

A water level estimation system that utilizes images from CCTV cameras, developed in collaboration with Nakhon Si Thammarat Municipality and depa. It includes a water level estimation algorithm, user-friendly web application for real-time water level monitoring, and notification system designed to notify users in the event of a zone change, enabling preparation for flood situations in a timely manner.

## OBJECTIVES

**To Optimize**

the existing resources utilization

**To Develop**

a water level estimation algorithm, web application, and flood notification system

**To Collect**

water level data for future analysis and prediction

**To Monitor**

water levels in real-time

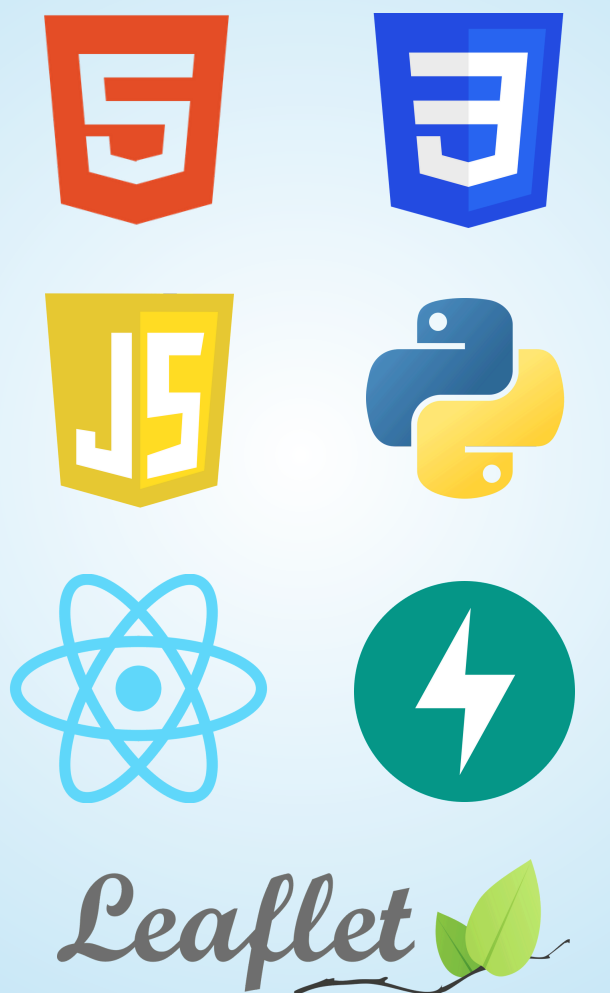
## TOOLS &amp; TECHNOLOGIES

Water level  
estimation algorithm

## Database



## Web application



## Notification system



## SYSTEM DESIGN

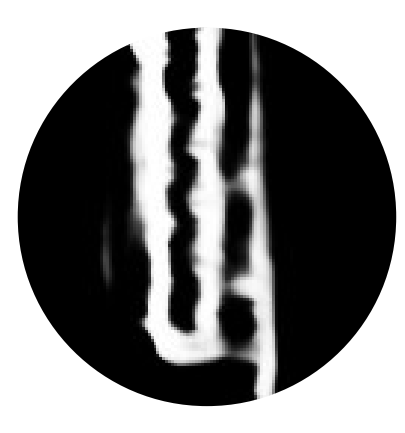
## Water level estimation algorithm



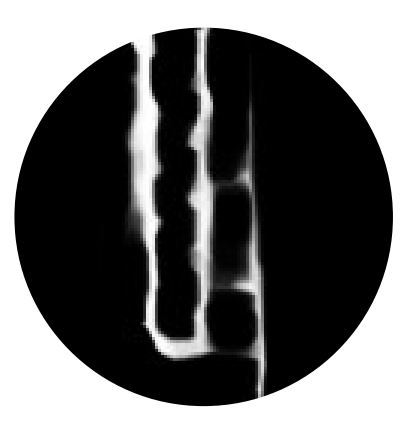
Images from  
CCTV cameras



