

Northwood Games AS

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From concept to Game Asset

May 29, 2018

Overview

What must the student bear in mind when creating assets, what sort of programs work best with Unity and how do you properly implement assets into Unity. This will be a 4 hour course spanning one week.

Course Agenda

1. **Softwares**

- a. Concept: Photoshop/ Paper/ Inspiration
- b. Modeling: Zbrush (Mention Maya + Blender + MagicaVoxel + 3dsMax)
- c. UV Mapping: Headus (Mention Zbrush + Maya)
- d. Texturing: Substance Painter/ Photoshop (Mention Zbrush)
- e. Rigging and Animation: Mixamo (Mention Maya)
- f. Importing finished asset: Unity (From all the softwares)

2. **Utilizing the softwares**

- a. Concept: Students will learn how to find inspiration/references and recommended softwares/techniques
- b. Modeling: The importance of low-poly modeling, simplicity in ZBrush and other softwares (Possibly). Both 3D + 2D
- c. UV Mapping: The importance of UV mapping properly in order to get seamless textures.

- d. Texturing: Students will learn the basics of texturing, from the base color(albedo), normal maps/bump map and emission map. As well as the importance of medium-res texturing (no 4k textures!) and using texture atlas to make best use of the texture canvas.
- e. Rigging and Animation: How do you import models into Mixamo to quickly animate and rig bipedal characters.
- f. Importation: Students will learn to swiftly import everything they've created into Unity and where to go from there (For ex.: Applying textures correctly, and adding the rig and animation).

What prerequisites there are before exporting into Unity and the most efficient way of exporting materials, textures, normal maps and more.

Course Goals

After completing the course, the student will feel they've gained a better understanding of the process of swiftly creating game assets (~~We'll use a character model as an example~~) and feel more comfortable and have a better foundation for when they start taking the courses the school provides.

Milestones

1. Week

Conduct a survey about how many students are interested to have a crash course in these softwares.

2. Week

Prepare the course materials

3. Week

a. Day 1 - Concept art & Sculpting

- Photoshop: Concept art basics
 - Google inspiration
- Photoshop: Guidelines to have in mind.
 - Keep it simple

- ZBrush: The basics
 - How to make a ball
 - How to choose brushes
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- ZBrush: Guidelines to have in mind.

b. Day 2 - UV Mapping & Texturing

Headus: The basics

Headus: Guidelines to have in mind.

Substance Painter: The basics

Substance Painter: Guidelines to have in mind.

c. Day 3 - Rigging and Animation & Importing assets into Unity

Mixamo: The basics

Mixamo: Guidelines to have in mind.

Unity: The basics

Unity: Guidelines to have in mind.

Evaluation

We will conduct surveys after end of the course, alongside follow-up talks during the semester itself to see how beneficial the course has been. After end of semester we wish to take in a focus group selected randomly from the participants and go over what worked and what didn't, while also seeing how it could be improved in the future.

Softwares needed for this course: ZBrush, Photoshop, Substance Painter, Headus and Unity.

Softwares mentioned:

1. Unity
2. Photoshop
3. Maya
4. Blender (Free)
5. Zbrush
6. Mixamo (Online/ Free)
7. Substance (Licence needed)
8. Headus/ UVLayout
9. MagicaVoxel (Free)

FROM CONCEPT TO GAME ASSET

4-day workshop on working productively across multiple software and efficiently importing your asset into a game engine.



DEVELOP CONCEPT
FROM IDEA



USING ZBRUSH
TO MODEL



TEXTURING
TIPS & TRICKS



RIGGING AND
ANIMATING QUICKLY

4th - 7th
SEPTEMBER
📍 D-222



IMPORTING INTO
A GAME ENGINE

Workshop in retrospect

From Concept to Game Asset

The Workshop - Introduction

The idea for this workshop was to show SPO students, primarily 1st year students at the beginning of their study how the process of creating an asset (in this case a player character) and necessary steps required to successfully integrating an idea to a game engine. We focused on methods that were most time efficient as the students only have one semester to create a playable game, as well as using softwares that were not taught during our study or are not taught, such as **ZBrush**, **Mixamo** and **Substance Painter**.

Preparation

To prepare and see what we needed to focus on for this workshop, we sent out a survey for 2nd and 3rd year students to answer. We created an event on Facebook and advertised the workshop in the group each year is a part of. We uploaded on the event page a link to a Google Drive folder with all content for the workshop: Premade Model, Texture files, Content Document (Course outline, useful tutorials and links to materials/brushes) etc.

Methods

The course was taught for 2 hours over a period of 3 days. During these three days the amount of students started at 30+ but ended in 8 student in the last class.

At the beginning of each day we asked the students if they knew what programs they could use for each category. In addition, we mentioned some useful softwares, both cheap and expensive, that we felt had helped us through Game Design and in the Gaming industry as well as recommended softwares according to other successful Indie and AAA Game companies.

