

Univerzita Hradec Králové
Pedagogická fakulta
Katedra výtvarné kultury a textilní tvorby

Development process of a successful indie game
Bachelor thesis

Author: Dennis Fischer
Study program: B7507 – Specialization in Pedagogy
Field of study: Multimedia Graphic Design
Thesis supervisor: Mgr. et MgA. Pavel Trnka, Ph.D.
Thesis opponent: MgA. Jakub Horský



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Autor: Dennis Fischer

Studium: P19P0858

Studijní program: B7507 Specialization in Pedagogy

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Cíl, metody, literatura, předpoklady:

The theoretical part of this thesis aims to determine what makes an indie game popular. The literature review covers professional sources and gaming industry studies. It compares examples of different indie games, using their popularity and their sales as a measure of success. The practical part of the thesis focuses on the creation of the visual concept of an original indie game, including the story and gameplay mechanics. The findings from the research done in the theoretical part are implemented in the conceptual development process of the game.

SHELL, Jesse. The Art of Game Design: A Book of Lenses: Third Edition 3rd Edition. 3. Natick, Massachusetts: A K Peters/CRC Press; 3rd edition, 2019, 654 p. ISBN ISBN-13: 978-1138632059.

KOSTER, Raph. Theory of Fun for Game Design. 2. Sebastopol, California, USA: O'Reilly Media, 2013, 300 p. ISBN 978-1449363215.

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Vedoucí práce: Mgr. et MgA. Pavel Trnka, Ph.D.

Oponent: MgA. Jakub Horský

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Declaration

I declare that I have prepared my bachelor thesis independently and with the use of the mentioned literature.

In Hradec Králové on the

.....
Dennis Fischer

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Annotation

FISCHER, Dennis. *Development process of a successful indie game*. Hradec Králové: Faculty of Education, University of Hradec Králové, 2022. 44 pp. Bachelor Degree Thesis.

The topic of game development is complex and covers a lot of different elements. In the last couple of years with the rise of indie development and many individuals trying to enter the world of game development, these topics have become even more relevant. In conjunction with the practical part of the project, this thesis aims to identify the steps that are necessary to create a successful indie game.

A combination of research and creating a small game concept were the chosen methods to identify the elements that make up successful games. The scientific sources used are mentioned literature as well as studies and research papers on the subject of gaming. During the creation process of the game concept, a lot of fundamental aspects could be identified. These results align with the scientific research done on the topic.

An executable and original idea for a game, effective gameplay which avoids being overly complicated, a well-executed audio-visual experience that fits the setting of the game, a well-proportioned amount of storytelling as well as an intuitive and satisfying interactive system inside the game were identified as the main elements that make up successful indie games.

Keywords: successful computer game, indie game design, game development

Anotace

FISCHER, Dennis. *Development process of a successful indie game*. Hradec Králové: Pedagogická fakulty Univerzity hradec Králové, 2022. 44 s. Bakalářská závěrečná práce.

Téma herního vývoje je velmi komplexní a zahrnuje mnoho různých složek. Na významu získává právě nyní – v období posledních let – kdy roste počet realizovaných nezávislých herních projektů, a zároveň s tím se zesiluje i zájem jednotlivců do tohoto herně-vývojového dění aktivně vstupovat. V souladu s praktickou realizací si teoretická část této bakalářské práce dala za cíl identifikovat kroky, které jsou důležité pro vytvoření úspěšné indie počítačové hry.

Po metodologické stránce sloužila k dosažení tohoto cíle kombinace pátrání v odborné literatuře – analýza vědeckých studií v oblasti herního designu, a zároveň praktické vytvoření původního, rozsahem malého herního konceptu. Nutnost projít si celý tvůrčí proces od nápadu po realizaci podpořená zmíněným teoretickým výzkumem nakonec úspěšně fundamentální aspekty potřebné pro tvorbu indie videoher odhalila.

Mezi nejdůležitější vlastnosti, jimiž musí úspěšná indie hra disponovat, tedy patří: proveditelná a originální myšlenka, efektivní, nepříliš komplikovaná herní mechanika, dobře připravený audio-vizuální prožitek, který musí celkově korespondovat s osobitým prostředím hry, správně nadávkovaný a časově dobře rozvržený příběh, intuitivní a snadno ovladatelné herní rozhraní.

Klíčová slova: úspěšná počítačová hra, indie game design, základ tvorby her

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Introduction

Motivation

Video games as a medium tend to be underestimated when it comes to their complexity and relevancy. During the dawn of the interactive medium, this resentment was a lot more severe and in the last decades as games started reaching larger and larger portions of the population it has started to disappear. The gaming industry has become a similar giant and pendant to the film industry, being able to create even higher sales figures and reach those even faster. Game development studios employ thousands of developers, designers, and artists all the while earning billions of dollars in revenue. This underlines the relevancy of the contemporary gaming industry and its influence on the general populace. Since a couple of years with the advent of digital marketplaces like Steam, there has been an ever-growing array of so-called indie games which have been a welcomed phenomenon by the gaming community as they mark the return of games that are developed by small teams or individuals similar to how it has been during the dawn of gaming.

Game design is a complex topic incorporating many aspects of technology, design, and art. It has evolved drastically since the first games were created in the late 20th century but many of its core aspects have never changed. As the gaming industry grew there was also more interest taken into researching games and outlining guides for designing them. Nonetheless, there are many contemporary examples of games that neglect or outright fail these core principles. This is why it is important to look into the technical side of gaming and research the structure of what creates success in games in order to create good gaming experiences.

Role of this thesis

It is important to pinpoint the fundamental aspects and necessary steps that create an experience that is able to fulfil the expectations and requirements of a successful indie game. For the purposes of this bachelor work and in conjunction with the practical part of the thesis I want to identify the vital elements of game design in order to build a successful game concept.

1 Background: Games and their Development

1.1 What is an indie game

An indie game is a video game that is characterized by being developed by individuals or smaller teams of developers that normally operate within a limited budget different to larger game studios. Because of the constraints that go along with this, indie games are usually smaller in size and scope but have an advantage over larger games in that they are able to take more risks and experiment to a greater extent. This allows more room for innovation and there are many examples of indie games that have pioneered new gameplay mechanics and ideas (Lipkin, 2012).

Indie games usually get distributed through digital marketplaces most prominent of which is Steam which has grown into a very large digital store front in a short amount of time (Steam Spy, 2022). In many ways the development of indie games ties into the origins of game development where in the 1970s and 1980s many games were developed solo by programmers of the time. With the advancements in developing tools and the increased access to the development process, more and more individuals and small teams have started to realize their ideas in the form of indie games. A bad side effect of this is that for many years now the digital store fronts are overflowing with many games that lack quality and refinement, a situation which is reminiscent of the video game crash in 1983 if not as severe. It has to be said here that there are many cases of very successful indie games most notably are for example games like Minecraft, Undertale, Cuphead, Papers, Please, and many more.

From a niche back when indie development started it has now developed into a fundamental piece of the gaming industry and many gamers focus their attention on this side of the gaming market. Indie development with all its flaws represents a lot of important aspects of gaming and is often associated with a love for detail and passionate developers which is a good change of pace from the corporate feel of the big AAA development studios. The AAA industry has become more and more focused on economics and the maximizing of profit margins abandoning many of the core values of

producing good games. The indie industry has worked against this and many indie developers keep developing games with passion rather than greed (Lipkin, 2012).

