Academia

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Introduction

Academia will be aimed to serve the students across the nation regardless of their academic level. This application can be utilized to boost student productivity through the promotion of time management and an explicit understanding of grade calculations. The primary stakeholders are the students, and the secondary stakeholders are the developers of the website.

Problem & Solution

Students become more and more concerned about how they'll get all their schoolwork done when they start making notes of all the due dates and deadlines for their coursework. A lack of thoughtful planning and prioritization causes problems for many students, and this issue may manifest itself in a variety of ways. Thus, we designed Academia to help student manage their coursework.

The site will streamline students' data using a database with a user-friendly interface through which students can view and update their performance. They will be able to keep track of their work while knowing the grades on their assignments. When the user registers for an account, they will be able to access the website's features. It will allow students to manage their assignments and upcoming deadlines and will provide them with a means to track their grades and progress. Students will have a good visualization of their academic progress and not be confused about grades or upcoming assignments.

Features

Our website, *Academia*, is an organizer and grade calculator system that hopes to accomplish two main tasks. The first task is an organizational tool for assignments, homeworks, quizzes, tests, and other academic activities that the user needs to keep track of for various classes. These classes will be displayed in different tabs on the home interface, and can be accessed through the dropdown menu near the top of the page. The users will see notifications for urgent deadlines that they need to meet for their work. The users will also be able to see the overall grade in the classes that they are taking. The assignments can be inputted with the assignment, due date, and a possible grade if the assignment has been completed. The students will be able to change the due date or the grade of the assignment should there be an update.

The second task is to calculate the grade for each class based on the weights of different assignments, tests, quizzes, etc. The calculations will be made with the current grades on assignments that the users have provided, and it will also be able to calculate the total amount of points that the user will have to receive for future assignments to achieve a certain grade. The system will warn users of failing classes to encourage them to do better. Lastly, an account is initially created by the user so that they can log in and make the necessary changes when they need to. All of the information will be stored in a database.

Users

- Students: helps students keep track of important work so that they meet deadlines and get the grades that they want.

Stakeholders

- Programmers(Us): we can receive revenue from possible advertisements, but more importantly allows us display our web development capabilities.

Technologies

- HTML5 - Main framework of the site
- CSS - Styling
- JavaScript with JQuery - User interactions, interface design
- PHP - User login, account information
- SQL - Store data
- Apache Web Server - Foundation for the whole site

Functional Requirements

- Track grades
- Provide organized view of future assignments and tests
- Notifications for future assignments
- Act as a grade calculator (for both the present and the future)

Non-functional Requirements

- Login authentication
- Storage of user information

Link to Github

- https://github.com/ProgrammerSamJ/Academic-Assistant

Design & Solution

The project plan begins with the formation of the student team and the project proposal. After selecting the project and getting approved by the professor and TA, we started breaking out the next major phases into smaller segments that we could assign specific team members to. The Design phase splits into three segments that correspond to three core divisions of the solution system: Frontend, Backend, and Database. There is a bit of overlap on which segment team members are working on so it will be important for them to communicate and coordinate on what work needs to be done to ensure their segment is completed on time and satisfactory. After completing the design phase the team transits to development.