First Workshop: Concept Art - Character Modeling

Photoshop - ZBrush

How did we teach the subjects?

All the student had access to computers in the classroom. We setup a dual screen/projector so the students could see us working on a model while showcasing and answer questions they might have on the other projector without interruption.

Class started by introducing the Workshop and go into details what we would teach in the following days. Each category was explained as well as what the students wanted us to focus on in perspective to their own skill set and year.

The First Workshop had two categories, the first one was: **Concept Art**, which was taught by Auður. She talked about how important preparation is when designing and creating a game asset.

The highly recommended program to know for concept art is **Photoshop**. Other useful programs that are less costly are **SAI** or **GIMP**. Other programs that is worth checking out are **Krita**, **Affinity Designer**, **Pyxel**, **MediBang Paint Pro**, **PAINT.net**.

Since most students knew Photoshop a little we did not teach it in much detail, but kept it simple for those who knew less by only showing how to use basic brushes and layers.

First step was to show importance of googling references on multiple websites such as **Pinterest**, **Google Images** etc. Basic knowledge of creating a silhouettes and shapes for the character were taught. We also went into colors schemes for their games and how to create a color palette easily by using websites like **Canva.com** and **Adobe Color**.

We also talked about plagiarism, what is okay and not okay when creating concept art and how to make **Photobashing** to showcase in a quick and effective way other team members how your vision is.

For designing a character we showed T-Pose characters and explain how important it was for modeling later to have Front, Back and Side view of the model.

We showed a ready made model that we made for the course which was in T-Pose as a reference.

The Second category was:

Modeling which was taught by Katrín. She talked about quick and easy methods to use to create a model in ZBrush without having to sculpt much.

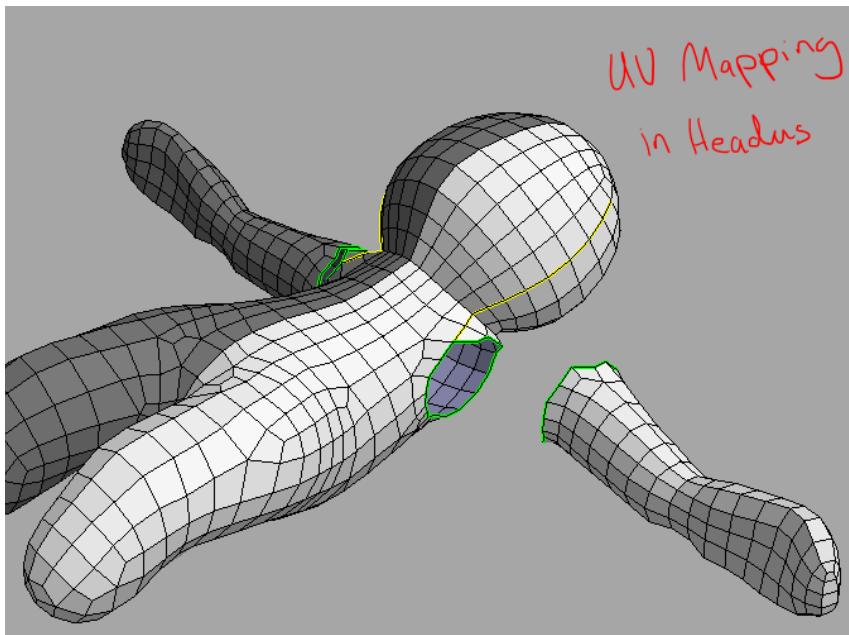
We asked the students to get the Premade Model on the drive and download it.

We also talked about the difference between creating a



character/assets that are 2D, 3D and Pixel as well as recommending useful softwares to use. Since we had prepared the workshop to teach 2nd years before it was changed, the modeling part was too detailed for students that did not know the software. So to make it more convenient we only showcased 2 different methods to create a model quickly (Hard and easy) as well as pointing out useful tutorials online to follow.