The project Lowrest Station Hotel will outline a concept of a typical indie game and aims to create an experience inspired by successful specimen of the indie development sphere.

1.2 History of Game Development

In the 1950s during the infancy of computer technology, the first glances of game development can already be found in games like Bertie the Brain, Nimrod, Oxo, and Tennis for Two. The Games of this era were very simplistic and it would take another 2 decades until the new interactive medium would reach wider audiences (Smithers, 2020).

With the release of Pong in 1972 by Atari the foundation for the gaming industry had been laid (Smithers, 2020). It was a very basic game design. A dot moves from side to side on the screen as each of the two players controls a vertical line which can be moved up and down with a rotary knob. If the dot moves past the player's vertical line the enemy player gets a point. If one hits the dot with the vertical line it moves over to the other side. Throughout the 1970s many so-called pong consoles would enter the homes of the population.

With the dawn of the 1980s, new games were developed and dedicated consoles were developed like the Atari 2600. The games of this era were still quite simplistic as computer technology was still not as advanced. Nonetheless, many classics were created during this time for example Pac-Man and Space Invaders. As this new market opened, many consoles and games were developed soon oversaturating the market and making it hard for customers to decide what to buy. Additionally, there was no way to identify the quality of video games and video game consoles which ultimately led to the video game crash spanning from 1983 to 1985 wherein many gaming companies went bankrupt, creating a big setback for the just established gaming industry. Only with the release of the third-generation video game consoles most notably the NES from Nintendo and their quality control did the gaming market recover. With the NES also came the creation of one of gaming's most famous characters, Mario. Development studios grew bigger and

bigger as the technology advanced and video games grew with the fast innovations of computer technology (Smithers, 2020).

The 1990s saw the golden age of video games as many titles were created that are considered classics today. The technological advancements in the 1990s created the possibility for much more complex video games in comparison to the very simple structure of the arcade games which dominated the gaming industry until that moment in time (Smithers, 2020). It is during this period that game development moved away from the typical bedroom programmers as big development studios were established. A lot of the big AAA game development studios of today have their origins in this period.

As gaming studios grew so did the audiences and many aspects of gaming established themselves. As the internet became available to the public, gaming also sought to utilize this new technology. Online functionality soon entered gaming and allowed gamers worldwide to play with each other and also paved the way for so-called MMOs which focus on this aspect. Another important factor was the establishment of the mobile gaming market which created an even larger audience for gaming and today the mobile gaming market makes up a very large part of the total gaming industry revenue (Smithers, 2020). Having been a niche before PC gaming also started to attract larger audiences as the 2000s progressed (Smithers, 2020). This was majorly contributed by the establishment of digital marketplaces for video games the most notable of which is Steam which has become a very large company and distributor which can be seen in the strong rise in sales on the platform (Steam Spy, 2022). The digital marketplaces played a major role in allowing indie game development to flourish like it does today. Digital distribution of games is vital for indie developers as it allows selling games without the expensive process of physical distribution which requires the production of a storage medium that can store the game, shipping, and storage expenses for example. Marketplaces such as Steam do take a considerable amount of commission from the revenue that a game makes (Valve Corporation, 2018). On the other hand, they also enhance the game experience through well-executed online functionality and offer a very effective marketing platform. Additionally, there is a lot of good development software available nowadays which is either free or affordable for someone who is starting out as a developer. This allows for a relatively easy entry into the development industry.

2 What makes a game successful

2.1 How to measure success

There are many approaches one could take when talking about success in video games. A very obvious one would be to measure a game based on its financial success. Games such as Grand Theft Auto V have raised billions of dollars in revenue in a matter of days and in this instance, the product is an example of a well-executed experience which is shown by its popularity and generally positive reception. Nevertheless, there are examples of video games that manage to raise a lot of revenue but lack in their basic game design fundamentals leading to experiences that leave users unsatisfied. Something which ties into this is the ever-growing trend over the last decade that big game studios tend to innovate less and neglect the basic gameplay principles of their medium instead focusing on big marketing campaigns to maximize profits (Lipkin, 2012). Good examples of this trend are big game corporations like Electronic Arts and Ubisoft Entertainment SA to name a few.

Focusing only on the design of a game in order to measure its success doesn't make for an effective method either as many brilliantly designed games drown in the large mass of video games that are offered on digital storefronts. Declaring a game that fails to find many buyers a success misses the mark whether it is well designed or not since games are products made for customers at the end of the day (Schell, 2019, p. 536).

Success in the context of video games relies on many aspects not only on game design. Marketing, catering to a certain target audience, time management, and also a certain degree of luck all play a noteworthy role in making a video game a successful product. Ultimately the game design is the key factor but it needs the other essential elements to be utilized to its fullest potential. Marketing and exposure are very important to a game's success since the contemporary gaming market is highly saturated with games. Even if a game is designed very well if nobody knows of its existence nobody will buy it. Digital store fronts like Steam offer the possibility of exposure even for developers with a limited budget but even then it is not easy for a small developer to catch the attention of the gaming community.

A big tool for measuring the success of games over the past decades has been sites like Metacritic which present ratings for video games among other things. The ratings are divided into an audience score reaching from 1 as the lowest score to 10 as the highest score. Additionally, Metacritic also hosts a scoring system for reviews made by video game critics and journalists reaching from 0 percent as the lowest to 100 percent as the highest. Latter is a system that can also be found on Steam. There are many other platforms for rating games as well as many magazines that do in-depth game tests. As already discussed above a low rating doesn't mean that a game will be unsuccessful when it comes to financial success but it is generally a good measure of how good a game is. But even a score like this sometimes doesn't tell the whole picture. Games like No Man's Sky had unfavourable initial releases but after years of further development have turned into good games which often is not reflected in their ratings.

For this project, a focus on feedback given by the gaming community directly and in conjunction with the financial success of a given game will be the chosen method of measuring the success of a game. Critically well-received games are preferred as inspiration over games that have been just financially successful.

2.2 Gameplay as foundation

Gameplay is the core element of every game, still, there are a lot of different definitions of what gameplay is exactly. Most often it describes the context of the fundamental game rules, mechanics, and in general the experience of interacting with the game. Without good gameplay every other element of the game becomes irrelevant. A game may only be a successful product if its gameplay succeeds (Schell, 2019, p. 166).

2.2.1 Concept

Coming up with ideas for game experiences is quite easy and a very intuitive task and the majority of gamers have likely done this at some point. However, concretizing these ideas into a clear and effective concept can be quite difficult since many great ideas turn out to be difficult to manifest in a way in which they are executable. Constraints in the way

gameplay mechanics can be implemented, be it because of limitations in the game engine which is used or the programming itself, arise quite quickly especially if the developer is not very experienced (Schell, 2019, pp. 96, 98).

When creating a game concept it's good to stick to building a foundation that can be built upon later and finding this simple but effective base can be very difficult. Such simple foundations can be for example the general setting of the game, the main goal of the game the player should pursue, how the core gameplay should look like and how the player interacts with the game. Originality plays an important role here as well and creating a unique experience but at the same time approachable in order to make a game appealing. Copying a successful game without contributing to the idea or reshaping it into something new doesn't create a good product. A good starting point here is personal experience and ideas borrowed from real life (Schell, 2019, p. 75).

