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CREATING A LOW BUDGET ADVERTISEMENT VIDEO FOR A GAME COMPANY

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BACHELOR'S THESIS | ABSTRACT

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CREATING A LOW BUDGET ADVERTISEMENT VIDEO FOR A GAME COMPANY

The main goal of this thesis was to study what people generally find appealing in advertisement videos that are made for the game industry with minimal budget. The study includes two videos designed for the Turku Game Lab as an advertisement video. The two videos are almost identical, the only difference being that the other video features an animated 3D model. With the help of Internet surveys and interviews a study was conducted to find out which one of the videos, the audience found more appealing.

The focus of this study is in the process of making a small budget advertisement video for a game company. In the project, Blender was used for the 3D modeling and animation software. For the video editing, Adobe Premiere Pro CC 2018 program was used. The advertisement videos feature the Turku Castle Application.

Based on the results gathered from the interviews and the Internet survey, it can be said that the advertisement video without the animated 3D model was more appealing. The video with the 3D model didn't add anything new to the video, which was thought to be enough on its own.

KEYWORDS:

3D modeling, game industry, video editing, animation,

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PELIALAN MAINOSVIDEON TEKEMINEN MINIMAALISELLA BUDJETILLA

Opinnäytetyön aiheena oli tutkia, mitä ihmiset pitävät mielenkiintoisena pelialan mainosvideoissa, jotka on tehty minimaalisella budjetilla. Tutkimus sisältää kaksi mainosvideota, jotka on tehty Turku Game Labille mainosvideoiksi. Mainosvideot ovat muuten identtiset, mutta ainoana erona oli, että toinen mainosvideo sisältää animoidun 3D-hahmon. Nettikyselyllä ja haastatteluilla selvitettiin, kumpi videoista on ihmisten mielestä miellyttävämpi.

Tutkimus keskittyi pienibudjettisen mainosvideon tekemiseen pelialalle. Työssä käytettiin 3D-mallinnusohjelmaa Blenderiä sekä videoeditointiin tarkoitettua Adobe Premiere CC 2018-ohjelmaa. Videoiden aiheena oli Turun linna-applikaatio.

Nettikyselyn ja haastatteluiden perusteella voidaan todeta, että Turun linna-applikaation mainosvideon versio ilman animoitua 3D-hahmoa koettiin miellyttävämmäksi. Mainosvideo ilman 3D-hahmoa koettiin suositummaksi, koska video koettiin riittävän itsessään, eikä 3D-hahmo tuonut siihen lisäarvoa.

ASIASANAT:

3D mallintaminen, peliala, videoeditointi, animointi,

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LIST OF ABBREVIATIONS

3D	three-dimensional
2D	two-dimensional
RGB	Red, green, blue color coding system used on a computer display (Whatls.com, Margaret Rouse, 2005)
YUV	“The color encoding system used for analog television worldwide (NTSC, PAL and SECAM).” (PC, YUV, 2018.)
NFSU2	Need for Speed Underground 2, video game by Eletronic Arts. Published in 2004 (Wikipedia, Need for Speed: Underground 2, 2018)
TGL	Turku Game Lab
GPU	Graphics Processing Unit (Blender, 2018)
PBR	Physically Based Rendering (Blender, 2018)
HDR	High-dynamic-range (Blender, 2018)
VR	virtual reality

1 INTRODUCTION

Creating a trailer video for a game can be an efficient way to advertise a game. For low budget game companies making an advertisement video for their game can be difficult. The Internet offers many templates and software for creating a promo video. YouTube is filled with tutorials on how to make a good video game trailer, but they often lack the perspective on the use of animated 3D models.

This thesis offers a brief overview on how to create interesting advertisement videos for a video game. The thesis mainly focuses on the use of animated 3D model(s) in videos, but also discusses other aspects of creating a video that appeals to a larger audience. The advertisement video used in this thesis as an example was created for the Turku Game Lab.

The thesis covers the basics of 3D modeling with Blender and introduces some of the most popular 3D modeling and animation software. The main purpose was to determine how to create an appealing advertisement video with minimal budget.

To study, whether people generally like the use of animated 3D model(s) in an advertisement videos created for the game industry, interviews and a survey were conducted. The interview and survey questions were then analyzed and combined into a short deliberation.

The animated 3D model was modeled, textured and animated on Blender. Blender was chosen for the 3D modeling software since it is a completely free program. The video itself was cut, edited and rendered on Adobe Premiere Pro CC 2018 software. Special effects such as animated text boxes were created using Adobe After Effect 2018. The final parts of the thesis cover the workflow of the project of creating the Turku Castle Application advertisement videos for Turku Game Lab.

2 PRODUCING AN ADVERTISEMENT VIDEO

“An advertisement is meant to grab attention, garner interest, and get people excited about what you do. It is a teaser designed to draw in potential customers.” (Demo Duck, 2018)

When creating an advertisement video, it is important to have an objective. There are multiple platforms for video marketing, varying from mobile phones, TV to the Internet. On average the viewers will watch the video for no more than 2 minutes if they find it interesting. It is important to create an ad that is long enough to tell the message but sententious so that the viewer does not lose interest (Exact Drive).

2.1 Stages in video production

Video production can be divided into three different stages: pre-production, production and post-production (Catmedia, Amy Ferzoco, 2015). Each phase has its importance in video production. Pre-production is all about setting everything ready. In the production phase the materials and assets are gathered and finally in post-production through cutting, editing and finalizing the final product is complete.

2.1.1 Pre-production

Pre-production is the first stage in video production. Pre-production is the stage where the planning takes place. Pre-production covers everything from making a project schedule to obtaining the equipment required. Writing a script is not mandatory but often recommended. Having a well-thought script makes it easier to gather materials in the production stage and therefore it saves money and time. Storyboarding is also a good way to organize and plan the footage shooting which helps in the post-production stage. Storyboarding is a draft that forms of images and texts, and helps to organize the contents (UC Berkeley, 2016). Storyboards are useful when there are multiple people working on the project. The pre-production stage also includes the casting and location scouting and obtaining it. The budget of the production is also planned in the pre-production phase (Camp, 2013).

2.1.2 Production and Post-production

Production stage is the stage of action. The main goal in this stage is to gather the materials or assets for the project that were planned in the pre-production stages. Staying within the schedule and budget is one of the key points in production. If the final product is to be an animated movie, this is the phase where animations are created.

In post-production, all the gathered materials are edited into a final product. This phase usually includes cutting, adding sound or sound effects, creating special effects and adding final touches. In the post-production phase the materials and assets are assembled into a final product with the help of the script and story boards created in the pre-production stage. (Ferzoco, 2015.)

2.2 Tools and Programs

There are many video editing software available with continuously improved and updated features. Each year new components and templates are added as the technology advances. Video editing software are becoming more user-friendly towards non-professional video editors (PCMag UK, 2018). The Internet is also full of easily accessible media and tutorials which make learning how to use video editing software and its functions simple. This chapter introduces four different video editing software that were taken into consideration during the project work.

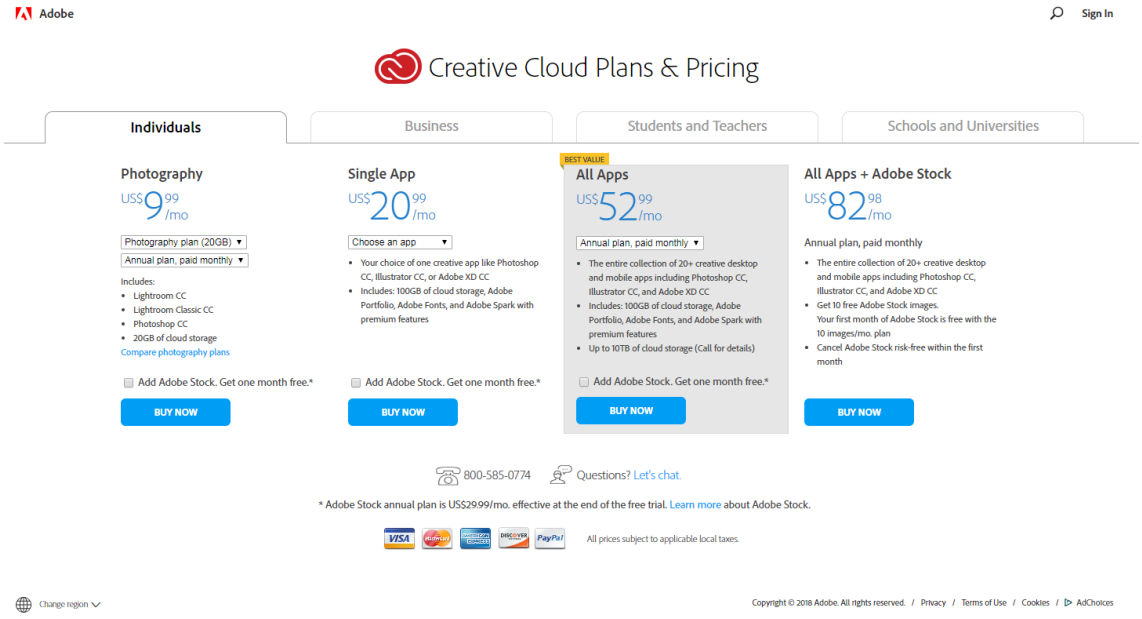
2.2.1 Adobe Premiere Pro

Adobe is one of the most easily recognizable names in the video production industry. Adobe Systems Incorporated was founded nearly 36 years ago by John Warnock and Charles Geschke. Adobe is best known for Photoshop but also has multiple other software and programs such as the video editing software Premiere Pro and special effects program After Effects.

Adobe Premiere Pro was launched in 2003 as a successor to Adobe Premiere. Premiere Pro supports up to 10 240 x 8 192 resolution in high resolution video editing and up to

32-bits per channel color in RGB and in YUV. Premiere Pro also has audio sample-level editing with 5.1 surround sound mixing. Premiere Pro is used by professionals as well as enthusiasts. Adobe Premiere Pro comes with a free trial and Adobe has a comprehensive website that provides useful tutorials, news and support. (Wikipedia, Adobe Premiere Pro, 2018.)

Adobe sells four different packs for individual buyers (Picture 1.): Photography, Single App, All Apps and All Apps + Adobe Stock. The All Apps pack is the most popular and it comes with the entire collection of Adobe's apps and cloud storage space (available on Windows and Mac). The current price for Adobe's All Apps pack is 61,99 € per month (or annual subscription 743,85 €). Companies, educational facilities and students are entitled to a discount (Adobe, 2018). Adobe's All Apps pack is quite expensive compared to other software, but it is an industry standard video editing tool (Creative Bloq, 2018).



Picture 1. The Adobe's Individuals packages (Adobe, 2018).