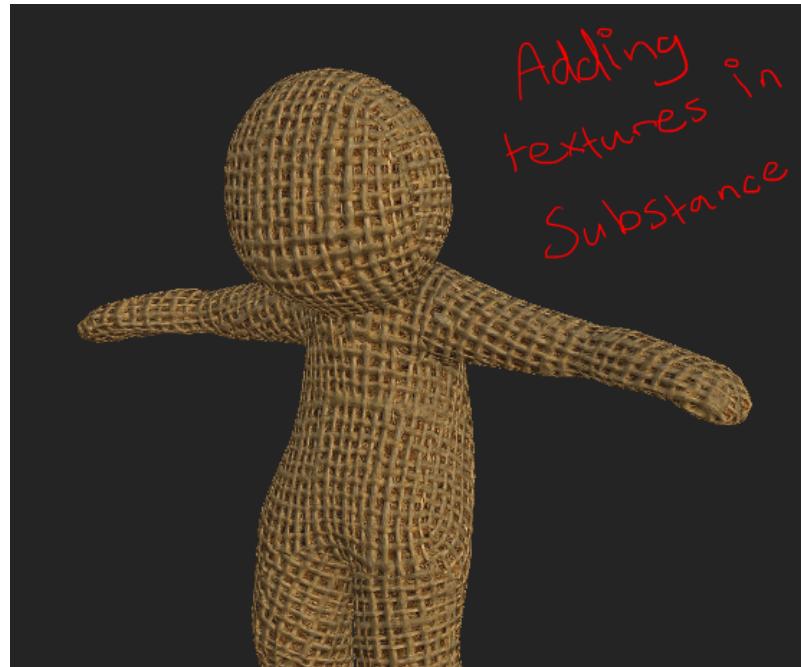
Second Workshop: Texturing & UV Mapping



After showing how to create a 3D model, the next step was to show the students how to UV map and texture it. For this we used the softwares **UVLayout** and **Substance Painter** and subsequently showed the students the process of using these softwares properly. For this we provided the students with an example 3D model to

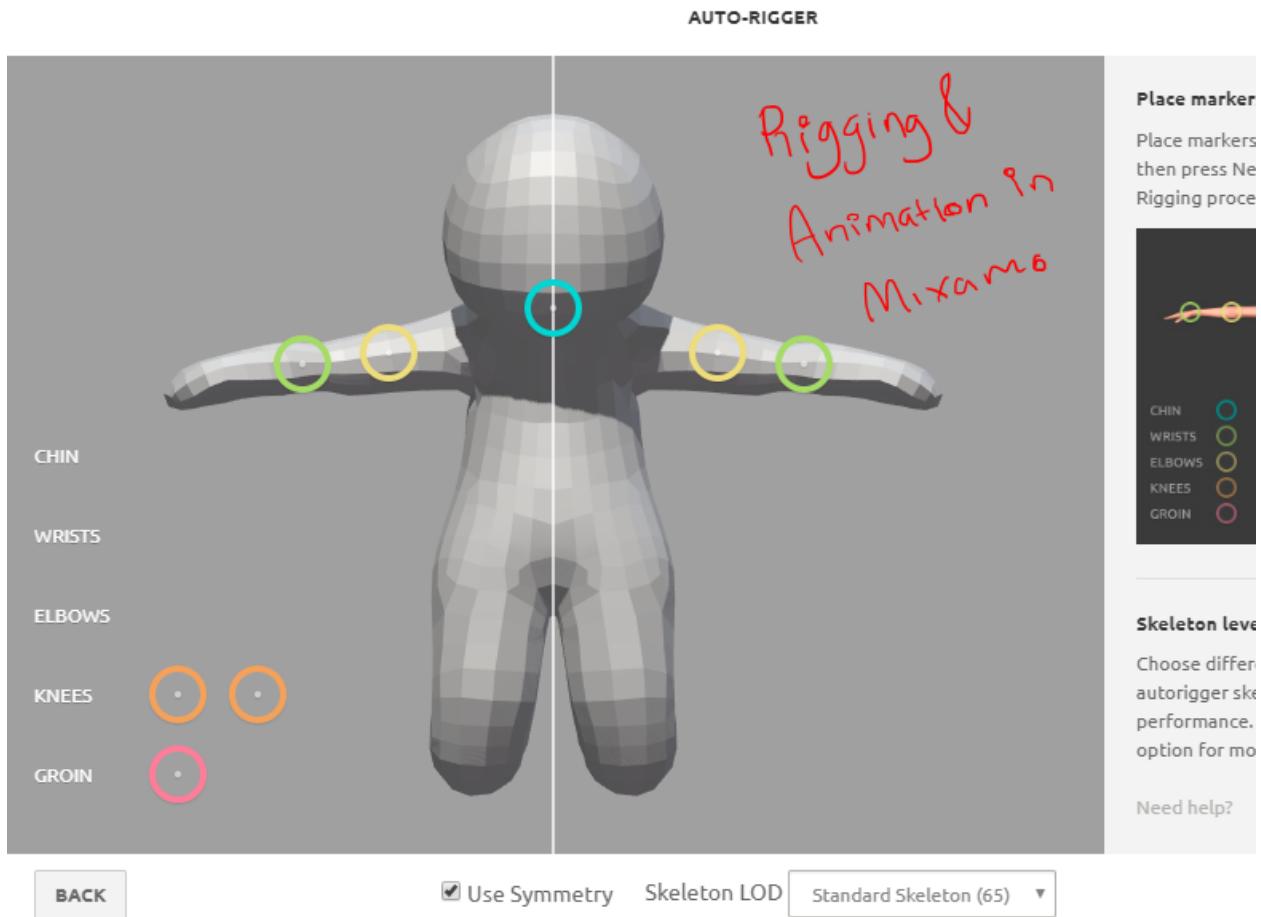
work with in conjunction to the teaching. The students seemed to be quick to get the hang of the UV mapping program and were able to successfully UV map the model.

