

UNIVERSITI TEKNOLOGI MARA

**DUMBBELL WEIGHT RACK
SENSOR**

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ABSTRACT

This project addresses the common issue of gym goers failing to rerack dumbbells despite reminders and fines. Despite efforts such as posters and fines, some individuals continue to disregard the importance of reracking weights after use. The objective of this project is to educate gym goers about proper gym etiquette to create a more organized and convenient environment for all users. To achieve this, a buzzer system will be implemented to remind or slightly embarrass users who fail to rerack their weights correctly. This approach aims to encourage accountability and responsibility among gym goers. By making gym users feel like the space belongs to them, we think they'll be more likely to follow the rules about putting weights back where they belong. Consequently, the anticipated result is a noticeable improvement in weight placement, ensuring that the gym remains orderly and accessible to all. This project aims to create a friendly and helpful atmosphere at the gym, where everyone cares about each other. By teaching people, the right way to behave and making sure they follow the rules, we want to make the gym a happy place where everyone can work out without any problems. Overall, the implementation of this project aims to enhance the overall gym going experience for all participants, fostering a sense of community and mutual respect among users.

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CHAPTER ONE

INTRODUCTION

1.1 Background of Study

Nowadays, everyone is determined with having a perfect body. Working out is good for both physical and emotional health. After the pandemic gym has been the new added routine in people's life. Gym memberships has been growing drastically since then. There are a wide range of ages that you can see in the gym such as teenagers, adults, middle-aged adults and sometimes senior adults [1].

Well, with this different range of ages comes many types of ego as well. Meaning by that has created a problem which is the issue of re-racking dumbbells in the correct order. Moreover, it will affect the other gym goers to use it.

Some gym has a solution to overcome this problem by labelling where should the desired dumbbell be placed. Other than that, gym also hang many posters around the gym saying, "*Please re-rack the weight*" [2] and sometime say something sarcastic such as "*You don't re-rack because you have chicken leg*" or some sort. This solution is quite not effective for every gym because when people see someone doing something wrong, they feel a bit scared to tell them because of their big body.

Hence, the use of dumbbell weight rack sensor is suitable for this type of problem. The sensor itself will detect if the correct weight is place in the right placement or not. Additionally, the sensor will give a sense of reminder or embarrassment to the user.

The aim of this project is to make the gym a better place with all the weight being in the correct place for the other gym goers to use with ease without the hassle to find the missing pair in the gym.