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The 40 Seconds Rule and Points of Interest in
The Witcher 3: Wild Hunt

Faculty of Arts
Department of Game Design

Authors: Andrei Cojanu & Maher Jaber

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Supervisor: Richard A. Bartle

Examiner: Masaki Hayashi

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Abstract

The Witcher 3: Wild Hunt is one of the best selling open world video games in recent years. Thanks to the game's popularity, other game designers might want to replicate its world design methods. In an interview from 2017, the game's developers have explained that they have used a system called "the rule of 40 seconds" to ensure that the player stumbles upon something interesting every 40 seconds of exploration. In this research, the authors conducted a test to check how accurately the rule was implemented; they did this by analysing footage of gameplay from four different YouTube content creators, on two of the game's maps. The research found that a Rule does exist, however, it is greatly influenced by playstyles and only accurate for certain players. It concludes that designers looking to implement the rule, can reliably do so, but they should take playing styles and player movement speed into consideration when testing their rule.

Key words: Video games, Open worlds, *The Witcher 3: Wild Hunt*, Points of interest, 40 Seconds Rule, World building.

Abstrakt

The Witcher 3: Wild Hunt är ett av de bäst säljande öppna världsspel de senaste åren. Tack vare spelets popularitet kanske andra speldesigners vill kopiera dess värld designmetoder. I en intervju från 2017 har spelets utvecklare förklarat att de har använt ett system som kallas ”regeln om 40 sekunder” för att säkerställa att spelaren snubblar på något intressant var fjärde sekund av utforskningen. I denna forskning genomförde författarna ett test för att kontrollera hur korrekt regeln implementerades; de gjorde det genom att analysera bilder från fyra olika innehållsskapare på YouTube på två av spelets kartor. Forskningen visade att det finns en regel, men den påverkas av spelstilar och är endast korrekt för vissa spelare. Det drar slutsatsen att designers som vill implementera regeln kan göra det på ett tillförlitligt sätt, men de bör ta hänsyn till spelstilar och spelarens rörelsehastighet när de testar deras regel.

Nyckelord: Videospel, Öppna världar, *The Witcher 3: Wild Hunt*, Intressanta platser, 40 sekunder regeln, Världsbyggnad.

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Preface

The authors

Andrei Cojanu and Maher Jaber are game design students at Uppsala University with a passion for open world games. This thesis is the result of many hours of work, spent studying the world of *The Witcher 3: Wild Hunt*. Although challenged by the ongoing COVID-19 pandemic, the research has been a great opportunity to learn more about the design of open world games. In the future, both authors would like to work in the game industry and be part of the design process for open world games such as this one.

Acknowledgement

We would like to thank our supervisor Richard Bartle for his invaluable feedback and guidance throughout the writing of the thesis. We would also like to thank our peers for their criticism which helped us strengthen our research. Finally, we would like to thank Noclip - Video Game Documentaries for their insightful interview with *The Witcher 3*'s developers as well as the YouTubers: FightinCowboy, Gopher, ChristopherOdd and Materwelonz for their entertaining playthroughs of *The Witcher 3: Wild Hunt*. Without their footage of the game, the collection of data would not have been possible.

- Andrei & Maher

1 Introduction

The Witcher 3: Wild Hunt (CD Projekt Red, 2021). was one of the most critically acclaimed open world games released in recent years, its main selling points being the intriguing narrative and characters as well as the dark and immersive open world in which it takes place. In the year of its launch, it won Game of The Year from the 33rd Golden Joystick Awards as well as The Game Awards 2015. On May 28th, 2020, the company tweeted about reaching the milestone of 50 million copies sold and the game continues to sell well to this day. (See Appendix B)

In open world games, as opposed to linear or level-based games, the player can freely explore the game world. These open world games try to keep the player engaged for long periods of time by supplying them with different quests and objectives. Inspired by the commercial success of the *Witcher 3*, other designers are likely to look at the game and try to replicate its world building methods. One of the world building methods that the developers of the game talked about was meant to ensure that the world was filled with compelling encounters that kept the player interested in exploring. This method, which is researched in this paper, is known as the *40 Seconds Rule*. CD Projekt Red, the game's developers, discussed the design of the game's world in an interview with Noclip:

“We did some tests, and we found out that player [sic] is focused on stuff which we produce, like every forty seconds, player [sic] should see something, and focus on it, like a pack of deers [sic], some opponents, some NPCs wandering about. So, we have our rule of forty seconds”.

(Designing The World of The Witcher 3, Noclip - Video Game Documentaries, 2017).

During the interview, they spoke about how they focused on the player experience when working on the world, carefully crafting it to make each area detailed and believable. The developers tried to make sure that the player is constantly rewarded while exploring, by encountering interesting locations, characters, or enemies. The solution they came up with was the 40 Seconds Rule.

Open world games require complex world building to be engaging and to keep the player interested during gameplay, grabbing their attention constantly. According to Petri & Sjoberg (2014), level designers need to employ multiple strategies to maintain the player's interest, and to give them several ways of achieving the level's goal. As stated earlier, CD Projekt Red has introduced a solution for ensuring the world is efficiently populated with *points of interest* (POI). The purpose of the research is to check the existence of the rule, in order to help open world game designers who wish to use it and provide them with scientific data to inform their design decisions.

The aim of this paper is to validate or invalidate CD Projekt Red's claim about the implementation of the 40 Seconds Rule in *The Witcher 3*. For this purpose, a research question was created: How accurately did CD Projekt Red implement their 40 Seconds Rule in *The Witcher 3: Wild Hunt*?

To fulfil the aim, the authors used user created content of the game, from YouTube, and time stamped each occasion the player encountered a POI. Video game players have different approaches to game situations and a different level of curiosity, skill level and patience, and thus, they experience the game in different ways. Furthermore, *The Witcher 3* features multiple maps to explore which could differ in how they are built. To account for that, four different content creators and two of the base game's main maps were analysed, to verify the effect of the 40 Seconds Rule under different circumstances.

2 Background

2.1 Theory

For this research, there are several terms that are used, that the reader needs to know about to understand the paper. In this section, a list of definitions and explanations for the most important terms can be found.

As mentioned previously, *The Witcher 3: Wild Hunt* is an open world game. In those games “the player is left to his own devices to explore a large world. What all of these games share is the seeking of new, interesting regions at whatever time the player deems fit” (Harris, 2007). Zubek (2020) explains that those games usually have massive maps that are filled with various activities that motivate the player to interact with and explore. Players follow short story elements, also known as quests, some of which are part of a longer, main storyline, while others are entirely optional. Open world game designers usually populate their worlds with (POIs) to avoid the feeling of an empty world. They try to spark the player's curiosity and incite the player to travel more.

Often, these types of games are filled with quests that the player needs to complete in order to progress. “A quest is a journey across a symbolic, fantastic landscape in which a protagonist or player collects objects and talks to characters in order to overcome challenges and achieve a meaningful goal” (Howard, 2008). In *The Witcher 3*, the player might encounter a villager seeking help in dealing with a ghost who is haunting his house. The player can then choose to accept or reject the contract, but upon completing its objectives, they are rewarded. There are two different types of quests. Main quests, which are part of the game's main narrative, usually must be completed to beat the game. Side-quests are optional quests that the player can pick up in the world. They are usually separate from the main story quests, but they can sometimes influence its outcomes. Additionally, they involve participating in optional activities that most of the time have no direct impact on the main storyline of a game. Completing side quests usually helps the player character develop and be better prepared for the main quests.

As stated by Adams (2013), the characters assigning quests to the player or that the player can otherwise interact with are known as *non-player characters* (NPCs). These are all the characters in a game that are not controlled by the player and are usually managed by artificial intelligence. In *The Witcher 3*, there are different types of NPCs: interactable characters such as traders, quest NPCs and enemies; wandering or static NPCs that cannot be interacted with such as guards and civilians.

Video games often feature visual components known as a user interface with the purpose of allowing the player to interact with the game’s systems. From the perspective of this thesis, an important component of the user interface is known as a *heads-up display* (HUD), defined as “the technique of displaying indicators superimposed on the main view in a user interface rather than in a separate window of their own” (Adams, 2013). The HUD is a method of visually relaying information to the player, commonly used to communicate the player’s health, energy, ammunition, time, or quest objectives. Through the HUD, a compass or a minimap is often displayed to help the player reach their objectives. **Fig 1** explains every element of *The Witcher 3*’s HUD. The most important one to note for the purpose of this research is the minimap.

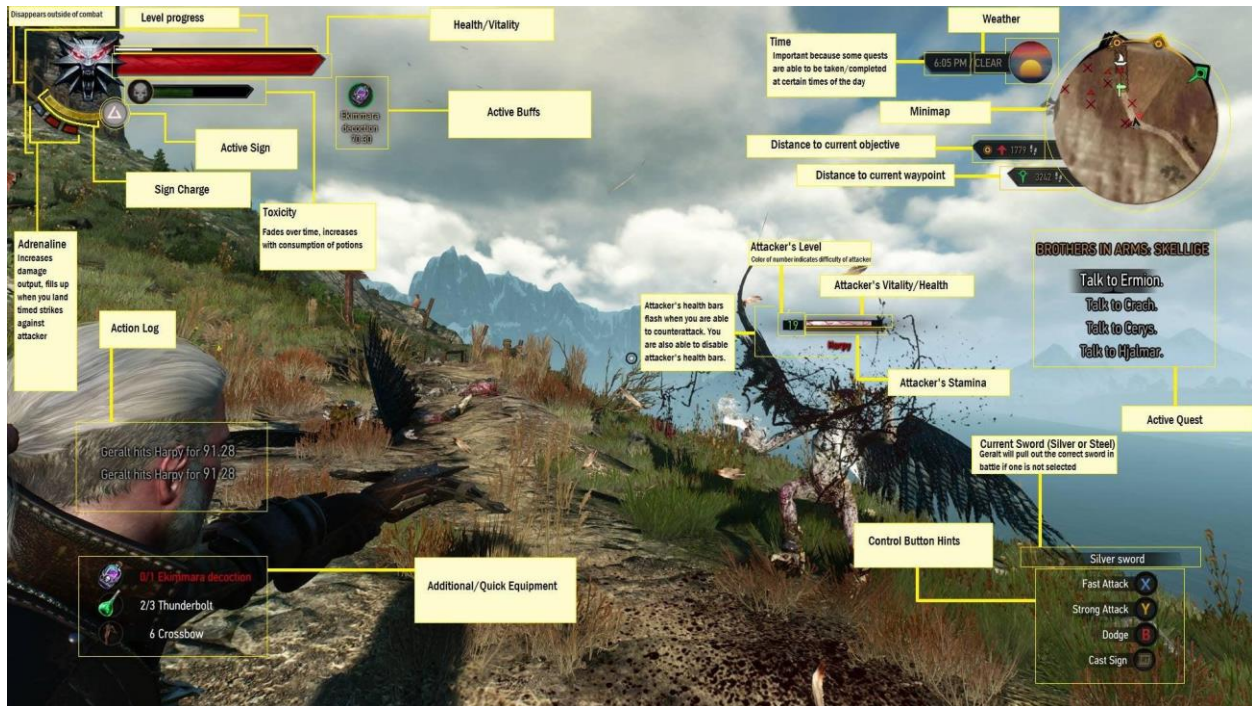


Fig 1. *The Witcher 3* HUD Explained.

