Högskolan på Gotland
Passion & vetenskap

Puzzle Design in Adventure Games

Rabi Afram

Degree Project in Game Design, 15 ECTS Credits
Game Design and Programming, Spring 2013
Supervisors: Svensson Hans, Fridenfalk Mikael
Examiner: Nakajima Masayuki

Abstract

This thesis investigates the level of difficulty of puzzles in the adventure games and the implications thereof. The thesis contains an in-depth background, and a brief history about the genre. It brings up the main problem of the genre and looks into both the cause and effect that follows. To support this process, an analysis has been made of design documents and a survey was issued on the subject of adventure game puzzles.

Keywords: *puzzle design, adventure games, trial and error, readability, difficulty level, Grim Fandango, point and click*

Table of Contents

1 Introduction

The adventure game genre is one of the first forms of interactive storytelling. The genre is based on solving puzzles in an immersive game setting in order to complete a story (Rollings, Adams 2003:443). The genre is known for its difficult and complex puzzles, some of which are logical, and others that leave players without any clues at all (Rollings, Adams 2003:472). Most people who play an adventure game will not finish the game at all due to the difficulty. The genre has always been met with a mixed reception, some people think it is great, and others find it frustrating and get annoyed (Ill 2005:233).

The genre was first introduced with the game *Adventure,* and it became very popular in the early days of the home computer, in the mid-1970s (Laughed 2012). The game *Adventure* spawned many other games in its liking, but the genre was considered to be dead in the late 1990s, when no publisher wanted to fund adventure games, because other genres had become more popular (Pedersen 2003:20). But I do not believe this is true anymore, since demand for good adventure games can be seen through the crowd funding site *Kickstarter* (Kickstarter n.d.), a site where people and companies can reach out and ask for funding directly from the customers. On this site the adventure game company *Double Fine,* a company that makes adventure games (Double Fine n.d.), asked for 400 000 dollar to fund a new adventure game and managed to raise over 3.3 million dollars (Cohen n.d.a). This apparent reawakening of the adventure game genre is what have peeked my interest in writing this thesis.

With so many great captivating stories the genre has to offer, I think that it is a shame that so many people do not get to experience the ending. The purpose of this thesis is to examine adventure games, and why so many people seem to think games in the genre are too hard. I want to identify the issues within the genre and examine the impact they have on the player. Since puzzles are such a major part of adventure games, I will also examine puzzles in general.

1.1 Background

1.1.1 Adventure Games

The adventure game genre is based primarily on interactive storytelling. The first adventure games were text based games; where the player had to type in the right input, in order to progress in the story. The first adventure game was called *Adventure* and the genre adventure game is named after that game (Rollings, Adams 2003:443-444). *Adventure* or *Colossal Cave* as it was also known as, was released in 1975 and created by a programmer named Will Crowther (Cohen n.d.b).

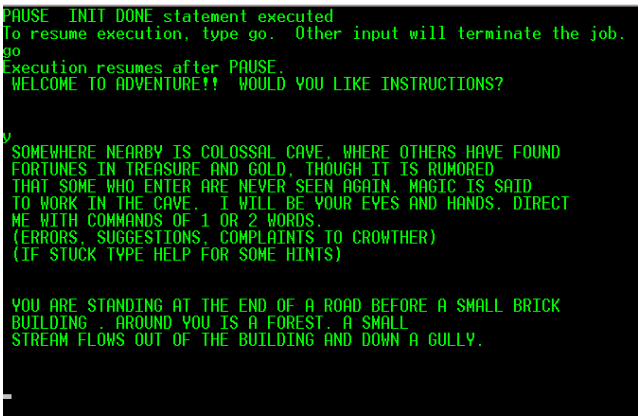


Figure 1: *Colossal Cave Adventure*

The first adventure games had a limited number of commands that the game would accept such as “pick up” or “look at”. The key to solving them was to figure out the right command in order to progress in the story (Cohen n.d.b). Unlike other computer programs and games, these games would respond more like a real person and sometimes even with humour when receiving an invalid command (Rollings, Adams 2003:444).

There are many different sub genres that have spawned from the original *Adventure* game. With better technology; graphics were added to the genre, and the familiar point-and-click genre was born. There are many different versions of adventure games, and depending on the game; action within the game, and ways of interaction can vary (Rollings, Adams 2003:445).

Point and click is a direct sub-genre to adventure games and the interactions are done, as the name implies; by pointing and clicking in the game with a mouse cursor. The player can click to walk and also click to interact with people and objects. In these adventure games the valid options to use with the interactable components in the game are represented as buttons in the lower half of the screen (Rollings, Adams 2003:462-463).

Figure 2: *Indiana Jones and the Fate of Atlantis*

Along the way there have been graphical advances and changes to the interaction model. The adventure game genre is not bound to any of these restrictions and can have a camera perspective that varies from a third to a first person perspective. The controls for moving and interacting within the game can also be direct or indirect, and the avatar can be specified, by the game, or left entirely to the player’s imagination. (Rollings, Adams 2003:448-449).

Most games in this genre follow a similar pattern and consist of players controlling an avatar and venturing on a quest with puzzles to solve along the way. Most of these puzzles will only have a single solution and the player usually cannot progress the games story until the puzzle is solved (Pedersen 2003:20-21).

1.1.2 Puzzles and Challenges

Since the main gameplay revolves around solving riddles and puzzles, there are many different types of puzzles and challenges in adventure games. While there are different sorts of puzzles, they mainly aim towards lateral thinking (Rollings, Adams 2003:460).

Many puzzles consist simply of finding keys to open doors, but these can be disguised in various ways to make them seem different. The abstraction is still the same thing, and the puzzles consist simply of finding an object that removes an obstacle (Rollings, Adams 2003:460). Inventory puzzles are puzzles that make you combine items that you have collected, or using them on top of each other in different ways with the environment. There are also environmental puzzles as mentioned earlier. Environmental puzzles are puzzles that force the player to interact with the environment. This can for example happen by having to drain water from an area to make it accessible. Dialogue based puzzle solving is created with the purpose of having the player interact with the *NPCs* (non-player characters) that populate the game.

One of the most famous dialogue puzzles is the "insult fight" in *The Secret of Monkey Island*. The player must defeat pirates not by strength, but by wit; by choosing the correct comeback dialogue option after the opponent delivers an insult to the player. The insults themselves contain clues to what the correct response should be (Rollings, Adams 2003:472).

Figure 3: *The Secret of Monkey Island*

Exploration in adventure games is also something that the player will spend large portions of time with. This includes both exploring the world inside the game by walking from area to area, but also scanning the screen for objects that the player can interact with, the latter not being available in text-based adventure games (Bronstring 2012). How the exploration is done by the player depends on the type of graphics, the interaction model the game has, as well as the camera perspective. In text-based adventure games the player is often given a list of possible paths to walk. The player chooses a path by typing in a command such as "go west". In graphical adventure games the two most common controls are "direct control" and "point-and-click". With "direct control" the player has control over the avatars position and rotation on the screen, while in a "point-and-click" interface the player clicks on an open area and the avatar simply walks there (Bronstring 2012; Rollings, Adams 2003:462-463).

1.1.3 Story

Story is an important part of adventure games and some of them are as detailed, involving and structured as a novel (Rollings, Adams 2003:89).

