



Department of Computer Science and Engineering
KLE Technological University, Belgavi Campus

TEAM NO : MP1A-19

DIV : A

AquaUnity: Collaborative Efforts for Clean Water and Sanitation Solutions

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Abstract

Access to clean water and sanitation remains a critical global challenge, disproportionately affecting vulnerable communities. To address this issue effectively, we propose the development of an integrated online platform. This platform aims to connect volunteers, streamline donation processes, and facilitate the implementation of sustainable projects. By leveraging digital connectivity, our solution seeks to enhance coordination and efficiency in addressing water and sanitation needs worldwide. Through collaborative efforts and technological innovation, we aim to empower communities and ensure sustainable access to essential resources.

Problem Statement

The lack of access to clean water and sanitation continues to be a pressing global issue, particularly impacting vulnerable communities. Our proposed solution is to develop a unified online platform that connects volunteers, facilitates donations, and implements sustainable projects.

Objectives:

- The platform will aggregate data on polluted lakes, rivers, and other water bodies, enabling users to pinpoint areas in urgent need of cleanup.
- The platform should be able to display the volunteers who are near to the location of the polluted water resource.

Stakeholders

- City Corporation



Figure 1: Stakeholder

SDG Mappings and PI

Sustainable Goal 6 : Ensure access to water and sanitation for all. Access to safe water, sanitation and hygiene is the most basic human need for health and well-being.



Figure 2: SDG Goal-6:Clean water and sanitation

Target : 6.3 By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally

Performance Indicator(PI) : 6.3.2 Proportion of bodies of water with good ambient water quality

