ME533G - Spelprojekt 3

Elliot Kehler

Text 1 - Källor och inspiration

1. Introduction

When creating a video game, an important aspect for a developer to consider is how a game makes impressions on its audience. The first hour of gameplay is crucial to a player's decision of whether to continue playing the game, or move on to something else (Davis, Steury & Pagulayan, 2005). The game A-Star Theft (Kehler Creations, 2020) contains a host of features which have shown in prior observations to cause confusion for some players. Therefore, for the benefit of the game's financial and cultural success, it is vital to solve this learnability issue. The aim of this text is to provide a brief overview of relevant material which functions as a starting point, as well as providing guidelines, for developing a more efficient tutorial level than the one originally found in the game. The material contains sources of three primary types: 1) sources of academic nature, founded in experiments and structured reviews. 2) Articles created by seasoned game designers utilizing their expertise when providing information to other game developers. 3) Other video games in similar genres and styles, serving as inspiration for development. The content reviewed in this text is the foundation for improving the tutorial level in the game A-Star Theft.

2. Academic papers

Academic sources pertaining to the optimization of teaching in games are relatively scarce, when focusing specifically on digital games made with entertainment as their primary motive. The utilized sources should be as precise and relevant as possible, meaning that the abundance of articles discussing Serious Games are mostly excluded, as well as articles and documents with a focus on board games.

2.1. Design literature

Relevant to the project is a brief literature review on the subject of game tutorials and effective learning (Cao & Liu, 2022). The review studied 15 publications and 6 theses to inform about trends emerging in tutorial design, heuristics, and methods for teaching players new mechanics. The authors found five general attributes about game tutorials, three of which are relevant to this project and can assist in shaping the design of the new tutorial level. A summary of these are as follows: 1) Complex games are more likely to require a tutorial; 2) Players should have time to practice at their own pace; 3) Tutorial texts should be revealed in conjunction with relevant player actions. This study is somewhat limited by the fact that the literature review was written as part of a bigger project, which means that it was not the project's primary focus. The text does not cover a substantial range of literature, but functions as a good starting point for development when combined with other literature.

Papaloukas, Stoli, Patriarcheas, and Xenos (2010) have studied the connection between usability and retention of information in video games. Their results show evidence for a correlation between good usability and good quality of learning. This is

useful for the game project, since usability improvements became a central component of the work.

Matthew White (2012) performed a study comparing methods for teaching game mechanics, where some players received text instructions and other players received verbal instructions. The timings of the instructions also varied, to discover whether an instruction's temporal proximity to its related mechanic had an impact on teaching. White's research can be applied to this project in a limited capacity, as implementing voice acting is considered too resource and time intensive. Though the research itself was performed with a small number of participants, the results are good indicators for effective methods and provide useful guidelines.

2.2. Meta literature

To evaluate the tutorial level, playtesting was utilized. The interviews for these tests were conducted in accordance with guidelines from Williamson (2002). These guidelines include information about advantages and disadvantages with the interview format, and summarize different types of interviews. Williamson (2002) also provides recommendations for how an interviewer should conduct oneself.

Christopher Ferguson (2011) contributes to the discussion about video games and violent behavior. His article will be used in an argument in the context of ethical considerations for the development of violent video games.

3. Game industry resources

The wide and deep experience of game developers is made clear through the large library of articles written and videos recorded on the many topics of game development. The passion for games these developers have, and a respect for their craft, is evident through their willingness to share their acquired knowledge with others. Experienced game developers have provided a large sum of information relevant to this project. There are articles written on many subjects of the game development process. The topic relevant for this project is the game design aspect, specifically tutorial design. Within this subsection of articles, one can find a varied approach to the subject, but many principles and trends become obvious.

Tom Pugh (2018) discusses tips and tricks for level design. Especially relevant is the information about how to guide players through the map, and the importance of introducing mechanics properly. Mike Stout (2016) provides guidelines for preparatory work and level layouts. This work includes considerations for the level's length, its purpose in the game, and understanding both technical and human constraints. Dan Taylor (2013a, 2013b) reinforces the prior authors' assertions through a list of principles for good level design. Taylor provides examples from successful games to strengthen the arguments.

These developers all have years of experience working in the game industry. They have worked for successful companies such as Ubisoft, Activision and Obsidian Entertainment, among others.

4. Games as inspiration

A-Star Theft, while it may be unique in some regards, also has gameplay elements found in other games. In developing the new tutorial level, four games have been analyzed for inspiration and insight in how information is presented to their players. When selecting games, it was important to consider appropriate genres with comparable gameplay, to have the tutorial topics be similar. The style of the games was also considered, to include games with similar graphical styles and creative limitations.