There should be a focus set on finding an experience that will be created for the player and then prioritising improving and perfecting this fundamental theme of the game. Creating an effective concept also already ties in to knowing the target audience you want to cater to and also if your idea will not only be interesting for you but also for that audience. The target audience is very vital to think about. Many factors can be important here such as the age of the audience. Age becomes important especially when it comes to the question of violence and also serious topics inside games. What does that type of audience expect from a game? How much is the audience willing to pay for the game? What features does my audience focus on? These types of questions are very crucial since the audience will be also the customers of one's game. The balancing act here is to find a unique idea that is original but also to avoid creating something so specific that only few people will find an interest in it (Schell, 2019, p. 97).

Another element that adds to this is that similar to many industries gaming is subject to trends. In the 1990s Point-and-Click adventures were very popular with studios like LucasArts and Sierra On-Line which eventually became iconic for their games of this genre. Nowadays Point-and-Click adventures belong more and more to a niche and are not that popular with the general gaming populace. Creating games for a niche like this may well lead to a successful game but the chance of it is smaller. On the other side are

oversaturated genres like Jump ‘n’ Run games. Jump ‘n’ Run games exist since the dawn of gaming and are even known by non-gamers through characters such as Mario. Creating an indie game of this genre is quite popular which is visible in its high representation on digital storefronts. The issue with this high representation is that it is difficult to create a Jump ‘n’ run game that doesn’t drown in the large mass of already existing games of this type. Innovating in genres like this is also difficult as they have already been explored to a very large degree (Schell, 2019, p. 97).

As trends surface in the gaming industry, many developers try to capitalise on them. In recent times battle royal games and before that zombie or post-apocalyptic games have been a great example of this. PUBG: Battlegrounds is a great example of a battle royale game that has become a very big title and also one of the games that created this trend (Krafton, 2021). The issue with following a trend like this is similar to oversaturated genres like Jump ‘n’ Run games in that it is difficult to develop a product that reaches a large audience. It also becomes quite difficult to bring something new to the table when many developers create many very similar types of games. Following a trend can also lead to a successful product as most often a large proportion of gamers will seek to find a game part of a new trend. The difficulty here is to create something innovative and unique enough that it stands out from the rest of the games which follow this trend.

The general concept of Lowrest Station Hotel is to put the player into the shoes of the owner of a small hotel. The concept has a similar approach to a game as the indie game Papers, Please which will be covered later in the Thesis. At its core, it takes a mundane task from real life and gamifies it to create an experience that is both unique and also accessible as a fun activity. The setting is a small fictional town in which the hotel is located at a small train station which functions as a story background primarily. The player finds themselves sitting at the reception of the hotel and welcomes guests that enter the reception to book a room. The rooms have different traits each week and the player has to select the right room for the specific guest to give them a satisfying stay. The satisfaction of the guests ultimately controls the amount of money and subsequently the success of the player. If the satisfaction drops too low the player will not be able to keep the hotel afloat ultimately leading to failure. During the progression of the game, a small story will accompany the player.



Figure 1: Concept of the logo of Lowrest Station Hotel

2.2.2 Basics of game design

What makes a game fun to play is one of the most important questions in game design. For this question to be answered one needs to ask themselves why people play games in the first place? The answer to this question is simple. We play because we like to. We enjoy playing games similarly to how we enjoy watching movies or reading a book (Schell, 2019, p. 39). Games differ from those other media in that we engage with the medium actively and that creates many problems that need solutions. The science behind these solutions is called Game Theory and is not only relevant to video games but to games in general.

The basis of game design often is a so-called gameplay loop. A gameplay loop is a certain amount of fundamental actions that happen in a game over and over again. Gameplay loops are the core element of a game and define what players will do while they interact with it. Loops are always based upon repetition but it is important to make this repetition seamless and manage to keep the fundamental gameplay loop interesting. The general idea of a gameplay loop is often quite similar. Gameplay loops are based on creating a neurochemical reward that releases dopamine which makes us happy. Important here is to create an engaging activity instead of an addicting activity. The goal is to create a gameplay loop that makes the game fun for a long time without creating an experience

that leads to players playing for unhealthy amounts of time. The most basic and very typical example of a gameplay loop is made up of three elements: Anticipation, Challenge, and lastly Reward. Anticipation can for example be acquiring new weapons inside the game. This then leads to the challenge which could be a fight against a monster and defeating this monster then ultimately leads to a reward in the form of gold for example. With this gold, you can then purchase new equipment which brings us back to the Anticipation. Gameplay loops will most often look pretty similar to this fundamental example and it is vital to shape the basic gameplay concept of a game project around it (Schell, 2019, pp. 22-23).

Reward in this context is very important and also the opposite of it, punishment. Both have to be set up the right way to keep the interest high. Rewards have to be something players look forward to as they will be the motivator to keep playing. They have to come at the right pace and also have to be desirable. If a player receives too many rewards too fast, they will get bored eventually and if the player receives only a few rewards overcoming the challenges of the game will feel meaningless (Schell, 2019, pp. 231-234). Penalties on the other hand should be strong enough to punish the mistakes of a player but should be not too strong to avoid frustrating the player. Punishment should function as a motivator to keep trying to overcome challenges instead of an element that degrades the player (Schell, 2019, pp. 234-237).

Rules are another core element of every game. Players agree to certain sets of rules when they start to play a game. This also applies to traditional games. An example of a traditional game might be Monopoly where the player also agrees to a certain set of rules. In Monopoly, a rule is for example that the player will roll the dice in order to move the game pieces. Video games possess the same principle of rules. They define everything that happens inside the game be it actions, objects, constraints, or goals.

Defining the difficulty of a game is another vital element that affects the player as it can regulate how fast and how severe a player will feel either frustrated or under-challenged (Schell, 2019, p. 218). Games like that of the Dark Souls series make a high level of difficulty one of their core elements and have managed to become very successful and famous for it. Cuphead is another example of this and there are many more. Humans like to be challenged and creating an experience that is focused on this aspect can be very

attractive to many individuals which is also shown by the high amounts of gamers playing competitive games where people compete against each other. A great example of this is the game Counter-Strike: Global Offensive which is often the most played game on the platform Steam (Steam250, 2022). The biggest problem with high-difficulty games is that their accessibility is decreased. Many gamers are either not as skilled or not as willing to deal with the frustration which arises in very difficult games. Games that are too easy on the other hand become boring for most players quite fast. Even here there are successful games and a great example of this is the Sims series of games. Because managing difficulty in games is a very personal question most offer an option to change the difficulty which allows less skilled gamers to give players full control on how challenging the game experience should be and gives more experienced gamers the option to make an experience more challenging (Schell, 2019, p. 219). Finding the right difficulty is also a question of the target audience. Different genres and different age groups require different approaches to difficulty.

Another factor here is the element of luck and chances. The usage of chance as a mechanic is important as it can give a very fun element of uncertainty. That being said chance can also lead to frustration in the player when it is not balanced the right way. If the chances are too much against the player and the player needs a lot of luck to succeed then it can hinder a game's experience a lot (Schell, 2019, p. 225).

A challenge that is unique to games is the interaction with the user. Since games are designed to give the user a certain amount of control over the events of the game there is a need to approach game design a bit different than creating a movie or a book for example since those experiences are not directly influenced by the consumer. Developers have a certain image of how the game will be interacted with but as soon as the end-user interacts with the game many other possibilities of interacting with it surface. This is why playtesting games is important, especially by people that lie outside of the development team.