[\(https://www.reddit.com/r/witcher/comments/352zxc/the_witcher_3s_hud_explained oc/\)](https://www.reddit.com/r/witcher/comments/352zxc/the_witcher_3s_hud_explained_oc/)

As part of the HUD, a minimap is often used to help the player navigate the world. A minimap is a “small, dynamically updated map of a game world, usually displayed in the corner of the screen in the primary gameplay mode, for quick reference” (Adams, 2013). *In The Witcher 3*, it is centred on the player’s location and indicates location markers, as well as a dotted path leading the player towards the currently active quest objective. It also indicates enemies and bodies that can be looted. **Fig 2** is an example of how the minimap looks like in the game. Icons for a notice board, an herbalist, a plant, and a shopkeeper can be read from it, as well as the player character and the path they need to follow to reach their quest objective.

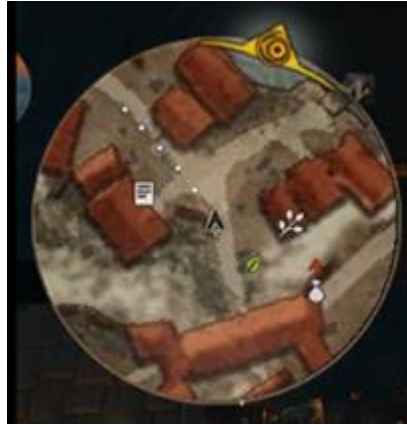


Fig 2. *The Witcher 3*'s minimap

[\(https://alexloughran.wordpress.com/2016/06/09/nitpicking-favorites-witcher-3/\)](https://alexloughran.wordpress.com/2016/06/09/nitpicking-favorites-witcher-3/)

In the context of the game's main map, the words 'question marks' will be encountered in the thesis. They are used to indicate unexplored locations, aiding the player in their exploration. Upon reaching a question mark, it transforms into a different icon based on what the discovered location is. When referring to a 'question mark', it is this map symbol that is being discussed. **Fig 3** contains an example of how they look like on the in-game map.



Fig 3. 'Question marks' on *The Witcher 3* map

[\(https://alexloughran.wordpress.com/2016/06/09/nitpicking-favorites-witcher-3/\)](https://alexloughran.wordpress.com/2016/06/09/nitpicking-favorites-witcher-3/)

The 40 Seconds Rule is touched on several times throughout this study. It is a system designed by the world building team at CD Projekt Red, to ensure that players always see something that grabs their interest in the open world environment.

“We had points of interest, which were combined with environmental points of interest. Things like bandit campfires, abandoned settlements, like hidden treasures. Then, we had points of encounters. So, simple spawners of monsters in the woods, or bandits in the woods. And then, the communities [...] maybe in this area, we have farming settlements, right, and what could be a POI, maybe a broken-down mill on top of a hill, and, of course, the farm itself. But we also try to make sure that everything is...the infrastructure is consistent, so we would try to put these places close to each other”.

(Noclip - Video Game Documentaries, 2017)

Bartosz Von Ochman, who worked as a living world designer on the game, categorises those encounters as points of interest, points of encounters and communities. Points of interest are locations or landmarks that the player might find useful or interesting. In the interview, he gives bandit campfires, abandoned settlements and hidden treasures as examples. **Fig 4** shows an abandoned tower, an illustration of a POI.



Fig 4. Screenshot of an abandoned tower taken from the Noclip interview, example of a point of interest in *The Witcher 3*

Points of encounter are events in which the player interacts with the world. Those can be combat encounters like spawners of monsters or bandits, as well as scripted events as explained in the interview. **Fig 5** represents drowners; a common enemy to encounter in the game.



Fig 5. Screenshot of drowners, example of a point of encounter in *The Witcher 3: Wild Hunt* (<https://www.thegamer.com/witcher-drowners-unanswered-questions-trivia/>)

Communities are areas of the game populated with NPCs. In these locations the player can start new quests, trade, and replenish their supplies. As stated by Bartosz Von Ochman, those locations can be settlements, cities, and villages. **Fig 6** represents the city of Novigrad, one of the biggest cities in the game.



Fig 6. Screenshot of the city of Novigrad, example of a community in *The Witcher 3* (<https://www.thegamer.com/witcher-drowners-unanswered-questions-trivia/>)

Although the developers categorise interesting encounters in those three categories, they are not necessary for this research. With that in mind, for the rest of the thesis, all three types of encounters will be referred to as POI, as it is the overarching term for all of them.

The final term used in this paper that requires an explanation is *Let's Play* (LP). LPs “are recordings of video gameplay with commentary from the player, that are then shared online for others to view” (McKittrick, 2020). These videos document the playthrough of video games in which the content creator usually plays the game from start to finish over several sessions.

2.2 Literature review

This section includes all the literature used as inspiration for this thesis as well as examples of previous research that used similar methods. To collect data, the form of content that could be analysed had to be determined; explained in the ‘User Created Content’ subsection. The way in which this content could be obtained in a way suitable for analysis was another important step; explained in the ‘Empirical Research’ and ‘Quantitative Analysis’ subsections.

2.2.1 User Created content

Bias, as a term within research methodology, refers to a systematic error in a study (Gerhard, 2008). This is problematic because it can cause distorted results and wrong conclusions. With this in mind, the authors of this thesis have sought to reduce their bias to maintain the authenticity of the results. Initially, they planned to play the game themselves, record their playthrough and analyse the time spent between each POI. They identified, that as researchers, their playthrough would have been influenced, since they could subconsciously alter their results to reach different outcomes. To prevent that, it was decided that gameplay of other players that are not aware of the study should be used. Due to its accessibility and with the goal of collecting as much data as possible, *User Created Content* (UCC), in the form of recorded videos was utilised.

Shim, S., & Lee, B. (2009) have previously used UCC for collecting the data required for their paper’s conclusion and it proved to be an effective source. UCC is a term used for any content submitted by digital common and then are publicly distributed. “UCC content can be in any form of information including text (discussion boards, blogs etc), photos, videos, music, audios, wikis, customer review sites, video games, virtual objects or any other website that offers the opportunity for the user to share their knowledge and familiarity with a product or experience” (Oum, & Han, 2011). The main reason for UCC being used, instead of the authors testing the game themselves is to stay neutral in the research. As game designers that are looking for a system in the game, they would actively be noticing it in the world, while an average player would just focus on playing the game and exploring. Furthermore, prior to this research, both authors have played *The Witcher 3* in its entirety, which would also influence how they perceive the world. It should be noted that the authors will be making observations based on their knowledge of the game world when analysing the results.

Two good sources for finding video game playthroughs are the websites YouTube and Twitch. YouTube is an online video platform on which users can upload videos and live stream, while

Twitch is a live streaming service which mostly focuses on video game streaming. According to Consalvo et al (2020), “all streamers took care to create a channel that was representative of them in some way, via their streaming personality, channel aesthetics, game choices, and other elements [...]. This norm of the Twitch community translated into multiple sessions of constant gameplay, and via that ‘always on’ liveness, scripted and unscripted elements of authenticity could take shape”. Similarly to Twitch, YouTube content creators take the same care of their channels and the content is just as authentic, the main difference being in the way in which they interact with their audience. When streaming, the creators are focused on the live chat and on interacting with their audience which can often distract them from the game that they are playing. In YouTube video playthroughs, however, the gamers are more focused on the game and for that reason, they are better suited for the purposes of this research.

2.2.2 Empirical Research

This research’s question has a binary answer: was the 40 Seconds Rule implemented accurately or not, which also includes further explanation regarding how accurately or inaccurately it was, and thus, a scientific method of analysing the data was required. The authors of this thesis chose to use empirical research, which was effective for other scholars. According to Landers & Bauer (2015), research is typically categorised as being either empirical or non-empirical in nature, with non-empirical research relying on human intuition and reasoning rather than the direct measurement of phenomena. The downside to non-empirical research is that it completely relies on human reasoning which can often be irrational. Empirical approaches provide a solution to this problem by relying on the collection of numerical data instead of relying on interpretations. Although complete objectivity is impossible to achieve, empirical research minimizes the subjectivity of observation as much as possible by using scientific methods. “Thus, empiricists collect data and then make conclusions based upon their interpretation of what patterns those data reveal” (Landers & Bauer 2015, p.151-152).

In the video games field, there were previous studies that were conducted using empirical methods. Dixit and Youngblood, two researchers that graduated from University of North Carolina performed user tests and used the data that they collected to create visualizations, which indicated where the users’ attention was focused during their gameplay. Researchers Hullett et al (2012) also referenced Dixit and Youngblood’s work by saying that “the implications for game design are to give designers a better idea of where to place important clues”. Although for the 40 Seconds Rule study, data are collected by similar empirical methods, the focus is on the POIs that show up on screen when studying the footage. Because this study is looking at measurable phenomena, and is more focused on science rather than humanities, empirical research was an adequate solution.

As mentioned previously in 2.2.1, the authors chose to observe gameplay of YouTube content creators with the goal of reducing bias, and because their content is authentic. They have learned that users who think-aloud while playing are beneficial to game studies. According to researcher Theodorou (2020), the “think-aloud protocol can find significantly more problems than interviews”. As the name implies, think-aloud requires the user to think aloud while performing a task. For the benefit of this thesis, YouTube content creators who ‘think aloud’ while playing are used. The main advantage that they provide is reducing the human margin of error. The authors might miss some POI when analysing the footage, however, when the content creators are

constantly reacting to what they see on the screen, it makes it harder for POI to be missed. Another advantage that YouTubers bring, is that they are not aware of the fact that their content is part of a study. Because of that, they experience the game naturally, not influencing the 40 Second Rule in any way.

Within empirical research, there are two major data analysis methods which have been developed. The first of them is qualitative data analysis. Explained by Landers & Bauer (2015), “qualitative researchers embrace the idea that humans are subjective, complex creatures, concluding from this that the complexity of human thought and behaviour is exactly what research should aim to explore. These approaches use data collection techniques like focus groups or open-ended survey questions, and it extracts broad themes or trends among respondents”. On the other hand, quantitative research has a different approach to understanding people, and it fits the purpose of this research better.

2.2.3 Quantitative Analysis

The quantitative approach has been chosen for this research over qualitative, because, as mentioned previously, it fits the approach and the type of data used in this research. As stated by Watson, R (2015), “Quantitative research encompasses a range of methods concerned with the systematic investigation of social phenomena, using statistical or numerical data.” It involves measuring quantifiable data and drawing conclusions based on the observed patterns. Riffe et al (2014) explain that “the collected data are then usually analysed to describe typical patterns or characteristics or to identify important relationships among the content qualities examined. If the categories and rules are sound and reliably applied, the chances are that the study results will be valid”.

All things considered, the literature that was studied for this thesis has assisted the authors with developing an effective and objective framework. By using UCC, empirical research and quantitative data analysis the authors’ goal is to give an answer to the research question that can be verified. The researcher bias is reduced by being as transparent as possible and providing all tables of data that was collected in the ‘Appendix A’ section of the thesis.

3 Methodology

This study aims to validate or invalidate the implementation of the 40 Seconds Rule in *The Witcher 3: Wild hunt*, from a neutral point of view. The methods that were used in this research were the empirical method, UCC data collection method and quantitative analysis.

3.1 Pilot Study

Prior to setting the rules of the test in stone, a pilot test of the methods was conducted by the researchers. Out of a list of several candidates, ChristopherOdd and FightinCowboy were the YouTube channels that were chosen for this test, because both recorded playthroughs with commentary of the entire *Witcher 3* game. Two hours of footage from the map Velen were analysed from each of the players, using a stopwatch to timestamp the travel time between points

of interest while pausing within cutscenes, communities, combat, or menus. Both authors of the research analysed the exact same footage independently so that potential differences between their approaches could be easily identified and addressed. Once the tables of timings between POIs were completed, an average between the entries was established. Both tests were conducted using the same two hours of video footage and the results were the following:

- Researcher 1's result was an average time between POIs of 26.5 seconds.
- Researcher 2's result was an average time between POIs of 22 seconds.

