.

4.2.2 Red Flag: Terror Management Theory

Before people began researching how death could be healthy for an individual, the only excepted understanding for how individuals dealt with death was Terror Management Theory (TMT), which states that people react with extreme violence, greed, and other negative emotions when confronted with their own mortality and the subject of death.

A significant amount of recent research has indicated that this is not the case. However, it is important to note the use of the word 'terror.' The objective of AfterVille is not to 'terrorize' the player, and this is a variable that will be closely tracked during testing and balancing of the game. AfterVille's formula is to offer exposure to the concept of death, vehicles for dealing with painful emotions, routes for reliving happy memories, and strong emphasis on the love, pride, and enthusiasm the departed presumably have for the living.

4.2.3 Red Flag: Player Traumas

Because AfterVille uses intentionally makes use of strong emotional triggers and intentionally generates sorrow, it is not an appropriate game for unsupervised use by persons who are mentally or emotionally unwell. No one contemplating suicide, suffering from a traumatic experience, or struggling with severe depression should be playing AfterVille without close observation by a therapist. It is important to make this disclaimer clearly visible to potential players.

In addition, it is important to note that AfterVille does not glorify death. Although it uses color to represent spiritual energy, AfterVille takes pains to show that everything the ghosts do is on behalf of the living. In fact, a number of ghosts in the game dedicate frantic effort to ensuring their living relatives become emotionally healthy. The topic of suicide is to be treated *very* carefully.

4.3 Emotioneering Research

4.3.1 Triggering Emotions

Constructing Artifical Emotions: A Design Experiment by Daniel Cook, offers us some insight into how emotions are constructed in games. His first and second techniques are Tapping existing emotional memories and using relevant stimuli in order to evoke an emotional response. To paraphrase, humans can be brought to relive emotions by being exposed to stimuli associated with a previous experience. These stimuli result in the person recalling a richer memory with greater details. We say this person has a heightened state of arousal and the context for interpreting the emotion means is obvious. This technique is greatly aided by engaging more senses than just the eyes.

Cook's writings were one of the reasons I chose to call in-game objects 'emotional triggers.' In terms of game mechanics, these objects are used to aid memory recall for the in-game characters and to allow them to work through their emotions. In our players, we want a similar event to occur. By ensuring that many of the ghost's 'schemes' and desirable triggers are actually common real-life triggers for remembering events from childhood, it is strongly likely we will be able to provoke rich emotional reactions- sad, nostalgic, and joyful.

By embedding these objects into stories rich with details, we increase the likelihood of finding a similarity between our characters and our players and provoking an emotional memory recall. Furthermore, the addition of careful sound design can add another additional element to the piece.

4.3.1.1 Using Sound Design

Some of the techniques AfterVille will take advantage of have already been mentioned in the Artistic Overview and previously under Emotioneering Objectives. By using whimsical music that trails off into something sorrowful and suddenly fading into a siren, we can cause a slight sensation of panic, anticipation, or dread. The sudden pop up which follows and adds a new ghost to the park suggests that someone has just suddenly died, and can be a powerful evocation for emotions on its lonesome. That is why the game uses it infrequently. The joyful ambient sounds must also set the tone for the majority of the game, with sour, sad, or dissonant notes in the sound track playing very conservatively, usually only once daily. For most of the play time, the game sound track should remind the player of being outside in the sun. Music can also be used to signify when a more unique ghost story has arrived.

4.3.1.2 Pacing

It is assumed that the player will play this game thirty minutes a day, for which the majority of the time will be spent looking at the park and various menus trying to make choices about what to do next.

The ghosts serviced by the player are many in number, and so story assets will be reused between them. While the more powerful stories will be unique and carefully paced, other ghost stories can be procedurally generated to fill in the cracks, depending on the rate of player progression, to keep players entertained.

A player who logs on to play multiple times daily and a player who logs on only once every two days must both, on average, receive a strong sad moment at a maximum of twice weekly. By introducing additional generated ghosts, and dynamically adjusting the values of challenges, the game can provide additional game play without emotionally swamping the player.

Players who play more frequently should get the benefit of nicer parks with more aesthetic options and higher quantities of color, but should not reach the end of the first in-game year any faster than the 'maximum' speed (which is to go through two strong sad moments a week).

4.3.2 Predicting, Testing, and Balancing

In her *Emotion Engineering: A Scientific Approach for Understanding Game Appeal,* Stephane Bura proposes a rather brilliant technique for studying player emotions in games. The technique involves using Will Wright's *Dynamics for Designers* lectures, which allowed Bura to break all game-play into several vaguely defined categories about which interesting properties can be inferred and predictions can be made. Using Bura's technique (and Wright's) still involves a great deal of intuition, but it at least provides a system for formalizing a theory about how the player will react to a scenario and then interpreting the actual observed results.

	Freedom	Mastery	Data
Action	Opportunities, Tools and Abilities	Trained reflexes, Tactics	Game world resources and collectibles, Operational rules
System	Exploration, Experimentation, Purpose	Learning skills and using them to gain more control	Preparation, Constitutive rules
Self	Strategy, Creativity	Exploiting skills, knowledge and metagame data	Mementos, Achievements, Memories
Social	Community support, Shared experience	Competition, Cooperation, Teaching skills	Status, Metagame, Implicit rules

He then goes on to show how different changes in game-play variables, such as as a sharp reduction of freedom on the system level (freedom to explore or experiment) can result in emotional changes, such as a reduction in hope.