Another consideration to think about is if a game should be able to be played with other people or if it should be played exclusively alone. Not always will multiplayer be a good choice for a game and other times it can improve the aspect of fun quite a lot which is seen by the very high popularity of multiplayer games. There are also different types of multiplayer including cooperative play where a certain amount of players play together

to beat the game and competitive play where players play against each other. Multiplayer usually creates a need for longer development times as it creates many issues and complexities that have to be solved (Schell, 2019, pp. 438-442).

Related to this is the design process of controls. Controls can have a very large impact on the playability of a game and bad examples of them can ruin a game. Creating them tends to be a big challenge inside of game development as translating tasks from real life especially if they are complex tasks is very difficult. This ties into the question of how accurate one wants to portray the task that is reproduced inside the game. A good example of this is the sword fighting in the game *Kingdom Come Deliverance* which was designed in order to replicate the fighting tactics of the medieval age to very high accuracy.

The problem that many gamers had with this approach is that it lacks intuitiveness and can be frustrating to use. This shows quite well that an accurate representation of a real-world task inside a game and its controls not necessarily translates into good controls and gameplay. Intuitiveness is quite important when it comes to games and the *Mario* series of games is a good example of intuitive controls (Schell, 2019, pp. 271-272).

It is also worth thinking about what input devices the individual game will use. Different genres usually have different requirements for their controls. Strategy games for example usually work best when controlled with a mouse and keyboard instead of a controller. On the other hand for example fighting games or racing games usually are played better with a controller (Schell, 2019, p. 272).

Lowrest Station's basic gameplay loop was designed around assigning the right hotel room to the individual guests. Every room in the game constantly changes its traits which can be either positive or negative depending on the guest. Some of the traits are inherently negative, some of the traits are either negative or positive depending on the guest and some traits are inherently positive. Over time as the rooms get occupied and fewer rooms are available to choose from, the player has to compromise as there is the chance that only rooms with negative traits remain vacant. Anticipation is set by the traits which are shuffled each in-game week. Challenge is defined in the form of assigning the best room possible for each guest and also in managing the remaining rooms in a way that the player keeps track of their individual traits. The reward is given in the money which the player

receives after each work day from the guests staying at the hotel and also the reputation of the hotel.



Figure 2: Concept of the register book which is used to assign and manage the hotel rooms in Lowrest Station Hotel

The controls of Lowrest Station Hotel are focused on a simple point-and-click philosophy wherein the player will navigate and control the experience by clicking on objects and buttons with the help of a mouse. This approach is quite simple and easy to understand and avoids complicated controls which might frustrate the player.

2.2.3 Common missteps

Since designing a game is a very complex task there is also a lot of room for error. One of the most severe mistakes which are also very common are concepts that are either too big or very difficult to realize productively and purposefully. This happens especially often in freshly established indie development studios and with individuals that want to develop their first game. There are countless examples of games that have very ambitious goals and concepts just to underdeliver or outright fail as the development progresses. Games that appear on fundraising websites like Kickstarter¹ have fallen victim to this quite frequently over the last years where the promises made by very freshly established game development teams have turned out to be almost impossible to execute ultimately leading to the failure and closing of projects (Schell, 2019, p. 98).

Falling into the habit of focusing on minor things or gimmicky features before establishing the important foundation to build on is another frequent error and can sabotage the development of a game severely as important fundamentals get neglected. No matter how much features or content is added to a game, an insufficient base will almost always lead to an experience that is lacking. Tying into this is a so-called feature creep wherein more and more features are added to the game's gameplay. This may lead to a game experience that is too complicated or not intuitive enough.

Many seemingly fun gameplay concepts can turn out quite lacking. Just because a concept for a game seems fun doesn't mean it translates into an engaging and fun experience in reality. This is where prototyping becomes very important. Prototyping is the process of creating a basic mock-up of a game to test the fundamental gameplay and controls. This can help with fine-tuning the gameplay to maximize the fun and engagement of the experience as well as finding flaws in the game concept. It is important to be specific in the process of playtesting and not just fixate on the question of fun since fun in games is made up of many aspects. Adding to this is QA testing which describes the process of finding bugs and mistakes inside the game in order to fix them (Schell, 2019, pp. 480-494).

¹ See also ('Kickstarter', 2019)

For Lowrest Station Hotel a simple concept was preferred to prevent the already described effect of too expansive and difficult to execute ideas. The core mechanics are the focus of the project. During the development of the concept, it was very noticeable how easily feature creep can occur and avoiding it became a priority quite quickly. This also led to the positive effect that the core gameplay of the game got more attention and the room for mistakes shrank.

2.3 Visual Language

The visuals of a video game can have a fundamental influence on how much a player enjoys their experience. The visual language of a game is the communication between player and gameplay and it can be used in many ways to convey certain moods and or atmospheres. Successful visuals majorly contribute to a memorable playing experience and can help make games more fun and interesting. Jesse Schell outlines this in his book *The Art of Game Design* and lists many positive effects that well-executed visuals have on the game experience and also shows how important they are for a successful game (Schell, 2019, p. 429).

That said they have to be developed with the mechanics of the game in mind. Mechanics and visuals work in tandem and it's important to match both to each other. It is also important to find a good balance between aesthetics and functionality. If a UI, for example, is designed too simple it can make interacting with the game a lot less interesting and many indie games suffer from this. A too complex visual representation of a UI can lead to a game being unintuitive to play which leads to frustration for the player (Schell, 2019, pp. 432-433).

2.3.1 Concept

In the beginning, it is good to create a general idea of how a game should look and feel. This can include many things such as the type of graphics, the colour palettes and also taking inspiration from other games. Generally speaking, it is good to research and find reference material for the particular style you are aiming at. Movies can also act as a good

inspiration here. Game studios also often start the creation process of the visuals of a game project by creating so-called concept art. Concept art is not only used in the video game industry and is generally the process of creating a first rough visual representation of what the visual elements of a game should look like (Schell, 2019, pp. 432-434).

Keeping the concept simple but effective sounds easier than it is since losing yourself in details that are not relevant in the beginning can happen quite quickly. Examples of this may be focusing on the visual execution of elements that are only of secondary nature to the game experience very early in the development process.

Generally speaking, Lowrest Station Hotel's visual concept is the idea of an artistic and dark graphic style using hand-drawn assets. Additionally, the 3d modelling software Blender was used to create a more accurate architectural representation of the interior of the hotel. Stylized realism was chosen as a graphic style to convey the setting which is based on the period of the first half of the 20th century. The visuals of the game were elected to be black and white to achieve a style reminiscent of that era. Adding to this is a heavy inspiration from film noir movies and also games which create a similar atmosphere. The inspiration from noir-style movies was chosen as it perfectly helps to emphasize the slightly mysterious and also eerie atmosphere. The 20th-century-inspired art and architecture fit very well into the noir aesthetic.



Figure 3: Visual concept of the hotel lobby in Lowrest Station Hotel

The UI heavily borrows from the titles and text design that was used in classic noir movies such as white heavy fonts and strong contrast of black and white. Inspiration was taken also from UIs of other games like LA Noire, which has a very similar setting if not entirely fictional. The main menu of the game features a line drawing of the hotel in order to set anticipation for the gameplay as well as enhance the visual experience for the player.

