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SOAP Collaborative Assignment
Stage IV - Design

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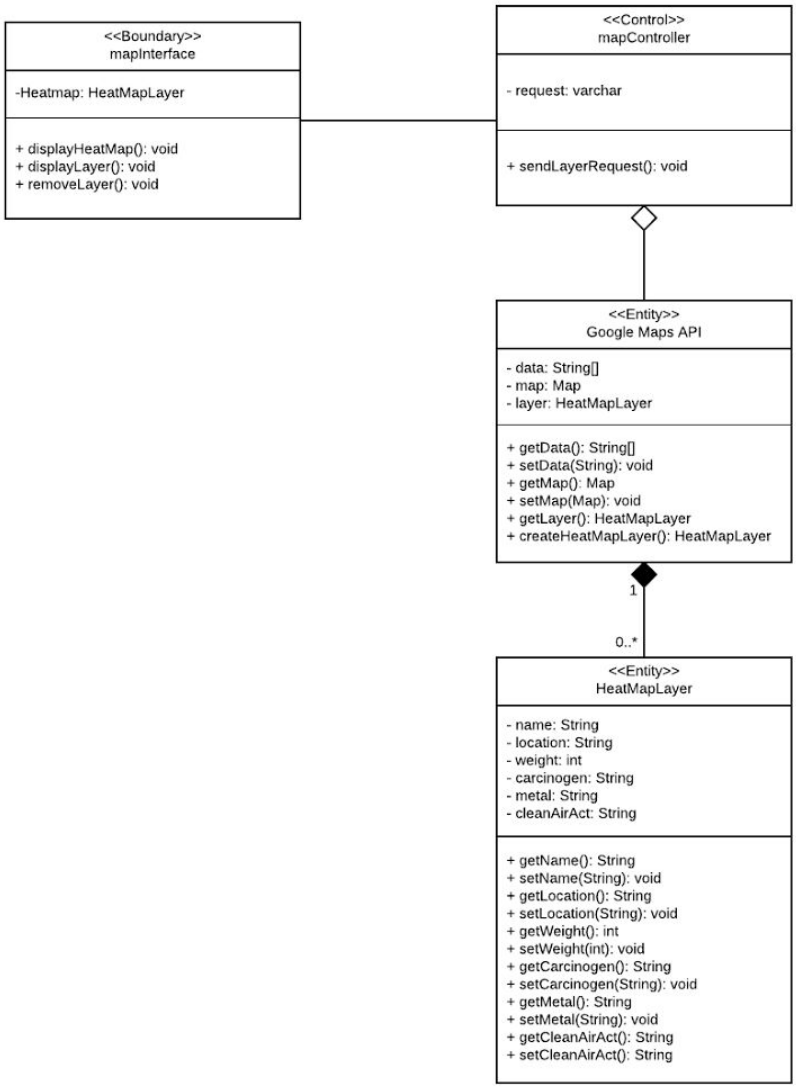
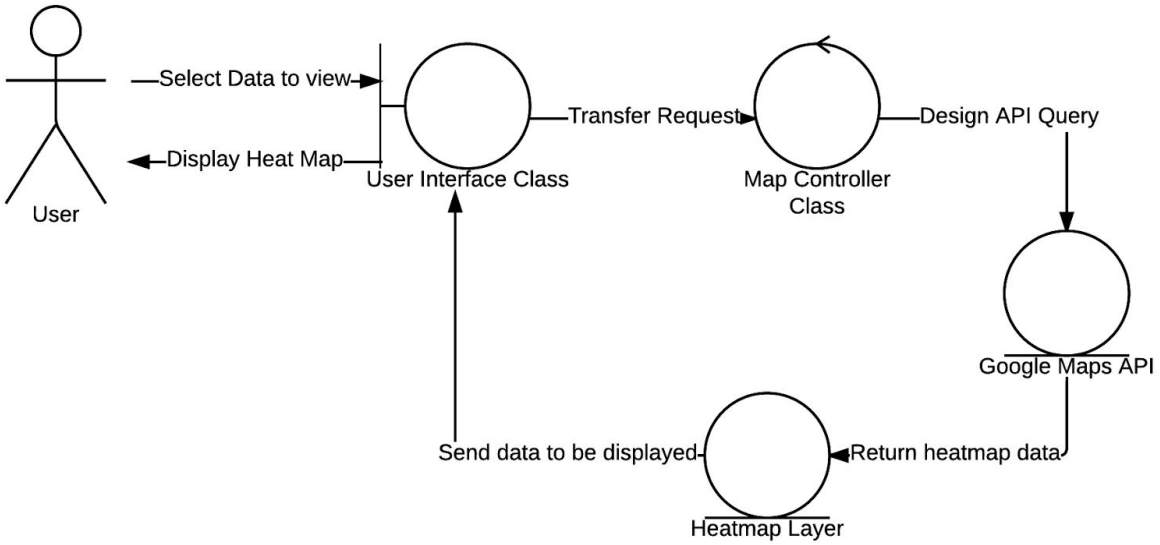
CSC 415 -- Software Engineering

