***EE 491 WEEKLY REPORT 9 Date: 11/8/16-11/14/16***

***Group number: 24***

***Project title: Ultrasound Water Purification***

***Client &/Advisor: Prof Bigelow***

***Team Members/Role:***

***Jacob Bernhard/Team leader***

***Yuhao Fu/Team Communication Leader***

***Parker Oltrogge/Team Webmaster***

***Subin Mao/Team Key Concept Holder***

***Xiyuan Wang/Team member***

***Tao Wu/ Team member***

* **Weekly Summary**

For this week, we two groups are working on our own part of this project. The member of purification system, we basically developed the purification device design and BSL-1 bio- contaminant culture. Since we have a pretty solid idea of how the purification device should be designed. also, we worked on the the way to observe whether the bacteria in the water after applied ultrasound is still alive re dead.

For the testing group, we mainly searched for some information about necessary standards for potable water, based on those criteria, we would find corresponding sensors to test them. We would built the ph sensor and thermometer to test the ph value for purified water. Since the heavy metal sensor is hard to build and is way too expensive for our project, we decide to test selected parameters for purified water, such as find the test kit to testing fluoride, chlorine, etc. As the total dissolve solids is one of the element to demonstrate the water quality, we would look for a TDS meter for testing part as well.

* **Past week accomplishments (please describe as what was done, by whom, when)**
* Jacob Bernhard: Still working on the design of the purification device, also working on updating the project plan and design documents.
* Yuhao Fu: developing the design of purification device and doing research of bio contaminant.
* Parker Oltrogge: I accomplished nothing, I seeked help for the web page design because I have no idea after the 6ish hours I have put into the web page design I have achieved nothing. I will be working with someone from another group who has already done work on his group's web page.
* Subin Mao: Looked for test kits to testing chlorine, fluoride and iron online, and searched deep information on how to build ph sensor.
* Xiyuan Wang: Searched the standard of ph and heavy metals for drinking water and some information about ph sensor.
* Tao Wu: finished one part of our device design.
* **Pending issues**
* Jacob Bernhard: Still struggling to implement our ideas from paper onto cad/solidworks.
* Yuhao Fu: need to find the way to observe the ameoba
* Parker Oltrogge: I am struggling with web design. I may have it done by next week
* Subin Mao: not familiar with the test kits and do not know if it’s effective to reach the desired goal.
* Xiyuan Wang: Struggling to decide which sensor we should use.
* Tao Wu: still need to finish other part of our device design.
* **Individual contributions**

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| --- | --- | --- | --- |
| **NAME** | **Individual Contributions** | **Hours this week** | **HOURS**  **cumulative** |
| **Jacob Bernhard** | Design work | 3 | 31 |
| **Yuhao**  **Fu** | developing the design of purification device and doing research of bio contaminant. | 4 | 33.5 |
| **Parker Oltrogge** | Failed to achieve goal of web page design. Failed to get any progress from time spent this week | 3 | 30 |
| **Subin Mao** |  | 3 | 29.5 |
| **Xiyuan Wang** | Searched the standard of ph and heavy metals for drinking water and some information about ph sensor. | 3 | 29 |
| **Tao**  **Wu** | finished design of container which is the place used to do our purification | 4 | 32.25 |

* **Comments and extended discussion**

We have some progress on both design and research this week. for the meeting tomorrow, we will update our progress and have the professor to look at our design.

* **Plan for coming week**
* Jacob Bernhard: We will be meeting with the professor in order to hash out some of our issues with the cad design.
* Yuhao Fu: keep thinking about other parts and find ways to solve the problem that how to verify we killed dirty lives in the water.
* Parker Oltrogge: The web page is my main goal as I am the team web page person.
* Subin Mao: I would use the test kits to evaluate the tap water quality to see if the test kits is good enough for our testing part.
* Xiyuan Wang: I am going to search what kind of sensors we can use to test heavy metal.
* Tao Wu: try to make already exist part better, and decide how to connect this to valve. keep thinking about other parts and find ways to solve the problem that how to verify we killed dirty lives in the water.
* **Summary of weekly advisor meeting**

We will have meeting with advisor next week.