Four games were analyzed for inspiration. These were Payday 2 (Overkill Software, 2013); Grand Theft Auto V (Rockstar North, 2013); Hotline Miami (Dennaton Games, 2012) and Monaco: What's Yours Is Mine (Pocketwatch Games, 2013). Two of the games (Hotline Miami and Monaco: What's Yours Is Mine) share a common graphical style and camera perspective. The other two (Payday 2 and Grand Theft Auto V) share themes and served as initial inspiration for A-Star Theft. All of the games share gameplay elements, and genres are mostly aligned.

The tutorial level, or the introductory level with a similar function, for each game was played through and analyzed. The goal was to find commonalities between all levels, and to identify teaching strategies appropriate for the genre.

5. Sourcing literature

The University of Skövde library provides a powerful online search tool, useful for finding articles with sufficiently specific boundaries. This tool has been the primary method for acquiring academic research material. Search terms such as "game tutorial" and "effective learning" were used to find articles of relevance. Other articles were found through references in previously read literature. These articles were not used as they were decided to be either irrelevant or unsubstantial, or were inaccessible.

At the University of Skövde, several different disciplines of game development are taught. Divided into separate programs, it covers game design, programming, graphics, audio, and writing. Through discussions with fellow students from other disciplines, articles from game industry professionals have been acquired. From the articles received, many were excluded due to several reasons. Reasons include questionable relevance, not being applicable to the type of game in question, or quality concerns.

The video games have been legally obtained through digital games platforms. The games were not altered before analysis.

6. Summary

The developer of A-Star Theft has seen a need for an improved tutorial in the game. For this endeavor, resources from both an academic nature and game industry wisdom has been utilized. This text has documented and discussed sources pertaining to design principles, methodology, and development inspiration. The literature has been sourced through the University of Skövde library, university contacts, and digital games platforms. By using the discussed literature and games, the developer has implemented a more effective tutorial level, which has been verified through playtesting in accordance with established guidelines.

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ME533G - Spelprojekt 3

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Text 2 - Kontexten

1. Introduction

In all game development, there is a context where each individual component makes a whole. This text aims to go through and discuss a larger context within which specific components reside. For this discussion, the focus is on the game A-Star Theft (Kehler Creations, 2020). The text will describe broad concepts such as gameplay, graphics, and the general reception from an audience. It will also be specific to components relevant to tutorial level design, a task assigned to the author, which provides context for a larger game development project. A brief overview of the team working on the game will be provided, along with changes to the game occurring throughout the development period.

2. A-Star Theft

A-Star Theft is a video game developed primarily by the author of this text. It was published on the digital games platform Steam in August of 2020, after beginning development in the spring of 2014. The release date put a time limit on development. Before release, all components of the game needed to be functional. Since its release, the author has continued development and support. This post-release development has been free from most time constraints, and has allowed for sporadic implementation of new features. A-Star Theft is developed using the game engine GameMaker. This chapter will explain several different aspects of the game.

2.1. Gameplay

The game belongs primarily to the action and strategy genres. Stealth elements can be found abundantly as optional components of a player's strategy. Players take control of a criminal gang executing heists in varying locations, with common objectives being to steal loot, take hostages, and perform assassinations. Combat is common throughout the game, with the majority of levels having guards protecting important areas. These guards can call for backup if the player is spotted. Basic related mechanics include moving, shooting, and melee fighting. In firefights, players can use the environment to their advantage. Players can vault over furniture and vehicles, use explosives to open paths through walls, or take hostages to use as human shields. When utilizing a human shield, enemies will not shoot from the front, and will instead attempt to go around the player and shoot from the back. This, among other things, can lead to openings in combat, and may give players time to perform important actions.

Many levels can be completed stealthily, without being detected by civilians or guards. A successful stealth mission often requires the use of several interactive objects found on the levels. One of the most commonly used objects is the circuit box, allowing the player to disable all electricity. This causes a blackout, and security objects such as cameras and metal detectors are disabled. During a blackout, players

can hide in shadows to avoid getting detected by guards. Many mechanics have negative consequences, making the use of them a strategic choice: circuit boxes make guards investigate, and they may call for backup if used too often; activating fire alarms will evacuate all civilians, but also makes additional security arrive.

A hybrid approach is available for players, known as “intimidation”. This strategy involves taking control of civilians and guards, thus revealing one’s presence, but preventing hostiles from alerting the police. Civilians can be made to unlock doors, and guards can agree to drop their weapons through threats.

