POLITEKNIK SULTAN SALAHUDDIN ABDUL AZIZ SHAH

Water Quality Monitoring System With IOT

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JABATAN KEJURUTERAAN ELEKTRIK

SESI 2 2021/2022

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This report submitted to the Electrical Engineering Department in fulfillment of the requirement for a Diploma in Electrical Engineering

JABATAN KEJURUTERAAN ELEKTRIK

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CONFIRMATION OF THE PROJECT

The project report titled "Design a Fingers Exergame to Improve Fine Motor Skill for Autistic Children Using Arduino" has been submitted, reviewed and verified as a fulfills the conditions and requirements of the Project Writing as stipulated

Checked by:

Supervisor's name :

Supervisor's signature:

Date :

Verified by:

Project Coordinator name :

Signature of Coordinator :

Date :

"I acknowledge this work is my own work except the excerpts I have already explained to our source"

1. Signature : 

Name : **Joshua Wong Jian Jun**

Registration Number : **08DEP19F1023**

Date : **23 May 2022**

DECLARATION OF ORIGINALITY AND OWNERSHIP

TITLE : DESIGN FINGERS EXERGAME TO IMPROVE FINE MOTOR SKILL FOR AUTISTIC CHILDREN USING ARDUINO

SESSION: DECEMBER 2017

1. I, **1. Joshua Wong Jian Jun**

   is a final year student of **Diploma in Electrical Engineering, Department of Electrical, Politeknik Sultan Salahuddin Abdul Aziz Shah**, which is located at **Persiaran Usahawan,40140 Shah Alam Selangor Darul Ehsan**. (Hereinafter referred to as 'the Polytechnic').

2. I acknowledge that 'The Project above' and the intellectual property therein is the result of our original creation /creations without taking or impersonating any intellectual property from the other parties.

3. I agree to release the 'Project' intellectual property to 'The Polytechnics' to meet the requirements for awarding the **Diploma in Electrical Engineering** to me.

Made and in truth that is recognized by;

a) **Joshua Wong Jian Jun**) .
(Identification card No: - 011008130605)) ....…….
) **Joshua Wong Jian Jun**

In front of me, Click here to enter text. (Click here to enter text.)) .....……
) Click here to enter text.
As a project supervisor, on the date:

ACKNOWLEDGEMENTS

I have taken efforts in this Project. However, it would not have been possible without the kind support and help of many individuals and organizations. I would like to extend my sincere thanks to all of them. I am highly indebted to Puan Akmarya Sykhairilnisah Bt Mohd Akhir for their guidance and constant supervision as well as for providing necessary information regarding the Project & also for their support in completing the Project.

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ABSTRACT

Water pollution is one of the biggest fears for the green globalization. To ensure the safe supply of the drinking water the quality needs to be monitor in real time. In this paper we present a design and development of a low-cost system for real time monitoring of the water quality in IOT (internet of things). The system consist of several sensors is used to measuring physical and chemical parameters of the water. The parameters such as temperature, PH, turbidity, flow sensor of the water can be measured. The measured values from the sensors can be processed by the core controller. The Arduino model can be used as a core controller. Finally, the sensor data can be viewed on internet using WI-FI system.

ABSTRAK

Pencemaran air adalah salah satu ketakutan terbesar untuk globalisasi hijau. Untuk memastikan bekalan air minuman selamat, kualiti perlu dipantau dalam masa nyata. Dalam kertas kerja ini kami membentangkan reka bentuk dan pembangunan sistem kos rendah untuk pemantauan masa nyata kualiti air dalam IOT (internet of things). Sistem ini terdiri daripada beberapa penderia yang digunakan untuk mengukur parameter fizikal dan kimia air. Parameter seperti suhu, PH, kekeruhan, sensor aliran air boleh diukur. Nilai yang diukur daripada penderia boleh diproses oleh pengawal teras. Model Arduino boleh digunakan sebagai pengawal teras. Akhirnya, data sensor boleh dilihat di internet menggunakan sistem WI-FI.

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CHAPTER 1

1 INTRODUCTION

1.1 Introduction

Water Quality Monitoring (WQM) is a cost-effective and efficient system designed to monitor drinking water quality which makes use of Internet of Things (IoT) technology. ... The obtained data is sent to the cloud by using IoT based Think Speak application to monitor the quality of the water. Monitoring provides the objective evidence necessary to make sound decisions on managing water quality today and in the future. Water-quality monitoring is used to alert us to current, ongoing, and emerging problems; to determine com- pliancy with drinking water standards, and to protect other uses of water.

1.2 Background Research

In the 21st century, there were lots of inventions, but at the same time were pollutions, global warming and so on are being formed, because of this there is no safe drinking water for the world's pollution. Nowadays, water quality monitoring in real time faces challenges because of global warming limited water resources, growing population, etc. Hence there is need of developing better methodologies to monitor the water quality parameters in real time [1]. The water quality parameters pH measures the concentration 1108 Vaishnavi V. Daigavane and Dr. M.A Gaikwad of hydrogen ions. It shows the water is acidic or alkaline. Pure water has 7pH value, less than 7pH has acidic, more than 7pH has alkaline. The range of pH is 0-14 pH. For drinking purpose, it should be 6.5-8.5pH. Turbidity measures the large number of suspended particles in water that is invisible. Higher the turbidity higher the risk of diarrhea, cholera. Lower the turbidity then the water is clean. Temperature sensor measures how the water is, hot or cold. Flow sensor measures the flow of water through flow sensor. The traditional methods of water quality monitor involve the manual collection of water samples from different locations.

1.3 Problem Statement

Aquatic living things sometimes don't know the water is good or bad but they just telling you from their way they act in the water and if serious, aquatic living things might die due to the bad quality of water. At the same time, human also need to drink clean water. If the water is polluted, even human got water purifier in their house, the water purifier still cannot 100% clean all the bacteria in the polluted water.

1.4 Research Objectives

- This project will let the water become clean so that the living thins in the water will have a good living environment.

- This system will detect any dirty things such as bacteria in the water apps that install in smartphone.

1.5 Scope of Research

Water Quality Monitoring System use IOT concept in this project. It is detecting the more parameters for most secure purpose. Increase the parameters by addition of multiple sensors. By interfacing relay, we controls the supply of water.

1.6 Project Significance

As the result, the system that has generated is expected to continue to expand with concomitant change in time with the developed and equipped with a great technology. It is envisaged that the system can overcome the water quality problem and can help us to check the water quality easier. With the creation of this system, hopefully the relevant department can be more responsible for ensuring the water quality because water is very important for human in life. However, the system is capable of being treated to better ensure of the resulting system will become more efficiently.

1.7 Chapter Summary

This chapter contains contents such as introduction, background research, problem statement, research objective, scope of research and project significance related to the creation of this project.