

Where Do I Go?

Investigating the Influence of Guidance Methods in an
Interactive Virtual Reality Experience



Master Thesis
Group MTA191040

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This project was created using Unity version 2018.2 with VisualStudio 2017. Additional 3D-models were created using Maya 2016 student edition. To analyse data R Studio was used. Audacity version 2.3.1 was used for recording voicelines for the game. Gimp and Clip Studio Paint was used for image modification. The AV production was created in PowerDirector for Acer. The game used is a further developed version of the game created by Husted et al. (2018).

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Abstract:

This thesis investigate how guidance influence players in virtual reality by researching: *How does adding references to landmarks in a game influence the user while using Virtual Reality?* Experiments were conducted using between-subjects to see the influence of icons representing landmarks and a Non-playable character referencing landmarks. Participants who were guided by an non-playable character showed a tendency for having used shorter time to catch different types of fish than participants in other versions. Participants without guidance saw significantly more events than participants from other versions. We were unable to conclude if adding references to landmarks had an influence on players, but there was a tendency for players who were guided by the non-playable character to have a better grasp at how to complete the objectives.

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Chapter 1

Introduction

During our seventh semester at Medialogy we collaborated with Ertebølle Stenaldercenter to create an indirect augmented reality application to use at the Ertebølle Kitchen Midden (Aafeldt et al. 2019). When we found out that they wished to collaborate on creating a Virtual Reality (VR) experience, we found the opportunity intriguing. The project was about expanding on a VR experience created by a Aalborg University Medialogy group, Husted et al. (2018).

1.1 Motivation

While VR is not quite at the point where everyone owns a device, it has nonetheless shown itself as a medium that is here to stay. It is now used in many different contexts, such as for video games, rehabilitation, and learning. It has been accepted widely by museums as a new way to create exhibits and to engage visitors in a different way.

As worlds represented in video games have grown bigger it has also become more of a problem for players to find out what to do and, maybe even more so, where to go. There is a lot of research that has gone into level design (Totten 2014, Kremers 2010) and guiding players in general (Liszio & Masuch 2016, Winn et al. 2011), but there is little research into how well this works in a VR environment. In the same vein, research has looked at how mobile VR solutions might work in museum settings (Schofield et al. 2018), but little research has looked into creating interactive mobile VR solutions.

1.2 Research Question

With a basis in the project created by Husted et al. (2018) we chose to look into *how does different approaches to player guidance in virtual reality change player interaction and narrative understanding in a virtual environment application used in a museum setting?*

Chapter 2

Background Research

VR has become an increasingly popular form of media as it allows for a large amount of interaction.

This section will look into the state of the art regarding Virtual Reality and museum exhibitions, narrative techniques, as well as look into previous projects where the Ertebølle Museum has collaborated with Aalborg University Medialogy students.

Furthermore this chapter will also look into theory about how players can be guided in their exploration of a open-world Virtual Reality experience.

2.1 Virtual Reality Technology In Museums

As VR equipment is becoming more accessible it is also more common for museums, libraries and schools to have experiences revolving around VR and virtual environments (VE). Since the 1980's there has been a rise in use of VR, Augmented Reality and edutainment in museum settings (Barbieri et al. 2017). However, many of the VR museum applications work more as virtual museum, for a user to look at, rather than something the users can actively interact with (Nielsen & Garbaciuskas 2016). More and more Danish museums have also incorporated VR to some of their exhibitions (Fejerskov 2016, Müller 2016, UtzonCenter 2019, Mikkelsen 2017).

How and for what VR is used differs alot between museums. It can be used for recreating traditional events (Li et al. 2013), for increasing interaction with the exhibit itself (Garcia-Cardona et al. 2017, Christou et al. 2006), or for creating a virtual museum in and of itself (Lepouras et al. 2004).

A large-scale use of VR as an addition to standard exhibitions was performed at Yorkshire Museum focusing on the recreation of a large viking camp (Schofield et al. 2018). The project was developed in collaboration between museum curators, 3d artists, and more. The project was found to be well received even with a limited amount of interactivity, as the user could only stand in place and look around. While the other projects presented here have used head-mounted displays (HMD), the viking project differed as it used mobile phones for rendering the virtual scenes.

Other types of exhibits experiment with various forms of VR, sometimes in cooperation between various international museums. Carrozzino & Bergamasco

(2010) present four different exhibitions ranging from fully immersive VR to stereoscopic video presentation.

VR has its own disadvantages, many of which have been defined by Carrozzino & Bergamasco (2010), with each display type enforcing or alleviating said disadvantages. Many of the current generation of HMD make immersive virtual reality experiences possible as they offer positional tracking of both the head and interaction controllers. On the other hand they require high-end computers to be able to render the graphics. At the time of writing, Wireless solutions are in their infancy meaning that they have disadvantages such as latency issues. Therefore, wired solutions are the commonly used type of devices which has the disadvantage that the user might end up tangled.

VR solutions using smartphones offer wireless experiences but are limited graphically and interactively. At the time of writing, few VR solutions using mobile phones allow for spatial positional tracking. Most solutions only allow for rotational tracking. They are however cheaper and tend to be easier to use as they require less set-up. Some VR devices are presented hereafter.



(a) The Oculus Rift head mounted display and controllers.



(b) The Google Cardboard glasses in plastic.

Figure 2.1: This figure shows two VR solutions

Google Cardboard (GC) (see Figure 2.1b) can together with a mobile phone and applications create VR. When they were introduced, the GC cases were handed out for free or sold at a very low price. Compared to other VR options, such as Oculus Rift (see Figure 2.1a), the GC glasses are an easy and inexpensive way of trying VR (Kesselman 2016). Currently, the price of the GC range from 35 DKK to 450 DKK (GoogleCardboard 2019) where the price of an Oculus Rift is around 3600 DKK (Elgiganten 2019b).

There are many differences between these two versions of VR. The interaction options for GC is limited with three degrees of freedom (DoF) as the phone is only able to accurately track rotational changes. For some GC models it is possible to interact with objects in the virtual world by pressing a button on the glasses that will then press the screen. With other solutions such as the Oculus Rift, the users

can move around in the virtual world. Both the HMD and the controllers have six DoF with the controllers allowing the users to interact with virtual objects.



Figure 2.2: The Oculus Go head mounted display and controller (Elgiganten 2019a).

Another device is the Oculus Go (see Figure 2.2). It is a combination of Oculus Rift and GC glasses. Oculus Go has an integrated screen and straps to mount the screen to the head. It is able to track movement with three DoF. The Oculus Go can also be connected to one controller with three DoF.

2.1.1 Simulator Sickness

One of the drawbacks of VR is that users may end up suffering from what is known as simulator sickness. Simulator sickness is an overarching term used to describe many different adverse health effects, including nausea, headache, and vertigo (Jerald 2016). The Simulator Sickness Questionnaire (SSQ) was created by Kennedy et al. (1993) as a standardised form of measuring simulator sickness. The questionnaire is based on a previous questionnaire, the Pensacola Motions Sickness Questionnaire, and consists of 16 symptoms where the participant tells how severely they are affected by the symptoms while filling out the form. There are no standard values expected as outcome but the results can, as an example, be used to compare older and newer versions of the simulation (Kennedy et al. 1993). Nonetheless, it is one of the most used measurements for subjective VR sickness and can prove useful in recognising where the VR application may need more work, even if the questionnaire is only used after the experience (Jerald 2016).

2.2 Narratives in Media

Using narrative in games is a way of making the player more engaged. Husted et al. (2018) found that no previous research had looked into which types of narratives were the most engaging for a VR experience in a museum setting. Therefore, they chose to look into how the level of narrative agency affected the users engagement by implementing and comparing a linear and a non-linear narrative, which was build around the Flying Wedge principle (Laurel 2013).

Many games and other types of interactive media continue to use narratives standardized by traditional media such as the hero's journey (Hasan 2014) or based off of the Hollywood model. These types of traditional story arcs are linear stories. The reader or the player, in the case of a video game, has no influence on the story. The dragon will be defeated with the sword, the hero will fall for the villain's trap, etc.

Branching narratives, also called interactive or non-linear narratives, present an opportunity for players to change the course of the story in various ways. Meaning, rather than confronting the dragon it is circumvented by passing through the mines instead. This is where interactive media excels as it allows for player agency much better than traditional media does. Ryan (2015) presents various types of interactivity for games including linear narratives, which is called the vector narrative, and the branching narrative, which is called the tree narrative.

There are many different ways of presenting the narrative in video games. Ip (2011) presents a list of methods for delivery. The article finds that many modern games use cutscenes, either interactive or not, to present crucial narrative developments and backstory to the player. These cutscenes often present no interaction and the player may therefore be taken out of the experience of the game as it will feel more like they are watching a movie. This depends of course on the subject and length of cutscenes.

Both Totten (2014) and Kremers (2010) present a different type of narrative they call *emergent narrative*. Emergent narrative is the story the player will tell when they recall playing the game. Both authors argue that this type of narrative is important, although hard to plan for when using normal narrative methods. Instead they recommend to look at the mechanics and level design of the game as this is the place where the emergent narrative is formed.

2.3 Ertebølle Stenaldercenter

ErtebølleStenaldercenter (2019) is a small museum in the northern part of Jutland, Denmark, and it is part of Vesthimmerland museum. The area is famous for the discovery of an old kitchen midden and has given name to an entire period of the stone age. The museum focuses on this period of the stone age and does so by trying to make experiences for the visitors. The museum is most active around the summer months where a majority of their activities takes place in the outside areas around and near the museum. The museum is very "hands on" and they like to create experiences to convey knowledge in a tangible manner. They have recently begun expanding into digital tangible experiences.

2.3.1 Collaborations between Ertebølle and Aalborg University

Ertebølle Stenaldercenter has on previous occasions collaborated with students from Aalborg University (AAU). In recent years they have collaborated on two different projects from Medialogy. The first project focused on an app using indirect augmented reality to visualise the Ertebølle midden and how including a game could enhance such an app (Aafeldt et al. 2019).

Husted et al. (2018) collaborated with the museum on a project where they

chose to compare two GC games, one with linear narrative and one with non-linear narrative, to see which version engaged players more. Both narratives were located on the water at Ertebølle. In the game the player plays as a stone age person who has to collect food for the rest of the tribe. The player, alongside a Non-Player Character (NPC), sail around in a canoe to find and catch fish. The NPC acts as a guide telling the player about various events, alerting the player to the possibility of fishing, and warning the player when the game is about to end. In the version with the linear narrative players had to do tasks in a specific order. In the non-linear narrative version the guide would only tell the player what to do once in the beginning which meant the player was free to decide which tasks they wanted to do and when.

During the collaboration, Husted et al. (2018) found that the museum had some requirements for the prototype. Since the museum did not have a large budget to use on the collaboration, they wanted the solution to be inexpensive. Furthermore, they wished for a solution that would require minimum help from the staff at the museum. In the end, the group decided to make a prototype application making use of the GC platform.

Both of the two projects described in this section were tested with school children from the area near the museum. Many of the guests who visit the museum can be split into two groups, either seniors or school children (Villadsen 2019). The previous projects therefore chose to focus on children as their target group. However, Husted et al. (2018) also conducted an additional test with university students due to issues with the prototype during their first experiment.

According to Husted et al. (2018) 19 out of 40 of their test participants who tested with GC experienced simulator sickness or eye strain. If the framerate is too low, the image stutters which has been known to induce simulator sickness (Lekan 2016, Fernandes & Feiner 2016). Optimising the game created by Husted et al. (2018) could potentially increase the framerate.

During their tests Husted et al. (2018) received lots of feedback. Some participants had commented that they found it difficult to figure out where in the game they could fish. This could indicate that there is a need in this game for a better navigational system. Some participants also ended up not completing the game, since they did not understand what they were supposed to do.

Both of their tests were heavily influenced by technical issues which could have affected their result. They were unable to conclude how the amount of narrative agency in VR experiences in a museum setting affect user engagement.

2.4 Guiding players

Moura & El-Nasr (2015) found that navigation of players in games were one of the most crucial things in game development. The player needs to learn how to move and find their way around in games, before they need to learn anything else. Moura & El-Nasr found 21 design patterns and techniques that have previously been used in other games for aiding navigation in 3D video games.

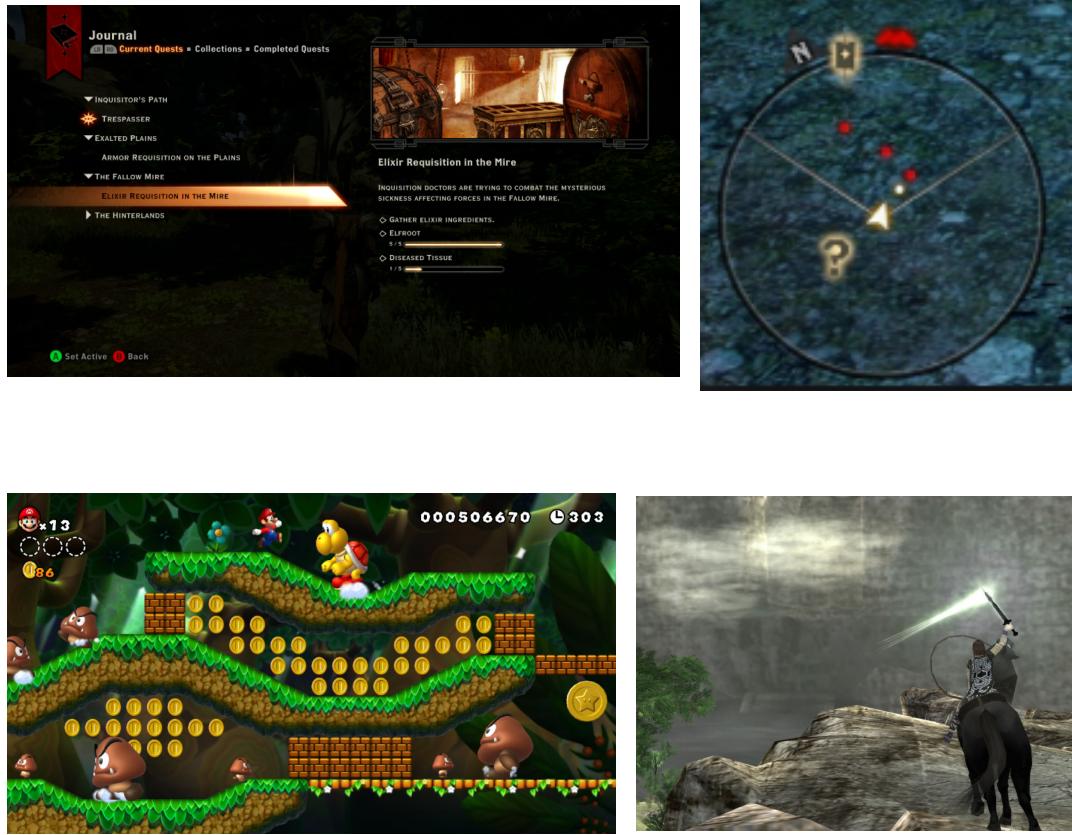


Figure 2.4: Four Examples of guiding methods used in known games. The top left image is from Dragon Age Inquisition, showing quests. The top right image is from Dragon Age Origins showing a minimap with markers for enemies and activities. The bottom left image is from New Super Mario Bros showing how collectable items have been used to guide players. The last image is from Shadow of the Colossus showing a sword that highlights the direction the needs to go by lighting up.

Of the patterns Moura & El-Nasr (2015) described we found the following list to be the most relevant features to use in this projects setting.

- **Mission or goal**

The player is given a specific task to complete (see Figure 2.4 top left for example).

- **Environmental object representing paths**

Objects are embedded in the environment the player can use to travel, such as climbable chains or plants.

- **Markers**

Landmarks or other objects stand out such that they capture the players attention.

- **Direction from characters**

An example is a quest giver telling the player where to go to find the quest area.

- **Collectible item indicating path**

Items that look the same which can be picked up by the player. They are

usually floating or otherwise moving to make them easy to spot (see Figure 2.4 bottom left for example).

- **Non-Playable Character that should be followed**

A NPC that leads the player to where they need to go.

- **Arrow**

An arrow icon that points in the direction the player need to go.

- **Compass**

A Heads-Up-Display (HUD) element that visualise interesting points or enemies via icons. These are visualised such that the player knows which direction to travel to find them (see Figure 2.4 top right for example).

- **Specific tool indicating direction**

An in-world tool that highlights the direction the player need to go (see Figure 2.4 bottom right for example).

- **Signboard**

It would be an indicator for which area the player is in. Similar to city signboards in the real world.

- **Map**

A map of the game world or a mini-map which show the nearest surroundings.

Moura & El-Nasr (2015) have attempted to generalise design patterns and techniques. They found that some of the designs were more or less suited for specific aim of games. If a game had a high amount of exploration they suggest subtle navigational cues. In general they concluded that a navigational system should fit with the art design of the game as well as the level design.

2.5 Discussion and Conclusion

The prototype created by Husted et al. (2018) in collaboration with Etrtebølle Stenaldercenter became the foundation for this project. Considering the museums requirements of minimal supervision and low cost for a final product, we looked into some different hardware solutions. An ideal solution for this product was GC as Husted et al. (2018) used for their prototype, or Oculus Go which has more degrees of freedom which could possibly expand on the experience.

Some of the guidance methods mentioned in Section 2.4 seemed more promising than others to implement in a museum VR experience, when also taking historical accuracy into consideration. Together with the narrative, guidance should help create an engaging and cohesive VR experience for museum guests.

As Husted et al. (2018) did not find any significant difference in level of engagement between linear or non-linear narrative, we decided to focus this project on influencing the players choices and help them navigate the game. One of the problems the participants in Husted et al. (2018) experiments encountered was that

they found it difficult to figure out where they needed to go in the game. Therefore, a guiding method, such as landmarks and NPC guidance, could prove useful. We decided to utilize their non-linear implementation and add a guiding method to help the players explore the level.

Chapter **3**

Problem Statement

From the background research it was found VR is popular to use in museums. However, few museums take advantage of the interactivity that VR can provide. Basing this project on the project previously created by Husted et al. (2018) we expanded on the guidance of the users in the game. A list of potential guidance methods were found (see Section 2.4). Therefore, this project chose to investigate *How does adding references to landmarks in a game influence the user while using VR?*

As previously mentioned this project was created in collaboration with Ertebølle Stenaldercenter. The museum required the game to maintain historical accuracy, while the solution should be low cost and easy to maintain. Therefore, the criteria for selecting a feature was that it should be possible to implement in a diegetic form. Furthermore, the features should be implemented in a historically accurate way as the game should be used in a museum setting.

Chapter 4

Design

This chapter is about the choices made in designing the application based on the research made in Chapter 2. This will include choices of navigational guidance, optimisation, and narrative structure.

4.1 Optimisation of Application

The project received from Husted et al. (2018) as mentioned in Section 2.3.1 had problems with the framerate. Therefore, an early task was to optimise the project such that the framerate improved.

Render pipeline

Render pipelines are the sequence of calculations that turn a collection of vertices into objects seen on a screen (Wikibooks 2019). A type of render pipeline called Lightweight Render Pipeline is specific to Unity. It is optimised for targeting "mobile platforms, VR and those that develop games with limited realtime lighting needs" (Unity 2019). Using this pipeline, all lights will be shaded with only a single pass, saving time and computing power. While this sounds promising the Lightweight Render Pipeline did not work as intended instead giving a black screen when the application was built.

Single-Pass rendering

To optimise the project, we looked into the single-pass and multi-pass rendering techniques for VR applications. Single-pass rendering works by rendering what both eyes see at the same time rather than one eye at a time. This means that the GPU is able to share culling of objects between both eyes lessening the checks needed to find objects that can be seen in the scene (UnityTechnologies 2019). The more passes the render pipeline have to make per frame the more quality it can render but each pass also takes time which decreases the performance. So if one pass would take 1/60th of a second then the single-pass would get a framerate of 60 whereas, the multi-pass would get a lower framerate.

Anti-aliasing

Anti-aliasing is an effect which is used to reduce the visibility of jagged edges. This is done by surrounding the edges with an immediate shade of colour. This results in objects having a slightly blurred outline depending on the quality of the algorithm used. This heavily effects the quality of the visuals but can also be computationally heavy. As the game is to work on mobile phones at a high framerate we debated to heavily reduce or even remove this effect.

Shaders

Mobile shaders are built-in shaders in Unity with certain limitations compared to the Standard shaders that Unity uses. The Mobile shaders are optimised for use on mobile devices as their impact on performance is light compared to that of the Standard shader. The only option available for the mobile diffuse shader is for a texture map and nothing else.

Shadows

Real-time shadows require many calculations, a number which only increases as the number of objects in the scene increases. One way to solve this issue is to "bake" the shadows into the light, meaning that the shadows position and size is pre-calculated. This works well if the light source and shadow-casting objects are static as they then only have to be calculated when the light is created. This does not work if using a moving light source, like the one used in the application made by Husted et al. (2018). A different solution is to simply remove shadows from objects. This may remove feelings of immersion in many cases, but requires less computations.

Trees

It was decided to design most of the world with low poly models where possible. One area that was focused on for reducing the amount of polygons were the trees.



Figure 4.1: Three trees from a pack retrieved from Unity asset store

The trees chosen for this version of the game (see Figure 4.1) consisted of a low number of polygons in the mesh. This type of design is also called low poly. A

cluster of trees were made in Maya and combined into one model, this way each island in the game would have a smaller number of models.

Level of Detail

Level of detail (LoD) is a technique which changes the resolution of the object depending on the distance from the object to the camera. The further the object is from the camera the fewer details will be rendered by lowering the amount of vertices in the meshes. At long distances it can even become just images. Incorporating this can save a lot of rendering computation.

Pivoting the Tree Design

Designing most of the game world based on the low poly design ended up not working as intended, as the framerate decreased rather than increased. Therefore, it was decided to look more into the trees that the previous group had used. We found that one of the free Unity asset packs Husted et al. (2018) used called `free_speedTrees` had implemented LoD. Therefore, it was decided to remove all trees from the scene that did not have LoD implemented and only have the trees with LoD.

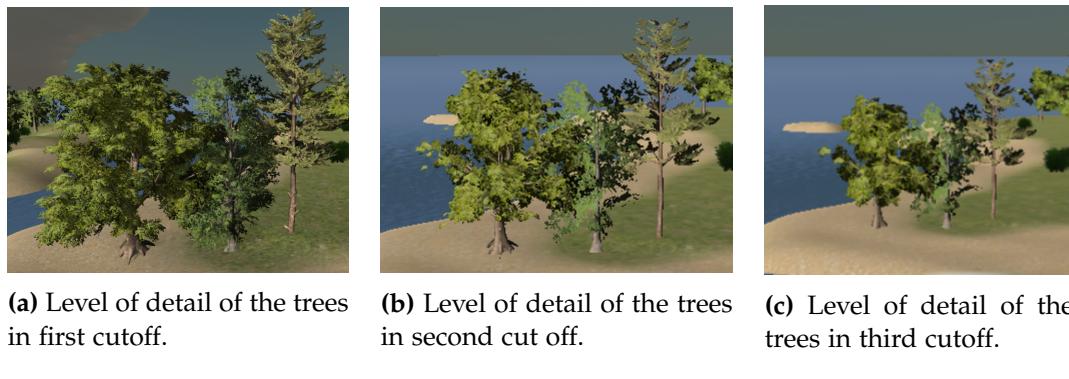


Figure 4.2: Three different degrees of LoD of the trees

As can be seen in Figure 4.2 the implemented trees have differing amounts of detail depending on their distance to the camera. A highly detailed tree might have all details up close, but when moving away and making the relative size smaller, the game will not render all the details anymore instead switching to a model with fewer details.

As the player spends most of the game far away from the trees are mostly shown with few details.

4.2 Designing Guiding Choices

With a basis in the article by Moura & El-Nasr (2015) the points from the list in Section 2.4 were discussed as to which would be most applicable to the project.

The first potential guiding method was to use environmental object representing paths. In the context of this game it could for example be visible winds or ocean currents moving in the desired direction.

A way markers could be implemented is to add something that stands out, such as a large tree, near areas where there would be something for the user to interact with.

Collectible items would be difficult to implement in the context of the game as it would be difficult to have something to collect on the water.

An NPC that can help the player through voicelines is very similar to what the initial application had implemented. The narrative could be designed around the player having to learn how to help the tribe and therefore have a NPC guide the player around.

Implementing a compass which would point the player in the right direction of their currently active goal would probably be easy for players to understand, especially if they have played other games. However, this would not be historically correct. Having an arrow in the game pointing to the interactive places is in some ways similar to having a compass, but even less diegetic.

Having a map showing the whole area could give an overview of the entire play area and what can be interacted with using a HUD. Since it would be historically incorrect, it was disregarded (Villadsen 2019).

The guiding methods: compass, arrows, and mini-map were found to be too historically incorrect or too much like a video game, as it would be preferred to not have a HUD. Thus, these solutions were removed from any further considerations. In a same vein, the game has no collectible items outside of the tasks which makes collectable items a poor guidance system.

Beside the points mentioned by Moura & El-Nasr (2015) movement and light were also discussed as guiding methods. Since the scene itself is quite still, movement could be added near objects that the player can interact with. Near the tribe there could be birds flying around, smoke could rise from the other tribe, and the fish could jump out of the water. Light could also be added to the scene near objects that the user can interact with. It could prove difficult to implement in a diegetic manner. It would risk looking unrealistic and might end up compromising the immersion (Eliasson 2017).

4.3 Landmarks

It was chosen to focus on creating landmarks in the scene that could help guide the player without forcing them to follow a specific path. The aim was to create landmarks that would motivate the user to explore the interactivity near the landmark that would not feel out of place in the VE.

It was decided to use different things for each landmark. By having different landmarks, it would be possible for the NPC to reference these landmarks and guide the player if the player would get stuck and not know what to do. The interactive activities the player can do in the game are:

- Empty the eeltrap
- Fish for codfish with a fishing hook
- Fish for eels with an eel iron
- Fish for flatfish with an eel iron



Figure 4.3: The large tree landmark and eeltrap.

Emptying the eeltrap takes place near land. It was therefore chosen to have a big tree near the trap (see Figure 4.3).



Figure 4.4: The circling pelicans landmark.

For the pelican landmark we utilized another approach discussed, which was the idea of using movement (see Figure 4.4). When everything else is static, movement will help things and events stand out. These objects would spark the player's curiosity about the possible events or tasks happening at the site of movement. As eels were a big part of the birds nutrition it was decided to have some birds fly around the area where the player can fish for eels.

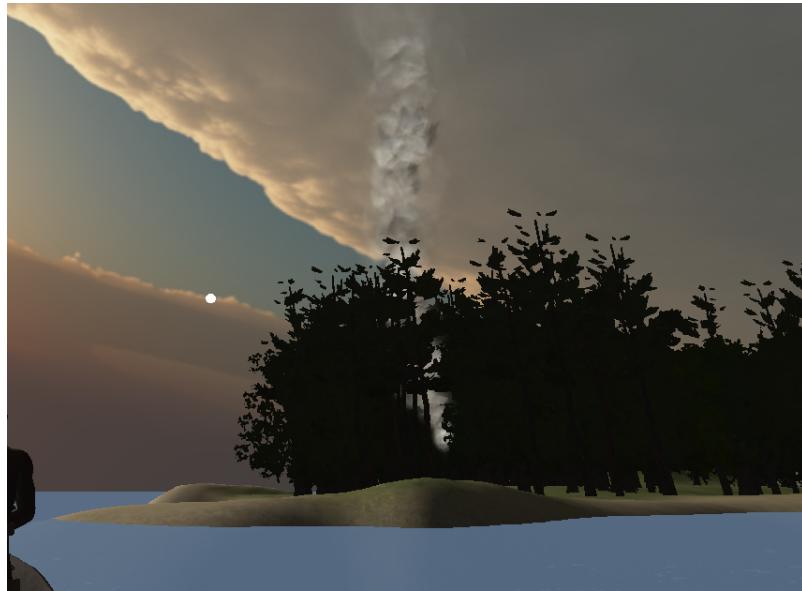


Figure 4.5: The tribe smoke landmark.