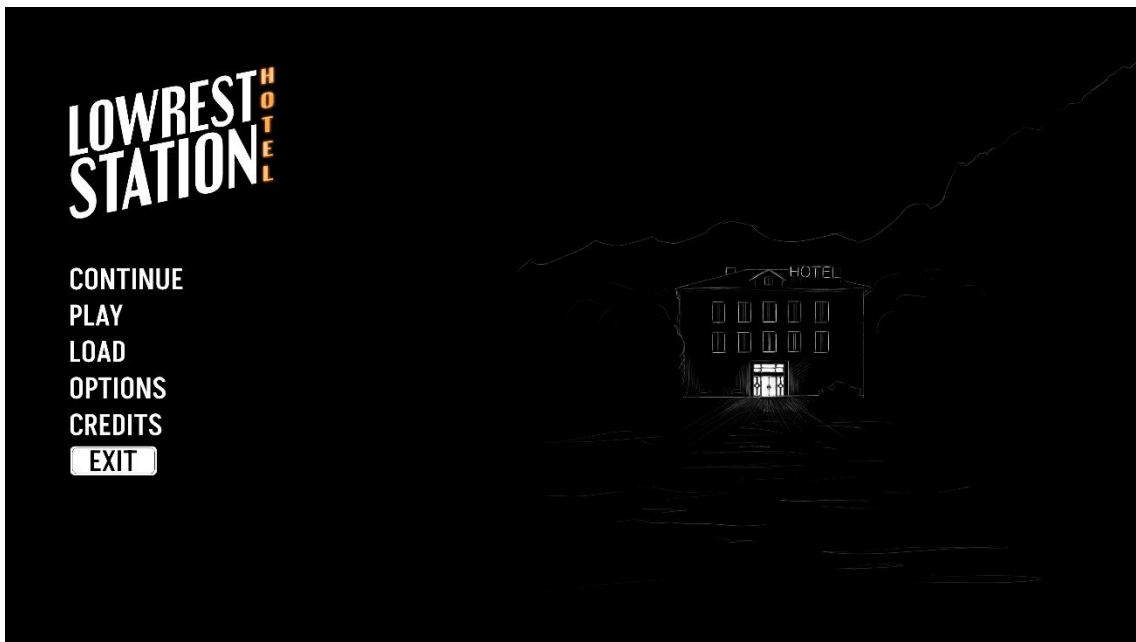


Figure 4: Visual concept of the main menu of Lowrest Station Hotel



Figure 5: Visual Concept of the screen shown to the player after an in-game day has ended

The hotel guests which are one of the fundamental elements of the game's gameplay have been designed in a way in that they make the player uneasy and add to the slightly uncanny aesthetic that is the aim of the visual concept. The guests are presented in black and white like the rest of the game and their faces are encased in black cast shadows. The guest's faces are very emotionless and their features are kept quite general to create characters that are very difficult to read and identify. The guests' faces are the only feature of them which is identifiable as the rest of their figure and their clothing is represented as a black silhouette which makes them appear devious. The individual guests are designed to feel like strangers to create a feeling of distrust inside the player. The guests' animations are a bit rigid and the faces are static which makes the characters seem unfriendly and unwelcoming.



Figure 6: Visual concept of a female guest of Lowrest Station Hotel

General inspiration for the design of the objects inside the game came from art periods in the first half of the 20th century such as Art Deco and also early Modernism. Additionally, personal surroundings such as the city of Hradec Králové with its architecture and art played a big part in creating ideas for the project. Personal experience and interest in this kind of architecture and these art movements played a major role in the development process.

2.3.2 Choice of dimension

An important decision to make is what dimensions of the graphics should be. 2D graphics and 3D graphics both are wonderful options in their own respect but choosing one has a big impact on how the game will play and also how the developer has to develop and think about the interaction with the game. Both types of graphics also tend to require different types of gameplay. Certain genres work better with one of the two types. A good example of this would be shooter games like the battlefield series which wouldn't work very well in 2D. Many action games use 3D graphics as a tool to make the player feel that they are inside the game world. The choice between 2D and 3D also has a big effect on how animations have to be executed, how the player navigates the game world, the game controls in general, UI design, and many more aspects.

Another consideration especially for indie developers is that games that use 3D graphics tend to be a considerably higher amount of work. 3D games usually have bigger scopes and the work which needs to be done to create them is often more time-consuming. This is a big reason why indie games often use 2D graphics either in hand-drawn or pixel art form. 2D's biggest disadvantage is that it sets many limitations inside the game world. 2D graphics set up challenges when it comes to controlling a game character for example. With only two dimensions available a developer has not many options in regards to movement.

The most common way of portraying 2D games is the classic side-scroller where the player sees their character from the side and navigates the world on a horizontal and vertical axis. This comes with the compromise of having no axis for the depth of the world. Another way of implementing 2D graphics is a top-down view which acts as the pendant to the side-scroller. Here the player controls the character from above which in return creates the possibility of walking on an x and z-axis. Top-down views come with the disadvantage that the game world looks extremely flat and it is also a view that we don't see often in real life which reduces the approachability. Both top-down and side-scroller only show one perspective of the game world and they are very specialized in the way they have to be played.

Then there is also the possibility of an isometric 2D view. This kind of graphic style has been very popular with role-playing games especially ones of the more traditional variety as well as strategy games. The player sees the game events from a three-quarter view looking down which allows for a game that portrays all dimensions of our world. With this solution, it can be quite difficult to find good controls and it can also make it difficult for players to immerse themselves in the world since they are so far away from the events of the game.

Something which works in conjunction with the choice of dimension is the choice of a game engine. A game engine is the framework the game sits upon and will be developed upon. Developing a game engine oneself is a possibility but requires a lot of time and is also a very difficult process that needs a lot of experience in programming. Because of this many indie developers choose one of the many available game engines that are made available by companies specializing in game engines. Some of these game engines are completely free to use and won't take a commission from the revenue earned by the game but many game engines especially the more advanced examples have costs associated with them. One of the most popular game engines with new developers is Unity which is free to use up until a game developed with its engine reaches a certain revenue.

For the project, 2D graphics were chosen over 3D as the latter is more complex while not delivering an increase in player experience in this instance. 2D also allowed for easier integration of art assets and a more straightforward development avoiding many of the hurdles that come with the development of three-dimensional game worlds. As a game engine Unity was chosen as it has a large amount of documentation and is also very proven in the industry and with indie developers. Additionally, many of Unity's features are very beginner-friendly, and using it is free for developers starting out.

The method of portraying the game world which was chosen for this game is a stationary view that looks at a scene inside the game world from a specific perspective. This view is quite restricted in its maneuverability but since the game's events take place in a very static environment this is not an issue. The view allowed for a good representation of the perspective a person would have when sitting at the reception which in turn makes the game more immersive and believable. The main events of the gameplay all occur in the frame the player is looking at.

2.3.3 Mood and immersion

If you would ask a sample of gamers what their definition of immersion is you would probably get a different answer from each of them. Describing or defining mood and atmosphere in video games like any medium can be quite difficult even more so in developing and creating that mood and atmosphere. Immersion is a term that gets thrown around a lot and is thereby often abused as a marketing buzzword. Nonetheless, it is a big part of what makes games great experiences. A general definition of immersion in video games could be a general feeling of connection to the virtual gaming world and a sense of being part of it. Immersion may lead to a gamer identifying with the character they are playing. It is also comparable to flow wherein you lose track of time because you are so engaged in the events of the activity. Immersion is also the question of creating value in the virtual actions the player makes. If a player is immersed in the experience of a video game the actions and choices they will make have weight and matter to them even if they are of fictional and virtual nature (Schell, 2019, pp. 412-414).