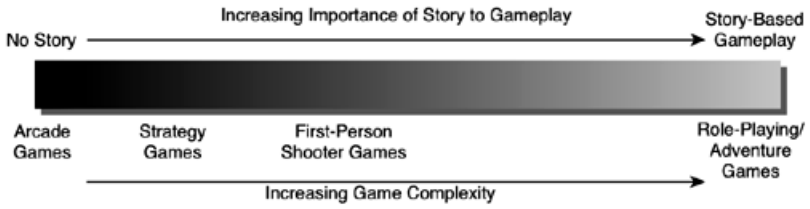


Figure 4: *The Story Spectrum* (Rollings, Adams 2003:90)

Adventure games are a practical application of interactive storytelling, though the way the interactions and narrative are applied, varies from game to game. The stories became highly popular when they first were released, and there was a wide range of different stories for the customers to choose from, such as: fantasy, detective stories, film noir and so on. The first game in the genre, *Adventure*, did however not have a very deep story, and only offered exploration and puzzle solving (Rollings, Adams 2003:445-447).

The settings in adventure games are more important than any in other genres of games. It gives more entertainment value to the game, whether it is depressing or cheerful. The setting creates the world that the player is going to explore and experience, and is therefore the reason for playing the game altogether. The core of any story is dramatic tension, a situation or dilemma that is unresolved. This is what keeps the players attention, by having them wanting to find the ending to the story. This does not always have to be clear, but can instead be vague and filled with mystery (Rollings, Adams 2003:447-448).

The resolution will occur near the ending of the story in a so called “dramatic climax”. Longer stories will have several dramatic climaxes, while shorter stories usually one have one. In adventure games the puzzles are there to create dramatic tension in the game but they are often not enough. They may be fun, but the reason the player is playing the game in the first place is the story (Rollings, Adams 2003:458).

2 Previous Work

2.1 Adventure Games

According to Tracy Fullerton one of the most common flaws, that disrupts the gameplay in the adventure game genre, is dead ends. If a player is unable to solve a puzzle, whether they are missing an item or not, the gameplay will come to a halt, and the player gets stranded (Fullerton 2008:285). This is a frequent problem within the adventure game genre. When the progress is slowed down or has completely ceased, there emerges a stagnation that leads to players eventually giving up. This kind of stagnation is a type of "fun killer" that diminishes the enjoyment of a game. In adventure games this can be a common occurrence, when the game has poorly defined objectives, or when the player is roaming around with no idea of where to go, or what to do. This can be caused by different things such as a lack of information, or having to looking for something that the game has intentionally hidden (Fullerton 2008:334-335).

Game designers and authors Andrew Rollings and Ernest Adams also write about the lack of information in some adventure games. In those cases the goal of the puzzle is not clear at the start, and the player has to not only find the solution for the puzzle, but also to figure out how the puzzle works (Rollings, Adams 2003:229).

In the days when all adventure games where text-based and without any graphics, the actions that the player could perform was in the form of verbs that were typed in as an action in the game. In the 1970s and 1980s text adventures were very popular and sometimes included hundreds of possible actions in the form of verbs. With the rise of graphical games the number of possible actions that the player could perform decreased drastically. This was because it was not feasible to support hundreds of actions with visual feedback (Schell 2008:143).

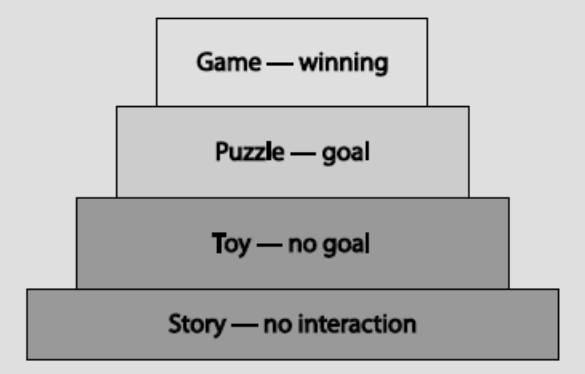
In text adventure games the number of possible actions in the game was unknown to the player, and trying to figure them out was part of the game. Frequently the solution to a puzzle was trying to figure out an unusual verb. This was both seen as very creative and very frustrating at times. This is because of the fact that even if the game supported hundreds of verbs, there were still thousands that were not supported. This shattered the freedom that text adventures pretended to give to the player and possibly led the genre to decline in popularity (Schell 2008:144).

This also gives many adventure games a diminished *readability.* Readability is a measurement of how easy it is for a player to understand the dynamics in a game, both in text-based and graphical adventure games. A game can allow the player to pick up one object but not another similar object, the player will simply have to try to pick up everything he stumbles on to, just in case it is possible. This makes it impossible to steadily get better at playing adventure games, since the only thing you learn is that you should try to pick up everything that is not bolted down to the floor (Anderson 2009).

2.2 The Puzzle

By incorporating puzzles into games you can create interesting choices. According the puzzle designer Scott Kim, there are two key characteristics that define a puzzle. The first characteristic is that puzzles are fun. This means that puzzles are a form of play. The second defining principle is that a puzzle has a correct answer. This differentiates puzzles from other forms of play, such as games or toys (Fullerton 2008:35).

The one thing that most puzzles have in common is that they cease to be fun once you have solved them, meaning they are only fun the first time you solve them. This differs from most games since there is usually some type of dynamic element in games that gives them replay value and offers a new challenge. This can be done by having an intelligent opponent, such as in chess, or by the game being able to generate new challenges for the player, giving the player an ever-advancing goal by a high score list (Schell 2008:209). Game designer and author Chris Crawford distinguishes four different types of play, each one built on top of the other.



Stories, toys, puzzles, and games. Games often have a winning goal and differ from puzzles in the sense that puzzles are about finding a solution and not beating an opponent. Puzzles also offer little replay value in comparison to games as earlier mentioned. Toys can be manipulated, by the player, but unlike puzzles they have no fixed goals. Lastly, stories cannot be manipulated or changed by the player, but involve imaginary play (Fullerton 2008:38).

Figure 5: *Four types of play* (Fullerton 2008:38)

The puzzle is a significant element in creating conflict in single player games. They can add value to choices the player makes, by having the actions move the player further or closer the solution. Looking through a treasure chest has more meaning if you are searching for a key, rather than just looting the chest. Puzzles can also add drama to a game if there is a reward for solving the puzzle and a punishment for failing (Fullerton 2008:324). When it comes to incorporating puzzles into a game Fullerton believes that you should only use puzzles that progress the player towards his overall goal. If a puzzle does not progress the player towards that goal, the puzzle becomes a mere distraction. By weaving the puzzles into the gameplay and the story, you (the player) will not think of them as puzzles but rather interesting choices you must make to progress the game (Fullerton 2008:325).

Most puzzles offer only one solution but adjunct professor and game designer Roger E. Pederson (Moby Games, 2011) presents his method for designing puzzles. It is a three-part solution system where the parts are categorized as “physical”, “intellectual” and “reasonable”. He demonstrates this in an example from Homer’s odyssey, where Ulysses is opposed by a Cyclops (Greek Mythology n.d.).

Pedersen (2008:21) writes:

> *The physical solution is to fight the Cyclops. The two outcomes would be to either cause the Cyclops to submit and let Ulysses pass by or have the Cyclops defeat Ulysses, cause severe physical damage, and/or capture and imprison him, which would set up an escape puzzle.*
> *The intellectual solution is to challenge the Cyclops to a game where the loser must drink an entire flask of ale. Eventually, one of the contestants would get drunk and pass out. If the Cyclops passes out (after drinking an enormous amount), Ulysses may pass by. If Ulysses passes out, he'll awake inside the Cyclops' prison with an awful hangover.*
> *The reasonable solution is to walk through the miles of treacherous mountains free of Cyclops and monsters. This solution wastes valuable time but causes little physical damage.*

Many young people think that puzzles are old-fashioned, and the only games that feature puzzles are old adventure games. This is an understandable argument but this does not mean that puzzles have perished. In a game, a puzzle is anything that forces the player to stop and think. With the growth of the game industry, puzzles have been merged into the gameplay more seamlessly so that the player does not have to stop completely when encountering a puzzle. Some modern games have puzzles that are incorporated into the environment of the game (Schell 2008:209-210).