Fishing for flat fish was placed near the other tribe and would therefore have the other tribe and their smoking fireplace as its landmark (see Figure 4.5).



Figure 4.6: The large hill landmark.

The last landmark was a big hill which was placed near where it was possible to catch the codfish (see Figure 4.6).

To visualise the area where it was possible to catch codfish, schools of codfish were added around the big hill. These codfish were made bright yellow as it was otherwise hard to see them in the water.

Beside the activities, there are also some events that can be triggered. These events are implemented to showcase some of the wildlife that was different back in the Ertebølle period, compared to how the wild life is in Denmark today. These events included an orca jumping out of the water and a pod of pelicans flying besides the player up into the sky. As it was not possible to interact with these events, no landmarks were connected to them.

4.4 Additional Guiding Methods

Landmarks can be used to navigate as we create maps based on knowledge we obtain about places we visit. We also create these maps based on the information we obtain about the places. This means that if a player experience something they will try to make a spatial relation and by that create a landmark in their own map (Kitchin 1994).

Therefore, it was chosen to have two helping guidance: an NPC and a map. These will make reference the landmarks and consequently help the player create a map based on the landmarks.

The NPCs role was changed from the original version to use the landmarks as reference points in the new version. As it might be too difficult for the player to make the connection between a hill and the ability to fish near it, it was decided to use the NPC as a helping guide. If the player got stuck for too long the NPC would help the player by suggesting to go to a landmark near the player. The NPC was given a thick dialect to give it personality and add entertainment value.

An additional guidance method was included in the shape of a iconic representation of what types of fish the player would be able to catch and simple representations of the area they could be caught. We will henceforth reference what is seen in Figure 4.7 as the map. The aim of this map is to make the player less reliant on the guiding NPC. In this way the player can instead look at the map whenever they want and attempt to connect the images with the world around them.

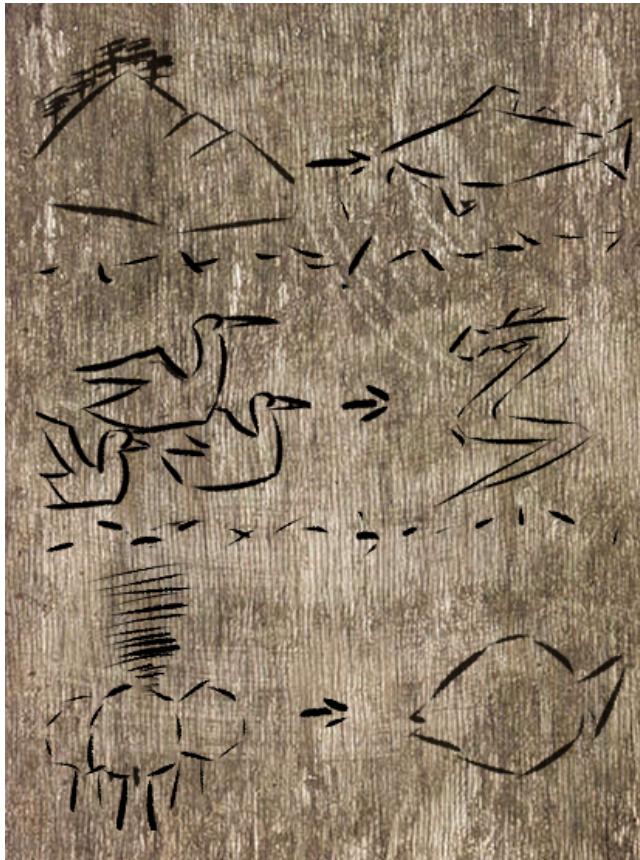


Figure 4.7: The texture used for the bark map representation.

A concept of the map can be seen in Figure 4.7. The map attempts to be as historically correct as possible by using the effects of carvings upon tree bark, rather than being a drawn map on paper which did not exist at the time. We also wanted to see if this type of guidance would have a bigger influence than the NPC guidance and no guidance. As such, the map was implemented in a way where it could work both with and without the voiceline guidance. An initial experiment showed the intelligibility of the map to vary a lot between individuals.

4.5 Narrative Techniques

As mentioned in Section 2.3.1 Husted et al. (2018) focused on analyzing whether using a linear or non-linear narrative has an influence on the engagement of the player. As such two different narrative paths were created. For this project it was decided to continue using the non-linear narrative path. It was found to be the best way to test how players are guided in video games, as the linear narrative would limit the player's possible choices and agency.

4.6 Discussion and Conclusion

To have as high a framerate as possible, the optimisation methods mentioned previously in this chapter were considered. Since the Lightweight Rendering Pipeline did not work as intended the standard render pipeline was used instead. To further reduce computations, anti-aliasing was removed from the game. Mobile Diffuse shaders were used in most of the game where the Standard Unity shader was implemented as rarely as possible.

LoD was used on all the trees in the scene, as this saved a lot of rendering computations after it was found that low-poly design was still too computationally heavy for the game. The Landmark Tree had different LoD values compared to the rest of the trees to make sure it would not disappear if the player was too far away.

As this game uses a moving light source to present the time limit to the player, removing shadows is a better solution than the baked lighting. It was decided that due to major part of the game being on water, shadows, especially those cast by trees, were unimportant, and the savings made on calculations were significant enough to warrant this choice.

The map and the voicelines activate two different types of guidance, with one being visual and the other being audio-based. This also means that they are good for different types of environments. The audio-based guidance might be worse in a crowded environment where it could be difficult to hear it, where the visual guidance could be more easily misinterpreted due to its simplistic iconic nature.

Chapter 5

Pilot Test

At first a test was conducted to see if the optimisation of the game worked. For this small test we focused on if the users understood how to use the game, if they were affected by motion sickness and if they understood that it was possible for them to catch fish at the landmarks. For this a SSQ was used to understand how the users were affected by the game in regards to motion sickness. These results were not analysed as the questionnaire was simply included to test the procedure. The test participants were asked a few follow-up questions to get a better understanding of how they subjectively interpreted and were affected by the landmarks.

5.1 Preparation and Set-up

The pilot tests were conducted at Aalborg University Create campus in a secluded room for minimal interruptions. A test facilitator and a note taker were present at all tests. The test participants received a short description of the game before playing it (see Appendix B). For the tests a Goolge Forms questionnaire was prepared with the SSQ (see Appendix C) and questions regarding their experience with museums, video games, and VR. A few follow up questions were prepared for after the test to get a better understanding of their subjective opinion of their experience (see Appendix B). For the test we used:

- a Samsung Galaxy S6 with the game implemented
- Homido Grab Virtual Reality Headset for Smartphones
- Pen and paper for note taking
- Paper with images of the four landmarks
- A computer with the questionnaire
- A phone charger

5.2 Pilot Test Procedure

To do these initial tests, four university students were contacted at the AAU Create campus. The participants were given a consent form, agreeing to us using the re-

sults gathered during the tests. After this they would be given a brief introduction concerning what the test would be about.

All test were conducted while the test participants were sitting on a padded swivel chair. We decided to mimic their position in the game, as they are sitting in a boat rather than having the test participants stand during the test. Having them sit would also reduce the chance of falling while turning around. While sitting, the participants were able to turn around easily to maneuver the GC glasses. In a real boat it would likely not be as easy to move around.

When sitting, the tests participants would receive the GC glasses with a Samsung Galaxy S6 and start the experience. The sounds from the phone were played out loud so that the facilitator and note taker could hear what the test participant heard.

During the tests the participants would be able to ask questions if needed and were able to stop the experience at any time. They were encouraged to speak out loud if they encountered any problems or had any comments. If they mentioned anything the facilitator would be able to ask follow up questions about it.

5.3 Pilot Test Participants

All the participants for this test were male students (24-27 years old) from AAU. All of them regularly played video games in their spare time. All the participants had tried playing in VR before, but some were more experienced than others. All participants have been to museums before and three out of four had visited a museum in the last year.

5.4 Pilot Test Results

These tests revealed many areas which needed to be improved before testing again. One problem the test participants encountered was in the end scene. Three out of four participants collected enough fish to get the good ending, but when entering the end scene their basket would be empty and there would be no voice talking to them.

As soon as the game started the participants would be guided by the NPC to go to the hill in front of them where they would be able to catch codfish. Some of the participants also seemed to have problems locating other types of fish and one commented on a lack of guidance. He assumed he would be guided through the experience since that was what he had experienced so far. Therefore, with the lack of sound he second guessed himself, thinking he might have missed something he was supposed to do.

The area where they were able to catch flatfish was never explored. The voice-line trigger never got activated, the landmark was not intriguing enough, and some thought the smoke was the same as from the fire they started at. Some participants mentioned that it seemed like the framerate dropped when looking at the smoke, which might also have discouraged them from going closer to the area.

It did not seem like the test participants explored as much of the game world as they could have. Some of them waited for the NPC to talk as they expected him

to guide them. Their way of navigating was therefore heavily influenced by the NPC.

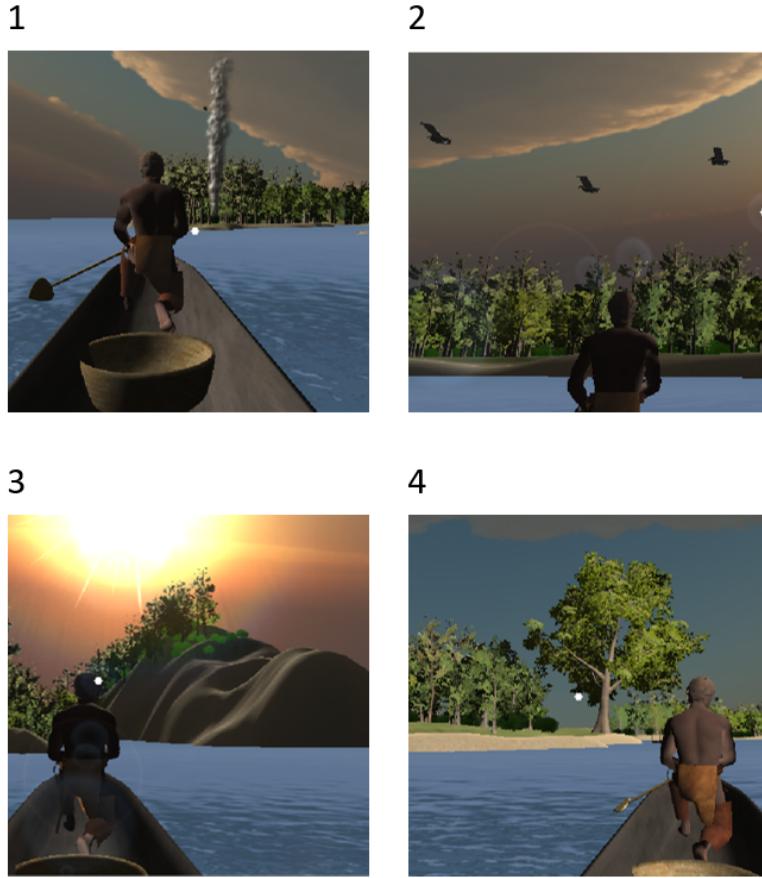


Figure 5.1: This illustrates the paper shown to participants. It showcases the four landmarks used in the game as screenshots from the game.

The test participants were shown the four images in Figure 5.1 and asked to identify what they illustrated and what happened in the game at those locations. The following table shows how many participants were able to recognize the specific landmarks shown.

Landmark	1	2	3	4
Participants remembering the landmark	4	2	4	3

Table 5.1: The landmarks are the ones pictured in figure 5.1 1 being the other tribe smoke, 2 being the birds flying in a circle, 3 being the biggest hill in the scene, and 4 being the biggest tree in the scene.

The NPC mentions the birds in relation to catching eels, but some of the participants would get confused since they felt that the birds were moving too randomly for them to follow. This was because there were both landmark birds as well as random birds. However, most participants recognised most of the areas and were able to connect the correct activity to the landmarks.

5.5 Changes Based on Pilot Test

After the pilot tests some changes were made to the program. Many minor technical problems came up during the tests which were quickly resolved. A bigger change that needed to be made to the program was the voiceline implementation. The voice was implemented such that it played when the player triggered it.

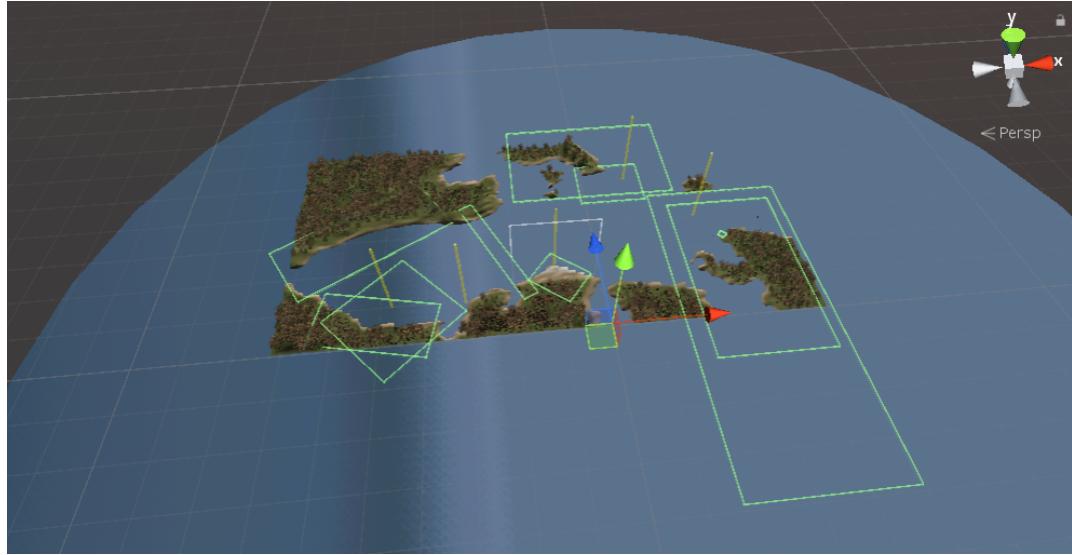


Figure 5.2: This images visualize the triggers implemented in the game recived from Husted et al. (2018).

It was chosen to implement the sound such that instead of only triggering when entering the trigger areas seen in Figure 5.2, it would depend on time and distance instead. This means that when the player starts the game they will hear the NPC introduce the game and the game objective. In the pilot test version this was immediately followed by a voiceline guiding them to the codfish area which resulted in the participants going there right away. This was changed so that the player had an opportunity to experience the VE a bit before being guided anywhere.

The only triggers that were left in the new version was for the three different events, orca, pelicans, and seals, and if the player sails near the boundaries of the world.

A manuscript showing all the the voicelines that are used in the game can be seen in Appendix A.

It was also chosen to improve a few aspects of the design and use of the different figures in the game. As the orca was not particularly clear and none of the pilot test participants found it, it was chosen to move it. The orca's spawnpoint was placed closer to the player forcing it to be more in the view of the player. Furthermore, a particle system was added to the orca to visualise it blowing water from its blowhole. It was also decided that the player would be unable to move during the event to help players focus on the orca. Results from the pilot test showed the 3D-models of the codfish around the hill area, helped the participants realise where the fish were.

In the original game received from Husted et al. (2018) there were seals as well as a voiceline telling the player that an area was not good to fish in as the seals ate all the fish there. However, the seals were not visible in the scene. Models of the seals were placed on the shore in one end of the scene. For the seals a sound effect of a seal colony was added so that the closer the player got to them the louder they would sound. Similarly seabird sounds were added for the pelican landmark.

As there were problems with the ending of the game in the pilot tests, the players' opinion of the ending was not observed. As we felt it was not very clear that if you returned to the midden you would end the game, we chose to change it. There was a female standing on the shore who was moved closer to the water. If the player returns to the midden, the NPC will tell the player that if they want to end the game they can hand in the fish to the lady. If the player wishes to keep playing they can sail further and if they wish to end the game, interact with the lady to hand in the fish.

Chapter 6

Final Game Design

Based on findings from the pilot test, some changes were made to the design of the game and the test itself. It was decided that three different versions of the game would be built and the results from the three would be compared to see which better influenced the player.

6.1 Versions

No guidance

This version has no guidance for the player and they are instead expected to find the fish by finding the specific landmarks. There is still voice acting in the game but only in the form of information about objects the player is interacting with, e.g. if the player is using a wrong tool, information about the fish that is being caught, or information about events happening in the game.

Map guidance



Figure 6.1: The map used for guidance in its inactive (left) and active (right) states.

This version has guidance in the form of a map. It features a representation of what fish can be caught and the landmark which the fish can be caught at. The design of the map can be seen in Section 4.4. The map lies at the bottom of the boat where the player can then interact with it to read it. Figure 6.1 shows the map as it lies in the boat and when it is activated. The version otherwise features everything the no guidance version features.

Voice guidance

The final version uses guidance in the form of spoken words. The initial version of this was the one used for the pilot test run in Chapter 5. The changes from this version include changing the voice guidance to become more specific during additional guidance towards a specific landmark based on findings from the pilot test as mentioned in Section 5.5. So while the first voiceline might only refer to the general landmark the second might also specify what tool to use to catch fish in that area. A full script of the different voicelines can be seen in Appendix A. A guiding voiceline is activated when 35 seconds has passed without another sound being played and will point the player towards the closest landmark where they have not yet caught any fish. Should the player get a non-guiding voiceline, such as when the player gets a pelican event, the length of the non-guiding voiceline is added to the time between the two guiding voicelines so that there is a full 35 seconds of no sound between the two first guiding voicelines. The delay is lowered after the second guiding voiceline so that help will be given with 20 second delay instead. This delay reset when the player catches a fish, and it will take 35 seconds before a new guiding voiceline is played. If the player abandons the activity, the process is repeated and the program will try and find the new activity which is then closer.

6.1.1 Events

Events were implemented into the game to make the world seem more alive and to help differentiate the games setting from the current nature in Denmark. In all versions of the game the NPC comments on what type of event is happening. Three events are present in the current game:

Pelicans

The pelican event triggers as the player travels to the right of their starting point. It consists of a pod of pelicans swooping over the player's head and flying up and out of sight. The NPC comments what type of pelican it is.

Orca

The orca event triggers to the right of the hill where the player can catch codfish. When it triggers, the NPC will call out that they can see an orca ahead and the orca will breach the water and send water flying out of its blowhole. The NPC also comments that the player should not try to catch that particular fish. The player cannot move while the event is ongoing.

Seals

The seal event triggers to the far left of where the player starts. When triggered, the NPC will tell the player that due to the seals they should not try to catch fish in the area. The seals themselves are two 3D-models lying on the beach, and the sound of seals can be heard as long as the player is in the area.

Chapter **7**

Guidance Experiment

Based on the experiment design seen in Chapter 5 and the three versions presented in Chapter 6 an experiment was planned to attempt to answer the problem statement described in Chapter 3. This chapter presents set-up, data collection, procedure, and participants of the experiment.

7.1 Preparation and Set-up

The procedure of these experiments were much like the pilot test (see Section 5.1). The same description, questionnaire, and follow-up questions were used for these as was used for the pilot test. However, a few questions were added to the follow-up questions. Furthermore, a list of things for the facilitator to look out for during the tests, was also prepared. A television with a Chromecast was also added to the set-up so that facilitator and note taker could see what the player saw via screen casting.



Figure 7.1: A picture of the set up of the tests conducted at Create.

In Figure 7.1 the setup can be seen. In the chair on the left, a note taker would take notes from the tests as well as the interview. In the middle is the TV used for seeing what the participants saw and the chair used by the participant. On the right side of Figure 7.1 is where the test facilitator was placed with a computer for notes and the SSQ. For this round of experiments, compensation, in form of soda, chips, and chocolate, was offered to the participants.

7.2 Data Collection

The questionnaire that was mentioned in Section 5.1 can be seen in Appendix C. In this questionnaire participants first had to consent to participate, this happened before they were put through the game. After the experience participants were sent through the rest of the questionnaire, where they were asked about how much they felt various symptoms of simulator sickness based off of the SSQ. They were also asked questions regarding their demographics, such as age and occupation, and their feelings about the game.

We chose to ask if they had sore arms after finishing the game, as this was something the participants in the pilot test mentioned. We also wanted to know how participants felt about the game in regards to entertainment value, if they would play the game at a museum, and if they would play the game again.

Besides using a questionnaire it was decided to use observations as a quick way to identify interesting areas of the collected data. Therefore, a list of areas the facilitators should pay extra attention to was created. There were four areas on the list, and these were:

- What does the participant do when a guiding voiceline is played

- When does the participant use the map
- Does the player look at the events or are they missed
- Note all comments the participant utters during the game

These subjects were chosen as it was important to get an explanation from the participants about their choices and experiences during the game. Therefore, the observations of these subjects were used to ask more in-depth questions.

7.2.1 Logging

We considered what variables would be most beneficial to have data for, in order to be able to recreate what happened during each session. Finding inspiration from Liszio & Masuch (2016) who had drawn the path their players had taken, we decided we should log the following things each time a participant playthrough the game.

- **Date and time.**

For each log entry, time and date was used in order to have reference points from which to calculate how long the participants took to do the different things in the game.

- **Player position.**

Player position was logged such that after the completion of the test we would be able to recreate the path the participant took as mentioned above.

- **Player orientation.**

Player orientation was logged such that we after the completion of the test would be able to recreate where the participants were looking during the test.

- **Which voiceline was last played.**

In order to know when a new voiceline is played, and to know what happened in the game, which voiceline that had last been played was also logged.

- **The type of fish caught event.**

The type of fish caught was logged in order to know when a fish is caught, and to know how many fish has been caught of each type and in total, and to know what type of fish was caught. The types of fish events were: none, codfish, eel, flatfish, and eeltrap emptied.

- **The last guidance sound that was played.**

The last guidance sound that was played was logged in order to know which activity the participant has been guided towards, and to be able to see if they are moving closer or away from that activity.

- **The amount of times the participant has attempted to fish outside the areas where it is possible to fish.**

This was logged in order to see if the participant understands the guidance. A high amount of times means the participant is unlikely to have understood the guidance, and a low amount mean the participant is likely to have understood the guidance.

- **The type of wrong tool event.**

We log this in order to see if the participant understand which tool they should use for which fish. The types of wrong tool events were: none, no eel iron for codfish, and no hook for both eel and flatfish.

- **Whether or not the guidance map was activated this frame.**

This is to get an idea of how many times the player looked at the map, and coupled with their path and time it took to fish we get an idea of how effective the map is.

- **Current region.**

The specific region which the player is visiting is logged to more easily figure out where the player is in the game world. The regions are: the codfish area, the orca event area, the flatfish area, the starting area, the eeltrap area, the seal event area, the eel area, and the pelican event area.

Each time a participant enters the main scene a new log file is created. The file is identified via the date and time of creation.

Each time an entry in the log file is made one line of text is written. This line of text contains one variable for each of the above bullet points in the order they have been written. Each of the variables are separated by a ",". Each of these log entries are performed once a second, when a fish is caught, a wrong tool voiceline is played, the map is picked up or put down, and when the screen of the phone is pressed via the button on the cardboard device.

7.3 Procedure

The procedure for these experiments did not differ much from the procedure in the pilot test (see Section 5.2). Since the experiments depended on having a TV available it was limited where the experiments could be conducted. Participants were recruited from the two Aalborg University campuses located in Aalborg, Create and Basis. Again, the participants were given a consent form, agreeing to us using the results gathered during the experiments. After this they would be given a brief introduction concerning what the experiments would be about. When sitting, the participants would receive the GC glasses with a Samsung Galaxy S6 and start the experience. For these test the phone was connected to a Google Chromecast which was connected to a TV so that the facilitator and note taker could watch the participants' behaviour in the game during each playthrough. The sounds also played from the TV out loud so that the facilitator and note taker could hear what the participant heard.

7.4 Pilot Test of Guidance Experiment

Because of the changes to the program and procedure since the pilot test from Section 5, a new pilot test was conducted with a 10th semester mediology student. This was to make sure that the facilitator knew how to conduct the test and to have an outsider go through the game. The test participant understood the game and most of the test went on as anticipated. However, during the test we discovered

a few problems such as the landmark tree not being visible because of the LoD settings. Furthermore, the participant got confused after catching the codfish as the participant could not see any fish in other areas. After catching the three codfish he followed the guide to the flatfish area, but did not understand that he could fish because he expected to see fish when he was able to fish. This resulted in some further minor changes to the program before the experiments.

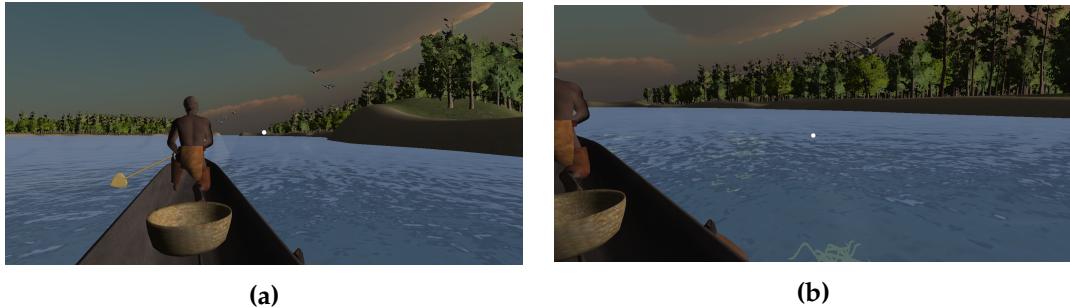


Figure 7.2: In image (a) the player is too far away from the area where they can fish for eels, so the fish are not visible. In image (b) the player is close enough to the area where they can fish and can see the fish.

For all of the participants in the pilot test and this test it seemed that the codfish in the water affected their decision more than the landmarks and guide. Therefore, the codfish were changed so that they only appear when the player is within a certain distance. This meant that the player would not be able to see the fish from the beginning of the game. Furthermore, fish were also added to the other areas to make sure that when the player sees the fish they know that they can fish (see Image 7.2).

7.5 Participants

For the last experiment a total of 48 participants were recruited, 16 for each of the three versions. As most participants were recruited among students at AAU's Create building in Aalborg, many were students (see Figure E.4). Of the participants 25% were female (21-79, Mean=31, Median=24) while 75% were male (20-78, Mean=27, Median=24). Of the participants all had visited a museum before and over 60% had visited a museum within the last year (full distribution can be seen in Appendix E.1). Only 16.7% of the participants had never tried VR before while ranging from having tried it a few times before to using it very often (see Appendix E.2). 50% of the participants played computer games on a daily basis and only 14.6% played computer games more rarely than once a month.

Chapter 8

Results

The results in the following subsections are extracted from the data gathered during the experiment phase of the project. The data consist of between subject qualitative, in the form of interviews and observations, and quantitative data, in the form of questionnaires and log files from the game. This data came from three different versions of the same base game as described in Section 6.1: a version in which landmarks are referred to by an NPC (V-v), one where they are referenced using a map (M-v), and one where the landmarks are not referenced (N-v).

In order to find statistical evidence usable for answering our problem statement from Chapter 3, *How does adding references to landmarks in a game influence the user while using VR?*, we formulated some hypotheses.

- *There is no difference in types of fish caught between the three different versions.*
- *There is no difference in the amount of areas the players visited between the different versions.*

These hypotheses were the main focus of our statistical analysis, which also included investigating whether there was a difference in time taken to catch fish between the different versions.

