Professor Rossetti's Gradebook Service

User Needs / Problem Statements

1. As <u>a student who submits deliverables</u>, I desire <u>more insight into the details of my grade, including a score breakdown for each rubric category</u>, so I can <u>have confidence in the grading process and understand how the rubric was applied to my submission</u>.

2. As <u>a professor who has finished evaluating student deliverables in my Google Sheets gradebook</u>, I need <u>a way to distribute the grades back to students</u> in a private, secure, accurate, and time-efficient manner, so I can <u>save time and avoid manual errors</u>.

Proposed Solution

System Objectives

1. The system should <u>distribute a detailed grade report to each student via email</u>.
2. Maybe later: The system should <u>post grades to the gradebook in the given university's course management platform</u> (i.e. *Blackboard, Instructure Canvas*, *NYU Classes*, etc.).
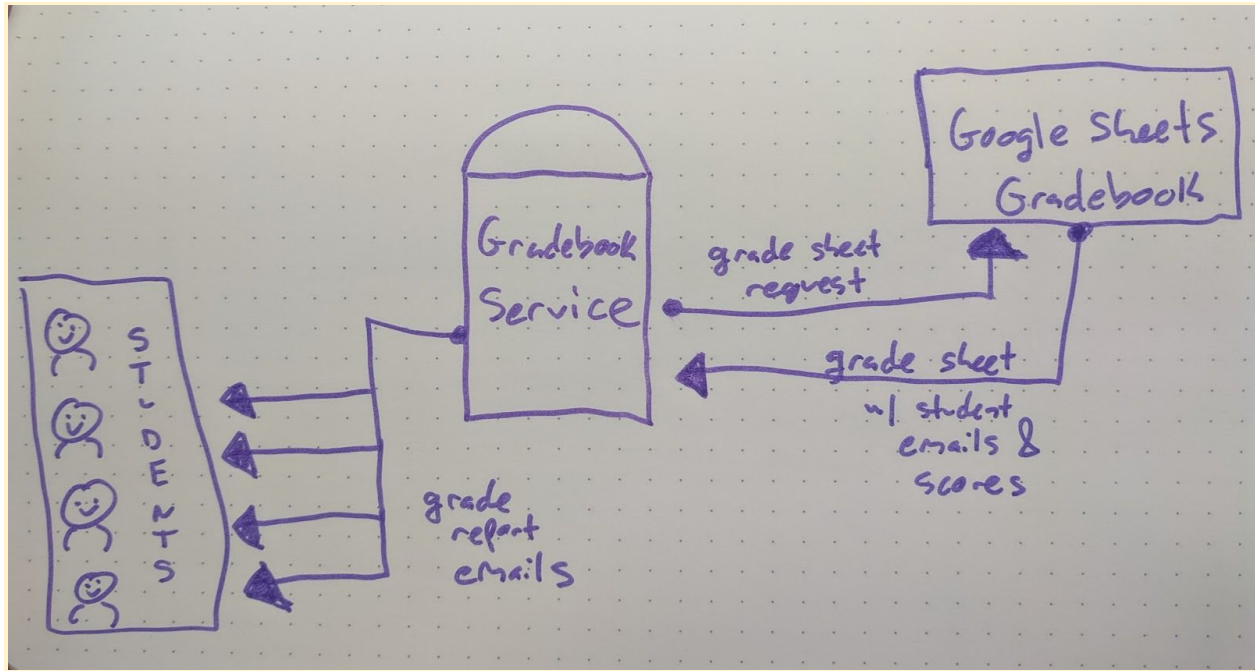
Development Plan

Distributing Grade Reports via Email

1. I'd like to explore using Gmail to <u>send emails</u>. I haven't used the GMail API in a while and I'm not sure if I have any previous projects to leverage, so I'll have to do some research about which package to use, and how to use it. This represents something I "know I don't know", so I'll feel less stress and more confidence after investigating it. If Gmail doesn't work, or doesn't work very easily, I can always fall back to using the Sendgrid service to send email, like I'm very familiar with doing.
2. After demonstrating my ability to send an email, I'll turn my attention to <u>reading real grades from the Google Sheets gradebook and distributing them to myself</u>.
3. After demonstrating my ability to distribute the grade reports to myself, I'll <u>distribute the grade reports to real students</u>.

Posting Grades to the University's Gradebook

I'll do this later, if I have time. It is possible that these grade reports could replace the need to do this.

Information Requirements

1. **OUTPUT**: A request for grading sheet data (a.k.a. Gradesheet Request), sent to the Google Sheets API.
2. **INPUT**: A deliverable-specific grading sheet from Google Sheets (a.k.a Gradesheet Response). The grading sheet should have student email addresses in a column called "Email" and an overall score in a column called "Score". And it should have a number of deliverable-specific columns representing various rubric categories.
3. **OUTPUT**: A detailed grade report for each student, (a.k.a. "Grade Report" Notifications), delivered via email.

Technology Requirements

The system should be able to be run from a Mac (or maybe later also Windows) laptop.

The system's software will be written in the Python programming language.

The system will require at least the following Python packages:
- The "gspread" package to read and write data to Google Sheets
- The "google-api-python-client" or "sendgrid" package to send email.