

**SM6P07NI Digital Media Project**

**20%Individual Coursework**

**2022-23 Winter**

**Student Name: Ashraya Singh Khatri**

**London Met ID: 19031980**

**College ID:**  **np01mm4a190077@islingtoncollege.edu.np**

**Assignment Due Date: , 2022**

**Assignment Submission Date: December 28, 2022**

**Word Count:1257**

*I confirm that I understand my coursework needs to be submitted online via Google Classroom under the relevant module page before the deadline in order for my assignment to be accepted and marked. I am fully aware that late submissions will be treated as non-submission and a mark of zero will be awarded.*

**Abstract**

The origins of animation can be traced to ancient history. Animation has existed in many forms throughout history, from the Greek pottery of the ancient world to the visual toys of the 17th century to the computer-generated imagery (CGI) of the 21st century. This report will include my research on animation and my reasons for selecting to create an animation on my digital media project.

With the help of my supervisors, Rakshak Sir and Pooja Ma’am, I was able to finalize my concepts. My concept for DMP is to create low poly animations and models as assets to be used in game developments. This project will showcase all the research, software used in order to complete the project.

Contents

[Introduction 1](#_Toc121522464)

[Literature Review 2](#_Toc121522465)

[What makes graphics for low-poly 3D games stand out? 6](#_Toc121522466)

[Principles of Animation 7](#_Toc121522467)

[Product Review 9](#_Toc121522468)

# Introduction

This project is our first proposal for Digital Media Project (DMP) for Multimedia Technologies. This project contains 20% of our total marks

under 100 for which we will be graded.

For the Digital Media Project, I have decided to create low poly animations and model assets to be used in gaming environments. I have decided to model low poly is as such games are seen in rise these days. They are easy to model and can be visually aesthetic. Additionally, rendering low-poly 3D models does not require a lot of processing resources. They are ideal for the on rendering for animation and gaming.

I plan to use Blender for modeling and animation, as it has tons of resources accessible. It can be used for all such as modeling, sculpting, animations, etc. It is diverse, so if you begin with Blender, you can approach more complex software and is great for solo projects.

# Literature Review

A literature review is a piece of academic writing that explains and demonstrates knowledge of the academic literature on a particular subject.

Game design refers to the entire process of developing an idea for a game and seeing it through to a completed playable game. Many people associate game design with video games, but it includes all types of games (board games, card games, video games, etc.).

Most 3D game content is created using the polygonal modeling technique, which involves using polys (polygonal shapes) to create a polygonal mesh in order to create a model. 3D artists use mathematical formulas to establish the appropriate proportions for a model and then edit each poly in the models to create a natural and aesthetic model.

This popular 3D modeling technique that are primarily used in games and designs are classified into high-poly and low-poly modeling methods. Since high-poly is used to create highly detailed and often lifelike models, artists create the model with a large number of polygons. At the same, the low-poly method uses fewer polygons to model a character or any asset, involving less for modeling and rendering.

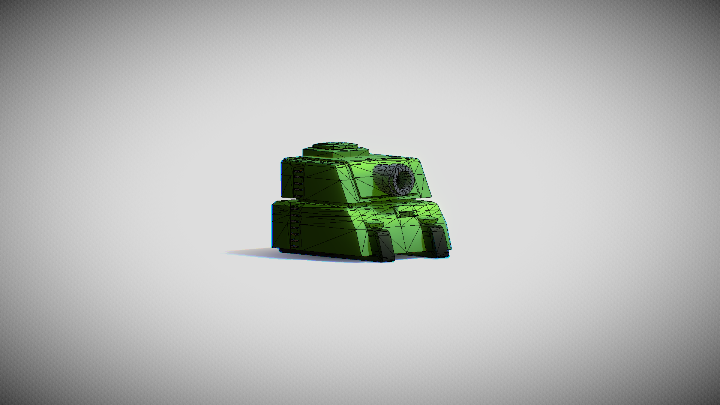
Low poly modeling has evolved into a distinctive style in recent years. Due to hardware limitations, models had to use lower polygon counts at first. However, hardware has progressed at a remarkable rate, and video games can now make use of a significant number of polygons to make amazing graphical contents with higher resolution textures and innovative shading techniques such as raytracing. Despite technological advances, there is a growing artistic movement that seeks to keep things simple.

