

CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

Recently, the topic of football is the most talked topic of holding the FIFA World Cup 2014 in Brazil. When talking about football, it would be with the way the players in our favorite team showed their skills and expertise while on the field. Possession, attacker skill, defense skill and players who are in the middle, they are able to have an impact during the match. Furthermore, the cooperation of all members is also important and can be seen when the players do on passing skill during the match. Speed of the ball also should be analyzed to get perfect target during attack or defend.

Various studies and knowledge gained during this era of the ways to study the speed of the ball during the game because it is very useful and can be used by soccer coaches in world wide. Based on observations the importance of studying after the match of a football game is to improve their game pattern and this is one of the strategies to win. Study of the speed of the ball and the movement of the ball is the one of the hot topic during the analysis after the match between coach and player. The reason why need to study about the speed of the ball because, they can know how powerful their kick, any improvement or not. Furthermore, they can analyze how to control their ball in many situations.

By using this system, football player can easily analyze their pattern of the game and trying to improve their skill, especially how powerful they kick the ball by using this system they can determine the speed of the ball.

1.2 PROBLEM STATEMENT

A lot of effort gift by all researchers because they are still make the topic of analysis of football speed still alive. But only a few of them are successfully done because the analysis of football speed by using image processing is still complicated task and challenging job.

To collect the data, we need to identify the feature of the ball such as, size, color, and shape. This is because the image will not easy to interpret the data, especially there are many things that can be similar to the ball. As a result, the systems are not easily to detect and trace the movement of the ball because of there are many images that can be similar and confused during the process.

1.3 OBJECTIVES

The main objectives of this preliminary study are:

1. To detect a football by using 3D video image.
2. To tract the movement of the ball
3. To analyze the speed of the ball

1.4 SCOPE OF STUDY

In order to achieve the objectives, there are important task needs to be carried out:

1. Develop software that could detect a football in 3D real-time video.
2. Develop software that could tract a football in 3D real-time video.
3. Build algorithm for the movement of ball and speed analysis.

1.5 BENEFIT OF THIS PROJECT

1. Easily to investigate and analyze the movement of the football at the field.
2. To study the powerful of the ball especially for short distance kick.
3. Football player and coach can study their own team and try to make improvement.

1.6 EXPECTED OUTCOME

1. Creating a 3D image video application or creating software that can detect the movement of ball during the game.
2. Capable to determine the speed of the football and the movement of the ball by consider the distance of the ball.