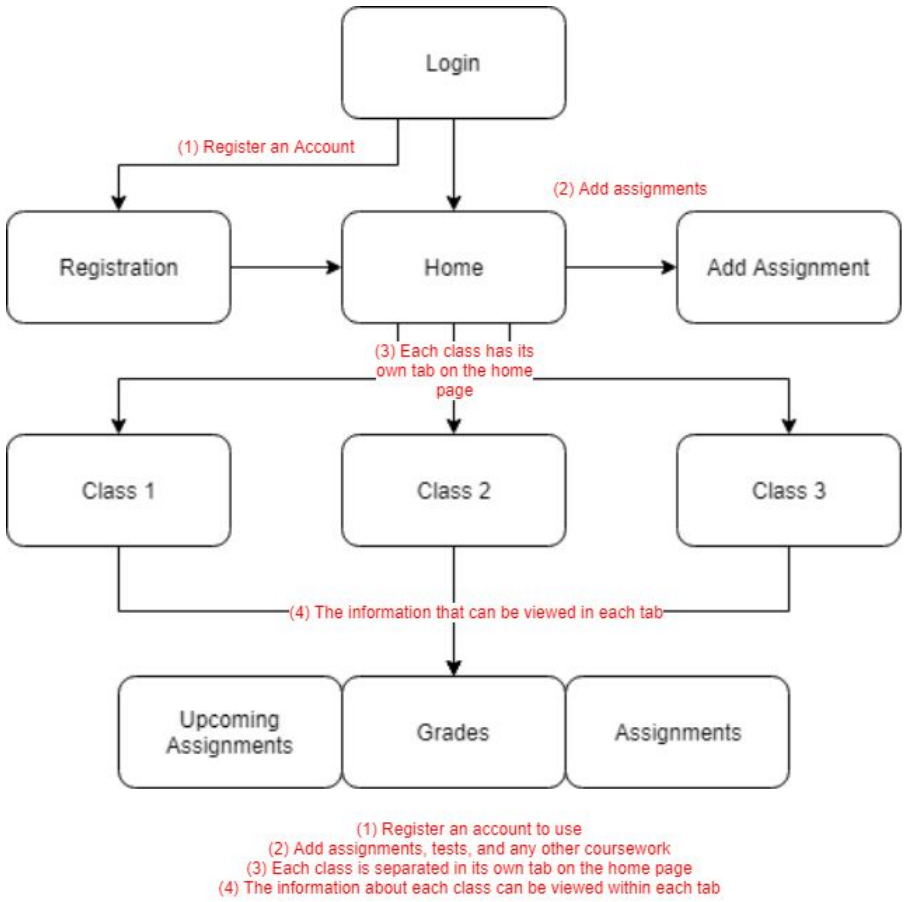
Each team member was assigned their own portion of the project so they could be sure that it would work properly before combining it with the work of the other team members. Following the completion of development comes testing, which makes sure that the project is working properly and ready to present. The last stage will be compiling the project report and building the project presentation. Team members will be keeping notes and small drafts of different phases through them which will help expedite the compilation of the report. After fleshing out their respective sections, the entire report will be pulled together from their overall experience and the initial proposal to go through final editing. Once it is finally approved by the members, work will begin on the presentation based off of the report and the information it contains.

Week #	***Objectives***
Week #1	Finalize initial plans
Week #2	Distribute work and begin back-end
Week #3	More Back-end
Week #4	Create simple interface and test back-end
Week #5	Fix bugs in back-end and finalize
Week #6	Fix bugs in front-end and finalize
Week #7	Create overall website structure
Week #8	Add and configure smaller interface elements
Week #9	Connect front-end to backend and fix existing bugs
Week #10	Add final details to user interface and begin work on server
Week #11	Finish server configuration and make final preparations

Site Design

The project site can easily be broken up into frontend and backend components. The frontend section is segmented into two sections, one handling the main student menu, with the other handling add class functionality. Splitting up the components like this allowed for framework to be built for pages to be worked on by multiple group members at a time and in parallel.

The website consists of two main pages, the login/register page which users first encounter, and the main home page. Originally our concept for the home page consisted of a window with tabs, with each tab containing the information for a specific class that the student is taking. This is the reason for the strange nature of the sitemap. Each tab contains the same information about each class, but everything exists on a single page. The design we settled on in the end was rather than tabs, there would be a dropdown menu at the top of the main box that would allow users to select the class they wish to view.



In regards to the aesthetics and user-experience of the website, the objective was to create something that was laid out in a manner that was very easy to understand. The colors of

the main UI elements are subdued, with important buttons and indicators being colored rather brightly in a manner that corresponds to their functionality. Sharp corners on page elements were avoided. Each piece of a given class view can be hidden individually to prevent the view from becoming cluttered in the event of many assignments and categories being present.

Assignment Status Indicators: Neutral, Complete, Warning, and Late

Grade Indicators:

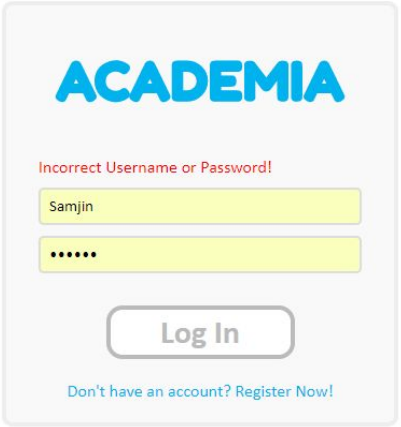
Database

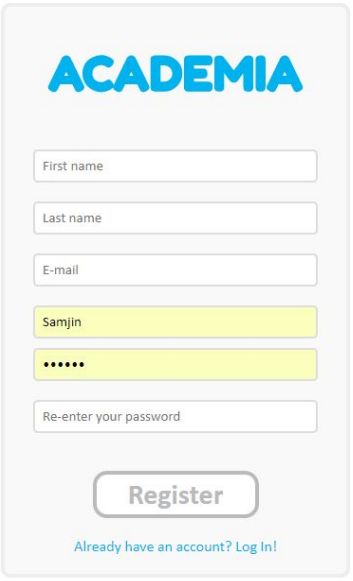
The database consists of 4 tables: classes, assignments, and users, and workgrade. The "users" table contains all relevant information on a user, such as client name, email, and their unique user id. The "assignment" contains all of the assignments that the user has inputted corresponding to each class and the category of the class. The "classes" table contains the different classes that each user is currently taking. The "workgrade" table contains the grades that the students currently have in each category of the specified class.