His final table breaks emotions down into a series of steps designers can take to fine-tune a player's emotional state.

4.3.2.1 Using the Tables

Yet how should we be using these tables to create emotion, and when? Of course the tables can be used in the dialog and task-writing phase of production, and during testing, but there is also a way of applying them to the overall game design and setting down some rules of thumb for development.

It should be noted, that Bura is using a largely ludology based approach with these tables, which means they will supply information about game play mechanics, not theme, storytelling, or in-game objects. We must use Bura's strategy in conjunction with our previous goals, to amplify the emotions we are trying to arouse with our relevant stimulus technique, and to help give them a context.

There is of course a section for sadness, or at least despair. This is tied to Freedom in the System. By allowing players freedom within the system for most of the game, we can keep them in a hopeful state where they trust the simulation to provide them with solutions to any problems they create. By decreasing it and increasing it now and then, we can create an alternate pattern of spontaneous adaptation and purposeful comfortable routine, pacing excitement and relaxation. By decreasing it sharply into the low category and forcing a series of unpleasant linear decisions, we get towards feelings of betrayal and despair. By then doing a sharp turnabout and increasing agency, we can create feelings of surprise, relief, and hope.

This strongly resembles the pattern that exists for rehabilitating our ghosts. By introducing an unpleasant stimulus like an ambulance siren, and following that up with forcing the player to go fulfill a task for the living for once, going through the linear motions of setting up for the funeral exactly as instructed, waiting for the ceremony dialog to pass without being able to skip through it, and then watching as the coffin is taken out and buried, greatly reduces player agency and forces them to bear witness to a story they might not particularly like. Furthermore, the first 50% of the new ghost's recovery process is a frustrating guessing game and also touches the low mastery in the system sensations, such as frustration, stress, anger, and feeling stupid.

But as that initial 0% progress moves to 10%, and then to 25% and then to 50%, the guessing game gets easier and easier. The player is able to try things with more confidence, and the ghost is getting better. By the time the ghost has entered the Unfinished Business stage, the player is about to learn how they can reverse the negative story of the ghost's death and right the world, all by setting up elaborate schemes and skillfully meeting task objectives. By the time the severely sad ghost's case has been righted into a happier story, the player has full control of the system again, and will have some time managing and experimenting before another severe event happens.

4.3.2.2 The Five Stages of Grief

It is important to realize that most human beings have lost someone at some time in their life. Therefore, AfterVille should look at the five stages of loss and grief to understand the emotional afflictions that might be plaguing its target audience, or the emotions which may help them remember their sorrows, briefly relive them, and then recover. In order to heal, it is understood that people will experience these stages deeply and then recover for them. AfterVille can assist with this process by providing triggers both for aggravating the emotion and then for alleviating it. This is one of the main reasons that emotionally and mentally unwell people, or people on suicide watch, should not play AfterVille unsupervised.

The stages of grief are:

1. Denial and Isolation (Rejecting Reality)

2. Anger and Pain in response to loss of control

3. Bargaining (as a result of helplessness and vulnerability, this is pretending that one had more control over the situation) which is a process in which people think about what they should have done differently. Secretly people may make a deal with God to postpone the inevitable.

4. Depression: Regret, anxiety, worry we have not spent enough time with others, practical concerns about costs, and a feeling of lack of clarity. Mentally preparing for loneliness. Needing comfort.

5. Acceptance: Involves making peace.

We have already seen ways to deal with anger, pain, control, depression, and comfort. Of interest to us are denial and bargaining. There is no field on the table that says 'denial' or 'isolation,' but after all these tables were created through intuition and so no doubt they can be enhanced now through intuition. The exact event the triggered the original sense of denial was a loss. Therefore, we can interpret that the player has to lose something- and lose it utterly, suffering a sharp decrease from a high value to a low one. The original event that triggered the original sense of denial was may have been drawn out or swift, but it was certainly complete and non-negotiable. To replicate it, something must be taken away from the player.

There are several opportunities to explore where denial can be created. However, the loss of the very first ghost the player befriends to Crossing Over may be an ample time because this is a non-reversible event. Introducing a character that violate preexisting notions about the game play loop and kidnaps the player's pet or favorite ghost companion may also create the shock of denial, though these actions can be reversed.

In terms of ludology, the player has the following assets to lose: game world resources, status, or collectables, mementos, or a degree of freedom or self-expression. These largely correspond to the Action and Self Data fields, which at their lower ends suggest Loss, Grief, Regret, and Disorientation.

After taking away a character and replicating the denial, small tasks rewarded with positive feedback can help bring the player up from a sense of loss back to a sense of agency. But as the player regains agency they will have a sense of expectation that they are going to earn something as a result of their hardship. And once they've been disoriented, helping them recreate loss mementos can create an anticipation of resolution and a sense of compassion.

By rewarding the player at this point in time with the return of the missing companion or, in the case of Crossing Over, with a message somehow making it from the 'other side' back to the player to reassure them that the missing character 'still lives' on the other side, it is possible to satisfy both expectations under the Self/Data field: with Wonder, Awe, and Joy.

As for bargaining, this feeling is similar to regret. It may be addressable by using an Action/Data approach, or by suddenly taking a reduction in Action/Freedom by handicapping the player briefly after having them make a decision, creating remorse and a desire to have done things differently. By steadily increasing the Action/Freedom field again, emotions can be swung back in the recovery direction.