8.1 Influence of player behaviour

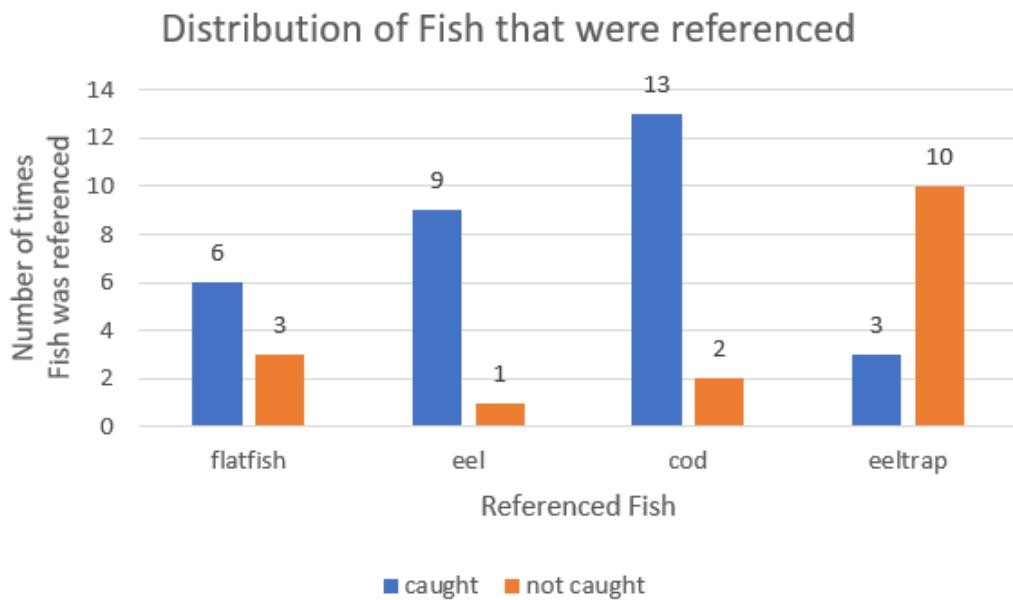


Figure 8.1: The Figure shows the distribution of referenced fish. It shows how many fish had and had not been caught after the reference.

As can be seen in Chapter 7.2.1, information was logged when players heard a guidance sound. A log entry was also created when they caught fish. Based on these logs we could compare how often the participants listened to the given guidance and caught the fish that they were guided to. A guiding voiceline was played a total of 47 times in the version with the guiding NPC. 31 of these 47 times, the participants caught the fish that they were guided to. This also means that 16 times the NPC guided to a type of fish that was never caught. Therefore, it seems that the guiding voicelines influenced the players 66% of the time. During the followup interviews it was noted that some of the participants had difficulties understanding one specific guiding voiceline, namely the one guiding to the eel trap. This fits well with what can be seen in Figure 8.1. There it can be seen that the eeltrap is the only place where it was more common that the eeltrap was referenced and not emptied than the opposite.

8.2 Amount and Types of Fish Caught

In all three versions of the game, V-v, M-v, and N-v, it was logged which types of fish were caught and how many of each type.

To investigate if there was a difference between the amount of fish caught between the three different versions our null hypothesis was: *There is no difference in amount of fish caught between the three different versions.*

To test for this a Kruskal-Wallis test was run using R (Kruskal-Wallis chi-squared = 3.27, df = 2, p-value = 0.20) to see if there are any differences. While the results were non-significant we still ran a pairwise comparison using a Welch's t-test, since the data was normally distributed according to a Shapiro-Wilkes test

($W = 0.94$, p-value = 0.02), with a Bonferroni correction to make up for the multi-comparison. This resulted in the p-values that can be seen in the following table.

	N-v	M-v
M-v	1.00	-
V-v	0.29	0.33

Table 8.1: A table showing the p-values of the pairwise comparison of fish caught between the three different versions of the game: with NPC references, with map references, and without references.

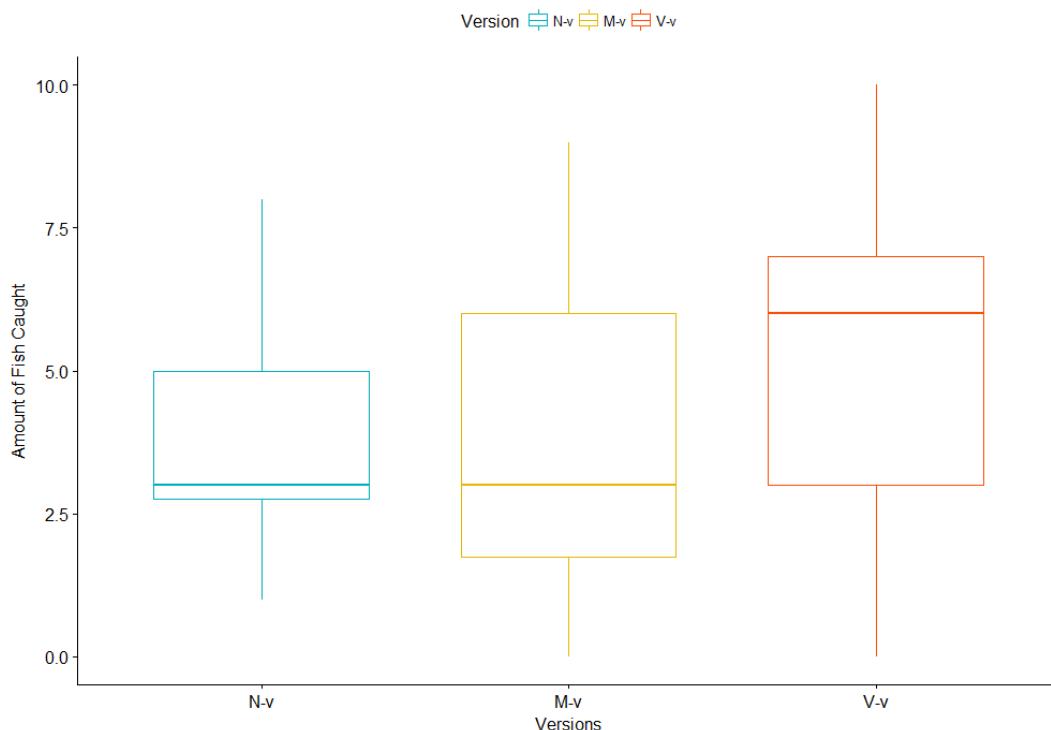


Figure 8.2: Boxplot showing the amount of fish caught in the different versions

To investigate if there was a difference in the amount of types of fish caught between the three versions, our null hypothesis was: *There is no difference in the amount of types of fish caught between the three different versions.*

To test for this, a Kruskal-Wallis test was again conducted in R (Kruskal-Wallis chi-squared = 3.32, df = 2, p-value = 0.19). A pairwise comparison was made with Wilcoxon rank sum test, since the data was not normally distributed according to a Shapiro-Wilkes test($W = 0.89$, p-value = 0.0003). This pairwise comparison was also made with a Bonferroni correction to make up for the multicomparison. This resulted in the p-values that can be seen in the following table.

	N-v	M-v
M-v	0.19	-
V-v	0.73	0.19

Table 8.2: A table showing the p-values of the pairwise comparison of fish caught between the three different versions of the game: with NPC references, with map references, and without references.

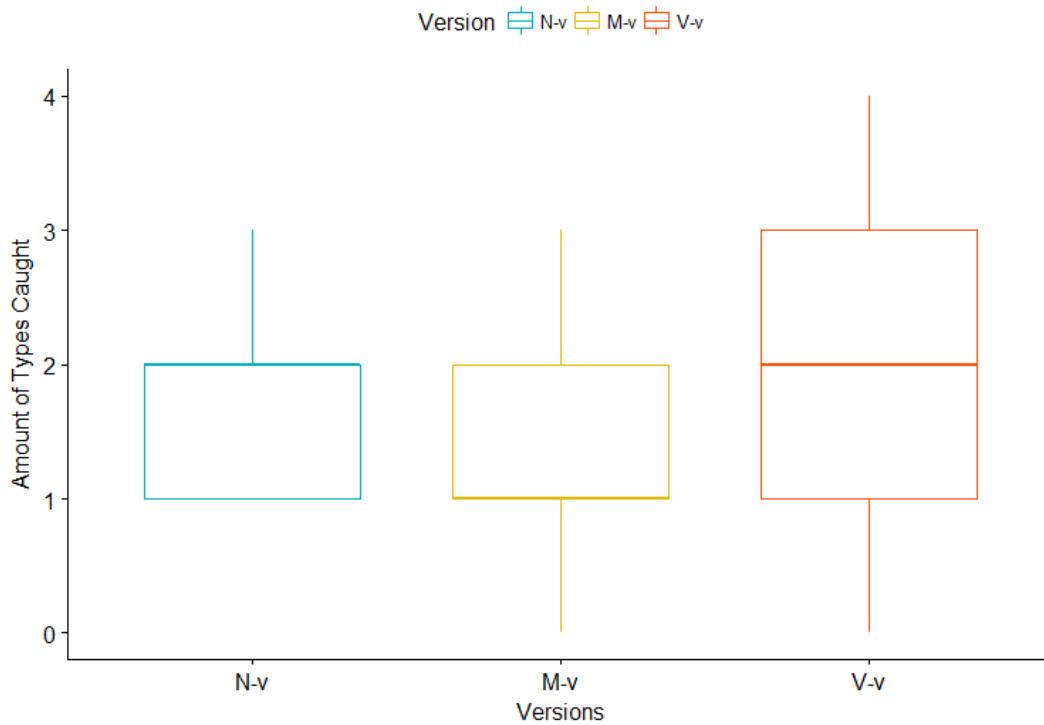


Figure 8.3: Boxplot showing the amount of types of fish caught between versions

From the resulting p-values of the t-test and Wilcoxon rank sum test we see that none of the results are significant. This mean we fail to reject the null hypotheses and cannot conclude if there is a difference in amount of fish caught between the versions or not. However, there seems to be a tendency that a smaller amount of different types of fish were caught in M-v than the other two versions.

8.3 Events Seen



(a) The area, marked in green, to the left is the seal trigger, the top trigger is the orca event, and the trigger under is the pelican event trigger.



(b) The area, marked in green, to the left is where eels can be caught, the top area is where codfish can be caught, the area to the right is where the flatfish can be caught, and the last area is where the player starts the game.

Figure 8.4

In the game it is possible to experience three different events: seeing seals, seeing an orca, and seeing pelicans. These events are placed in different areas in the game as can be seen in Figure 8.4(a). Some of these areas had two purposes. The main reason to have these event areas was to make the game world seems more alive and entertaining. The seal event and the orca event had the NPC telling the players, "*these areas do not have a lot of fish*". If the players experienced these areas it would therefore mean that they got to areas of the game where they could not catch fish as can be seen in figure 8.4(b). Therefore we assumed that if the players listened to the NPC they would not attempt to travel to the outer areas of the game where the event triggers are located. To test for this a null hypothesis was made: *There is no difference in amount of events seen between the three different versions*.

To test for this a Kruskal-Wallis test was conducted using R (Kruskal-Wallis chi-squared = 5.39, df = 2, p-value = 0.07). A pairwise comparison was made using Wilcoxon rank sum test, since the data was not normally distributed according to

a Shapiro-Wilkes test ($W = 0.87$, p-value = 0.00001). This pairwise comparison was also made with a Bonferroni correction to make up for the multicomparison. This resulted in the p-values that can be seen in Table 8.3.

	N-v	M-v
M-v	0.23	-
V-v	0.12	1.00

Table 8.3: A table showing the p-values of the pairwise comparison of events seen between the three different versions of the game: with NPC references, with map references, and without references.

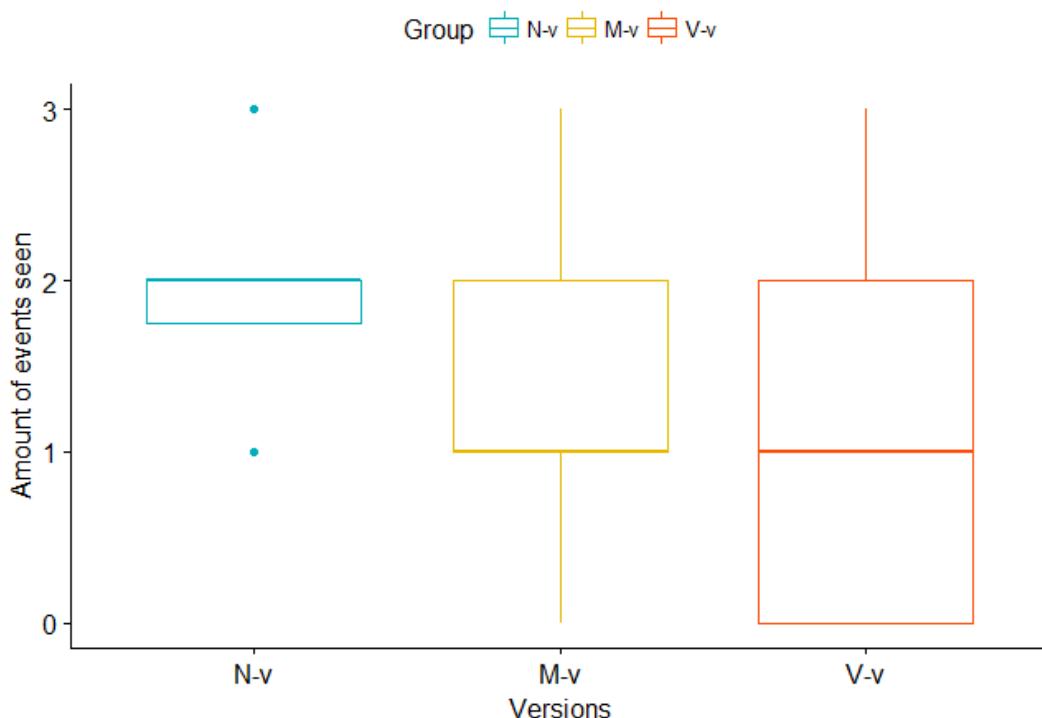


Figure 8.5: Boxplots showing the amount of events seen in the three different versions

None of the p-values indicate significance. However, we see a tendency that the amount of events seen is different between N-v and V-v. This is visualised in the boxplots in Figure 8.5 where it can be seen that players from N-v experienced more events, compared to players from the other two versions.

8.4 Amount of areas players visited between versions



Figure 8.6: A map of the game world showing the size and positions of the different regions

The regions which the players visited were saved as part of the logging data. The regions can be seen in Figure 8.6 and we use them as a measurement for how much of the game world the players visited. Before running any statistical tests we had a null hypothesis stating: *There is no difference in how many regions players visit between the three different versions*. To test for this a Kruskal-Wallis test was run using R (Kruskal-Wallis chi-squared = 2.22, df = 2, p-value = 0.33). A pairwise Wilcoxon rank sum was conducted using R as the results from the three different versions were found to not be normally distributed using Shapiro-Wilkes test($W = 0.94$, p-value = 0.02). With a Bonferroni correction the Wilcoxon test resulted in the p-values in Table 8.4.

	N-v	M-v
M-v	0.65	-
V-v	0.58	1.00

Table 8.4: A table showing the p-values of the pairwise comparison of the amount of regions visited, between the three different version of the game: with NPC references, with map references, and without references.

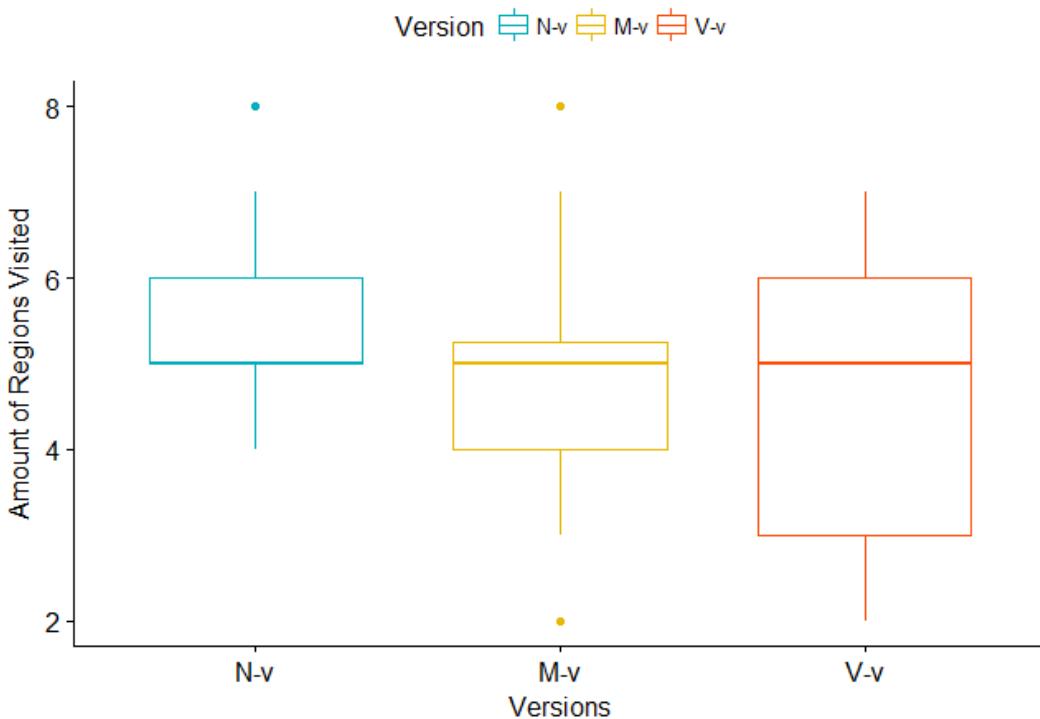


Figure 8.7: A boxplot of how many different regions were visited in each version

None of these p-values indicate significance thus we fail to reject the null hypothesis and cannot say whether there is a difference in amount of regions players visited between the three versions. In the boxplots in Figure 8.7 it can be seen that the median is similar for all versions which visualises that there is no significant difference between the three versions.

8.5 Time Spent Between Catching a Fish and Types of Fish

A new entry into the logging data is created with each fish caught, producing specific time stamps for each fish caught. A series of statistical tests using these time stamps was run using R and based on the chron library which creates support for time conversions and calculations. For an initial test we wanted to see if the null hypothesis *there is no difference in play time between the different versions* could be rejected. None of the length of time played per version were found to be normally distributed using Shapiro-Wilkes tests. A Kruskal-Wallis test found no significant difference between the three versions of the game ($\chi^2 = 1.61$, $df = 2$, $p\text{-value} = 0.45$).

Similar tests were run using average time spent between catching fish. The null hypothesis for these tests were: *There is no difference in time spent between each fish caught between the different versions*. These times, measured in seconds, were not normally distributed as found by using a Shapiro-Wilkes test. Using a Kruskal-Wallis, test the results were found to be significantly different ($\chi^2 = 6.34$, $df = 2$, $p\text{-value} = 0.04$) and a pairwise Wilcoxon rank sum test the specific versions against each other. The p-values are shown in Table 8.5.

	N-v	M-v
M-v	0.04	-
V-v	0.38	1.00

Table 8.5: A table showing the p-values of the pairwise comparison of the amount of time spent between each fish caught.

While this could be potentially interesting, a problem arises as this test does not take into account when a player catches more of the same type of fish. Should a player catch multiple of the same type of fish, the average time between each fish caught will be lowered accordingly. To counteract this, a different test was conducted to test the null hypothesis: *There is no difference in time taken to catch a new type of fish between each version*. The calculation of the time was done by subtracting the time when the last fish of the old type was caught, with the time when the first of a new type was caught. The data was found to not be normally distributed using a Shapiro-Wilkes test. A Kruskal-Wallis test found no significant difference between the three versions (chi-squared = 4.53, df = 2, p-value = 0.10) and a pairwise Wilcoxon rank sum test was used to compare each version. The results are shown in Table 8.6.

	N-v	M-v
M-v	1.00	-
V-v	0.2	0.26

Table 8.6: A table showing the p-values of the pairwise comparison of the amount of time spent between each type of fish caught.

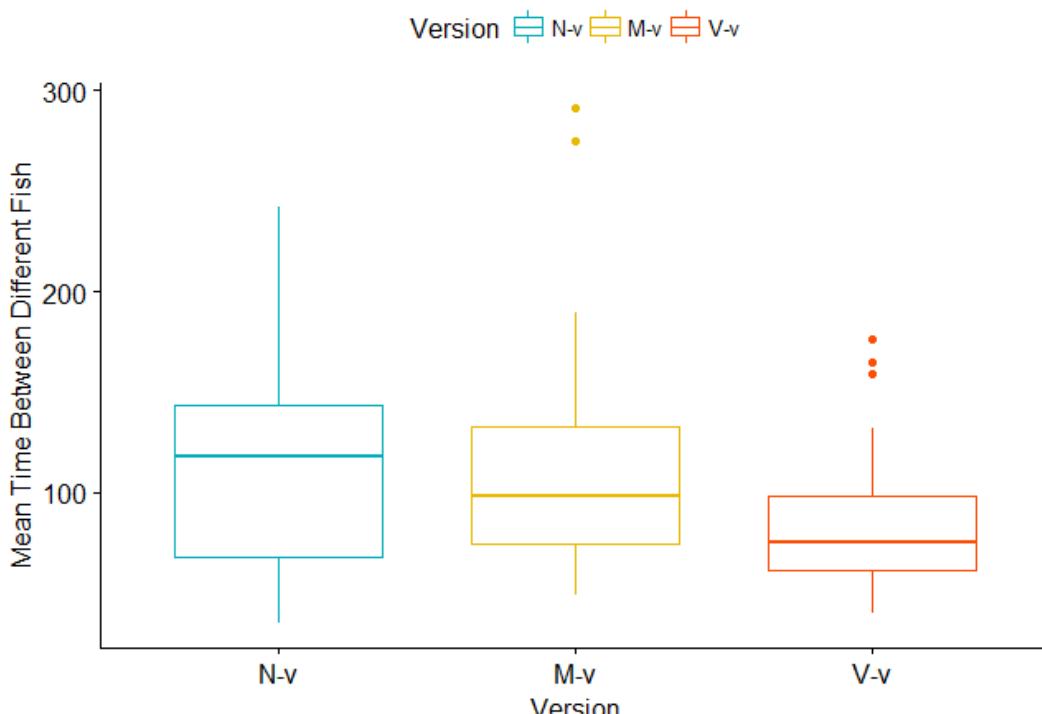


Figure 8.8: A boxplot showing the difference in mean time between each type of fish depending on the version of the game.

The p-values in Table 8.6 indicate a tendency towards there being a significant difference in time taken between each new type of fish between the three versions of the game. The boxplot seen in Figure 8.8 shows that the median for V-v is lower than the other two versions, which means that the tendency in Table 8.6 points towards players in V-v taking a shorter time between each type of fish.

8.6 Answers From the Questionnaire

As mentioned in Section 7.3, a questionnaire was filled out by the participants. Based on these answers, statistical tests were conducted using Kruskal-Wallis with a null hypothesis of there not being a difference of the answers between the participants who tried different versions:

1. *There is no difference of how fun the players found the game between the three versions*
2. *There is no difference of how likely it would be that they would play a similar game in a museum between the three versions*
3. *There is no difference of how much they would like to play the game again between the three versions*

Only null hypothesis three had a small enough p-value from the Kruskal-Wallis test to investigate further (Kruskal-Wallis chi-squared = 3.78, df = 2, p-value = 0.15). A pairwise Wilcoxon rank sum test was conducted with a Bonferroni correction to make up for multicomparison. This resulted in the p-values that can be seen in the following table.

	N-v	M-v
M-v	1.00	-
V-v	0.36	0.23

Table 8.7: A table showing the p-values of the pairwise comparison of how much the players wanted to play again between the three different versions of the game: with NPC references, with map references, and without references.

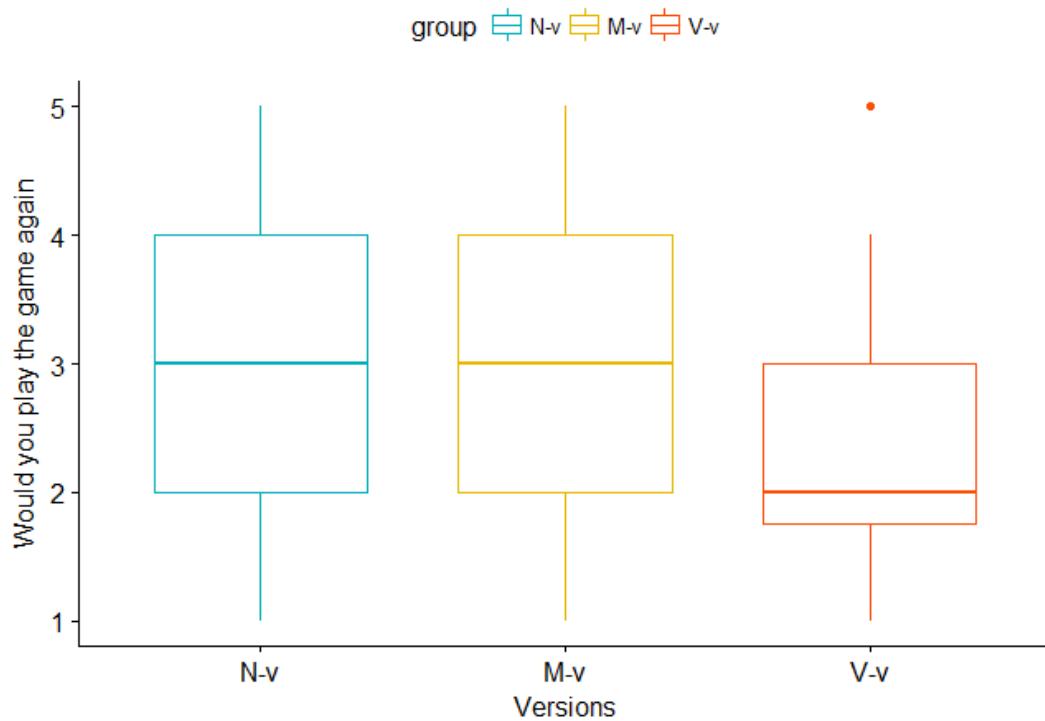


Figure 8.9: A boxplot showing what the participants answered to the question "Would you play the game again?" on a scale from 1 to 5, with 1 being very unlikely and 5 very likely.

None of the p-values indicate significance. This means that we fail to reject the null hypothesis. However, the values for comparisons with V-v indicates that there could be a tendency that participants who tried V-v were less likely to want to try the game again.

In the questionnaire the participants were also asked to rate their experience with both VR and Computer games. This was to see if their experience could have an influence on how both their opinion on the game and replayability, but also how they acted in the game.

	VR	Computer Games
Fun	Kruskal-Wallis chi-squared = 2.81, df = 3, p-value = 0.42	Kruskal-Wallis chi-squared = 3.37, df = 3, p-value = 0.34
Play Again	Kruskal-Wallis chi-squared = 2.44, df = 3, p-value = 0.49	Kruskal-Wallis chi-squared = 2.25, df = 3, p-value = 0.52

A Kruskal-Wallis test found that the players experience in VR or with Computer games had no influence on how much they would like to play again or how fun they found it.

8.7 Observations

The voice of the NPC was something that received many positive reactions. This was independent of which version the participants had tried. A few participants had some difficulties understanding what the NPC said. One mentioned that they forgot to listen to the help from the NPC because they got distracted by looking around to admire the view.

Most of the participants who had difficulties understanding the NPC still found it a bit amusing as they felt it added to the character. For the few participants where it became a problem, it was usually the participants who experienced V-v.

A few of the participants who played V-v were sometimes already on their way to the landmarks when the NPC referenced the landmark. When this was the case they noted that they felt validated in what they were doing and it motivated them to keep sailing. Furthermore, some participants also felt like it was because of what the NPC said that they fished when they did.