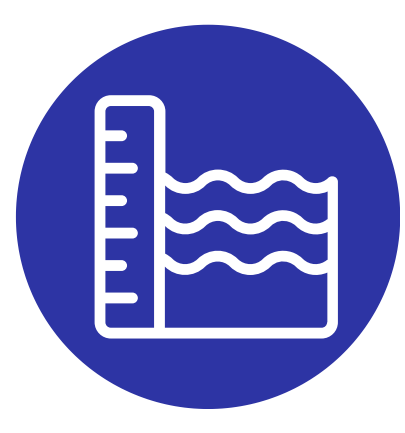
Image  
pre-processing



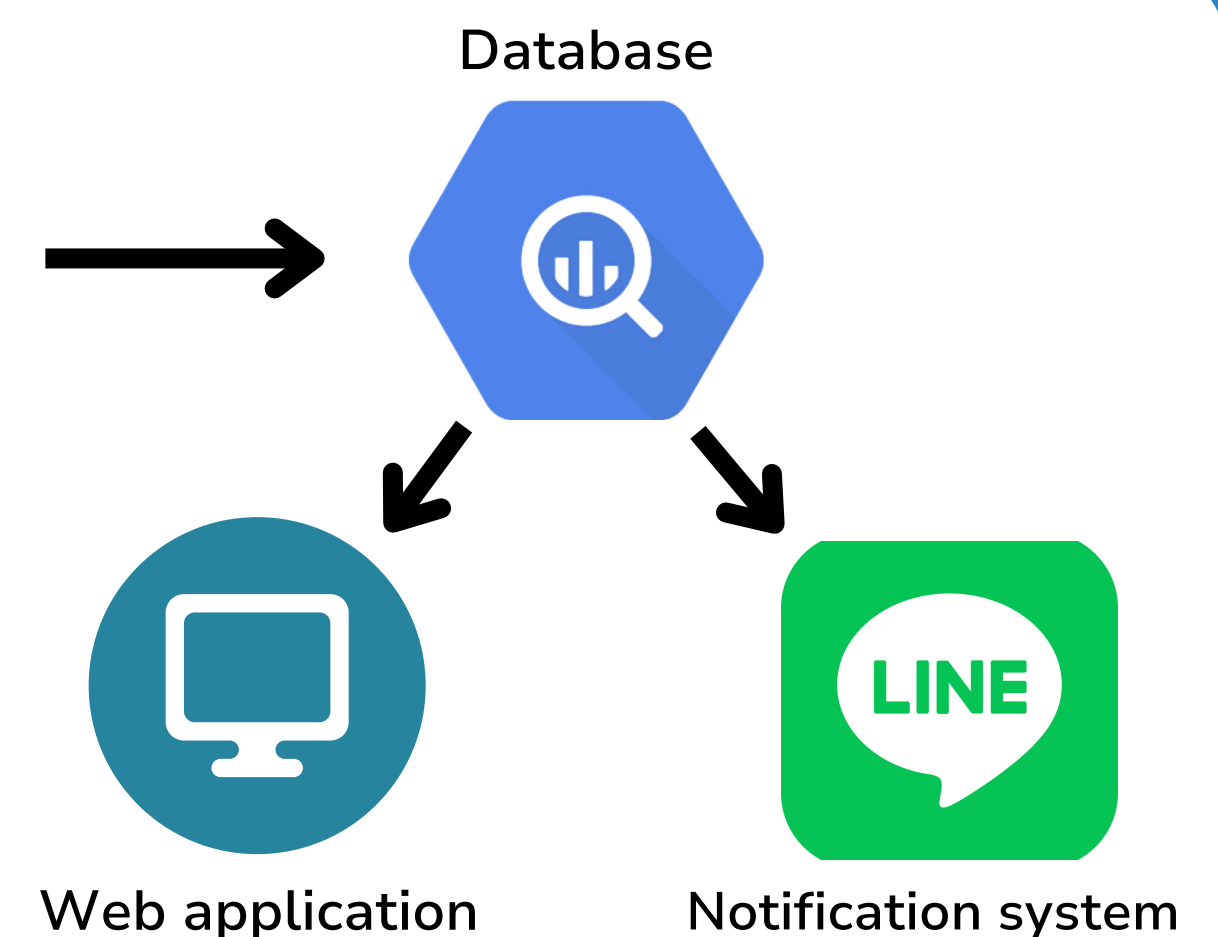
Holistically-  
nested edge  
detection



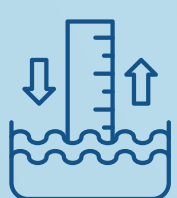
Erosion



Water level  
estimation



## WEB FEATURES

**Displaying**

real-time water levels

**Downloading**

historical water level data