It was determined that additional rules needed to be established, due to the difference in the results between the two authors. Several rules were either unclear or unspecified. Does it matter if a POI is noticed by the player or is its appearance on screen enough? What exactly is counted as a POI, and what is not? What are the rules regarding a POI repeating? Some flaws in the pilot test came to surface after seeing the results. The full list of rules, some of which were added after the pilot study, are listed down in the 'Main Study', section 3.2 of the thesis. Following the test, several conclusions were drawn. Considering the footage was the same, the difference in POI timing was considerably large. Because the maps are massive in size, two hours for each of them was too little to draw accurate conclusions regarding the effect of the 40 Seconds Rule. Since players have very different playstyles, two content creators were also not enough. Considering that player playstyle might affect the rule, it was concluded that additional content creators were needed. The researchers gathered that the rules for marking down points of interest were also not clear enough. To fix this problem, they came up with additional rules so that they both interpret footage in the same way. Another test was done after that, and this time the difference in the results between researchers was negligible, the average for both being 24.2 seconds. The full list of rules is explained in the following section of the thesis.

For the final test, additional categories of data were collected to help explain any wide differences in timings that might be discovered during the analysis phase. In the pilot study, there were several cases in which the players undertook actions that affected the results, such as standing still to talk to their audience, getting stuck in terrain, running in circles etc. Knowing this was likely to repeat, the authors decided to keep notes on each of those outliers or anomalies. In cases in which the player's behaviour changed due to repeatedly encountering a certain type of POI, for example enemies, grouping each POI into different types provided an explanation for such situations, while also giving insight into which encounters are the most common or rare. To help remember the interaction and make the interpretation of the results easier, a brief description of what was observed during each POI, as well as how much time the player spent within it, was recorded.

3.2 Main Study

The two content creators that were used in the pilot study proved to be ideal candidates for the research and their footage continued to be utilised for the main study as well. They were also used as a base, to establish the requirements for the other creators that were used in this thesis. The pilot study was beneficial for fleshing out the final rules for the research, which are listed below, and getting more objective and accurate results. To get diverse and accurate data, it was concluded that

two additional content creators were required. The requirements for them to be chosen for the test were the following:

- It had to be their first time experiencing the game. Upon replaying the game, the players might have been less focused on the world itself or less curious to explore it.
- They had to have recorded footage of the base game, not counting the *downloadable content* (DLC) or any game modifications that affect the content of the base game. During the Noclip interview, the designers did not reference any of the game's expansions, so it is unknown whether they followed the same Rule. Other game modifications such as player created content was also avoided because it was not made by the CD Projekt Red developers and thus, does not necessarily follow the same Rule.
- The videos had to be LP type playthroughs of *The Witcher 3: Wild Hunt* video game. In LPs, the content creators record their gameplay, while commenting on what they experience. They do not interact with a live audience and thus they are less distracted by elements outside of the game.
- The minimum of subscribers that the creators should have was decided to be 50,000. YouTube channels take time and dedication to accumulate subscribers. ensure that the channel has had time to develop a certain standard of quality.

The authors looked into multiple LP YouTube videos of the game and made sure that the creators fit the specified requirements. After taking a brief look at their content, diverse playstyles were noticed. When choosing between them, YouTubers with different playstyles to each other were selected. Having diverse playstyles would benefit the research, by testing the 40 Seconds Rule under different circumstances. In addition to FightinCowboy and ChristopherOdd, Gopher and Materwelonz were also selected. Given the fact that there was a time limit to the study, by analysing more than four content creators, less time could be dedicated to each of them, and less map content would have been analysed, making conclusions harder to draw. The researchers considered that it was more beneficial to analyse more of the maps' content rather than more players, as they would have ended up exploring similar areas.

The research was based on two specific areas of the game, which are the game's main maps: Velen and Skellige. These two maps are the biggest the game has to offer; they are filled with content and most of the game's main campaign takes place within them. If the 40 Second Rule can be said to apply to this game, it would have to do so in these two maps. Exploration is also less limited by scripted events compared to some of the game's smaller maps. The player usually must play the game for a few hours before reaching those two maps, meaning that they have a basic understanding of its mechanics and core gameplay loops. This reduces time spent trying to understand basic game concepts. For the content creators FightinCowboy and Gopher, footage from their gameplay within the Velen map was used, while for ChristopherOdd and Materwelonz, it was footage from the Skellige map. In the pilot study of the test, it was noticed that for each hour of footage, around ten POIs could be recorded. To reach a number close to 100 POIs per content creator, which was decided to be a big enough sample size to draw a solid conclusion, ten hours

of video footage were analysed from each of them. This meant twenty hours for each of the two maps and forty hours in total. Due to the amount of data that needed to be collected, the work was equally split amongst the two researchers and accomplished over two weeks.

The Witcher 3 playthroughs were analysed separately, using a stopwatch to measure the time in between each point of interest and pausing during combat, cutscenes, etc. An average of the results between the different game sections and players was formed. The authors also marked which point of interest or encounter was recorded and took note of which specific POIs were encountered repeatedly. As mentioned previously, the game's world building team gave examples for what was counted as a point of interest in their interview with Noclip. Those examples were taken into consideration when timing the space between the points of interest. Using the information that the developers provided, the authors of this thesis also created additional rules. Time spent not exploring, such as engaging in combat or watching cutscenes, was excluded because the player was not traversing the map. Both researchers followed the same rules to ensure consistency between their timing of the points of interest, however a small margin of human error should be taken into consideration when looking at the results. The rules that were extracted from the explanation given by CD Projekt Red employees are as follows:

Points of interest:

- Wildlife
- Wandering NPCs
- Unique landmarks such as windmills, farms, abandoned settlements etc.
- Bandit camp
- Enemies
- Hidden chests/Treasure/Loot
- Smuggler caches

Points of encounters:

- NPCs that the player can interact with such as quest givers, traders etc.
- Enemy encounters or enemy spawners

Communities:

- Villages
- Cities

- Populated settlements

As previously mentioned, 'POI' is going to be the umbrella term used to include all the above terms. Some rules were added by the researchers to outline what is considered outside of the travel/exploration time. They were ruled out when measuring the time between POIs, however, they were still recorded as 'time spent within POIs'. The footage time that was excluded was time spent within:

- Communities
- Combat and looting
- Cutscenes or linear quests.
- Game menus

The authors took the data and formed an average of each player as well as a total average to observe the overall effect of the rule. At every point of interest that was recorded they noted what type of POI it was and how often it showed up. Based on the pilot study that was run, certain results were expected from the data collection. Due to the content creators' diversity of playstyles, the average time between POIs was expected to be different, although based on the pilot test, the expectation was that the average would be lower than 40 Seconds. It was assumed that most of the POIs would be combat encounters and that the longest time spent for POIs would be spent within communities. This methodology was found to be more than adequate for gathering sufficient meaningful data from players with completely different playstyles, and their unique experience in *The Witcher 3*.

3.3 Limitations

Every research is affected by limitations or risks that should be disclosed to the reader. For this thesis, one of the limitations was the fact that there was no previous research conducted, regarding the 40 Second Rule, or in-depth world building in *The Witcher 3*, which made directing this study more challenging. A risk identified in the quantitative analysis approach was, according to Riffe et al (2014), that "designing a study raises questions about sampling, measurement, reliability, and data analysis". The authors tried to reduce this risk by providing information regarding the choice of content creators, game maps and the methods. Although 40 hours of *Witcher 3* gameplay within two maps and four different content creators were examined, the study could have benefited from a bigger sample size. Analysing every map in the game would show whether the rule was applied in each of them or not. Picking more YouTubers would have given more insight into how much different playstyles affect the 40 Second Rule.

4 Results and discussion

In the first part of this section, the results of the data collection are presented along with observations made by the authors. In the second part, those results are interpreted and discussed in

detail to draw a conclusion regarding the accuracy of the 40 Seconds Rule. All the videos of which footage was used for the data collection can be found in the ‘Appendix B’ section of the thesis.

4.1 Results

4.1.1 Velen

The first map of which results are shown is Velen. The two players took an average of 9 hours to reach this map. One took significantly longer than the other because he wanted to explore every location in the previous maps. Both the game’s prologue at Kaer Morhen and the small map White Orchard were explored before reaching Velen, which means that the players had time to learn the basic mechanics of the game by this point. All things considered, this is still the first major map that they encountered in which they had full freedom to explore, and it was the first time they were challenged by higher level enemies.

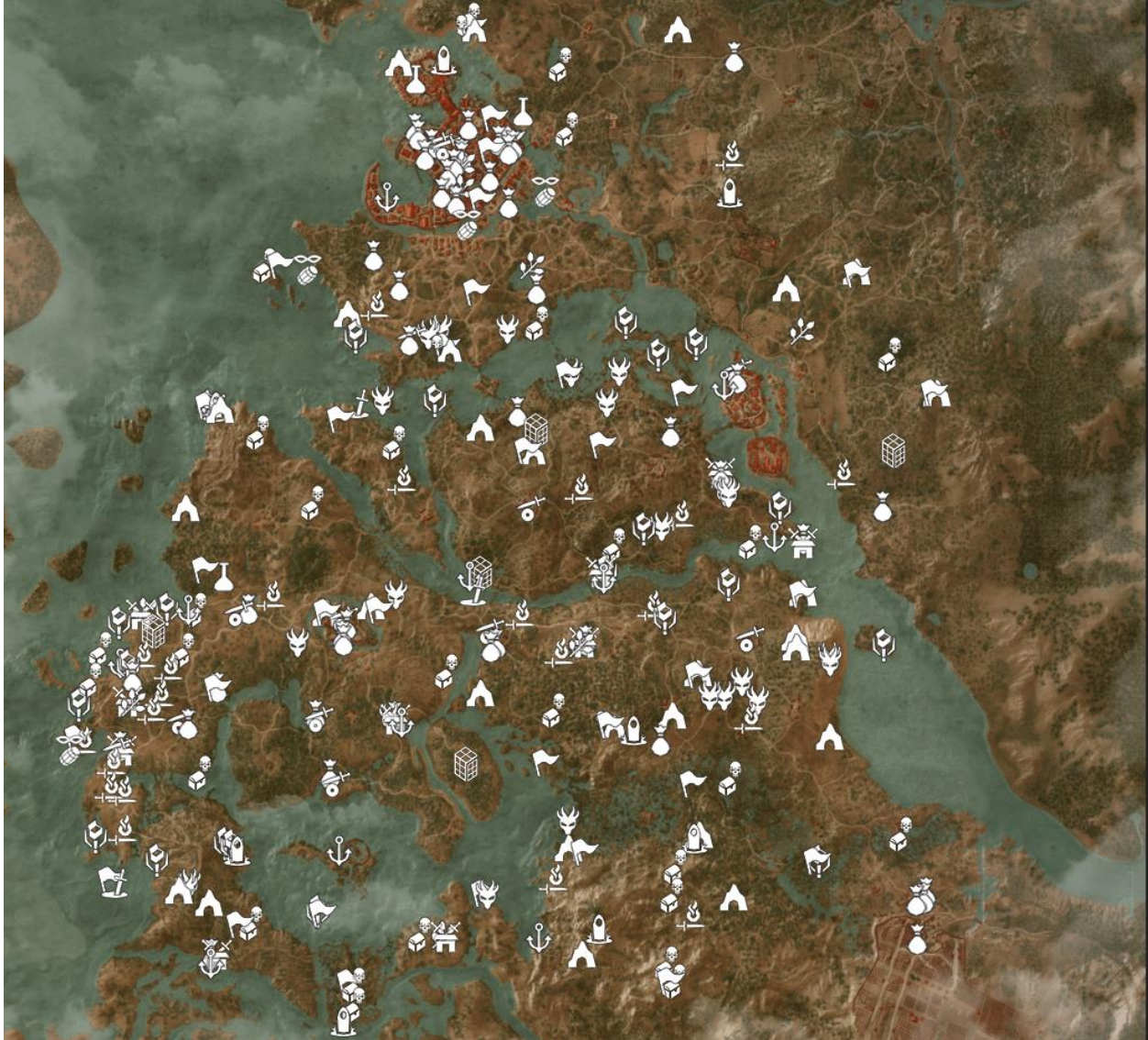


Fig 7. Velen map (<https://witcher3map.com/v/#3/120.00/120.00>)

4.1.2 FightinCowboy

The first content creator whose footage of gameplay on this map was analysed is FightinCowboy. His YouTube channel is focused on making video playthroughs of a variety of games as well as streaming. Among the four content creators that were studied, FightinCowboy's channel has the most subscribers. At the time of the data collection, his channel had 790,000 subscribers and a total of 419,343,780 views.