Some participants noted that they felt like the NPC was very informing and helped them feel like they learned a bit from the experience.

The participants who experienced M-v often overlooked the map in the beginning. Their interpretation of what it was and how it worked also differed much from participant to participant. Some participants interpreted it as a fishing net, because the rest of the tools in the boat were used to fish with. Others had difficulties reading the map. Some noted that they thought it was like a treasure map with the dotted line representing a trail that they should follow.

When the participants were asked about their experience controlling the game, most felt that the game was easy and intuitive to use. However, most participants found it annoying to hold up the GC device for such a long period of time, as more than 50% of the participants felt their arms or shoulder got tired or started to hurt. This, they stated, was not something that would make them like the game less or necessarily stop them from playing such a short game. Multiple participants also noted that they would not necessarily want to play the game again, but they would have liked more time in the game. Many did not feel like they got to see everything there was to see in the game world.

The speed of the boat was also something a few participants had some troubles with. Some found it sickening that the boat rapidly accelerates and decelerates. When having to go from end of the area to the other, some participant found it tedious to have to wait for the boat to sail such a great distance while they had to press the button down. However, some participants felt a bit uncomfortable when the boat would sail too fast.

All participants understood that the goal of the game was to catch some fish. In general most participants felt a bit unsure of how that was gonna happen. However, it was mainly the players of M-v and N-v that seemed the most confused.

When the participants were asked to describe what was the most eye-catching on each of the images of the landmarks (see Figure 5.1, most of them noted what was expect. However, a few focused on the sunset rather than the hill when looking at image 3 (see Figure 5.1). When they were asked in which context they had seen

the areas in the game, they often mentioned the big hill where they caught codfish. Therefore, it would seem that they did create a mental landmark out of the hill.

Many participants would start by looking around in the game and then decide to sail towards the smoke. Many felt curious as to what it could be. The bird landmark was also eye-catching to many of the participants. Most participants were very quick to make a logical connection between birds and fish and one stated "*if there are birds, there must be fish*".

While playing some of the participants encountered different events described in Section 6.1.1). These events were generally well received. Most participants found that it brought life to the scene and helped them understand when they were heading in a wrong direction, but in a digetic manner. A few participants got confused about the orca event and the seal event. A few participants would come from an angle where the orca would appear behind them. If they did not turn around they would miss the event. For some who triggered the seal event it was too dark to see the seals, as it had become evening in the game.

8.8 Simulator Sickness Questionnaire

The participants were given the SSQ after ending the VR experience. A full version of the questionnaire used can be seen in Appendix C.

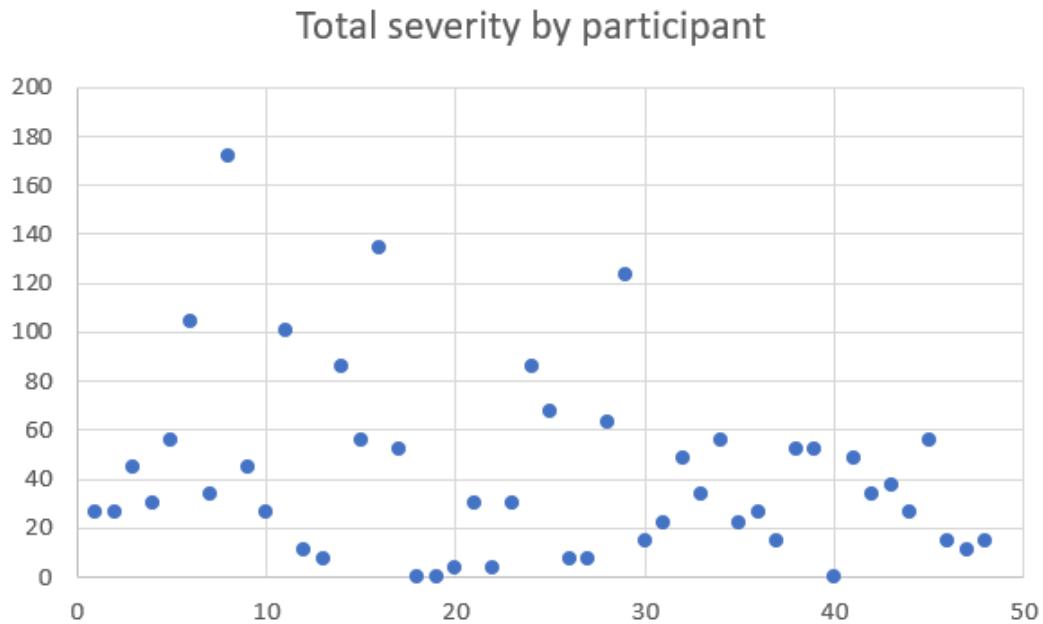


Figure 8.10: A plot of the values calculated of the answers from all the participants.

As can be seen in Figure 8.10, many participants were affected. A few participants reported that they were affected and felt sick during the interviews (summary of results can be seen in Appendix F).

A Kruskal-Wallis test also compared the SSQ results for the three different versions. There was found no significant difference (Kruskal-Wallis chi-squared =

1.06, $df = 2$, $p\text{-value} = 0.59$) between the three different versions. This was expected as the three versions in the three experiments should run in the same way.

Looking into the three groups of the SSQ, nausea, oculomotor, and disorientation, a Kruskal-Wallis test showed no significant difference between them (Kruskal-Wallis chi-squared = 1.3233, $df = 2$, $p\text{-value} = 0.516$). This means that we can not say that one of them was experienced more than the others.

8.9 Discussion

From the experiments conducted it was observed that the players who received guidance from the NPC in V-v would react to the help 66% of the time.

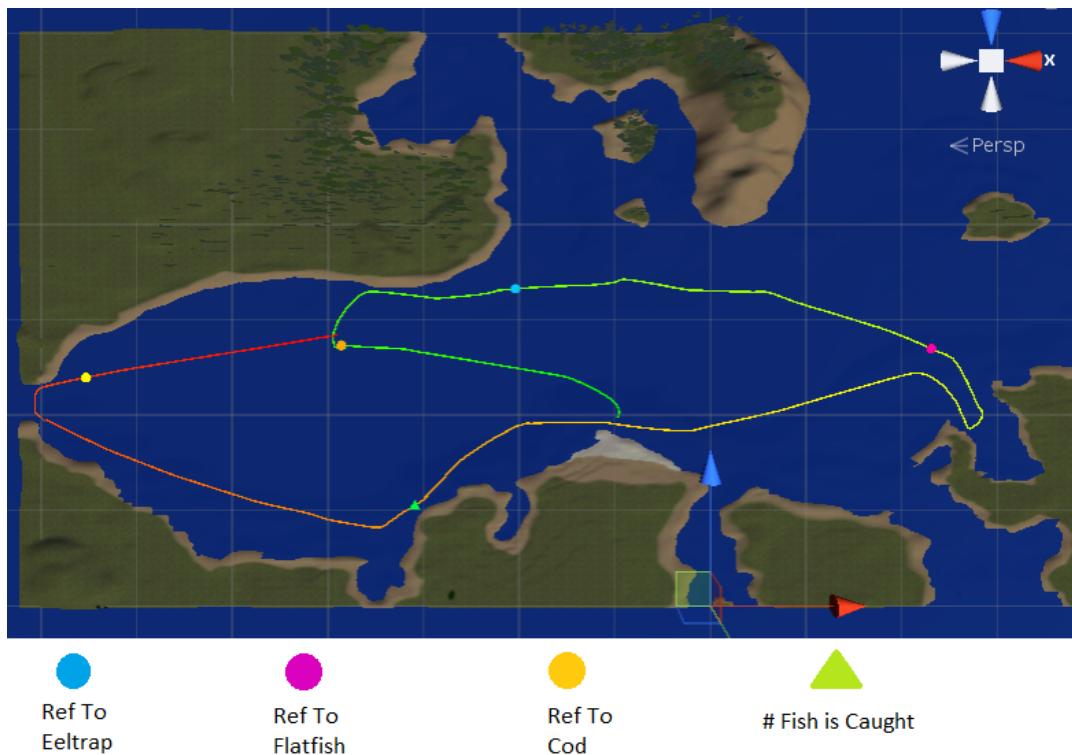


Figure 8.11: A visualisation of the path participant 10 in N-v. The path changes colour from green to red based on time of their playthrough. References to the landmarks where you can catch fish are marked, as well as when a fish was caught

The visualisation of the path in Figure 8.11 is an example of participants who would be on their way to the landmark that was referenced, but on their way the game would end. This could lower the percentage of the players following the guidance received from the NPC without the players making an active choice.

From the statistical tests we cannot see a significant difference in the amount of fish caught between the different versions, nor in the amount of types of fish. This is surprising, as the observations made during the experiments led to believe that the amount of fish caught in V-v would be significantly higher than the other versions. The average number of fish caught is also higher for V-v, than for the other versions as seen in figure 8.2. A possible explanation for the non-significant

result could be that a few players of V-v did not catch any fish at all, thereby bringing down the average.

From the statistical tests no significant difference could be found in the amount of regions the players visited between the three versions. Based on observations of the visualizations of the paths the participants took in the different versions, it seemed as though the participants who experienced N-v moved around more in the virtual environment (see Appendix G). Therefore, it could be expected that those participants would visit more regions. The regions consist of two subgroups: events, and fish type areas. When only looking at the events, a tendency was found that more events were experienced in N-v than the two other versions.

A tendency was found for players of V-v to take a shorter amount of time between catching each new type of fish compared to the other two versions. This supports the idea of NPC guidance working better as a form of guidance compared to the other two versions. Some participants who did not experience V-v did not understand how to catch fish when they were above them because they were missing help from the NPC, which they expected. This lack of feedback resulted in confusion about whether or not fish would automatically be caught by the NPC and how to spot fish causing an increase in time taken between catching a new type of fish.

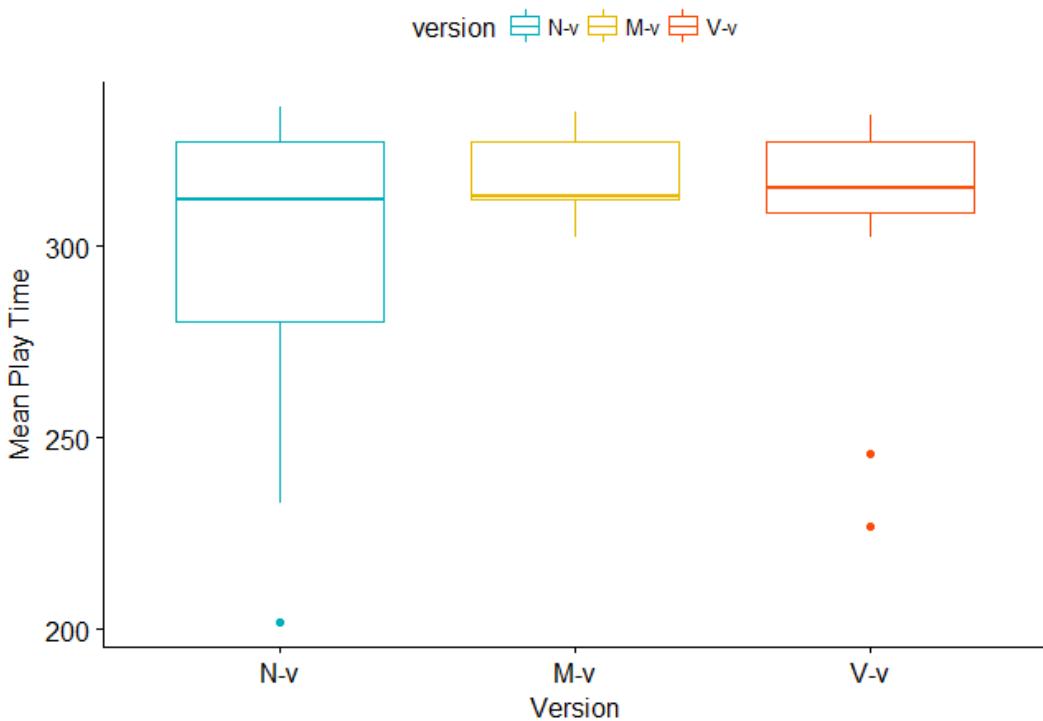
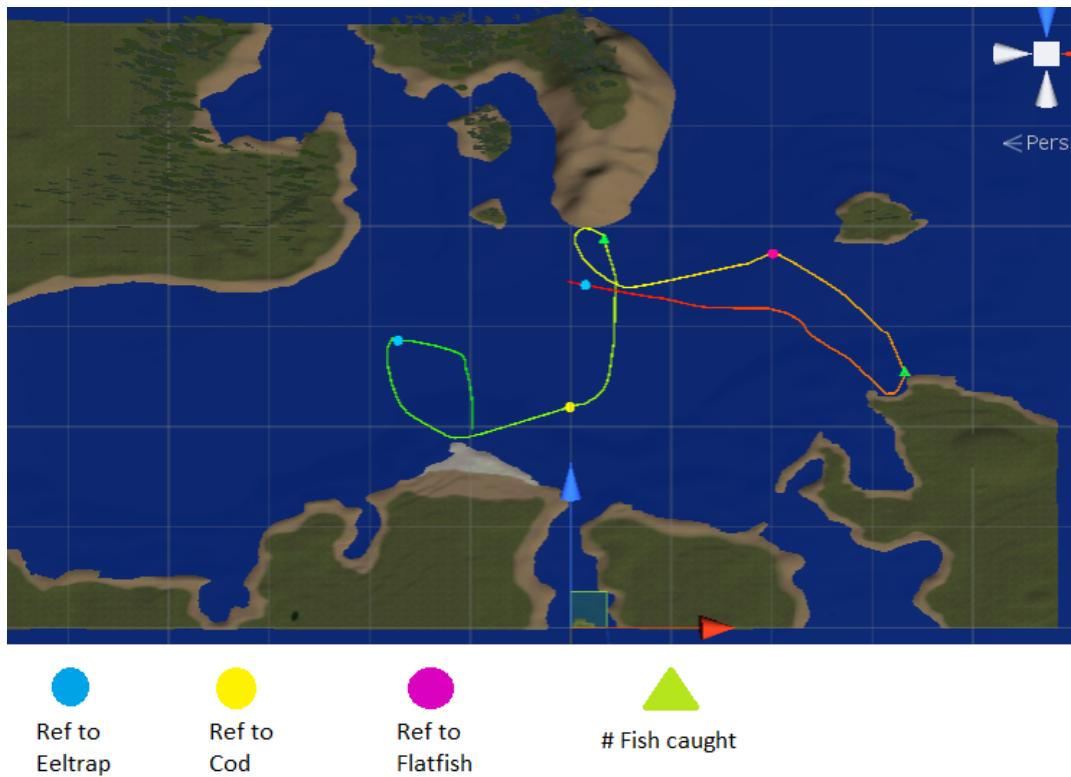


Figure 8.12: A boxplot showing the difference in mean time played depending on the version of the game.

No significant differences were found in time played between the three different versions. However, some players playing N-v decided to end the game earlier than players of the other versions, as can be seen in Figure 8.12. According to the notes taken during the interviews, most of the players who ended the game early was

because they did not know how to proceed in the game. This could indicate that guidance to parts of the virtual environment is necessary for players to complete the experience.



Observations made during the experiments showed that some players did not follow the guidance due to not understanding the guidance given. This was often the case when the NPC would reference the big tree, where they could empty the eeltrap, as can be seen in Figure 8.13. If this landmark reference is disregarded, it would mean participants reacted to the guidance from the NPC 82% of the time.

If 4/5 players simply follow the guidance of the NPC it can be brought to question if an open-world experience is even needed in a museum environment. Not needing an open-world experience would open up other possible game design choices, such as linear or branching narratives. Some benefits with these types of stories compared to an open-world/emerging story, is that you can be sure or mostly sure of what events and information the player experiences while playing.

While most players might follow the NPC's guidance without question, the players that did not experience the V-v were more likely to play the game again as mentioned in Section 8.6.

8.9.1 Wanting To Play The Game Again

From the questionnaire it was found that the participants who tried V-v were less likely to try the game again after playing it. This could be because some of these

players had, in their own opinion, already seen everything and caught all fish. It can also be seen in Figure 8.2 that the average of fish caught in N-v and M-v is so low that they would have had the ending where they did not catch enough fish. Having caught enough fish for the tribe might have given the participants who tried V-v a sense of accomplishment where the participants in N-v and M-v did not experience this as often. Based on these assumptions, raising the amount of fish the players have to catch before getting the good ending might result in more players wanting to play the game again.

However, in a museum setting there could possibly be a long queue to an experience in VR as there is still some novelty to it. Therefore, a sense of accomplishment might be more desirable than having the museum visitors wanting to try again.

8.9.2 Quality of Solution

Visualisation of Time Passing

During the experiment phase when participants were interviewed it became evident that few noticed the dynamic change in lighting during the game before it was pointed out to them (see Section 8.7). The change in lighting meant that participants had trouble seeing in the game as the environment became dark, including reading the map, seeing the seals, and noticing the smoke. Given the trouble people had seeing the map and noticing details when it was the darkest, it might make sense for future iterations to omit the use of light as an indicator for time progression. However, many participants who noticed the light changing felt positive about it, with some finding that it added to the atmosphere of the game.

Landmarks

It seemed that each landmark had varying success in terms of participants recognising them as landmarks as was talked about in Section 8.7. The landmarks that seemed the most successful across all three versions of the game was the pelicans flying in circles. These seemed to catch the attention of the players easily. Many participants also commented on the logical connection that was there with the pelican and fish.

The smoke landmark by the flatfish was often noticed in the beginning as it was very clear and different when the participants started the game. Therefore, a lot of the participants stated to sail towards the smoke. Again, this was a landmark that was moving when most of the other surroundings were static.

As opposed to these two landmarks, the two other landmarks were static. A landmark that worked to a lesser extent was the Tree landmark by the eeltrap. Many participants did not notice this landmark as they thought it was part of the rest of the trees and they were unable to see the tree as a landmark. However, the big hill seemed to work better. This could be because it was located better and differed more from the surroundings compared to the tree landmark.

NPC voice guidance

There seemed to be tendency for the NPC guidance to work better and to get better feedback from the participants. However, if the game is to mainly rely on audio

guidance, it could limit the use for some museum visitors. If a visitor has hearing problems it could prove difficult completing the game as easily as other people.

It is also worth considering that since the museum is mostly used for school trips, the noise level will probably be higher than it was during the experiments. This could be a problem since some voicelines could be missed. Therefore, the time between the additional voicelines might need to be changed.

Map Solution

Participants who played M-v played the game similarly to the participants who played N-v, in some aspects.

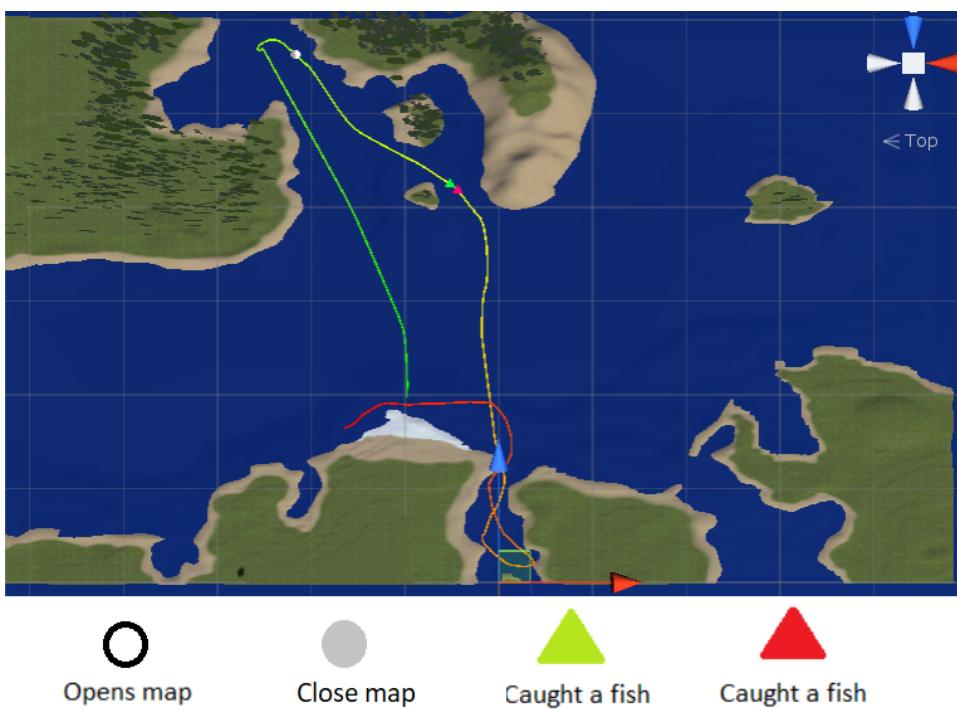


Figure 8.14: A visualisation of the path for participant 3 in M-v. The path changes colour from green to red based on time of their playthrough. Marks are placed when the map is opened, as well as when a fish is caught.

In many cases, the participants were not aware of the map or believed it to be something different until late in the game, where it was darker than in the beginning. This resulted in the participants finding it difficult to interpret the map, the design of which can be seen in Figure 4.7. Observations indicated that the participants were not aware of what was in their boat and could have used more of an indication that they could interact with the things in the boat. However, not only did they have trouble understanding the map when it was dark, the icons used for the map also caused trouble for players when it was brighter. The icons often caused them to disregard the map, which indicates that the map did not work as intended. An example of this can be seen in Figure 8.14 where the map was opened early in the playthrough never to be opened again.

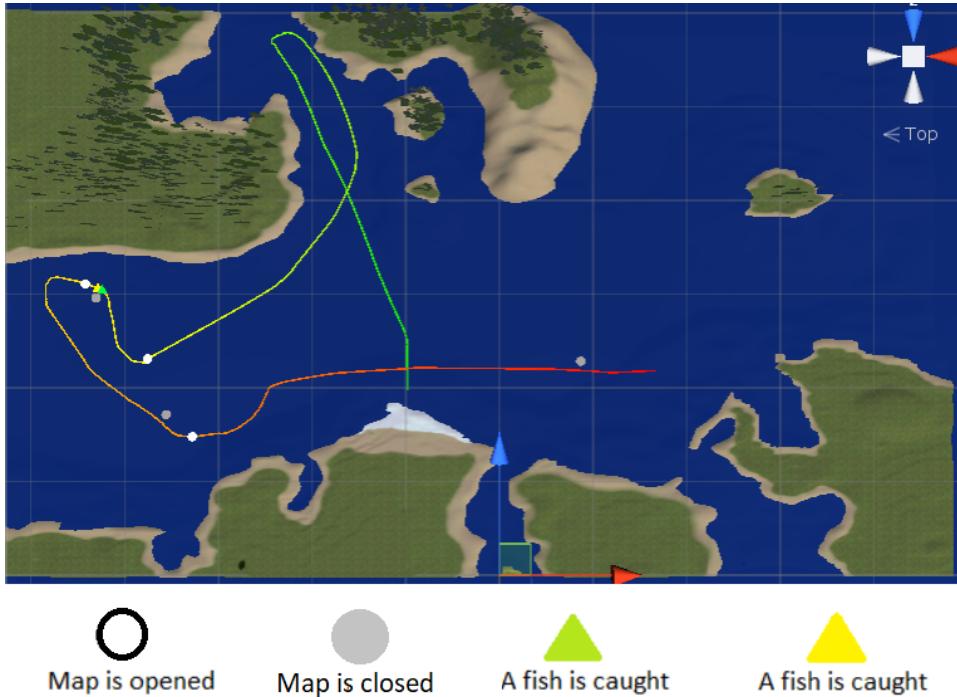


Figure 8.15: A visualisation of the path for participant 2 in M-v. The path changes colour from green to red based on time of their playthrough. Marks are placed when the map is opened, as well as when a fish is caught.

In a few cases the participants were able to interpret parts of the map and used it to find fish. Figure 8.15 shows an example of a participant opening the map multiple times and changing their course depending on how they interpreted it. Nonetheless, it was very few participants who used the map for navigational purposes. As a result, there were many aspects where M-v and N-v did not differ. The results showed no significant difference in types of fish caught between the three different version, but there was a tendency that the amount of types of fish caught in M-v was lower than other versions.

Changing the implementation of the map is a requirement to be able to conclude if a map referencing landmarks has an influence on players or not. The current implementation of the map requires the player to investigate what is available in the boat and find the map themselves, whereas the NPC guidance happens automatically. Therefore, changing the implementation and design of the map to make it more noticeable and easier to understand might help further investigations on this subject.

Game Experience

A Welch's t-test tested if there was a significant difference between the participants with different gaming experience. We split the responses from the questionnaire into two groups: often, including the answers daily and weekly, and rarely, including monthly and rarer. The Welch's t-test found that people who often play games caught a significantly higher amount of fish compared to the participants who played computer games rarely ($t = 2.74$, $df = 17.84$, $p\text{-value} = 0.01$). This could have had an influence on the results. Participants who played Computer games

often, might have had an advantage, because they are more used to play games where they might need to notice landmarks. A majority of the participants played games often (38 out of 48 participants). With 79% of the player playing the game often, the significant difference found between the two groups could be found due to the unequal sample sizes.

Chapter 9

Conclusion

The problem statement from Section 3 stated:

How does adding references to landmarks in a game influence the user, while using VR?

Based on the findings from Chapter 8, there is no conclusive evidence that adding references to landmarks had an influence on the players. However, looking into the results it was found that using an NPC referencing the landmarks had a tendency to directly influence the participants more while playing, compared to using references in form of a map or using no references at all.

There was a tendency that the participants with the NPC referencing the landmarks saw less events. This indicates that they stayed more on the path between fishing areas compared to the version with no references.

There is no significant difference in how fun they thought the game was, or how likely they would be to play a similar game if they saw it at a museum. The only tendency there seemed to be was that the participants with the NPC referencing the landmarks were less likely to play the game again. Based on the interviews and observations most participants had positive responses to the NPC and the events in the game. This means that the NPC is not the reason for why participants with the NPC referencing the landmarks would not want to play again.

There was a tendency that participants who played the game with the NPC referencing the landmarks used shorter time in between catching different types of fish compared to participants playing the other two versions. This means the NPC referencing helped participants complete the objective faster.

In conclusion, there are some, but no conclusive, evidence that having references to landmarks influence the player to complete the objectives located at those landmarks, compared to having the landmarks without referring to them.

Chapter 10

Future Aspects

We saw many tendencies in the different results as seen in Chapter 8. To further investigate how guidance influence the user and their agency while using VR, it could be interesting to look into how necessary an openworld experience is in a museum environment. This could perhaps be in the form of comparing the benefits of having an open-world with having a limited environment.

Now that we have seen this tendency for participants to enjoy the NPC guidance while still wanting a more visual guidance system it could be of interest to investigate multiple guidance methods at the same time. An example of this could be using both the NPC and map guidance presented in this thesis.

As mentioned in Section 2.1 we considered different types of VR devices for use in this project. We arrived at the GC glasses because of the collaboration with Ertebølle museum as discussed in Section 2.5. They wanted a low-cost solution that would require little maintenance as well as suit short periods of usage. However, when we looked at some comments we got during the experiment phase it appeared some people would have preferred using a controller to move the boat (see Section 8.7). Many thought it was awkward to look around to steer the boat as they wished to look at the environment while sailing. Many also thought holding down the button was tedious and difficult when playing for extended amounts of time. As such they would prefer to use a controller for moving the boat and not having to hold the GC themselves. This coupled with a majority mentioning sore arms or shoulders during or after playing, have brought new arguments forth for choosing a different device than GC.

Future iterations of the experiment could make use of different hardware devices such as Oculus Go, which is a stand alone VR headset or the Oculus Quest which is wireless like the Oculus Go while still offering the DoF of a standard VR HMD and two controllers.