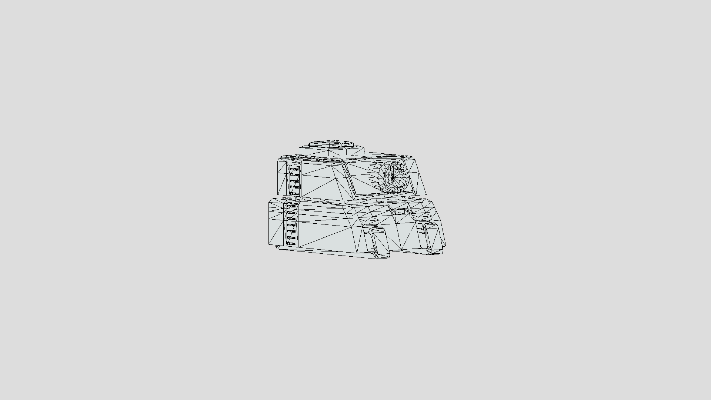
Low poly art is a popular style in video game design, animation, and illustration. Using rough polygons, you can make beautiful and simple-looking objects. Besides it’s simple and minimal appearance, low poly designs require a high level of creativity. Several artists have adopted this technique because of its distinctive shapes and colors, along with its aesthetics.

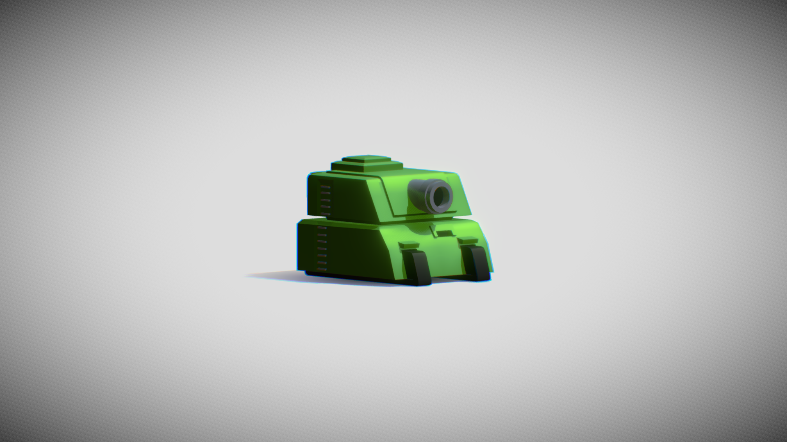
Low poly art allows us to play with our creativity to textures, shapes and color the model. Low poly objects have very little definition and are composed with fewer polygons.  The models achieve flat-shaded block appearance by using flat lighting. The designer uses topology, lighting, post-process, to design in low poly.



