

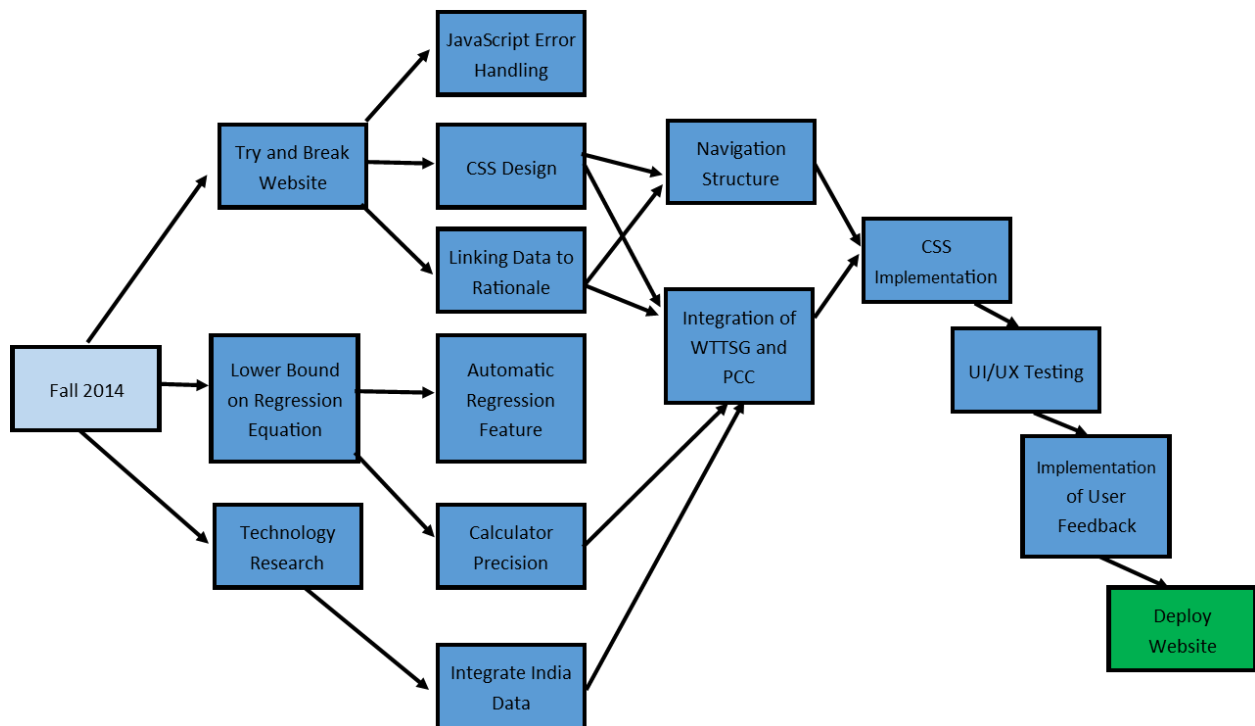
Water Treatment Technology Selection Guide, Fall 2014

Yao Lu, Larissa Sakiyama, Sarah Sinclair

12 September 2014

Task List

Task Map



Task Details

Team Coordinator: Sarah Sinclair

1. Try to Break Website

- **Date:** 19 September 2014
- **Individual Responsible:** Sarah Sinclair
- **Explanation:** The current website does not contain any error handling, and content of an improper form can cause huge error messages to spawn that should not be visible to the user. These errors should be caught and handled, but first they must be identified by entering as many types of potential content as possible. e.g., we should see how numerical fields behave when they have letter values passed to them.

2. Lower Bound on Regression Equation

- **Date:** 19 September 2014
- **Individual Responsible:** Larissa Sakiyama
- **Explanation:** The Spring 2014 team notes that “too extreme a value will in fact result in a negative cost estimate [as] equation (1)...has a negative coefficient on flow rate...[A]n area with an expected future population much larger than any current Honduras plant area could result in a negative estimate via a large required flow-rate.” There should be a constraint on the regression equation preventing this from happening.

3. Technology Research

- **Date:** 19 September 2014
- **Individual Responsible:** Yao Lu
- **Explanation:** As suggested by the Spring 2014 team, we should “Research and obtain data for parameters like quality of water, and cost pertaining to centralized and non centralized technology options like Package Plants, FIME Plants, Membrane Filter kiosks”.