Using hardware such as the Oculus Go could eliminate some of the fatigue reported in Section 8.7 as a controller is available and the display is strapped to the head rather than having to hold up the glasses. Using a device with more DoF could in addition enable more interactivity.

Another argument we did not consider is the possibility of theft. Most valuable things in public areas use theft protection in form of securing the item in question

to a spot such that it can only be moved a certain amount. It may be possible that some VR devices are manufactured with such installations in mind, but anti-theft measures are not in the scope of this project.

The unity project used for conducting our experiment is freely available from the following link: <https://github.com/LasseAafeldt/StoneAge-Fishing.git>

The project only used assets and packs that are publicly available for free. Development on the unity project will continue until it is in a state where the museum can use it in their exhibition.

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Appendices

Voicelines

Hvornår rep-likken skal spilles	Replikken
Spillet starter	Så er vi klar til at tage ud og fiske! Nu er du jo ny, så jeg skal nok hjælpe dig. Hvis du peger hvor vi skal sejle hen så skal jeg nok hjælpe dig med at fange nogen.
Guide mod torsk	Kan du se den største bakke vi har i området derover? Jeg tror der er nogle fisk i vandet der omkring.
Torsk 2. guide	Der burde være massere af torsk i området ved den største bakke. Hvis du rækker mig krogen så prøver jeg at fange noget.
Torsk 3. guide	Der plejer at være torsk inde i bugten og lidt på den anden side af bakken
Torsk 4 guide	Du kan bare sejle hen til området overfor møddingen. Torsk kan vi kun fange med krogen.
Torsk 5. guide	Jamen det kan da godt være at du skulle have været jæger i stedet. Det her går da i hvert fald ikke for godt.
Guide mod åleruse	Vi har sat en åleruse op henne ved det største træ tæt på møddingen hvor vi startede. Vi kan se om der ikke er gået nogen fisk i fælden.
Guide mod åleruse 2. gang	Vi skal helt tæt på ålerusen for at tømme den. Den ligger meget tæt på det store træ der er henne af mod møddingen.
Åleruse 3. guide	Den er måske lidt svær at se, men ålerusen ligger ved bredden under det store træ. Du skal bare sejle hen til den.
Guide mod ål	Jeg tror de fugle der flyver i cirkler har fundet nogle fisk. Lad os sejle derover og se om vi også kan fange noget.
Ål 2. guide	Der plejer gerne at være nogle ål der hvor fuglene flyver (i ring). Hvis du rækker mig lysten kan jeg se om jeg ikke kan få fat i noget.
Ål 3. guide	Pelikanerne plejer at være rigtig gode til at finde ålene. Hvis vi sejler helt hen til dem kan det være vi kan fange nogle ål

APPENDIX A. VOICELINES

Ål 4. guide	Når vi kommer helt hen til fuglene kan du række mig lysten fra båden, så tager jeg faklen. Så skal vi nok få fanget nogle fisk
Ål 5. guide	Jeg ved godt du er ny, men du behøver altså ikke være bange. Så farlige er ålene ikke. Og jeg er sikker på pelikanen ikke bider.
Guide mod rødspætter	Ovre ved Bjørnsholm, der hvor det andet bål er, er der en anden stamme. De har sikkert nogen lækkre sild at snakke med (haha), men lige nu kan vi nøjes med at fange nogle rødspætter
Rødspætte 2. guide	Det er i bugten ved skoven vi kan fange rødspætter. De bider ikke på krogen, så vi må fange dem med lysten.
Rødspætte 3. guide	Ovre ved bålet inde i skoven er der en bugt, der fanger vi ofte rødspætter, men nogen gange snakker vi også med den anden stamme som bor der.
Fanger Torsk	Torsk er lettest at fange med krog, de bider på hvad som helst, og der er nok af dem heromkring til at vi kan fange et par stykker.
Fanger 2. torsk	Torsk er god mad, de er store med masser af kød på. Der fik vi en mere.
Fanger 3. torsk	Med den her har vi tre. Det må vist være torsk nok. Der er masser af andre fisk at fange så lad os se hvad der ellers er.
Fanger ål 1. gang	Det er ål vi fanger her omkring. Vi fanger dem med ålerusen eller med fakkeltog. Så! Der var der en!
Fanger ål 2. gang	Ål er nogle glatte ting, men de smager rigtig godt. Der er rigtig mange af dem her omkring. Vi plejer at spise kødet, og så smider vi benene på møddingen. Så! Der var der en mere.
Fanger ål 3. gang	Nu ser vi lige om vi kan få fat i en tredje ål, men så må vi vist også se at komme videre.
Tømme åleruse	Det her en åleruse, det er en følde hvor ålene ikke kan komme ud når de først har svømmet ind. Der er også rødspætter i en gang imellem, men den er ment til ål.
Fanger 1. rød-spætte	Nu skal vi prøve at fange en rødspætte. Ja, altså fisken, ikke fuglen. Hvis man er hurtig nok kan man fange dem med lysten.
Fanger 2. rød-spætte	Man kan kende rødspætter på de røde pletter. Vi fik fanget en rødspætte mere.
Fanger 3. rød-spætte	Nu skal vi til at fange den tredje. Vi skal også passe på ikke at fange for mange. Måske vi skulle prøve en anden slags fisk, et andet sted.
Ikke brug fiskekrog	Fiskekrogen er bedst til torsk. Den gider ål og rødspætter ikke
Ikke brug fiskekrog 2	Ej her kan jeg altså ikke bruge den.
Ikke brug lysten	Det er ål og rødspætter vi skal bruge lysten til. Fiskekrogen er bedre til torsk
Ikke brug lysten 2	Ej her kan jeg altså ikke bruge den.

APPENDIX A. VOICELINES

Når man ikke kan fiske	<p>Her er vist ikke så godt at fiske</p> <p>Der er vist ikke så mange fisk her</p> <p>Jeg synes vi skal prøve at fiske et andet sted</p> <p>Her fanger vi normalt ingen fisk så lad os prøve et andet sted</p> <p>Niks heller ingen fisk her</p> <p>*suk* du er ikke så god til at finde der hvor vi plejer at fisk hva?</p>
Pelikaner men der bliver sagt noget	Så du de pelikaner der kom der? Dem har vi nogle stykker af her. De er ret glade for at fange fisk. Specielt ål da det' nogle lækre fede fisk.
Pelikaner når der ikke bliver sagt noget	Se der forude. Det er en flok krøltoppet pelikaner. De har nogle flotte næb.
Man kan se sæler	Der er en grå sæl derover. De er såmænd fredelige nok, men de er også glade for fisk så der er ikke grund til at fiske hvor de er.
Man kan se spækhugger	En spækhugger! Den kommer nok ude fra det åbne hav. Du er vist lidt for ung/ny til at fange sådan en krabat.
Når man kommer til kanten af banen	Nu skal vi passe på vi ikke kommer for langt væk. Vi skulle helst kunne nå hjem inden det bliver alt for mørkt, så vi må hellere vende om nu.
Alle fisk ikke fanget et minut før slut	Det begynder at blive lidt mørkt, men vi mangler stadig at fange nogle flere fisk. Lad se om vi ikke kan få fat i nogle flere.
Spil SKAL slutte	Nu bliver vi nødt til at vende om, ellers bliver det for mørkt til at finde hjem.
Når man sejler tilbage til mødding	Så er vi hjemme igen. Hvis du synes vi har fanget fisk nok, så kan du aflevere dem til hende der står oppe på møddingen.
Bekræft	Er du sikker?
Spil slutter efter bekræftelse	Så må vi hellere gå i gang med at tilberede hvad vi har fanget. Jeg håber der er nok til alle kan blive møtte.
God slutning	Så er vi hjemme igen og med massere af fisk. I aften spiser vi godt. Så vi klar igen i morgen. Tak for hjælpen.
Dårlig slutning	Så vi hjemme igen. Det blev ikke til helt så mange fisk som vi havde håbet på, men vi prøve igen i morgen. Tak for hjælpen

Appendix B

Pilot Test Introduction and Follow-up Questions

Introduction to the game

Vi har lavet et spil i samarbejde med Ertebølle Museum og en anden gruppe medialoger. Ertebølle er et område i vest himmerland der har stor betydning for dansk historie. Det her spil foregår i ertebølle tiden hvor du skal ud og fange fisk. Du styrer ved at trykke ned på knappen på siden af brillerne og så kigger du bare derhen hvor du vil hen. Hvis du har nogen kommentarer mens du spiller må du meget gerne komme med dem. Hvis der er noget du har svært ved eller ikke forstår, men du må så vidt muligt gerne bare kører igennem spillet så godt som du kan. Spillet stopper af sig selv så du må meget gerne bare blive ved med at spille og udforske med mindre andet bliver sagt i spillet.

Follow-up Questions

- Spiller du computerspil til hverdag? Do you play computergames in your everyday life?
- Forstod du hvordan du skulle spille spillet? Did you understand how to play the game
- Forstod hvad du skulle i spillet? Did you understand where you needed to go?
- Hvordan fandt du ud af hvor du skulle hen i spillet? How did you figure out where you needed to go?
- Var der på noget tidspunkt hvor du ikke forstod hvad du skulle da du spilledede? Was there any point in the game you did not understand how to proceed?
- Hvad kan du bedst huske fra spillet? What do you remember best from the game?
- Var der noget du godt kunne lide ved spillet? What, if anything, did you find enjoyable in the game?

APPENDIX B. PILOT TEST INTRODUCTION AND FOLLOW-UP QUESTIONS

- Var der noget du ikke kunne lide eller fandt irriterende ved spillet? What, if anything, did you find annoying in the game?
- (Vis billederne af landmarks) Hvilken af disse kan du bedst genkende og er der en eller flere du ikke kan genkende? (point to pictures) Which of these did you find most recognizable and which one the least?
- (Vis billederne) Kan du huske hvad du skulle ved disse steder i spillet? (point to pictures) Do you remember what you had to do at these places?

Appendix C

Simulator Sickness Questionnaire

Fiske spil

https://docs.google.com/forms/d/1p5QpfDXTGr3YpikySnSq7_D3aE...

Fiske spil

*Skal udfyldes

1. participant? *

Untitled section

2. Sammentykkelse *

Det er med min sammentykkelse at gruppe MTA191040 må bruge min data ud fra min brug af app'en. Dette inkluderer, men er ikke begrænset til: brug og opførsel i spillet, video optagelser, svar på spørgeskemaer og svar på interview spørgsmål. Jeg har forstået at jeg har mulighed for at stoppe testen og til hver en tid har mulighed for at tilbagetrække denne sammentykkelse og få min data slettet ved at kontakte gruppe MTA191040.

Markér alle, du er enig i.

I agree

Hvordan har du det nu?

Vær venlig at svare på dette ud fra hvordan du har det nu, efter at du har spillet spillet.

3. 1 General ubehag *

Markér kun ét felt.

0 1 2 3

Ingen Meget

4. 2 Udmattelse *

Markér kun ét felt.

0 1 2 3

Ingen Meget

5. 3 Hovedpine *

Markér kun ét felt.

0 1 2 3

Ingen Meget

APPENDIX C. SIMULATOR SICKNESS QUESTIONNAIRE

Fiske spil

https://docs.google.com/forms/d/1p5QpfDXTGr3YpikySnSq7_D3aE...

6. 4 Udmattelse af øjnene *

Markér kun ét følt.

0 1 2 3

Ingen Meget

7. 5 Problemer med at fokuserer *

Markér kun ét følt.

0 1 2 3

Ingen Meget

8. 6 Forhøjet mængde af sput *

Markér kun ét følt.

0 1 2 3

Ingen Meget

9. 7 Forhøjet sveddannelse *

Markér kun ét følt.

0 1 2 3

Ingen meget

10. 8 Kvalme *

Markér kun ét følt.

0 1 2 3

Ingen Meget

11. 9 Koncentrations besvær *

Markér kun ét følt.

0 1 2 3

Ingen meget

12. 10 Fuldt hoved *

Markér kun ét følt.

0 1 2 3

ingen meget

APPENDIX C. SIMULATOR SICKNESS QUESTIONNAIRE

Fiske spil

https://docs.google.com/forms/d/1p5QpfDXTGr3YpikySnSq7_D3aE...

13. 11 Sløret syn *
Markér kun ét følt.

0 1 2 3

ingen meget

14. 12 Svimmelhed med øjnene åbne *
Markér kun ét følt.

0 1 2 3

ingen meget

15. 13 Svimmelhed med øjnene lukket *
Markér kun ét følt.

0 1 2 3

ingen meget

16. 14 General Svimmelhed *
Markér kun ét følt.

0 1 2 3

ingen meget

17. 15 Mave bevidsthed *
Markér kun ét følt.

0 1 2 3

ingen meget

18. 16 Bøvser *
Markér kun ét følt.

0 1 2 3

ingen meget

Spørgsmål om din oplevelse

19. Blev du træt i armene da du spillede? *
Markér kun ét følt.

Ja

Nej

APPENDIX C. SIMULATOR SICKNESS QUESTIONNAIRE

Fiske spil

https://docs.google.com/forms/d/1p5QpfDXTGr3YpikySnSq7_D3aE...

20. Hvor sjovt synes du spillet var? *

Markér kun ét felt.

1 2 3 4 5

Meget kedeligt Meget sjovt

21. Hvor sandsynligt er det at du ville spille noget ligende hvis det var tilgængeligt på et museum? *

Markér kun ét felt.

1 2 3 4 5

Meget usandsynligt Højest sandsynligt

22. Hvor sandsynligt er det at du ville spille dette spil igen? *

Markér kun ét felt.

1 2 3 4 5

Meget usandsynligt Højest sandsynligt

Spørgsmål om dig

Vær venlig at svar hvad der beskriver dig bedst. Har du nogen spørgsmål er du velkommen til at spørge os.

23. Hvad laver du til hverdag? *

24. Hvilket køn er du? *

Markér kun ét felt.

- Kvinde
 Mand
 Andet: _____

25. Alder *

APPENDIX C. SIMULATOR SICKNESS QUESTIONNAIRE

Fiske spil

https://docs.google.com/forms/d/1p5QpfDXTGr3YpikySnSq7_D3aE...

26. Hvor lang tid er det siden du sidst besøgte et museum? *

Markér kun ét felt.

- Mindre end et halvt år siden
- Mellom et halvt og et helt år siden
- Mere end et år siden, men mindre end 2 år siden
- Mere end to år siden
- Jeg har aldrig været på et museum
- Jeg kan ikke huske hvornår jeg sidst har været på et museum

27. Hvor erfaren er du med Virtual Reality(VR)? *

Markér kun ét felt.

- Jeg har aldrig prøvet VR før.
- Jeg har prøvet det enkelte gange før
- Jeg har ofte prøvet VR
- Jeg bruger VR meget ofte

28. Hvor ofte spiller du Computer Spil? *

Markér kun ét felt.

- Dagligt
- Ugentligt
- Månedligt
- Sjældnere

Spørgeskemaet er nu slut

Mange tak for din hjælp. Vi har nu et par spørgsmål om din oplevelse.

29. DU SKAL IKKE SVARE PÅ DETTE. VÆR VENLIG AT HENVENDE DIG TIL OS NU. *

Markér kun ét felt.

- 0
- M
- V

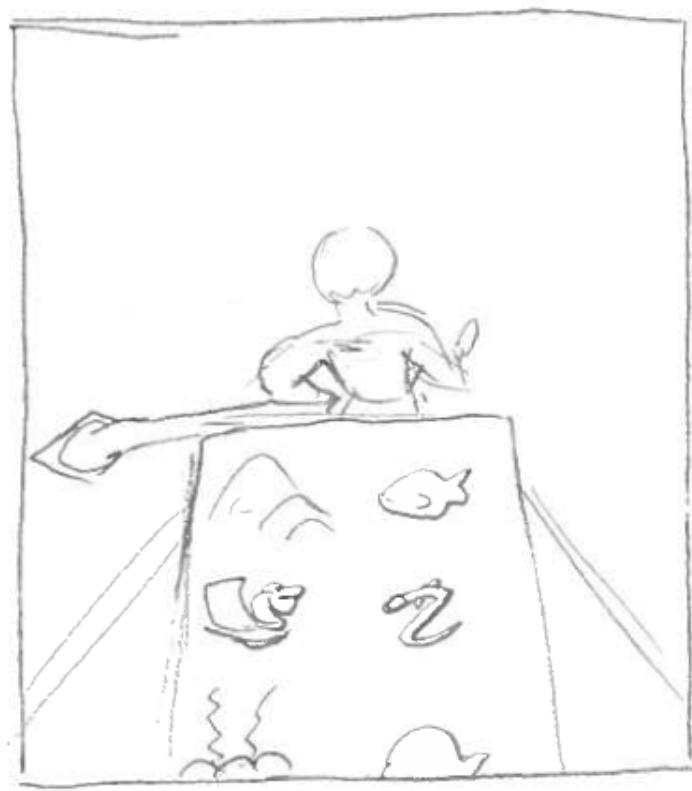
Leveret af
 Google Forms

Appendix D

Initial Map Idea



APPENDIX D. INITIAL MAP IDEA



Appendix E

Questionnaire Answers

E.1 Museum Visitation

Hvor lang tid er det siden du sidst besøgte et museum?

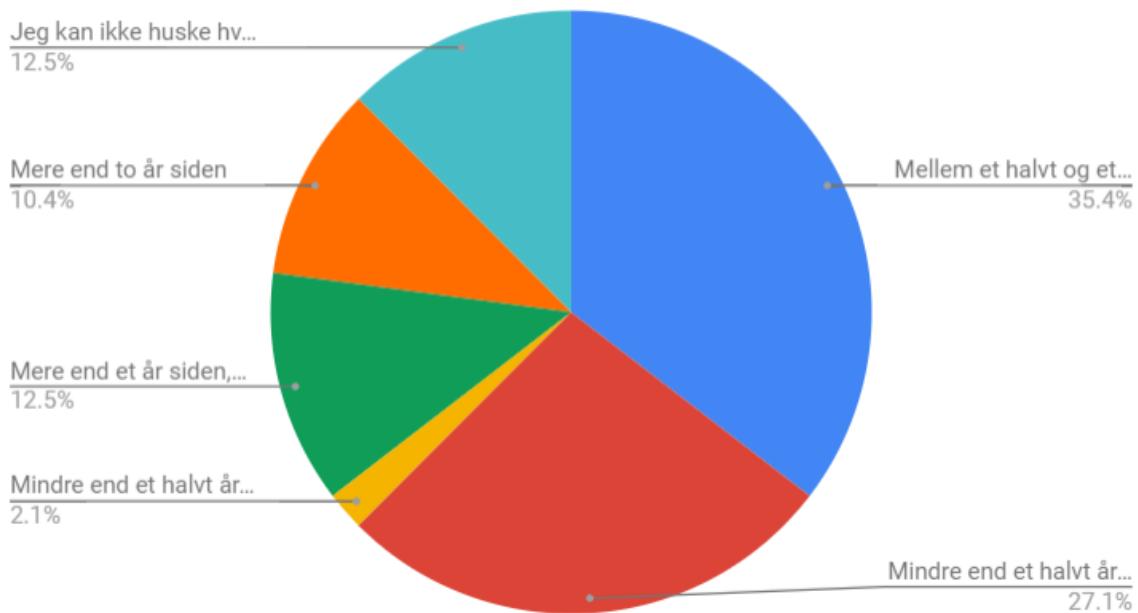


Figure E.1: Circle diagram explaining the distribution of when participants last visited a museum

E.2 Virtual Reality Experience

Hvor erfaren er du med Virtual Reality(VR)?

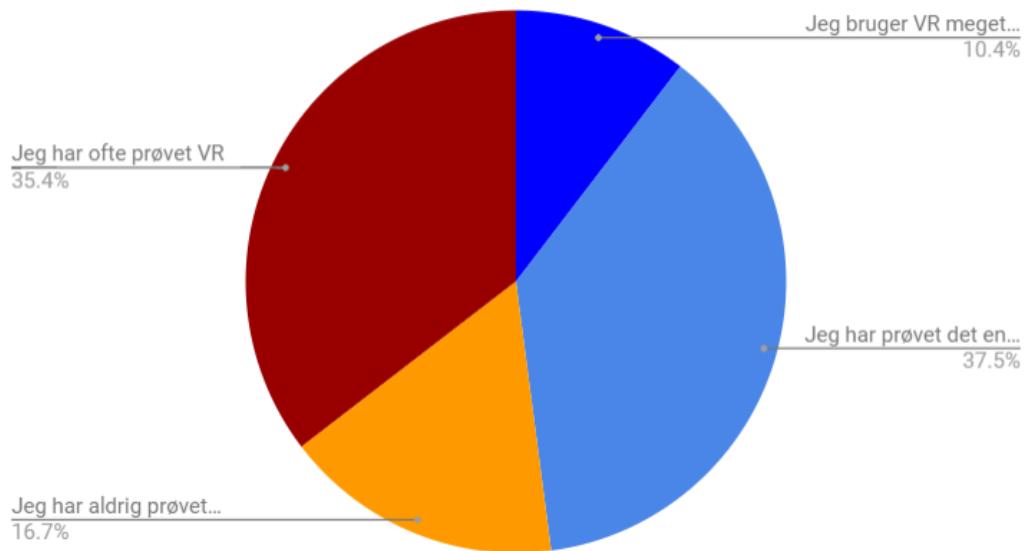


Figure E.2: Circle diagram explaining the distribution of the participants experience level with VR

E.3 Gaming Habits

Hvor ofte spiller du Computer Spil?

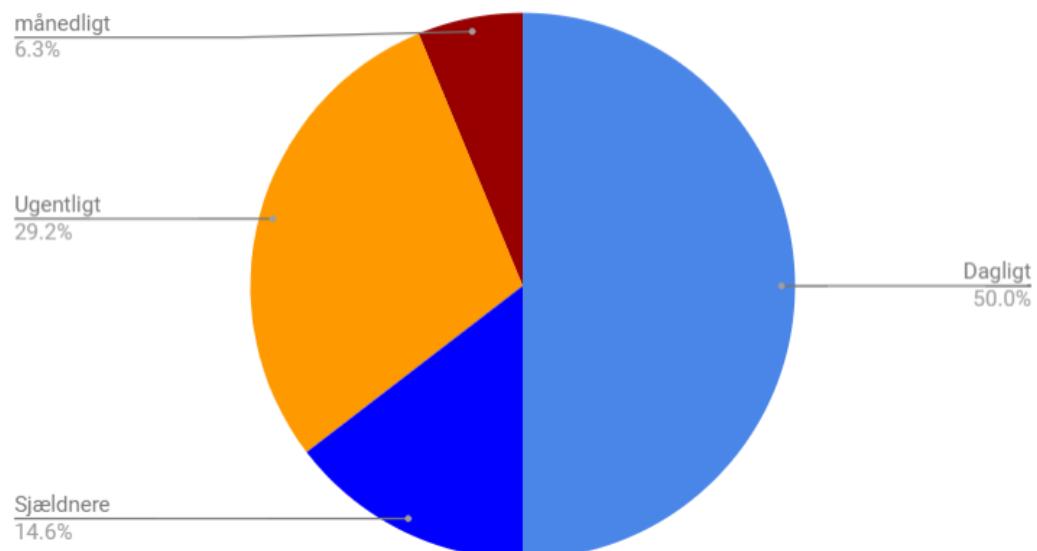


Figure E.3: Circle diagram explaining the distribution of the participants gamin habits

E.4 Occupation

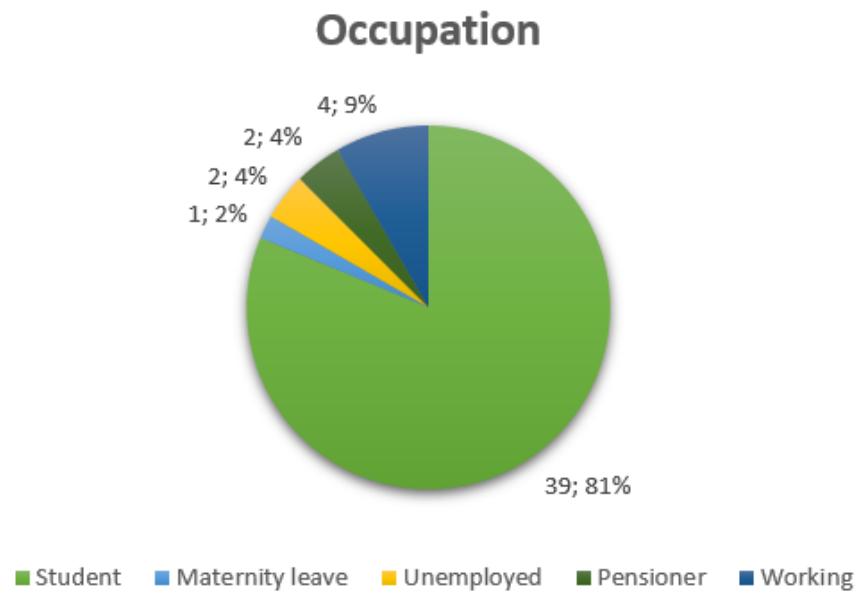


Figure E.4: Circle diagram explaining the distribution of the participants occupation

Appendix **F**

SSQ Results Summary

Nausea	Oculomotor	Disorientation	Total	Group
19.08	22.74	27.84	26.18	v
9.54	37.9	13.92	26.18	0
19.08	37.9	69.6	44.88	v
9.54	45.48	13.92	29.92	v
28.62	37.9	97.44	56.1	m
66.78	75.8	153.12	104.72	v
38.16	30.32	13.92	33.66	m
124.02	121.28	236.64	172.04	v
19.08	45.48	55.68	44.88	m
9.54	15.16	55.68	26.18	v
104.94	75.8	83.52	100.98	0
0	15.16	13.92	11.22	0
0	0	27.84	7.48	0
114.48	45.48	69.6	86.02	m
57.24	37.9	55.68	56.1	m
114.48	83.38	180.96	134.64	0
19.08	53.06	69.6	52.36	v
0	0	0	0	0
0	0	0	0	m
0	7.58	0	3.74	m
0	22.74	69.6	29.92	0
9.54	0	0	3.74	0
38.16	22.74	13.92	29.92	v
85.86	45.48	111.36	86.02	m
47.7	30.32	125.28	67.32	0
9.54	7.58	0	7.48	m
9.54	7.58	0	7.48	v
76.32	45.48	41.76	63.58	0
76.32	98.54	167.04	123.42	m

APPENDIX F. SSQ RESULTS SUMMARY

Nausea	Oculomotor	Disorientation	Total	Group
19.08	15.16	0	14.96	v
19.08	30.32	0	22.44	0
57.24	22.74	55.68	48.62	m
9.54	45.48	27.84	33.66	v
76.32	30.32	41.76	56.1	0
9.54	22.74	27.84	22.44	m
38.16	22.74	0	26.18	v
9.54	15.16	13.92	14.96	0
19.08	68.22	41.76	52.36	m
38.16	37.9	69.6	52.36	v
0	0	0	0	0
28.62	53.06	41.76	48.62	m
28.62	37.9	13.92	33.66	v
19.08	45.48	27.84	37.4	0
28.62	30.32	0	26.18	m
38.16	37.9	83.52	56.1	v
9.54	22.74	0	14.96	0
0	22.74	0	11.22	m
0	15.16	27.84	14.96	v

Appendix G

Paths Taken



Figure G.1: A collected visualisation of the paths taken in the version where the map references the landmarks

APPENDIX G. PATHS TAKEN



Figure G.2: A collected visualisation of the paths taken in the version where there is no references to the landmarks



Figure G.3: A collected visualisation of the paths taken in the version where the NPC references the landmarks.