There are multiple methods and tools that can be used to create and convey a certain atmosphere and setting. One big method that was also chosen for this bachelor project is to show the game world from the perspective of the character that the player is controlling which makes it a lot easier to get immersed in the events of the game (Schell, 2019, p. 421). To achieve immersion, the player has to be able to implant themselves into the game world. A game world doesn't have to be realistic but it has to be believable and consistent inside its narrative to create an immersive experience. The story can be a great tool to create this, as a story with which the player can identify makes the actions that take influence on that story valuable to the player. Characters play into this as they can become important to the player as well. This is underlined by the sheer amount of loved characters in the history of games. If a character matters to a player, they will try to save them if the character is in danger in the game. The same goes for villains as players will try even harder to beat the villain of a game if that villain and their actions are hated by the player.

Mood and Immersion were set as important foundations for the project to make the very stationary nature of the project's gameplay more dynamic and also more believable. The goal of creating an uneasy and slightly creepy environment for the player was set to make the atmosphere of the game a factor that contributes to the level of enjoyment the player

would have when playing the game. Immersive visuals and sound effects were important for this goal to be executed. The black and white environment underlines the noir setting and the dark figures that represent the guests with which the player interacts, create an uncanny accent. Inside the reception, there will be music playing from an old radio which in conjunction with the slightly creepy ambient sound effects sets an immersive and uneasy tone.

2.4 Soundtrack

Sound and music can be very important elements of a game (Schell, 2019, p. 434). Many of gaming's biggest classics are recognizable by their soundtrack alone. Sound is a great tool to convey the chosen theme of a game. Even indie games such as Undertale have very memorable soundtracks which in this case have reached people outside of the gaming world. It is not about creating a big-budget music production but more about creating something that fits the setting of the game and supports its mechanics and world. Different types of games need a varying degree of musical support whereas some games even have no need for music in general. Similar to movies music supports the events of a video game and will emphasize moods and atmospheres of it. There are however even games that focus on the aspect of sound and music and turn these elements into the main components of their gameplay. Examples of this type of game would include *Osu!* and *Audiosurf*.

Sounds and sound effects also play a big role in game development. Sound effects are the foundation for a believable experience and majorly impact the enjoyment a player gets out of their time with a game, especially in certain types of genres like horror games which rely heavily on atmosphere. Sound effects deliver important feedback which adds to the believability of actions inside the game world. If the lock of a door makes a satisfying opening sound it doesn't only make that action seem more realistic but also makes that action more fun (Schell, 2019, p. 434).

Since *Lowrest Station Hotel* aims to create a believable atmosphere, sound effects were important for the development. There was a focus on establishing sounds that influence the emotions that the player will feel while playing the game. Examples of this may be

an unsettling sound when the main door opens and closes or the sounds of wind howling through the hotel. As already mentioned above music from the first half of the 20th century will play inside the reception and create a false sense of normality. Small random events like the entrance door opening randomly from the wind underline the slightly creepy atmosphere of the game. Additionally, soundtracks of games like LA Noire created a big inspiration for the mood and type of music that was going to be used in Lowrest Station Hotel.

2.5 Story

The story is an essential element of gaming but one that can be implemented in very different ways. There are plenty of successful games that don't have stories in a traditional sense but where the actions of the player and the general gameplay progression create stories of their own. Minecraft is an extremely successful game where most of the story is written by the players through their actions and their creativity (Schell, 2019, p. 339).

That said many games feature stories that are comparable to stories we know from books and movies. Stories that were written by a person for another person to experience and which deliver very memorable emotional adventures. There are even instances of game franchises that feature whole fictional universes with very extensive background stories similar to movie franchises like Star Wars or Lord of the Rings. This is most often the case with Role Playing games and other game genres which take place in large fictional universes.

Stories in gaming always face a problem that they don't face in other media and that is that the player most often takes influence on it and interacts with it directly. It has to be said that even if gaming is an interactive medium, many games have stories that are not directly controllable, and even if games offer different pathways and endings of stories they are still bound to the limits of programming and game engines. The fact that games exist that feature the ability to choose your pathway and how your character evolves over its course however create a very unique experience that many media can't replicate.

Games have the advantage over other media in that the player can take control inside these preset parameters. The amount of story depth in games is a spectrum. Some games can be described more as interactive movies with long cutscenes and just minor interaction. On the opposite side of the spectrum are arcade games like Tetris or Pac-Man with only a little amount of story.

It's another element which has to be implemented the right way. As in other media stories have to be engaging in order to be interesting to the player. A boring or uninteresting story gets ignored by the player in the best case and can hinder a game's experience in the worst case. Undertale is an example of a game which has reached a large audience despite it being quite simple in its gameplay. The characters and story that make up a large portion of its elements create a very memorable experience so much so that its characters have become a large part of internet culture. This shows how valuable story can be for gaming if it is executed the right way. Another phenomena that underlines this is the large enthusiasm many players show towards fictional game worlds such as the world of the Elders Scrolls game series.

For the project a small story background and progression was chosen which should support the main focus of the game, its gameplay. The scape of the story was chosen to be similar to games like Papers, Please and designed to be linear with different endings. The player will step into the shoes of a young woman who has bought the rundown hotel which is known as Lowrest Station Hotel located in the fictional town of Lowrest. The hotel is famous in the town for being haunted and the legends surrounding it. The hotel is located at the train station of the town and many travellers that come through the area will want to stay at the newly reopened hotel. Depending on how the player will manage the hotel and if they are successful the game will end in different ways.

2.6 Game feel

All of the elements above ultimately come together to create a certain game feel. Game feel is quite a loose term and can be defined in many ways. Generally speaking, it describes how it feels to interact with a video game. It's the amalgamation of all elements of a game. Minor details can have a major impact on game feel for example how an attack

sounds and looks like. If the player attacks with their character the feedback the game gives can make that action inside the game either more enjoyable or less depending on the execution. The attack can have a satisfying sound and beautiful visuals and the player will be more engaged. If the opposite is the case then the player might be easily bored by that said action. With actions that a player will execute often throughout the playthrough, it is important to establish good feedback to keep the player interested (Schell, 2019, pp. 280-281).

Visuals are subject to game feel like many elements of a game. A big tool here is particle and visual effects which can improve the single actions that happen inside a game. This can be dirt that is kicked up as a car drives on a dirt road or blood that splatters out of an enemy that is hit by a weapon. Without simple effects like this, a lot of actions don't have enough feedback and become boring.

Sound effects also play a big part in game feel. Sound effects can emphasize the action a player has executed and give important feedback. An example here might be a very believable sound of a door opening or satisfying sounds when the player jumps or fights. Music ties into this and a horror game for example will use fitting music which helps create a scary mood. This majorly contributes to a believable and engaging experience (Schell, 2019, p. 434).

UI design is another example of an element that can have an impact on game feel. If the UI is bland it makes the game more boring to look at and decreases the general experience of the game. This can also include the sound and the animation of clicking a button in the UI. The feedback of an interface has to be very clear and its navigation has to be intuitive to avoid creating frustration inside the player. Ultimately the mass of small details creates a good game feel.