Varying strategies are encouraged through the use of equipment. Equipment can be purchased using money stolen during missions, and opens up new strategies for players in all play styles. Examples of equipment are glass cutters, liquid nitrogen, disguises, and gas masks.

Players can interact with various types of non-playable characters. Four primary types exist: crew members, civilians, guards, and enforcement.

- Crew members can assist players and perform various actions. While undetected, they can interact with many of the same objects as players, such as circuit boxes and fire alarms. During firefights, they help fend off enforcement.

- Civilians are passive threats, meaning that they do not attack the player, but do alert nearby guards and call enforcement to the scene. Civilians can be taken as hostages, which affects enforcement response.

- Guards can patrol areas and look for suspicious activity by the player. These enemies will attack the player if spotted, and can call enforcement to the scene. Guards can take the form of either professional guards or gang members, depending on the mission type.

- Enforcement appear on a level after a player has been spotted and has failed to prevent a police call by either a civilian or a guard. These enemies become a constant threat to the player, and will appear in cycles for the duration of the mission. Enforcement come in several types: police officers, heavy enforcement, police drones, and gang members.

The complex features described in this chapter make the game difficult to learn, as shown by the audience reception discussed in chapter 4. Due to being a solo developer, resource constraints prevented all of the features from being properly tested before the game’s initial release. Playtesting resources were limited to friends and very few online participants.

2.2. Graphics and audio

Graphically, the game is designed using a combination of traditional “retro” elements and modern technologies. The overarching style is a pixel-art format, meaning that one pixel in the game consists of several monitor pixels, similar to many arcade games, and early platformers and role-playing games. Colors are often exaggerated compared to the real world. The game is played from a top-down perspective, with character illustrations sometimes appearing from the front during dialog. For variation and gameplay purposes, the game utilizes a dynamic lighting engine, allowing for different rooms to differ in brightness. The lighting engine also supports a day and night cycle, which affects ambient lighting. This causes the levels to slowly change in brightness, meaning that players can better hide in shadows during night, but are revealed during daytime. The lighting engine is also used to illuminate and draw attention to important and interactive objects which players may use to complete a level.

Characters have been designed with the top-down perspective in mind. Most commonly, players will see a character’s head, shoulders, and feet. Spritework and rendering is performed accordingly, with characters being separated into three main parts: head, torso, and legs. Exceptions to this exist in certain animations, such as jumping and lying down on the floor. Though it is a two dimensional game, character body parts are slightly moved inversely with the camera position to emulate a three dimensional effect. This makes the head offset, and torso less offset, and legs stationary, relative to the character’s actual position.

Animations are mostly kept simple, due to the developer’s historically limited talent in this area, as well as adhering to time constraints. Character animations are manually animated, and drawn in a white color, which is blended through code with a specific color to create customizable clothing, skin, and hair. Particle animation is created using a combination of manual art creation, and attributes generated through code. Particle color is often randomized, as is rotation, size, and speed.

During development, sound effects have not been a priority. Focus has instead been primarily on gameplay elements. Sound effects are therefore present in many fundamental and often used mechanics and interactions, but are at times absent in less common ones. As an example, shooting and movement emit audio, but decorative server stacks do not. Sound effects were produced by the developer, using a combination of digital creation and audio recording. To save time and resources, some advanced sound effects were downloaded from digital storefronts using appropriate licensing. This was done for sound effects which would require recording physical material which the developer does not have access to.

While sound effects have not been prioritized, music has had a greater focus. Levels have specified music tracks designed to establish an appropriate tone for the setting. As explained in chapter 2.1, the game features different strategies for players to apply. For every music track, there is a different version playing for stealth, action,

and intimidation gameplay. Other music present in the game include the main menu music, story related music, and credits screen music.

2.3. Story

A-Star Theft takes place in the fictional city of San Dinero, inspired by San Diego, United States. The game's story is centered around a criminal gang, torn apart by both internal and external factors. Due to past conflicts, the main characters and his companions are threatened by a large criminal organization with contacts in government, companies, and universities. Simultaneous to their conflict, the police chief of San Dinero seeks the main character's assistance in removing corruption from the police force. During the course of the story, sinister information is revealed about the main character's past and relations with his family.

2.4. Development and iterations

Early inspiration for A-Star Theft were the video games Payday 2 (Overkill Software, 2013) and Grand Theft Auto V (Rockstar North, 2013). The games have influenced fundamental gameplay, and have had an effect on the shape of the game through the entire development. Previous iterations of the game have had a greater focus on realism than the current version. Playtesting revealed how prioritizing realism at the cost of compelling gameplay was not appropriate for this game.

