

**Department of Electrical & Computer
Engineering**

North South University



Senior Design Project

**“Shonabondhu” An IoT based Flash Flood monitoring
system**

Rozana Tabassum ID # 1331126042

Maisha Mamtaz ID # 1411213642

Nabila Chowdhury ID # 1430549042

Faculty Advisor

Dr. Nova Ahmed

Associate Professor

ECE Department

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DECLARATION

This is to certify that this Project is our original work. No part of this work has been submitted elsewhere partially or fully for the award of any other degree or diploma. Any material reproduced in this project has been properly acknowledged.

Students' names & Signatures

1. Rozana Tabassum

2. Nabila Chowdhury

3. Maisha Mamtaz

APPROVAL

We, **Rozana Tabassum (ID-1331126042)**, **Nabila Chowdhury (ID-1430549042)** and **Maisha Mamtaz (ID-1411213642)**, members of **CSE 499 (Senior Design Project)** from the Electrical and Computer Engineering department of North South University; have worked on the project titled **“ShonaBondhu”- An IoT based Flash Flood monitoring system** under the supervision of Dr. Nova Ahmed as a partial fulfillment of the requirement for the degree of Bachelors of Science in Engineering and has been accepted as satisfactory.

Supervisor’s Signature

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Dr. Nova Ahmed

Associate Professor

Department of Electrical Engineering & Computer Science

North South University

Dhaka, Bangladesh.

Chairman's Signature

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Md. Shazzad Hossain

Associate Professor and Chairman

Department of Electrical Engineering & Computer Science

North South University

Dhaka, Bangladesh.

Acknowledgement

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Abstract

Flash Flood is a natural disaster that floods away large area where there are dense presence of rivers within 3-6 hours of heavy rainfall. Bangladesh is one such country where people face this sudden flood problem and loses valuable assets due to lack of proper water level monitoring system as they cannot take precaution beforehand, especially in the rural areas. We are proposing a distributed system using water level monitoring sensors named Shonabondhu. The sensors are distributed near the rivers in the rural areas and the servers that collect data from sensors are used to send alert to the people. The servers use current water level and compare it to the danger water level that has been collected from the data of the previous years. This information is used and broadcasted when the water level increases near the source of the river. We have used our system to monitor the actual water level in the river and got satisfactory results from it.