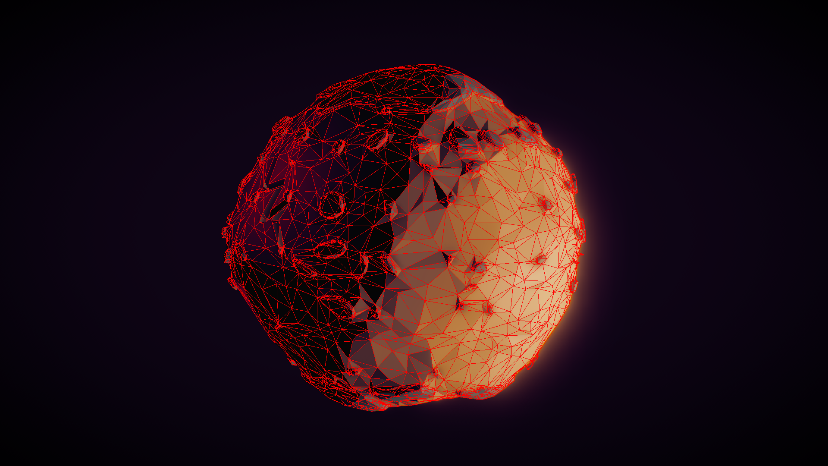
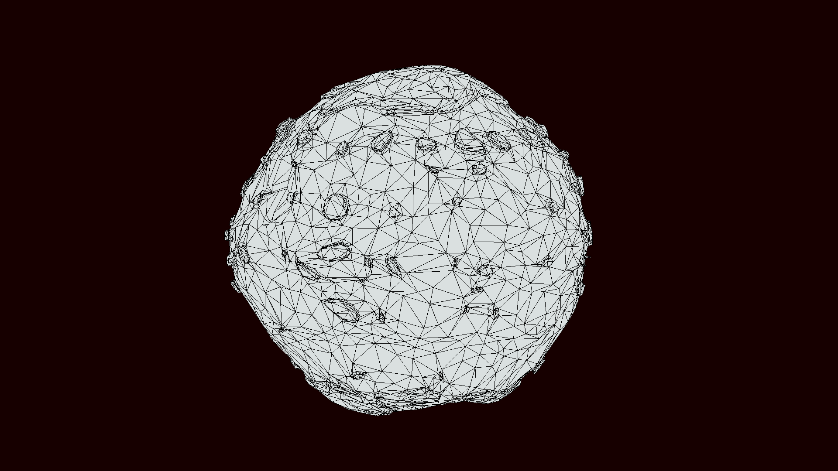


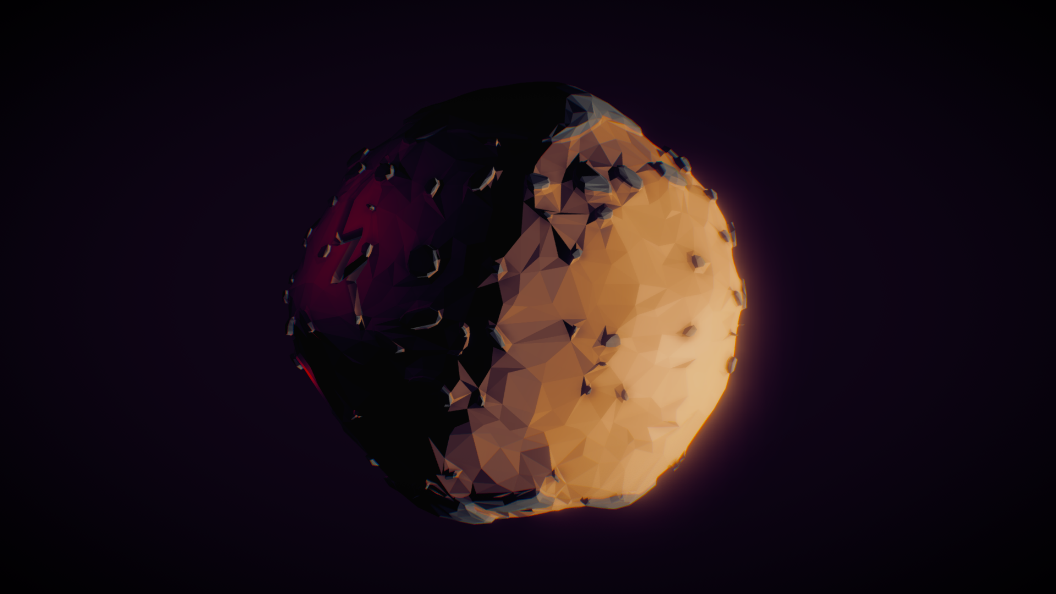






Various modeling methods can be used to create and design low poly models. We can see in the image above, that the tank was created by combining hard surface modeling techniques with post-processing effects. This produces a smooth look while keeping the actual modeling detailed to a minimum.





Triangulated mesh is another practice while designing low poly art style. This modeling method, as shown in the image above, allows the designer to add triangulated detail, which when combined with materials and rendering capabilities results in a nice triangulated low poly look.