2.3 The Ten Principles of Puzzle Design

Some people think that puzzles in games are dead because of walkthroughs, which are available everywhere on the internet. Author and game designer Jessie Schell does not think so. According to him there are ten principles to making a good puzzle (Schell 2008: 211).

The **first** principle is to make the goal of the puzzle easy to understand, to get people interested in the puzzle at the outset. If players are not sure what they are supposed to do they will lose interest altogether (Schell 2008: 211).

The **second** principle is making it easy to get started. Once the goal of the puzzle is clear, it must be easy to get started with solving it. If the puzzle is too hard to begin solving, people will begin to either use a trial-and-error approach, or abandon the puzzle completely (Schell 2008: 212).

The **third** principle is to give the player a sense of progress. This is what makes puzzles different from riddles. A riddle is simply presented to the player and expects an answer, while a puzzle often involves manipulating something. These gives the player the feeling of one getting closer to the solution even if it is bit by bit, and hope that they will be able to figure out the puzzle eventually. In early adventure games the player could encounter riddles and the player would have to think hard to solve the riddle or start making guesses (Schell 2008:213-214).

Principle number **four** is giving the puzzle a sense of solvability. This is tied to the previous principle of progress. If the player starts to think that the puzzle is not solvable, they will think that they are wasting their time and move on from the puzzle. What you need to do is convince the player that the puzzle is solvable. This can be done both by using visible feedback of the progress the player is making, or by going straight out and say that the puzzle is solvable. Even if the player gets frustrated they will never doubt that there is a solution (Schell 2008:214).

The **fifth** principle is increasing the difficulty gradually. It is complicated to make a puzzle slightly increase in difficulty from a previous one. But by looking at a puzzle as a series of actions, or small steps, taken towards the ultimate solution, it is easier to achieve an increased difficulty. It is the actions within the puzzle that should gradually increase in difficulty. One way to make the level of difficulty to increase gradually is to player control the have the order of the actions within the puzzle. This is how crossword puzzles are built up. The player is faced with several questions that can be answered in any order and the answer for one question will provide hints for solving the other questions (Schell 2008:215-216).

Principle number **six** is to have parallelism to let the player rest. When a player encounters a puzzle that they cannot solve and are therefore not being able to make any progress in the game, there is a chance that the player will abandon the game entirely. To ensure that this does not happen, you can give the player several different puzzles at once, and give the player the option to leave a puzzle that they are unable to solve. Players can than try another puzzle for a while and sometimes by giving the player a break from a puzzle, it can be just what the player needs in order to try again and succeed (Schell 2008:216).

The **seventh** principle is having a pyramid structure to extend the level of interest and this is something parallelism leads to. By having a series of small puzzles that each give a clue to a larger puzzle, you can combine short and long term goals (Schell 2008:216-217).

Principle number **eight** is to have hints in order to extend the level of interest. When a player is about to give up on a puzzle, a hint can revive their attention and hope. Although this can devalue the satisfaction of solving the puzzle, it is much better than not being able to solve the puzzle at all. This is also more effective than having to look up the answer online, since it does not break them away from the game completely (Schell 2008:217-218).

Principle number **nine** is giving the answer. This can sound strange but the joy that comes from solving a puzzle is the "Aha!" feeling get when you figure out the answer. That feeling is not actually triggered by solving the puzzle but rather seeing the answer. Solving the puzzle by yourself gives a greater satisfaction. But if you have tried hard without being successful, your brain will want the answer no matter what, in order to get a rush. Since the player will most likely give up or look up the solution online, it would be better to just give the answer to the player (Schell 2008:218).

The last and **tenth** principle of puzzle design is that *perceptual shifts* are double-edged swords. A perceptual shift is a shape or a word what can look like different things depending on how you look at it, almost like an optical illusion. One example of a perceptual shift is the classic figure "*Old woman or young girl*", that can be seen in Fig. 6, that was created in the late 1800s (IllusionWorks 1997). The problem with using perceptual shifts is that the person solving them can have one of four reactions. The person will already have encountered the problem before, thus solving it will give no satisfaction. The person had a so called "perceptual shift" and came up with the right answer, giving an "Aha!" experience. The person could not figure out the problem and had to be told by someone, giving them no joy and feeling embarrassed for not seeing the solution right in front of them. Or lastly they gave up in frustration. The thing about perceptual shifts is that either you get them or you do not. When the player is able to solve them, they will get very excited but if the player cannot see the solution they will get nothing out of it. Puzzles like this offer no progress and cannot increase in difficulty, they just have to be stared at for a long time, until the person solving them become conscious of the answer. This makes perceptual shifts almost like riddles (Schell 2008:218-219).

Figure 6: *Do you see a old woman or a young girl?* (Anon 1888)

3 Materials and Methods

This thesis will be based on data collection through the following means:

1. Books and articles that talk about the adventure game genre, storytelling and puzzles.
2. A puzzle design document from the adventure game *Grim Fandango*.
3. A survey that contains questions regarding adventure games.

The reasons for choosing these three methods are that it will be easy to draw conclusions between the previous published work and the puzzle design document. By adding the survey I will be able to find out if what I have concluded from my research, is the public opinion or not.

3.1 Books and Articles

I have chosen to have a variety of game design books, and published game design articles in order to have valid data that I can compare with the survey and the design document. To be capable of being sure that I would have both valid and relevant data I have tried to find a mixture between both old and new sources. When I have sources from the internet I have tried to stick to officially recognized sites such as *Gamasutra*, a site that is aimed at people working in the video game industry. However, I have used a wide range of references to be able have all necessary references, some of which may not be seen as "official".

3.2 The Grim Fandango Puzzle Design Document

In 2008 Tim Schafer, designer and writer, released the puzzle design document for the 1998 adventure game *Grim Fandango*. This 72 page document contains all the puzzles with in-depth descriptions, and how to solve them. It also includes other information such as brief character descriptions, and scripts for the cut-scenes in the game. With this document I will compare the design behind *Grim Fandango's* puzzles, and the data gathered from other sources. Together with the studies from previous works I will be able to see if there is a difference between the puzzle design in *Grim Fandango,* and the puzzle design that is suggested by other authors. I have chosen to focus on a few puzzles from the document and I will break down five puzzles from the game to analyse how extensive the information is provided to the player. I will also look at how logic, readable and clear the hints are that the player is given, if given any at all.

3.3 The Survey

The survey consists of ten questions regarding adventure games. The survey is directed to anyone who has played adventure games and therefore has more than no experience with the genre. Eight of the questions are multiple choice questions and the last two are text questions. The questions I have asked in the survey are focused around the experience of solving puzzles in adventure games rather than the narrative experience. The full survey is available online (Survey 2013) and can also be found in the appendix.

