WATER CONTAMINANT DETECTOR APPLICATION

Ariel J. Garcia Jr., John Joshua V. Layaog, Abigail J. Purificacion, Marycel G. Zapanta.

Department: College of Arts and Science Course: Computer Science

INTRODUCTION

Water is known as the most important source of life as it is able to sustain the daily need of all living creatures on Earth. helps in plant and animal growth, and humans are also made up of 75% water. These just few are а examples of how water is significant in nourishing life in our planet.

Most notably, water is known as the main source of life for the Earth. Humans, for example, need water for drinking in order to stay healthy and hydrated; we also this for hygienic uses order to stay proper and clean. and plants can't without water as it is in of the basic needs in order to grow big, strong and healthy. Basically speaking, water is an essential of our ecosystem and therefore, afford to we cannot lose it.

Water pollution is often considered one of the primary reasons why our planet is on the

brink of destruction. The polluted our sources of water is becoming, the more likely the human race will slowly to become extinct. Despite the fact there aree facilities which purify and clean water on a daily basis, there are still other people who rely on other water sources desperate times don't have and access to clean water.

Aside from polluting our contaminated water sources, is slowly causing diseases upon the human race without us noticing. Since water is also part of ecosystem, will lose we our food, supplies, sources of life. Although there eventually, are instruments that provide with the contents of water, it only provides parameters. The fact of the matter is that these instruments may measure parameters; they don't show the possible causes upon consuming the water or using it. This pH Levels and Turbidity are one of the most common and important for quality. The water has hydrogen

ions and hydroxyl ions. When there are equal numbers of both, water is neutral. Acidic can cause toxic heavy metals to be released into the water. Acid rain and mining operations can lower the pH of water bodies. This is what pH is measured for. The reduction in water quality of this common measured as known as turbidity is the content of suspended solid in water, is also referred to "cloudiness" of the water. Tt. takes the turbidity readings to monitor dredging and construction projects, examine microscopic aquatic plant life, and monitor surface, storm, and wastewater.

This study is conducted for us to be able to determine the pH level, and turbidity of water and whether or not it is safe for human consumption or use.

GENERAL OBJECTIVE

This study aims to design and develop a face shield with a body temperature scanner and recording system using a system of identification that allows the to instantly access information for tracking, collecting, and securing data that can use during this pandemic.

SPECIFIC OBJECTIVES

The Specific objectives of this project are:

- To design and develop a Water Contaminant Detector Application
- To develop a mobile application that can display and passed the contamination of water data to the system.
- Develop a website for registration of Detector application self-assessment to generate a Quick Response (QR) code after registration and completing the self-assessment.

STATEMENT OF THE PROBLEM

This project aims to build a proposed Water Contaminant Detector Application. It seeks to answer the following research questions:

- 1. What is the status of existing water contaminant detector?
- 2. How to enable real time to detect if water is contaminated?
- 3. How assess the proposed research study in terms of the following:
- a. Functionality;
- b. Reliability;
- c. Compatibility;
- d. Portability;
- e. Usability;
- f. Maintainability;
- g. Efficiency;
- h. Security;
- 4. Is there a significance and difference between the users and experts in the assessment of the proposed research study?

METHODOLOGY

This chapter discusses the research design, population and sampling, respondents of the study, research instrument, data gathering procedures, and statistical treatment of data used by the researchers.

This study provided information on the research on the research methods of study. questionnaire research method had been chosen to determine the factors to consider in creating Water Contaminant Detector Application with the use of the correspondents' answer on survey questionnaire. The results were tallied as results on the basis of what to put and howa the experimentation was processed in a way that the user will be satisfied.

Evaluation Method

The project was evaluated on the following criteria, namely: Functionality, Usability, Reliability, Efficiency, and Maintainability.

A. Statistical Treatment
The mean was used as the tool for evaluating the project.

The Formula is: $x = \Sigma \ X/N$

Where:

Σ, represents the summation
X represents scores
N represents number of scores
The Likert scale was used for descriptive ratings.

SUMMARY OF FINDINGS

Indicators	Profess WM	ional	Stude	nt VI	Compos	ite VI	Rank
2 Usability	4.67	E	4.67	E	4.67	E	1
3 Reliability	4.77	E	4.40	E	4.58	E	2
4 Efficiency	4.44	E	4.36	E	4.40	E	5
5 Maintainability	4.62	E	4.31	Е	4.47	E	4
Overall Weighed Mean	4.61	E	4.36	E	4.48	E	

The analysis and interpretation of the data based on the experimental procedure and gathered information on how to complete the process of building the Water Contaminant Detector Application are presented accordingly in this study.

researchers The used different tools such as survey questionnaires to gather necessary data and information for development of the application where the survey questionnaires were required and facilitated to the 20 respondents.

1 is "Usability "with a Rank composite mean of 4.10 and interpreted as "Excellent. " Rank 5 is "Maintainability "with a composite mean of 3.83 and interpreted as Satisfactory. " Rank 2 is "Functionality "with a composite mean of 4.03 and interpreted as "Verv Satisfactory. Rank 3 is "Reliability "with a composite mean of 4.02

and interpreted as "Very Satisfactory."

Rank 4 is "Efficiency "with a

composite mean of 3.93
and interpreted as "Very
Satisfactory."

The data shows that the Face
shield with body temperature
scanner and Recording system in
terms of its functionality,
usability, reliability,
efficiency, and maintainability is
viewed as a Very Satisfactory
device by the group of Students
and Professors, and Community.

CONCLUSIONS

Based on the summary of findings, the researchers came up with the following conclusions:

- When it 1. comes to determining if water is contaminated, there needs to be more parameters as well as other sensors since water contamination is not meant to be known for only factors. Most of respondents have answered, and in key, "More parameters" since the present day waater contamination detectors only scan for one parameter. The researchers have since identified that the study can be a start to an all-in-one device that can detect water contamination.
- 2. The respondents' assessment on the "Water Contaminant Detector Application" has allowed the researchers to immediately take

note on what both the application the device may need majority improve. A of the improvements are for the device which is the reason why most of the respondents have answered that the study needs more device which term will result in in parameters that need t.o be analyzed in order to identify if the water is contaminated.

RECOMMENDATION

The researchers recommend to the future researchers that the Water Contaminant Detector Application can be improved more by enhancing its features based on the results of the surveys. Can sequent the following recommendations are presented:

- 1. The researchers would like to suggest to enhance and to develop more system capabilities. This recommendation is based on the key interview words and function from the survey questionnaire such as "More parameters", "Requires more devices", "The device and application is 90% estimated certain of the result", and "The application cannot install to an iOS". These are some of the faced points that need special attention.
- The researchers would like to recommend to make it more knowledgeable, and exciting

for the user to explore it for educational and entertainment purposes.