

CHAPTER 1

INTRODUCTION

1.1 Background

In a recent survey in the US, Skateboarding was found to be the 3rd most popular sport with teenagers, coming in just under football and basketball [1]. Skateboarding has grown a ton in popularity over the last few years but there are still a lot of people out there who do not know how to skate a skateboard since there is few and less ineffective ways to learn how to skate. Most people learn how to do skate tricks by watching other people skates either exactly watching them in real time or from recorded videos because there are actually only few media that supports it effectively.

At first, all tricks in Skateboarding are inventions by someone who first came up with each trick and skaters will always be able to create their own tricks with their own skating style. There are countless popular tricks in skateboarding; one of the examples is Ollie, which is invention by a skater named Alan Gelfand. He would slam his back foot down on the tail of his board and jump, thereby popping himself and the board into the air and land smoothly on his board.

Some people had tried to give basic trick instructions by using 2D drawings. They draw the process of doing the trick each step showing the foot movement in the air. This method is actually useful in learning the trick but somewhat lack of important details such as the stance, the foot position on the board. Advanced illustration technology nowadays such as 3D modeling and animation using tools to create a skater model and do the skateboarding tricks applied into use as a simulator to give assistance for skateboarding beginners. Using 3D models, we can view each trick in skateboarding accurately using more than one angle and repeatedly.

1.2 Scope

This Street Skateboarding Theory Simulation: Character Movement and Environment relates to other topic of Street Skateboarding Theory Simulation: A User Interface Design to Learn Street Skateboarding. Some of the things covered, such as:

- The body movement especially leg movements in each trick.
- The tricks are included in the two categories, which are beginner and amateur. The professional tricks are inappropriate in this simulation since professional tricks are more or less the combination of the basic tricks, which definitely has higher difficulty level.

- In order to provide users with convenient viewpoint to watch and learn the skateboarding tricks, three or more cameras will be included to follow the body movement, each from different angle.
- Slow motion and zoom feature applied to give easiness in following the trick process.
- Character has interaction with the environment. The environment will have a theme that relates to street skateboarding, such as stairs, road, pavement, etc.

1.2.1 Assumption

- The user understands how to use computer

1.2.2 Constraints

- The user are lack of experience in computer
- Computer specification limitation.

1.3 Aims and Benefits

This thesis objective is to build a Street Skateboarding Theory Simulation to give an effective ways and alternative to learn skate tricks. The benefits of having the Street Skateboarding Theory Simulation are as followings:

- Learn skate tricks effectively with help of accurate view from different angle.

- The movement can be slow down in order to catch the right movement at the right time.
- Attract more people to try and learn street skateboarding
- Usually skaters need to skate with friends in order to learn tricks but with this simulation, one can learn skate tricks by him/herself.
- Increase one's knowledge about street skateboarding instructions and tricks.

1.4 Structures

This section will include the general description of each chapter in this thesis:

Chapter 1 – Introduction

Chapter one is going to outlook with the general context of the paper, describing the backgrounds of skateboarding, the scope of our research and all assumptions and constraints of the problem, the aim for this thesis, and also the structures of how are we going to elaborate our research theories, method, and results.

Chapter 2 – Theoretical Foundation

In chapter 2, we will give explanation about the theoretical definition about skateboarding, modeling, and also frameworks which will be used as a basis to support the design of the skateboarding simulation. Further explanation and details will be included in the next chapter for the skateboarding terms and animation technique.

Chapter 3 – Problem Analysis

Problem analyses of the current assistant media or tools, particularly computer graphics software used for 2D drawings, modeling, animation, and recorded skate video, are discussed in this chapter. The discussions are mainly about the issues of the present learning method that need detailed development. The research of the problem analysis will include interviews and questionnaires.

Chapter 4 – Solution Design

After knowing all of the main issues in the existing learning method, we will discuss the solutions design for the problem analyses elaborated previously. The solution design will have the interview and questionnaires result as the basis of the simulation design.

Chapter 5 – Testing and Implementation

This chapter will explain about the implementation of the solution design using specific tools and also the testing method will be used.

Chapter 6 – Evaluation

This chapter is to evaluate and clarify the important results; in this case there will be a mock up prototype that is observed by a group of people selected randomly.

Chapter 7 – Conclusion and Recommendation

This is the last chapter which will consists of the conclusion based on what have been done in the analysis and design of the simulation. It will also consist of the recommendation to improve the simulation further.