2.2.2 Final Cut Pro X and iMovie

Apple's iMovie is a video editing software that was first published in 1997. After six years of its first release, the software was made free and is now available for all Mac computers as well as devices that use iOS (Wikipedia, iMovie, 2018). iMovie comes with multiple themes, styles and titles that are easily implemented on the video material. Both iOS and Mac versions can handle 4k resolution video footage. iMovie has built-in sound effects

and sounds. The appearance of the video can be changed effortlessly due to numerous filters and special effects (Apple, iMovie, 2018).

iMovie has the basic video editing software features such as color correction, cropping and speed alteration (Wikipedia, iMovie, 2018). iMovie is a great software for beginners since severall tutorials are available for it: for the more experienced user, Final Cut Pro X might be the better option.

Final Cut Pro X is one of the best video editing software for Mac users. Final Cut Pro X was released by Apple Inc. in June 2011 (Wikipedia, Final Cut Pro X, 2018). It is a powerful software with features like multicam editing, magnetic timeline and 360-degree video editing. The multicam editing can handle up to 64 different angles and using the magnetic timeline, clips snap into place easily (TopTenReviews, Danny Chadwick). Apple's Final Cut Pro X has intuitive color grading and an extensive variety of components to improve, modify and manipulate colors (Apple, Final Cut Pro, 2018).

Final Cut Pro X comes with a free 30-day trial. It can also be purchased from Mac App Store for 299,99 $ (256,71€) (Apple, Mac App Store Preview, Final Cut Pro, 2018). Final Cut Pro is owned after the purchase, it does not come with a license that expires after a year like Adobe Premiere Pro does. The Final Cut Pro can also be registered and installed on 5 different computers.

2.2.3 Lightworks

Initially released in 1989 by EditShare, Lightworks is a video editing software that uses non-linear editing system (Wikipedia, Lightworks, 2018). Lightworks is available in two different packages: the free license version and the paid version called Lightworks Pro. Even though it has the free version, Lightworks is also recommended to more experienced video editors. Tutorials can be found easily on the Internet and the online community makes learning easier.

The Lightworks free license version does not affect the usability in any way. It comes with the basic features and covers the essential needs for video editing. The only downside of the free license version is that some exporting formats are limited to the Lightwork's Pro version such as the 4K video format (Lightworks, Features, 2018). Lightworks Pro is a powerful video editing software with advanced features such as

real time effects, multicam editing and multiple built-in presets (techradar, Cat Ellis, 2018).

Lightworks is available for Windows, Mac and Linux. Lightworks Pro cost monthly 19,99 € and a one-year license costs 134,99 € (Picture 2.). The Lightworks Pro can also be purchased as an outright license, which adds Boris FX and Boris Graffiti packages to the software. These packages increase the content for the Lightworks Pro, adding several new features and effects to it. With the one year license, the user can choose one of the packages with the software as well (Lightworks, Shop, 2018).

Picture 2. Lightworks Pro's license prices (Lightworks, 2018).

2.3 Advertising in the Game Industry

“Marketing is based on thinking about the business in terms of customer needs and their satisfaction.” (Business Dictionary, 2018).

Marketing is an essential part of any product’s lifespan. With a good marketing strategy, the product can be pointed to the right audience: to the target group, improving the brand’s name and the products sale. The idea of marketing is to draw attention to the service or the product and the company behind it.

Over the years, the video game industry and marketing have increased tremendously in value. The estimated value for the video game market by the end of 2018 is at 115,8 billion dollars (Tucker, 2017). The number of gamers is around 1,8 billion in the world, creating a huge audience for advertisements (MyGaming, 2016).

Some of the most commonly used marketing techniques are: social network/media marketing, advergaming, pre-order, free to play, early access games and trailers. This chapter contains short overviews on the previously mentioned marketing techniques in video game marketing.

2.3.1 Social Network Advertisement

Social network advertisement is a form of online marketing. Some of the most popular social media marketing sites are Twitter, Facebook and YouTube. Devices gather information and use stored data from social network to constitute an ad that best suits the user's interest. Some of the information can be for example the user's location, age and/or gender. User-generated content such as posts and writings on forums also present retailers more content to the advertisement of their service or product (Wikipedia, User-generated Content, 2018). Since 51% of the world's population has access to the Internet as of June 2017, online marketing has become an efficient and crucial part of marketing in the video game industry (Wikipedia, Global Internet usage, 2018).

2.3.2 Advergaming

Advergaming is an interactive and internet advertising trend (All Academic Research, The Different Types of Advertising in Games). Advergaming (advertisement gaming) can be divided into three main sections: illustrative, associative and demonstrative. Illustrative advergaming shows the actual product or the logo of the company (Picture 2.), where as in demonstrative advergaming the marketed product can be, for example, worn on the player's character (Picture 4.). In associative advergaming the player sees, for example, a poster on the wall while being in a tavern. The player then associates the made-up scenery with the poster (The Behaviorists, Advergaming, 2014).

Picture 3. Example of illustrative advergaming in NFSU2 (Need for Speed: Underground 2, 2004).

In-game advertising can be as subtle as having a small can in the game with a brand's label printed on or it can be bombastic and eye-catching such as commercial video within the game. The advertisement can appear during transitions while the game loads (How Stuff Works, 2018).

Picture 4. Demonstrative advergaming marketing with Nike's glove (Tiger Woods PGA Tour 08, 2007).

Using in-game advertisement can be a profitable choice to make, but the downside to this type of marketing is that people might also create negative associations. The overwhelming amount of in-game ads turns into annoyance, making the ads to lose their effectiveness. Adding a website address into the game is a good way to interest people to search for the site without being too aggressive.

2.3.3 Pre-Order

Pre-order game is a commitment. Gamers invest money before the release to obtain a certain copy of the game. Usually when pre-ordering a game, the customer is entitled to receive bonus content, for example a figurine.

Before pre-ordering, companies have to find a way to raise customer awareness. This can be achieved with the help of social media and alerting the fan community, so that game companies can spread the news even before the pre-ordering is available (Scale Fast, 2018). Pre-order marketing can be a risky method of promoting a game: fans build up high expectations and if those expectations are not met, it might result in bad publicity (Blasting News, 2017).

2.3.4 Early Access and Free to Play games

A good method to start marketing a video game with a minimal or no budget is to release an early access version of the game. Releasing an early access game might attract potential customers and/or sponsors. With the game still in progress, the developer(s) can gather feedback and/or bug reports on the game.

Another option is to share the game as a free to play game on Steam. Created by Valve Corporation, Steam is an entertainment platform for playing and buying video games (Steam, 2018). Releasing a free to play version of the game is customer friendly: gamers have the opportunity to experience the game without having to pay for it. Free to play games might have upgrades, which can be bought in exchange for money. The game can also be released later as a full version.

One method to earn money with a free to play game is to add the option to support the developer(s) financially. Even if the game is totally free without any additional buyable content, sharing it increases the company's reputation. The game genres that usually benefit the most are platformers, multiplayer and sandbox games. (Jaleo, 2018).

2.3.5 Trailers and teasers

Video game trailers and teasers are often cinematic videos that introduce a new game. Teasers are shorter and less informative as full-length trailers. Using trailers and teasers in video game marketing is an effective method to sell a game, if done properly.

A good trailer is not too lengthy but long enough to send the message. The recommended maximum length for a trailer is around 60 seconds. The first 10-15 seconds are the most important part at setting the tone of the trailer and getting the viewers interested. The sounds and music heighten/supports the videos mood - to set the pacing (Vanilla Forums, 2017).

Creating a trailer with amazing footage isn't enough, if the music does not fit the footage or if the trailer is too long, the trailer will not have the desired impact on the viewer. Additionally, posting images and gameplay footage alongside with the trailer might awake the viewer's interest.

3 GRAPHICAL CONTENT

“The process of graphic designing involves combining technological, aesthetics and creative thinking to generate graphically communicative ideas.” (Chaitrali Datar, 2017)

Graphical content in advertisement can be anything from images to text and everything in between. Creating visuals and graphical content is a lot more than just aesthetics. It is what happens when analytics and creative thinking are put together. Creating graphical content is the designer’s way of telling a message. The message can be a logo, leaflet or a layout among other platforms. A good graphic designer can tell a story through a picture (I Knowledge Factory, 2017).

Graphics are an essential part of efficient marketing. Graphic designer conveys a company’s identity and constructs the company’s brand image through graphics. A strong representation of a brand makes companies stand out and it makes them more recognizable. Graphical design helps people to better fathom the content (B^2 Interactive, Aaron Mackel, 2013).

3.1 Marketing with 3D models

“Three-dimensional (3D) models represent a physical body using a collection of points in 3D space, connected by various geometric entities such as triangles, lines, curved surfaces, etc.” (Wikipedia, 3D modeling, 2018).

3D modeling can be used in different businesses such as architecture, films, animation and in the video games industry. Using 3D modeling in marketing supports the artist’s idea and helps others to see it the way the artist does. 3D model(s) give a more immersive experience rather than a script or a blueprint.

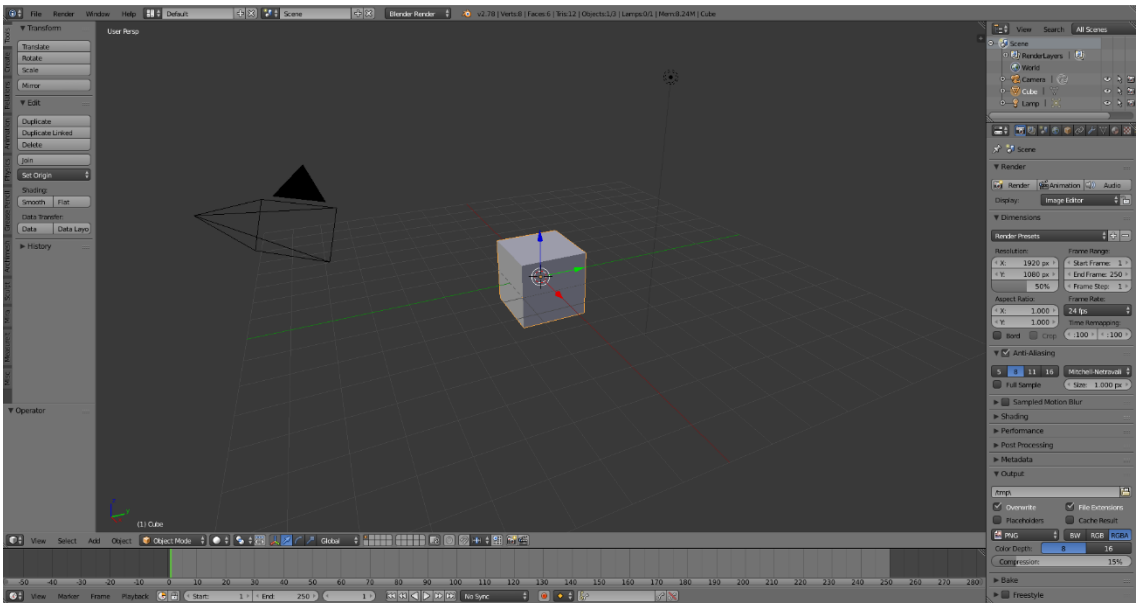
When selecting a 3D modeling software, it is important to find the software that is the most suitable. Some of the criteria that affect the choosing process are: purpose of the project, budget, compatibility with the operating system and the level of the user’s experience (Sculpteo, Marianna Papageorgiou, 2018).

