UNIVERSITI TEKNOLOGI MARA

BOWLING SHOES AUTOMATIC SYSTEM USING IOT

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ABSTRACT

The current bowling shoe system is manual, with staff handling each pair based on customer size. This method requires more workers and increases monthly salary costs. The current process can increase the risk of viruses and bacteria spreading between worker and customers, as well as causing unpleasant smells at shoes. The project aims to develop a automatic system for bowling shoe management, ensuring a safer and more efficient environment using Arduino Microcontroller. The prototype will generate both software and hardware results. This study proposed an IoT-based automated bowling shoes system the aim of this study is divided into two parts. The first part is the hardware which consist of IR sensor, PIR sensor and keypad as input and LCD that can connect with Wifi-module ESP8266 with blynk application, motor and LED as output. Both input and output are connected thru microcontroller Arduino Mega 2560. The second part is software. The software that had been used is Proteus 8 Professional, Arduino I.D.E and Tinkercad. As a result, this system management will provide a more efficiently and safe environment.

Keyword: bowling shoes, Internet of Things, PIR sensor, IR sensor, Arduino Mega 2560, proteus 8 professional, wifi module, LED, LCD.

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CHAPTER ONE
INTRODUCTION

1.1 Project Overview

Internet of things (Iot) system is a system that operates using internet connected network which related to many devices such as sensors, software and machines that allows to communicate and take action without any human involvement [7]. IoT systems are commonly used in many industries and sectors such as manufacturing, healthcare, transportation, agriculture, and smart cities in order to monitor and control equipment which is more secure and more effective. This system consists of four key part which are sensor or device, connectivity, data processing, and a user interface. The function of a sensor or device is to collect and transfer data across a wired or wireless network to a cloud-based data storage system where it can be processed and analyzed [6].

All this time, the bowling shoe system currently works in manual where there is staff member will hand out the shoes according to the customer's size. Customers will ask for a size change when the shoes do not fit properly, and they will have to wait longer. In addition, this method will require more workers because of the company's shift schedule. Thus, the more employees a company has, the more money it must spend each month to pay employees' salaries.

The concept behind this project is bowling shoes automatic system which using Iot system. This project acts as self-serving system which can serve customers bowling shoes when customers enter number some number that user get from counter and enter their shoe size after measuring their feet with automatic measuring feet. Customers will take out the bowling shoes from rack and replace customers own shoes, at the moment, the LED will turn on because there are shoes in the rack. after return the shoes on the rack, consumers must enter the number that user received. When the bowling shoes was detected in the rack, the LED turn off and the motor will press a bottle spray to spray the shoes that have been used. In this project, IoT was utilized to provide the user with size information after measurement for the manager uses to for storage management.

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