4 Document Analysis

This puzzle design document contains in-depth descriptions of all the puzzles in the adventure game *Grim Fandango.* This game is recognised as one of the top-selling adventure games of the 90s (Pedersen 2003:21). The document features 80 puzzles in total and I have decided to focus on five of them. I have further categorised them as three since two of them are direct follow-ups of the previous ones. I have also looked at the puzzle layout which is an important part of the game design. The layout also influences in which way the game progression is laid out. In order to get some perspective, as the setting of the game is somewhat unique, I will explain the story behind the game very briefly. *Grim fandango* is a 3D adventure game where you play the character Manny Calavera, a travel agent in the land of the dead. His job is to sell travel arrangements for souls of the recently dead for their four-year journey to eternal rest (LucasArts n.d.).

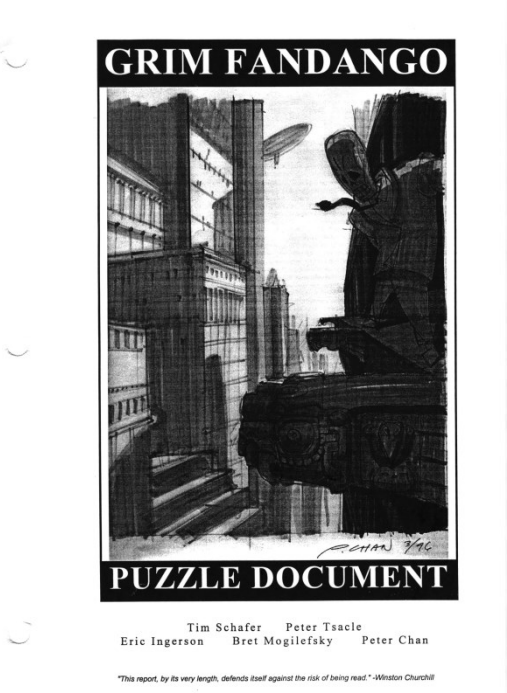


Figure 7: *Puzzle Document Cover* (Schafer 1996:Front Cover)

4.1 Structure

The document is categorised by the respective chapters of the game, or "years" as they are represented in this game. Fig. 8 shows the structure for all the puzzles in the first chapter of the game. The first chapter features five large tasks that require several small puzzles in order to complete. The first seven puzzles in the game are linear puzzles that have to be solved in succession to progress the story. After that the puzzles become less linear and the player is challenged by multiple puzzles that can be solved in any order. This follows Jessie Schells sixth and seventh principle of puzzle design, by inclusion of parallelism and also the addition of a pyramid puzzle structure.

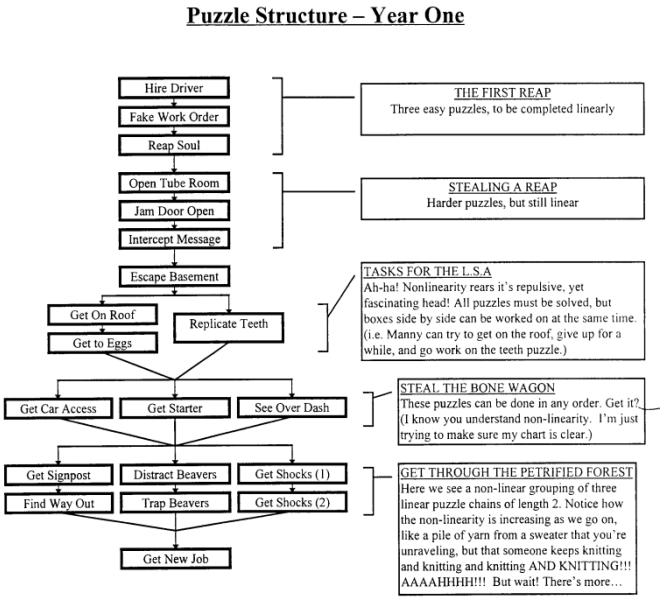


Figure 8: *Puzzle Structure – Year One* (Schafer 1996:3)

4.2 Intercept Message

Puzzle #6: Intercept Message

Manny finds the red tube that leads to Domino's office. There is a slot in the top of the tube, and a small, sliding shaft above it that can be plunged into the slot to arrest air flow when they're working on the tube. The slot has flaps that close back up and keep the tube air tight when not in use. Manny can try to catch a message with this shim, but it's too effective and stops all air flow, so no message ever comes. And when the air's flowing, the canisters move too fast for him to catch one flying through. He has a deck of playing cards he stole from Domino's office. He can shove cards into the slot, but they stop the air flow completely and get blown down the tube (They pop out in Domino's office and he thinks they're some sort of mysterious code). Manny can't seem to stop a canister without stopping the air flow.

Solution:

Until he takes some playing cards to Evaluna's office and runs them through her hole punch. These Swiss cheese cards let air pass through, but stop a canister momentarily. Manny can't open the tube, but he can read part of the work order through the transparent window. All he can see is, "Mercedes Colomar, Client No. 930817-1b49h. Died of chickenpox. Positive Attributes: Volunteered time reading stories to dying children..." That's probably where she got sick, Manny figures. He can't read around the side of the canister to see if they're are any negative attributes. The card finally collapses and Mercedes' work order continues on to Domino's office.

Figure 9: *Intercept Message* (Schafer 1996:11)

This is the sixth puzzle in the game. The objective in this puzzle is getting a hold of a co-worker's message inside a pneumatic tube. The player can interact with the puzzle in more ways than one, getting various feedbacks from the different interaction schemes.

This puzzle follows several of the puzzle design principles, as the objective of the puzzle is easy to understand, and being able to interact with the puzzle directly makes it easy to get started for the player. The player will directly know that the puzzle is getting one of the messages inside the tube. Being able to interact with the slot on the tube, with the cards and the sliding shaft also gives the player a sense of progression. What might confuse the player in this puzzle is that the player will be given the feedback; "*Manny can't seem to stop a canister without stopping the air flow.*" This could be interpreted as the solution to the puzzle would be to decrease the airflow in the tube by other means, rather than alternating the playing cards. If the feedback, from using the playing cards, had instead suggested that the playing cards needed modification, than the player would have benefited more from that information.

4.3 Get Signpost & Find Way Out

Puzzle #14: Get Signpost

The NAVIGATION room is a big clearing, ringed by a hundred trailheads. Manny and Glottis pick a trail, disappear for a few seconds, and then pop back out of some other trailhead. This happens no matter what door they choose. There doesn't seem to be any permanent way out.

Glottis says, "The signpost seems to know which way is Rubacava."

"Hmmm, yes it does. That's because someone planted it that way." Manny's about to try to explain how signposts work to Glottis, when the Bone Wagon accidentally backs into the post, ripping it out of the ground. When they set it back upright, the sign magically twists around on its own until it regains it's original orientation.

Solution:

So they pick up the possessed signpost, take it to the room with all the trailheads, and replant it. It twists around and points. Manny and Glottis go out the door it points to.

Puzzle #15: Find Way Out

But in a few seconds, they pop right back out again. Stupid sign! Glottis drives over it again. Now it points in a slightly different direction. Everywhere they move it in the room, it points somewhere else; not randomly, there's a gradual change in direction, like it's following a pattern. But no door that it points to leads out for long.

Solution:

That's because it's actually pointing at a spot in the ground. The sign can be moved around like a survey tool, and the spot where all the trajectories of the "Rubacava" sign meet can be pinpointed via triangulation. Manny plants the sign there, and a weird thing happens. The sign tries and tries to point straight down, and ends up twisting so far that it tears open a hatch in the forest floor, like the sign was a big key in a big lock. The hatch opens onto a tunnel, big enough for the Bone Wagon, which tilts in like the Grinch's overloaded sleigh sliding over the mountain top into Whoville. Glottis screams with glee as they plunge heavily into darkness.