Appendix H

Experiment Notes

Test 1 – m. Lyd, u. Kort

kender til Ertebølle. Lyd kommer fra fjernsynet, ikke mobilen. Allerede 10 sekunder inde siger han at han nok bliver træt i armene. Fik guidance lige som han trykke på fiskekrog. Fakkel ser lid underlig ud i forhold til hvor lyset er. "så vidt jeg husker er der en anden by herover (eller et eller andet)". Fik hverken pelikan, sæl, eller spækhugger event

Interview: Syne shan forstod hvordan det skulle spilles. Har prøvet det før, havde en ide om hvor han skulle hen, sunlige fisk hjalp, vidste ikke hvad han skulle efter at have fanget ål/rødspætter. Han kunne finde ud af det hele. Man bliver træt i armen. Mogens var han lidt en fan af. Synes det tog lang tid at komme fra A til B. Kunne genkende alle landmarks. Spiller computerspil til hverdag. Sejlede til torsk fordi der var problemer sidst han prøvede (han kunne ikke fange som som helst). Var ikke forberedt på at fiskene var så tydelige. Havde nok ikke fisket der hvis han ikke havde fået andet indikeret hvis fisk var mindre synlige. Ville prøve det på et museum men ville nok ikke spille det mere end en gang. Synes der var lidt vekedning ved det. Synes han lærte et eller andet omkring hvordan man fiskede den gang

Test 2 u. Tale, u. Kort

. Starter mod bakke . "hvis jeg skal fiske skal jeg ikke starte her" <- ved bakken . Så spækhugger event (og kiggede på det) . Fangede torsk til højre for bakken – fangede kun 1 . Fandt rødspætter ved røgen – fangede 2 . Lagde først mærke til fiskene i vandet efter at have fanget den første . Blev forvirret over hvor møddingen er/hvor pige er . Svært ved at få aktiveret hende (man skal meget tæt på) . Trykkede på pige nok gange til spillet sluttede lige efter han fik 1 minuts varslingen . Ikke køresyg eller noget . Havde ikke fanget at han skulle fødre de andre, blev træt i armene, men forstod styringen . Forstod ikke rigtig hvor han skulle hen og fange noget, eller hvorfor spækhuggeren var der . Forstod ikke hvorfor han kunne fange de første fisk . Kunen godt lide måden han (Mogens) snakkede på . Stillede spørgsmål om hvornår det lignede spillet skulle være foregået . Havde lyst til at sejle ud i det åbne hav selvom han vidste der ikke var noget . Synes han kunne genkende alle 4 billede bortset fra fuglene . Kunne ikke tænke på noget specielt han . Forvirret over hvor spækhuggeren kommer fra . Afsluttede spillet tidligt fordi han ikke viste han skulle videre . Havde det fint

med båden stoppede . Prøvede det der var i båden fordi han sagde han ikke kunne . Er blevet lidt svimmel nu

Test 3 u. Kort, m lyd

. Tager brillerne af . Lyden startede ikke, et genstart senere så gjorde det . Starter med at sejle over mod hullet til venstre for bakken og skifter derefter retning mod skov.bålet . Fik voiceline til bakken . Fik spækhugger event da han sejlede mod det åbne hav, hvor han så fangede torsk . Fangede alle 3 torsk . Får "her skal vi ikke fiske" voiceline når han prøver at fange nogle flere torsk . Sejlede ud mod åbent hav ved Bjørnsholm og vender derefter om for at sejle tilbage mod bakken . Sejlede mod møddingen . Sejlede meget ufokuseret omkring . Har ikke rigtig noget simulator sickness men det hakkede i det engang imellem . Kunne fint finde ud af controls . Havde lidt svært ved at høre hvad han sagde en gang imellem, så blev lidt forvirret . Prøvede lidt at sejle rundt forskellige steder for at se om han ville reagere på noget og lede efter fisk i vandet . Var lidt i tvivl om hvor præcist han skulle hen (f.eks. skov flere steder), prøvede at opleve forskellige steder mens han gjorde det . Kunne godt lide spækhuggeren, sådan en fin detalje, og nogle sjove kommentarer til den anden stamme . Var ikke sikker på han egentlig kunne fiske på den anden side af bakken (der hvor han kunne se fis) fordi han fik en anden voiceline . Kan genkende 1 og 2, ser den som værende noget der giver spillet ekstra liv (det at der er andre etc.), 3 er solnedgang og der hvor han blev forvirret over fiskene, 4 er et stort træ der skiller sig ud, men ved ikke hvad der ellers skulle være ved det . Snakkede om rødspætter ved Bjørnsholm, men han kunne ikke se den så blev lidt ignoreret . Lagde mest mærke til solnedgang i forhold til æstetikken, lagde ikke mærke til den bevægede sig under spillet . Startede med at sejle og kiggede sig så omkring for at prøve på at finde ud af hvor han lige var, lagde mærke til røg i starten og blev nysgerrig . Fangede ikke hvad han sagde ved ålerusen, kunne ikke helt tyde hvad han sagde og lidt distraheret af omgivelserne – Mogens mumler . Sejlede mod mødding/den anden del for at se hvordan det ville se ud . Ville gerne have haft mere tid til at udforske . Sejlede ud mod åbent hav fordi han ville tage den rundt om, det samme med bålet . Prøvede at fiske pga. Voiceline . Gik efter at kunne se fiskene før han prøvede at fange dem

23/04/19 – test 1 u kort, u lyd

. Synes det går meget hurtigt når man sejler . Fandt rødspætter til at starte med . Fangede 4 rødspætter . Så pelikan eventet -> sejlede baglæns ind i spækhugger event og så det ikke . Fandt øl ved fuglene men fangede aldrig torsk . Sejle rundt og fange fisk . Fandt fisk via fuglene, bålet er der hvor ens gruppe er . Synes det var let nok at regne ud hvad man skulle i spillet, også at han sagdem om man kunne bruge lysten/krogen . Knap ikke så ergonomisk . Synes det gik lidt hurtigt med at sejle, frem for den store acceleration/deacceleration, blev lidt ubehageligt . Der var ikke noget tidspunkt han sagde synes han ikke vidste hvad han skulle, blev forvirret over spækhuggeren . Synes bådens udformning var speciel/midværdig . Kunne godt lide man som den bagerste styrede + fisk . Kunne ikke så godt lide styringen med acceleration og dreje . Kunne genkende bål, fugle = fisk, c er solen er ved at gå ned, kunne ikke genkende 4 . Synes godt han kunne genkende alle sammen . Bemærkede først det blev mørkere da guide sagde det . Havde ikke som sådan nogen grund til at sejle ud mod det åbne hav – bare fordi han kunne .

Pelikan eventet mente han hjalp til at se hvor der var fisk da han forbandt fugle til fisk . Ville gerne kunne se hvad der var i kurven

23/04/19 – test 2 u. Kort/ u. Lyd

. Starter mod det åbne hav . Så spækhugger og pelikaner . Så fisk i vandet -> rødspætter . Prøvede at kigge i kurven . Lader til at tro han kun fangede en rødspætte . Sejler tilbage til møddingen o Når han finder ud af det er møddingen "flygter" han – "the missus. Hun tager sikkert mine fisk" . Fanger 3 torsk -> fik "vend om" voiceline inde blandt bakkerne. . Svært ved ikke at ramme bakkerne ved torsk . Lægger først mærke til det er mørkt tæt på slutningen af spillet . Det at prøve igen ville afhænge af hvor godt han gjorde det første playthrough . Skal finde de lysende fisk og så vælge det rigtige værktøj . Lidt forvirret over hvordan båden skal vendes . Prøvede bare at kigge rundt efter at have set spækhuggeren . Der var ikke noget specifikt han synes var rigtig godt . Der var heller ikke noget specifikt han synes var rigtig dårligt o Ville gerne se pelikanerne lidt tættere på . Ikke noget han rgtig kan huske andet end ilden . Mener billede 1 er campen han startede ved, kan ikke genkende 4 . Forbinde rbillernde med fisk og "hjem" . Tænkte det måtte være fisk i det åbne hav . Gik specifikt efte rbålet fordi han mente der må være nogen folk der . Havde ikke nogle specifikke tanker om pelikanerne -> det var ikke rigtig gået op for ham det var pelikaner og ikke bare fugle . Troede han kunne klikke på kurven så han kunne se hvad han havde fanget -> var lidt i tvivl . Forventede ikke bålet ved møddingen -> sejlede derfra da han fandt ud af det var hans egen lejer da han troede det ville afslutte spillet . Lagde først rigtig mærke til det blev mørkt da det var rigtig mørkt, men synes det var en fin måde at vise tiden gå på . Synes voice.acting var sjov, kunne godt forstå hvad der blev sagt, synes det var lidt underholdende

23/04/19 – test 3 u. Kort/u. Lyd

. Starter med at sejle mod Bjørnsholm . Så pelikan eventet . Prøver krog først ved rødspætter o Fangede kun 1 rødspætte . Sejlede rundt om bjørnsholm -> prøver at finde ilden? . Sejler uden om bakken/spækhuggeren . Prøver igen med fiskekrog først for at fange ål o Fanger kun 1 . Kigger meget rundt . Så gråsæl + lyd . Sejle lige forbi ålerusen . Spillet var at lære at fiske dengang -> bruge rigtige værktjer rigtige steder, undgå sæler . Synes det var let nok at finde rundt, men manglede lidt indikation for hver fiskene var (brugte fuglene) . Så tyk søje af røg så ville finde ud af hvad det var -> stik modsat blev til fuglene . Brugte bål som pejlemærke da det var mørkt . Kunne ikke se torsk efter at have fanget ål . Det mest træls ved det var at den accelererede/deaccelererede ret hurtigt . Kunne godt lide der var interesserpunkter alle teder -> føltes ikke tomt -> altid noget at kigge på/få info om . Placerer røgsøjlen rigtigt, krøltoppede pelikaner, bakke og solskin, stort træ tæt på stranden . Kunne genkende hvad røgen og pelikanerne hører til, men ikke resten . Synes fik relationen mellem fisk og pelikaner fra pelikan eventet . Hjulp lidt at se fiskene i vandet . Da hun skulle sejle fra den ene ende til de anden prøvede hun på at få mere fart på . Havde glemt at fiskekrog ikke var til rødspætter/ål o "den kan jeg ikke bruge her" troede han mente hun ikke var tæt nok på fisk . Ærgede sig lidt over at spillet sluttede så hurtigt som det gjorde . Blev træ i armene og fingeren . Ville meget gerne have fundet torsk . Troede det var en af hver frem for flere af de samme

Test 4 – 23/04/19 m. Kort / u. Tale

. Lægger ikke mærke til kortet til at starte med . Sejler ind omkring den store bakke og det område der er deromkring ud mod det åbne hav . Fanger torsk -> prøver at placere sig selv ret præcist i forhold til hvor fiskene er . Ramte kort da hun prøvede at fange rødspætter o Prøvede krog først derefter lysten . Lytter til hvad han siger, prøver at fange fisk ved møddingen lige inden spillet sluttede . Skulle hjælpe med at fiske ved at styre båden og bruge det rigtige redskab . Var ikke specielt svært at styre, gik både hurtigt og langsomt . Sejlede hen hvor hun ikke var bange for at komme i klemme, men havde ingen bestemt plan . Da hun lige var kommet hen til nogle fisk var hun ikke sikker på hvad hun skulle gøre . Har en del kvalme lige nu, ville også gerne selv kunne fiske i stedet for bare at fortælle ham. . Kunne godt lide voiceover og at styre det . 1: landsby man bor i, 2: fugle, 3: bjerg/sten, 4: træer . Kan ikke genkende specifikt hvor tingene er fra . Et kort/"papir" med nogle tegninger på, krog, "lyst", og kurv var der i båden . Havde ingen anelse om hvad det var og forstod det ikke da hun kigge på den . Lyder om om hun gerne ville have haft det som var på kortet . Tror hun misesde en type fisk, fik kvalme inden hun fik set det hele . Synes pelikan eventet var sjovt, men kunne ikke genkende det var pelikaner . Kunen ikke tyde kortet da hun klikke på det . Kiggede efter pige på møddingen fordi han nævnte det, men kunne ikke se hvor hun var . Specifik placering fordi hun ikke vidste om han selv fiskede eller ej

Test 5 – 23/04/19 m. Kort / u. Tale

. Har prøvet tidligere version før . Starter mod venstre/fugle . Starter med åleruse <- spørg ham om det . Vendte vde sælerne, lagde ikke mærke til ål i vandet ved pelikanerne . Sejler mod åbent hav til venstre for torsk . "det er lettere at styre end sidste gang jeg spilledede" . Fandt ikke torsk . Lægger mærke til fisk i vandet men prøver ikke at fange noget . Sejler in di den lille å ved møddingen . Fik "dårlig" slutning . Interagerede aldrig med kortet . Spillet gik ud på at fange fisk til hans "gruppe" . Det var let at styre . Blev træt i armene ca. Halvvejs igennem . Blev motiveret ud fra det store træ, derefter var det om der var små kanaler, "landmarks man kunne sejle hen til" . Den sidste halvdel syntes han ikke der skete noget, kunne se nogle fisk under vandet, men der blev ikke fortalt noget om hvordan han skulle fange dem . Han havde ikke rigtig nogle problemer andet end det at ikke at kunne fange fisk . Hørte sælerne, men så dem ikke . Kunne godt lide at bruge ham som guide frem for et kort men ville hav haft noget mere beskrivelse . Ser anden lejer, fugle som han ikke kan huske hvad hedder, bare en bakke, træet med ålerusen . Fik aldrig nogen forklaring over hvad der lå i hans båd, men synes ikke der skete noget når han trykkede på dem . Kunne huske den (ålerusen) fra tidligere, måske ikke set den hvis ikke . Lagde ikke rigtig mærke til andre fisk end fladfisk

Test 6 – 23/4/19 u. Kort/ u. Tale

. Griner allerede til at starte med pga. Tale . Sejlede direkte forbi ålerusen o Så interactions.mærket på ruse men interagerede ikke . "måske skal jeg vælge et redskab til at starte med" . Fik alle "ingen fisk her" voice.lines . Fik en hjælpe voiceline uden at skulle have den . Fik 3 torsk pga. Hjælpe.voice.line o Fik den i området hvor den ikke kan ses . "altså bu.hu" . "jeg er i en båd og jeg skal

fiske" o Kunne ikke finde noget der skulle indikere der skulle være fisk o Prøvede trial/error med bare at trykke på redskaberne . Forstod hvordan man styrede båden, men ikke hvordan der skulle fanges fisk . Der var noget røg hun ikke vidste om var et "beacon til hjem" . Hele tiden var hun forvirret over hvor hun skulle tage hen -> andet end når han sagde det til hende o Kunne eventuelt have noget hvor man kunne tage brillerne af og se hvordan det skulle være . Kunne godt lide taleren -> voice feedback samt lidt underholdene o Kunen saagtens forstå hende o Kunne godt lide indikatoren for om man kunne interagere med noget, selvom hun først lagde mærke til det sent . Mente ikke kvaliteten var så stor . Billede 1: røg som ikke ved hvad var (campsite måske), fugle på billede 2, en eller anden dansk fugl, sunbeams på 3 samt fisk ved "bjerget", træer/strand på 4 . Kan genkende 1 og 3 fra hendes playthrough men ikke 2 og 4 . Grinte pga. Stemmen . Anede ikke hvor hun skulle hen i starten, og så blev bare nød til at tage ud i det . Troede måske det var en barebro . Ville meget gerne have noget glitter.agtigt over hvad der kunne interageres med . Tænkte at det at man starter med at skulle trykke på den røde knap var for at tjekke om man kan finde ud af kigge ned . Synes ikke det var et stort problem hans hjælp kom så sent hvis det er et spil for spils skyld . Lider ofte af køre.syge og lignende

Test 7 – 23/4/19 voice . Starter direkte med at trykke på fiskekrogen . Drager til venstre mod fuglene . Fanger 3 ål . Sejle forbi møddingen og får pelikan eventet . Ved kke hvor han startede henne . Fanger rødspætter . Fanger alle torsk . Var usikker på hvad der blev sagt om fælden . "hver forskellige fisk var, var indikeret af forskellige steder" . Nemt nok som udgangspunkt, troede lidt at han kunne sejre hurtigere ved at kigge op og langsommere ved at kigge ned . Det meste af guiding var han allerede på vej derhen o Var noget bekræftet til man gjorde det rigtige . Torsken var forvirrende fordi han sagde noget om den mens hav var et andet sted henne . Ville gerne have en strop til headsettet og en controller i stedet . Kunne genkende dem alle sammen brotset fra træet . "der var noget bevægelse", gik også lidt efter at der var andre dyr . Det var noget med en følelse som han ikke hørte efter, fokus lå på noget andet . Lagde mærke til det blev mørkere gennem spillet, påvirkede ham ikke

Test 8 – 23/4/19 u. Kort / u. Tale

. Starter med at sejle ind i midten og går derefter mod fuglene . Fandt ål ved fuglene -> fangede 3 . Så ud som om han muligvis prøvede at ramme kurven til anden ål . Prøvede at fange 4 . Fik gråsæl "event" . Sejlede forbi møddingen . Fik pelikan event . Fandt og fangede rødspætter o Fangede 5 rødspætter . Tid løb ud . Fange fisk, samt information om fisk, redskaber og fugle . Synes det var intuitivt at spille . Første taktik var at kigge i kanterne og fik derefter øje på ålene via "mågerne" – tænkte også at følge kysten for at se om han kunne se noget . Var ikke umiddelbart noget dårligt . Kunne godt lide at den anden var med og snakkede så meget, for ellers ville det blive kedeligt . Ærger sig lidt over ikke at finde torsk -> nysgerrig over hvordan krogen skulle bruges . Billeder: røg (kan ikke se hvor det er fra), fugle (ved ikke hvilken type, ligner det der blev set i spillet), en forhøjning med sol, et lidt større træ ved kysten . Så 1, 2, 3, ikke sikker med 4 o Relatere fugle til fisk, og røgen. Ved ikke med forhøjningen o Sejlede derhen bare for at se hvad det er . Kom ikke så tæt på den store bakke, nok fordi han så noget

andet, havde helt sikkert set dem alle sammen hvis han havde spillet længere. . Prøvede at klikke på kurven -> så cirklen blive større så han troede han kunne gøre noget med kruven o Kunne være sjovt at kunne kigge ned i den eller tage en fisk op . Så ikke gásælerne, men kiggede efter dem . Var til at forstå at han kunne aflevere fisk for at afslutte den dag . Fangede flere rødspætter fordi han kunne -> ål stoppede ham, men ikke rødspætter . Hvis spillet ikke var stoppet ville han selv have sejlet tilbage

Test 1 – 24/4/19 m kort . Har prøvet den tidligere gruppens version . Kigger meget omkring til at starte med . Starter mod det åbne hav . Et lille område man kan blive "fanget" til venstre for bakken . Tog lid ttid at regne ud hvordan de skulle fanges . Prøvede lyst før krog . Fangede 3 torsk . Så kort . Fortsatte over mod røgen . Fandt rødspætter . Tager rundt om pynten mod det åbne hav . Tager den ind af den lille å til højre for møddingen . Spillet slutter under en anden voiceline . Spillet gik ud på at fange fisk til stammen -> vigtigt at komme hjem inden det blev alt for mørkt . Var rimelig lige til, prøvede at styre ved bare at kiggen inden han brugte det at stolen kunne vende . Det var det visuelle der pegede hvor han skulle hen o Landmarks og så til fisk . Inden cirkel promptet vidste han ikke han skulle vælge værktøj -> troede guiden ville fiske automatisk . Synes det var fint at interaktionerne var lidt begrænset . Ville have ndt godt af at få at vide tingene i båden var interaktive . Fik ikke set alt hvad han ville . Tøg er en eller anden idikation af liv, fugle som guiden nævnte, sol og bjerg, billed 4 er strand og græs og træer . Kom ikke hen som i billed 1, så fuglene, så billed 4, var ikke henne ved bakken . Fangede torsk ved træerne . Havde lyst til at prøve at sejle lige ud i det åbne hav for at se hvad der sker . Ville skyde genvej gennem bakke områder og fandt så fisk . Da han var ved fisk og guide ikke gjorde noget fandt han selv ud af han skulle noget . Troede måske kortet var et fiskenet, klikkede på det for at se hvad det var . Så nogle fisk og en striplet linje som måske kunne pege på hvor det var . Kiggede kort på det fordi solen var ved at gå ned . Synes ikke det gjorde så meget det blev alt for mørkt . Mange mennesker til det antal fisk han fangede

Test 2 – 24/4/19 m. Kort . Kan ikke lide at blive filmet? . Kigger hele vejen rundt og starter mod røgen/åbne hav til højre . Sejler helt til grænsen og tilbage mod bakken . Sejler også baglæns ind i spækhugger event og ser det ikke . Prøver at trykke to gange fordi der ikke lige skete noget . Fik "ikke fiskekrog" line, men uden rigtig at kunne se ål, så sejlede videre frem for at prøve lysten . Sejler helt til venstre og den væg der . Bruger trial.and.error til at finde ud af hvor fisk kan fanges . Sidder oven på ål, men prøver ikke lysten før til allersidst . Skulle have "vi bruger ikke krog til ål" linjen igen . Flytter sig lidt mellem hver ål fanget (fangede 3) . Skulle finde et sted at fange fisk og skulle (måske?) kigge efter landmarks til at indikere hvor der var fisk o Startede mod røg pga nysgerrighed . Let at bruge . Tog rundt til de øer der var mest forskellige fra hvor han startede . Tænkte ikke over at skulle kigge ned i vandet før ål . Boundaries var irriterende, hvilket instrument at skulle bruge var lidt forvirrende . Kunne godt lide den "verden" der var, ville ikke spille til dagligt, men fungerede ellers udemærket . Synnes ikke han fik set al hvad der var . Røgsøjen fra lejerplads, fugle måske en indikation for noget, stort træ, solen . Kunne genkende 1 og 2, kom forbi 3, ikke 4 . Forbinde de andre med at ikke kunne finde noget, måske et event ud fra hvor solen var, lejerplads ved ilden, kan se træet er markant anderledes nu ved ikke o Måske stille den tilbage .

Synes spækhugger var underlig da den ikke bliver nævnt igen . 3 ting i båd u d over kurven, krog, et stykke lædder? Tæppe/skin, og spyd til at fange ål . Troede spuddet skulle bruges hvor det er lavvande nok så brugte krog fordi det gav mest mening . Det sidste var en form for gitter o Hvis der var noget mere der sagde brug tingene hvor kunne han måske mere at bruge andet sted

Test 3 . 24/4/19 u. Kort / u. Tale

. Har testet tidligere version . Kigger rundt til at starte med . Starter mod røgen -> sejler i cirkler (vender direkte tilbage til møddingen) . Var på vej væk men vendte sig om ved pelikan eventet . Fandt åleruse -> tidligere spil – så ikke sælerne . Kigger på fuglene flyver i ring, men lægger ikke mærke til ål i vandet . Afslutter spillet tidligt . Gik ud på at styre en båd og finde fisk . Styring rimelig nem . Havde ikke rigtig nogen plan for at finde fisk o Fandt ålerusen og ledte efter flere af dem da han ikke kunne se en fiske knap . Synes spillet var "flot" men gameplay var kedeligt . Kunne ikke lide at skulle holde knappen nede, og blev en smule syg af at skulle dreje i stolen . Synes ikke han fik set det hele . Bål/røgsky, skov og fugl ("[guiden] sagde noget med flotte næb"), sol nedgang og flotte bakker, stort træ . Så røgsky, kan ikke huske det store træ, så fuglene . Mener en af stederne er hvor han skulle aflevere sine fisk, ikke så sikker på resten . Det var ret tydeligt at han skulle fange fisk . Afsluttede spillet fordi han ikke var motiveret til at finde flere ikke vidste hvor . Kunne tydeligt se fælden, ikke huske fra tidligere version . Prøvede at følge de store ting i verdenen . Kigge ikke på de andre ting i båden

Test 4 – 24/4/19 u. Kort / u. Tale

. Startede ved at sejle frem og ud i ingenting . Prøvede krog lidt tilfældigt . Tænkte sig frem til at "mågerne" måske vidste hvor der var fisk o Prøvede krog først, fangede alle 3 ål . Fortsatte ud mod åben hav, tydeligvis en smule forvirret over næste skridt, prøver igen at fiske lidt tilfældigt . Fik sæl event, har svært ved at se dem og hører hvad der bliver sagt . Fik vejlende voiceline til ålerusen og dant den o Prøvede at bruge krog til at tømme den . Meget trial.and.error kom igennem hele arrayet to gange . Fik god slutning . Gik ud på at fange nogle fisk/mad til familien/sstammen . Nemt nok at styre spillet, måske lidt svært at den kun drejer ved større vinkler . Mågerne var meget smart – kunne ikke finde torsk dog o Også stemme . Kunne ikke forstå hvor han mente torskene var . Fik set hvad han ville bortset fra finde torsk . Mener 1 er der hvor stammen er, 2 er hvor ålene er, 3 er bjerg og sol, 4 er ålerusen . Svært at finde noget der significere hvor der var noget, tog tid at regne ud han kunne se fisk i vandet . Valgte til at starte med fordi han ikke vidste bedre . Påvirkede ham til dels – troede måske plen var længere oppe end torsken . Lidt sjovt med stemmen, på den her måde, til at forstå bortset fra lige med det træ . Afleverede fisken fordi han troede han havde lavet en fejl . Måske have set rundt uden vejledning men ikke sikker . Troede torsken var ved ålerusen

Test 5 – 24/4/19 m. Tale / u. Kort

. Har prøvet det før, så ved hvor tingene er -> direkte til torsk o Fik en hjælpelinje til bakken mens han fangede torsk hvilket forvirret ham lidt . "jeg sværger jeg ikke kan se nogle fugle" <- efter nået omkring ålene . Kunne genkende ål på formen . Fik to fejlmeddelse med et tryk på krogen . kan huske noget med det store træ . "jeg savner lidt stenadler Johan, han snakker ikke så ofte til mig" o

Prøver at bevæge sig for at komme tættere på kurven og se hvor mange ål han har . Griner af pelikan event . Fangede rødspætter i den lille å til højre for møddingen . Træt i armen . "sløret syn" <- "unfair nu jeg ikke har briller på" . Synes det er hyggeligt men synes det er stenalder Johan der er sjovest og ville gerne have endu mere tale fra ham . Spillet handler om at fiske, mysteriet handler om at finde ud af hvor de kan fanges, lidt lærerigt om dyrelivet dengang og værktøjer . Synes kontrol var simpel nok . Sdste gang kunne han godt lide hvor meget der blev sagt, let det samme denne gang, "samtalen" med "Johan" var det sjoveste . Lidt forvirret at få hjælp når man allerede er ved stedet, ville måske gerne have lidt mere hjælp når man nu er langt væk fra ting . Kunne godt forstå hvad han sagde . Blev holdt lidt i hånden og lidt direkte, fik ikke rigtig lov til at udforske verdenen . 3: gode bakke med torsk, 1 var røgen med naboerne (rødspætter), 2 fuglene (ål), 4 var følede med ål . Nåede at se alting (og har derved "udforsket det hele") . Kunne se den (kurven) blev mere og mere fuld, men svært at se hvor mange der egentlig var i . Egentlig ikke interesseret i at se tættere på kurven . Ville gerne sejle lidt hurtigere da han fik tidspres til sidst . Havde ikke tid til at aflevere fisk fordi han skulle fange flere o Var under forståelsen at aflevere fiskene ville slutte spillet o Synes ikke der var nogen ændring alt efter hvor mange fisk man har o Ville måske gerne se en person lægge ned og se sulten/skuffet ud