4. Automatic Regression Feature

- **Date:** 26 September 2014
- **Individual Responsible:** Sarah Sinclair
- **Explanation:** From the Spring 2014 Report: “Currently an AguaClara team member updating the calculator must manually run a regression when new data is added and paste the equation into the PHP code under a clearly marked cost equation variable.” This process should be automated, capable of updating itself when new data is added. Potentially a SQL database could be implemented to assist in this process.

5. Calculator Precision

- **Date:** October 3, 2014
- **Individual Responsible:** Larissa Sakiyama
- **Explanation:** The Spring 2014 team writes, “using population of the vicinity of a given AguaClara plant and using default values for the remaining fields, the calculator estimate is within about 20,000USD of actual design cost for most plants.” We will attempt to improve upon this accuracy.

6. JavaScript Error Handling

- **Date:** 10 October 2014
- **Individual Responsible:** Sarah Sinclair
- **Explanation:** Once the egregious errors currently possible are handled, we should use JavaScript to provide real-time error messages and prevent form submission until problematic fields are corrected. We should also ensure that the JavaScript degrades gracefully because not all users enable JavaScript in their browsers.

7. Analyse and Integrate Data for India Plants

- **Date:** 17 October 2014
- **Individual Responsible:** Yao Lu

- **Explanation:** Integrate and interpret India data in an efficient way for the cost calculator. Include ground water/other sources to reflect new AguaClara initiatives in India.

8. **CSS: Design**

- **Date:** 17 October 2014
- **Individual Responsible:** Yao Lu
- **Explanation:** The current websites are, to be blunt, ugly. They should be updated to conform to modern style standards and made more visually engaging. The inclusion of more photos, or even a click-through slideshow similar to that contained in the 2011 WTTSG tool.

9. **Linking Tool-Generated Data to Rationale**

- **Date:** 24 October 2014
- **Individual Responsible:** Sarah Sinclair
- **Explanation:** Currently, the results page for the selection tool consists of a table comparing various types of plant features above a long list of “reasoning.” The reasoning section is poorly formatted, difficult to digest, and, most importantly, divorced from the content in the table. There should be a clear spatial relationship between the table generated and the explanations, perhaps using JavaScript to display more info when table options are selected.

10. **Integration of WTTSG and PCC**

- **Date:** 1 November 2014
- **Individual Responsible:** Larissa Sakiyama
- **Explanation:** While currently separate pages, the Water Treatment Technology Selection Guide and the Plant Cost Calculator tools should be combined into one tool, simultaneously providing cost information and technology comparison, as both are necessary for individuals/organizations interested in implementing an AguaClara plant. A coherent design for this should be developed.

11. **Navigation Structure**

- **Date:** 1 November 2014
- **Individual Responsible:** Sarah Sinclair
- **Explanation:** The current webpages do not have clear navigation structures. An intuitive structure can do much in helping new users navigate the site, and will be even more important once the WTTSG and PCC tools have been combined.

12. **CSS: Implementation**

- **Date:** 1 November 2014
- **Individual Responsible:** Sarah Sinclair
- **Explanation:** Once a design for the website has been brainstormed and sketched out, we should implement it using CSS. This will be an ongoing, extensive process, but hopefully will be solidified by the start of November.

13. **UI/UX Design and User Testing**

- **Date:** 14 November 2014
- **Individual Responsible:** Larissa Sakiyama

- **Explanation:** The website should be designed specifically with its users in mind, with clear mappings between form and function. It should be intuitive to use and visually pleasing. To ensure that the website redesign satisfies these criteria, we should engage in user testing with a variety of user populations to get feedback on what works and what doesn't. We can then work on implementing the features suggested. If at all possible, we should attempt to reach out to team members/implementation partners from/in Honduras or India, and get feedback from them.

14. Implementation of User Feedback

- **Date:** 21 November 2014
- **Individual Responsible:** Sarah Sinclair
- **Explanation:** Once a significant amount of data has been collected from (and by observing) users, any changes that become evidently necessary or important should be implemented.

15. Deploy Website

- **Date:** 1 December 2014
- **Individual Responsible:** Sarah Sinclair
- **Explanation:** The WTTSG and PCC tools should be hosted on the AguaClara server so that they may be accessed through the web and not just a localhost. This may involve some complicated IT work if the server is not currently capable of handling PHP.