"Plunge Heavily Into Darkness," would be a good title for this game.

Figure 10: *Get Signpost & Find Way Out* (Schafer 1996:17)

These next two puzzles could be interpreted as one big puzzle since the first one is more of an introduction to the second one. In puzzle 14 the objective is simply acquiring the signpost. The player is meant to stumble upon the puzzle by accident, and the solution is presented right away. Puzzle 15 is then directly presented to the player. In this puzzle the objective is obvious to the player, as the characters in the game give the objective to the player via an conversation between two characters. The player must find a way out of the area, in which they are lost in. The area is called the navigation room, with exits leading out in every direction. The player have been given the signpost and told that it will point towards the right exit.

This puzzle gives very little sense of progression and is more like a perceptual shift. The player will figure out that the signpost is pointing toward a spot on the ground, rather than one of the trails leading out, or he will not get the solution and try until he gives up. Thus this puzzle fails on Schell's principle of solvability. If the player gets the puzzle right away, this is not a problem, otherwise the game will most likely stagnate and the player will be stuck.

4.4 Distract Beavers & Trap Beavers

Puzzle #16: Distract Beavers

Manny and Glottis find a barricade in the forest with a sign: "BEWARE: BEAVERS!" Ha ha, Manny says, crossing the barricade on foot. And there, swimming in a river of tar, are the hungry, demonic, Flaming Bone Beavers! Larger than your normal beaver, their fur is made of flames which seem to be coming from some internal source. The flames melt the tar so the beavers can swim through it as if it were water. They've made a dam in the river out of their usual building material: HUMAN BONES! They spot Manny and attack, chasing him back to the barricade, gnashing their long, sharp teeth.

The Bone Wagon can't get through, because it has to slow down so much to cross the bone dam, it leaves them both too vulnerable. So Manny takes the magnesium fire extinguisher out of the BW, and tries extinguishing the beavers. It works—temporarily. But all the cold beavers have to do to re-light themselves is to touch a lit beaver, and there's no way to put them all out at once.

Solution:

So Manny gets an idea: put them out when they are alone, in the tar, one by one.

Puzzle #17: Trap Beavers

But the problem is, how to get them alone, in the tar, one by one?

Solution:

If Manny gets some of those hollowed-out bones from the Flying Spiders' nest, and tosses them into the tar river, one of the beavers will climb a nearby rock outcropping and dive in on top of it. So all Manny has to do is get under the rock outcropping, throw in a bone, and wait for a beaver to dive in after it. Then, Manny blasts the beaver mid-air with the fire extinguisher. The cold beaver hits the tar and is stuck forever, like a taxidermied La Brea saber tooth. It sinks before its friends notice, however, and Manny is free to repeat the process until all the beavers are mired deeply in the murky flow.

(Just like this family of squirrels that tried to cross a freshly-made road by my house one summer, but I promised Casey I'd never tell her that story.)

Figure 11: *Distract Beavers & Trap Beavers* (Schafer 1996:18)

This is the more or less like puzzle 14 and 15, where the first puzzle is a simple and easy setup for the next puzzle. The first of these puzzles is solved by using the fire extinguisher, an item that the player already has in his inventory on one of the flaming beavers. This puzzle is more or less solved by the game instead of the player, by doing so showing the player that the beavers can be interacted with. Finding the solution for puzzle 14 will let the player see the main character's thought: "…put them out when they are alone, in the tar, one by one". This is an important clue to solving the next puzzle. The player has been given the strategy for solving the puzzle and now he has to figure out how to execute that strategy. Solving the next puzzle involves a little more input from the player, as well as timing. The player needs to figure out how to separate one beaver from the rest of the group by collecting hollowed-bones from another area. He then has to figure out where to stand and use the fire extinguisher while the beaver is in midair. After the player has figured out the puzzle he will have to repeat the solution several times to progress the game.

This puzzle is by far the most difficult of the ones that I have selected. The player has very little information to work with and the most obvious item, the fire extinguisher, which is needed to solve the puzzle, was dismissed as a possible tool in the previous puzzle. Since the main character has already pointed out the strategy that the player should use, the player would still think of this puzzle as solvable. The problem is, as stated in the puzzle: *"... how to get them alone, in the tar, one by one?"*. Another thing that increases the difficulty of solving this puzzle is that the player needs to use several different actions in order to find the solution. If the player has not already found the hollowed-bones, he must explore the game for a possible unknown object, which may or may not help him. After he has found the object, the player must then figure out that he needs to use the fire extinguisher, which was proven ineffective in the previous puzzle on the beaver in midair. Since the player needs to repeat this puzzle, the player will have to pick up more than one hollowed-bone. This encourages the player to pick up everything that is possible, and more than one of each.

Figure 12: *Beaver Dam*

In comparison to the ten puzzle design principles, which Jessie Schell describes, *Grim Fandango* manages to meet many of the different principles. The more difficult puzzles in *Grim Fandango* seem to derive from a lack of progression feedback and more importantly, information regarding the puzzles altogether. However, this does not seem to be the case with all the puzzles. This inconsistency could be one of the reasons behind Tim Schafer's following quote, after releasing the puzzle design document (Caoili 2008):

> *People said the puzzles in Grim were super hard, and I've always maintained that this was due to a deep character flaw or mental illness on the part of the player. But now, reading this again, I've realized that, holy smokes, some of them puzzles were nuts. Obscure. Mean, even.*

5 Result

The following chapter contains the questions asked in my survey, along with the answers. The first row in the tables below contains the question number as stated in the survey and the question itself. The left side column contains the available answers that the respondents could choose from, though some questions had the option to write your own answer, and those are marked as "Other". The last two columns contain the number of people that chose that answer and the correlated percentage. The numbers have been rounded down to one decimal and that is why some of the questions show the combined answers to be 99.9% instead of 100%.

The purpose of this survey was to strengthen or refute my hypothesis as well as the data gathered from other sources. There are 295 answers in total and regrettably I cannot be entirely sure if the last two questions are accurate since I cannot accurately distinguish answers. This is due to the fact that some answers were left blank and some answered the question with a "no" answer. This is due to how the question was formed.

After finishing my analysis of the survey I believe I could have made the last two answers more valid if I had specified the form of the answer better. I had not anticipated that people would leave answers on previous multiple-choice questions blank and was prepared to regard blank answers in the last two text questions as deliberate "no" answers. Now in hindsight I would also have added a wider range of answers to most questions and added a name field. Many people that answered the survey used the text field to write their thoughts about the genre and puzzles. It would have been nicer to be able to use the answers if I had a name to tie to the quote. Still I am satisfied about the number of people that answered the survey and the validity that is gives the answers.

5.1 Experience

In order to know what type of people answered my survey I asked about their experience with adventure games.

Table 1. Player experience survey

Question 1	How experienced are you with point-and-click adventure games?	
Very inexperienced	38	12.9%
Moderate experienced	106	35.9%
Very experienced	151	51.2%
Total	295	100%

This shows us that the largest group of people that answered the survey has said that they are very experienced in playing adventure games. The next largest group has answered that they have moderate experience with the genre, and the last group that they have very little experience. What this means is that most of the people that answered the survey have played more than a few titles in the genre and that makes the rest of the answers to the questions in the survey relative reliable.

5.2 Looking up Answers

Among the things I was most interested in knowing about was how often people playing adventure games resorted to finding the solution for a puzzle online.