Over the course of development, many versions of the story have been developed and subsequently removed due to a multitude of reasons. Some stories were too ambitious for a sole developer, requiring too much time to fully develop. Other stories were simply not interesting. One version of the game had no story at all, and all missions were seen as standalone levels with no connection to each other. Through playtesting this was found to be uninteresting, as players desired a motivation for committing the fictional crimes.

More features were developed over time, causing an increase in complexity. Further playtesting, especially after release, showed an increasing need for an effective tutorial. The original tutorial was found to be insufficient in teaching players essential mechanics in an engaging way. Usability issues were prevalent, which has potential to decrease the effectiveness of teaching (Papaloukas, Stoli, Patriarcheas & Xenos, 2010). A new tutorial has been developed, which is more effective and efficient than the original, according to playtesting, observations, and comments.

3. Work and group

Through most of A-Star Theft's development period, it has been developed by one person. Two people are currently working on the game. The original creator has a broad role, and works on various aspects of the game. The other developer is a

graphics artist, and focuses primarily on improving existing graphics. Most development time for this developer is allocated to improving character artwork.

4. Audience reception

After the game's public release, audience response has been mostly positive. Many players are enjoying the game. However, not every player does, and a minority of people have requested refunds through the hosting platform. Both criticism and praise has arisen regarding the game's complexity. Some players have expressed a desire to better understand the many mechanics available. The features described in chapter 2.1 are complex, and it has been observed that many players do not fully utilize them. Instead, they opt for the most obvious and apparent mechanics which may undermine their experience, and be suboptimal strategic choices.

The developer has responded to the player reception by researching effective tutorial design. Development time has been devoted to improving the tutorial level included with the initial release version of the game. Academic material, industry insights, and inspiration from similar games were considered in this process. Usability testing has evaluated the effectiveness and efficiency of the new design.

5. Changes to the context

As a game developed during several years, has had time to become defined, and has been published on a game platform, most elements of the game do not change spontaneously. On occasion, user feedback and observations do affect topics relevant to the tutorial level. Observations on player behavior with stealth mechanics have caused these mechanics to be tweaked, with the intention being to make the mechanics easier to use. As fundamental mechanics appropriate to include in a tutorial level, the level itself must take these changes into account in both its physical design and the informative text appearing on the screen. When time and resources are devoted to fixing issues reported by players, less time and resources are available for developing new features.

6. Summary

A-Star Theft is an action and strategy game with many complicated gameplay elements. It is played from a top-down perspective with a pixel-art graphics style. At the time of writing, it is developed by a team of two people. Audience reception has been largely positive, but some players have become overwhelmed during play. The game's many complex mechanics and potential for strategizing have created a need for a better tutorial level. A new tutorial level has been developed, taking changes to gameplay based on user feedback into account, to optimize for effective learning.

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ME533G - Spelprojekt 3

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Text 3 - Projektkomponenten

1. Introduction

A complete video game is built from smaller parts, where each individual part together make a larger whole. This text will describe one such part, a newly designed tutorial level developed for the game A-Star Theft (Kehler Creations, 2020). Prior playtesting, observations, and feedback has shown that the tutorial present in the game at its release date was insufficient in properly teaching new players fundamental mechanics, which is why a new tutorial level has been designed. The present text will provide an overview of the component, and describe how it was developed. It will discuss what sources influenced the component's form. The text will also provide a context for why the component is relevant, important, and what criteria were met to consider the component complete.

2. Context

The project to which this component belongs is the video game A-Star Theft (Kehler Creations, 2020). A-Star Theft is a game developed by the author during several years. A non-beta version was first published in August of 2020. The primary genres are action and strategy, and the game provides several play methods for players. These different play methods are supported by a large amount of mechanics, which the player must learn in order to get a full understanding of the possibilities available. Playtesting data, observations, and user feedback has revealed how the game does not teach the mechanics in an effective and efficient way. The tutorial level has been found to be insufficient in this regard.

Having an understanding of a game's mechanics is fundamental for a good experience, which leads to players staying committed to the game. Bad experiences with A-Star Theft have led some players to recommend others against playing the game, request refunds, and move on to something more enjoyable. For these reasons, a newly designed tutorial level is the focus of this project.

3. The component

This chapter will discuss how the component is shaped, its setting, and provide an overview of which mechanics are taught.

3.1. The core of the component

The tutorial level in A-Star Theft serves three functions: teaching game mechanics, hooking the player to the game concept, and establishing a beginning of a story. The central focus of the development of this component is teaching game mechanics. The tutorial level is designed to teach the most basic features in the beginning, and increase in complexity only after players understand the basic features. Priority in development has been given to the most important and most commonly used

features, and some features have been determined to be too specific or complex to be taught in a tutorial level. These features are more appropriately taught at the moment they are encountered by players in other levels.

