CS 499 Enhancement Three: Databases

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For this enhancement, my artifact is the Python MongoDB dashboard from CS 340. For this milestone, I further improved the dashboard by fixing several small bugs and scaling issues and even updated the map, histogram, and table. I also changed the Jupyter notebook app into a Python script so that it can run on the command line easier.

Passion is my reason for choosing this artifact. This dashboard is one of favorite projects from SNHU. I really like how clean the dashboard is and how smooth the updating is once the data is loaded from the Database. However, I noticed a few bugs and mistakes when I was reviewing the code for the dashboard prior to working on this Enhancement. Therefore, fixing the dashboard became the focus for this Enhancement. I focused on how a user would like the dashboard to function instead of a programmer.

For this enhancement, I fixed a few bugs and even added a few features. The first of which is the scaling of the histogram when All dogs are selected. It was zoomed very far out and basically impossible to read before so I zoomed in the histogram to make it readable. It is still possible for the user to zoom out if they wish as well. Next, I fixed the camera placement and zoom of the geomap when a record is selected. Now, it snaps to where the tack is placed corresponding to the location of the record in question. Next, I fixed various bugs that I noticed around the data on the dashboard not updating properly when different filters were selected. In particular, the ‘water rescue’ filter was not getting the correct info occasionally. Finally, I made the table column filters default to case insensitive search because that is how a user would normally want it. As with the histogram scaling, it is still possible for the user to manually select case sensitive search if they wish.

I fulfilled all of my goals that I set out in module 1. While I originally wanted to add major new features to this dashboard, I believe that my fixes and improvements showcase the same skills well. While I was improving this, I learned just how much heavy lifting that the Dash library does for this dashboard. Being able to use callbacks correctly is very important for a responsive and fluid UI and this dashboard is no exception. The Pandas library also handles DataFrames strangely which gave me some small troubles with some of the extra features that I wanted to add.