For texturing we went over the very basics of quickly texturing a UVed model with the software Substance Painter. We decided to only go over the basics and keep the instructions as simple as possible for the software was not available to students in the classroom, though it is installed in other computer labs and

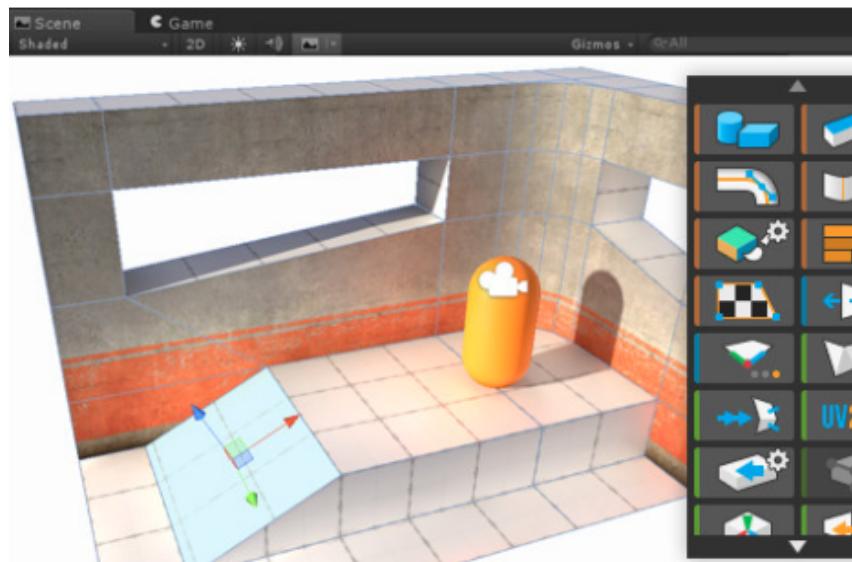


therefore we felt it was appropriate to teach them the basics of this software as there is no class that teaches this software and in comparison to other texturing programs, we deemed this one to be the quickest way to texture a model.

Third Workshop: Animation & Rigging - Level Design & Import into Game Engine



After completing the model itself, it was time to give it movement. For this we used the website **Mixamo**, which autorigs the model for you and has a vast library of basic animations for a model with human like proportions, making it a extremely easy and quick way to animate and rig the model. The last step was to show them how to import all of the files, (The model, the texture files and the



animation). And creating a well organized folder tree as well as using a clear and concise naming convention.

We also showed them the Unity asset **Pro Builder** which is a free tool that allows you to quickly model a level mockup in order to be able to quickly playtest. The students were quite intrigued by this asset and saw this as a helpful tool for their Game Lab project.

Concerns & Issues

We had slight problems with softwares at the beginning of the workshop since not all computers had the programs we needed (specifically the teachers computer). Due to that, the students could only watch us working in the programs and not participate.

We had already made the model accessible to all the students in different stages so even though some students couldn't follow us because of software issues they could still follow the next workshop.

After the workshop finished (and after the evaluation) we saw the Workshop needed at least one to two more days extra to cover all of the subjects we intended and wanted to teach.

If the Workshop would be held for 2nd years, we would have changed how detailed we would have gone into each software and probably have a longer Workshop.

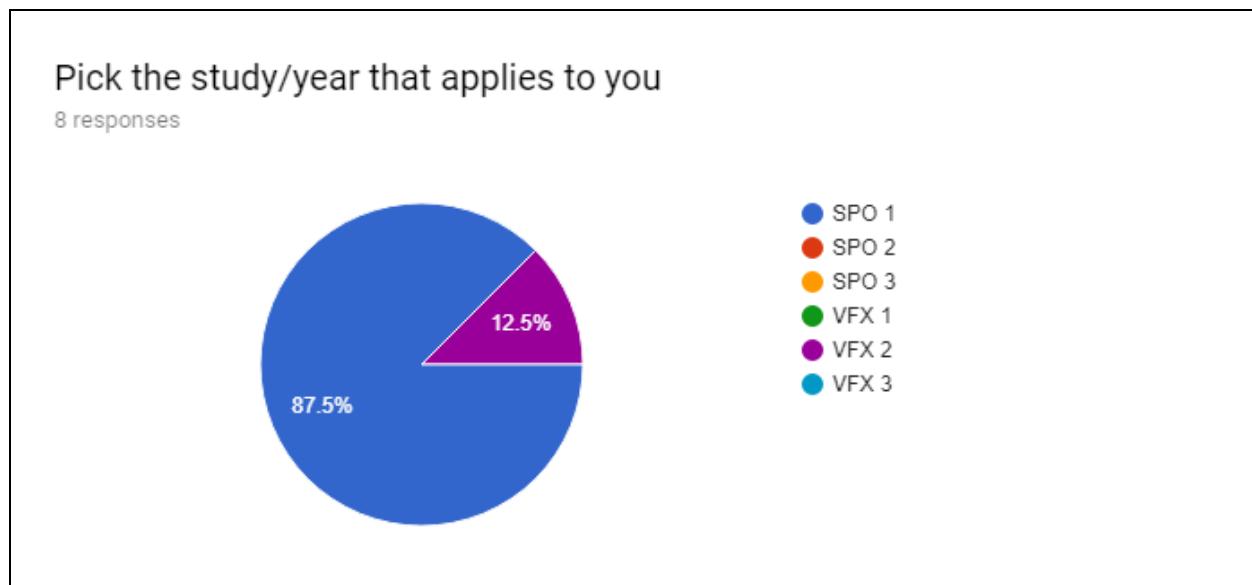
We were very happy with how many turned up even though not all stayed till the end. Because of that we were able to help each student and answer most questions, talk and participate in discussions with the students.

