



**POLITEKNIK SULTAN SALAHUDDIN ABDUL AZIZ SHAH**

**WATER LEVEL MONITORING**

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**08DEP19F1122**

**JABATAN KEJURUTERAAN ELEKTRIK**

**SESI 2 2021/2022**

**POLITEKNIK**

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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**

**SESI 2 2021/2022**

## **CONFIRMATION OF THE PROJECT**

The project report titled "WATER LEVEL MONITORING" has been submitted,  
reviewed and verified as a fulfills the conditions and requirements of the Project

Writing as stipulated

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

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Name : **ZAHIRUDDIN BIN ZAHARUDDIN**

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**DECLARATION OF ORIGINALITY AND OWNERSHIP**

**TITLE : WATER LEVEL MONITORING**

**SESSION: 2 2021/2022**

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- 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) **Zahiruddin Bin Zaharuddin**  
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) **Zahiruddin bin Zaharuddin**

In front of me, **Puan Nur Suriya binti Mohamad** )  
(820923145966) )

As a project supervisor, on the date:

) .....  
) **Puan Nur Suriya binti Mohamad**

## **ACKNOWLEDGEMENTS**

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My thanks and appreciations also go to my colleague in developing the Project and people who have willingly helped me out with their abilities.

## **ABSTRACT**

In this paper, we investigate the design of a water level sensor device that can detect water in a waterway. Today in this modern age, there is so much pollution that can causing disaster in this planet named earth. Everyday people throwing rubbish into the dam or waterways. The global warming makes earth in unstable condition and produce tsunami and earthquake. But so many humans did not recognize or beware about this changing. They only care about their self and be selfish. Somehow, a few years before, there is so much nature phenomenal disaster. Most of disaster that appear is tsunami and increasing water that harm their leavings area. So many lives and important thing wipe out by the water that increasing. It come worse when even a city that have be ready when the water increasing also fail to overcome this problem. On 25<sup>th</sup> April 2022, people in Kuala Lumpur get shocked because they got flooded in certain area even there is SMART Tunnel. SMART Tunnel is an underground road to move the water from high places in Kuala Lumpur into the tunnel and channel it to sungai klang. It cause so many losses and many people suffer because of this. In this case, people need to get a faster notification if the water increasing so people can save their life and important things. This is the main objectives to build water level monitoring to notify the people about the changing of water. The level detector part of the system first detects the amount of water in the waterways. This electronic design automates by using Arduino UNO. This integrated design includes ultrasonic sensor and LED's. An ultrasonic sensor is used to generate ultrasonic waves. LEDs to signify the importance of different water levels. When the water level start to increase or level ONE, and the LED's will turn ON by level of water increase additionally, the water device only has three stages of water level. This circuit is efficient and can be used for any application involving the levels of any liquid. Conclusion, this product will make other people in this age at east and decrease the loss of important things and life.

## **ABSTRAK**

Dalam kertas ini, kami menyiasat reka bentuk peranti penderia paras air yang boleh mengesan air dalam laluan air. Hari ini di zaman moden ini, terdapat begitu banyak pencemaran yang boleh menyebabkan bencana di planet bernama bumi ini. Setiap hari orang membuang sampah ke dalam empangan atau saluran air. Pemanasan global menyebabkan bumi dalam keadaan tidak stabil dan menghasilkan tsunami dan gempa bumi. Tetapi begitu ramai manusia tidak menyedari atau berhati-hati tentang perubahan ini. Mereka hanya mementingkan diri sendiri dan mementingkan diri sendiri. Entah bagaimana, beberapa tahun sebelum ini, terdapat begitu banyak bencana alam yang fenomenal. Kebanyakan bencana yang berlaku adalah tsunami dan peningkatan air yang memudaratkan kawasan tinggalan mereka. Begitu banyak nyawa dan perkara penting yang terhapus oleh air yang semakin meningkat. Ia menjadi lebih teruk apabila bandar yang telah bersedia apabila air semakin meningkat juga gagal untuk mengatasi masalah ini. Pada 25 April 2022, orang ramai di Kuala Lumpur terkejut kerana banjir di kawasan tertentu malah terdapat Terowong SMART. Terowong SMART adalah jalan bawah tanah untuk memindahkan air dari tempat tinggi di Kuala Lumpur ke dalam terowong dan menyalurkannya ke sungai Klang. Ia menyebabkan begitu banyak kerugian dan ramai orang menderita kerana ini. Dalam kes ini, orang ramai perlu mendapatkan pemberitahuan yang lebih cepat jika air semakin meningkat supaya orang ramai dapat menyelamatkan nyawa dan perkara penting mereka. Ini adalah objektif utama untuk membina pemantauan paras air untuk memberitahu orang ramai tentang perubahan air. Bahagian pengesan aras sistem mula-mula mengesan jumlah air dalam laluan air. Reka bentuk elektronik ini mengautomatiskan dengan menggunakan Arduino UNO. Reka bentuk bersepadu ini termasuk sensor ultrasonik dan LED. Sensor ultrasonik digunakan untuk menghasilkan gelombang ultrasonik. LED untuk menandakan kepentingan paras air yang berbeza. Apabila paras air mula meningkat atau paras SATU, dan LED akan dihidupkan mengikut peningkatan paras air tambahan, peranti air hanya mempunyai tiga peringkat paras air. Litar ini cekap dan boleh digunakan untuk sebarang aplikasi yang melibatkan tahap sebarang cecair. Kesimpulannya, produk ini akan menjadikan orang lain di zaman ini di timur dan mengurangkan kehilangan perkara penting dan nyawa.



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# CHAPTER 1

## INTRODUCTION

### 1.1 Introduction

A water level indicator is a system that relays information back to a control panel to indicate whether a body of water has a high or low water level. Some water level indicators use a combination of probe sensors or float switches to sense water levels. “The Water Level Indicator employs a simple mechanism to detect and indicate the water level in an overhead tank or any other water container.” according to the coding that we insert in the processor

### 1.2 Background Research

In 25<sup>th</sup> April 2022, kuala lumpur got flooded in certain area that cause so many damage to the building and loss. It is because the waterways and drain got block by the trash. So many cars got swipe out by the water during flood in kuala lumpur. They need to restore their car which is need so much money to spend. Other than that, so many people got trauma during the flood. Once they heard rain drop from the sky, they quickly change their car position from low ground to the high ground.

### **1.3 Problem Statement**

Lack of notify if the water increase make so many lives in big problem. People need to get a new solution for this problem.

### **1.4 Research Objectives**

The main objective of this Project is explore the Arduino uno.

More specifically the principal objective of this research are:

1. To design modern electronic technology, use the Arduino uno to construct a system

### **1.5 Scope of Research**

1. This Project is focusing in giving notification to other people about increasing water
2. The system will make people be aware of what will happen after the notification they got
3. The device will turn on the LED by the water level increasing and attract people with the red color.

## **1.6 Project Significance**

There was already a similar idea about this project when there is so many people try to find ways to overcome this problem, like we can see in YouTube or Facebook. so, this project is not the first of its kind. Like this one project is also similar, however this device is more focused on to attract people aware about the notification to do earlier steps. Therefore, it can be said that this product is a new idea that has its own impact and advantages nowadays that can be used in public places and is a product that can compete in the market.

## **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.