During his playthrough of *The Witcher 3: Wild Hunt*, he played the game for the first time and set the difficulty to 'Death March', which is the hardest available. Although difficulty does not affect the frequency of POIs, it does have an impact on how much time the player spends preparing, or within combat. While exploring the map of Velen, he was commenting on the game, going from

one quest to another and encountering POI along the way. FightinCowboy's playstyle could be described as fast paced, since he did not waste a lot of time between quests. He used the horse to travel constantly, as well as the fast travel function whenever he needed to. One more thing to note is that between some of the videos there were cuts that he added for the sake of reducing the uninteresting travel part of the gameplay, starting the following video near the next quest. This only happened a few times in between videos and never during them. The entries which were affected by cuts in the video were not taken into consideration. Within the ten hours of gameplay that were analysed, there were a lot of cutscenes and quest related footage. As mentioned previously, he did not waste much time exploring, instead choosing a quest, and following the markers. He did sometimes stop to investigate some POIs that seemed interesting to him. During combat, he did perish twice, but continued the quest and finished it on his second attempt.

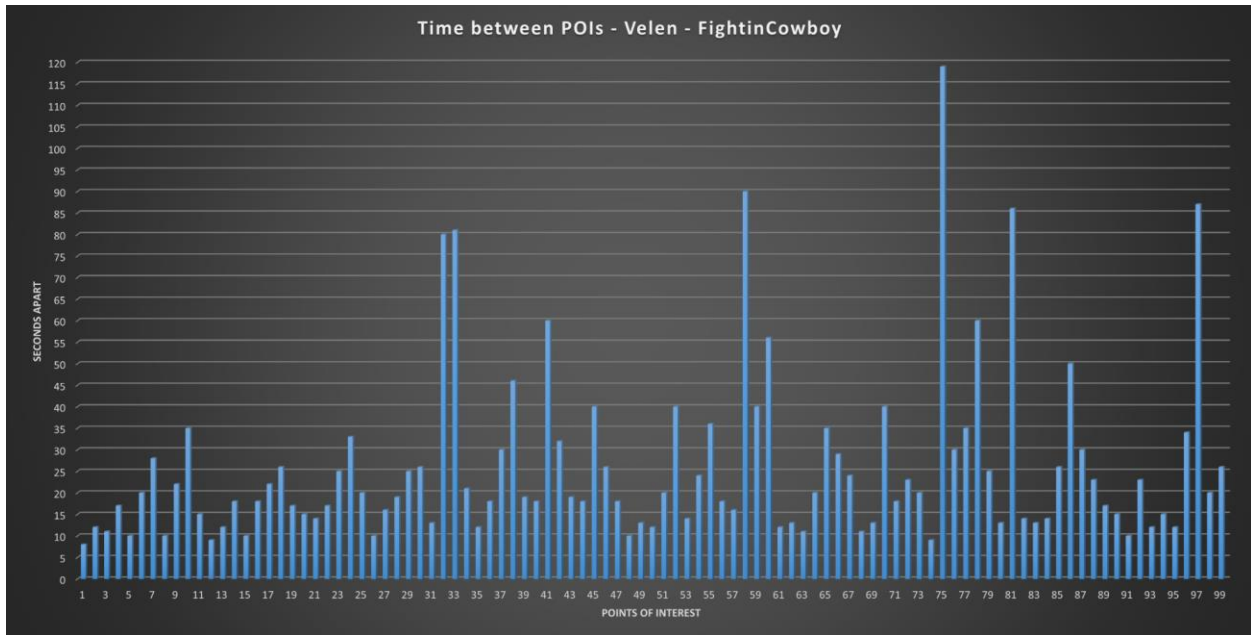


Fig 8. Velen - FightinCowboy (POI Timing)

The average time between the 99 entries of POIs as seen in **Fig 8** was 25.9 seconds. That was mostly due to his quick playstyle and the usage of a horse to move around the map. The only instances where the timing spiked were on entries 32, 33, 58, 75, 81, 97, and all of them were high due to the use of a boat to travel, the average of them being 38 seconds. That was the only time the Rule was close to 40 Seconds for this player. The median of the timings was 19 seconds, which shows how a fast-paced playstyle can bring the rule's average down by a lot. As for the standard deviation of the POI timings, the result was 19.9 which is evidence of a big dispersion of the numbers from the mean.

POI Count	=99
Average/mean	=25.929293
Standard Deviation	=19.996087
Median	=19

Fig 9. Standard Deviation - FightinCowboy

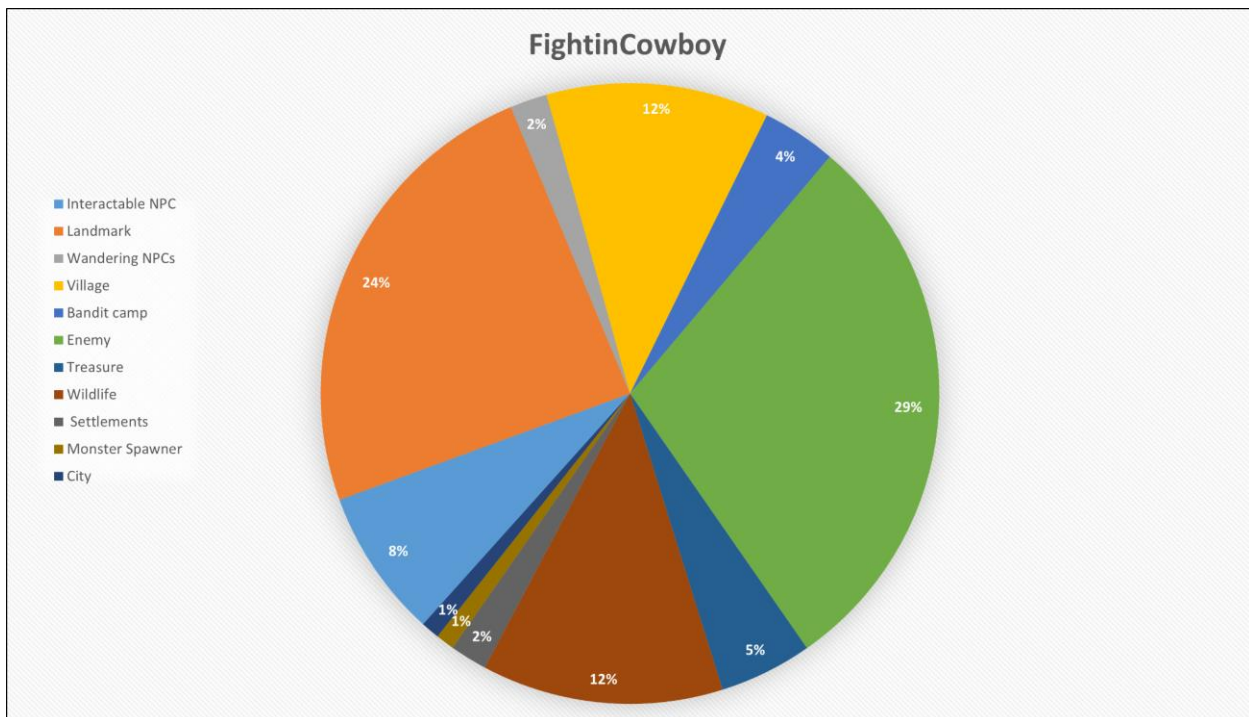


Fig 10. Velen - FightinCowboy (POI Types)

The data gathered shows the types of POIs encountered within the 10 hours of gameplay and as can be seen from **Fig 10**, most recurring POIs for this specific player were enemies with 29% and landmarks with 24%, followed by wildlife and villages with 12%. It is apparent that the map is filled with those, compared to other POIs, especially if the players have a fast-paced playstyle where they rarely explore outside the quest paths. The least recurring POIs were cities and monster

spawners with 1%, followed by wandering NPCs and settlements with 2%. There are only two cities in the entire map, so only encountering one of them was understandable. As for the monster spawners, they are usually encountered far from the beaten path. Since FightinCowboy did not go out his way to explore the wilderness, he did not discover a lot of them. The only one he did destroy was near a quest location.

4.1.3 Gopher

The second content creator whose footage of gameplay on this map was analysed was Gopher. His YouTube channel is known for its game playthroughs and tutorials on game modding. At the time of the data collection, his channel had 484,000 Subscribers and a total of 228,018,380 views.

Similarly to FightinCowboy, Gopher also played the entirety of the game on the ‘Death March’ difficulty. Although it was his first time playing this version of the game, he did claim to have previously played about eight hours of an early access build. Compared to the other YouTubers that were part of this study, Gopher is a very slow and meticulous player. He likes to approach every situation prepared and dislikes being surprised. For the ten hours of gameplay, he only used the horse once for a few minutes. He also almost never sprinted unless he was trying to flee from powerful enemies or chasing an NPC. He made use of his ‘Witcher senses’ ability to scout for far away enemies so that he was not unexpectedly attacked. This mechanic, when used, amplifies all the surrounding sounds and it allows the player to get a visual representation of them, as well as blood and smell, making it easier to spot enemies or find bodies. For a more immersive experience, the content creator chose to disable ‘question marks’ on the main map to encourage himself to explore more, instead of being guided by them. Due to his HUD settings, the minimap was hidden unless the ‘Witcher senses’ ability was activated. The chart in **Fig 11.** shows how much exploration time passed before the player encountered each POI. For a total of 100 POIs, the average time between them is 39.19 seconds. The median between the numbers is 34.