At some times the information flow from the school was a bit slow which halted our preparation for a while. It would have been more effective to have the class schedule for the years beforehand to understand and know what 1st years would be taught, both so we would not teach the same thing and would not skip something that they would not be taught.

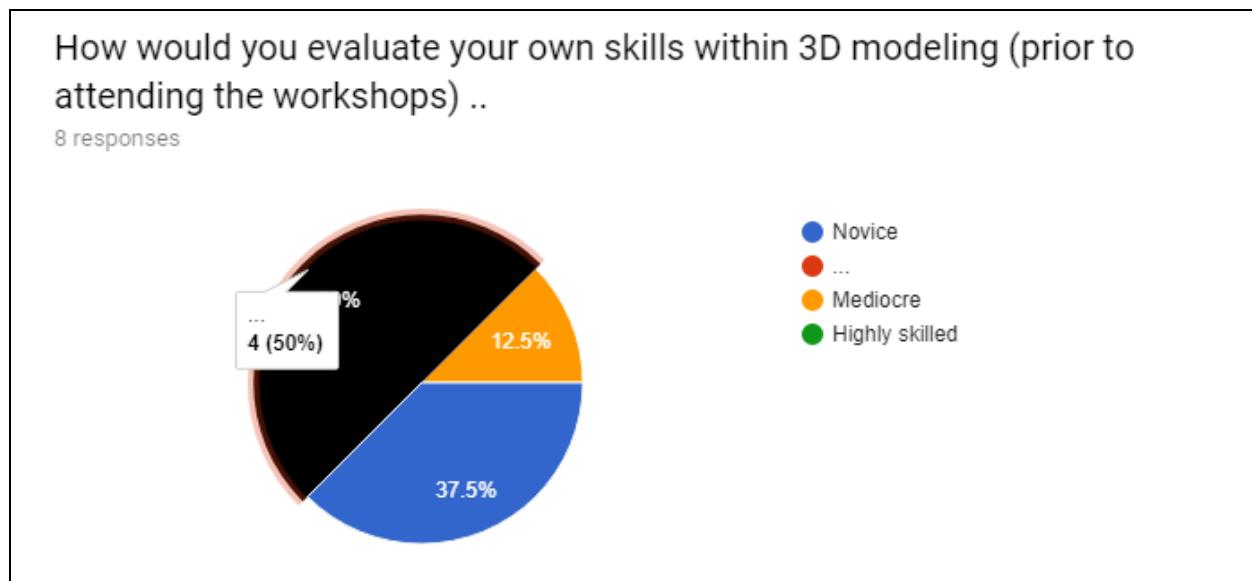
Final Words

The workshop worked better than we expected and students seemed to really like the fact we were teaching softwares that could make their work easier. The time we had to teach was too short so we didn't have time to explain some useful details in handful of softwares.

