* **CS270 Final Project Notes (Tie-ins into the class)**
  + Distinguish the graph components (once have the features)
  + Grabbing the data points
  + Labeling the points
    - Currently using center of mass from PIL, but in reality could be tied to the facility location and distance…
    - Given the value objects should be able to add the components

Use the eigenvectors to see which changes the least to determine what the componnets of the graph are… there is a distance from the values (think of what an eigenvector is… it is something that is multiplied by a matrix and outputs the same matrix on the other side. If there is a drastic change received from the matrix of 0/1 of pixel data then having a set of eigenvectors that correlate to different types of graphs would be able to determine the type of graph that is best… for that information)

-To get the eigenvectors use the experts algorithm on a test set/ database of graphs where the outcome/type is known. Once we know the type of graph, extracting the data should be simple since all the information will be directly correlated/scaled by some axis or multiplicative constant

-To get the different components use the facility location (there is a cost for a feature to determine whether it is important or not) if it is within the radius and is similar it probably has a higher cost.

* CS270-Presentation: Extracting Data From Visualizations
* Introduction
  + In our project, we worked on building an algorithm that would be able to automatically convert data visualizations, such as graphs and charts, into raw data.
* Overview
  + Take in an image of a graph or chart
  + Determine what type of graph the image is
  + Extrapolate the data from the image
* Taking in an image
  + Here we taking in an image of a graph or chart
  + From the pixels extract the components that are not background
* Determining the graph type
  + Now we have the components from the image, and have a matrix of the important information
  + Make use of the properties of eigenvectors to create a group of “experts” these are going to be different vectors of different weights.
  + To create the eigenvectors run the eigenvector identifier on a large data set of known graphs and chart types. This can be an iteratively learning process which can be tuned as the time goes on
  + Each of these eigenvalues will be close but not quite right to the graph that we hand in.
  + Use experts algorithm to determine which eigenvector is the best match, by seeing which causes the least amount of change to the matrix representation of the graph
* Extrapolate the data from the graph
  + Assuming we know the information from determining the graph type (above) we can use that information to grab more relevant pixels and features from the image (such as axes, labels and data… obviously)