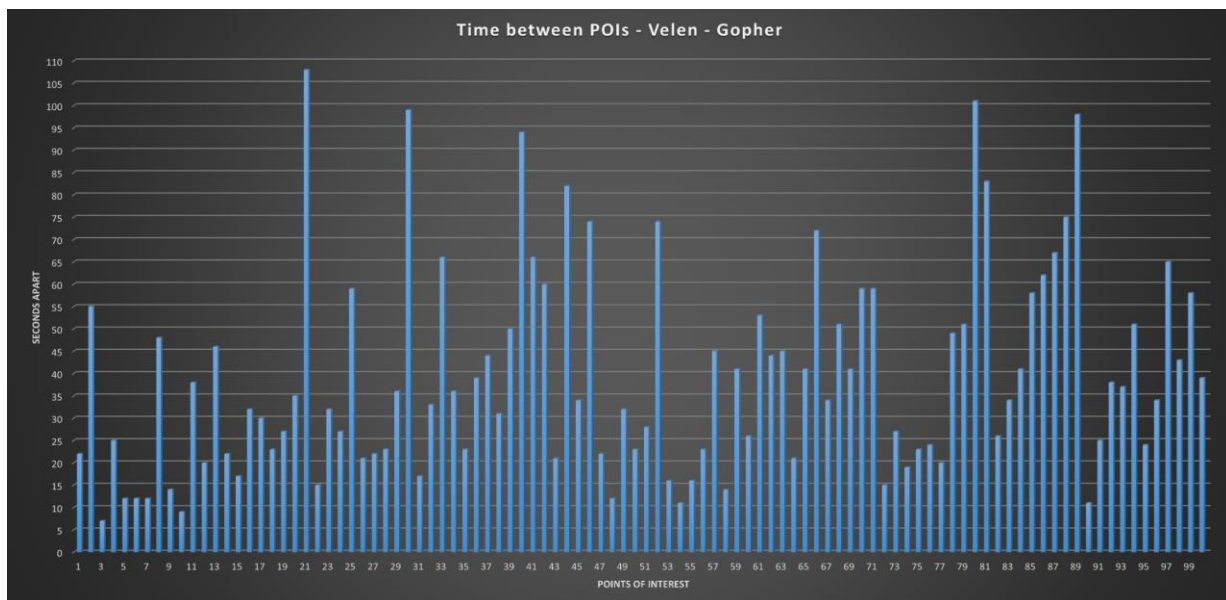


Fig.11 Velen - Gopher (POI Timing)

The shortest time spent between the POIs takes place during the third entry in the chart in **Fig 11**. While fleeing from a dangerous bear, it takes only seven seconds for a herd of deer to show up on the screen. The longest time spent between POIs is during the 21st entry. After being defeated in combat, Gopher started to be way more careful, moving slowly and checking his surroundings at every step. After 108 seconds he finally encountered an NPC, with which he chose to interact. It can be noted that immediately after being defeated in combat, there are many entries of over 40 seconds because the player became a lot more hesitant. For most of the entries in which the time between POI's is very close to 40 Seconds, the player travels on foot, without sprinting. As mentioned previously, the horse was only used for a few minutes of gameplay. The time between POIs spikes quite a lot during this section. From entry number 43 to 58, the average is 32.9 seconds. Although lower than the total average, it is not very significant, considering the increased travel speed on horseback. The reason for this is that despite moving faster, Gopher still stops to look around and pick up flowers. For some of the entries in which the time between POIs is very long, something unusual happed during gameplay, which increased the time. During the 30th entry, for example, timed at 99 seconds, the player spent a long time running in circles looking for an NPC he thought he could find. Unfortunately, that NPC was previously killed by monsters. Upon realising this, Gopher decided to explore further and eventually ran into a small child playing with a sword. Entries 80 and 81 are 101 and 83 seconds respectively, because the player decided to collect every flower or mushroom, he could find on his way through the forest, which greatly increased travel time. The 89th entry is also very long because the player was sailing on a boat. He took 98 seconds to finally reach a small island populated by drowners.

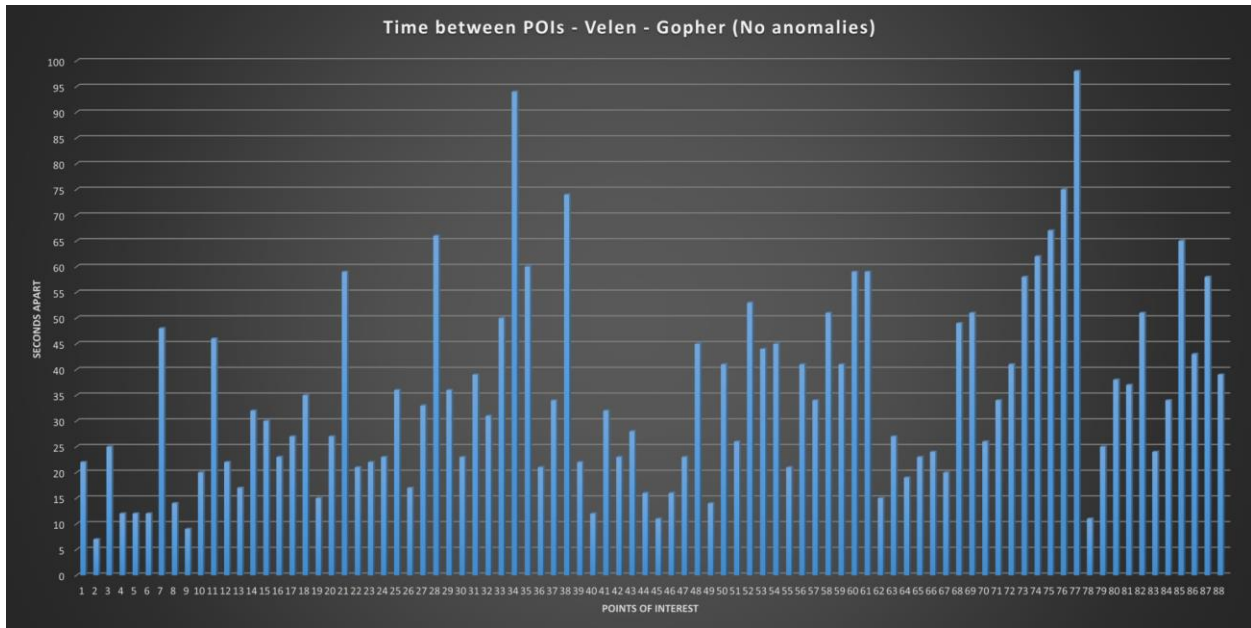


Fig 12. Velen - Gopher (POI Timing, No anomalies)

If those anomalies are taken out of consideration, the results are slightly different, the average being 34.8 seconds which is significantly lower than the previous average. The new median is 31.5, which is also smaller than before. The standard deviation of the POI timings for Gopher was 22.8. Compared to the other content creators, Gopher had the biggest dispersion from the mean due to his careful and meticulous playstyle.

POI Count	=100
Average/mean	=39.19
Standard Deviation	=22.879989
Median	=34

Fig 13. Standard Deviation – Gopher

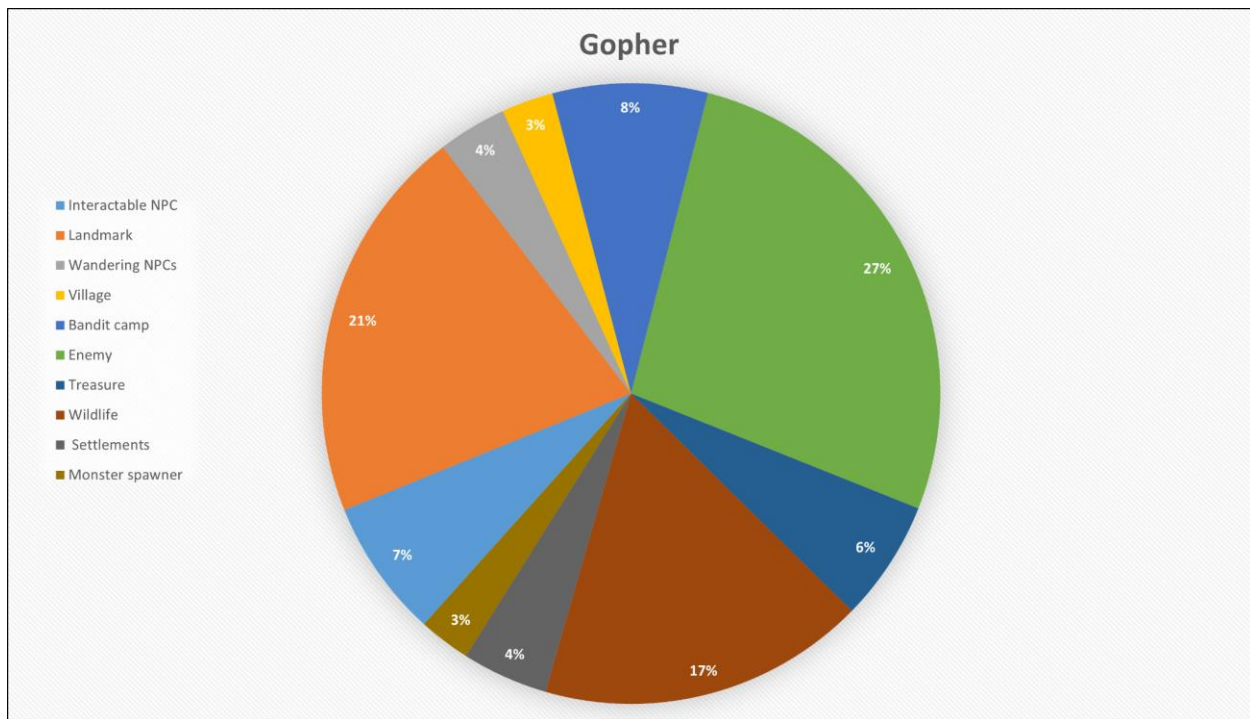


Fig 14. Velen - Gopher (POI Types)

Some POI types are encountered more often than others. The most common POI type for this player seems to be enemies, which makes up 27% of the pie chart in **Fig 14**. Combat being one of the main systems present in the game, it is somewhat natural for the wilderness to be filled with monsters and bandits.

The second most frequent POI to come across were landmarks. Gopher stumbled on those 21% of the time. The least common POIs are monster spawners, villages, and settlements, encountered 3%, 3% and 4% of the time, respectively. Monster camps were only found far away from main roads, so they were difficult to find, especially since Gopher played with map markers disabled. Villages and settlements were few and far between compared to other POIs although there was a lot more content to be found in those locations compared to others. The player spent time talking to villagers, completing quests and trading. Cities were never encountered because the player never ventured that far up north within the ten hours that were studied.

4.1.4 Skellige

Both players that were analysed chose to travel to Skellige further in the main story and only after completing most of the quests in Velen first. Because of that, they are a lot more experienced with the game's mechanics, core loops and actions such as looting and fighting, which means that the players spent less time trying to familiarise themselves with them.

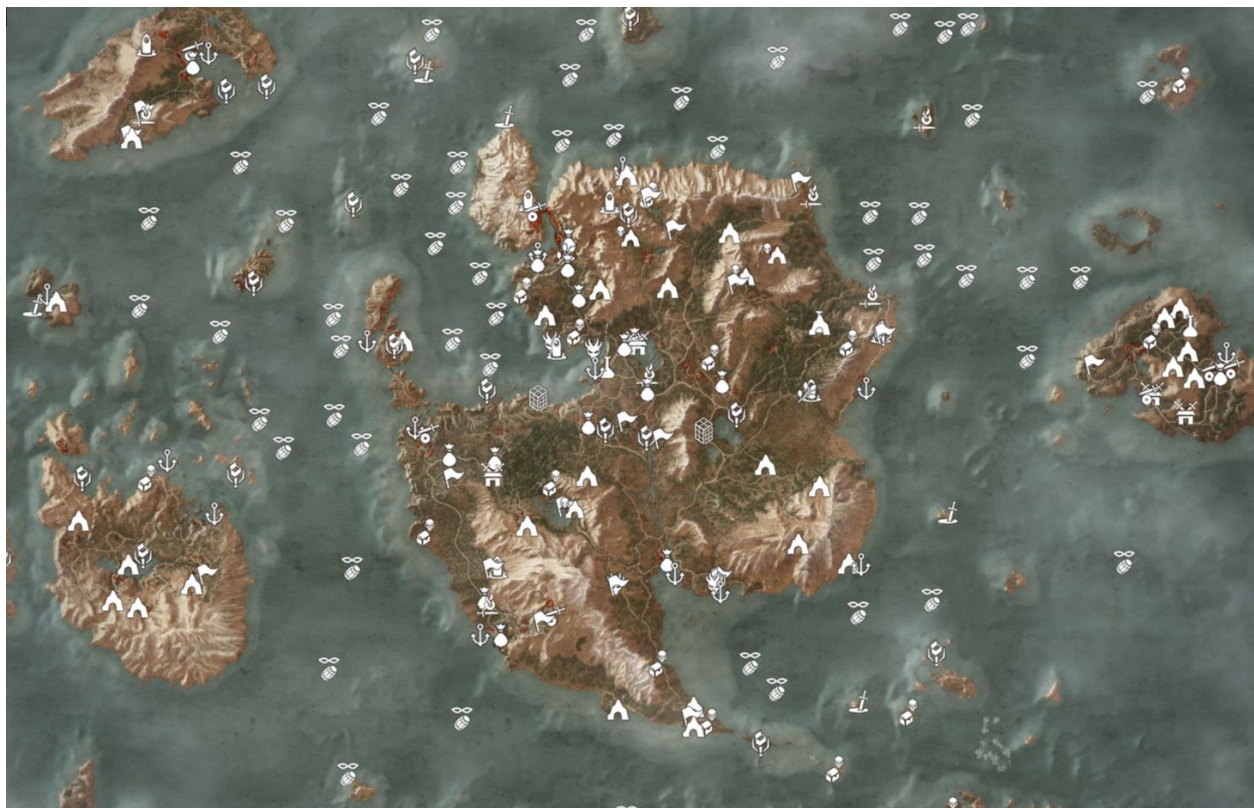


Fig 15. Skellige map (<https://witcher3map.com/s/#3/-35.25/-20.83>)

4.1.5 ChristopherOdd

The first content creator that was analysed for this map, was ChristopherOdd. His YouTube channel features playthroughs of a variety of games while mostly playing story-based games, RPGs, strategy games or roguelikes. At the time of the data collection, ChristopherOdd had 498,000 Subscribers and a total of 285,133,998 views.