Table 2. Finishing without looking survey

Question 2	When playing point-and-click adventure games, how often do you finish the game without having to look up the solution for a puzzle online?	
Never	52	17.6%
Sometimes	139	47.1%
Often	92	31.2%
Always	11	3.7%
Did not answer	1	0.3%
Total	295	99.9%

The result from this question shows that most players only managed to finish a complete game occasionally, without first having found the solution online. There is also a larger group of people that has never completed a game without turning to this method, than there are people that never looked up the answer to a puzzle online. However, based on the previous assumption by Jesse Schell, this is not necessarily something that diminishes the experience of fun significantly for the player, since finding the solution for a puzzle you cannot solve, also gives a sense of satisfaction. (Schell 2008:218).

5.3 Trial-and-Error

Some adventure games reward creative experimentation by giving humorous feedback until a solution is found (Rollings, Adams 2003:444). The two following questions regard how often people resort to using a trial-and-error method for solving puzzles, and how resorting to that method makes them feel.

Table 3. Trial-and-error survey

Question 3	How often do you try to interact with objects randomly because you don't know what to do?	
Never	1	0.3%
A few times	71	24.1%
Often	147	49.8%
Very frequently	76	25.8%
Total	295	100%

When asking people about how they feel in a certain situation I left a blank field for them to answer, because I wanted to avoid having every possible emotional response as a prefixed answer. This would have meant having a very large number of answers that would have been unnecessary, since some people can have varied reactions depending on the situation.

Table 4. Trial-and-error emotional response survey

Question 4	How do you feel about having to try to combine items at random in order to progress in the game?	
I think it's fun	35	11.9%
Doesn't bother me	42	14.2%
Little annoying	124	42.0%
Very boring	69	23.4%
Other	23	7.8%
Did not answer	2	0.7%
Total	295	100%

The result from this question shows that the largest group of people answered that they often resorted to using trial-and-error, specifically since they could not figure out the answer to a puzzle by other means. Over 75% of the people that took the survey did resort to this method several times. Only 1 person said that he or she had never used trial-and-error in adventure games. Since most of the people that answered the survey were experienced players, it is interesting to see that such a large group has to use trial-and-error, specifically in order to progress in games. This could be the result of players, experienced or not, developing a pattern from playing adventure games, to try to use all available actions and objects, just to see if it works.

In question 4 the largest group of people said that they felt little annoyed when they had to resort to trial-and-error in adventure games. The next largest group thought it was very boring. In the group that chose to insert a personal answer, there were mostly two types of answers that were given. One group of people thought it was boring or annoying and wanted to specify why. The other group thought it was fun, or were not bothered by the game being humorous, or if it gave them a humorous response. From these responses it is possible to assume that, for most players, having a humorous response is not enough. Still there is evidence to indicate that the response given from a failed interaction is important to some players.

5.4 Player Knowledge

Having to rely on knowledge from outside the game can put the player at a disadvantage. Puzzles that are solved by cultural sayings, or pop culture references are ill-advised since they quickly get outdated and seldom carry across to other countries (Rollings, Adams 2003:473-474). I therefore wanted to know how often people felt that they had to use outside knowledge to solve puzzles in adventure games.

Table 5. Outside knowledge survey

Question 5	How often do you feel that you have to rely on knowledge from outside the game in order to complete a puzzle?	
Never	14	4.7%
Sometimes	171	58.0%
Frequently	92	31.2%
Most of the time	16	5.4%
Did not answer	2	0.7%
Total	295	100%

As seen in question 5, the largest group of people felt that they only had to rely on outside knowledge sometimes, while the second largest group felt that they had to rely on it frequently. The group that never felt the need to rely on outside knowledge, and also those who did it most of the time, are minorities. It is interesting that the rate that this seems to occur is so high, when designers as previously mentioned do not advice this.

I also wanted to know if players thought that adventure games provide enough information to be able to solve the puzzles in the game. This is to find out if the answers from question 5 are aimed at all adventure games, or if some games tend to do this more than others.

Table 6. In-game information survey

Question 7	Do you feel that the information to solve all the puzzles in the games is available?	
No	8	2.7%
No, with some exceptions	35	11.9%
In some games	136	46.1%
Yes, with some exceptions	103	34.9%
Yes	11	3.7%
Did not answer	2	0.7%
Total	295	100%

Judging from the answers given here in question 7, we can see that the largest group of people, representing almost half of the people who answered, say that they feel that they have all the information need to solve puzzles in some games. The second largest group answered "Yes, with some exceptions" and this group were three times larger than those who answered "No, with some exceptions". The answers in this question seems to imply that a majority believe that the game contains the clues needed to figure out the answers to the puzzles in the game. Since so many people answered that they have to resort to trial-and-error in question 4, this could mean that after finding the correct solution, there was an "Aha!" moment. I think that people get the feeling that a puzzle is much simpler once they know the answer, no matter where they get it from.

5.5 Difficulty

Since most people who play adventure games tend to not finish them, I wanted to find out what the players thought was the average difficulty of adventure games.

Table 7. Adventure game difficulty survey

Question 6	What do you feel is the average difficulty in completing the average point-and-click adventure game?	
Very Easy	1	0.3%
Easy	29	9.8%
Moderate	152	51.5%
Hard	98	33.2%
Very Hard	12	4.1%
Did not answer	3	1.0%
Total	295	99.9%

I also wanted to see if there was a correlation between the setting of the game and the difficulty in which the players perceived the puzzles in the game. From these answers we can see that over 50% of the people that answered the survey think that the average adventure game has a moderate difficulty setting.

Table 8. Game setting survey

Question 8	In what game setting do you find the puzzles to be more difficult to solve?	
No difference	174	59,0%
Realistic	26	8,8%
Unrealistic	90	30,5%
Did not answer	5	1,7%
Total	295	100%

The answers from question 8 reveal that the largest group did not find the setting of the game to affect the difficulty in which they perceived the puzzles. When comparing those who thought that an unrealistic or realistic setting lead to more difficult puzzles, we can see that the second largest group thought that an unrealistic setting lead to puzzles being more difficult to solve. It is therefore possible to draw a connection between the answers in question 8, and the ones in question 5, which claim that it is easier, for the player to assume that common knowledge from the real world can be applied in a realistic game. I think that the reason more people feel that unrealistic games are more difficult, is that since the laws of physics and logic are different in an unrealistic game, the player never quite knows what is possible.

5.6 Completion

The last two questions are aimed at finding out how many players that can complete adventure games and which those games are. The first question is regarding the completion of an adventure game, of the players choosing, without having to look up the answer for a puzzle.

Table 9. Completion without looking survey

Question 9	If any, what titles have you been able to beat without having to look up the answer for a puzzle?	
None ("No" answer)	16	5,4%
At least one	103	34,9%
Cannot remember	3	1,0%
Did not answer	173	58,6%
Total	295	99,9%

I also wanted to find out how many people that could complete a game without resorting to a trial-and-error method for figuring out the answer for a puzzle.

Table 10. Completion without trial-and-error survey

Question 10	If any, what titles have you been able to beat without having to try to combine items at random?	
None ("No" answer)	39	13,3%
At least one	60	20,3%
Other	6	2,0%
Cannot remember	12	4,0%
Did not answer	178	60,3%
Total	295	99,9%

As previously mentioned these answers are most likely not entirely valid due to the fact that there have been answers on the previous multiple-choice questions that have been left blank. Still I have chosen to present them, because the people that have not answered the previous question constitute less than 2%. Even if we were to double that number and take away four percentage points from the blank answers and count the rest as "no" answers, the largers groups in both questions would still be in majority.

