



WATER-BACTERIA PROJECT

Group 1

Alm Robert, Lavdim Imeri, Singh Vipin

REVISION HISTORY

Date	Version	Description	Author
30/03/2022	0.1	Initiating the project artefact. Wrote a draft of Vision and Introduction.	Alm Robert, Lavdim Imeri, Singh Vipin

Vision

(Write shortly what this document includes – as an abstract)

Our vision is to offer a cheap, automatic, safe, and ongoing improved method of analyzing water, using flow cytometry, producing in that way an output that can be used to draw useful conclusions about the safeness or the purity of the water and if it is possible to be used for further research, (other methods of analysis).

As a deeper goal we aim to the possibility to isolate characteristics that can indicate things like hazardless of a bacteria or clear indicators if the water is contaminated or not, to be able to analyze the water faster and more efficiently with a lower computational cost.

Introduction

Water is one of the most essential elements for the preservation of life, the survival of humankind and the development of human civilization. In modern era, while water still can't be considered yet as a something granted for everyone, human civilization is at ongoing effort to make access to water safer, easier, and cheaper. One way to make water safer and cheaper, improving that way the access to water, is by improving the method of analyzing the safeness of the water.

That is a goal of great importance as the access to clean water is one of the major goals of the 2030 Agenda and its 17 Sustainable Development Goals, (SDGs), with SDG 16 being called "Clean Water and Sanitation" and at least other 4 of the 17 SDGs being affected by the availability and access to clean water. For example, the access to clean water is essential to the production of food, thing that calls for SDG 2, (Zero Hunger), and it is an integrated part for the goal to build sustainable cities, a matter that is addressed by SDG 11, (Sustainable Cities and Communities).

A solution to the challenge of analyzing water efficiently comes from a process that is called "Flow Cytometry" and it is a process that contains of a water sample are beamed with a laser beam in order to take measurements from the illuminance and the color that several particles emit due to their fluorescent agents. This methodology was used in the past for the analysis of blood samples but now is introduced to the field of water analysis.

Requirements

Requirement items	Priority
R1.	High
R2.	Low
R3. ...	Medium

Supplementary Requirements

Supplementary requirements	Priority
SR1.	High
SR2.	Low
SR3.	Medium

Risks

Risk items		Priority	
D1.		Essential	
D2.		Desirable	
D3.			

Design

Design items	Priority
D1.	Essential
D2.	Desirable
D3.	

Tests

Tests		Passed/Failed	
D1.		Passed	
D2.		Failed	
D3.			

Evaluation or Analysis of Test Results

Conclusion

References

(Use IEEE reference system. It is in-built in Word.)

(Books)

(Articles and Journals)

(WWW)