

**UNIVERSITI TEKNOLOGI MARA**

**DESIGN, ANALYSIS AND  
FABRICATION OF AUTOMATIC  
FOOTBALL BALL  
LAUNCHER**

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## **ABSTRACT**

In this modernizing world, a variety of modern sports equipment inventions have improved the athletes' ability suited to their respective sports. The project titled 'Design Analysis and Fabrication of Football Ball Launcher' was chosen because there are a lot of grassroot level athletes who do not have access to the machine. The objective of this project is to design and fabricate a football ball launcher that is not too costly. This project requires a lot of researching in terms of the design skills, dynamic application of the machine, the strength of the material used and the selection of the right materials to be used consists of the body materials used and the electrical parts. The rotating mechanism of the wheel should rotate properly to allow the ball to be launched properly. In conclusion, this automatic football ball launcher will be the cheaper alternative to the automatic sports equipment available on the market because it is offered more at the first world countries.

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# **CHAPTER ONE**

## **INTRODUCTION**

### **1.1 Background of Study**

The main purpose of this project is to design, analyze and fabricate design which is Automatic Football Ball Launcher with a low-cost budget.

Football is widely played in this era of globalization. It is impossible for a human in this modern era do not to know about football. As of 2017, it is followed by around 3.5 billion people, or nearly half the world[1]. Estimated about 250 million professional players are active in over 200 countries and territories making it the world's most popular sport. It is mostly dominated by players from South America and Europe[2]. This can be caused by the existence of an effective sport facilities in the country. One of the main facilities is this machine, the automatic football ball launcher.

Through times, numerous types of automatic football ball machine have been developed more in the European country as they have a good demand from the competitive football tournaments there. These days, Malaysia's football tournaments have been more exposed to its citizen because of the increasing football talents. To cater and create potential talents, the automatic football ball launcher should be invented to support their hidden skills.

### **1.2 Problem Statement**

In Malaysia, especially from primary to secondary school level of athletes, they have no access to modern sports equipment as their school is not a sport-focused school. It is because the schools' fund cannot afford to spend on one as it is too expensive in the market. As a result, those young athletes' talent cannot be polished, resulting to their potentials being wasted.

To solve the problem, ball launcher is introduced to reduce the limitations of human ability to deliver constant speed and elevation characteristics of the ball movement. This trait must be more focused on more as in the real football match, the players will certainly experience random, inconsistent situations of the ball movement