Chandigarh University
Department of ECE

Water Quality from Mobile captured and Google earth images

Department of India space and research organization, (ISRO)

Disaster management (SS596)

Degree/Branch – **B.E – ECE**

Group Member Details

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Name of the Project Mentor: Dr. Jeba Shiney O.

Project Title: Prediction of Water Quality through Mobile captured and Google earth images.

A brief overview of the Project: In this project we are developing a mobile application that can predict water quality from satellite images and Mobile clicked images. For satellite images we are using the band values of images to extract water quality parameters like pH, turbidity, SPM etc. We are using Google Earth engine to calculate Band values of images. For Mobile clicked images we are calculating water quality parameters using RGB values (colour component) of the image.

At last, we are classifying the water based on its designated use.

Project Objectives:

- To develop an algorithm for classification of water based on designated use using optically active parameters like SPM, EC etc.
- To derive correlations between indices and parameters pertaining to water quality from Band values and RGB values.
- Integrating these into an efficient, user-friendly smartphone application to identify water quality either from satellite image search or from clicked photographs of the water body.

Expected Outcomes of the Project:

(Stakeholders)

- Identifying solutions to trace nearby potable water sources under unusual situations like hazards and disasters.
- Catalysing/Accelerating the process of testing and improving the quality of water sources.
- Predicting and preventing any unforeseen conditions (increasing radioactive content, toxicity, etc.) by checking regular water quality index
- Aids in fulfilling Governmental schemes like Jal Shakti and Jal Jeevan on developing improved water quality monitoring systems and strengthening the operation and maintenance of water supply infrastructures.

Academic

Research publication in any journal or conference.

My role: I had the privilege of leading a team of six members, with guidance from two mentors, in a project focused on water quality assessment. My primary responsibilities included leading the research and analysis efforts, as well as conducting physical data exploration.

Our project involved the development of an Android application capable of calculating water quality using images obtained from both satellites and mobile devices. This innovative application aimed to provide users with a convenient and accessible tool for assessing the quality of water sources.

Throughout the project, my role as the team leader involved coordinating the research activities, analyzing the collected data, and ensuring the successful implementation of the Android application. It was an exciting opportunity to combine technological advancements and environmental awareness to contribute to water quality assessment.