CS 411 : Project

Stage 1 :

Project Proposal

Title: Pass or Fail

Project Summary:

Our application is designed to help students who are confused about what classes to take for an upcoming semester based on the Department, Course, and Primary Instructors. Users will be able to find specific information about the courses GPA based on different aspects. Our application would also predict the GPA you can received based on what classes the student would be taking with different Primary Instructors.

Description: The goal of our application is to help students who are confused between what classes they are supposed to take. Our application would help students in UIUC figure out which course is best for them according to the GPA's and the Primary Instructors of the course.

Furthermore, the user would also be able to see a graph which shows the grade difference between Primary Instructors of the same course and see the average trend with a line graph. Lastly, our application would have a predictive GPA section which would calculate an approximate GPA based on the classes the student would take in the next semester.

Usefulness: Most students in UIUC are very anxious about choosing which classes to take and which professor would be a better fit for them. Our project would help students in both these cases. Through our website, students can see what all classes UIUC has to offer based on the department. They can dig deeper by checking what are the grade averages based on Primary Instructors and Courses.

A big factor that users would be really excited about is the Predicting GPA section. Students tend to keep changing classes in the beginning because they find better options, times, etc. This GPA predictor can help students choose a set of classes and then compare with another set to see which set would have a higher GPA.

Realness: The data our group would be using has the GPA's for every class in UIUC that was taken from 2010-2021. This data summarizes the grades that students got in a particular course. This dataset includes the Year, Term, Subject, Number,

Course Title, Primary Instructor and the Grades of the students taking the course. This data is from UIUC and found from https://github.com/wadefagen/datasets/tree/master/gpa.

Functionality:

Some of the basic functions of the website would include but not be limited to:

1. Finding the overall GPA of a department (Ex: CS, STATs)

2. Getting the GPA of a particular course over all the years (Ex: CS 411)

3. Getting the GPA of a Primary Instructor (Ex: Abdu Alawini)

4. Finding the GPA of a Course based on the Instructor (Ex: CS411 with Abdu Alawini)

5. Visualizing the GPA of Courses (Using Multiple Professors over the years)

6. Using pre-existing data to train a model to predict most probable GPA

The user will be able to interact with UI by using the search bar or drop down menu to look at the GPA spread of a certain class over the years of 2017-2021. The user will also be able to look at a summary of classes from their department. Using the users previous GPA we aim to develop a model that can predict his next semesters class wise grades.

UI Mockup:

Work Distribution:

Sahil (Team manager): Help schedule meetings for the team and take the lead on UI design

Udit : In charge of making the structure of the database and determine what functions are needed for the application and what tables will be needed.
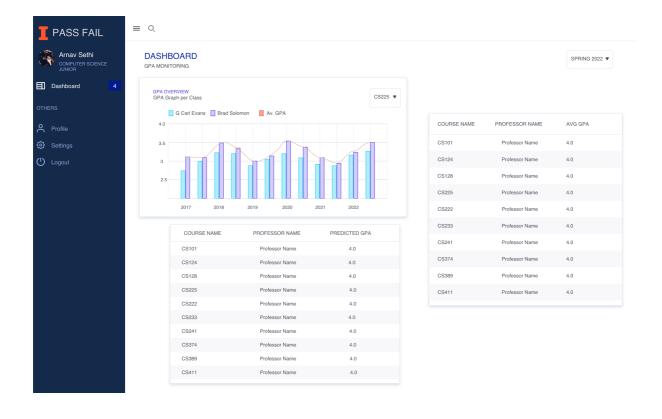
Arnav: In charge of writing the SQL queries based on what is required from the website

Lisa: In charge of connecting the database to the UI and check if everything is running smoothly.

Even though everyone has a specific task, we will constantly be talking to each other about what we are working on and if someone needs help with something.

UI MOCKUP :