

UNIVERSITI TEKNOLOGI MARA

**AUTOMATED RIVER WATER GATE
MONITORING SYSTEM TECNOLOGY**

**MUHAMMAD NOR FAISAL BIN NOR
SULAIMAN**

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**Centre for Electrical Engineering Studies, UiTM
Johor Branch, Pasir Gudang Campus**

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ABSTRACT

A Smart River Water Gate Monitoring System via IOT Technology is a cutting-edge solution that aims to improve the efficiency of managing water resources in rivers and prevent flooding disasters. This report aims to design a smart river water gate system that monitors the turbidity, water level and water flow to prevent flooding events. Next this report to construct proposed design The Smart River water Gate System via IOT Technology. The last aim is to analyze the data collected by monitoring system and to give warning if the water level reaches the level of dangerous and open the gate to let the water flow. The virtual instrumentation system based on this project aims to detect the water level sensor while using a water level sensor and to let the water go out from the dam. For the input, there are two water level sensor that using in this experiment for the first water level sensor will detect the minimum of the water at the dam and the LCD will display warning. Next, the second water level sensor will detect the maximum value of water and the lcd will appear full and the water gate will open to let the water flow out. Lastly, turbidity will measure the amount of light that scattered by the suspended solids in water. Furthermore, the output has LCD to display warning if the first water level sensor detects and for the second water level the LCD will appear full water in the dam and the motor will help the door open which to let the water flow out from the dam. The buzzer will notify the amount of water at the maximum level. The expected result is a smart river water gate system utilizing IOT Technology and simulated through proteus, incorporates an Arduino uno controller, LCD display, motors, buzzer, and gate as output, while data logging modules gather information from sensors, enabling the opening of the gate with buzzing alerts on the LCD display and buzzer will activate.

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CHAPTER ONE

INTRODUCTION

1.1 Research Background

In recent years, consumer have become more interested in smart Dam. Smart Dam has many varieties like aims to build a remotely monitored autonomous floodgate as a means of improving flood management and control. Traditional water management systems have demonstrated limits in their capacity to offer real-time monitoring in the context of growing worries about worldwide flooding occurrences. This has resulted in reaction delays and insufficient flood control measures. An innovative solution to these problems is the installation of an automated floodgate, which suggests moving away from manual methods and toward a more technologically advanced and proactive approach. The focus on remote monitoring suggests that the system will become more responsive and efficient, possibly incorporating cutting-edge technologies to improve water resource management and lessen the effects of flooding.

The study probably explores the intricacies of the autonomous floodgate's construction and operation, investigating the incorporation of cutting-edge technology such sensors and remote monitoring systems. The work adds to the larger discussion on creative approaches to water resource management by attempting to deliver timely and accurate information on water levels. In the end, the proposed autonomous floodgate aims to increase global resilience against floods and associated calamities by providing an adaptive and technologically driven response to the ever-increasing difficulties provided by alterations in hydrological patterns brought on by climate change.