When playing, this content creator is trying to absorb as much information as possible. To understand the world and the story, he reads everything he comes across within the game, and takes his time when engaging in conversations with NPCs, or while making decisions in the story. His playstyle is different from the rest of the content creators, mostly concentrating on the story and quests rather than exploring the map. Most of the analysed gameplay time was spent completing quests, reading books, journals, monster glossaries or quest information, as well as talking to NPCs he encounters. The chart in **Fig 16** shows how much time was spent between points of interest during ChristopherOdd's playthrough. Within ten hours of gameplay on Skellige, a total of 88 POIs were observed, with an average of 20.03 seconds between them and a median of 16. This unusually low average is half as much as CD Projekt Red's 40 Seconds goal.

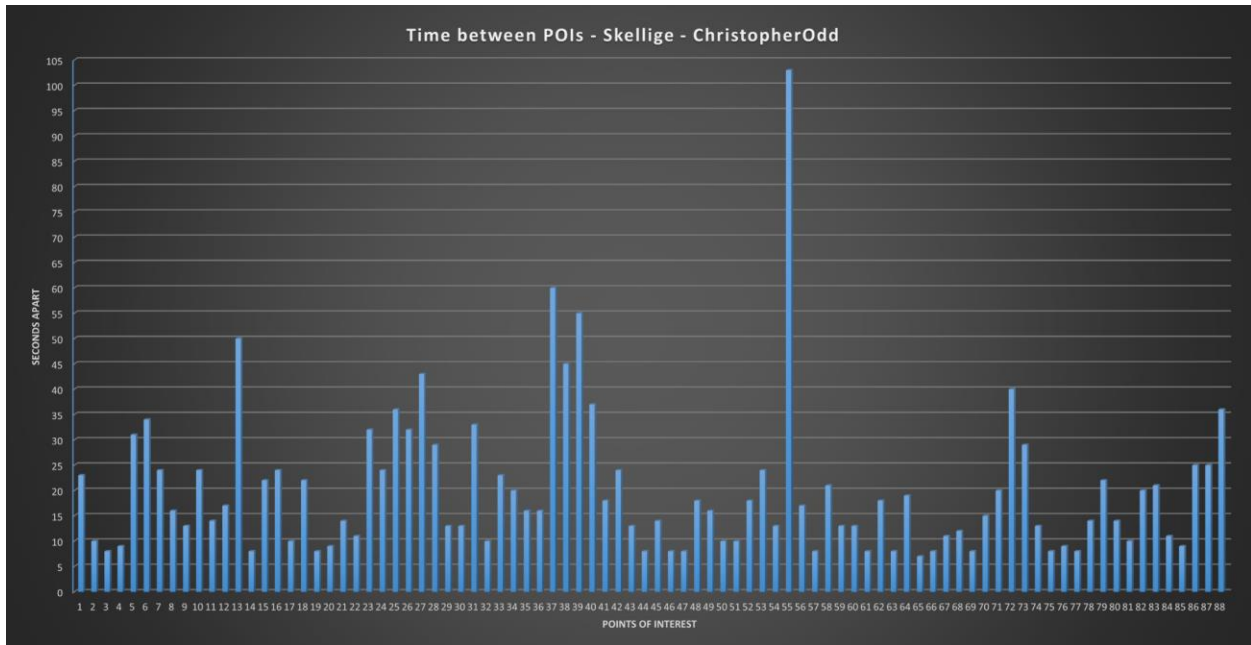
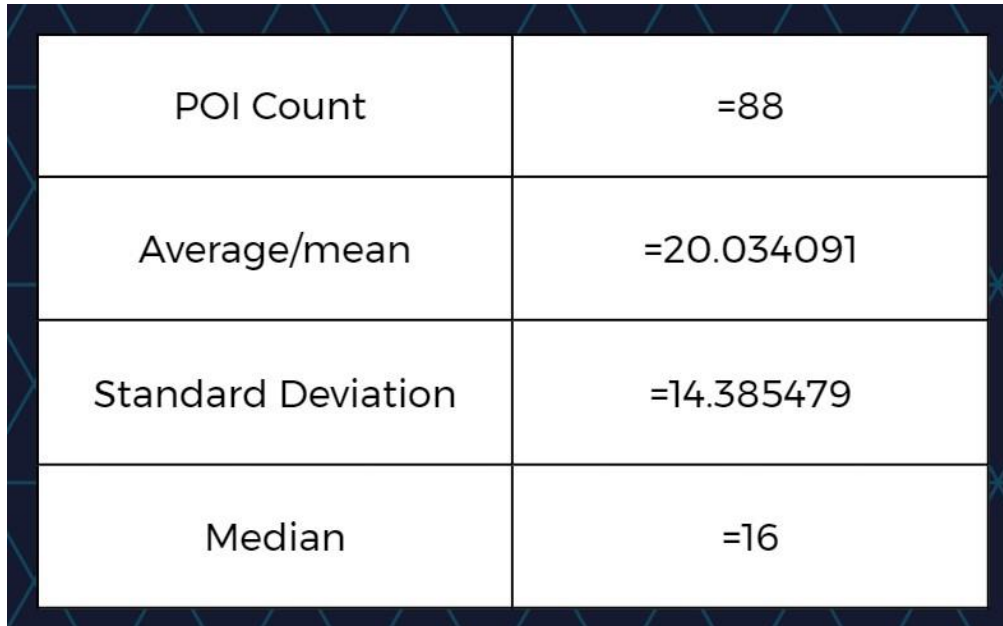


Fig 16. Skellige - ChristopherOdd (POI Timing)

The results were mainly caused by the map and the playstyle exhibited by the content creator which limited the chances of exploration outside quest locations. The map size affected how much content was spread across it because some areas had a high concentration of POIs, while other areas were emptier or harder to reach in the early hours of footage due to the high enemy levels or the absence of quests which only show up after completing other quests beforehand. In the chart in **Fig 16**, a few unusually high timings between some POIs can be observed. For example, entries

number 13 and 55 had high timings due to the map's terrain, where during both POIs he was trying to find a way around a mountain or up a mountain to finish a quest. On entries 37, 38, 39 he travelled by boat which increased the time spent traveling until the next POI. As for the standard deviation of the POI timings, the result was 14.38, which is the least dispersion of the numbers from the mean compared to the rest of the content creators; this was due to the playstyle of ChristopherOdd and the POIs he encountered in his playthrough.



POI Count	=88
Average/mean	=20.034091
Standard Deviation	=14.385479
Median	=16

Fig 17. Standard Deviation - ChristopherOdd

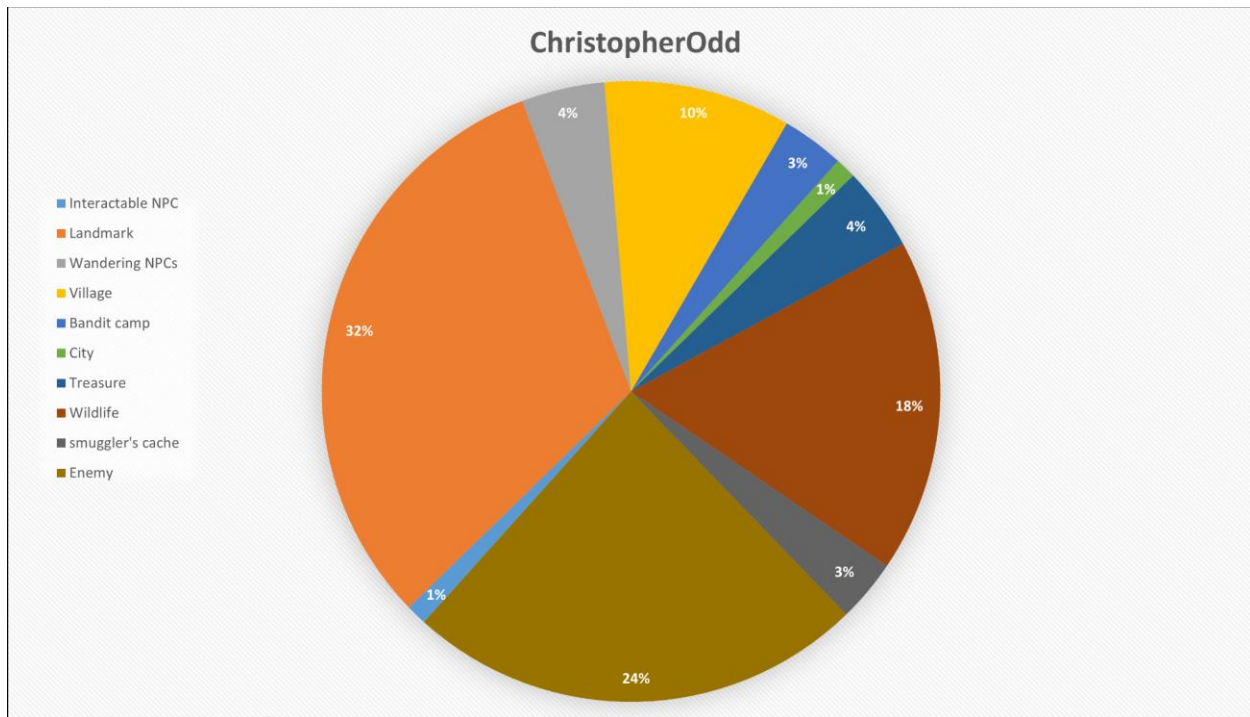


Fig 18. Skellige - ChristopherOdd (POI Types)

Fig 18 shows a massive difference between how much of each type of POI there are in Skellige. For ChristopherOdd, the most frequent of them are landmarks with 32%, enemies with 24% and wildlife with 18%. The path he took while completing quests was filled with unique landmarks, some enemies, as well as wildlife scattered around. On the other hand, the least frequent POIs were cities and interactable NPCs with 1% each, followed by bandit camps with 3%. The number of cities in *The Witcher 3*'s maps is very low, which is also true in Skellige. During his playthrough, ChristopherOdd visited one city in this map. As for the interactable NPCs and bandit camps there were only a few instances where they appeared in the footage.