In question 9 we can see that over 60% of the people that answered the survey could not complete a single adventure game without having to look up an answer for a puzzle. Among the answers in the "At least one" group that are a few titles that are repeatedly given, they are *Monkey Island 1 & 2, Sam & Max, Machinarium, Myst, Full Throttle, Broken Sword* and *The Walking Dead*.

In question 10, the largest group and the group who could not name any games that they had completed without having resort to trial-and-error, was totally about 70%. Only about 20% of the people have named at least one title. The most commonly named titles are the same as those in question 9.

If we look at both answers we can also see that there are considerably less people that have completed games without a trial-and-error method than people without the help of outside guides. This shows that only one in five have been able to complete an adventure game without having to use trial-and-error in order to solve a puzzle and only one third of the players can complete a game without a guide. This problem does not seem to be exclusive to adventure games since according to an article in *CNN* only 10% of players that start a game will see the ending without having to look up the solution online (CNN 2011).

Since there seems to be a majority of players that need to use a trial-and-error approach at least once every time they play an adventure game, I think that it is important how those situations are handled by the game. In unrealistic games with lots of humor, it is easier for the game to be able to reward "failure" by having a comic feedback that the player can enjoy, even if this does not progress the games story. I think that it is harder to have a rewarding response in game with a deeper and more serious story.

6 Conclusion

The purpose of this thesis was to examine the adventure game genre, and more specifically its puzzles. I wanted to identify the potential problems that the genre is rumoured to have, and also examine both the cause and the effect of these problems. The main problem that I have identified seems to be readability. The players simply cannot distinguish a valid action from an invalid one. This results in the player trying every possible action as soon as the gameplay stagnates. Many games have lots of actions and even more interactable objects that sometimes can result in hundreds of possible actions to perform (Anderson 2009). When most of these actions yield unhelpful feedback, whether it is funny or not, players will get frustrated and simply give up. Giving up in this case meaning one of two things; either the player will look up the solution for a puzzle online or the player will simply give up altogether and stop playing the game. Since there does not seem to be a fixed logic that the player can classify, when the rules of the game does not have any clear boundaries. Some adventure games have bizarre puzzle solutions, the player will try things that do not even make sense to him, blindly trying actions just in case the game will allow it. This is a pattern that only seems to lead to anger and frustration and having a funny response does not seem to be enough. A related issue that the genre has is feedback. Many games do not provide enough information, and by not doing so the player can fail to understand the goal of a puzzle, or even how to solve it. There is often very little feedback in the attempts that you make, giving the player no sense of progression. Sometimes the information you have gathered throughout the game can be misleading, since you never know the boundaries of the game's logic and dynamics. With no sense of progression a player will have a hard time knowing if he or she is on the right track.

Numerous designers, and the many answers from my survey, seem to agree with this. When even a renowned game designer, such as Tim Schafer, can look back on a game and realise that some of the puzzles are extremely hard to solve, it tells you something about the genre. The fact that such a huge percentage of players, that play adventure games, do not play the game until the end, should say something about the effect that occurs from these problems. Since the story is supposed to drive the player forward, and is one of the rewards for progressing, it would be wiser to aim for as many people as possible to experience it fully. I am not suggesting that people should make all adventure games easy, but rather give enough information so that the player has a reasonable chance of being able to solve the puzzles in the game.

Since most people will look at walkthroughs online, designers should try to cut out the middle man, and instead incorporate hints and even answers into the game. This would make the failure in not succeeding to solve a puzzle less "humiliating". One game that seems to accomplish this is *Machinarium* (Amanita Design 2009). This game includes an in-game guide book that the player can turn to whenever he or she is stuck. By solving a little mini game, you gain access to the solutions for the puzzles that occupy the current screen (Burch 2009). Since studies show that this does not remove the satisfaction reserved from the puzzle, it does not deprive them of the overall experience of the game so they get to enjoy the story more completely.

References

Literature

Rollings, Andrew & Adams, Ernest 2003. *Andrew Rollings and Ernest Adams on Game Design.* USA: New Riders Publishing

Pedersen, Roger E. 2003. *Game Design Foundations*. USA : Wordware Publishing

III, Richard Rouse 2005. *Game Design: Theory & Practice Second Edition.* USA : Wordware Publishing

Schell, Jesse 2008. *The Art of Game Design – A Book of Lenses*. USA Morgan Kaufman Publisher

Fullerton, Tracy 2008. *Game Design Workshop – A Playcentric Approach to Creating Innovative Game.* USA Morgan Kaufman

Internet

Survey, 2013. *Adventure Game Questionnaire.* [online] Available at: < https://sites.google.com/a/student.hgo.se/adventure-game-queastionare/> [Last Accessed: 27 May 2013]

Kickstarter, n.d. *What is Kickstarter?*. [online] Available at: <http://web.archive.org/web/20130418060939/http://www.kickstarter.com/hello?ref=nav> [Last Accessed: 26 May 2013]

Double Fine, n.d. *Double Fine Productions*. [online] Available at: <http://web.archive.org/web/20130430073145/http://doublefine.com/ > [Last Accessed: 26 May 2013]

Laughead, Lee, 2012. *A (Very) Short History of Text Adventure Games*. [online]Available at: <http://web.archive.org/web/20120825012844/http://www.leelaughead.com/2012/08/07/a-very-short-history-of-text-adventure-games/> [Last Accessed: 26 May 2013]

Cohen D.S, n.d. *Video Game History Debunking – Adventure Game Myths and Fasts Part* 2. [online] Available at: <http://web.archive.org/web/20130515114628/http://classicgames.about.com/od/history/tp/Video-Game-History-Debunking-Adventure-Game-Myths-And-Facts-Part-2.htm> [Last Accessed: 25 May 2013]

Moby Games, 2011. *Roger E. Pedersen*. [online] Available at: <http://web.archive.org/web/20120817053148/http://www.mobygames.com/developer/sheet/view/developerId,83739/> [Last Accessed: 25 May 2013]

Greek Mythology, n.d. *The Odyssey Book IX*. [online] Available at: <http://web.archive.org/web/20130510140617/http://www.greekmythology.com/Books/Odyssey/O_Book_IX/o_book_ix.html> [Last Accessed: 25 May 2013]

Cohen D.S, n.d. *History of Colossal Cave Adventure Part 1 – The First Text Adventure Game*. [online] Available at: <http://web.archive.org/web/20130508105733/http://classicgames

.about.com/od/computergames/p/History-Of-Colossal-Cave-Adventure-Part-1-The-First-Text-Adventure-Game.htm> [Last Accessed: 25 May 2013]

Bronstring, Marek. 2012. *What are adventure games?*. [online] Available at: <http://web.archive.org/web/20130502181102/http://www.adventuregamers.com/articles/view/17547> [Last Accessed: 25 May 2013]

IllusionWorks, 1997. *Perceptual Ambiguity*. [online] Available at: <http://web.archive.org/web/20121005044043/http://psylux.psych.tu-dresden.de/i1/kaw/diverses%20Material/www.illusionworks.com/html/perceptual_ambiguity.html> [Last Accessed: 26 May 2013]

LucasArts, n.d. *Grim Fandango*. [online] Available at <http://web.archive.org/web/20100720002932/http://lucasarts.grim-fandango.com/grim_spotlight.html> [Last Accessed: 25 May 2013]

Caoili, Eric. 2008. *Shafer Releases Grim Fandango Puzzle Document*. [online] Available at: <http://web.archive.org/web/20130424195139/http://www.gamasutra.com/view/news/111919/Schafer_Releases_Grim_Fandango_Puzzle_Document.php> [Last Accessed: 25 May 2013]

