*SOAP: Cleaning Pages for a Better Understanding of Data*

*Stage II – Inception: Project Proposal and Specifications*

Team 4 (//No Comment): Lindsey, Arielle, Cassandra, Beau, Brittany, & Warren

February 26, 2015

**Problem Statement:**

On the Data page, the tables, despite informative, are not presented in a way that provides clarity to the average user. The table should be easy to understand for the average user and have an option for an advanced view that will open up a popup window with all the extra information that was not included. Also, there should be an explanation of each of the attributes in the table. For instance, have a short description of what the Clean Air Act and what PBT means. Adding an attribute to the table that would tell the number of facilities the chemical is in, or for the facilities having an attribute for the numbers of chemicals in each facility would also be a good feature to implement in the system.

**Module Objective:**

The overall objective of our module is to clearly display the data to the end user. This is to be done through the implementation of both a regular and advanced view for each chemical and facility page. The regular view would provide necessary, yet minimal information, while the advanced view would display all information in a clear and easy to understand format, complete with all data and visual aids.

Part 1: Implementation of Advanced and Regular views.

* (1) Creation of an advanced view to display all information to the user.
  + If the user is someone that works with the chemicals at a facility, they will be able to view the whole page with all the advanced information. They will be able to see the complete information of each chemical in the table.
* (2) Creation of a regular view to display necessary information to the user.
  + If the user is someone that just wants to know the chemicals in use, there will be a simplified view that would be easy for anyone to understand. They will be able to see the chemical name along with the basic, important components of it in a table.

(3) Creation of a link between the table and the pie chart

* + If the user would like to look at the pie chart for a specific facility, then the user can just click on the link that will be provided at the far right side of the table. This will allow easy access to the chemical information for the specific facility.

Part 2: Visually identify the frequency of chemicals in each facility.

(1) Institute a re-design of the chemical and facility pages in order to ensure that all displayed data can be easily understood by the user.

(2) Implement a pie chart that will compare the different intensities of chemicals at various facilities. It will make understanding the data easier and more intuitive for the user.

**Description of the desired end product:**

End product will provide a new standard of data clarity for users. Through the new view of the tables and the additional visual representation of the pie charts, the user will be able to have easy access to whatever data they are searching for in regards to the chemical usage. Through the implementation of the different views, they will have access to meaningful information on the site rather than information that may be confusing if the user is not familiar with every aspect of the data that is stored in the database. Also, the easier it is for the user to interact with the website, the easier it is for them to learn and understand new information. The end product will also have a table that will easily link the pie charts with its related cell in the factory table.

**Need for the module and what we expect to achieve:**

The goal of this module is to help ease users into understanding more advanced information. We hope to provide basic information that is accessible to all users coupled with more advanced information that is available to a select few. This division caters to the needs of the individual user in regards to their basic understanding of chemicals found in SOAP registered locations. The pie chart is needed in order to provide a visual representation of the data so that it can ascertained quicker than one would be able to without the aid. The data table would be used for more in depth information such as the specific concentrations of more minute chemicals at the cites. We also expect to achieve a connection between the table and the pie charts that is easy for the user to get the information they want to in a visual manner from the table.

**Other similar systems / approaches:**

News organizations commonly utilize charts and visuals in their stories to provide information that can be understood at a glance in order for it to be supplemental to the user when reading the article. One such similar company that uses this type of visualization is the Washington Post. In this specific module, there are pie charts displaying the relationship between religion and political party for the two main parties in 2012. These charts are similar to our intended implementation as they allow the user to see the concentrations in each chart. (https://www.washingtonpost.com/news/the-fix/wp/2012/09/10/the-politics-of-race-and-religion-in-two-pie-charts/)

**Explanation of why and what aspect of the module is innovative:**

This is an innovation lies in the way that we present data. In the past, data on SOAP has been in depth yet too convoluted for the average user. Our proposed method would allow for both clear visualization of data and the capability to distribute the data by the experience of the user. The pie chart allows for rapid dissemination of the data. We will be providing a link in the table that will be a connection between the facility table and its pie chart of chemicals, will allow for much user friendly access to the pie charts.

**Technologies the team will need to learn to implement the module:**

The team will need to know the data manipulation language in order to understand and work with PostgreSQL and generate queries throughout the project timeline. Furthermore, team members will need to learn the markup languages, HTML and CSS, and the programming languages, PHP and Javascript, in order to properly implement the program on the web. All team members will need to be proficient with Github to be able to update our changes in the code and sharing the new code with the other team members. We will also have to learn how to implement a pie chart on a web interface so that it will look nice on the SOAP site and also work well with our data. And we will need to understand how to make a hyperlink between pages so that our link that we are connecting each facility with its pie chart to in the facilities table.

**A diagrammatic representation of the system boundary:**

As the previous UML diagram displays, the three primary users we plan to accommodate are the two different types of end users, those looking for basic or advanced information, as well as the system itself. Our primary focus will be on the two different types of end users, in order to promote clarity on the SOAP website and a more cohesive spread of information. Should there be additional time, we will work on improving the back end, decreasing search times for chemicals and facilities.

UseCase SE.png

**License chosen for project:**

For SOAP, the best suited license would be the GPL. This is due to the fact that if any part of soap is taken and incorporated into another project, then that project has to also have the same license that soap has in regards to its distribution, replication, and modification. SOAP would need this type of license because the project was started a few years ago, and the authors of the original system still need recognition for what they created even though it has been changed multiple times since then. Therefore, the newer versions should be under the same license as the project was when it started, if it had a license at that point. The GPL matches this type of situation the best, and hence is best suited for this project. Additionally, GPL provides the most flexibility with the duplication, modification, and distribution of the source code, and so it is the best suited license for the SOAP software.