## What makes graphics for low-poly 3D games stand out?

Low poly objects have less definition and are modeled with lesser polygons, spheres, cubes and cylinders. The models can achieve the desired flat-shaded boxy look by using flat lighting.

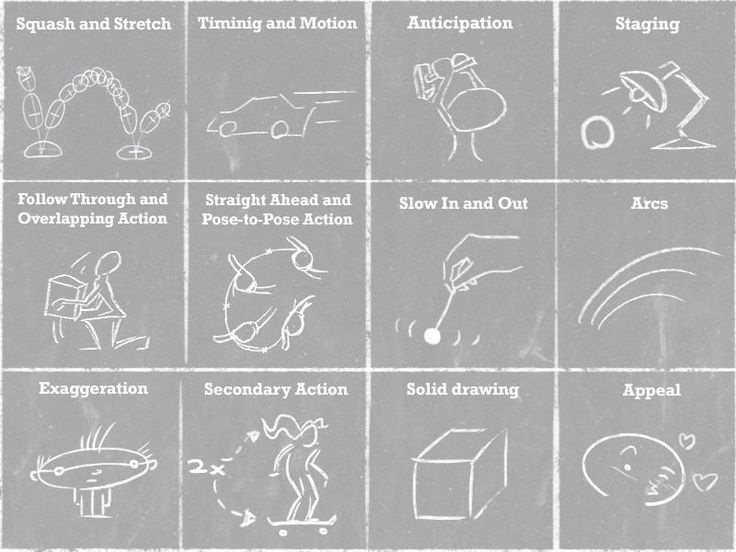
Using specific tools, we can make our model look smooth.  Most modeling   software includes a tool that uses smoothing methods to quickly reduce the number of polygons in models. Blender, for example, has a function called Shade Smooth, which also has an Auto Smooth option. By using this, users can create an angle (usually 30°) that will remove all the angles that do not fit.

When creating low-poly characters, we can give them a distinct style and a unique detail. When game characters look attractive and have some distinctive characteristics that capture the attention of gamers, they don't have to be photorealistic to make the project stand out.

Artists can use any polygonal shape to create a polygonal mesh when modeling, so they can pick anything from a triangle to a pentagon.  Since quads are well-transformed into subdivision surfaces, they are more suitable for low modeling.

## Principles of Animation

A collection of fundamental guidelines for the professional animator is called the 12 Principles of Animation. In the 1981 book The Illusion of Life: Disney Animation, Ollie Johnston and Frank Thomas outlined the list, which has been helpful to Disney animators since the 1930s. Nearly 40 years later, many of these fundamental concepts are still applied in classrooms and studios all around the world.



**Squash and stretch:**

The squash and stretch rule are regarded as being the most crucial. When used, it creates the impression of gravity and flexibility in your animated figures and objects.

**Anticipation**

The building of anticipation helps the audience get ready for what's about to happen. When used, it results in a more realistic action for the object.

**Staging**

Staging is very similar to artistic composition. This means that you should use motion to direct the viewer's attention and highlight the essential aspects of the scene.

**Timing**

The effect won't be convincing if you move an object faster or slower than it would move normally in the actual world. You may direct the tone and the behavior of your characters and objects by using the correct timing.

**Appealing**

The viewer must be interested in your characters, products, and the environment in which they exist. This includes having a design that is simple to read, strong drawings, and personality.

# Product Review

It is a low-poly style game with a rich world full of detail and vibrancy. The character designs are also creative, with some unique creatures to encounter throughout the game.

The display of the world is lovely, with its mixes including almost monochrome locations and it’s burst of beautiful color palettes, along with the vast world you can visit which promises something new with every new encounter.

Tunic is an elegant mix of low-poly 3D models and beautifully illustrated visual elements that help to fill the gap between Zelda like adventure and the mystic elements showed later.

Ashen is an action RPG game, which takes inspiration form the Dark soul’s franchise. Ashen tells a story about a battle between light and darkness, which is enhanced by excellent voice acting.