Evaluation questionnaire

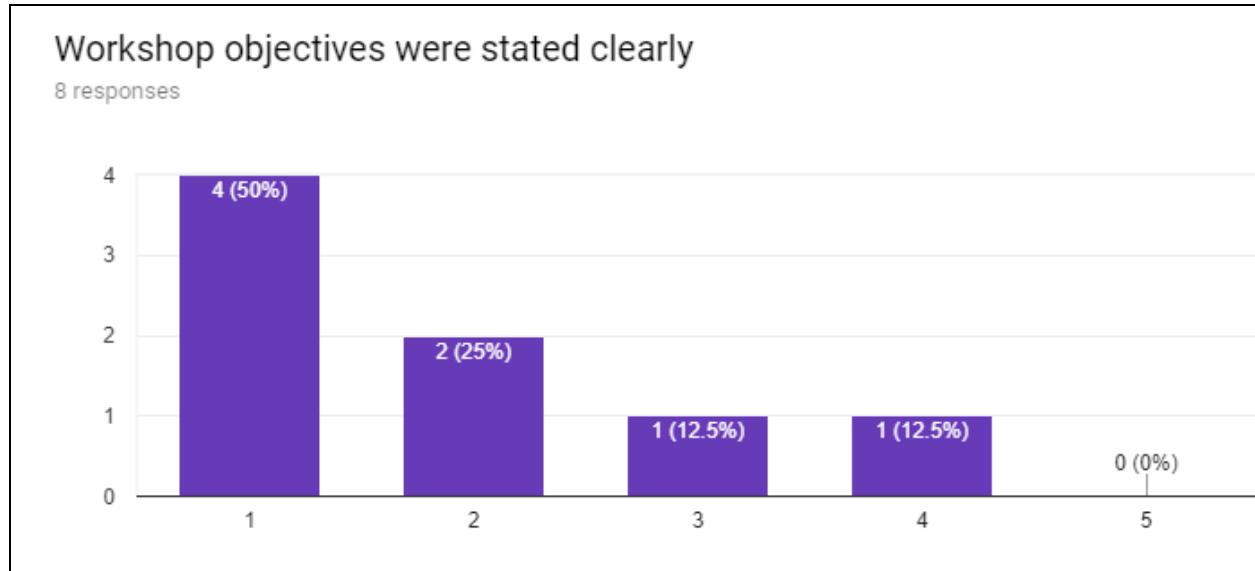


Of the students that answered only one was a VFX student while the rest were 1st year SPO.



Majority of the students considered their 3D modeling knowledge to be above average while while a little less than half evaluated themselves as inexperienced. We were not expecting the students to be too experienced in 3D modeling as most were 1st year students so these results were rather unexpected.

1: Very Clear - 5: Very Unclear

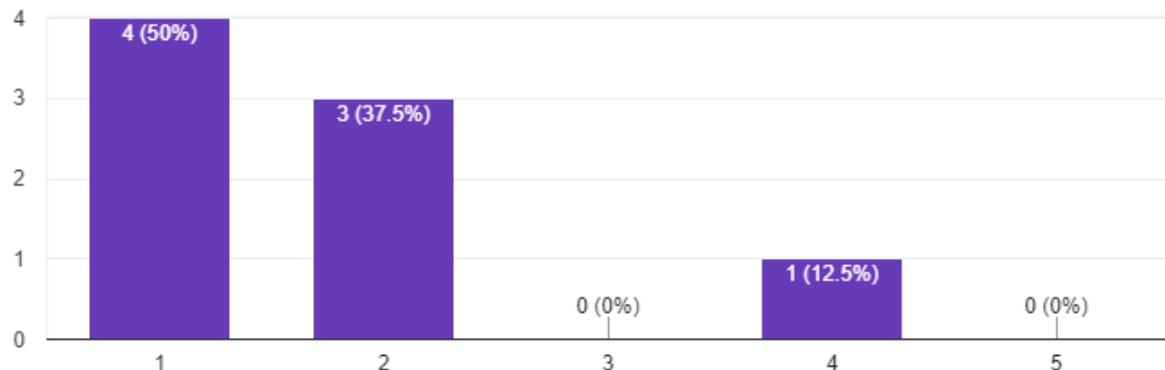


We did not want to be too strict with this workshop so we were open to changes to our schedule in case it would fit to our students better. For example we skipped one day as most of the students would be in another class at that time. We did however try our best to stick to teaching and focusing on concept and modeling on day 1, UV mapping and texturing on day 2 and lastly animation and rigging as well as importing an asset into a game engine. On our first day when we were introducing the workshop we went over our schedule.