Design

Casual Map

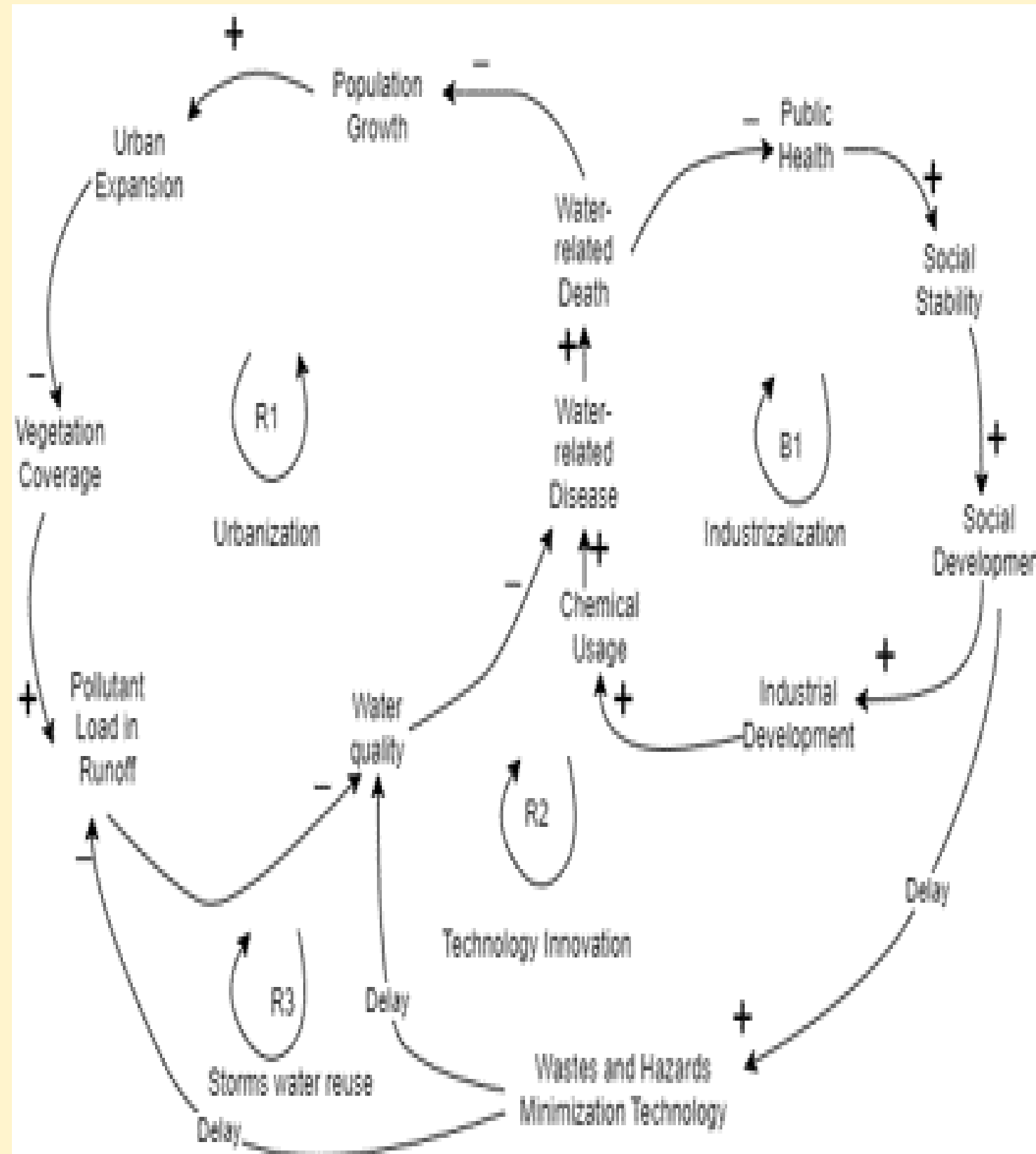


Figure 3: Casual Map

Implementation & Testing

Frontend

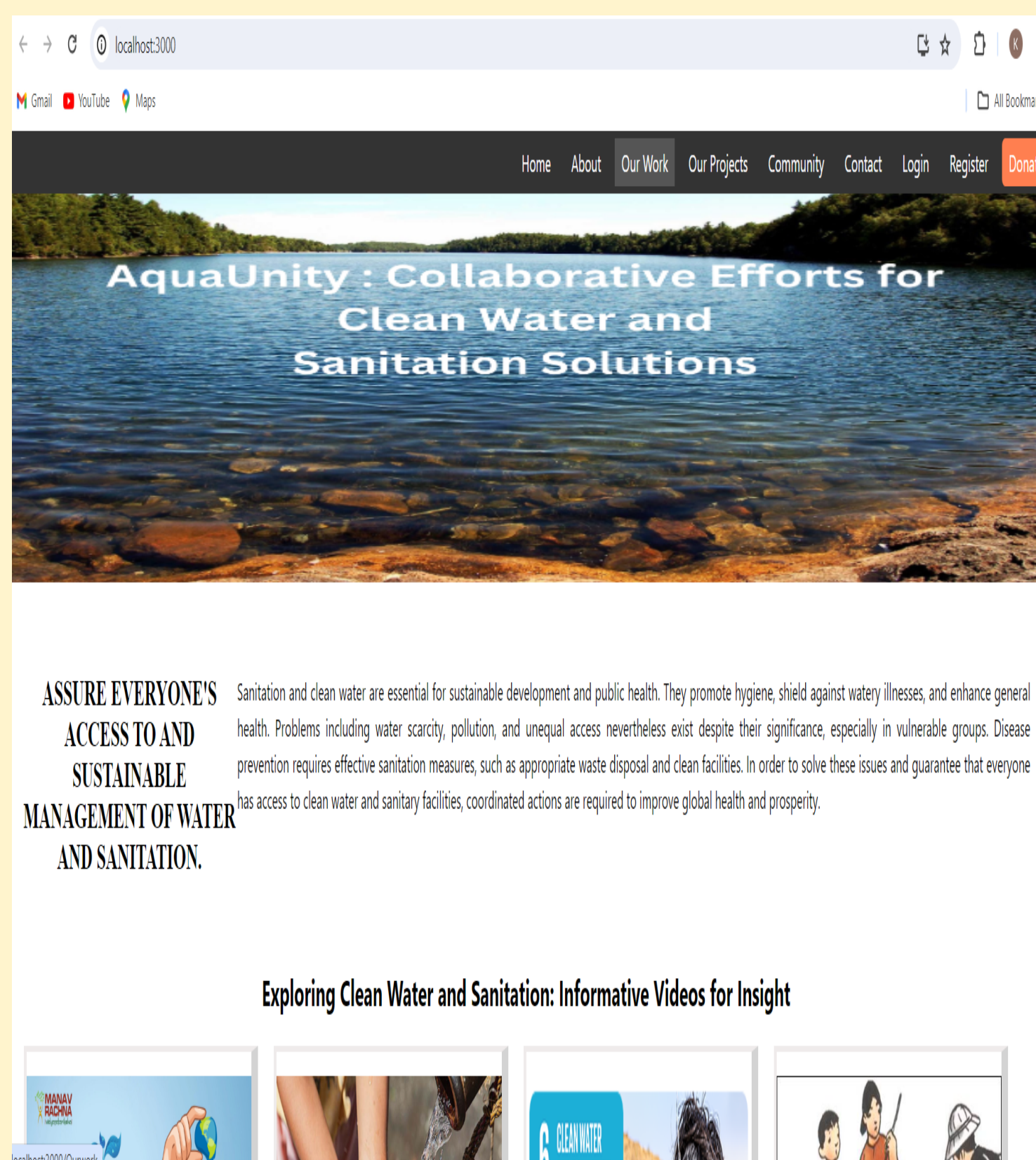


Figure 4: Home Page

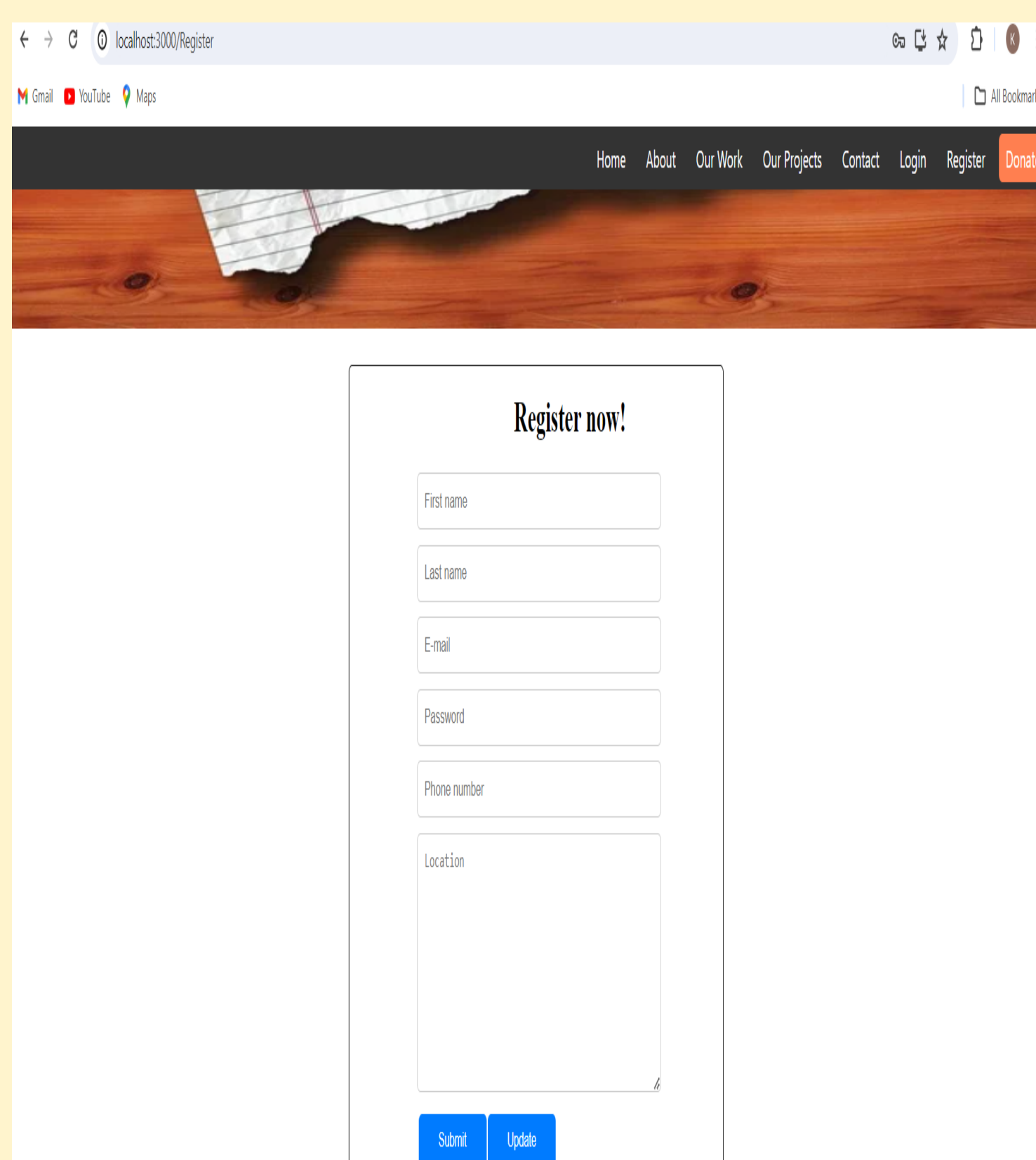