3.1.1 Blender

Blender is a free open-source 3D modeling software with an impressive set of features such as: sculpting, modeling, animation, video editing, texturing, rendering, motion graphics, among others. Blender was first released in January 1998 and since August 20th, 2003 it has been free and open-source program. Blender is available for Windows, Mac and Linux with both 32-bit and 64-bit versions (Wikipedia, Blender (software), 2018).

Blender has powerful rendering engines built-in, one of them being the rendering engine Cycles. Blender can take advantage of the computer's GPU (Graphics Processing Unit) to speed up the rendering process. Blender also supports PBR (Physically Based Rendering) shaders and HDR (High-dynamic-range) lighting which all put together render clean and realistic images (Blender, 2018).

Blender's sculpting feature adds diversity to the basic point box and point pulling modeling workflow. Sculpting is easy to learn and takes less time to finish a 3D model (Advanced Blog, Max Dai, 2018). Blender's add-ons such as smoke and fire simulation expand the user experience and the possibilities even further.



Picture 5. Blender's opening scenery on version 2.78c (Blender, 2018).

Starting to learn how to use Blender can be overwhelming. The interface is often thought to be confusing and hard to master (Picture 5.). Fortunately, social media websites such

as YouTube are filled with tutorials for Blender. Blender also has its own community where fellow modelers meet (Reynante Martinez, 2014).

Blender's strengths are its large variety of features and it being a free program. There are many 3D modeling software that cost money and do not have as many features as Blender has. Blender is a great software for beginners, who are starting to learn 3D modeling and/or animation. Even though Blender is well-known software, it is not considered a standard software (Creative Blog, 2018).

Blender has released a new beta version of the upcoming 2.8 update, which brings changes to the interface and introduces a new real time rendering engine called EEVEE. The full version of the update has been rumored to be published in 2019 (Wikipedia, Blender (software), 2018).

3.1.2 Autodesk Maya

Initially released in 1998 by Alias Systems Corporation (currently owned by Autodesk, Inc.) Maya is a 3D modeling and animation software. It is available for Mac, Linux and Windows operating systems (Wikipedia, Autodesk Maya, 2018). Autodesk Maya is used for example to create movies, 3D models and simulations. Autodesk Maya costs 1984,40 € annually or 248,05 € monthly. Additionally, 2- and 3-year licenses can be purchased. Maya also comes with a 30-day free trial. Teachers and students are entitled to a 3-year free, non-commercial version of Maya (Autodesk, Maya, 2018).

Autodesk Maya is a powerful animation software with multiple features. Maya's advanced motion graphics such as fur, hair, cloth and fluid simulations create realistic effects. Maya offers an extensive set of 3D modeling and UV tools with custom plug-ins (Autodesk, Compare Maya vs. Maya LT, 2018). Maya is the leading 3D software in the film industry. Famous movies such as The Matrix (1999), Harry Potter and the Chamber of Secrets (2002) and Rogue One: A Star Wars Story (2016) used Maya extensively in the production (Wikipedia, Autodesk Maya, 2018).

3.1.3 Houdini

Developed by Side Effects Software Inc in 1996, Houdini is a 3D animation software. Houdini comes with basic functions for a 3D application such as 3D modeling, particle

effects, animation, rendering and lighting system. The software is best known for its use in special effects. Houdini is available for macOS, Windows and Linux operating systems (Wikipedia, Houdini (software), 2018).

Unlike other major 3D modeling software for example Maya, Houdini uses node-based workflow. This means that every activity is reserved in a node and it can be accessed at any point of the project, rather than storing it in a temporary memory like most 3D modeling software do (Filtergrade, Mason Lindblad, 2018).

Houdini comes with multiple packages: Houdini Apprentice, Indie, Houdini FX for artists, studios and Houdini Education. Houdini Apprentice is a free, non-commercial use version of Houdini. It has limited features and is designed for students and hobbyist, new to the software. Houdini Indie is aimed for smaller studios (revenue under 100 000 $) for 269 $ (235,93 €) / per year or in addition; 2-year rental for 399 $ (349,95 €). Houdini Indie has 3 licenses per studio (SideFX, Buy Houdini, 2018).

Houdini FX for artists is a workstation license that does not expire. Houdini Core, which is designed for animators and modelers etc. costs 1995 $ (1751 €). An annual upgrade plan is required to be purchased every year for 995 $ (873,38 €). Houdini FX version of Houdini costs 4495 $ and has an annual upgrade plan of 2495 $. Both Houdini Core and Houdini FX have 5 licenses per studio. Houdini FX for studios offers multiple licenses for bigger companies differing from 30-day rentals to perpetual licenses (Picture 6.).

Houdini Education package is a full-feature version of the Houdini FX and it is intended for schools for educational purpose. Houdini Education license costs 75 $ (65,73 €) per year. It is designed to open files that students have created using Houdini Apprentice (SideFX, Buy Houdini, 2018).

Picture 6. Houdini FX for studios offers multiple licenses (Houdini, 2018).

4 ADVERTISEMENT VIDEO FOR TURKU GAME LAB

4.1 Producing the Turku Castle Application Advertisement Video

The Turku castle application advertisement video was created for the Turku Game Lab. The Turku Castle application was created as a part of Fast Wow Effects Boosting SME Business project and it was funded by Tekes. The project ended in 2017. Lingsoft was also a part of the project: the built-in dictionary featured in the application was created by Lingsoft.

The video is a summary of the project and it advertises the “company” (Turku Game Lab) more than the actual “product”. Turku Game Lab is a learning environment that works under collaboration of Turku University and the Turku University of Applied Sciences. The advertisement video needed to be informative and interesting. The video was constructed from recorded gameplay footage and from footage that was filmed at the Turku castle on two different occasion.

Turku Castle application was created for iOS and Android mobile operating systems but is currently only available in the Turku castle’s tablets. The application itself has a built-in dictionary (created by Lingsoft), ability to scan famous paintings of historically significant people, minigames, VR escape room and a 3D map of the castle, which can be zoomed in and out, rotated and inspected from various angles among other gamified features.

4.1.1 Making the Advertisement Videos

For starters, a mind map was put together to serve as the storyboard’s “core”. To create a timeline for the video, ideas and possible slogans were written on paper and then a path was built between them. Creating a “to-do”-list made it easier to keep track on the progress of the video production. The project owner Taisto Suominen from the Turku Game Lab gave instructions on what the advertisement video needs to include, but other than that there were no limitations or guidelines to the appearance.

New footage was shot on 27th of March 2018 at the Turku castle and it was added to the already existing materials, that shot by another person for the Turku Game Lab. These

materials were then cut, edited and color corrected to suit the video's music and tone. Using clips from the recording of the application and the footage from the castle, a montage was put together.

The advertisement video has two different version: one with an animated 3D model and one without it. The cutting and editing of the video was done on Adobe Premiere Pro CC video editing software.

Adobe Premiere Pro CC 2018 was chosen for the video editing software because it has been previously used by the project worker and Turku University of Applied Sciences offers it for free for the students to use on the university's computers. Adobe Premiere Pro CC is beginner-friendly since tutorials are easily located on the Internet and Adobe offers special prize for their products for students and teachers; when purchasing the license, there's no limitations on the usage rights.

Special effects such as animated titles were generated on Adobe's After Effects 2018 software. The video's title uses the font BaroqueTextJF as the "Turku Castle" part and Lucida Bright Regular in "In Your Hand" part of the title. The BaroqueTextJF was chosen for the font because it resembles calligraphy with its decorative styled characters. The font BaroqueTextJF was downloaded from Adobe Typekit, an online service that offers different fonts for Adobe subscribers.

Picture 7. The title of the advertisement video.

The first 10 seconds shows the logos: the Turku Game Lab logo (that is, the creator of the application). Following the TGL (Turku Game Lab) logo, TEKES and TURKUAMK logos appear since they were collaborating with TGL in this project. Main title is then shown on the screen to captivate the viewer's interest.

The first information the viewer gets after the title of the application is that there's a new and exciting way to explore the Turku castle. The short clip of showing a person's hands holding the map of Turku castle is to show the viewer of the old way and then offering the new and exciting way to explore it by showing the 3D map of the castle. The transitions of the clips from the application were created so that they would move across the screen to make it seem livelier.

Picture 8. Scene where one of the app's features are presented.

The video continues showing clips of actual real-time footage from the castle and recorded footage of the application. As the video progresses so does the music. The first 20 seconds are moodier and has a slow tempo. As the tempo rises, the clips are fitted to the beat of the music for seamless merger between the video and the music.

The music has an upbeat tone to create an atmosphere that gives the viewer the illusion that the Turku castle application is refreshing and exciting. If the video had a more melancholic tone to it, it would send the viewer the wrong message.