Test 6 – 24/4/19 m. Kort

. Starter mod bakken . Lidt usikker på om skal holde knappen nede eller ej . Virker lidt usikker på hvordan man fanger fisk o Fanger torsk – 2 . Ser sig lidt omkring for at finde ud af hvor hun skal hen . Pelikan event -> "dem kan man ikke fange" . "der er sgu da fisk i vandet." – "nej, ligemeget" . Fanger rødspætter – 3 -> fanger dem ret langt fra hvor de er . Forvirret over faklen og dens lys . Ser kortert, men kan ikke rigtig se hvad der er andet end fisk . Fanger flere rødspætter uden at kunne se de er der o "ja, jeg forstår det ikke" . "hvordan kommer man hjem?" . Fange nogle fisk . Nemt nok at styre, svært at regne ud hvor man skal hen . Havde ingen motivation, prøvede sig bare frem, forskellige øer . Vores voiceover var god og forståelig . Vidste ikke hvor man skulle sejle hen, om man skulle klikke på manden når han brugte syten, og blev lidt køresyg . Lidt ærget over man ikke kan komme op på øen . Røg (en landsby?), fugle og regnbue, en solnedgang, og et træ . Kan genkende bakkerne, men ikke det andet . Havde ikke forventet stemmerne, det var rart det var sjovt . Så meget op for at prøve at få et overblik over hvor hun var . Der var nogle steder hun synes hun så noget der ligner fisk i vandet, men var ikke sikker . Lagde ikke mærke til fisken i kurven til at starte med . Prøvede sig bare frem . Tror kortet var et kort men kunne ikke læse det . Ville se hvad alle tingene kunne, men kunne ikke læse det, ville gerne have haft et læseligt et . Blev forvirret med fuglen om man skulle jagte den eller noget . Fangede rødspætter bare ved at prøve . Han om snakkede om man skulle så forvirret over hvad det skulle gøres . Det at det blev mørkere var lidt stressende . Blev lidt køresyg, har ikke fået det værre

25/4/19 test 1 u. Kort / u. Tale . Griner lidt af stemmen . Starter ud mod åbent hav -> kigger ikke rigtig rundt først . Sejler lidt tilfældigt . Lagde ikke mærke til fisk i vandet . Kigger meget lige.ud – ikke så meget op og ned . Sejler ret tilfældigt frem og tilbage . Fik spækhugger eventet, men den var på den anden side af øen

. Vender tilbage til møddingen men slutter ikke . Fandt ålerusen . Ser fuglene? Vender hjem efter tømt åleruse . Sluttede selv spillet . Spillet gik ud på at fange fisk med interaktion derudover . Let nok at syre, men at finde ud af hvor man skulle hen var sværere . Sejlede ud mod åbent vand og derefter bare hvor han synes det så ud som om der var noget (røg etc.) . Kunne godt lide de informationer man fik . Kunne forstå stemmen, synes det var fint . Så noget i vandet hun ikke se var fisk eller tang . Da han sagde det blev mørkt lagde hun mærke til det blev mørkt . Synes hun var mange steder, men ikke om var alle . Kunne se de forskellige ting i billed – ikke nogen grund til hun ikke interagerede med ting i båden . 1: røg, på vej hjem, 2: fugle, pelikaner (taler om eventet), 3: bakke, kan hun ikke genkende, 4: det store træ, var ålerusen . Hun synes hun så alle stederne i spillet . Hun vendte væk fra det åbne hav fordi hun synes hun så noget i vandet . Scond.guessed sig selv fordi guiden ikke reagerede/gjorde noget . Sejlede mod røgen – tænkte hun nok ikke skulle mod land . Blev lidt forvirret over spækhuggeren . Vidste ikke om hun skulle følge dem (pelikanerne) eller tage hen hvor de kom fra . Sejlede videre da hun ikke havde fundet nogle fisk . Så kurven i vandet og blev nysgerrig . Vidste ikke spillet sluttede når hun afleverede fiskene, troede hun skulle have afleveret dem inden det blev for mørkt . Det kunen være rart lige at have en kort introduktion om hvor man kan finde noget, men ellers også fint at man selv skal udforske

25/4/19 – test 2 m. Kort

. Startede mod åbent hav til venstre for bakken – kiggede sig ikke omkring . Sejlede in i en lille bugt som vær svær at komme ud af . Usikker på hvor hun kom fra . Fik to fejmeddelelser fra at prøve en gang . Begynder på trial.and.error . Kigger ned af hvad der er i båden men klikker kun på krogen . Fanger rødspætter uden at kunne se dem i vandet, fangede 4 . Fortsætter mod åbent hav, prøvede kort ret sent . "måske skulle jeg starte med at kigge på kortet" . Prøver at tyde kortet . Fangede en rødspætte . Skulle fange fisk, svært ved at finde ud af hvor man skulle hen, handler om at navigere sig selv . Syntes det var intuitivt at styre . Forsøgte først at finde ud af hvad man skulle hen og kunne bruge redskaberne, forvirret med det dybe hav . Kunne godt lide hvordan man interagerede med tingene og hvoran man styrede . Ville være rart med mere vejledning om hvor man kunne tage hen . Synes hun fik set hvad der var at se . 1: fisk (rødspætter), fuglen var den han nævnte, solen ved at gå ned et sted hun ikke var, kunne genkende træet men var der ikke . Røg/strand, fugle, sol/bakke/træer, strand/træer . Ville gerne have haft et pejlemærke om hvor hun skulle sejle hen . Trykkede på krogen forskellige steder fordi hun tænkte det måske var bestemte steder . I båden var der kurv, krog, pind, kort . Ikke nogen grund til hun gik mere efter krog end spyd . Klikkede på kortet for at se om der var noget hun havde misset . Troede til at starte med bare det var et stykke papir . Tror at kigge på det først måske kunne have hjulpet . Tænkte at hvis der var pelikaner måtte der være fisk

25/4/19 – test 3 m. Tale

. Kigger rundt til at starte med og vælger Bjørnsholm røgen . Pelikan event . Ser fisk i vandet -> prøver at klikke på den . Prøver også lige krogen . Kigger en del på den – ser ud som om han prøver at placere sig lige præcis i forhold til fiskene . Sejler ud mod åbent hav . Så faktisk spækhugger eventet . Fuide mod bakken

blev brugt -> finder torsk (fishies) . Lægger mærke til fuglene? . Fik åle.guide lige mens han var ved ål . Vender hjemad . Fangede 3x rødspætter, ål, og torsk . Små.forkølet så tikker mange af SSQ'er af men ikke pga. Spillet . Spillet gik ud på at man var en "rookie" der skal lære at fiske, er "med" til at fiske, guide gør alt arbejdet men involvere de andre . Bliver træt i armene fordi man skal holde knap nede og holde cardboarden, intuitivt at styre, men det var lidt som om båden driftede når man prøvede at dreje, var som om de gik hurtigere når man så op . Så forskellige ting rundt om, så mørk røg, tænkte "that's bad", prøvede at sejle mod åbent hav for at se hvad der sker men ændrede retning pga. Spækhuggeren . Kunne godt lide at der var et fokus på tribal systemet med "der skal også være til i morgen" med kun x antal fisk . Forvirret med hvad man skulle bruge krog og lyst til, tokyo drift båd også lidt irriterende . Mere tid ville han nok have kigget mere rundt, meget med personlig erfaring med bakken . Lagde først mærke til det blev mørkt da han nævnte det . Følte sig ikke stresset eller noget . Med mere tid ville han nok bare udforske, da han sagde "nu skal vi hjem" ville han tage hjem . I museums kontekst ville han nok bare lægge brillerne fra sig når han blev træt i armene . Røg <- mørkt, fugle, lensflare og en flot solnedgang og noget der ligner sandstrand klippe, højt træ han ikke kan genkende . Syntes han så de tre første <- kan huske hvad han fangede hvor . Kiggede rundt for at orientere sig . Så ikke røg der hvor han startede bare ild, strand, og damen . Cool touch med pelikanerne, men det gjorde ikke noget for ham selv <- bed mærke i næb.kommentaren selv om han ikke kunne se . Da han så fiskene var det ikke gået op for ham at han havde værktøjer i båden . Let nok at forstå hvad der blev sagt . Prøvede krog efter lyst for at se om han ville gøre noget anderledes . Syntes de var meget tæt på land, men havde heller ikke lyst til at fucke med den (spækhuggeren) . Fuglene <- havde igen connection fra mod rødspætterne og så fuglene her . Vendte hjem fordi guiden skubbede mod det . Følte han sad meget lavt i endscreen til at starte med da de andre sad på forskellige ting men han sad på jorden

25/4/19 – test 4 u. Kort / u. Tale . Tjekkede hva der er i båden . "det virker som om man kører hurtigere når man drejer" . "skal helst ikke sejle ud over verdens ende" . "kan vi ikke bare nakke de måger der" . Sejler mod træet -> nå nu sejler vi tilbage til ole . "undgår" landmarks – finder ål ved pelikanerne men uden at kunne se dem i vandet . Holdte øje med fuglene og ser vist ikke fiskene i vandet . Følger efter pelikan eventet og finder "rokker" . "måske skulle vi prøve en anden fisk et andet sted" . "nej, fuck det, det har vi ikke tid til" . Kiggede forkert vej i end.screen . Fange fisk . Kontroller var let nok da det var forklaret, synes det gik lidt langsom . Valgte bare en retning og tog i den retning, kunne ikke finde sælen, fulgte fuglene, tog i en tilfældig retning og fandt efter selvlysende fisk . Efter første gang han skulle vende og fange første gang var han sådan "okay" . Ikke noget der var godt . Kunne forstå stemmen . Fra spil.standpunkt var der ikke rigtig nok forklaring til at hjælpe, ville gerne have noget så man vidste hvad man skulle kigge efter . Synes han fik set det meste . En bålplads, figle, solnedgang, molen med et stort træ, synes det fungere som et landpunkt . Så 1 og 4, 2 og 3 lidt mere generelle . Så rundt for at finde ud af hvor man kunne tage hen . "der er intetn den vej, lad os se hvad der sker" . Havde lidt forventet at se fisk i vandet, men synes ikke han kunne se dem i åleområdet . Mågerne var lidt pejlemærke, men det var også det at han ikke havde været der . Så ikke noget i vandet ved

træet . Så ingen sæl . Synes ikke han så nogle ål i vandet . Ville kigge på fuglene, "der var noget levende at kigge på" . Synes det gik for langsomt at komme fra den ene side til den anden – ville gerne kunne bestemme lidt over hvor hurtigt det gik . Events kunen være alt efter hvad det er . Det at de kom flyvende virkede lidt bare som en "whatever" ting – men mener det godt kunne være et hint om fiskene . Kunne ikke se hvad de suk?() ting er før han kom tæt på . Ingen tanke om slutscenen

25/4/19 – test 5 m. Kort

. "nå, så man skal holde den inde" . Starter mod bakken og drejer derefter til venstre og ud mod åbent hav . "meget sjovt accent han har" . Lægger ikke mærke til fisken (torsk) i vandet . Sejler mod røgen og til venstre for <- ser rødspætter . "jeg tror der er fisk her. Skal jeg så bruge..." . Usikker på om han fangede noget eller ej . Prøvede også krog og kort, kiggede på kort længe . Prøvede vist at sammenligne kortet med "virkigheden" . Sejde direkte hen til fuglen <- fanger ål . Fangede 3 rødspætter og 3 ål . Spillet gik ud på at tage ud og fange nogle fisk med kommentarer fra ham om hvad man kunne se og hvor det var . Tog lidt tid før det gik om for ham hvordan han nok skulle bruge kortet og eller de andre ting i båden . Var let at styre iforhold til at dejte osv. Var lidt lag når man skulle dreje meget skarpt, var let nok at fange fiskene også . Fik kommentarer om ikke at kunne tage langt ud på åbent hav, så røg og sejlede til højre for at undgå det åbne hav, så kortet, ledte efter fuglee og fangede ålene . Var "heldig" at han fandt kortet, og derfra var det ikke så svært at gætte o Kunne ikke forstå hvad der var på de der fladfisk, fuglene gav god mening, i tvivt om hvad det første skulle være . Synes det var sjovt den accent guiden havde, og styringen var mere smooth end han havde regnet med . Ville gerne have højere oplosning og bedre framerate . Blev lidt svimmel når han sejlede, som forsvandt når han stoppede . Fik set hvad han ville ortset fra han missede den sidste type fisk . I båden var et "spyd", krog, et kort, en kurv til fisk . Blev i tvivl om fisk kom i kurven eller ej, prøvede på at kigge i kurven om det han skulle bruge var der . Røg, fugle og træer, sol og bjerge, stort træ, nævner manden på dem o Tænker bjerget måske var en af tegningerne men kan ikke genkende den i spillet . Kunne genkende 1 og 2, men ikke 3 og 4 . Fik lidt midre kvalme når han kiggede ned, synes også det gav mening at kigge i vandet for at finde de der fisk . Kunne sagtens forstå hvad der blev sagt . Kommenterede på det der var så det passede fint, ville gerne have haft lidt flere landmark.seværdigheder, skulle ikke bare sige noget for at sige noget . Sejlede til røgen fordi han ikke vidste hvad han skulle prøve sig frem, men havde ikke så meget forventning om hvad . Havde ikke nogen tanke om pelikanerne, kunne godt forvejsle fuglene på kortet med dem der lige fløj forbi . Prøvede krogen bare for at prøve og se hvad der sker . Kunne godt forstå kortet var et kort, blev svært at se da det blev rigtig mørkt – kunne godt se tydelig forskel på fiskene, fuglene var også tydelige, men vidste ikke hvad de to andre var . Vidste ikke fuglene var der, men kunne hurtigt ane hvad det var . Intuitivt at kigge rundt i slutscenen – også i vr

25/4/19 – test 6 m. Tale

. Kigger til højre og venstre <- starter mod venstre . Fik hjælpevoicelines lige som han trykkede på krogen . Fangede kun en ål . Ålerusen hjælpeline forvirrede

ham <- "fangede" ikke lige hvad han sagde . Prøvede krog på rødspætter og tog derefter viden . Vil gerne fange torsk . Fandt ålerusen . Fik pelikan og sæleventet . "dårlig" slutning . Sådan en rejse tilbage i tiden, informationer som de havde dengang (hvilke fisk hvor, osv.) . Stor hele var det fint, hvis man blev fanget kunne godt være svært at komme ud, lidt en disconnect mellem hoved og krop når man drejede (hvis man kun dreje hovedet og båden, men ikke kroppen i stolen) . Missede nogen gange hvad han sagde, f.eks. med tosk, ville gerne have haft nogel undertekster o Synes det blev brugt på en fin måde . Var lidt svært at forstå dialekten/accenten nogel gange . Det var godt der var kontekstuen viden, lys gjorde det lidt svært at differenciere mellem ting da der ikke var nogen atmosfærisk effekter . Lagde mærke til det blev mørkere – havde ingen indflydelse i forhold til en empati til at hjælpe samt urgency . 1: ø med nålplads (stort bål), 2: pelikanerne, 3: lille bugt han ikke nåede ind i (tror der var torsk der), 5 er ålefangeren . Kan genkende dem alle, forbinder dem navigationsmæssigt . Forbant fugle med fisk selv så det var derfor han gik efter dem . Lagde ikke mærke til at han sagde man kunne fange fisk lige inden han fangede fisk, men synes det er fint hvis han taler over det . Synes pelikan eventet havde nogle gode ting: detaljer om pelikanerne, at de bruger toppen af dit synsfeldt samt vinklen de kommer fra . Troede ålefangeren kun var til ål så troede fladfisken bare var der for at være der . Ille undersøge bredden med fælden så derfor fandt den o Har set ålefangeren ofte som barn så kunne tydeligt genkende den . Lagde ikke mærke til sæl . Tænkte at nu har han en så nu kunne han prøve at fange andet og så komme tilbage senere

25/4/19 – test 7 U. Kort/ u. Tale . Startede mod røgen – bruger kun en hånd/arm . Pelikanen event, kigger efter dem . Fagner rødspætter ret langt fra hvor fisken er . Stopper inden åbent hav og kigger sig omkring . Rundt om øen og undgik spækhugger event o Eller kommer "baglæns" ind i det – "holy crap" . Fanger torsk uden at kunne se den . Kigger på fuglene flyver i ring . Har fanget alle typer af fisk . Kan ikke se gråsæl . God slutning . Fangede 2xrødspætte, 3 x torsk og ål . Gik ud på at fange fisk inden det blev mørkt . Let nok at styre, lidt træls ikke at kunne nyde omgivelserne (så når han sejlædede i en retning kunne han ikke se sig om) . Startede med at sejle mod røgen pga. Røgen – først ved ål lagdge han mærke til man kunne se dem . Viller gerne kunne høre hvor tingene var (skal nok bruge høretelefoner) – var på vej tilbage men han blev sendt hjem . Det at man skal holde og trykke på knappen er lidt hårdt, nogle af fiske.animationerne var lidt rå i det, lyden tog ham ud af det da det kom fra fjernsynet – ville have foretrukket høretelefoner . Fik ikke set sælen, ville gernehave set mere ved røgen – der er ikke rigtig noget, fandt dog alle 3 fisk så synes han var nok rundt . 1: "det røg der", 2 fuglene, 3 en af de øer der er yderst og solnedgang, 4: og et træ han ikke lige havde lagt mærke til . Har set alt borset fra tæet, men ikke lagt mærke til bakken . Synes det var en skam han ikke kunne se deres (pelikanerne) næb i spillet, ellers ville være fint hvis den var på udstillingen, det var ikke sådan at han tænkte "nu skal jeg se pelikanen" da han tog brillerne af . Først rødspææte fangst var rent tilfælde prøvede at trykke på "spanden" . Tænkte to ting da spækhuggeren blev nævnt: 1: kan ikke se den, ": hvor tæt er den på og hvilken retning bevæger den sig? . Torsk var også et tilfælde. Prøvede det andet værkstøj, men da han så sagde "nej" lagde han mærke til krogen . Tog til fuglene fordi der var fugle . Tror ikke rigtig han havde lagt mærke til det begyndte at blive mørkt i scenen. Synes det gik

hurtigt efter det blev nævnt . Det gjorde at han pludselig specifikt vidste hvad han skulle

25/4/19 – test 8 m. Kort

. Prøvet spillet før . Spørger om han var lag eller kort synet . Starter mod åbent hav (spækhugger9 o Spækhugger voicelinen er lidt underlig . Intergere ikke med tingen i båden . Lægger ikke mærke til rødspætterne i vandet (?) . Sejler ind i bugt til højre for møddingen . Sejler generelt meget ind i de små bugter o Kommer forbi møddignen – følger side (holder land til venstre) . Ser kortet i båden . Tømmer ålerusen . Ser ikke ål heller . Dårlige slutning . Gik ud på man var stammefolk der skulle fange nogle fisk . Det var let nok at styre men svært at finde ud af hvor fiskene var . Der var et kort men det var svært at se hvor man var o Manglede pejlemærker . Kunne godt lide spøkhuggeren og de forskellige dyr i spillet . Ikke umiddelbart nogen han ikke kunne lide . Synes han fik udforsket . Var fiskekro, .spyd, og et kort af en art samt kurv . Billede 1: mener navnet på stedet blev nævnt (røg), 2 pelikanerne (ikke sikker på navnet), 3 bakken lige modsat for lejren men ikke nævnt, 4 ålerusen som til venstre fra start . Røg, fuglene, bjerget og indhugget, kæmpestore træ med ålerusen lige ved siden af . Kunne huske meste af spillet fra tidligere . Fandt spækhugger ved et tilfælde, havde bare tænkt sig at sejle den vej rundt . Tog til røgen for at få sejlet rundt . Synes pelikanerne var fint for at vise diverse dyreliv . Regnede med at fange fisk i bugten . Guiden siger han ville hjælpe med at fange fisk så han forventede guiden ville sige ”nu” . Så ikke sælerne . Sejelede på den anden side for at undersøge pelikanerne, lagde ikke mørke til fisk i vandet . Kunne se pielikanerne men havde svært ved at tyde hvad de var . Lagde ikke mørke til det blev mørkere

25/4/19 – test 9 m. Tale

. Prøvet før med anden gruppe . Starter mod venstre for bakken . Fik torsk voiceline korrekt – ser fisk i vandet – ”nå!” . Bruger krog uden problemer . Ser sig mest om før at vælge hvor vil hen . Prøver krog først til ålen . Ser ud som om hun er en smule forvirret over åleruse voiceline på vej mod røgen . ”hvor er de der ålekasser henne? Endnu ikke lykkedes mig at finde den” . Fangede 3 x torsk/ål . Bruger kontaktlinser så øjne irritere lidt . Spillet gik ud på at fange fisk . Svært at styre båden når man skulle en anden vej . Vidst aldrig hvor hun skulle hen . Sidste gang hun spillede fandt hun ikke ret mange fisk så nu ledte hun hvor hun ikke havde været før . Synes fyren i båden var fin, snakkede ikke for meget . Mest irriterende ikke at vide hvor man skulle hen . Ved ikke rigtig hvor meget der er at udforske så ved ikke hvor meget hun udforsker . 1: bål, 2 fugle – ål, 3 bakke (den høje) – laks, 4 træ . Kan ikke huske træet, kom ikke hen til bålet . Synes det påvirkede hende meget at hun har spillet det før . Tog hen til ”åen” fordi det var den vej han pegede . Fik vejledning til bakken ide hun kunne se den hvilket hjalp . Hjalp at kunne se fiskene . Fuglene fik hende til at tænke der måtte være noget . Troede der var et formål andet end bare flyvende fugle v. Pelikan event . Træt af ikke at kunne finde ålerusen . Ville gerne have mere hjælp

26/4/19 – test 1 u. K, u. T . Lyd på fjernsynet lidt lav . Sejlede først mod åbent hav til venstre for bakken – sejlede så direkt eud og mod røgen . Pelikan event . Finder rødspætter -> se ud som om han prøver at fange dem ved at klikke på dem . Sejlede tilbage til møddingen . Slutter spillet tidligt . Fangede 3 x rødspætter .

Det gik ud på at fiske . Var let nok at styre . Havde ikke rigtig nogen motivation til hvor han skulle hen . Havde svært ved at regne ud hvad han skulle i starten . Synes det var sjovt at kunne dreje hele vejen rundt, samt hvordan verdenen var konstrueret . De sidste 30 sekunder begyndte han at få køresyge . Fik set det han ville se / synes der var at se . 1: røg (bål), 2 fugle samt kammersjuk som før, 3 sol (meget tæt på), bjerg/bakke/strand, 4 træ, kammersjuk . Fik set nummer 1, tror han var ved 3 men ikke sikker, ikke de to andre . Forbinder røgen med hjem, bakken måske lidt dybt så måske nogle fisk . Kunne forstå vennen . Rart at han sagde noget, ville gerne have han måske sagde lidt mere om hvor skal sejle hen . Tog til røgen fordi han så der var noget . Begyndte at fiske fordi han meget tydeligt kunne se dem da de var lysende og bevægede sig . Sluttede spillet tidligt fordi han blev køresyg . Prøvede at klikke på rødspætte fordi han troede det var spdan man skulle fange dem

26/4/19 – test 2 m. Kort

. Lidt svært ved at regne ud hvordan man skal starte . Tog lige lidt at finde ud af hvordan man bevægede sig . Prøvede fiskekrogen fire gange i rapid succession . Fandt hvor man skal fange torsk . Pelikan event . Fandt rødspætter ved bjørnsholm . "fuck, kan man bakke? " . "han sagde vi skulle fange nogen flere" – sejler forbi møddingen . "det er som om han stopper når jeg prøver på at sejle fremad" . Sejlede hjem til møddingen efter ål – når ikke hjem . Fangede 3 x torsk, ål, og rødspætter . Skulle fange 3 af hver fisk og så hjem . Manglede lidt en acceleration niveau, skulle vænne sig til acceleration/deacceleration . Da han skulle finde de første fisk vidste han ikke hvad han skulle kigge efter . Ikke noget der påvirkede ham . Stemme der forklarede hvad man skulle var god og bålet til at finde hjem . Ikek nogle problemer som sådan . Tror ikke han fik set det hele, men tror det så meget ens ud . Et brev han ikke forstod, krog og to.fork . 1 bål med røg og træer, 2 fugle (sorte?) træert, 3 bakken, 4 stort træ . Husker ikke at have set 4 . 1 er der man kommer hjem, kan huske at have set fuglede mod nummer 2 fisk, 3 så han i starten . Havde ingen forventning om hvad kortet var, forstod det ikke, gik ikke op for ham de andre to tig var fiskegrej før han så fisk . Der var ikke nogen grund til han fangede torsk der hvor han gjorde, lagde først mærke til den efter han fik den første . Tænkte om man skulle dræbe/fange pelikanerne . Sejlede til røgen tilfældigt, fangede fisk fordi han så dem . Afleverede ikke fiskene fordi han sagde man skulle fange nogen flere fisk . Sejlede til . Sejlede hjem da det begyndte at blive mørkt, tænkte nok ikke over det sværere at se

26/4/19 – test 3 m. Tale

. Billedet er skaævt? . Sejlede mod højre først – bjørnsholm . Fik guide voiceline ved Bjærnsnholm – lagde ikke mærke til fisk i vandet/prøvede ikke at fange noget . Spækhugger event . Prøver at sejle uden om den store bakke . "hvis de rækker mig krogen prøver jeg at fange noget" – prøvede krogen der – lagde stadig ikke mærke til fisk i vandet? . Prøver først at fange ål efter at have fået voiceline . Holder brillerne i en hånd og skifter arm et par gange . Gråsæl event – kiggede ikke efter dem . Sejler tilbage mod møddingen . Tager brillerne af ved slutscenen . Fik det varmt af at spille – varmt i rummet . Det gik ud på at finde fisk til klanen, guide hjalp, bruge krog eller spyd til at fange med . Har ikke prøvet vr før, svært at lave skarpe drejninger, lidt mørkt generelt, ville gerne have "vend om nu" voice kom

tidligere . Til lavt hvis det skal spilles dagligt, fungere dog fint til museum/børn, ville gerne have en knap mere til at have forskel mellem sejle og fiskeri . Havde svært ved at få dannet et overbliv over hvad der skete, hjalp lidt til at finde fugle for eksempel ogsp mere hjælp til den store bakke, indikere hvor fiskene er . Der var nogen steder der ser ud som om de efter forskellige events, så prøver at finde dem . Var ikke så meget ved de små øer . Ingen tanker om spækhuggeren da de kom . 3 et eksempel om at spillet blev meget mørkt, 1 lagde han ikke mærke til, 2 ville gerne have fuglene lyst lidt mere op . 1: røgen, 2: ved det er fuglene han skal lægge mærke til, men det er ikke den han tænkte på, 3 ved igen det er den store bakke – måske kalde de den store sandbakke, 4 træ? . Lagde mærke til der var noget der lyste op i vandet – mente ikke det var fisk – ved ikke om det bevægede sig – prøvede ikke at fiske efter det . Kiggede rundt for at være sikker på det var den store bakke . Det han sagde det var grund til han prøvede ellers ville han nok ikke . Sejlede ret tilfældigt rundt . Det han sagde det begyndte at blive mørkt kunne indikere han skulle hjem, men vidste ikke hvor nødvendigt det var . Ja, det blev mørkere, men synes mest bare at det blev mere . Kunne også forbinde alle øerne så det var mere en sø . Tog brillerne af fordi han var utålmodig . Mener også noget af røgen går ind i skyerne . Generelt have lyst tingene der kan interageres med lidt op . Lagde ikke mærke til hvad der er i båden, før guiden nævnte det