CNN. 2011. *Why Most people don't finish video games*. [online] Available at: <http://web.archive.org/web/20120518170046/http://edition.cnn.com/2011/TECH/gaming.gadgets/08/17/finishing.videogames.snow/index.html?> [Last Accessed: 25 May 2013]

Anderson, Nels. 2009. *Without Readability – The Decline of Adventure Games*. [online] Available at: <http://web.archive.org/web/20130513051053/http://www.gamasutra.com/blogs/NelsAnderson/20090505/83883/Without_Readability__The_Decline_of_Adventure_Games.php> [Last Accessed: 25 May 2013]

Amanita Design, 2009. *Machinarium*. [online] Available at: <http://web.archive.org/web/20130501215632/http://machinarium.net/demo/> [Last Accessed: 26 May 2013]

Burch, Anthony . 2009. *Review: Machinarium*. [online] Available at: <http://web.archive.org/web/20130121071623/http://www.destructoid.com/review-machinarium-152301.phtml> [Last Accessed: 26 May 2013]

Images

Figure 1: [Adventure] n.d. [image online] Available at: <http://theodor.lauppert.ws/games/s/screen1/advent.png> [Last Accessed: 25 May 2013]

Figure 2: [Indiana Jones and the Fate of Atlantis] n.d. [image online] Available at: <http://17f0418678386b4e6860-e4f9fcd924b589d19bf6ccc2802ea9aa.r66.cf1.rackcdn.com/34012c5ab835d501f2aa63010250571ffff518f5.jpg__576x480_q85.jpg> [Last Accessed: 25 May 2013]

Figure 3: [Insult duel] n.d. [image online] Available at: <http://thecrankyhermit.wikispaces.com/file/view/insultduel.JPG/226279608/insultduel.JPG> [Last Accessed: 25 May 2013]

Figure 4: Rollings, Andrew & Adams, Ernest 2003. *Andrew Rollings and Ernest Adams on Game Design.* USA: New Riders Publishing

Figure 5: Fullerton, Tracy 2008. *Game Design Workshop – A Playcentric Approach to Creating Innovative Game.* USA Morgan Kaufman

Figure 6: [Old woman or young girl] ed. 1888. [image online] Available at: <http://4.bp.blogspot.com/_IBVPgalgRAk/S-g2Q95yAxI/AAAAAAAABMY/zCaXFbXyF4o/s320/old+lady+young+optical+illusion.jpg> [Last Accessed: 26 May 2013]

Figure 7: Schafer, Tim, 1996. *Grim Fandango Puzzle Document*. [e-book] Available at: <http://cache.kotaku.com/assets/resources/2008/GrimPuzzleDoc_small.pdf.zip> [Last Accessed: 25 May 2013]

Figure 8: Schafer, Tim, 1996. *Grim Fandango Puzzle Document*. [e-book] Available at: <http://cache.kotaku.com/assets/resources/2008/GrimPuzzleDoc_small.pdf.zip> [Last Accessed: 25 May 2013]

Figure 9: Schafer, Tim, 1996. *Grim Fandango Puzzle Document*. [e-book] Available at: <http://cache.kotaku.com/assets/resources/2008/GrimPuzzleDoc_small.pdf.zip> [Last Accessed: 25 May 2013]

Figure 10: Schafer, Tim, 1996. *Grim Fandango Puzzle Document*. [e-book] Available at: <http://cache.kotaku.com/assets/resources/2008/GrimPuzzleDoc_small.pdf.zip> [Last Accessed: 25 May 2013]

Figure 11: Schafer, Tim, 1996. *Grim Fandango Puzzle Document*. [e-book] Available at: <http://cache.kotaku.com/assets/resources/2008/GrimPuzzleDoc_small.pdf.zip> [Last Accessed: 25 May 2013]

Figure 12: [Beaver Dam] n.d. [image online] Available at: http://lparchive.org/Grim-Fandango-%28Screenshot%29/Update%2014/GRIMFANDANGO_2006_11_21_15_59_42_2152c.png [Last Accessed: 25 May 2013]

Appendix

Adventure Game Questionnaire

Thank you for participating in this survey for my bachelor thesis. Adventure games focus on puzzle solving within a narrative framework, generally with few or no action elements. Other popular names for this genre are “graphic adventure” or “point-and-click adventure”, but these represent only part of a much broader, diverse range of games. My thesis is focused around puzzle solving in these games and the factors surrounding "bad puzzle design".

How experienced are you with point-and-click adventure games?

- ○ Very inexperienced (Played one or two titles)
- ○ Moderate experienced
- ○ Very experienced (Played more than ten titles)

When playing point-and-click adventure games, how often do you finish the game without having to look up the solution for a puzzle online?

- ○ Never
- ○ Sometimes
- ○ Often
- ○ Always

How often do you try to interact with objects randomly because you don't know what to do?

- ○ Never
- ○ A few times
- ○ Often
- ○ Very frequently

How do you feel about having to try to combine items at random in order to progress in the game?

- ○ I think it's fun
- ○ Doesn't bother me
- ○ Little annoying
- ○ Very boring
- ○ Other: [ ]

How often do you feel that you have to rely on knowledge from outside the game in order to complete a puzzle? e.g. knowing that a diamond can cut glass

- ○ Never
- ○ Sometimes
- ○ Frequently
- ○ Most of the time

What do you feel is the average difficulty in completing the average point-and-click adventure game? How hard do you experience the games of this title to be?

- ○ Very Easy
- ○ Easy
- ○ Moderate
- ○ Hard
- ○ Very Hard

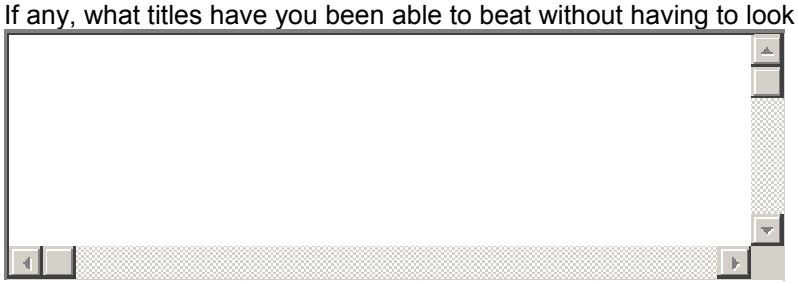
Do you feel that the information to solve all the puzzles in the games is available?

- ○ Yes
- ○ Yes, with some exceptions
- ○ In some games
- ○ No, with some exceptions
- ○ No

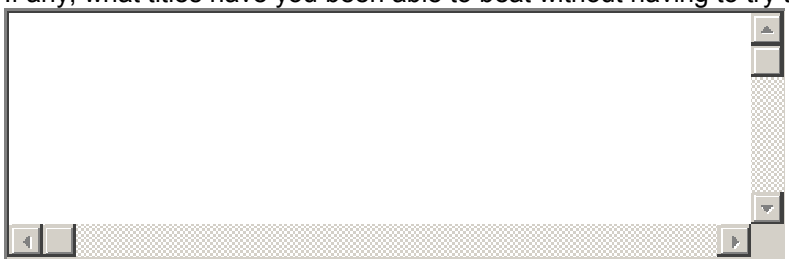
In what game setting do you find the puzzles to be more difficult to solve?

- ○ Realistic
- ○ Unrealistic
- ○ No difference

If any, what titles have you been able to beat without having to look up the answer for a puzzle?



If any, what titles have you been able to beat without having to try to combine items at random?



Submit