3.2. An overview of the level

The tutorial level is divided into three segments. Each segment is separated into two parts: one which focuses on stealth, and one which focuses on action. Following guidelines from Tom Pugh (2018), many mechanics are taught multiple times. Consistent with Pugh's design tips, it is common that mechanics first used in one way in the first segment, are encountered and used differently in the next segment. The difficulty and complexity slowly increases during the course of the level. It is important that players can experiment with the mechanics, and learn in their own time (Cao & Liu, 2022). Allowing for experimentation makes players used to the mechanic, and helps them better adapt to the increasing complexity by not having to learn more than one mechanic at once.

The first segment takes place in a gangster hideout. As the first gameplay moment in the game, the most fundamental mechanics such as movement and basic combat are taught. Other useful mechanics (e.g. door interaction, security cameras) are also taught to establish strategic choices. Gradually increasing in complexity, the segment ends with introducing non-playable-character ("NPC") interaction. The next segment takes place inside a bank. In this segment, more NPC interaction is taught, along with loot-stealing mechanics. More advanced strategic elements are introduced (e.g. fire alarms). The last segment makes players escape from a prison. This segment provides the most freedom for the player. There are multiple paths to take, all requiring the use of several mechanics previously taught. The segment functions both as a memory test and as a reminder of the mechanics, while letting players experiment with the mechanics.

Informative text is displayed on the screen just before, or at the time at which, the player encounters a new mechanic. While questioned in the same text, there is evidence in Cao and Liu's (2022) literature review to suggest that providing information about a mechanic just before the player must use it positively impacts their understanding of the mechanic. Matthew White (2012) found similar results in a study comparing the efficiency of different teaching methods. These conclusions are consistent with playtesting by the author, discussed in chapter 4.2.

4. Component development

The newly designed tutorial level is intended to improve upon the original design. Keeping the layout similar was not a requirement, but the overarching structure had to stay the same due to important story events occurring during the tutorial. It was also efficient to do so, as the limited development time could be used more efficiently. Mike Stout (2016) explains how designers should know the purpose of the

level before starting development. Based on Stout's article, considerations were made regarding the purpose, length, and development time.

As a tutorial level, the primary purpose is to teach game mechanics. To determine the most important mechanics, the author played through all story missions and analyzed how many times specific mechanics were encountered. A list was made to keep track of the encounters. More frequently encountered mechanics were considered especially important to integrate into the tutorial level.

Other games with similar game mechanics and themes were identified, and their tutorial levels were analyzed to find trends and useful design techniques. Using similar games made it more likely for the techniques to be effective in A-Star Theft, compared to a random sample of games. Four games were used for this analysis: Payday 2 (Overkill Software, 2013), Grand Theft Auto V (Rockstar North, 2013), Hotline Miami (Dennaton Games, 2012), and Monaco: What's Yours Is Mine (Pocketwatch Games, 2013). These games all share commonalities in the form of criminality, tactics, and violence. Hotline Miami and Monaco: What's Yours Is Mine are also visually similar and played from the same camera perspective.

Drafts were created, both in illustration programs and in the game engine, to serve as guidelines and to elicit ideas. The drafts were based on the analysis, combined with guidelines from Stout (2016), Pugh (2018), and Taylor (2013a; 2013b). The in-engine drafts were iterated on several times, with objects placed in different locations and the general difficulty tweaked. When important objects had been finalized, decorative elements were placed to make the level complete. Once the level was largely finished, it was internally tested to find potential issues not related to the teaching itself, such as bugs and design errors.

4.1. Changes during late development

During late development, several unplanned changes to the component had to be made. A-Star Theft is a game available to download, and is sometimes exhibited at local events in Skövde. Some players have encountered issues and reported them to the developer. A common difficulty issue in stealth mechanics arose. Usability issues with object interactions also became apparent. These usability discoveries were useful, as a study by Papaloukas, Stoli, Patriarcheas, and Xenos (2010) found evidence that players playing more usable games better retain important information. Mechanics which have changed because of these reports must also be explained differently in the tutorial level.

During playtesting, the author expected to find that some areas of the tutorial could be improved, which was correct, but also found issues in unexpected places. For example, the wrong computer object was placed in an office. This object is visually identical to the correct one, but includes unwanted interaction features. The later phases involved iterative development based on the playtesting. Small changes were made after each test, and subsequently evaluated by the next players. More

improvements have been made to the tutorial level based on further game changes (e.g. a new door-kicking mechanic) and player feedback (e.g. a desire for more experimentation).