4.1.5 Materwelonz

The second content creator for the Skellige isles is Materwelonz. Her YouTube channel features full playthroughs of immersive and narrative focused video games. Of all the chosen creators, her channel is the smallest, with only 62,000 subscribers and 23,641,293 views. For her playthrough of *The Witcher 3*, she started out on the second hardest difficulty 'Blood and Broken Bones'. She eventually turned up the difficulty, so during the footage on the Skellige map, she played on 'Death March'. Although familiar with the *Witcher* universe from playing the previous two games in the series and reading some of the books on which the games are based on, this was her first time experiencing this game. Her playthrough was quite thorough as she was always trying to explore everything on the map. She did not freely explore too much, choosing instead to set up map markers on unexplored locations and then follow the easiest path there. The chart in **Fig 19** shows how much exploration time passed between each POI. For a total of 98 POIs, the average time

between them is 27.03 seconds which is much lower than the 40 seconds as stated by the developers. The median between the numbers is 21.

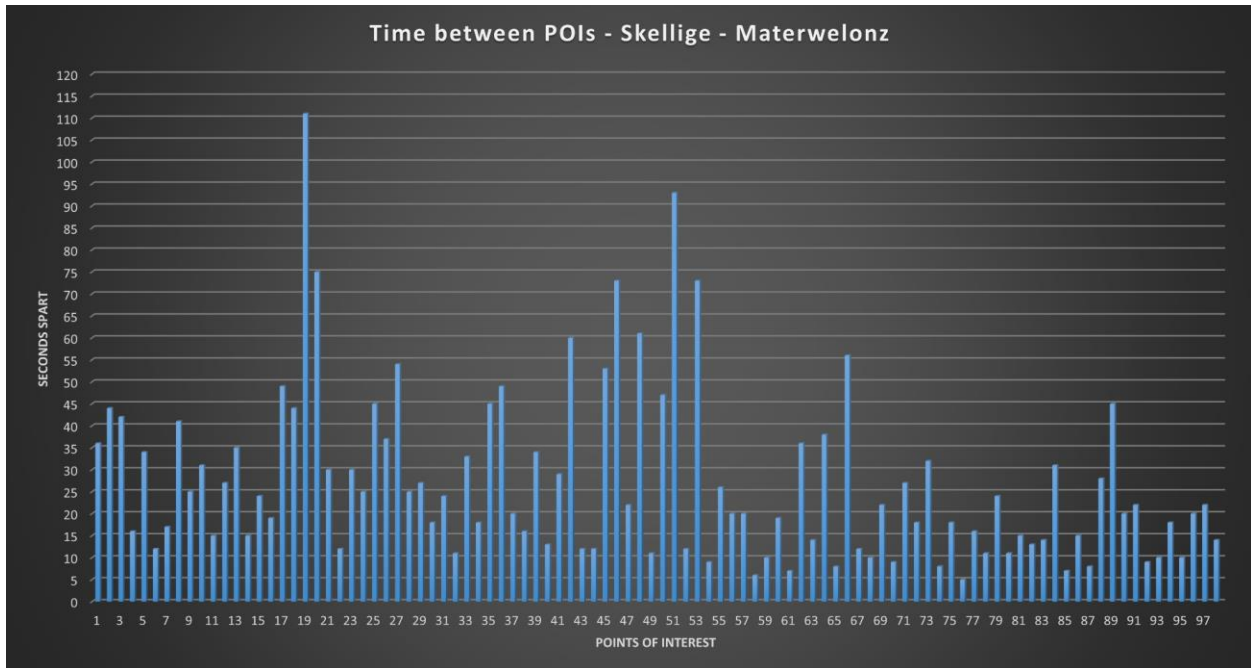


Fig 19. Skellige - Materwelonz (POI Timing)

The longest time between points of interest is easily observable. In the 19th entry in the chart, in **Fig 19**, the player took 111 seconds to reach a point of interest. The reason it took so long was that she sailed for a long time and then struggled for a few seconds when trying to climb up on the shore. The shortest POI time, on the other hand, is during the 76th entry. While on horseback, she discovered a stone monument only 5 seconds after riding past some wild hares. While looking at the map, she noticed a couple of small islands and decided to explore them, hoping to find loot. Unfortunately, she did not find a boat nearby. Determined to explore the islands, she instead chose to swim, which is significantly slower than sailing. This happened during the entries 45 to 53. The average of those is 49.44 seconds. As for the standard deviation of the POI timings, the result was 19.3. While also high, it was not as high as Gopher's.

POI Count	=98
Average/mean	=27.030612
Standard Deviation	=19.326652
Median	=21

Fig 20. Standard Deviation – Materwelonz

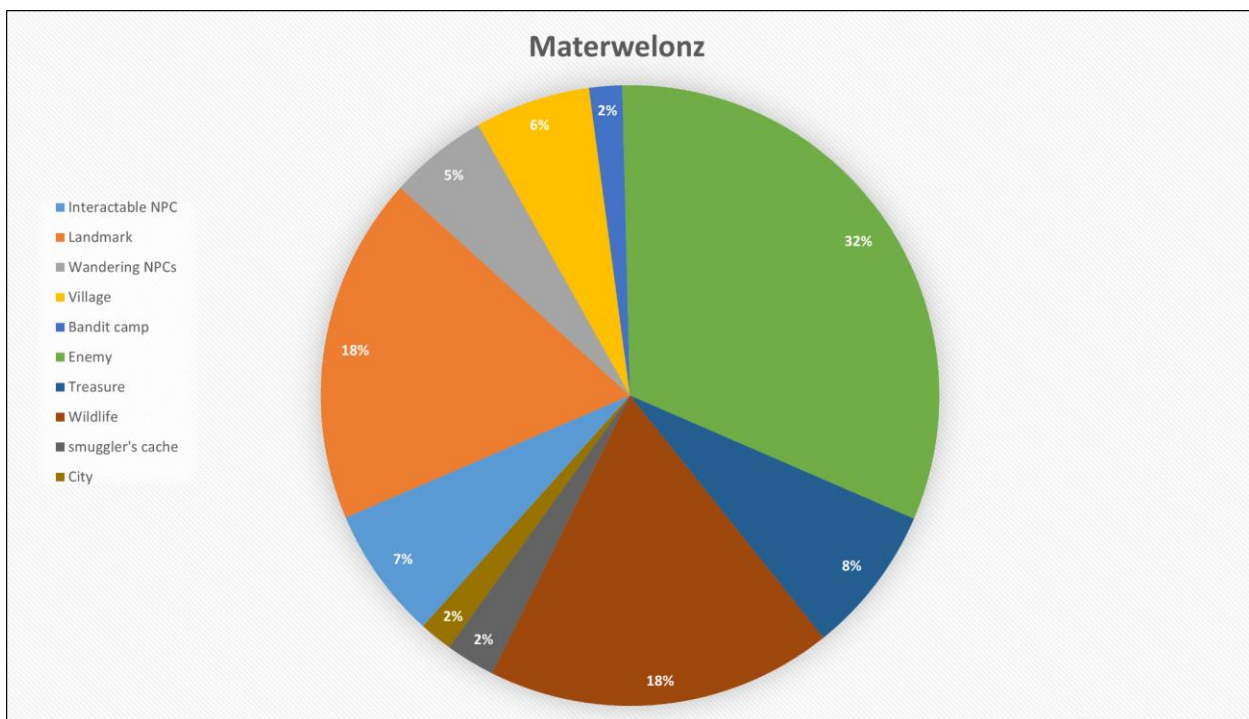


Fig 21. Skellige - Materwelonz (POI Types)

When it comes to types of POIs that were encountered during this player's footage, the most recurrent one is enemies with 32%. Not only is the land populated with monsters but while sailing or swimming, most POIs involve fighting sea creatures like drowners or sirens. Considering the amount of water on this map compared to Velen, it is clear why that is the case. The other very common types are landmarks and wildlife, both at 18%. As with the previous YouTubers,

landmarks are spread around everywhere on both maps, as well as wildlife; however, they usually provide little content, the player not spending a lot of time on these and usually just riding or running past them. On the other hand, the least common POI types are cities and smuggler's caches, both at 2%. She visited two cities and only dove after two smuggler's caches during the ten hours that were looked at. Although in **Fig.15** it can be observed that the sea is filled with sunken treasure and smuggler caches, Materwelonz did not spend that much time exploring it. Were she to explore the entirety of the water, the number of smuggler caches as well as enemies would have probably been higher.

4.2 Discussion

In this section, the factors that had the most impact on the 40 Second Rule: playstyle, movement speed and map geography, which were taken from the results, are discussed in detail. The final subsection also suggests topics that deserve further investigation such as ways to expand on this research and other successful games worth testing with a similar method.

4.2.1 Playstyle

Based on the difference in the averages between the players, the biggest factor which affected the 40 Seconds Rule, was the playstyle. Some players were traveling from one quest to another, reducing their exploration time to a minimum, while others tried to immerse themselves in the game world and go off the beaten path to discover as much as possible. As an example, in the Velen map, a player who had a fast-paced playstyle, and focused mainly on completing quests, such as FightinCowboy had a much lower average compared to Gopher, a player who was very careful, and tried to explore outside of the story's boundaries as often as possible. The reason why a player who is focusing on quests has a much shorter time average between POIs, is that the quest paths are usually more populated with interesting events. The forests, swamps and other areas far away from roads are also hosting enemies, wildlife and other POI, however, they are much more seldom compared to the main roads.

Similarly to Velen, the two players who were used for the footage in Skellige, also had their playstyle impact the 40 Seconds Rule. ChristopherOdd's playstyle revolved around the story quests, understanding the world and the characters that live in it, which resulted in spending most of the ten hours of footage within cutscenes, or reading lore and books within the game. He focused mostly on main quests, meaning he never properly explored the map outside the quest paths. Meanwhile, Materwelonz, was a versatile player who tried to explore every location in the game. While completing quests on the way, she checked the in-game map, and planned a path to take so she can investigate every 'question mark' on it. This resulted in her traveling in straight lines, sometimes avoiding roads and being slowed down by the terrain. The footage of her gameplay reinforces how a different playstyle can affect the Rule because while traveling roads, she encounters more POI than when she is riding straight through the woods or swimming. A player like Gopher, travelling away from roads, walking at a steady pace, picking up flowers and taking

the time to observe his surroundings, is the closest to CD Projekt Red's 40 Seconds Rule. It would then seem that the Rule might have been created with a slow player in mind.

For all four content creators, the standard deviation was overall high due to the dispersion of the POIs. Some encounters were very close to each other, while for others, it took longer than a minute for something interesting to appear on screen. As with everything else, playstyle was a big factor in this disparity. Gopher, with his slow playstyle proved to have the highest standard deviation with 22.8. Sometimes he would encounter POIs in succession, and other times he would take a long until reaching the next one. ChristopherOdd on the other hand, had the smallest standard deviation with 14.38 due to his story focused playstyle which caused him to only encounter POIs on the story path, without exploring too much outside of it.

4.2.2 Movement speed

Another factor that had a large impact on the rule was movement speed. In the game, the player can choose to walk, run, sprint, ride a horse, swim, or sail. Although it is difficult to measure the exact speed of each travel method, sprinting, horse riding and sailing are the fastest ways to get across the map. FightinCowboy used the horse for almost the entirety of the ten hours that were analysed and due to the increased speed, he took less time to travel between POIs. He only chose to walk or run when his horse was not close by or when spending time within POIs. Meanwhile, Gopher used only used the horse for around 10 minutes, after which he went back to the slow-paced walking he used during the rest of the footage, which is another reason for his especially high average.