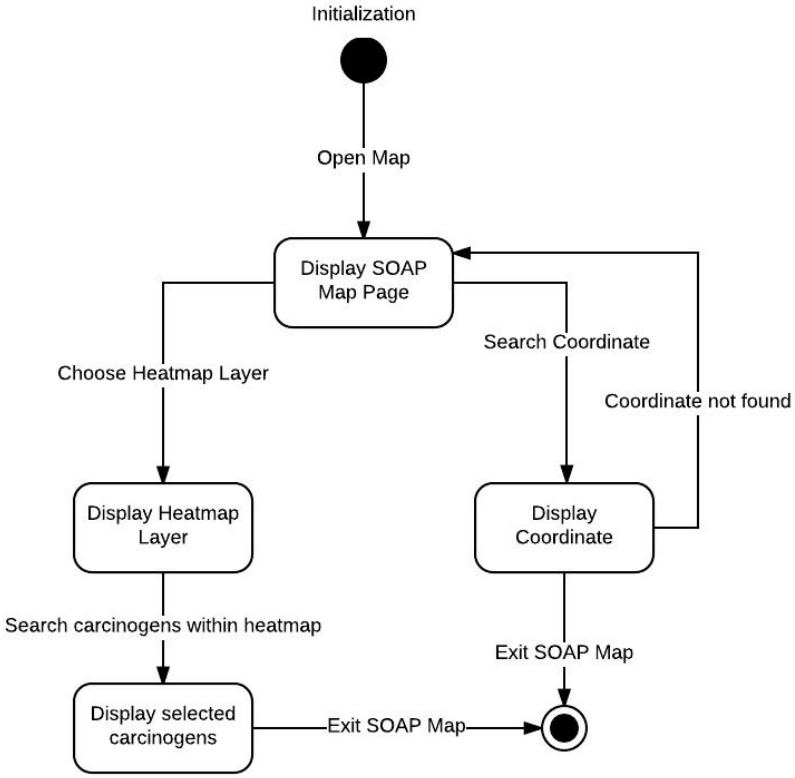
Detailed Design Class Diagram



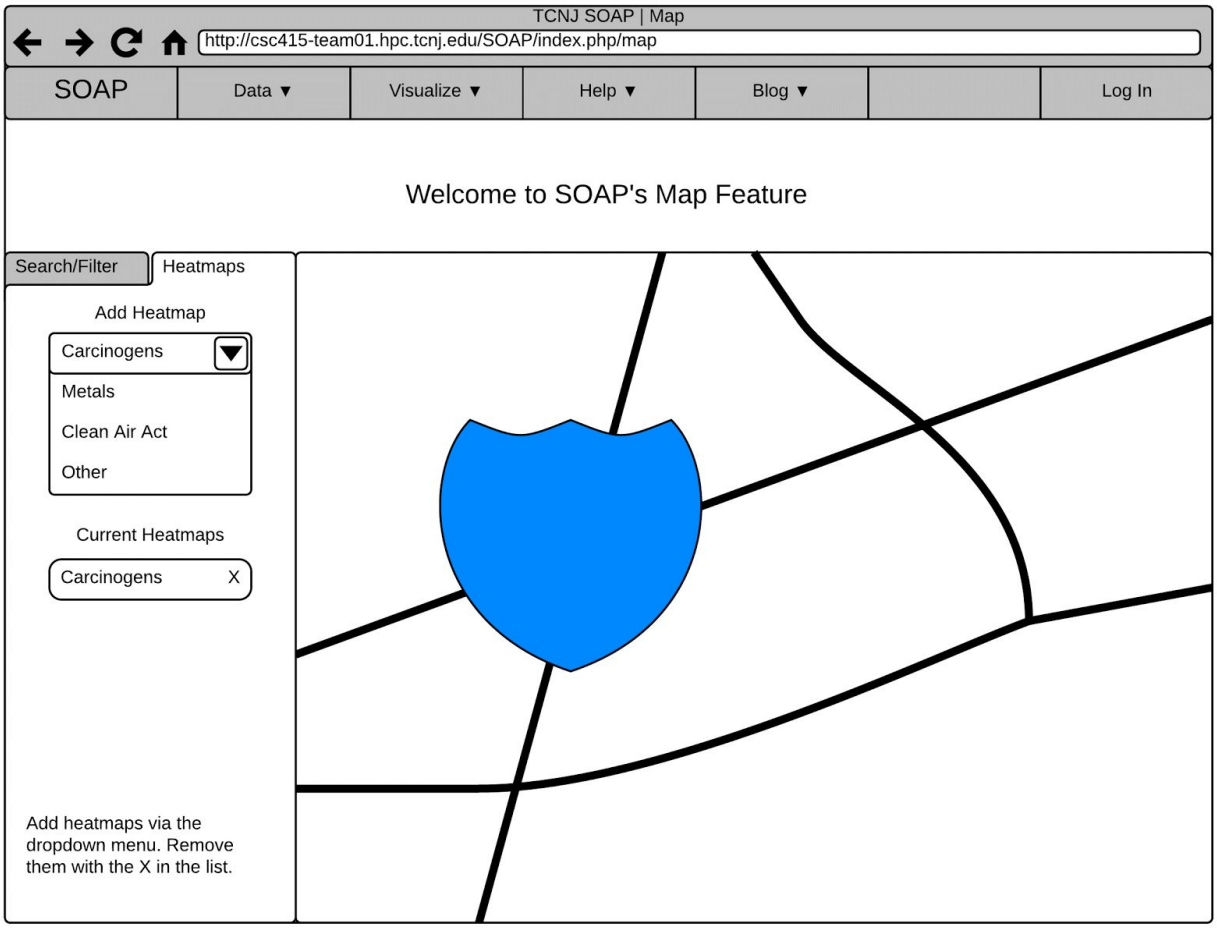
Collaboration Diagram



Detailed Statechart



Interface Design



8 Golden Rules

Strive for Consistency

The first thing we noted when analyzing SOAP and how we intended on implementing our module was how the previous features were implemented on the site. We noted how drop down menus and tabs were used to navigate the map that was embedded into the site. We are striving for consistency by using the same map and adding our heat map to it. Rather than using radio buttons for the various heat maps available, we are using drop down menus to maintain consistency. Additionally, the new feature will be accessed via a tab, which aligns with the original design of the website.

Offer informative feedback

Our module will offer informative feedback through the refreshing of the map after an option has been selected. None of the heat maps will display the same information, so seeing the colors change with the options will be visual feedback to the user informing him/her that his/her input has been accepted. It's important not to overdue this rule via popups or messages because it could detract from the functionality and flow of the site.

Design dialog to yield closure

To meet this rule of interface design, we intend on highlighting the option that was selected. Our form of showing design dialog to yield closure is having the option selected after the heat map changes. We don't believe a dialog box is appropriate for this module because it would interfere with the functionality. A huge asset of this module is it being highly responsive and easily accessible, a dialog box would only interfere with this flow.

Offer simple error handling

Our module combats errors by limiting what the user can input into the module. Our options are closed ended, so the user cannot input something that would cause the system to break or cause an error. Regarding the closed ended options, they will be tested extensively to ensure that they are working properly and interface with SOAP as intended.

Permit easy reversal of actions

Because the options are available via a drop down menu, easy reversal of actions is possible. If a user selects the wrong option by mistake, he or she can easily reverse this action by picking the option they originally intended. Additionally, once a heatmap layer is added, it can be removed again easily.

Support internal locus of control

Our design supports a user's internal locus of control because it presents all functionality as closed-ended options. The design is very intuitive and simple to learn. Every input in the module is mapped to a single output, so there are no surprises. As a result, the user feels like he or she is always in control.

Reduce short-term memory load

The choice to use drop down menus and tabs to navigate the module ensures that a user never has to remember which option was selected or what options are available in the module. All information in the module is presented as-is, front and centered.

Enable Frequent Users to Use Shortcuts

Due to the simplicity of the design, there aren't necessarily explicit shortcuts that a user can use to navigate the module. However, as a user becomes acquainted with the module and the options that are available, he or she will use the module at a faster pace. For example, a user may know that the option he or she is looking for is the second option in the drop down menu, so they can use keyboard inputs to quickly navigate to that option.