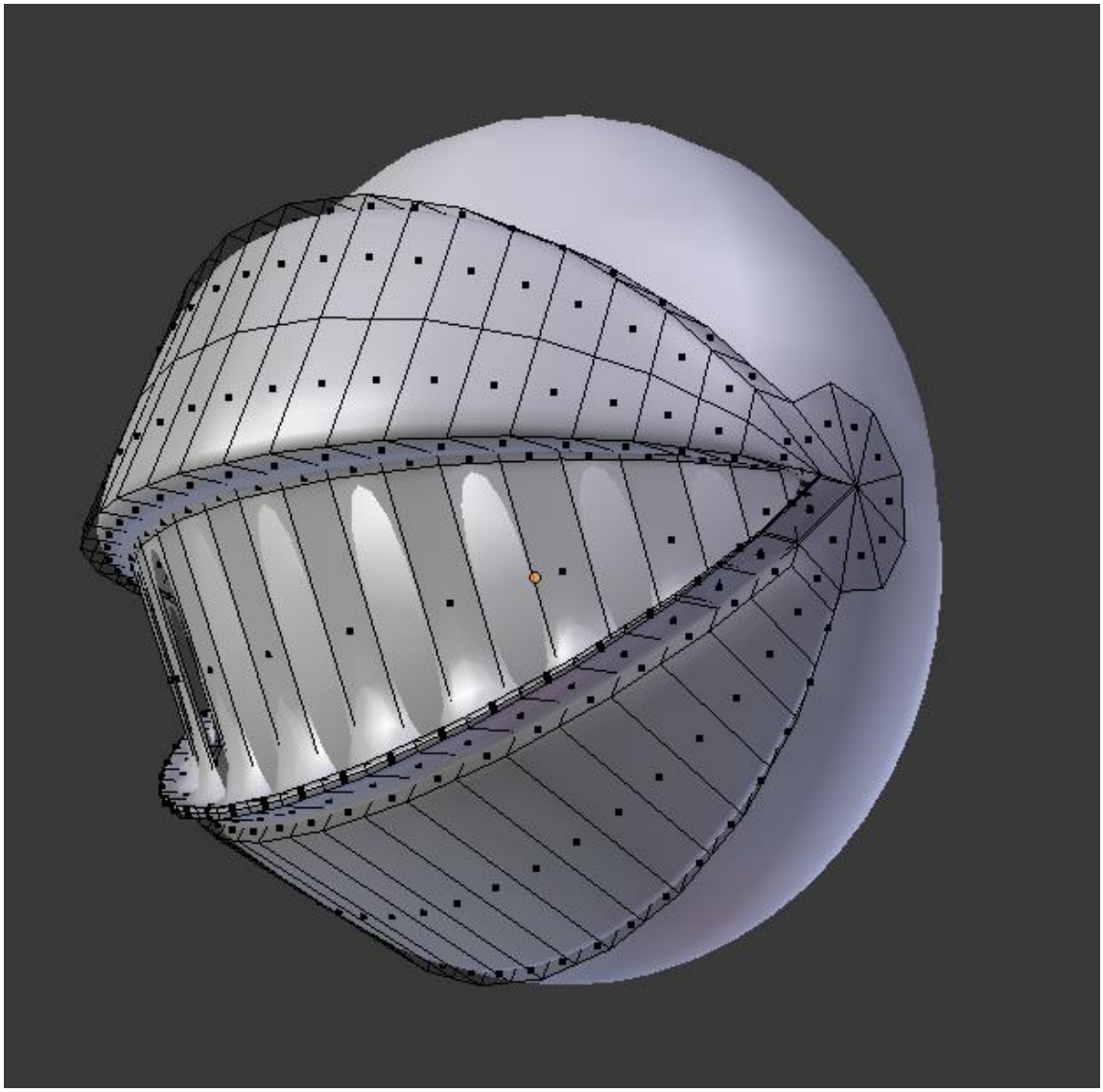
The last scenes show the 3D escape room of the famous King Eric XIV jail room. It can be experienced in VR or in normal mode. These scenes give the viewer the impression that the application has lots of content in it. Finally, the video ends with credits.

The video lasts for 49 seconds. Making sure that the video is long enough to get the message through, but not too long to make the viewer to lose interest, is crucial. The length of the video is ideal: it shows the viewer the most important parts of the application. The video is designed so that after watching the video, the viewer is not only interested in the video, but also knows that Turku Castle application offers a new way of exploring the Turku Castle museum.

4.1.2 Creating an Animated 3D Model for The Video

For the second version of the Turku Castle application advertisement video, an animated 3D model was created. A knight character was chosen for the video for its resemblance to medieval times and association with castles. The 3D model was created, textured, animated and rendered on Blender. Blender was chosen for the 3D modeling and animation software since it is completely free and has no limitations such as non-commercial use only that Houdini's Apprentice version has. The textures were downloaded from textures.com. Textures.com is a website that offers credits for free that can be exchanged to textures. Having a premium account on textures.com costs money but enables higher resolution textures.

The helmet of the knight’s 3D model was created from a sphere. 2/3 of the helmet was first deleted. A part of it was extruded outwards to create the grill (Picture 9.). From the extruded part, every second face was removed to give the grill the "airholes". The grill was then attached to another sphere, making the helmet complete. Subdivision surface modifier was then added to smooth out the helmet.



Picture 9. The helmet's grill.

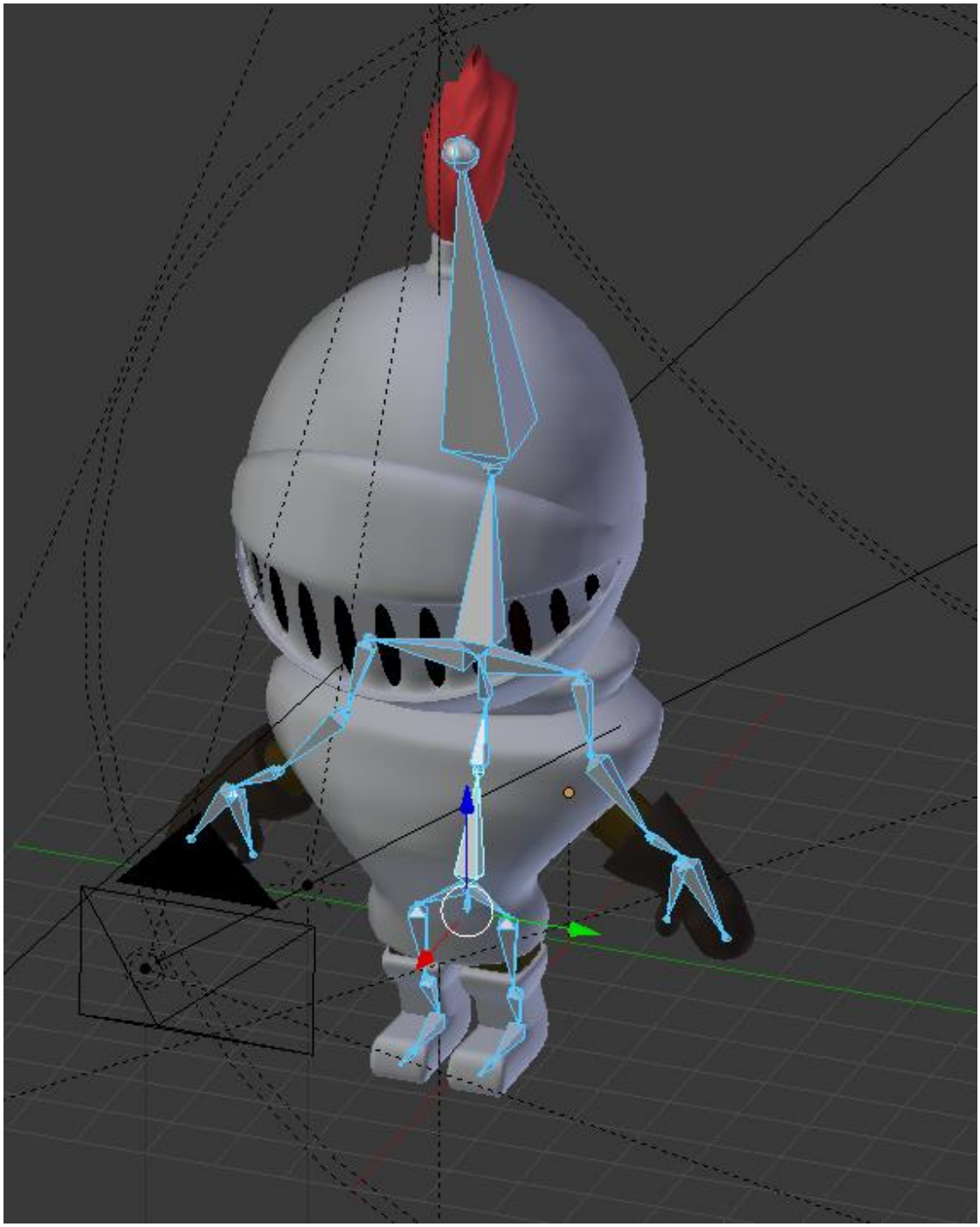
The helmet’s pompom was a low poly ico sphere. Low poly is a mesh that has relatively few number of polygons (Wikipedia, Low poly, 2018). The pompom was edited in the sculpt mode with dyntopo option set on and it was mirrored on the x axis. The created high poly object was then put in the edit mode and the modifier decimate was added to reduce the amount of faces on the pompom, to create as sharp looking pompom as possible. The pompom was then added to the small knob on top of the helmet. The knob was created from a cylinder that was scaled upwards from the bottom and smaller from the top. Subdivision surface was also added to the knob to match the helmet's level of smoothness.

The torso, arms and legs were created using a reference picture that was added in the background. The reference photo was found on the Google image search. The side view of the reference picture was set on the x axis and the front view picture was set on the y axis. Starting from a cube, the torso was modeled adding new faces to the cube following the outline of the reference picture. Finally, the subdivision surface modifier was added to the torso. With the subdivision surface modifier on, new edges were added to create more jagged structure. The legs and arms were created in the same way as the torso. In addition to the subdivision surface modifier the legs and arms had also the mirror modifier applied to them. Legs and arms were mirrored on the y axis.

The torso, helmet, half of the legs (boots) used the same material, while the arms (not the mittens) and legs had different materials. The pompom and the mitten had also their own material set to them (Picture 10.). All parts of the 3D model were then joined into a one object and UV unwrapped. Textures were added next: the armor having a shiny, metallic texture to resemble natural armor. The hands had leather texture set to them and the pompom had a bright red fabric texture placed to it. The arms and legs had a yellowish fabric like texture set to it to mimic cotton.