Figure 5: Registration Page

Backend

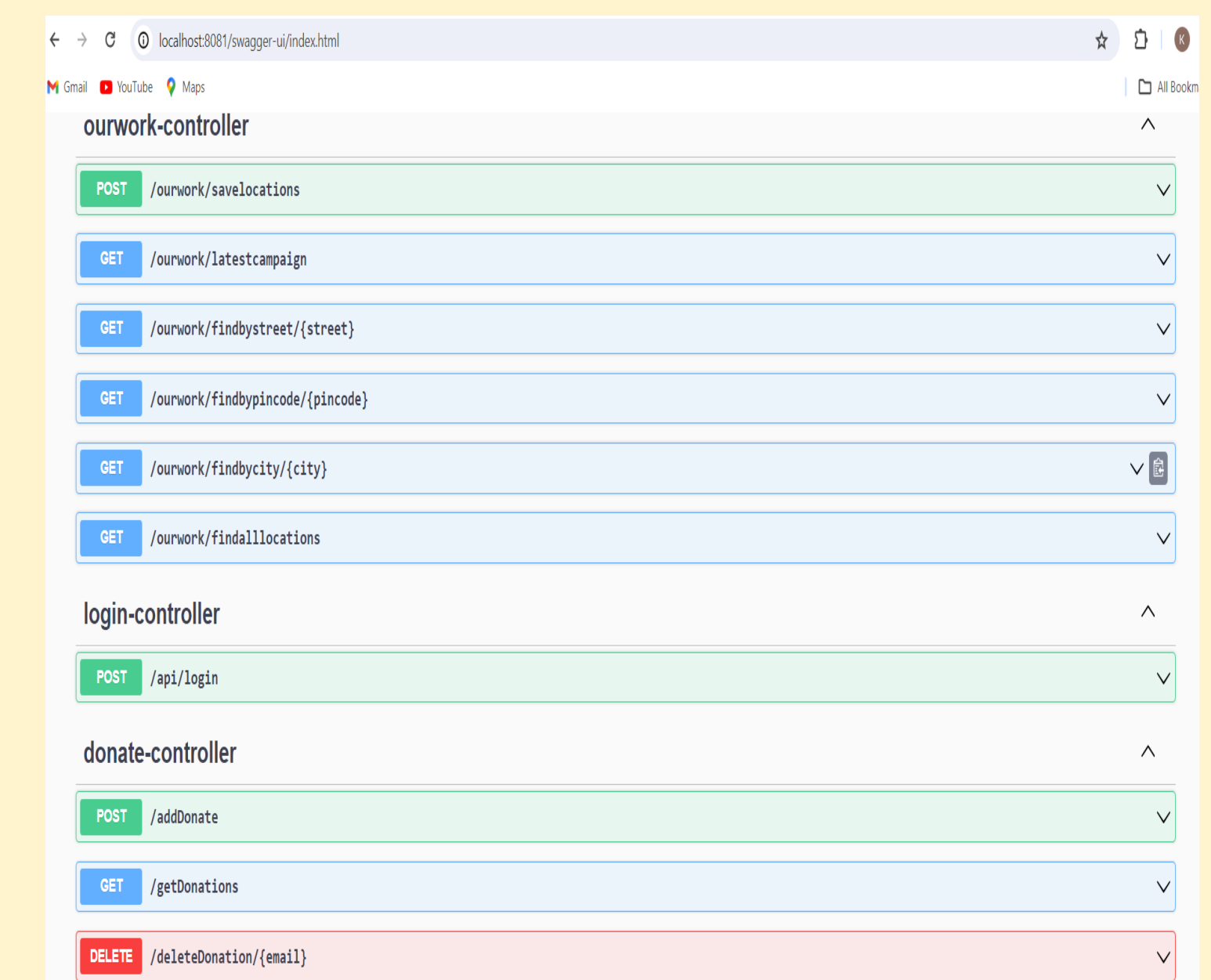


Figure 6: Swagger

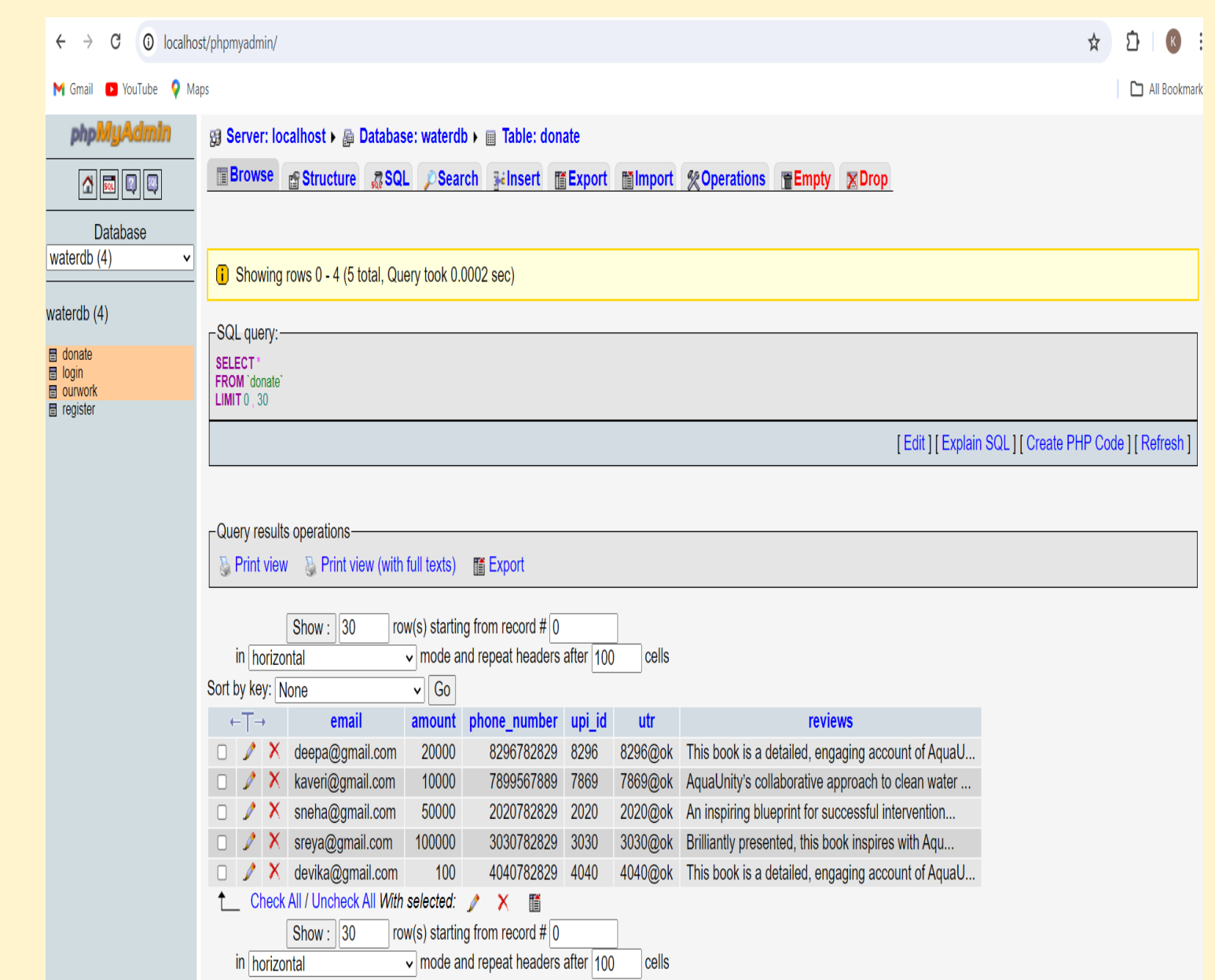


Figure 7: Backend

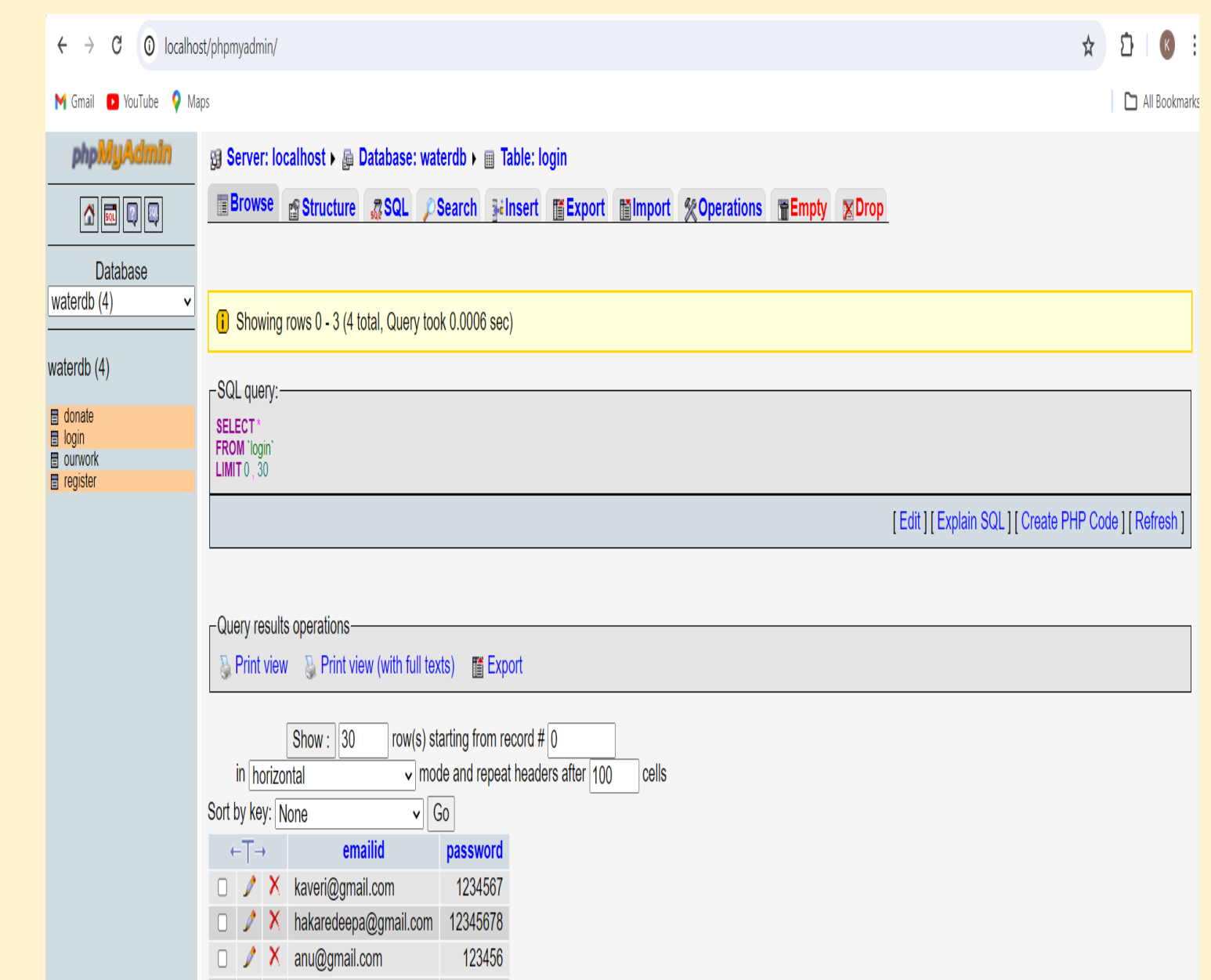


Figure 8: Backend

Testing

TEST CASES						
TESTID	TESTNAME	DESCRIPTION	INPUT	ACTUAL OUTPUT	EXPECTED OUTPUT	RESULT
01	LOGIN	User will be able to login using user id and password	User id password	Login successful	Login successful	Pass
02	Register	User will be able to register	Details of user	Register Successful	Register successful	Pass
03	Donate	The user will be able to donate	Details	Donate successful	Donation successful	Pass
04	Our work	The location of the polluted water body will be entered	Pin code,city	Successful	Successful	Pass
05	Our work	Inserting the location and image	Image	Successful	Error in the inserting the image.	Fail

Figure 9: Test cases able