CHAPTER I
INTRODUCTION

1.1. Background of the Study

3D modelling refers to the technique of creating assets in a digital space that has three axes, namely length, width, and depth, or volume. In this digital age, 3D is often used in various applications, such as games and films, with the aim of creating digital scenes that are difficult to replicate in the real world using live shot techniques.

The film "Battle Park" made by CV PARAMA tells the story of two people fighting over a motorbike parking space, where this conflict escalates until the two characters launch punches at each other. In the peak of the battle, they used magical powers to summon elemental creatures in 3D.

The use of 3D for this asset made it possible to capture transparent textures of "Monster Air", which would be difficult to replicate and less efficient with other methods. This practice-based research begins with an archetype analysis of mythical aerial creatures and continues with an analysis of anatomy and movement for rigging purposes. Then, proceed with creating 3D models using various methods, such as sculpting in ZBrush and polygonal modelling in Blender. ZBrush is CGI software that can handle very high poly counts, allowing artists to work on highly detailed 3D models [1].

This process is continued by the rigging process, which utilizes bones, weight painting, skinning, and modifiers to create a functional rig, accompanied by flowing water effects using NURBS modelling and geometry nodes. Lastly, high-res textures are painted in Substance Painter using a non-destructive layer approach. Render issues might appear for the water simulation as it is a heavy computational task, which needs to be optimized.

Thus, in this document, the author will discuss supporting theories, technical methods, and workflow in the creation process of the "Monster Air" asset for animation purposes in the film "Battle Park" by CV PARAMA.

1.2. Problem Formulation

Based on background of the study, the following is the problem formulation for this thesis:

How to implement sculpting, retopology and NURBS simulation methods in creating a character with water visual?

1.3. Scope of Study

Based on the background description and problem formulation, the author will focus the problem limitations on:

1. Research only focuses on creating the 3D Asset "Monster Air" character in the film "Battle Park"
2. In the modelling process the author will use sculpting and retopology methods.
3. Rigging was created using the Rigify add-on with modifications that utilize modifiers.
4. Examiners are mentors from CV. PARAMA.

1.4. Research Merit

The objectives to be achieved in compiling this thesis are as follows:

1. Explain implementation of sculpting, modelling, rigging and texturing techniques in the process of creation "Monster Air" in "Battle Park"
2. To meet the need of "Monster Air" assets.