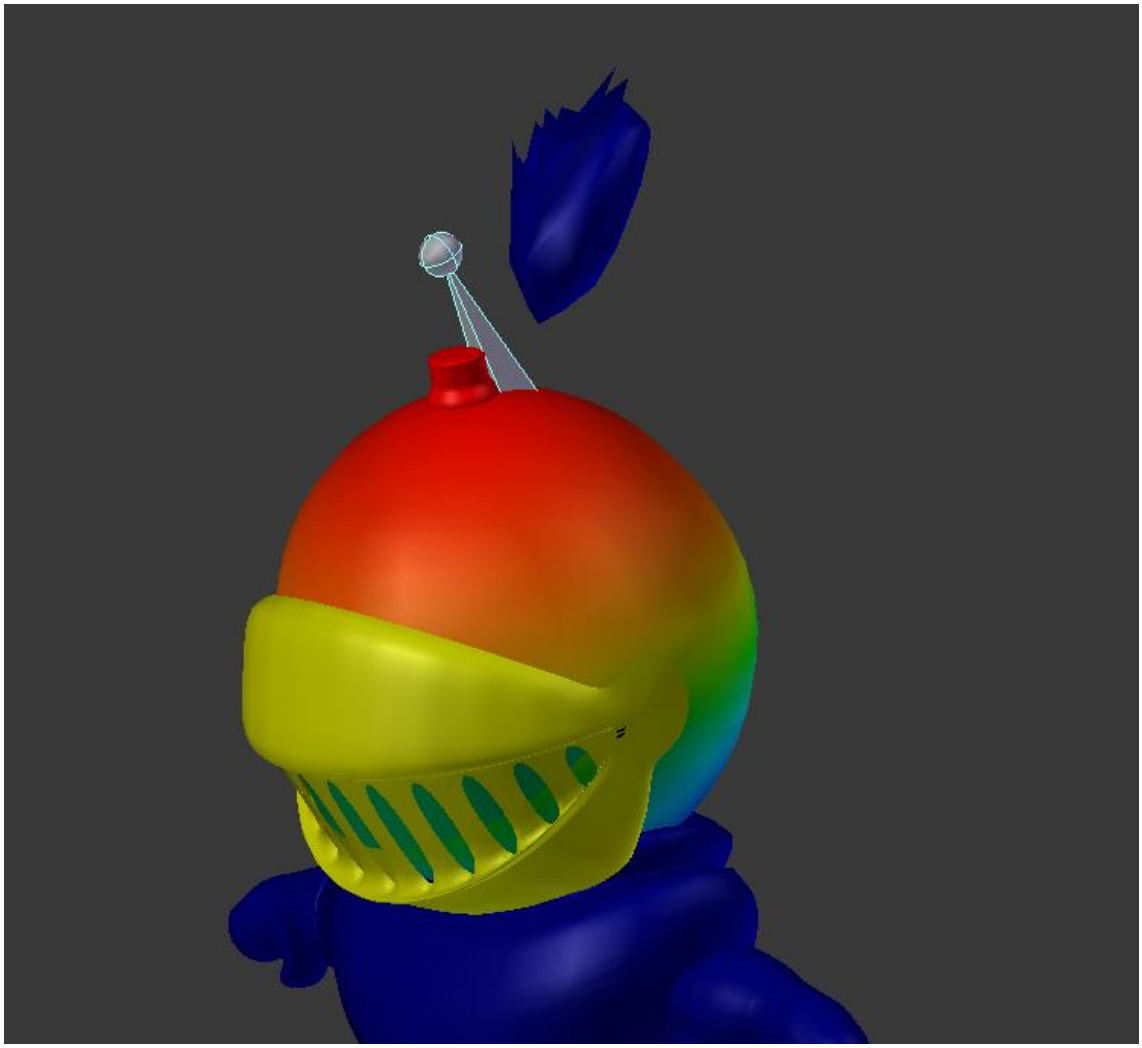
Picture 10. Textured version of the knight 3D model.

After texturing, the 3D model’s skeleton was constructed. The 3D model's skeleton consisted of 28 bones. The bones were added to the 3D model in a way that would be somewhat natural for a human like character (Picture 11.).



Picture 11. The 3D model's skeleton.

After the rigging process (adding joints and connecting them by bones: creating a skeleton for the 3D model (Quora, 2017)), some adjustments were required to be done on the weights of the bones. The pompom didn't move with the helmet, so it was weight painted to react to the helmet’s movements. Some parts needed to be subtracted such as the arms stretched the torso when arms were moved (Picture 12.).

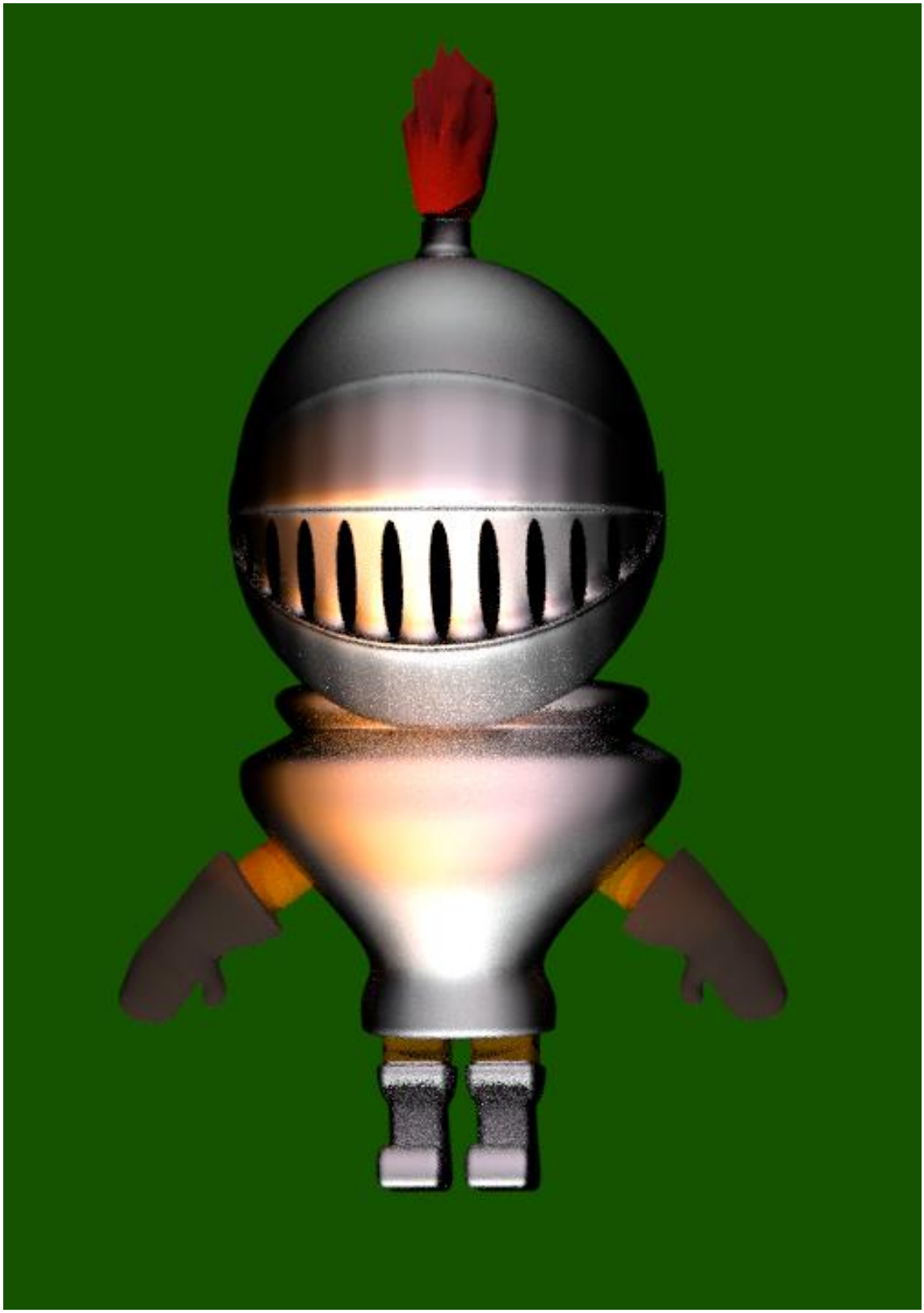


Picture 12. The helmet's weight painting.

The 3D model was animated to do certain moves such as walking, dancing and lifting its arms up. In total 5 animations were created and 4 of them were used in the second version of the video. The animations were designed so that it would look interesting but not too disturbing that it would draw the viewer's attention completely from the video's message to the 3D model. The animated scenes were added to the video in a way that the 3D model would appear evenly through-out the whole video. The 3D model was implemented on the video, so that it wouldn't seem out of place.

The animations were created by setting the desired position and pose, then locking the rotation, scale and location values, moving a couple of frames on the timeline: the 3D model was then set on a different pose and the coordinates were locked again. The animation was previewed and if needed: few changes were added to make it smoother.

After the animations were created the animation scenes were assessed. The scene was lighted with one sun and with two point lights. The sun was set to light from above, right on top of the 3D model's helmet. The point lights were directed towards the 3D model’s torso and head area. One of the point lights had a yellowish tone set to it and the other one was plain white. In addition to the lights, a camera was added. Depending on the animation scene that was to be rendered, the camera was set in some direction and with different local length. The scene had a green background set as a green screen (Picture 13.). It was important that the green background didn't emit light or color onto the 3D model, since after rendering the animated scenes, the videos were added on Premiere Pro CC 2018 and the green color was removed with Ultra Key effect.



Picture 13. Rendered 3D model with green screen and lights.

The animated scenes that made it into to the video were positioned into the video in a way that fit the tone and the mood of the video. All scenes had green screen in them and it was removed by using the Ultra Key effect. Some of the scenes had to be scaled to fit the frame. In one of the scenes the opacity was lowered to create a ghost like appearance for the 3D model.

5 COMPARISON

5.1 Turku Castle Application Survey

A survey was conducted on Google Forms to determine whether people find an animated 3D model in an advertisement video interesting and appealing or annoying and unnecessary. The survey starts with a small description of the survey, letting the respondent know that the answers are anonymous and can't be traced back to anyone specific and the estimated time it takes to complete the survey is around 10-20 minutes.

The survey was published on the 22nd of November 2018 and closed on the 27th of November 2018. The first interview took place on the 23rd of November. The survey was sent to the class marking NTIVIS14 of the Turku University of Applied Sciences and shared on Facebook on home page and on the IGDA Finland Turku Hub Facebook page. The survey could have possibly been seen on estimate by 900 people.

TUAK's NTIVIS14 class was chosen since the people are aged 18-30 and are most likely the age group that would try out the application in real life. Older people are not as acquainted with technology as the younger generation. IGDA's Facebook page was chosen to get answers from larger age distribution and from people who are likely to be interested in video games.

The first section had general questions about the respondent: gender, age and how often does the person visit museums and how many hours the answerer plays video games per week. These questions were asked to find out whether the opinions vary between ages or genders for example.

The respondent taking the survey is first shown the video without the animated 3D model and asked whether they found the video interesting or not. The respondent is also asked whether they found the video to be informative and the overall score on a scale from 1 to 10 and finally on a scale from 1 to 5, how likely they would try out the application.

The second video is then shown, and similar questions are asked with the addition of question about the animated 3D model: on a scale from 1 to 5, how much did they like the animated 3D model. The survey then has a question, where the respondent is asked to choose the one they prefer from the two videos. The options had pictures of the 3D model, the other one having red lines that form into a cross on top of the picture to reduce

confusion between the options, so that the answerer chose the video she or he really liked the best.

The survey then directs the next question based on the respondent's answer. The respondent needs to tell why they liked the other video better and why didn't they like the other one as much. Finally, a free word section is shown, and the respondent can leave additional comments.

Both videos were implemented to the survey by means of YouTube links. The videos are marked private, so they can't be accessed without a direct link.

