

UNIVERSITI TEKNOLOGI MARA

**DESIGN, FABRICATION AND
REFINEMENT OF AUTOMATIC
FISHING ROD SNATCHER**

MUHAMMAD HAKIM BIN RASDI

Dissertation submitted in partial fulfillment
of the requirements for the degree of
Diploma
(Mechanical Engineering)

College of Engineering

February 2022

ABSTRACT

This project illustrates the design, fabrication, and refinement of an existing automatic fishing rod holder. This project is designed to help people who fish frequently as a hobby. Fishing for prolonged hours often presents a few problems; due to the inability of continuously keeping an eye on the bait, the consumer risks getting caught off guard and losing catch. Other than that, the consumer will sometimes not realize if a fish has eaten the bait. In this project, this product will help them to dissolve those issues. The typical automatic fishing rods sold in the market are likely fishing rod holders that contain a spring to pull up the fishing rod if the fish ate the bait. But for this project, the fishing rod snatchers will have LED, alerting the user if there are motions on their fishing rod. The fabrication of the product will require the materials of stainless steel. In addition, it needs machinery and tools such as scriber, milling machine, bench drilling machine, grinder machine, and arc welding machine. These machines and tools are used in fabrication for measuring, cutting, shaping, and joining. The cost of the product is also calculated based on the product available in the worldwide market like Shopee and Lazada. It concluded that this project would help enlighten the user to use fishing rod holder with its result that have features of having spring and LED light.

ACKNOWLEDGEMENT

Firstly, I wish to thank God for giving me the opportunity to embark on my diploma and for completing this long and challenging journey successfully. My heartfelt gratitude and thanks go to my supervisor, Madam Nur Kamarliah Kamardin for providing me with wonderful opportunity to work on this project of automatic fishing rod snatcher, which allow me to do a lot of research and learn a lot of new things.

Finally, this dissertation is dedicated to my father and mother for the vision and determination to educate and helping me in completing this project in such a short amount of time. This piece of victory is dedicated to both of you. By making this project not just for the sake of getting good grades, but also to expand my knowledge. Alhamdulillah.

TABLE OF CONTENTS

	Page
CONFIRMATION BY SUPERVISOR	ii
AUTHOR'S DECLARATION	iii
ABSTRACT	iv
ACKNOWLEDGEMENT	v
TABLE OF CONTENTS	vi
LIST OF TABLES	ix
LIST OF FIGURES	x
LIST OF ABBREVIATIONS	xii
CHAPTER ONE : INTRODUCTION	1
1.1 Background of Study	1
1.2 Problem Statement	2
1.3 Objectives	2
1.4 Scope of Work	3
1.5 Significance of Study	3
CHAPTER TWO : LITERATURE REVIEW	4
2.1 Information of Existing Products, Patents and Standard	4
2.2 Product Design Specification Based on Literature Review	9
CHAPTER THREE : METHODOLOGY	11
3.1 Introduction	11
3.2 Concept Design	11
3.2.1 Design 1	11
3.2.2 Design 2	12
3.2.3 Design 3	12
3.2.4 Design 4	13
3.3 Concept Design Evaluation	14
3.3.1 Criteria Explanation	15

CHAPTER ONE

INTRODUCTION

1.1 Background of Study

Fishing is one of the most popular activities that are known to many. There are a lot of types of fishing rods based on the fish and the water in which the fishing session occurs. Every type has a different purpose. But for a fishing rod holder, there are very few types of them. The fishing rod holder is essentially used to place the fishing rod. It was invented to aid fishermen by allowing them to not endlessly hold the fishing rod as they wait for the fish to take the bait.

Normal fishing rod holders that fishermen typically use always have problems such as being too lightweight that makes it easy to be pulled, especially by big and wild species of fishes. Besides that, fishing rod holders are often made of cheap materials which aren't stainless. In addition, the basic fishing rod holder design is also not suitable for wet dirt environments. This is because the moist soil is slippery. This can cause the normal fishing rod holder to rust because of water and pulled off by aggressive kinds of fish. Moreover, people do not always keep an eye on their fishing rod. In this situation, they would be distracted by other things-the skies, the trees, songs on their mp3 player and more. Therefore, it is common for people to react late when the bait is pulled.

So, in this project, fishing rod snatchers are an upgraded version of the common fishing rod holder that is more formidable, durable, and contains a spring that will automatically snatch the fish if the fish pulls on the bait. It is also installed to make a sound that will alert the fisherman to take the fishing rod and start reeling in. The fishing rod snatchers also will have LED lights that can be turned on and off to help people fishing during night-time. The holder is also adjustable.