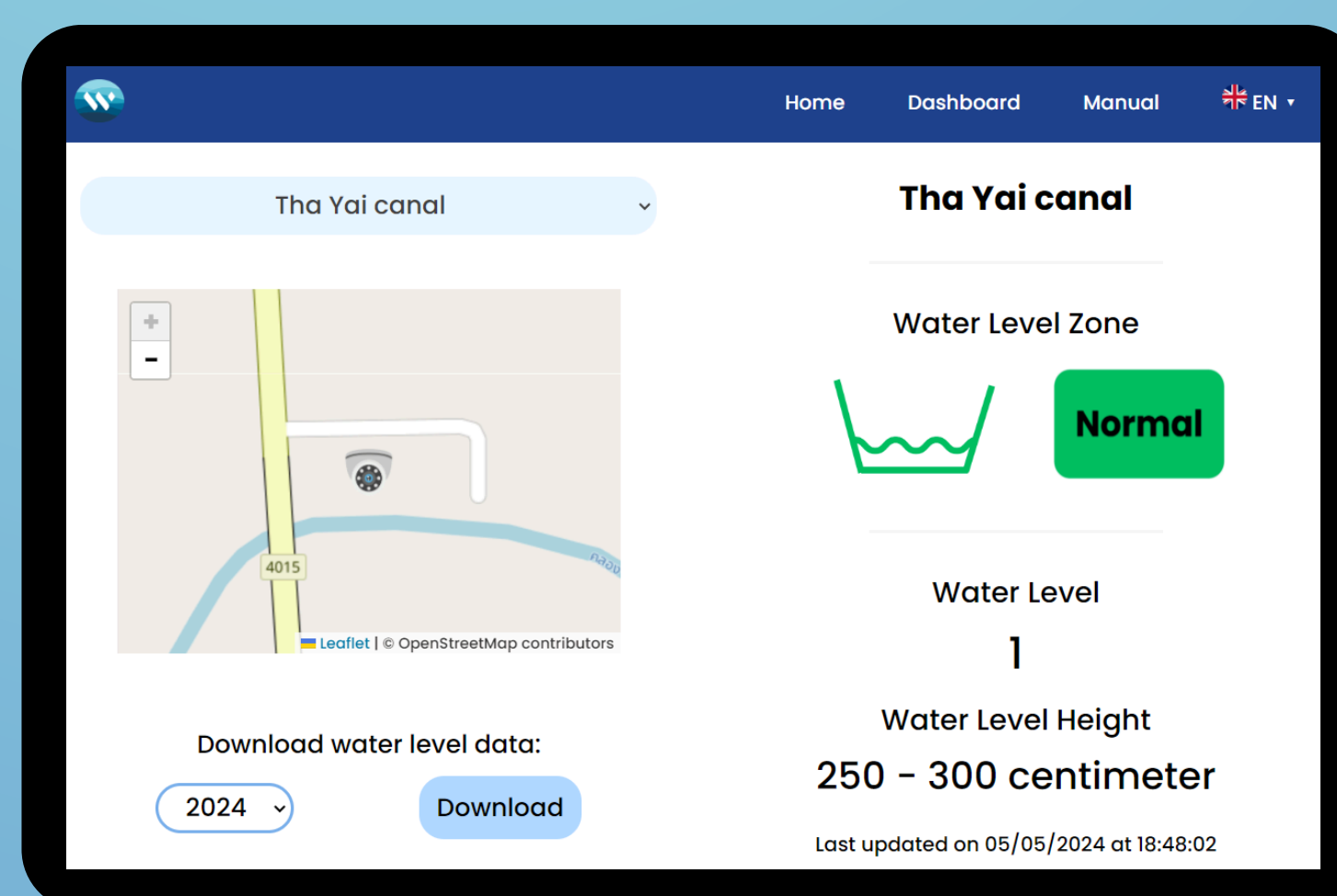
**Supporting**

Thai and English languages

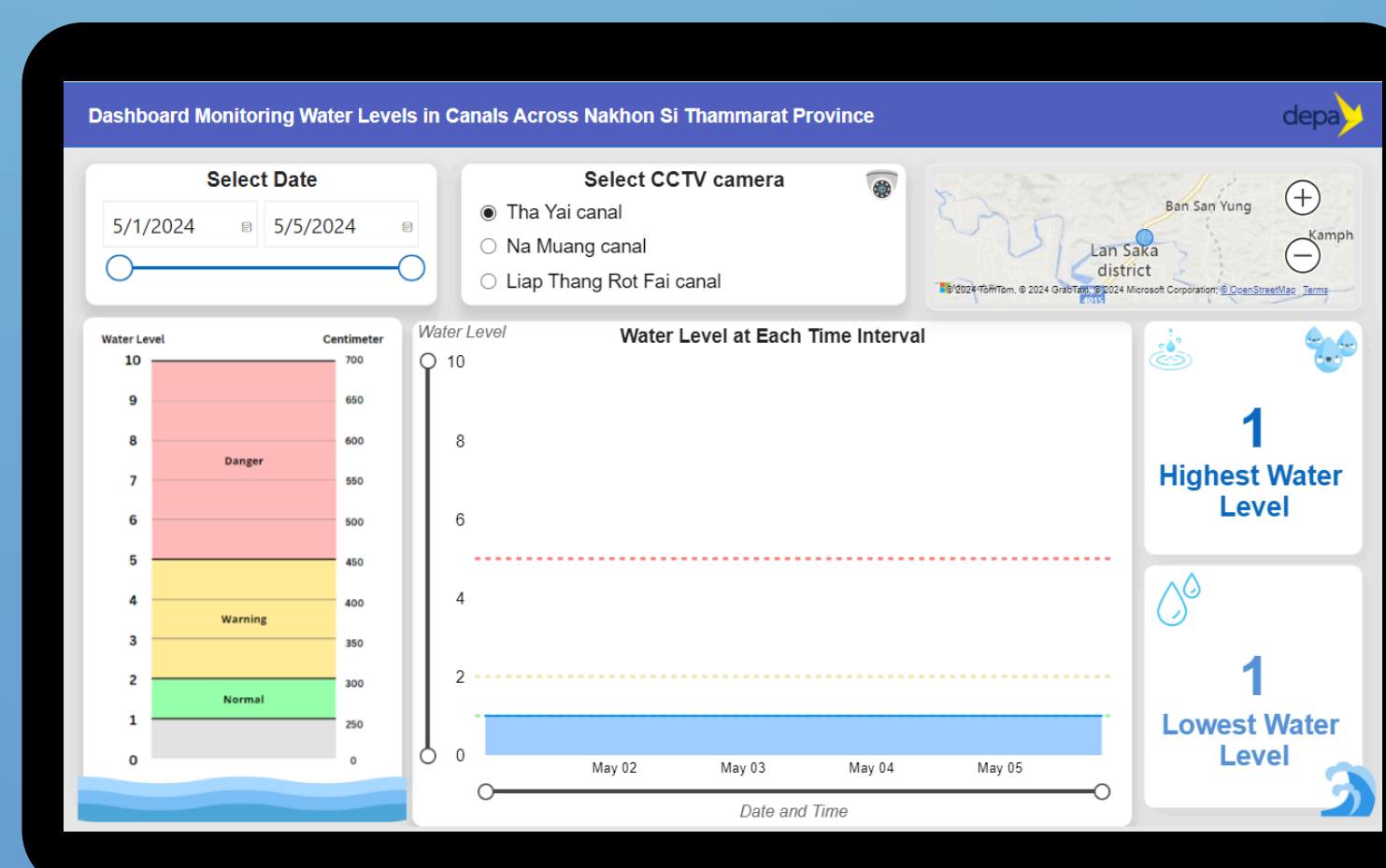
**Featuring**

an interactive dashboard

## HOME PAGE

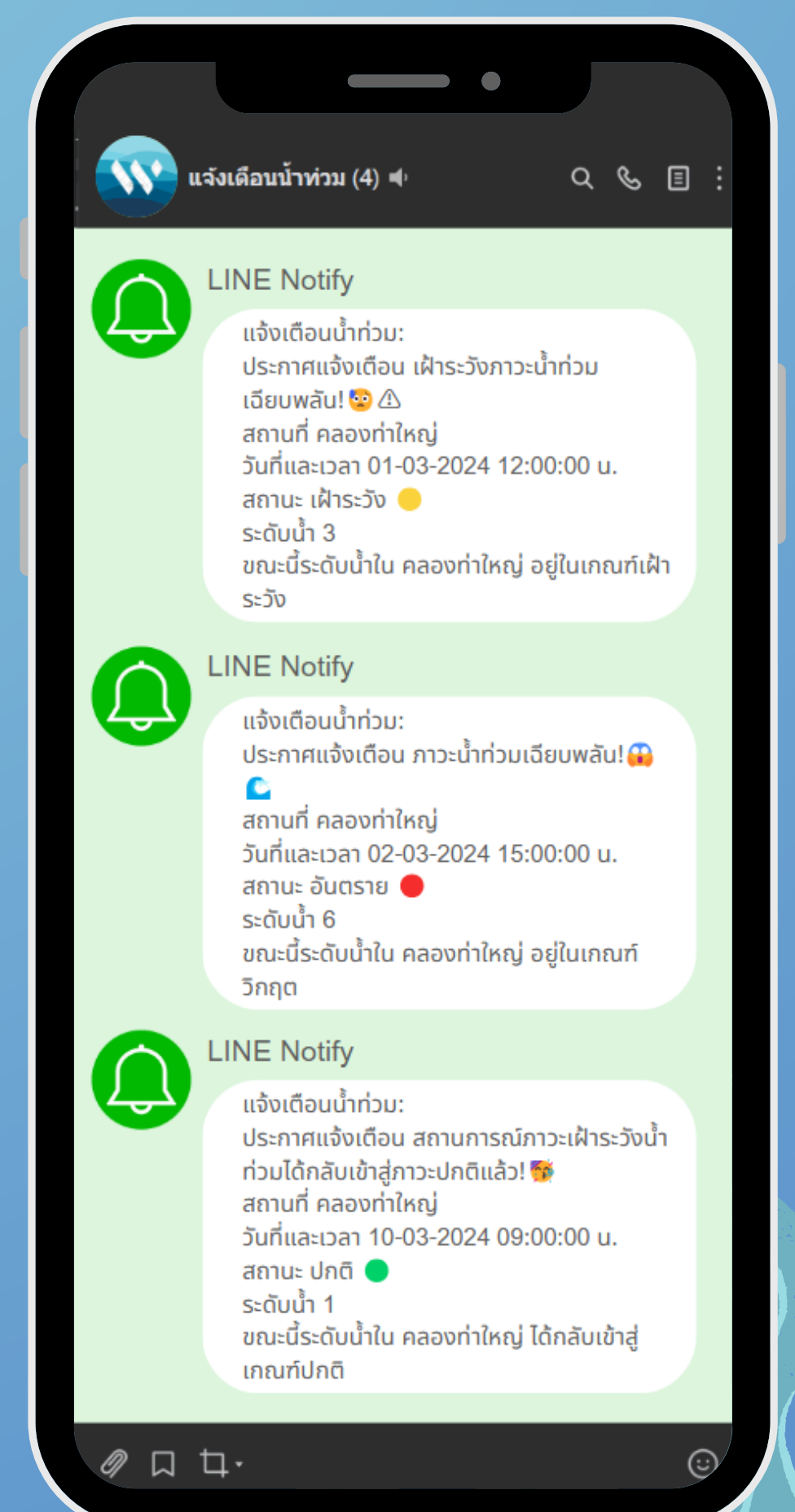


## DASHBOARD PAGE



## USER INTERFACE

## NOTIFICATION SYSTEM



## Project Members

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