5.1.1 Survey Results

In total, 35 people answered the Turku Castle application survey in the 5-day period the survey was accepting responses. Out of 35 people 23 were male, 9 females, one person preferred not to say, one checked the option "other" and one identified as genderqueer (Figure 1.).

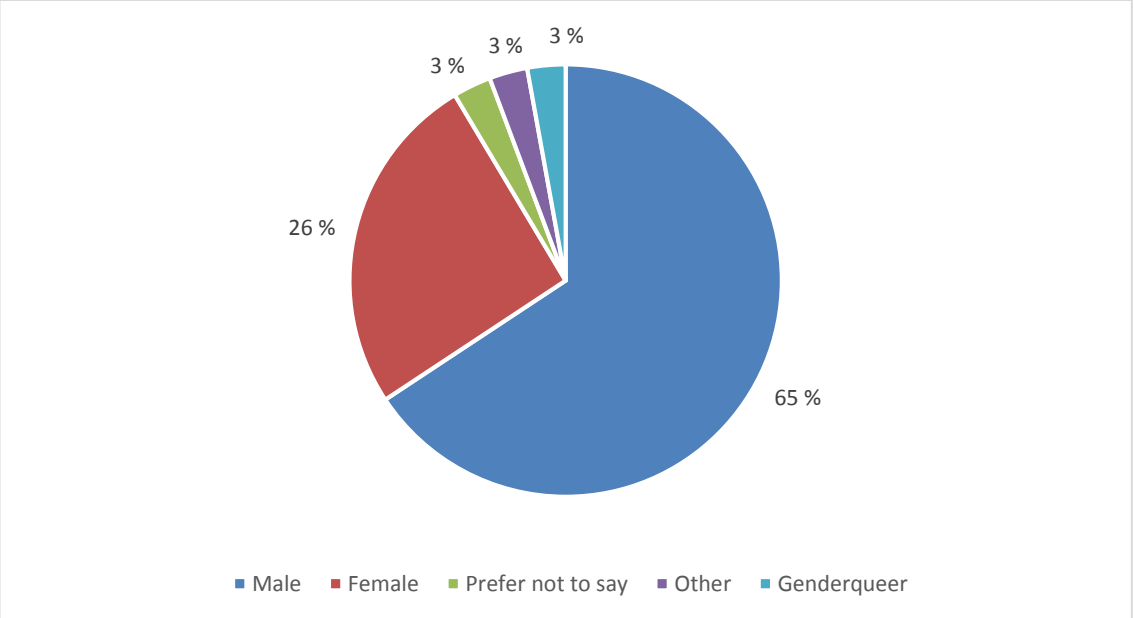


Figure 1. Gender distribution between survey respondents.

The age distribution between survey respondents was unevenly distributed. Majority of the respondents were aged between 21-25 years old. One fourth of the respondents

were aged between 26-30 years old, while four were in the age gap of 31-35, one in 36-40-year old's category and one checked the "+50" option (Figure 2.).

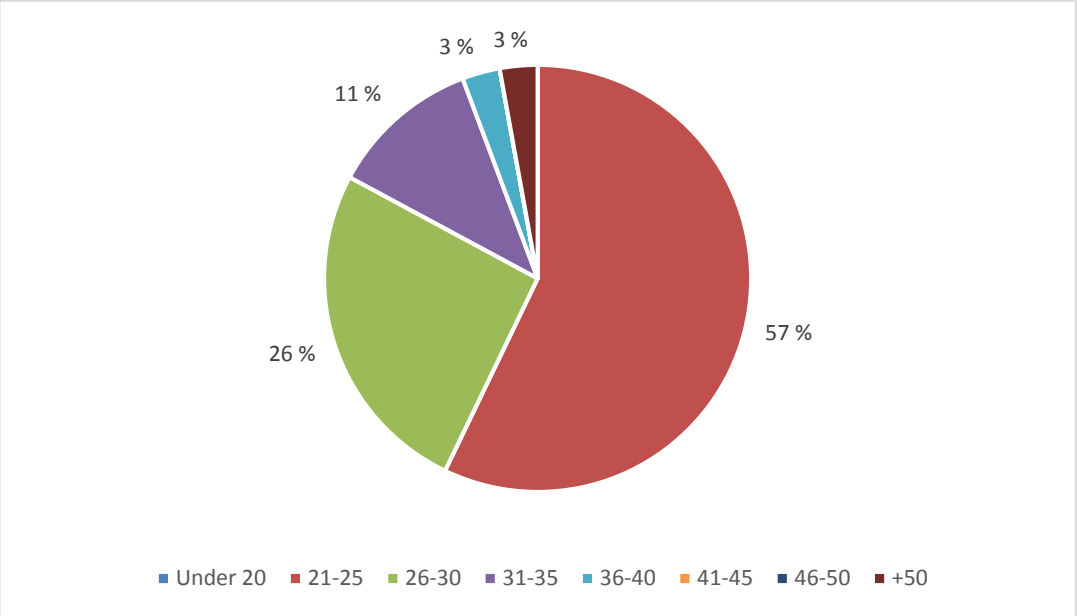


Figure 2. Age distribution between survey respondents.

The third question was about museum visitations. The distribution between respondents was more evenly distributed but no one answered "weekly" in the survey (Figure 3.). Many respondents however said that they found the application to be so interesting that they would most likely try out the application the next time they visit the Turku castle museum.

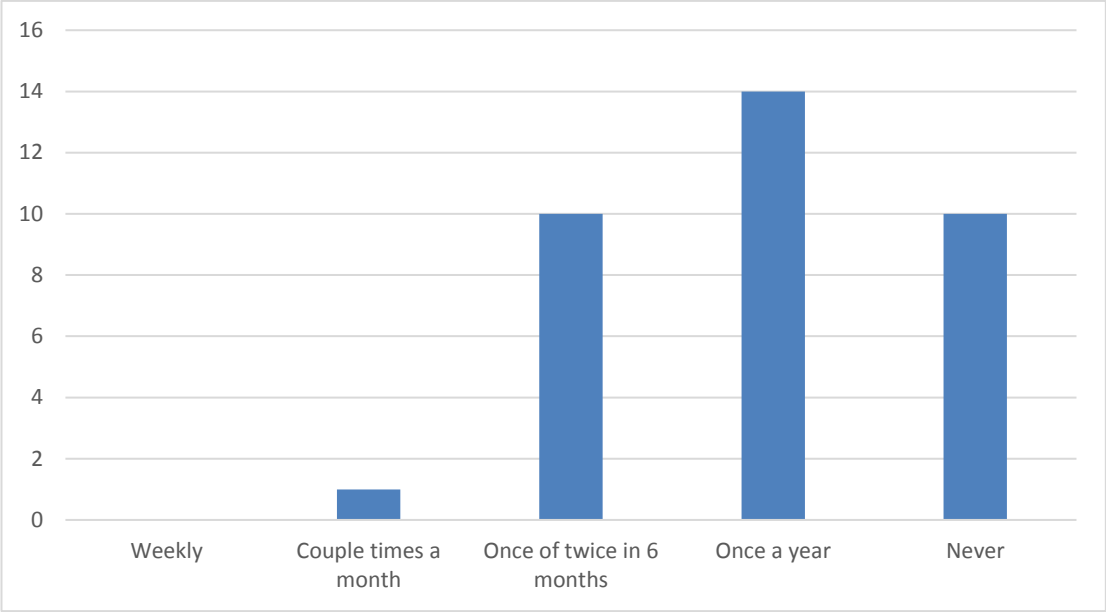


Figure 3. The respondents' museum visits.

Only 3 out of 35 answered" I don't play video games" when asked how many hours they play per week. The majority played on average over 10 hours per week (Figure 4.).

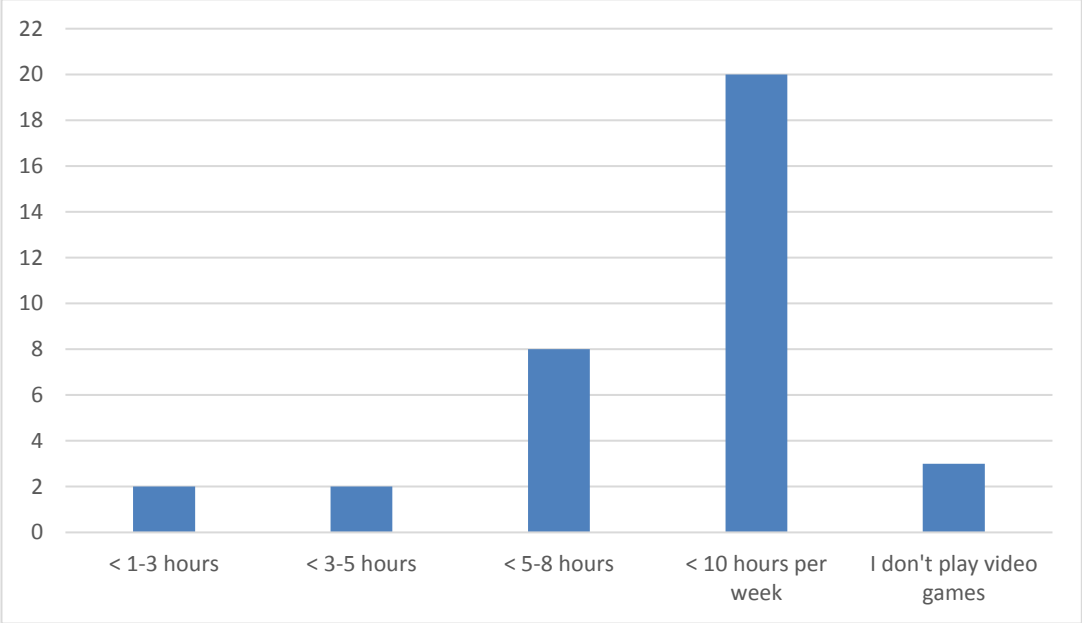


Figure 4. The average time used playing video games per week by the respondents.

After the first section of the questionnaire the video without the animated 3D model was shown to the respondents. Overall the feedback on the first video was positive and when asked how interesting the respondents thought the video was, the average value was

6,5 (on a scale from 1 to 10) (Figure 5.). The respondents thought that the video was informative, and the minority of 4 people answered that the video wasn't informative enough. In some comments it was mentioned that the pacing of the video was too fast, which made the texts too hard to read. The overall score was mostly positive, the lowest score given being 4 and the highest 10 (Figure 5.).