26/4/19 – test 4 u. K / u. T . Finder interaktion med møddingdame først . Skal starte med at sejle lidt lige ud – kan ikke sejle direkte mod røgen . "lens flare og alt muligt" . "hvornår skal jeg fiske?" – prøvet er par gange uden at få noget . "skal jeg over til fange der må være noget" . Spækhugger event – prøver at fange spækhuggeren . Ser tydeligt fisk i vandet . eller slanger eller tang . Kigger rundt for at finde ud af hvor han skal tage hen . Sejler tilbage mod røgen – prøver at bevæge hovedet (hvilket ikke gør nogen forskel) . Fanger rødspætter langt fra hvor de er . Dårlig slutning – kigger længe i slutscenen . 2 x ål, 1 x rødspætte . Spillet gik ud på at finde mad til sin stamme o Fucking svært at finde fisk, kunne ikke få fat i spækhuggeren, kunne ikke komme helt ind til røgen . Ok at styre, ville gerne kunne kigge ud over båden, kan ikke kigge rundt mens man styre . Røgen og fuglen var "der skal jeg hen" . Kunne godt lide fuglene – god detalje, virkede realistisk . Det at det tog så lang tid at finde fisk, synes godt der kunne være mere end bare i det nævnte område . Synes han fik set det meste . Var et spyd til spækhuggeren (?), krog (til ål?), og en kurv (og mad) . 1 røg fra bål, 2 fugle med mange træer og skyer, 3 bakke med lens flare, 4 et træ . Fik set 1 og 3, fik ikke set 4, måske 2'eren . Lagde ikke mærke til noget i vandet ved røgen . Godt at man kunne se noget, har ikke sikker på det var åk, ville nok have prøvet på at fiske selvom de ikke var pga. Fuglene . Ville gerne fange spækhuggeren men vidste ikke hvordan . Synes ikke ålen lignede ål – ingen tekstur, ingen hoved, bevægede sig på en underlig måde . Synes godt han kunne holde det i en hånd og så bare styre

26/4/19 – test 5 m. Kort

. Kigger rund i start scenen . Styrere mod fuglene . Bevæger ofte hovedet som om han prøver at kigge ud over båden . Præver at klikke på fisk i vandet . Kiggede på kortet et stykke tid . Peikan event, kom forbi møddingen . Fanger rødspætter . Spækhugger.event . Vrikker lidt med hovedet . Tog brillerne af og

sukkede . 3x ål og rødspætter . Spillet handler om at skulle ud og fange fisk i den gamle stammebåd, nogle forskellige værktøjer og et kort der viste hvor man kunne fange dem . Lidt besværligt at styre, lidt som om de skiftede acceleration frem og tilbage, ville også gerne kunne bevæge sig bagud uden at fende, ville gerne bedre vide hvilket værktøj der skal bruges hvor . Fandt kort, kunne læse fugle, fandt ud af det var røg lidt sent . Lagde kun mærke til to sæt af ting på kortet . Kunne godt lide spækhuggeren, kom lidt som en overraskelse, den gjorde at han følte han ikke skulle sejle længere ud . Når han kiggede langt væk blev hans syn skønt lidt med en "3d" effekt over det . Kunne godt have brugt mere tid på det, mere at udforske, men det blev mørkere så det var svært at se noget . Lagde først mærke til det blev mørkt da han sagde det . Røg til fladfish, sol og kano og fugle (regnbue som han ikke lagde mærke til), noget skov og en bakke og noget, 4 er et stort træ og en bredstrand . Fik set 1 og 2, 3 og 4 mindes han ikke . Prøvede at orientere sig i starten af spillet, vidste ikke hvad han skulle kigge efter . Originalt sejlede bare ud for at se hvad der var, kunne ikke se fisk i vandet så tog til fuglene fordi der tænkte der måtte være noget . Troede ålene var slanger og farven fik ham til at tro han ikke skulle være i nærheden af dem . Troede til at starte med han automatisk ville fange fisk, roede kortet var en instruktion eller lign. Til at starte med . Kortet hav ham en ide om hvad han skulle kigge efter . Kiggede på pelikanerne da de blev peget ud . Ser fiskene poppe op med samme farve som ålene så han tænkte han kunne fange dem . Tænkte det at det blev mørkere gav en tydelig tidsbegrænsning for hvornår han skulle være tilbage . Have pause mellem main og slutscenen

26/4/19 – test 6 m. Tale

. Har en oculus rift derhjemme . Starter mod frem.venstre og åbent hav . Finder største bakke? . Lægger mærke til fisk i vandet, ved ikke hvordan de skal fange nogen . Fanger torsk efter at have fået vejledning om at række krogen til guiden . Begyndt at få kvalme nu (ca. 3 minutter inde i spillet) . Fik ikke fat i åleruse hjælp . Virler lidt lost -> sejler tilbage mod bakken indtil han fik vejledning omkring store træ ved møddingen o Fik ikke tømt den (ålerusen) inden spillet sluttede o Fangede 3 x torsk . Det virkede som om hvordan hverdagen var . Meget vant til andre kontrolls, kunne ikke lide den måde det blev styret på, der er en god vinkel man skal ud på før skibet drejede . Kunne være lidt svært at forstå hvad han sagde, me ellers hjalp . Dialekt var svær at forstå . Var ikke noget han kunne lide . Midst lide at dialekten betød han ikke anede hvor han skulle hen . Temmelig sikker på han ikke fik set alt hvad han kunne se . 1: bålplads/røgsky – vigtigt sted, 2 fugle, 3 den store sunglare, ret distraherende i spillet, 4 det store træ (skilte sig ud) . Nåede ikke over til 1, kan ikke genkende 2 . Lagde mærke til det blev mørkere først da han nævnte det . Sejlede mod åbent hav fordi han synes han kunne huske noget fra engang fra andet steds . Det at det var nok ting i spillet mtovierede ham til at fange . Ville også have fisket ellers pga. Farven . Det var godt han blev guidet mod træet . Kunne nemt se forskel mellem træerne . Første gang han er blevet VR syg

26/4/19 – test 7 u. K / u. T . Starter mod åbent hav til højre for bakken . Prøv at følge efter spækhuggeren . Lader til at sejle rundt uden nogen ide om hvad de har gang i . Sekær toæ dem amdem emde (altså på den anden side af ålen) . Ser fuglene og lægger mærke til + fanger ål . Kigger meget ned derefter – sejler til røgen men ikke præcist hvor fiskene er . Dårlig slutning .

Fangede 2 x ål . Gik ud på at fange fisk, tog noget tid før han så fandt ud af man selv skulle kigge efter spækhugger . Synes det var fint at styre, lidt varmt, ingen ubekvemlighed . Prøvede at starte ved de små øer hvor der ikke er nogen andre . Mellem spækhugger og finde ål var forvirret . Rød/grøn, blå/lilla farvenblind! . Kunne godt lide spækhuggeren – det at der var store dyr . Kunne ikke lide hastigheden på båden, at de accelerere og de.accelerer . Fik set hvad han ville se, lille ø, og åbning i den anden ende af banen . Så en krog og et spyd og en bowle til at have fiskene i, i båden . Troede lidt at fange fiskene ville ske pr. Automatik . 1: røgen – der hvor man sluttede/startede, 2 fuglene, 3 solnedgangen, 4 ikke lige noget der stikker ud . Så 1.3 men ikke 4 . Forventede ikke at han kunne fange spækhuggeren men ville prøve alligevel . Synes pelikanerne var en fin detalje . Antag der var fisk ved fuglene . Lagde først mærke til fisk i vandet ved ålene da han kigger rundt pga. Ingen feedback . Tænkte med det samme ”så skal jeg fiske her” . Lagde mærke til det blev mørkt hele vejen igennem o Tænkte ikke så meget over det

26/4/19 – test 8 m. Kort

. Ser sig ikke så meget omkring . Lægger mærke til kortet til at starte med? . Åbent hav . Ind forbi bakken <- lagde ikke mærke til torskene . Mod røgen <- lagde ikke mærke til rødspætterne . Tilbage forbi møddingen – lagde derefter mærke til tingene i båden (hvoraf f.eks. kortet) . Prøver at fiske lidt uden held . Bliver helt bombarderet af voicelines o Ingen fisk – hjælp – det bliver mørkt – spækhugger . Fangede en torsk . Dårlig slutning . Fangede 3 x torsk . Spillet gik ud på at sejle rundt og fange fisk . Styre spillet krævede lidt tilvænning, men fandt hurtigt ud af det . Gik meget efter bål og røg, gik noget tid før de fandt ud af nu kunne se fiskene i vandet . Forventede et eller andet, ved ikke lige hvad . Kunne måske have brugt lidt hjælp til at nu skulle trykke på tingene i båden samt noget til hvor de skulle hen . Kunne godt lide måden at sejle på . Var ikke umiddelbart noget dårligt . Kurv til fisk, krog, kort med tegning af dyr (vidste ikke hvad den skulle bruges til) . Syntes ikke der skulle være et kort så stort var området ikke . Fik set det han gerne ville se, synes de nåede omkring det hele . 1: røg, 2 fugle 3 bakke 4 træet . Lagde ikke mærke til træet men til de tre andre . Synes ikke han kunne forbinde dem med noget han genkendte . Tog den vej fordi det var den vej spillet startede med at pege . Sejlede mod røgsignalet – pelikanerne var meget sjov – tænkte om det var noget han kunne gøre noget med . Havde fundet noget ved røgen – kiggede mest på røgen . Klikkede ikke på fiskene fordi han ingen fisk have . Ville se det meste af kortet . Han sagde noget med de højeste bakke så det var der . Grinte af at han sagde ”du er dårlig til at fiske” – syntes mest bare det var sjovt . Til at forstå dialekten . Lagde ikke mærke til det blev mørkere mens han sejlede . Undrede sig lidt over hvad spækhuggeren var men tænkte ikke så meget over det

29/4/19 – test 1 m. Tale

. Inten fjernsyn – så please think out loud . Stiller diverse spørgsål til at få tingene til at fungere/kontrols . Får fugle.guide til at starte med . Fanger ål ved fuglene – prøver krog en gang efter at han brugte lysten . Tror det er en slags spyd – ved åbenbart ikke helt hvad han skal . Får ”vend om” voiceline to gange . Usikker på om han kan se røg -> prøver at sejle derhen – tror guideline handler om den

røg han har fundet . Afslutter spillet mens han får "det begynder at blive mørkt" voiceline – dårlig slutning . Har problemer med at fokusere og bliver hurtigt træt syns.mæssigt . Bruger briller og har måske haft svært ved at se hvad der er i scenen . Bliver mere træt i skuldrene end i armene . Fangede 3 x ål . Spillet gik ud på at fange fisk – skal fange to forskellige ål og torsk (tror med et torskenet) – man skal finde ud af hvor fiskene cirkulerede og få dem . Synes det var fint at styre, blev træt i skuldrene så ikke en type oplevelse han ville lægne, måske lidt svært med hvor meget den drejer . Åbningerne i landskabet, usikker på hvor han skulle hen hvilket forvirrede ham meget, ved ikke om det var fordi han missede noget eller om han bare ikke kom derhen . Prøvede at komme et sted hvor . Ville gerne have mere om hvilken vej han sulle – ville gerne have haft et kompas sp han f.eks. kunne finde hvor nord og syd var . Kunne godt lide den information der blev givet . Kunne forstå det, men accenten var lidt for tyk, ville gerne kunne læse det eller skrue lidt ned for accenten . Der var tidspunkter han prøvede at trykke hårdere for at seje hurtigere, ingen sted fornemmelse, ville gerne have mere informationerne om f.eks. båd eller lign. Ville også gerne have det visualiseret mere . At kunne se tingene i museet ville nok være motiverede hvis spillet var lige ved siden af . 1: båden + hvad han troede var et træ, 4 øer med træer, 2 fuglene, skov, en regnbue 3 solen (usikker på om han så den) . Røgsky, fugl, solen, træet/øen . Så 1 og 2, kan ikke huske at have set 3 eller 4 . Var ikke nogen grund til han startede ved fuglen, var på vej et sted hen og tog en 180 graders vending for at kunne det . Så noget i vandet men usikker på om det var tang eller fisk . Var usikker på om han selv skulle fange fisk eller ej, så prøvede på at klikke på fiskene etc. . Prøvede at komme out of bounds fordi han troede det var indtan til et nyt område (kunne godt se det var underligt da han kom derved over) . Lagde ikke mærke til det progressivt blev mørkere . Var usikker på om han havde mulighed for at vende om fra at have klikket på damen . Voiceline gjorde det tydeligt at han kunne have vendt om, men det var lidt som om den blev skippet . Kunne ikke se hvad krog var, klikkede på den af nysgerrighed

29/4/19 – test 2 u. Kort / u. Tale . Lægger først mærke til damen på møddingen o Trykkede på hende to gange . Prøver igen 13:21 . Starter mod røg o Pelikan event – "[de har nogle flotte næb] ja det må jeg jo tage dit ord på" . Troede det ville gå hurtigere ved at spamme knappen . Prøver virkelig at komme indtil røgen . Fanger rødspætter -> usikker på om han fangede den . "vi går bare fra ø til ø" <- bakken er ikke lige en ting han ladge mærke til . Prøver at fange spækhuggeren . Ser fuglene i horisonten, tjekker bakke området . Fanger kun en torsk . Mener fugl = fisk . Fangede 1x rødspætte, torsk og ål . Syn en smule sløret . Spillet gik ud på at seje ud og fange fisk fra rundt omkring samt lære hvordan man fangede dem . Styre let nok, båden var lidt langsom, specielt pga hvor langt der var fra hinanden, ville gerne kigge rundt, men kunne ikke mens han sejlede . Synes der var nogen mærker rundt om f.eks. røgen og fuglene, var et andet sted hvor der var et indhug som han så tjekkede . Ville gerne have haft mere hjælp første gang – så en person og tænkte dem skal jeg nok også interagere med, var tydeligt hvordan tingene kunne og ikke kunne bruges . Tog lidt tid at regne ud hvordan der skulle interageres med fiskene – troede det var ngoet der skete automatisk eller ved at klikke på ham . Kunne godt lide at man kunne kigge rundt og se steder der nok kunne interageres med så intergøre med det . Det ikke at kunne kigge rundt, fu-

glene lidt usynlige – var noget med skærmens . Synes røgen var helt tydelig, men lagde ikke mærke til fuglene, måske en bedre indikator rundt om den, eller bare flere af dem . Mener personen sagde han ikke fik set alt – taler nok om flere fisk o Ville prøve igen for at finde ud af hvad han missede . Lagde ikke mærke til det blev mørkere før han nævnte det, havde mest bare kigget rundt før det . Glad for han blev advaret så han kunne forkusere, men ville hellere have fortalt specifikt hvad han manglede, kunne ikke helt se hvorfor det skulle slutte som det gjorde . 1 røgen, 2 fuglene, 3 ikke noget der rigtig skiller sig ud anden end solen, 4 træet (fordi det står meget for sig selv) . Brugte ikke solemn til at finde ud af hvor han var da han synes han godt kunne huske det . Ved han har været ved 1 og 3, usikker på 4 tror det var der kurven var, tror han var ved 2 enten der hvor de fløj over ham eller i cirkler . Synes de passede med farten pga den højre bakke og naturlige indgang . Var droppet i en båd med en tilfældig person så første tanke var at finde et sted han kunne interagere ed først – i anden gang var det at se efter pejlemærker og røgen var langt det bedste . Tænkte ikke over pelikanerne – de var et nice touch . Fiskene lyste op og hvis ting lyser op tænkte han at han kunn interagere med den – blev forvirret over hvorfor det ikke fungerede – prøvet spyddet fordi det var det største . Ville gerne have muligheden for at kunne se i kruven – tænkte der måtte være mere end en type fisk så ville ud og opleve mere – troede ikke man kunne fange mere end en . Troede man kunne fange spækhuggeren, eller i hvert-fald prøve . Tænkte ikke over at spækhuggeren ikke er normalt i dansk farvand . Fuglene meget klar indikator på fisk . Havde tankegangen at der måtte være noget ved øerne, mest den naturlige indgang ind i et område som fangede ham . Det at fisk lyste op påvirkede ham – det at det lyste op sorgede for han kunne se dem og at han troede de kunne interageresmed . Tror ikke han havde set den hvis de ikke lyste op, måske have prøvet at fiske ved fuglene men ellers ikke

29/4/19 m. kort

. Starter med at seje lidt ud og kigge sig omkring . Tager mod åbent hav til at starte med . Stadig akavet at vende ved bakken . Ser torsk i vandet – lader til at prøve at klikke på/seje henover dem . Klikke først på kortet derefter på krogen . Sejler rundt om bakken og ud <- spækhugger event . Finder fladfisk . Sejler ind i bugt tæt på fladfiskene . Prøver at kigge på kortet når det er mørkt . Prøver at afslutte spillet selv, men det bliver afsluttet automatisk først . Fangede 3 x torsk og rødspætter . Spillet gik ud på at seje rundt og fange fisk med forskellige redskaber man kunne bruge – lagde først mærke til kort men var usikker på hvordan man skulle bruges til at starte med, de to andre skulle bruges til at starte med, de to andre skulle bruges til at fange fisk – kunne godt lide det blev mørkere i løbet af spillet (lagde mærke til det) . Synes det var fint at styre, skarpe sving lidt svært men hvad man kunne forvente fra en båd . Stadig ud mod åbent hav fordi han tænkte det var da man skulle starte med at finde det . Kunne godt lide det at udforske samt de event der skete og omgivelserne . Føltes frameraten var lidt lav . Fik set en del, men der var stadig en del han følte han kunne udforske (gå ud fra de er 3 forskellige fisk) . 1 røgen, 2 fuglene, 3 solen, 4 træ større end normale træet . Fik set fuglen til sidst, tror han så røgen, så solen, men ikke træet . Kunne ikke se noget spændende til at starte med, vendte om efter at have sejet lige ud og fandt så derfra fisken . Da han fandt ud af at fiskene var meget tydelige kunne han slappe lidt mere af i øjnene . Spækhuggeren gav lidt mere en grund til ikke at

sejle længere ud – også spændende at vide der er en . Tænkte mest på pelikanerne fordi manden i båden snakkede om dem, tænkte ikke at de havde nogen dybere mening . Det at man skulle hjem fik ham til at tænke lidt mere over hvor hjemmet er og ikke at komme for langt væk . Kiggede på kortet for at se rundt . Kortet lidt u tydeligt, men kunne godt tyde det lidt med fugle og ål

30/4/19 – test 1 m. Tale

. "oh he is shiny" . Griner af mogens – "jeg vil gerne fange hende der" <- peger på kvinde på møddingen . Pelikan.event mod røgen – fik et chok blev overrasket . Vender om mod bakken pga voiceline . Spækhugger event . Ser fisk i vandet . Kunne ikke fiske oven på nogle af dem . Tog brillerne lidt væk og tog en dyb indånding . Tjekke hvad lysten var og fangede . Tog endnu en pause . Fugle.linje – fanger ål . Prøvede at fange en fjerde ål . Stadig lidt akavet med hvor mange voicelines der kan komme efter hinanden . Fangede 3 x torsk og ål . Har aldrig prøvet VR sickness før, men begyndte at få en smag på det her . Gik ud på at hun var fra et ertebølle samfund og skulle ud og fiske for sin stamme, sp skulle finde ud af hvor fiskene var med nogle visuelle quest eller fra Mogens . Forstod ikke sidste fiske hint (træet) . Var nemt nok at styre, fik ikke presset hårdt nok de første par gange . Synes ikke hun fik for meget hjælp, synes det var fint han fortalte om dyrelivet, det eneste hjælp hun syntes hun manglede var det sidste fiskehint . Startede mod røgsøjlen fordi den så interressant ud, tog til bakken fordi han nævnte den og derefter var det mest guidance . Syntes det var fint han guidede . Synes der er en hyggelig stemning, interaktivt med tydelig mål i spillet fin fort på båd . Fik lidt kvalme var ikke sikke på hvornår hun egentlig kunne fisk om hun var det helt rigtige sted eller ej . Påvirkede hende at hun egentlig kunne se fiskene der var noget tydelig . Fik ikke udforsket det hele, ville gerne udforske lidt mere . 1 røgsøjlen, 2 fugle (ved ikke hvilken slags), 3 solen, 4 stort træ . Så 1 (var ikke derhenne), var ved 2 og 3, kan slet ikke genkende 4 . Trykkede på kvinden fordi hun stod der og var tydelig . Var ikke forberedt på pelikanerne var nok dybt inde i spillet til at sige "uh!" (overrasket) . Vidste godt der var en spækhugger, synes det var tydeligt den ikke kunne fanges . Synes eventsne hjalp til at gøre verden lidt mere levende . Prævede ikke at fiske ved spækhuggeren fordi hun ikke kunne se nogle tegn på fisk . Blev lidt kalm . Ikke nogen grund til at sejle tilbage til verden frem for det åbne hav, nok fordi hun havde set fisken på et tidspunkt . Lagde først mærke til det blev mørkere da han nævnte det . Lidt usikker på hvor meget tid hun egentlig havde

30/4/19 – test 2 u. Kort / u. Tekst . Griner også lidt over stemmen . Tog lige lidt at fange kontrolls – trykkede påknappen frem for at holde dem nede . Start med åbent hav til venstre for bakken . Sejlede direkte tilbage og vender mod røgen . Prøver lysten lidt tilfældigt – "ah" . Lægger mærke til fladfisk på god afstand – "there's fishies" . Prøver krogen . Sejler tilbage til møddingen – siger nej til at slutte spillet tidligt . Lægger mærke til det bliver mørkere så overvejede at tage tilbage, men mogens linje får hende til at lede videre . Fandt ålerusen . Fandt gråsæl inden spillet sluttede . God slutning . 3 x rødspætter, 1 x åleruse . Spillet gik ud på at samle fisk "går jeg ud fra" – fandt ingen torsk – meget mere hvordan interaction foregik . Styring af båden virkede intuitivt nok, blev lidt "eurght" til sidst (kiggede for meget) . Skulle ok have kigget lidt mere grundigt rund i starten, startede bare

med at seje af sted fordi hun tænkte "nice" . Til at starte med var huin lidt "hvor skal jeg hen" – mangler lige en "den her retning er en god ide" . Kan godt lide fuglen der flyver rundt, Mogens kommentater til ting, at tid var implementeret . Synes det hjalp at give spillet en tidsbegrænsning . Havde kun problemer med generelle vr ting og manglede noget hjælp helt i starten . Kunne godt have brugt mere tid, ville spille igen hvis ikke andre i kø ved museum . 1: lægger egentlig mærke til båden, nu ved det er røgen, 2 fuglene, 3 solen, 4 træ – lagde dog kun mærke til ruse . Lagde ikke mærke til bjerget inde i spillet . Kunne godt finde rundt, havde en god ide om hun var henne mens hun spillede . Lagde ikke mærke til hun kiggede skævt, tog brillerne lidt væk fra øjnene til sidst osom hjalp med skarpheden . Prøvede krogen for at se hvad det var – inferred fra Mogens så også at der var ål og torsk at fange . Ville nok først have afleveret fiskene hvis hun havde fundet en af hver – sejlede hjemad fordi hun så et båæ . Havde ikke været ved åæruse pmrådet før så kom bare den vej forbi for at udforske . Kunne ikke se sæler – "var det det han snakkede om?" . Han sagde der ikke var nogen fisk her, men fangede ikke lige hvorfor . Lidt disorienterende at blive teleporteret hjem på den måde . Da det blev mørkere fik hun at vide at hun ikke havde fisk nok men rart at få at vide hun fik nok i slutningen . Ville dog stadig prøve igen

30/4/19 – test 3 m. Kort

. Starter mod åbent hav til højre for bakken -> venstre for røgen . Pelikan event – kigger på røgen til højre . Seljer venstre og rundt om den lille ø . Baglæns ind i spækhugger event, ser den ikke . Prøver at fange fisk sådan ret tilfældigt . Kiggere på kortet og prøvede så lige at fange noget uden held . På vej mod åbent hav . Sejlede tilbage til mødding . Kigger igen på kortet, kom hele "ingen fisk her "arrayet igennem . Fandt ingen fisk . Spillet gik ud på at fange nogen fisk og måske at skulle kigge på kortet . Havde ingen strategi før det blev for sent – troede i starten at han måske ville sige noget indtil han lagde mærke til man kunne klikke på ting i båden . Synes styringen var okay, men blev træt i armene og havde svært ved at dreje skarpt . Ville gerne have haft noget mere hjælp – for eksempel at skulle klikke på kortet eller noget der pegede på hvor der var . Synes det var sjovt at seje rund og kunne være spændende egentlig at fange noget . Synes det var ærgeligt at han ikke kunne komme ind til de ting der var på land . Prøvede bare at tage det det fra en ende til den anden nu når han ingen hjælp fik . Fik ikke set det hele (fangede ingen fisk) . Havde ret god ide om hvor tingene lå o.l. . Tænkte at hvis man skal finde nogen fisk så ud på dybt/åbent vand . Røgen så vigtig ud, så ville lige tjekke det . Pelikan eventet fik det til at virke mere levende /mindre statisk . Prøvede at klikke til en start fordi han troede det hele bare var en ting . Forstod ikke kortet, noget der lignede nogle fugle og noget der lignede fisk nu havde svært ved at få det til at hænge sammen . Så ikke spækhuggeren blev ikke så påvirket andet end at verdenen virkede levende . Lagde mærke til at det blev mørkere – troede bare han var ved at blive træt i øjnene – påvirkede ham i det at kortet blev sværere at læse . Kiggede nede i vandet for at se o han selv kunne finde nogen . Hvis han kunne se nogen stimer ville det hjælpe

30/4/19 – test 4 m. Tale

. "står en inde på land den her gang også" . Sejler til bakken og finder torsk . Ser fisk i vandet og prøve at klikke på dem? . Finder spækhugger event – kigger

efter fisk til højre for bakken . Pelikan event – spil hakkende under bjørnsholm hjælpe line . Finder rødspætter – der ud til at tekke hvor mange der er efter hver fangst . Sejler forbi mødignen og få tre voicelines, lige efter hinanden o Hjemme igen -> bliver mørkt -> åleruse hjælp . Tømmer ålerusen . Fik gråsæl event – fik ikke fanget ål ved fuglene . Fangede 3 x torsk og rødspætter, 1 x åleruse . Spillet gik ud på at sejle rundt og fange nogen fisk . Styre var rigtig nemt og indikationen for om man nu kunne klikke på ting var læerer, nemt at spille . Synes det var ligetil at finde ud af hvor man skulle hen ad, fik ikke for meget hjælp . Sejlede til at starte mod en stor bakke for de så interessant ud, så hvis ikke fra et tale.tip fokusere han på landmarks . Kunne godt lide at sejle rundt . Ville gerne kunne fiske selv, ville også gerne have lidt mere grafisk kvalitet men ser det er svært . Næsten, det var noget han ikke lige nåede til sidst . 1: røgen, 2 mågerne, 3 stor (sand) bakke, 4 træet . Ikke helt sikker på hvor fuglene er men synes han sp det hele . Ser rund bare for orientering . Vidste jo det handlede om at fange fisk, så det at kunne se dem var sådan "det er mit objective" . Havde tænkt han selv skulle smide krogen i og trække den op . Ville gerne fange spaekhuggeren, men klar message om han ikke kunne . Spil.logik med events der ikke gav noget betydning som regel der ikke er noget . Fangede ikke hele bjørnsholm voice.line troede måske de havde et net eller noget han kunne stjæle fra . Synes pelikanerne var gode, gjordet hele lidt mindre monoton . Kiggede i vandet bar for at prøve at finde nogle fisk . Havde en klar forventning om at når han havde set fiskene et sted ville han kunne se dem et andet sted . Synes så ålerusen i horisonten så ville tjekke den for lige afhente fiskene . Synes accenten var tyk, men forståelig – i værste tilfælde får man stadig nøgleord . Så ikke sælerne. synes guiden vedste sig lidt så tænkte de var i den retning . Lagde mærke til det blev mørkere – kun en idflydelse i at det sværere at se noget . Sælerne virker lidt som en "edge.bouncing" til at gjælpe dig med ikke at spille tiden . Lidt irriterende ikk at spillet stoppede det, men ikke motiveret nok til at prøve igen