Date of form completion: 2/2/2022

Student name: Reth Abraham

Student’s possible graduation date: May 2023

Students required courses remaining for graduation: Foundations in Computing, Senior Design Project, Calculus III, Principles of Physics II

Research category: Project or Thesis (select one). Thesis

Main adviser's name:

Committee faculty name 1:

Committee faculty name 2:

Committee faculty name 3:

Note: Answer all the questions in as much detail as possible. If you need help, please contact your adviser or the committee faculty member for help.

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Section 1: Introduction and literature review.

1. What is your established area to research? Computer Science/Programming. Water runoff.

2. What is the research question you want to address? How to combat the Global Water Crisis

3. Is research within the achievable research goals? Please explain how? Yes, to pinpoint issues and find ways to help solve them or lessen the effects of them on a local scale.

4. Have you considered argumentative, integrative, historical, methodological, systematic, and theoretical sections? Possibly systematic and theoretical.

5. What is your problem statement? Developing a program to detect water contents and follow a protocol to sterilize it.

6. State existing literature on selected topic?

7. What is existing data evaluation, analysis, and interpretations available? Percentages of polluted water, access to clean water, reliable ways to sterilize polluted water.

8. Are the articles credible, and address objectivity, persuasiveness, and values of conducted study? Yes

Section 2: Methods.

1. Introduce the overall methodological approach for investigating research problems? Finding a solution to local water pollution. A program to detect if water is consumable, detect what pollutants are in the water, follow a process to provide clean water.

2. Indicate how the approach fits the overall research design?

3. Describe the specific methods of data collection you are going to use? Sampling of local bodies of water, research of areas with pollution issues, Testing the effects of cleaning water.

4. Explain how you intend to analyze results? Accuracy of analyzing water, program run time and details, process to clean water.

5. Provide background and rationale for methodologies that are unfamiliar for the readers?

6. Provide a rationale for subject selection and sampling procedure? Water pollution is a major cause of death and sickness, not just for humans but animals also. Samples and procedure are to provide safe and reliable water.

7. Address potential limitations? Limited to small bodies of water and no economical change.

Section 3: Results.

1. State an introductory context for understanding the results by restating the research problem that underpins the purpose of study?

2. Summarize the key findings arranged in a logical sequence?

3. Include non-textual elements, such as figures, charts, photos, maps, tables, etc. to further illustrate the findings?

4. Summarize the results, highlighting for the reader observations that are most relevant to the topic under investigation?

Section 4: Discussion.

1. State the major findings of your study?

2. Explain the meaning of the findings and why are they Important?

3. Relate the findings to similar studies?

4. What are alternative explanations of your findings?

5. What are your study limitations?

6. What are suggestions for further research?

Section 5: Conclusions.

1. Present the last word on the issues raised by you?

2. Summarize thoughts and convey the larger implications of your study?