1: Very Well - 5: Very Badly

Workshop was well organized

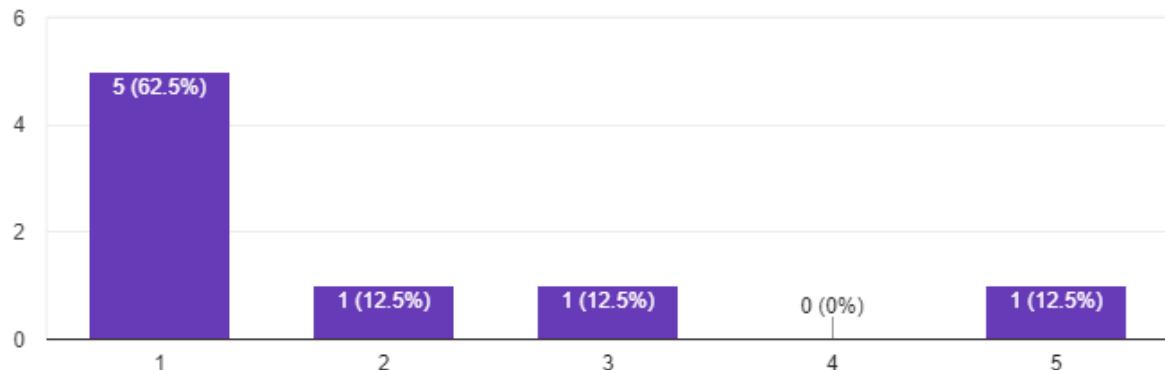
8 responses



1: Strongly Agree - 5: Strongly Disagree

Workshop helped me how to work efficiently between programs

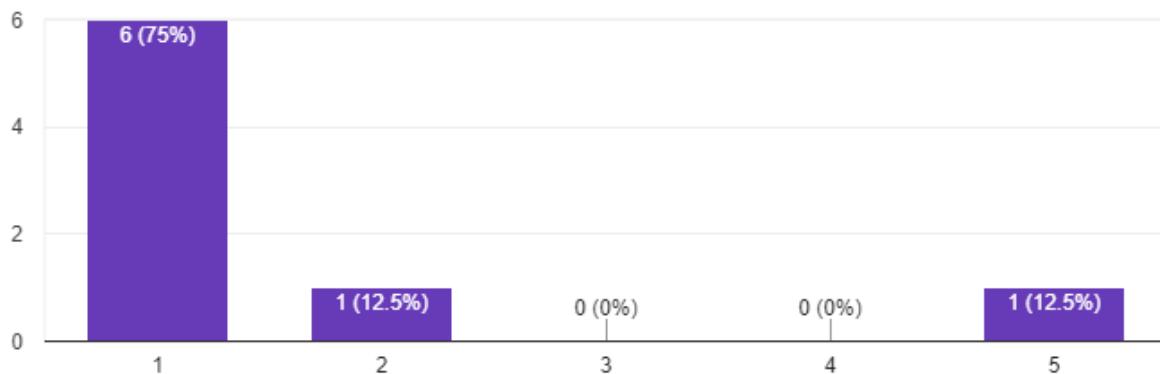
8 responses



1: Strongly Agree - 5: Strongly Disagree

The information and/or skills were relevant and usefull

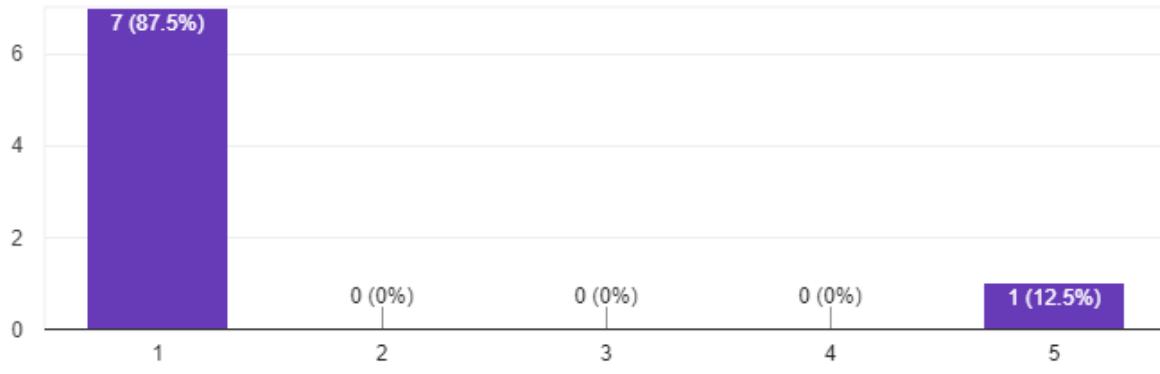
8 responses



1: Strongly Agree - 5: Strongly Disagree

The presenter provided adequate time for questions

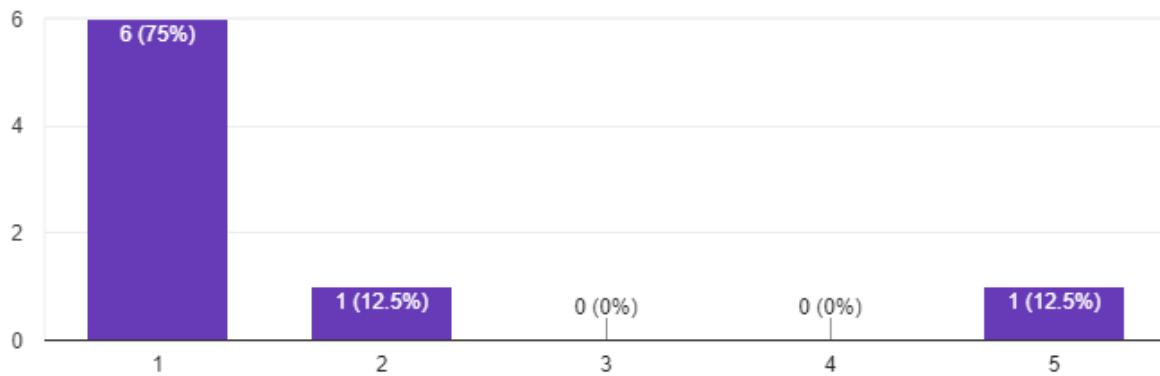
8 responses



1: Strongly Agree - 5: Strongly Disagree

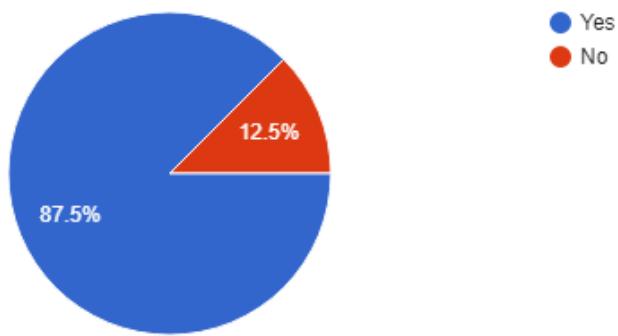
The presenter answered questions satisfactorily

8 responses



Were your peers helpful to you as well as the presenters?

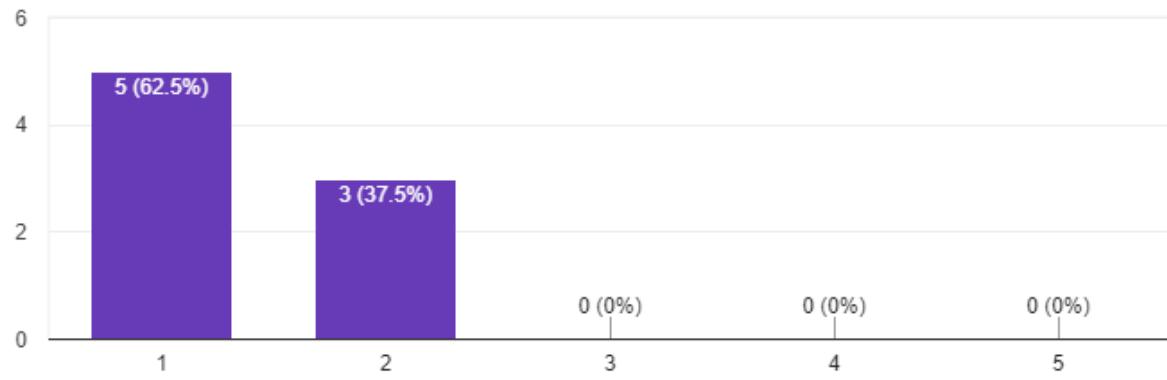
8 responses



1: Very Good - 5: Very Bad

How would you rate the pace and the amount of content in the workshop?

8 responses