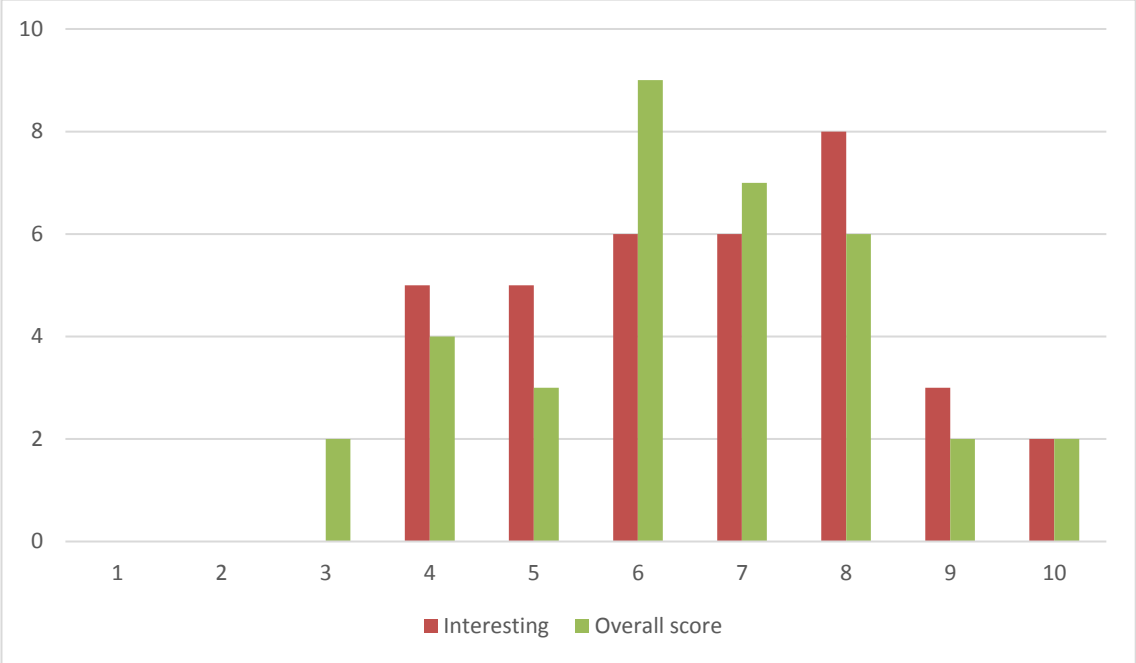


Figure 5. How interesting and the overall score values.

When asked which video was better, 6/7 (28 people) of the respondents answered the first video (without the animated 3D model). Interestingly, the 1/7 that liked the second video better, were all male respondents (Figure 6.).

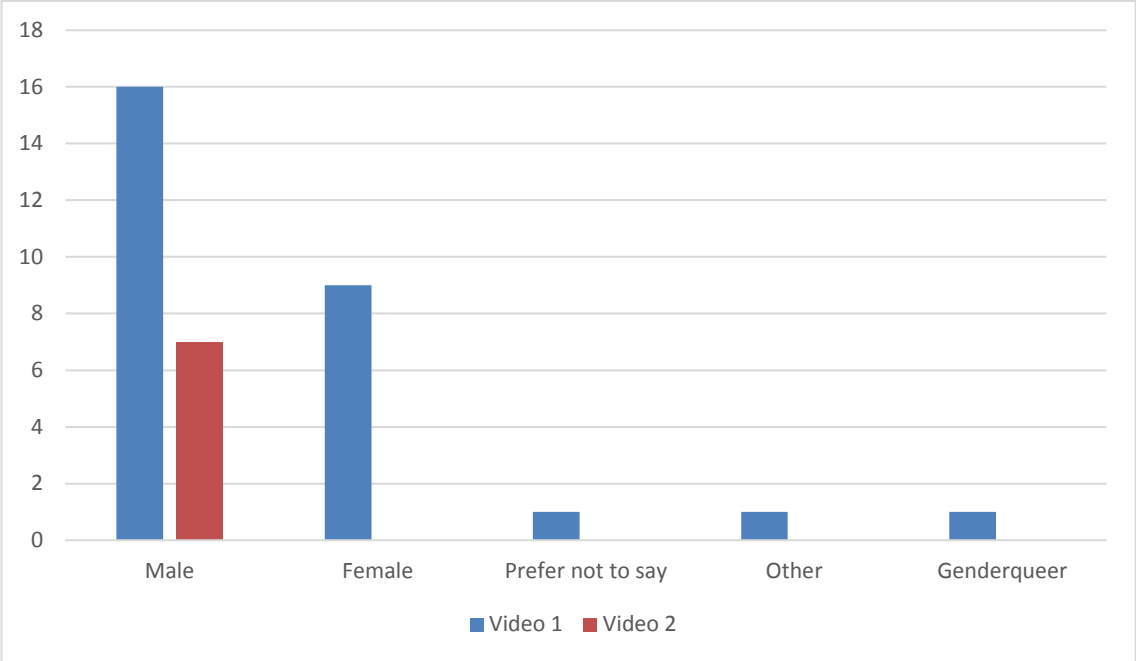


Figure 6. Only male respondents liked the second video.

The allure of the video didn't change drastically with the animated 3D model being added to the video (Figure 7.), even though the animated 3D model was not generally liked. When asked, how much the respondent liked the animated 3D model on a scale from 1 to 5, many answered 1 and 2 (10/35 and 10/35) and only two people answered 5. The general comments regarding the animated 3D model were that it was too distracting. There was enough action in the video itself, and that the animated 3D model seemed to be too much.

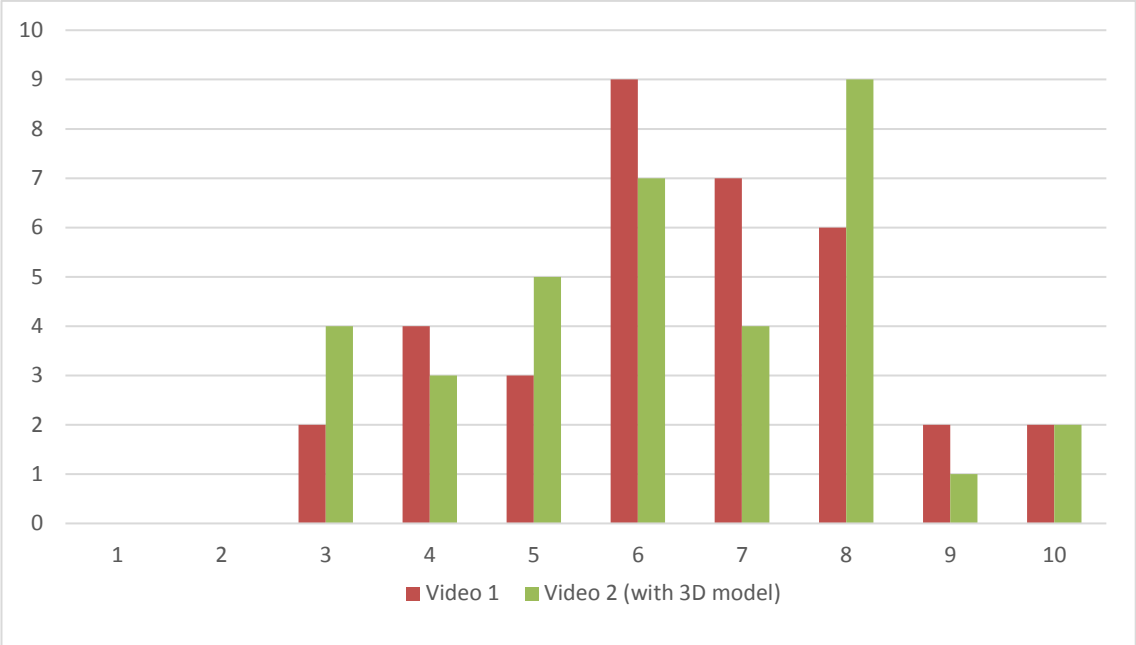


Figure 7. Comparison between the interestingness of the two videos.

According to the survey answers the first video (without the animated 3D model) was better because the animated 3D model didn't fit the second video. Many respondents saw the potential of the animated 3D model but thought it was out of place or in the way.

The male respondents who liked the second video better, explained that the 3D model gave the video more humor and personality. The animated 3D model's appearance was thought to be cute and funny. Few respondents said that they didn't like the 3D model's cartoonish look.

The main reason the respondents didn't like the animated 3D model was the animations. The animations were too simple and lacked functionality. Some argued, it would have been better if the 3D model was a guide, who would "speak" out the texts that appear in the video.

5.1.2 Interview Results

In total, 7 people were interviewed in addition to the Turku Castle application questionnaire. All interviewees also answered the Turku Castle application questionnaire. Majority of the interviewees were male (Figure 8.). The age distribution between the interviewees was narrow: the youngest being only 21 years old and the

oldest being 26 years old (Figure 9.). The interview questions were mostly about the animated 3D model. The interviewees were first asked what they liked and did not like about the videos. The opinions were mixed. There were no major differences in opinions between genders.

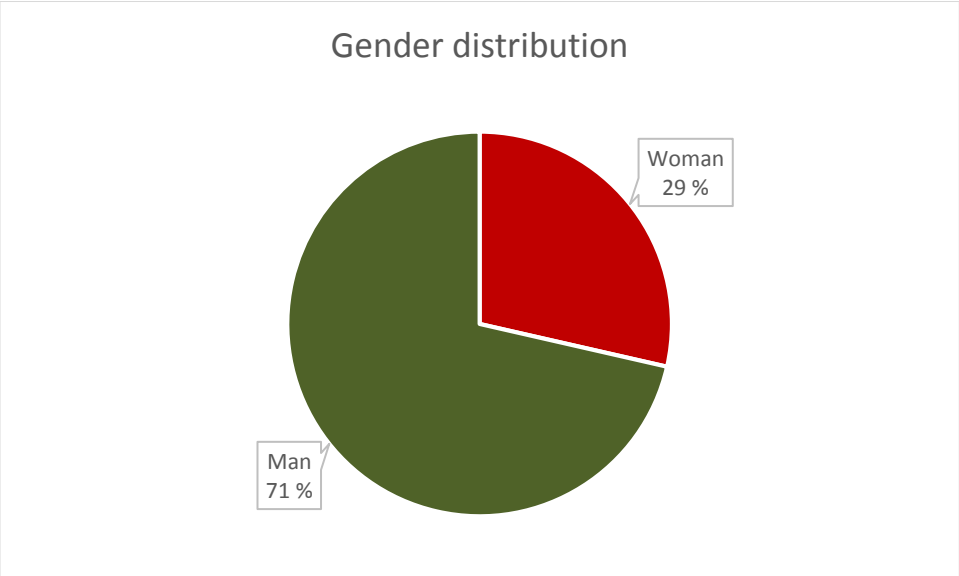


Figure 8. The gender distribution between interviewees.