Some decorative changes to the game were automatically implemented in the tutorial level, as they involved improvements to the lighting engine and shaders, which are universal features present throughout the entire game. These automatic changes are resource efficient, as they require little manual work. Other changes to the game had to be manually implemented into the tutorial level, such as added furniture and color options.

4.2. Meeting criteria

The tutorial level is finished when it has met specific criteria. Most important to consider is the quality of teaching. The primary goal of the level is to establish game mechanics and make players understand how to use them. This can be verified in several ways.

It is good to perform an analysis to compare the finished level to the literature on which it is founded; a verification that the level is consistent with the literature. Most of this analysis has manifested in the form of this text, which serves as an analysis in itself. To summarize, principles from several industry professionals have been applied, including Pugh (2018), Stout (2016), and Taylor (2013a; 2013b). Cao and Liu (2022), and Papaloukas et al. (2010) provide teaching and usability principles which are applied in the level. While White's (2012) study was useful for creating instructions, it also suggested that auditory teaching may be more efficient than reading. This could not be applied in the game for three reasons. First, the audio experience would be inconsistent with the rest of the game, as there is no voice acting elsewhere. Secondly, creating the resources necessary for this would demand time better used for maximizing efficiency in other areas. Thirdly, internal resources in voice acting talent is limited, and hiring a voice actor would be too expensive. With the analysis in mind, the level is largely consistent with the literature, which means that the criterion is mostly fulfilled.

Comparisons to literature is a useful tool, and gives insight into relevant topics. Information from this method, however, is general, and does not guarantee applicability in A-Star Theft. To further verify the tutorial level's effectiveness and efficiency, playtesting was utilized. Much of the playtesting followed interviewing guidelines from Williamson (2002). The playtesting consisted of both organized and sporadic testing sessions. The first testing sessions were designed to get an understanding of the original tutorial level's quality. The level was evaluated using an evaluation level, where testers tried their skills. Later tests involved new playtesters playing the new tutorial level, which was evaluated identically. A comparison of the results showed that the new tutorial level improved the teaching of most mechanics, while some mechanics were unchanged in teaching quality. The conclusion drawn

from the data was that the new level functions better as a tutorial than the original, while still having room for improvements. Many further improvements have been made, and have shown similar results in testing. Based on the user feedback, this criterion is mostly fulfilled.

The final requirement is inclusion of story. The level serves as the story's prologue, and thus must establish certain important story events. First, the level shall have the main character rescue another character from a kidnapping den. Secondly, the main character must be arrested by the city's police chief. Thirdly, the main character must escape from a prison and return home. All of these events are implemented in the level. This criterion is fulfilled.

5. Summary

A-Star Theft is a complex game, causing some players to feel confused while playing. Players have shown a need for a more effective tutorial level to facilitate a fun and exciting experience. The new tutorial level is designed to apply principles from both academic studies and industry experience. It was developed iteratively, with internal playtesting revealing the most prominent faults. External playtesting was utilized to verify and further improve the tutorial's effectiveness. The tutorial level was determined to meet most of its completion criteria and is considered to be successful.

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ME533G - Spelprojekt 3

Elliot Kehler

Text 4 - Samhälleliga och etiska perspektiv

1. Introduction

Video games have a great cultural impact. There are ethical considerations to be made during development, both for how games are developed and what is expressed through their contents. This text will discuss ethical and societal topics related to several aspects of the video game A-Star Theft (Kehler Creations, 2020).

2. Ethical and societal considerations

Ethical aspects are found abundantly in many aspects of video games. Both from a development perspective - what methods are used to develop a game and how the team collaborates - but also in what is found in a game's contents.

2.1. Development

Over the course of developing a tutorial level for A-Star Theft, the author has considered what the purpose of the level is. Developing such a component requires knowledge of how to optimize the learning experience. For an optimal learning experience, there is evidence suggesting that more usable games are more efficient in teaching mechanics (Papaloukas, Stoli, Patriarcheas, & Xenos, 2010). This is important, as usability can be beneficial in several ways. High usability can help the game reach a larger audience, which is favorable both for profitability and for community building. The audience will in turn be more satisfied with the game. High usability makes a game more accessible and easier to handle.

Beyond the game and audience experience, the work process itself also benefits from good usability. Proper usability and a comprehensible experience means that fewer distracting issues will use up development time. Focus can instead be put on other important areas of the game, such as bug fixing and accessibility features.

