

# CHAPTER I

## INTRODUCTIONS

### 1.1 Background

Games have become a popular medium for artistic expression in the digital age. Compared to movies and literature, games are more widely accepted due to its immersive experience that players can enter. The same game may be enjoyed by diverse audiences of all ages in all countries. A game is a system in which players engage in an artificial conflict, defined by rules, that results in a quantifiable outcome (Salen & Zimmerman, 2004). A wide range of games have been made possible by the quick advancement of computer technology. A role-playing game (RPG) is a game in which players take on the role of characters that can interact with those around them in the fictional world of the game. The video game industry has undergone an evolution in technology in recent years. Many video games can be played in three-dimensional (3D) or even Head-Mounted Display (HMD VR) based virtual reality environments, in comparison to traditional two-dimensional (2D) virtual environments. It is believed that a 3D environment is more vivid and realistic than a 2D one [1-2]. Fantasy and science fiction settings are common in role-playing games. RPGs typically consist of a main story and plot, along with extra side missions where players can advance the game and enhance the skills of their characters.

Simultaneously, as Japanese animation culture expands globally, people's preference for characters that resemble anime is growing. The phrase "anime-like"

describes a style that resembles Japanese anime but is not realistic. Instead of adapting realistic art style that typically imitate the appearance of the real-world objects that has rather high-resolution textures, realistic animations, and advanced lighting and shading methods, stylized art style is applied to this project. Stylized art styles adopt and artistic images with non-literal approach that might include hand-drawn textures, exaggerated features and proportions, cell shading, and distinctive art forms like comic book or anime. Games with anime-like graphic has an enormous appeal because of its distinctive style and unique charm aside from the story aspect. For example, Genshin Impact by miHoYo that has a big success since its release, highly acclaimed for its beautiful graphics, rich storyline, and diverse character set.

Modeling is the stage in which the objects or characters are generated. This can be done either by using a modeling tool or by scanning real objects into a computer. A 3D model is essentially made up of vertices, which come together to form a mesh and act as the core of the 3D model. Each point on the model can be manipulated to change the shape. By using coordinate data, the software identifies the location of each vertical and horizontal point, all relative to a reference point. There are various methods on creating a 3D character asset, namely through polygonal modeling, NURBS modeling, subdivision modeling, and many more.

Throughout this research, the author will create 3D Asset character modeling that are aimed to capture a distinctive stylized Japanese Anime style for the Prism Odyssey game. Designing the 3D character asset will take references

through anime-stylized games like Genshin Impact. To achieve this, utilized the modeling technique such as NURBS and polygonal modeling to help create the characters in order to produce smoother yet cartoony contours that are similar to the character initial design.

## **1.2 Problem Formulation**

The issue for this research can be stated as follows in context of the previously stated background:

1. How to visualize stylized 3D characters to match the Japanese Anime style.
2. How does using the NURBS modeling method affect the process of creating Prism Odyssey game.

## **1.3 Problem Limitation**

According to the background that has been presented, the objectives, challenges, and limitations of this study are as follows:

1. Research only focused on creating 3D models and texture of character assets.
2. What will be tested in this game are the concept, 3D models and textures of character assets.
3. The method used within the creation is MDLC method.

## **1.4 Research Objectives**

The following objectives of this research can be inferred from the research problem and limitations which conclude:

1. Create 3D character assets for the game Prism Odyssey.
2. Being able to utilize NURBS modeling technique into creating a 3D character asset according to the intended style.

### **1.5 Research Benefits**

Within this research, the following benefits are expected:

1. For Author

This research added hopefully could add insight and understanding by studying and doing problem solving. Additionally, increase analysis skills and implement the principles of making game assets, particularly the characters. Then it becomes one of the main requirements in completing Bachelor Degree of Information Technology education at AMIKOM University of Yogyakarta.

2. For Readers

The purpose of this final project is to provide information and insight into the process of creating 3D character assets for video games. The author also hopes that this research will be used as an academic and art reference.

### **1.6 Writing Systematics**

Upon the creation of this research in order to overcoming the problems that have been raised, the systematics of writing this research is divided into several chapter which include the following:

CHAPTER I INTRODUCTION, contains the background, problem formulation, problem limitation, research objectives, research methods, research benefits, and writing systematic.

CHAPTER II LITERATURE REVIEW, contains literature studies and describes the theories that are used in the discussion of the object of research and matters related to the problem.

CHAPTER III RESEARCH METHOD, describes the overview of the object of research, analysis needs with solutions offered, and the pre-production process of making the 3D character asset.

CHAPTER IV RESULTS AND DISCUSSION, this chapter describes the results and production process of making the 3D character asset, post-production process, and evaluation stages.

CHAPTER V CLOSING, contains the conclusions and suggestions from all the research that the author has done.