A big intention inside developing the project has been to avoid a common lack of game feel inside many indie games. Small details like a custom cursor and choosing a noir-inspired UI style were important elements to make the game seem more alive and avoid creating a bland overall experience. Also establishing haptic feedback inside of the game's interactions helps with this. Sound effects were also vital to create good control feedback. The register book which a player will use for long periods of time during the

game features a realistic page turn sound that also echoes through the reception for example. The music coming from the radio sounds like it comes from an old speaker to make the situation more believable.

2.7 Selling an indie game

Lastly its also important to think about how a game should be sold after all most games are designed to be products that have to be bought in order to be played (Schell, 2019, p. 536). There are exceptions to this as there are free games. Usually, many so-called free-to-play games have other means of earning revenue be it subscription models or in-game stores which are especially common in free-to-play MMOs.

Pricing is important as it will determine how many people will buy a game. A higher price can make the decision to buy a game a lot harder for a gamer. Indie games usually are cheaper than AAA games corresponding to their often smaller scape and size. It is important to choose a fair price for a game and finding that price is often quite difficult as a developer has a warped picture of their own product.

Where an indie game is sold is also an interesting question. More often than not indie games are distributed through digital storefronts. There are also examples of indie games that have been distributed through traditional stores in physical form but they are the minority as this type of distribution comes with costs and hurdles that many indie developers cannot afford. The most common and by far the largest distributor is Steam but in recent times the Epic Games Store also has been a popular option as it takes less commission. Commission is another aspect that is important to think about as Steam for example takes roughly 30 percent of the revenue which is a considerable amount.

Marketing is another factor that plays into this. If no one knows about a game nobody can play it. The struggle of gaining recognition is quite strong in the indie game sector as there are many games from other developers and there is a high chance that many gamers won't even know about a new indie game when there is no marketing to create awareness. Content creators on platforms such as YouTube and Twitch which create content centred around gaming also play a growing role in raising awareness of small games.

Papers, Please for example gained a lot of traction when it was played by multiple larger content creators. Especially larger game development studios but also smaller developers have started to give bigger content creators free copies of their games to gain awareness through their audiences.

Another aspect that has become more and more relevant over the last years are so-called add-ons and DLC which are additional content a player can buy for an already purchased game. A game series that is famous for possessing a large number of add-ons is the Sims series where buying all of the available add-ons would set a player back multiple hundreds of Euros. Many AAA games are released with less content than expected at first in order to sell that content later as an additional product in the form of a DLC. This policy is very contra-productive and also unfair to the customer but even if criticized heavily by gamers and strong voices in the industry, is a strategy that seems to persist. It creates a situation where the game itself is incomplete and only starts to feel like a finished product upon buying the DLC. This is not only very frustrating for the customer but also very expensive as in some instances the complete cost of buying all DLC can cost multiple hundreds of Euros. There are examples of healthy DLC politics which focus on adding features and content which is focused on enhancing a finished base game. Indie games often don't engage as much in DLC politics and if they do it's a more healthy approach in comparison to the AAA industry.

The concept of Lowrest Station Hotel was thought with digital distribution in mind as it is the easiest and most cost-effective method of selling an indie game. Steam was chosen as the storefront as it is by far the largest and most accessible distributor. Additionally, simple methods of marketing through social media would be utilized upon execution of the game concept. If the concept would be executed the price would be set in a lower range as the scope of the game is rather small. The price would be based on games of similar scope and inside similar genres.

3 A model game: Papers, Please

3.1 What is Papers, Please

Papers, Please is an indie game developed by indie developer and former developer at the famous game studio Naughty Dog, Lucas Pope. The game was released on August 8, 2013, on multiple platforms including Windows, and was also sold on Steam. The player adopts the role of a nameless immigration officer in the fictional and dystopian country of Arstotzka which is inspired by the Eastern Bloc. The job of the player is to check the documents of citizens and foreigners to decide if they may pass or not. The game has seen a lot of sales, selling over a million copies in just 2 years, and has been received very well critically ('Papers, Please', 2022).

The game was chosen as an example of a successful indie game and also as a big inspiration for the practical part of this bachelor project.

3.2 Gameplay loop

The basic gameplay loop sees the player checking documents with an increasing workload over the course of the multiple days the game's narrative stretches over. If the player fails to detect forged or expired documents and consequently lets the wrong immigrants through the border, they get written warnings and eventually get fined. The player earns money for every checked person entering the checkpoint. After each workday, the player gets presented with a screen showing the earned money and their savings. The main character of the game needs to feed and care for their family and if funds run out the family members will die eventually. During the progression of the game, the player will be faced with different moral dilemmas and choices which eventually take effect on the story creating multiple endings. The player is presented with multiple tools to help them identify forged or expired documents. Examples of the tools available to the player are a scanner to identify discrepancies inside the documents, fingerprint comparisons of the immigrants in order to clear up confusion about their identity, and also a full-body scanner at some point in the game. The rules and requirements for documents and foreigners change throughout the game which creates variety and also

keeps the game challenging. This comes in different forms such as certain new documents a foreigner has to bring to the checkpoint or also the general rejection of certain nationalities at certain points of the game ('Papers, Please', 2022).

The execution of this gameplay loop makes managing the ever-increasing documents and the additional workload tougher and more challenging for the player.

The need to feed one's family combined with the time pressure to get as many people through the border in a workday creates a good foundation for the player to make errors which creates an interesting challenge.

Later on in the game, the player will have to use other tools in order to succeed in the game. For example, if someone crosses the border without permission such as a terrorist, the player will need to open a drawer with a key and take out a rifle with which they will need to shoot the intruder. Another tool that appears later in the game is a detention button with which the player can choose to detain an entrant if they severely violate the rules of the immigration protocol. Usually, this option ties into the many moral dilemmas that are presented to the player in the game, and the player might not detain the entrant.

A good example of the many moral dilemmas the game creates is an instance of a man who enters the checkpoint who tells the player that the next person to come into the checkpoint is his wife and that the player should let her through as well. After letting the man pass who has all the correct papers, his wife enters the checkpoint. Different from her husband she doesn't possess valid papers and the player now has to decide to either reject her entry as required or if the player lets her through the checkpoint anyway to reunite her with her husband. There are multiple instances in the game where similar choices are required from the player. Since choosing to help foreigners in these cases leads to possible fines and penalties for the main character it leads to a conflict of interest inside the player since they will also think about the money they have to earn for their family. Then there is also this feeling of oppression looming in the background especially since a player eventually will find out that they can get fired or imprisoned by the state of Arstotzka which makes doing the right thing difficult.

Many core elements of the bachelor project's gameplay are inspired by Papers, Please such as the core idea of gamifying a usually mundane task from real life. Also, the general

document managing loop of Lowrest Station Hotel has borrowed certain aspects of how the player deals with the paperwork in Papers, Please. Similar to Papers, Please a player has to deal with strangers, and even if the setting and the gameplay differ from each other it is a similar type of situation.

3.3 Audio-visual experience

Papers, Please utilizes a simple but effective 2D pixel art style. Its colour palette is simple without many vibrant tones and a heavy emphasis on grey and muted tones. In this way it creates a depressive mood which fits the setting of an authoritarian, dystopian world very well. Additionally, the setting borrows a lot of visual clues and inspiration from the real-life Eastern Bloc. The pixel art style is very minimalistic for the most part with a strong emphasis on the faces of the people that pass the border checkpoint as well as the workplace of the main character. The surroundings of the main character's workplace are represented in black and white with indistinct silhouettes representing the migrants and border guards.