As a game released to the market, A-Star Theft has been played by people who paid money to access it. Some of these people have experienced issues with the game. Of the people who experienced issues, some have requested and received refunds, while others have contacted the developer and asked for help. The author considers it an ethical obligation to attempt to solve significant issues preventing paying customers from continuing to play. Working on developing solutions means that time and resources are reallocated from developing new features. In turn, this slows down development time. However, these changes have had a positive effect on usability and tutorial level quality. Every developer must weigh the significance of the issues encountered to the importance of what could be developed using the same time and resources. To some, a reputation of solving issues may be more important than to maximize efficiency, while others may have a different approach that suits them and their audience better.

The author has developed and published A-Star Theft, and for a long time, this was done largely alone. During this time and after, conversations have been had with acquaintances regarding the topics of inspiration and motivation. The author has been told that his work ethic is inspirational. Not only having a good work ethic, but also showing it to others and providing help when needed, can inspire other people to pursue creative endeavors. This will encourage more people to express their creativity in the form best suited for them.

A-Star Theft, while mostly developed by a single person, does utilize resources from third parties. Assistance from friends and acquaintances has also been accepted. When working with resources made by other people, developers must consider copyright and licensing. All resources originating from external sources are used in ways respecting the license agreement. A common obligation is to attribute the original creator in a credits sequence. Internet links to the website which provided the resource is another common obligation.

Regarding resources made from the internal work group, conversations have clarified and unified the opinions on copyright. A formal contract has been created to unambiguously establish the ownership of the resources. While cumbersome and an unusual task for many students, becoming familiar with reading and writing contracts can be helpful for future work.

2.2. Game content and target audience

It is good to be aware of what is expressed through the content of one's game. Content which is explicitly depicted, as well as content implicitly told, leaves an impression on the audience. A-Star Theft is overall a violent game. While there are sometimes peaceful ways to complete certain levels, violent mechanics are abundant and promoted. Though the game promotes violent actions, it does not do it in such a way that implies that violence shall leave the bounds of the game. The violent actions are game mechanics, and are not designed to maximize realism. Research also shows that it is unlikely that violent games directly cause violent real life actions (Ferguson, 2011). One part of the game's target audience is playing games for fun. A-Star Theft is not a simulation, and does not attempt to be one. Its violence is present to create an environment in which players can feel excitement, energy, and perfect their virtual skills. It is designed to attract a similar audience to games such as Hotline Miami (Dennaton Games, 2012) and Payday 2 (Overkill Software, 2013), games which are unambiguously played for enjoyment. Similarly to the game mechanics, the graphics in A-Star Theft are also designed to attract a particular subsection of gamers - one that prefers stylized and purposeful artwork as opposed to realism. The pixel-styled non-realistic nature of the game's graphics makes it difficult to accidentally construe as photos of real events.

The narrative of A-Star Theft is aimed at an audience who appreciates darker stories - an audience who can simultaneously understand yet not necessarily agree with

another person. The narrative uses the game's mechanics to depict criminality as a profitable endeavor. While criminality can in some cases be profitable both in fiction and in real life, the stories told in the game, when interpreting subtext and reading dialogue, do not glorify criminality. Though the story demands players committing crimes in exchange for valuable gameplay returns, many characters also experience negative consequences from their chosen lifestyle. The story intends to portray a complex world where answers are not always simple. Morals are designed to be questioned.

The content in the game is designed to meet audience expectations, as it is ultimately the audience who dictates what is acceptable, desirable, and reasonable. The developer proposes ideas in the form of gameplay, graphics and story, which either get accepted or rejected depending on who the developer is talking to and their ethical standards.

A-Star Theft is a single player game. Despite this, there are ways for multiple players to build a community around the game. The game can be played with multiple strategies, some of which require significant planning and intuitive use of mechanics. Players can gather on online forums to discuss such strategies, compare them, and discover new ones together. They can find optimal methods, if such exist, and maximize both fun and efficiency. In one of the game modes, there is a screen displaying statistics, which keeps track of record attempts by the player. Statistics include, among others, shortest time to complete a level, maximum score reached, and if certain goals have been achieved. Players can compete with each other to set new records. The aforementioned strategy building can be incorporated into these activities to promote an enjoyable and good-spirited competition where people can form digital friendships.

3. Summary

While developing A-Star Theft, the author was conscious of how ethical factors can play a role in the work process. Significant focus was put on usability, and how usability can positively impact both development and players. Copyright was respected when utilizing assets not created by the author. Violent content in the game is designed to stay fictional. The content is made to attract an audience similar to those of similar games, and is made for entertainment purposes only. The audience is the final authority of what the game contains. Due to the multitude of mechanics, players can choose to share their unique play styles online and create competitions to build a community around the game which can be beneficial for both the audience and the developer.

