Grade & GPA Calculator – Version 4

*Project Proposal, CSC 440*

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**Project Overview**:

**Problems**: students need to find out their grades in certain classes. They will have their grades on several completed assignments, with more assignments to come. They **need** to know what grade(s) they will need on future assignment(s) in order to receive, say, 89.5% overall in a course. Perhaps they would like to know what grade they will get overall in a course, assuming they make, say, 75% on remaining coursework. This grade calculator will allow students to perform these “what-if” scenarios. It will show them which classes they need to focus their attention on and hard they should study in each class.

Additionally, students **need** to keep track of their GPA. This calculator will have a functionality for that as well. It lets them enter the classes they have taken and the final grade in each class (A, B, etc.). The GPA calculator then lets students perform “what-if” scenarios on future classes, similar to the grade calculator portion of this project. They can ask the calculator what GPA they will have overall if they make a C on one class, a B in another, and two A’s in the other classes.

The program will, of course, store all these grades to make calculations easier when the project is rerun.

The **system requirements** for a computer running this project are that MySQL must be installed. MySQL will be used for the database that stores the grades.

**Goals**: the goals of this project are to help students figure out what grades they will need on future assignment(s) in order to achieve a final, desired grade in certain course(s). Additionally, it will allow students to calculate current GPA, given certain completed courses, and future GPA, assuming certain final grades.

**Workflow of the proposed system**:

There are essentially four basic functionalities of this project:

1. Save grades on assignments.
   1. The user selects a class from the available courses.
   2. The user enters the assignment’s name, grade received, and the assignment’s weight.
   3. The user clicks the “Save Grades” button.
   4. The system shall save the new grade(s) entered and update the student’s current grade in the course.



1. Save final grades for completed classes.
   1. The user enters the name and final grade received for the class.
   2. The user clicks on the “Save Final Grade” button.
   3. The system shall store the new course grade and update the student’s overall GPA.



1. Perform what-if operations on remaining ungraded assignments in classes.
   1. The user selects a class from the list of courses.
   2. The user types in the grade he/she would like to receive overall in the course.
   3. The user enters a potential grade on remaining coursework.
   4. The user clicks the “Compute” button.
   5. The system shall calculate the overall grade in the course, given certain finished assignment grades and the grades entered by the user.



1. Perform what-if operations for GPA.
   1. The user enters final grade(s) and credit hours for classes.
   2. The user clicks the “Calculate” button.
   3. The system will calculate the GPA, given certain completed final grades and the future final grades entered by the user.



(NOTE: the definition of “what-if operation” is described in the project overview.)

**Hardware/Software resources needed**: to complete this project, my teammates and I will need highspeed Internet access, at least three Windows computers, Notepad++, an advanced IDE (such as Visual Studio), and MySQL.

**Team members**: Matthew Abney, Chris Ward, Ethan Vaughan.

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***Note:*** *I am referring to this as version 4 because I have previously implemented three different versions of this project.*