Team Pear – Class Diagram Explanation

What Diagram Conveys:

This UML class diagram visualizes the classes of Team Pear’s Dashboard Project program in a standard format. The diagram shows the relationships and interactions between the classes of the program. The Controller class contains the main method where the program is run from. The Controller makes a MainWindow object which acts as the GUI, displaying the dashboard and allowing the user to input the file they want to upload and the visualization type they want (data from user input will be sent back to the Controller, which will process them).

The MainWindow calls upon the PieDialog class which calls upon the PieChartWidget class. From the PieChartWidget class, the data is drawn into the pie chart. After getting the user input, the Controller will call the errorHandling class in order to make sure the information is correct. Then the Controller will use the user input and call upon the professorMap class.

The professorMap class will import the user specified CSV file, parse the information and call upon the errorHandling class to make sure the information is in the correct format. ProfessorMap class will use the information and use the createProfessor class. The createProfessor class will look at the type of the CSV file(ie publication spreadsheet, teaching spreadsheet, etc) and make an object of the correct professor type. Currently the createProfessor object will make an object of the pubProfessor class. The professorMap class, after the pubProfessor object is created, will put it into a map.

The Controller will use the information from the professorMap class when it wants to redraw the pie chart based on changes in the user input.

Rationale for the Design:

The system design was based off of the MVC(Model View Controller) design pattern. The Model currently consists of the pubProfessor, createProfessor, professorMap, errorHandling classes. The Controller is the Controller class. The View currently consists of the MainWindow, PieDialog, and PieChartWidget classes.

The classes are modular and each contain the necessary methods it needs to execute a specific aspect of the program. The pubProfessor class contains the information for the professor and various publication data. To get information from this class, one needs to use the getter methods. The createProfessor class is responsible for creating a professor object of the specified spreadsheet type. The professorMap class is responsible for importing the CSV file and holding the professor objects. The errorHandling class is responsible for checking the the data. The Controller is responsible for communicating between the model classes and the view classes. The MainWindow class is responsible for displaying the graphics and using the PieDialog and the PieChartDialog classes. The PieDialog class is responsible for calling the PieChartDialog class. The PieChartDialog class is responsible for displaying the data as a pie chart.