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ME533G - Spelprojekt 3

Elliot Kehler

Text 5 - Arbetsprocessen

1. Introduction

During the period of a course at the University of Skövde, the author has been tasked with developing and documenting a specific component of a game. An important part of this assignment is providing an overview of how this work was done. The following text will provide an overview and discussion of the work process related to developing a tutorial level for the game A-Star Theft (Kehler Creations, 2020).

2. Planning and early considerations

Prior to starting development, it is important to understand the general landscape of the game, team, and personal tasks. Understanding this makes limitations apparent, and helps against assuming overly ambitious work.

2.1. Deciding the component

The first step of the work is to decide what component to focus on. The author, both internally and through playtesting, evaluated the quality of many elements of the game, and investigated which aspect would benefit the most from further development. The tutorial level has previously been shown to not be as effective as it could be. A rewritten story would strengthen the emotional connection between players and the game. Improved graphics would make the game more visually interesting and appeal to new players.

With the game in its current state, making the game more understandable for players was determined to be the best use of time.

2.2. Acquiring and utilizing literature

Academic literature was used in this project to form a general understanding of tutorial levels in games. The library of University of Skövde was the primary tool used to source relevant articles. Cao & Liu (2022), through a literature review, discuss some common elements found in a good tutorial level. It was important to consider usability and how game interactions can affect learning. Papaloukas, Stoli, Patriarcheas and Xenos (2010) presented a study which found that good usability in games has a positive effect on learning. Matthew White's (2012) research provided information about methods for conveying information about gameplay efficiently. This research could only be applied in part, due to the game's style. Some of the conclusions were not very usable, because it would require implementing voice acting. It was decided that both time and resources were better utilized in other areas of development.

More specific information and recommendations came from game developers working in the industry. Mike Stout (2016) presented a strategy for level design, which for this project was especially useful for planning and outlining the level. Dan

Taylor (2013a; 2013b) demonstrates with examples several principles to keep in mind when designing a level. Tom Pugh's (2018) techniques were applied to improve clarity and create an overarching structure for the teaching.

This literature served as guidelines when planning the work and assessing the workload. It facilitated good decision making in areas such as how the level should be structured, the approximate length, and what techniques for teaching should be applied.

2.3. Limitations

From the start, the development team considered what limitations it was bound by. The team consists of two people. One is a general worker and the other is a graphics artist. This is a small team when compared to the majority of other groups in the same course. The small size limits development in aspects not related to the primary components that were chosen to be documented. The documentation itself also requires time which could otherwise be dedicated to developing the game. However, this limitation is offset by a well developed game existing prior to the beginning of the course. Working on a game in such a state allowed for the focus to be put primarily on the tutorial level, without a need to develop fundamental gameplay or other elements which typically would be produced prior to development of such a level.

3. Development

The utilized software has influenced every part of the game's fundamental design. The game being made using the engine GameMaker has dictated how the graphical style, mechanics, and other aspects were developed. The tutorial level had to adhere to the same restrictions and opportunities as all other aspects.

The tutorial level was required to function largely as a normal level in its form and visual design. Early work consisted of creating a draft and outlining the general layout of the map. Questions were asked about what mechanics were supposed to be taught, and what story setting to place the map in. Much of this work was based on Mike Stout's (2016) recommendations for video game level design.

Though decorative aspects are not as important as usability and teaching quality, it is still a crucial component for a finished level in A-Star Theft. To save time, it was most efficient to use graphical assets found in other levels. This is already a common practice in the game's development, and means that resources can be used efficiently. Reusing resources is good for both development and for users, since the game's size on their computers is kept smaller. When a new asset was created for one level, it could also be used for the tutorial level if it fit the environment.

When the component was in its later stages, playtesting was utilized frequently. Playtesting has shown areas where the game can improve. Some game mechanics have been tweaked in response. This means that the tutorial level had to be adjusted to properly teach the new version of the mechanics. A-Star Theft is published and available to play by other people. Some players encounter issues with the game and contact the developers to request solutions. Developing solutions for these issues have taken development time which could otherwise be used to improve the tutorial level. Changes made as a consequence of these issues have impacted the tutorial level. When a complaint had been received regarding certain mechanics, which were changed in response, the information presented in the tutorial level also needed to be changed to ensure accuracy. Playtesting has shown an increase in teaching effectiveness, compared to the original tutorial.

4. Summary

The continued development of the game A-Star Theft has included several steps. It was decided that an improved tutorial level was an appropriate focus for the project. This component required preparations founded in literature from both academic and game industry sources. The level was adapted to gameplay changes from user feedback to keep information accurate. These changes have been evaluated through playtesting, and have yielded a positive result for new players' understanding of the game.

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