One other way of traveling was sailing. For FightinCowboy, despite the increased speed, these instances had much longer travel time between POIs compared to the rest of the data from his footage. It should be noted that although sailing is fast, there are much fewer POIs in the water. Gopher, on the other hand, only used the boat to travel between two entries. The first time he used it, he took 75 seconds to reach a POI, and for the second one, he took 98. There was another instance of him using the boat, although unfortunately, there was a cut in the video which meant it was disregarded in the results. Considering these facts, the POI timing was affected by the different ways in which these two players chose to travel within Velen.

On Skellige, ChristopherOdd used a horse for most of the footage, unless the terrain prevented it. He used the boat when it was an option and rushed straight to the quests. The only POIs he encountered were on the way to the quests he chose, which resulted in a 20 second average; half of the 40 Seconds Rule intended by the developers. Materwelonz, contrastingly, used the horse when she needed to travel on land, but when she noticed small islands on the map, she decided to explore them to get the loot. Unfortunately, she could not find any boats to use, so she decided to swim, which is by far the slowest way to travel. Considering the rarity of POIs on water and slow speed when swimming, the POI average increased by a lot during those segments of gameplay. It should be noted that the game rarely forces the player to travel at a specific speed. Therefore, movement speed is, to some degree, also influenced by the playstyle.

4.2.3 Map Geography

The final factor that had an impact on the 40 Second Rule was map geography. Compared to the previous two, geography was not directly influenced by player choices as sometimes the player must traverse certain terrain to complete quests.



Fig 22. Velen Screenshot (<https://www.nexusmods.com/witcher3/images/17640>)

The land of Velen, also known as the ‘no man’s land’, is torn up by war. In the southern areas of the map, battlefields, executed deserters, burned, and abandoned houses as well as other traces left by the invaders, are landmark POIs that are frequently encountered while traveling. The northern areas of the map were not reached by the war yet and are less affected by it. Two big cities can be found here as well as smaller villages, although being a higher-level area, the two players did not explore here as much. Attracted by the devastation caused by the war, bandits, deserters, and monsters are enemy POIs who are often hostile towards the player when exploring those areas. Wildlife POIs, such as deer, wild horses and hares are often chased by wolves or other predators. The inhabitants of this map are superstitious, so monuments, religious shrines, ancient ruins, and places of power are landmark POIs that can often be noticed when traveling.

The POI types on this map were mostly enemies, landmarks, and wildlife, since the Velen landscape is filled with death and battlefields, which resulted in monsters appearing as well as bandits and deserter groups forming. Landmarks, on the other hand, includes any building or monument that the world building team has placed on the map to catch the player’s interest. Considering the diversity of this POI type, it makes sense that there are a lot of them on the map. Finally, some animals were drawn to the smell of death, such as wolves and wild dogs, while others were fleeing from danger like deer or hares which explains the abundance of wildlife that was identified in Velen. In the marsh areas of the map, both FightinCowboy and Gopher

occasionally must swim or sail, which as discussed previously, increases the average time between POIs. In the forests and battlefields present in the rest of the map, the horse significantly increases travel speed, which, in turn, reduces the average for FightinCowboy, who frequently uses the horse.



Fig 23. Skellige Screenshot (<https://ro.pinterest.com/pin/839217711785727398/>)

Skellige, also known as the Skellige isles, is an archipelago of islands ruled by different clans. The terrain is very different compared to the previous map and navigation is more difficult because of it. The player spends a lot of time climbing mountains and cliffs on land and swimming or sailing in the water surrounding the islands. Overall, there is a lot more water on this map compared to Velen so both content creators spent more time sailing on boats. As for the inhabitants of this area, the majority were fishermen and raiders, therefore, fishing villages, docks and ships are communities often encountered here. Similarly to Velen, landmark POIs such as religious shrines, monuments and ruins are spread around this map. The water areas provide significantly less content than land areas. Although the Skellige isles are not torn apart by war, the people are less civilised compared to Velen, so the player is often attacked by enemies, for instance pirates, raiders, bandits, as well as the many different types of monsters.

Around the isles, there are a lot more occasions for the player to use a boat. As mentioned before, POIs are rare around water which increases the average POI timing. On land, the terrain often makes it harder to regularly use a horse. Being an archipelago of islands covered with small cliffs and mountains, the world building team had to be more creative with the placement of points of interest. To keep sailing interesting, the developers placed multiple smugglers' caches on the waters' surface, as well as underwater chests at the bottom of the sea. These are all guarded by different types of monsters. Overall, the map is more packed with POI, however, some of them appear to provide less content. There were a few instances within the footage that was analysed

that had the content creators stuck in the terrain. ChristopherOdd spent a few minutes trying to find a way up a mountain, and Materwelonz struggled to get out of the water after sailing to an island which contributed to the increase in the average.

4.2.4 Future work

In hindsight of the completed research, there are several aspects that can be improved upon. Although notes were taken on out of the ordinary events, it would have been even more beneficial to take notes on every single POI entry. Knowing exactly what happened in-between and during each POI would give more context to every result. The data collection method would have benefited from having more detailed rules. Although the types of POI and the actions that were excluded from being timed were clearly determined beforehand, additional rules can be implemented to avoid differences especially for exceptions to the pre-established rules. Additional data that could have been beneficial for interpreting the results was creating a heat map of the areas in which the players travel. This would show exactly which parts of the map were explored and which were not, offering an answer to the research question specifically for the travelled areas.

The designers did not mention the game's DLC within the interview, however it would be interesting to do a test on Toussaint; the map that was introduced with the game's the *Blood and Wine* expansion. Following the development of *The Witcher 3: Wild Hunt*, the developers have worked on another open world video game: *Cyberpunk* (CD Projekt Red, 2021). It would be interesting to test whether the developers have used the same rule or a similar one when building that world, and whether it made the game feel faster or slower paced. It would be interesting to test the rule on similarly successful open world games and compare the results. YouTube content creator Luke Stephens has done a similar type of test, comparing *The Witcher 3* with *The Legend of Zelda: Breath of the Wild* (Nintendo EPD, 2017), *Fallout: New Vegas* (Obsidian Entertainment, 2010) and *Red Dead Redemption 2* (Rockstar Studios, 2018) in the YouTube videos *The 40 Second Rule of Open World Games* (2017) and *Red Dead Redemption 2's 80 Second Rule | Luke Stephens* (2018). His way of testing was to record himself playing the games, and then watch the footage and check the time in-between points of interest. While his test was informal, his result was that *Wild Hunt* had an average of 32.2 seconds between POI over a two-hour session, compared to *New Vegas*, *Breath of the Wild* and *Red Dead 2* which had an average of 41.8 seconds, 48.8 seconds and 80 seconds respectively. While all the examples seem to have a higher average time between POIs compared to *The Witcher 3*, it is interesting how much higher it is in *Red Dead 2*. While the developers of *Red Dead* do not claim to have used an 80 Seconds Rule when developing the game, it would be interesting to conduct a similar research on it and see what the result is. Other open world games might also be worth investigating to see a comparison between how far apart POIs are placed in each of them and how that affects the way in which the player perceives the game space. Some examples of successful open world games that would be interesting to analyse are:

- *The Elder Scrolls V: Skyrim* (Bethesda Game Studios, 2011)
- *Assassin's Creed Origins* (Ubisoft Montréal, 2017)
- *Grand Theft Auto V* (Rockstar North, 2013)
- *Horizon Zero Dawn* (Guerrilla Games, 2017)

5 Conclusion

The purpose of this research was to verify how accurately the 40 Seconds Rule was implemented in *The Witcher 3: Wild Hunt*. To find out, the authors designed a test, taking inspiration from an interview in which the game's developers explain how they implemented the rule. For this test, forty hours of footage of the maps Velen and Skellige, taken from four different YouTube content creators, were analysed to try to calculate the average time it takes players to go from one point of interest to another. The results were 25.9 seconds, 39.19 seconds, 20.03 seconds, and 27.03 seconds.

While investigating the results, the authors of the thesis concluded that the biggest factor for this disparity is the playstyle of the players, and the way in which they travel. It can be confirmed that a Rule does exist, since all four content creators regularly encounter POIs in both maps, and the average is not higher than 40 seconds for any of them. All things considered, it should be noted that the 40 Second Rule is only accurate for a player who chooses to take their time exploring, and not using the horse. For the other players, who complete quests while travelling by horse, or running, the Rule seems to be one of 20 seconds rather than 40. Taking into consideration the fact that Gopher is the only player for which the rule applies precisely, it can be concluded that the developers were not accurate in their implementation of the rule for most of the players. If the goal of the developers was for players to encounter as many POIs as possible, then the inaccuracy of the rule is not negatively impacting the game.

While investigating the footage, something that was observed was how types of POI affect the player. For example, innocent wildlife such as rabbits or deer, become increasingly ignored the more they are encountered by the player since they are often not worth interacting with. On the other hand, a landmark such as the 'places of power' (monuments that make the player stronger when they are interacted with) are always sought out, despite them not being unique. If the game world that is being designed is meant to feel empty, and the player should get a sense of loneliness, too many points of interest could be detrimental to the aesthetic of the game. A game that executes this in a creative way is Ubisoft Montreal's *Assassin's Creed Origins* (2017). Taking place in Egypt, there are several empty desert areas around the map that are meant to feel empty. To keep the player interested while maintaining the lonely feeling of a desert, the developers have introduced hallucinations that trigger every few seconds while exploring those areas.

For designers who want to design their game worlds using a similar rule, it can be concluded that the 40 Seconds Rule is an effective method of populating the world, however, keeping in mind that player playstyle and their means of travel are big factors to take into consideration. To ensure that the experience is as intended, when designing a game world and testing a similar rule, designers can test the game using a large variety of players with different playstyles, and if it is an option, different forms of transportation.

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Rockstar Studios (2018). *Red Dead Redemption 2*. [PC, Playstation, Xbox, Stadia] Rockstar Games.

Ubisoft Montréal (2017). *Assassin's Creed Origins*. [PC, Playstation, Xbox, Stadia] Ubisoft.

7 Appendix A

All the data that was collected by the researchers:

https://drive.google.com/drive/folders/1_oGvTMqJrp2FnuZqExvNdUBNfi401DRY?usp=sharing

8 Appendix B

YouTube channels and the videos that were used:

- FightinCowboy:
 - YouTube channel: <https://www.youtube.com/user/fightincowboy713>
 - Playlist of *The Witcher 3: Wild Hunt* videos: <https://www.youtube.com/watch?v=NbYDcVeKEf8&list=PL7RtZMiaOk8hTL5a>

WW1xVhHoiAbhqFtkO&ab_channel=FightinCowboy (Videos 13-37 were used for data collection)

- Gopher:

- YouTube channel: <https://www.youtube.com/user/GophersVids>
- Playlist of *The Witcher 3: Wild Hunt* videos: https://www.youtube.com/watch?v=BQ05fx_hGpM&list=PLE7DIYarj-DeejR2MgWarsKjzug0HDbhJ (Videos 15 - 27 were used for data collection)

- ChristopherOdd:

- YouTube channel: <https://www.youtube.com/c/ChristopherOdd>
- Playlist of *The Witcher 3: Wild Hunt* videos: https://www.youtube.com/watch?v=6O8qgBuWDbk&list=PLj_Goi54wf0fQPWB_hjgmd3i1yIXeLXHI&ab_channel=ChristopherOdd (Videos 69 - 80 were used for data collection)

- Materwelonz:

- YouTube channel: <https://www.youtube.com/user/Materwelonz>
- Playlist of *The Witcher 3: Wild Hunt* videos: <https://www.youtube.com/watch?v=H4knsQ218us&list=PLAicZs9N4170Zcj7K9htYHJBP3hVj3uAq> (Videos 78 - 89 were used for data collection)

Link to the tweet from CD Projekt Red announcing the 50 million copies sold milestone: <https://twitter.com/witchergame/status/1266057420557766657?s=20>