What do you think, was the most important learning outcomes from these workshops?

7 responses

animations and rigging

Introduction to Mixamo and ProBuilder was very useful, UV mapping was awesome.

So useful tips and trick :) thank you so very much

Learned to use stuff that we haven't learned in class

Animation and Rigging

Using the software

Transferring files inbetween programs easy, and that I learnt about a lot of different useful programs

If you could do any changes to the workshops, what would you then do?

6 responses

nothing i guess

More time!

Unity doesn't work at the room ..

Maybe using some more of the programs we use for classes

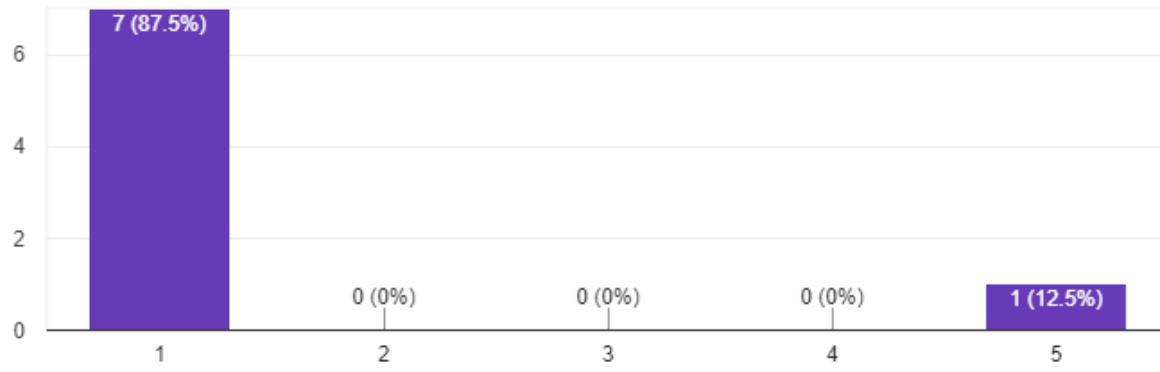
Go into more detail

Not much

1: Strongly Agree - 5: Strongly Disagree

The workshops motivated me to learn more about the subjects that were taught

8 responses



Do you have any other comments regarding the workshops?

2 responses

do it again please

Hope IT can fix the unity problem before workshop start