UNIVERSITI TEKNOLOGI MARA

IOT BASED WATER QUALITY MONITORING USING BLYNK

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ABSTRACT

Being a part of modern era, it is undeniable that people rely on technology to connect with each other and to even use in our daily basis. Water quality technologies are important, especially in the field of teaching, including primary and secondary teachers, lectures and people who are working with water quality. Most of them are using pH paper to indicate water quality as they are responsible for ensuring water safety and cleanliness. But this could affect the natural ecosystem as pH papers were made of raw materials found form trees such as wood cellulose, lichens and adjuncts compounds. At the same time, deforestation will cause environmental pollution including air pollution. As we know, a tree or plant absorbs carbon dioxide gas released by combustion activities, transportation, and so on. So by preserving trees and plants, we can reduce the pollution that occurs. In other words, the change in pH indicates that there are changes in water quality. Whether water quality is getting polluted or improving. Water pollution that will cause poisoning to those who drinl it and that is why we need to monitor. Therefore, we have come up with an idea to make an IoT based water quality which is monitored by using Blynk application.

This project aims to ease the users so they do not have to worry about the condition of nature ecosystem. We will be using Analog pH Sensor which will connect with pH Signal Conversion Board so that it can sense water quality and water pH. At the same time it will notify users whether the water is acidic or alkaline. By referring to Blynk application on a device. The Arduino IDE software will be the major part in making this project successful. We went from proposing ideas to our supervisor, to writing a report of our project and constructing the hardware for the system. The main component of this project is pH Signal Conversion Board and NodeMCU ESP8266 wifi modules, where the coding will be complied and uploaded. In conclusion, we hoped that this project will help the society in monitoring and control the water condition.

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CHAPTER 1

INTRODUCTION

1.1 PROJECT BACKGROUND

In this era of globalization, technology is needed to help people. Technology will further facilitate human work. There is something important and needed that people overlook. The IoT. IoT in short of Internet of Thing is very important nowadays because the world become bigger and easier. The important of IoT is on its ability to transfer data over a network without requiring human to human or human to computer interaction.

Besides that, water is the most needed as humans consume water in daily life. However, people are still facing a problem to get the water that is healthy for the human body. Especially in other places that have water problems, and most likely the water source is from the lake or water catchment area. As has been known, most people do not take hygiene level of water that they consume seriously.

So, in this project we are going to highlight the condition of water, in a simple word we created a tool that can replace pH paper. We also develop this project by combining it with IoT. Basically, this tool is inspired by the pH paper that changes colour as an indicator. The “tools” phase means the apparatus will be used without disposed of and can be used until the end of life. It can detect the state of the water consequently. From that, people or student can clearly get the water pH value.