The people that pass through the border and with which the player interacts are represented in a very desolate visual and in muted tones of colour. They enter and leave the checkpoint in form of a black silhouette and seeing their faces as they step into the light of the checkpoint is a bit uncomfortable. Their expressions vary from neutral to negative with many of them having hidden eyes or unsettling faces. The faces of the migrants are very static and the animations are kept very simple which makes the characters look very tense. All of this successfully underlines the dystopic mood and hopelessness that the game world and its population are supposed to represent.

The whole audio-visual experience of the game is very emotionless and cold. Other than the music in the main menu and two other music pieces which play when the player achieves either a bad or good ending the game gets by without music. Voices are kept to a minimum and sound very inhuman and robotic. Most of the sounds a player will experience in the game are very harsh and serve the purpose of creating an immersive atmosphere. The sounds also highlight the repetitiveness of the job the player is faced with. For example the sound that plays when the player prompts the next migrant to enter

the checkpoint is always the same and one that the player will hear a lot during their playthrough.

The entirety of the game's interface is very bleak in its appearance and the tactical feedback is harsh with punchy sound effects. The game avoids using normal menu windows and instead uses the representation of real-world objects as bodies for the UI. For example, the news the player receives every day is showcased in the form of a local newspaper which also underlines the propaganda of the fictional state. The game is a very stationary experience and the player won't experience much from the fictional world other than the border checkpoint which drives the feeling of isolation home.

Lowrest Station Hotel borrowed a lot of inspiration from the style in which the characters are represented in *Papers, Please*. The guests in Lowrest Station Hotel have shadow-covered faces similar to those of the migrants in *Papers, Please* which helps to create a somewhat unnerving interaction between characters and player. The voices of the guests will be minimal and inhuman like they are in *Papers, Please* as it highlights the tension between player and characters. Similar to Lucas Pope's vision, Lowrest Station Hotel is designed to create a depressive and also tense atmosphere for the player. The environment that the player will spend most of their time with inside Lowrest Station Hotel has a similar approach as *Papers, Please* in that it's an unpleasant environment and also a similar style of workspace.

3.4 Story

The fictional world of *Papers Please* contains multiple states of which the totalitarian state Arstotzka is the setting of the video game. A previous game from Lucas Pope already played in the same fictional universe but in a different fictional country. Part of the backstory of the game is that Arstotzka has just won a war against the neighbouring state of Kolechia in which they secured the eastern part of the border city called Grestin. The story revolves around a simple man who has started working at the newly opened border checkpoint in the newly acquired half of Grestin called East Grestin. People from the neighbouring countries try to pass through the border checkpoint in order to enter Arstotzka. Among them are many criminals and people who work with smugglers and

spies. There are also even terrorists who try to pass through the border as the story progresses. Throughout the game, the player lives through the individual days of this man eventually resulting in multiple possible endings. The different endings are reached through specific choices the player makes throughout the game. The story is quite effective even if it is kept quite simple. It is woven very well into the gameplay progression of the game. The game has 20 different endings that the player might explore and the game's story stretches over 31 in-game days.

If the player reaches one of the possible endings in the game they will receive a code with which they can unlock the other gameplay mode, the endless mode.

The people that pass through the border checkpoint seem like nobodies and the interaction between them and the player is very limited. Most of the time the main character will ask the migrant a couple of questions regarding their purpose of stay and other relevant questions for the migrant's entry. If the player rejects the entry of a migrant they will often react quite rudely or agitated. The entrants are a mix of scripted and randomly generated entrants. There are also reoccurring characters most notable of which is the character called Jorji Costava who will try multiple times to enter through the border often with forged or missing papers until he eventually has all the necessary documents to enter. Eventually, Jorji will help the main character during the last days of the game's story.

Lowrest Station Hotels' story was intended to function in the same vein, assisting the gameplay and progressing with it. If able to expand on the general story concept there will be more serious topics incorporated into the narrative of the game which is also inspired by the dark storytelling of Papers, Please. The looming threat of going into financial trouble with the hotel and subsequently losing it functions in a similar vein as the need to feed one's family and oneself in Papers, Please.

3.5 Personal experience as an inspiration

Lucas Pope used a very effective tool to find inspiration for his game, his own real-life experiences. He used his experiences being abroad and going through border control as a template as he found the repetitive nature that the personnel at the border checkpoints he passed on his trips to be interesting and a good foundation for a game concept. This

ultimately led to a very unique and original game that explores an action and topic no other game did as successfully as Papers, Please ('Papers, Please', 2022).

Personal experience did play a role in Lowrest Station Hotel to a certain degree as I took experiences from my travels through Europe throughout the years and the many Hotels I stayed at as an inspiration. Walking through the streets at night and looking at historic architecture as well as consuming media from the time that Lowrest Station Hotel represents also gave a lot of substance to work with.

3.6 Reception

Papers, Please was received very well turning out to be a commercial success. It received a lot of praise for its very immersive atmosphere and ability to portray the dystopian setting and story in a very believable way. Generally, it was also praised for making a seemingly boring gameplay concept so interesting and fun. Also, the story and the characters of the game have seen a lot of praise in conjunction with its ability to convey the moral issues of the game world. The game is also often identified as a video game that functions as a piece of art.

On Metacritic it received a score of 85 out of 100 by critics and a user score of 8.5 which is a very good score. In the year 2014, Lucas Pope won in the category of best strategy and simulation game at the BAFTA Video Game Awards. The game is often rated as a great example of a very successful indie game ('Papers, Please', 2022).

Conclusion

The steps and effectively executed elements that create a successful game experience are complex and diverse. Through the work done in the practical part of this thesis together with the research done in the theoretical part, multiple important big steps were identified to create a successful indie game.

Starting point and the important foundation is created by the brainstorming of a general game concept. The focus should be set on finding an effective idea that is not too complicated and adds a new experience to the gaming medium. The concept of the practical part was kept relatively simple and focused on the important fundamental gameplay elements. The idea of the game was chosen to be original and to add something new to the gaming sphere.

The next point that was identified is the focus on creating solid core gameplay on which the rest of the game can be built on. Lowrest Station Hotel makes usage of a simple but effective core gameplay loop which was conceptualized to create a good balance between reward and challenge. Instead of focusing on establishing as many features as possible focus was set on making the right amount of features and refining them.

Continuing from this is the identification of how the audio-visual experience of the game has to be in order to convey the concept of the game. This step is very individual and has to be done in conjunction with the development of the gameplay mechanics. For Lowrest Station Hotel a 2D graphic system was chosen as it suited the game concept well and allowed for development without many obstacles.

The immersion and feedback a game gives are vital to creating a memorable experience and as such Lowrest Station Hotel was conceptualized with many sound effects and a priority on creating a believable atmosphere.

The success of other games serves as a great inspiration from which a new developer can draw. Lowrest Station Hotel has taken a lot of inspiration from Papers, Please while staying original.

What can be said lastly is that the topic of game development needs a lot more research. This bachelor work has touched upon many elements that create games but it became apparent in the research process that there is not enough scientific exploration of the elements that make up games. Additionally, the number of studies conducted on specific parts of games is also very limited.

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