Stage V – Implementation

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Team Name: Pollution Prognosticators
Project Name: Pollution Prediction
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- Learned the Clustering Algorithm under SOAP/app/View/Results/scr. This code was developed by Thomas Borgia as part of the Mentored Undergraduate Research Experience (MUSE). In order to implement the prediction functionality in SOAP, it was critical to understand how the existing algorithm worked. Unfortunately, there were very few comments in this code which made it extremely difficult to use. We decided to spend a large portion of our time commenting this code so that future groups would find it more useful. We tried to comment every line of code in the following files:
    - Commented Chemical.cpp
    - Commented Chemcial.h
    - Commented Clustering.cpp
    - Commented Clustering.h
    - Commented Facility.cpp
    - Commented Facility.h
    - Commented PointAnalysis.cpp
    - Commented UpdateClusters.cpp
    - Compiled the C++ files and corrected errors that originally prevented us from doing this.
- Updated search bar on map page
    - We added a latitude and longitude search bar to the map page.
    - Two buttons called "Search" and "Use Current Location" were added below the search bars.
    - These changes were made under SOAP/app/View/Map/index.ctp that
- Made a window open when the search button was pressed
    - A function was added in SOAP/app/webroot/js/map.js that opens a window that is supposed to display the pollution prediction information at valid longitude and latitude values. An error message appears if invalid values are entered.
- app/View/Map/coordTest.php
    - Modified to include function to call PointAnalysis.exe file for point prediction
- The SOAP repository that was given to us had issues where the map page was corrupted. The map would not appear and the facilities list was in the wrong location.
    - We believe this was a merge issue because there were syntax errors in SOAP/app/webroot/js/map.js that indicated so.
    - We tried to fix these errors for SOAP and were able to successfully get the map to appear along with the facility pins. We also fixed the facility list on this page so that it appeared on the correct part of the page.

- o We were also able to fix an error that was causing the pop-up not to work when clicking on a facility in the list or on the map.
- When the "Use Current Location" button is pressed, the browser asks if you want to share your location.
  - o The map also moves over your current location.
  - o The latitude and longitude for the current location are also filled in to the appropriate text fields.
  - o Code was added to SOAP/app/webroot/js/map.js
- When the user goes to the map page and permits location sharing, the map automatically goes to the current location.
  - o The latitude and longitude for the current location are also filled in to the appropriate text fields.