Department of Electrical and Computer Engineering
North South University

Senior Design Project

An IoT Based Water Level Sensing and Real Time Monitoring System

Md. Tanvir Ahmed **ID # 1420810042**

Raiyhan Bhuiyan **ID # 1410100642**

Md. Sazid Al Emon **ID # 1411535042**

Faculty Advisor:

Dr. Tanzilur Rahman

Assistant Professor

ECE Department

Spring 2019

LETTER OF TRANSMITTAL

May, 2019

To

Dr. K. M. A. Salam

Professor and Chairman,

Department of Electrical and Computer Engineering

North South University, Dhaka

Subject: Submission of Capstone Project on “An IoT Based Water Level Sensing and Real Time Monitoring System”.

Dear Sir,

With due respect, we would like to submit Our Capstone Project Report on “An IoT Based Water Level Sensing and Real Time Monitoring System” as a part of our BSc program. The report deals with an IoT based water level detector system which enables users to control their water pump with automation system and manually through a mobile app. We tried our level best to make the report meaningful and informative.

The Capstone project was very much valuable to us as it helped us to gain experience from practical field. It was a great learning experience for us. We tried to the maximum competence to meet all the dimensions required from this report.

We will be highly obliged if you are kind enough to receive this report and provide your valuable judgment. It would be our immense pleasure if you find this report useful and informative to have an apparent perspective on the issue.

Sincerely Yours,

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Md. Tanvir Ahmed

ECE Department

North South University, Bangladesh

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Raiyhan Bhuiyan

ECE Department

North South University, Bangladesh

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Md. Sazid Al Emon

ECE Department

North South University, Bangladesh

APPROVAL

The capstone project entitled "**An IoT Based Water Level Sensing and Real Time Monitoring System**" by **Md. Tanvir Ahmed (ID # 1420810042)**, **Raiyhan Bhuiyan (ID # 1410100642)** and **Md. Sazid Al Emon (ID # 1411535042)**, is approved in partial fulfillment of the requirement of the Degree of Bachelor of Science in Computer Science and Engineering on May, 2019 and has been accepted as satisfactory.

Supervisor's Signature:

Dr. Tanzilur Rahman

Assistant Professor

Department of Electrical and Computer Engineering

North South University

Dhaka, Bangladesh.

Department Chair's Signature:

Dr. K. M. A. Salam

Professor

Department of Electrical and Computer Engineering

North South University

Dhaka, Bangladesh

DECLARATION

This is our truthful declaration that the "Capstone Project Report" we have prepared is not a copy of any "Capstone Project Report" previously made by any other team. We also express our honest confirmation in support of the fact that the said "Capstone Project Report" has neither been used before to fulfill any other course related purpose nor it will be submitted to any other team or authority in future.

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Md. Tanvir Ahmed

ECE Department

North South University, Bangladesh

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Raiyhan Bhuiyan

ECE Department

North South University, Bangladesh

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Md. Sazid Al Emon

ECE Department

North South University, Bangladesh

ACKNOWLEDGEMENT

First of all, we wish to express our gratitude to the Almighty for giving us the strength to perform our responsibilities and complete the report.

The capstone project program is very helpful to bridge the gap between the theoretical knowledge and real life experience as part of Bachelor of Science (BSc) program. This report has been designed to have a practical experience through the theoretical understanding.

We also acknowledge our profound sense of gratitude to all the teachers who have been instrumental for providing us the technical knowledge and moral support to complete the project with full understanding.

We would like to convey our gratitude to our faculty Dr. Tanzilur Rahman for his stimulating inspiration, kind guidance, valuable suggestions, sagacious advice and kind co-operation throughout the period of word undertaken, which has been instrumented in the success of our project. At this level of understanding it is often difficult to understand the wide spectrum of knowledge without proper guidance and advice. His suggestions & guidance have made the report a good manner.

We thank our friends and family for their moral support to carve out this project and always offer their support.

ABSTRACT

IoT (Internet of Things) based Water Level Sensing & Real Time Monitoring System signifies the reducing of water wastage on regular basis in our home and industry, through the automation system. Water is one of the most valuable and essential elements on earth. We use it in our daily life. We can’t imagine a single moment in our day to day life without water. Dhaka WASA usually serve water to the whole city for 2 or 3 hours and 2 times per day. So, in our residence, office, industries almost everywhere there is a system or process to use this water. We store supply water in a large ground tank and then pull it with water pump to our usable tank. In this process, people manually operate the pump machine and when overflowed the tank and most of the time people usually forget to switch it off. In daily basis, it’s a huge waste of our natural resource. So, we are suggesting a process to automate the water tank, control the water level and no more wasting. This project offers real time monitoring of our regular usable water tank and control the submersible pump (turn on or off) as necessary. Also, the owner can see the live water level with a simple app and can manually handle the motor (on when off and off when on) through button provide on the app. We are very much aware that there are hundreds of project like this but main difference is none of those set up or tested on market usable tank and pump. We did this successfully and we can sell this product in a reasonable price.