The majority of the interviewees thought that the rhythm and the length of the video was good and that it was easy to follow. Four out of seven people liked the music and commented it being fitting to the video's theme. Two interviewees didn't like the font of the video. And a few comments were said about the animated 3D model.

Only two interviewees thought that the animated 3D model brought more value to the video. The 3D model itself was well received but the animations lacked depth according to the interviewees. The 3D model's animations were thought to be either too distracting all to together or too simple to impress. The most general comments about the 3D model were: cute, funny and that it was fitting to the theme. One interviewee didn't like the cartoonish look of the 3D model and thought it should be more realistic since it represents Turku castle which is a real, historical place that aims to be truthful and not fiction.

Few interviewees would have preferred that the animated 3D model would speak the texts that appear in the video, while some said that they would have wanted to see more action from the 3D model.

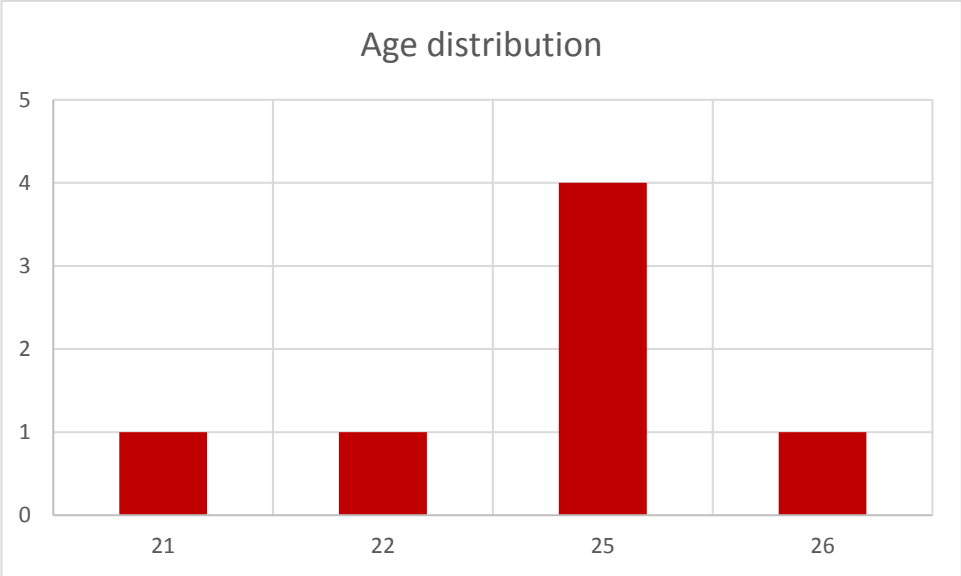


Figure 9. The age distribution of the interviewees.

When asked about the general opinion on the use of animated 3D model(s) in advertisement videos, only one of the interviewees said that it depends on the advertisement video. The rest of the interviewees thought that having animated 3D models in advertisement videos is a great way to sell products. One of the interviewees added that if the advertisement video isn't created around the animated 3D model, the model can easily seem out of place.

Based on the interviews, it can be said that the animated 3D model that appeared in the Turku Castle application advertisement video, had a lot of potential but lacked the required depth. Seeing the videos one after another, pointed out to the interviewees that the video is good enough without the animated 3D model and since it felt too simple, the 3D model seemed unnecessary to the video. Overall, the video itself was well received and had almost no complaints.

5.2 Summary

Based on the Internet survey and the interviews conducted for the Turku Castle application, it can be said that the video without the animated 3D model in this case was better. Generally, people like when animated 3D model is used in advertisement videos, if the model is properly implemented and the advertisement video is built around the animated 3D model.

Since the advertisement video acts as a trailer for the Turku Castle Application, the marketing strategy is simple and straightforward. The advertisement video will be used as a summary for the Turku Castle Application project that ended in 2017, rather than being a marketing technique to sell the product.

In the Turku Castle application advertisement video, the animated 3D model was too distracting since the video itself had a lot of content. If the animated 3D model needs to be included in the video, the 3D model should be implemented in a way, that would make it seem that it would speak the texts that appear in the video. The animated 3D model should also have more animations that would seem refined and deliberate.

Overall, the Turku Castle application advertisement video was informative, clear and had a good pacing. The music of the video got mixed reviews, but in general was thought to be fitting to the theme of the video. The respondents seemed genuinely interested in the application and on the scale from 1 to 5, how likely it would be that they would try out the application based on the video, the average score was 3,5 (Figure 10.).

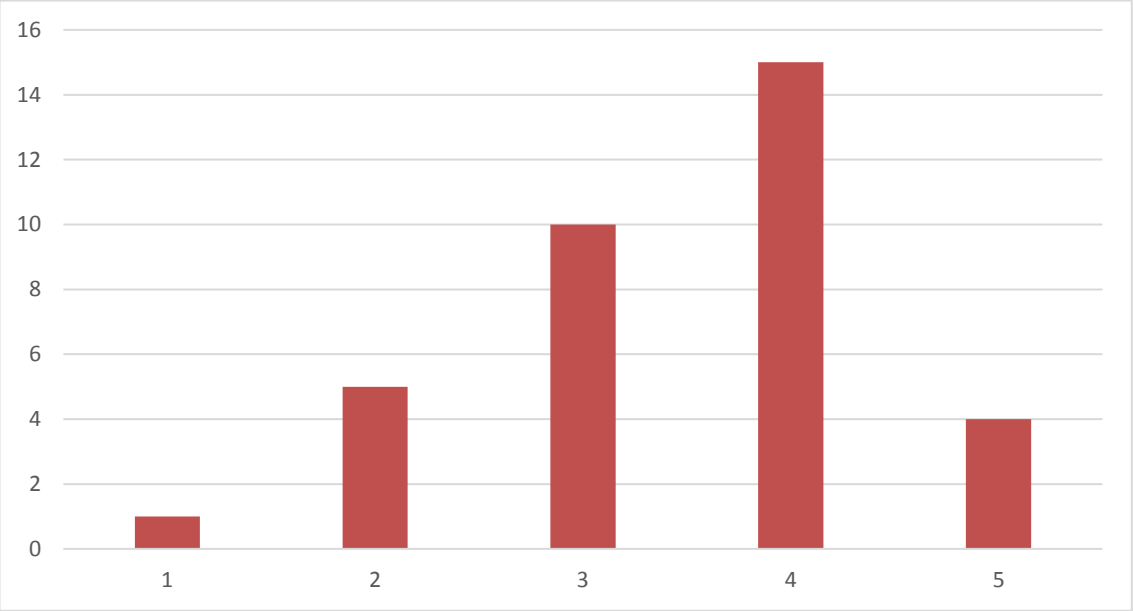


Figure 10. "How likely would you try the application based on the video?".

6 FINAL RESULTS

When creating an advertisement video for a game company with minimal or no budget, it is important to have a solid strategy. A good strategy includes plans about the schedule, personnel, materials and money.

The Internet is an infinite source of information. The Internet can be accessed almost at any time with little to no cost. There are many video editing and 3D modeling software available, some even for free. Video editing and 3D modeling software have become more beginner-friendly with different licenses that a novice user can purchase at relatively cheap price. When using a free software, it is important to read the restrictions: some free versions do not allow commercial use.

Having a free trial is a great method to find out whether the software suits the user's needs without spending any money. YouTube has a huge selection of video tutorials for different software, making the learning process a lot easier.

Money can be a significant factor in the production stage. Higher budget often means better access to high quality materials and software. Having a great sum of money to spend on the project does not necessarily mean that the advertisement video is going to be fantastic.

6.1 Low Budget Advertisement Video for Turku Game Lab

The Turku Castle application advertisement video was produced by one person from the materials provided by Turku Game Lab and Lingsoft. The estimated time that it took to finish (both versions of the videos) was around 60-70 hours. The work time included: the photo shoot at the Turku castle on the 27th of March 2018, the cutting and editing of the footage, creation of the video's titles and textboxes on Adobe After Effects 2018, the 3D modeling of the knight model, texturing and finally animating and implementing the animation to the second video.

The amount of money spent on the project was around 40-50 €: the Adobe student package, that was purchased for the project, costs 20,15 € per month. However, when purchasing the Adobe package, the buyer agrees to purchase a one-year license. The buyer can either purchase the whole license at once which is around 250 € or pay the

monthly fee for 12 months. If the whole license payment is counted, the amount of money spent rises to around 250 €. The video could have been created by using the Adobe's package provided by the Turku University of Applied Sciences for the students at the university. However, since the video was easier to create remotely from the university, the worker chose to buy her own license. Since the decision to purchase the Adobe's student package was completely optional, no money transactions between the client (Turku Game Lab) and the project worker were conducted.

The 3D modeling and animation was completely free since the software that was used was Blender. The open source 3D modeling software Blender was an obvious choice since it is beginner-friendly and could do both: 3D modeling and animation on the same software.

The Turku Castle application advertisement video was sent to the Turku Game Lab in .mp4 file form and all usage rights were conceded to the Turku Game Lab at the end of the project. Afterwards, the logo of Lingsoft was added to the video next to the TGL and the Turku University of Applied Science logos since it had a large role in the process of making the Turku Castle Application. The scene "Download from Google Play or the App Store" at the end of the video was later deleted, since there was no certainty that the application would ever be available for download from those market places. The application is available for visitors at the Turku castle only via tablets owned by the Turku castle.

7 CONCLUSION

With precise planning and budgeting, it is possible to create a low budget advertisement video for a game company. Using an animated 3D model in the advertisement video can add value to the video. Having an animated 3D model in an advertisement video can also be risky, if the 3D model has been unfittingly implemented into the video. Having a well thought out animated 3D model in an advertisement video is not enough to save a badly produced advertisement video.

When using an animated 3D model in an advertisement video, it is crucial that the 3D model fits the video's theme and does not seem unnecessary to the video. Building the video around the animated 3D model usually helps to create a functioning merger between the model and the video. If the game company does not have the skills or the time required to create an advertisement video, the company can always hire a freelancer to implement the task.

Using the information gathered from the interviews and the Internet survey, the Turku Castle Application advertisement videos could be developed further. The animated 3D model could be redesigned, and the advertisement video could be built around the 3D model. Using the animated 3D model as a "center piece" in the video, the 3D model wouldn't seem out of place. The animations of the 3D model could also be adjusted. Few respondents of the Turku Castle Application survey said that having the animated 3D model "speak" out the text boxes that appear in the video, would make the advertisement video seem more immersive.

It would also be worth considering to create the survey in a way that would randomly choose the first video to appear for the person answering the questionnaire. Showing the video with the animated 3D model could possibly give different results from the survey and the interviews.

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