Website Overview

<u>Login/Register Page</u>

The user can create an account by filling in all their information, and transition to the login page to access their homepage.





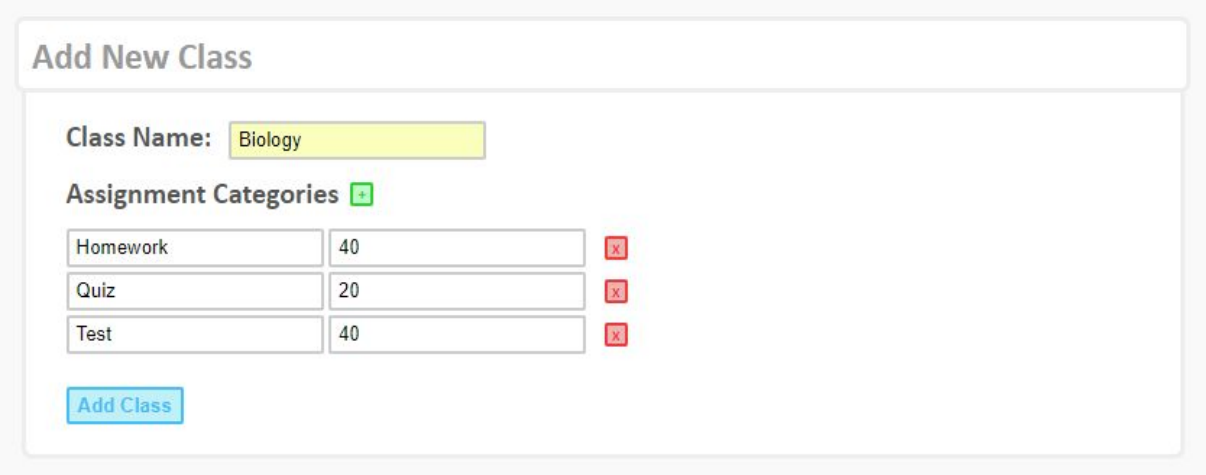
Homepage

Upcoming Deadlines and Current Grades

The first parts of the main home page list assignments that are due in the next week and the overall grades in all of their classes. This allows students to get a sense of how they are doing instantly without having to search around.

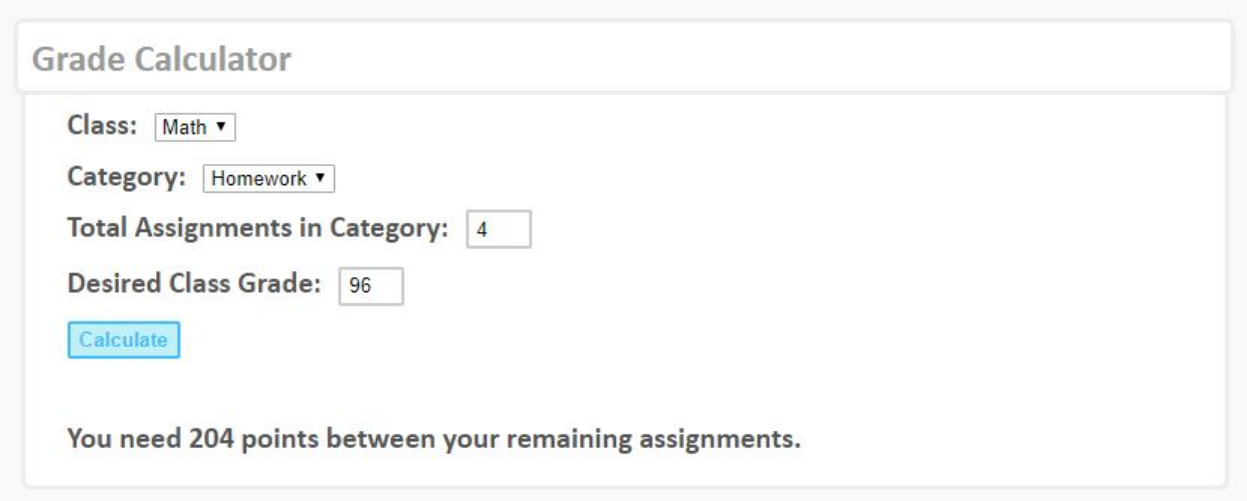
Add Class

This window allows users to add a new class to their tracker. They provide the name of the class and populate it with “assignment categories” such as Homework, Tests, etc. They can assign each category a specific weight out of 100. These weights must sum to 100 points.



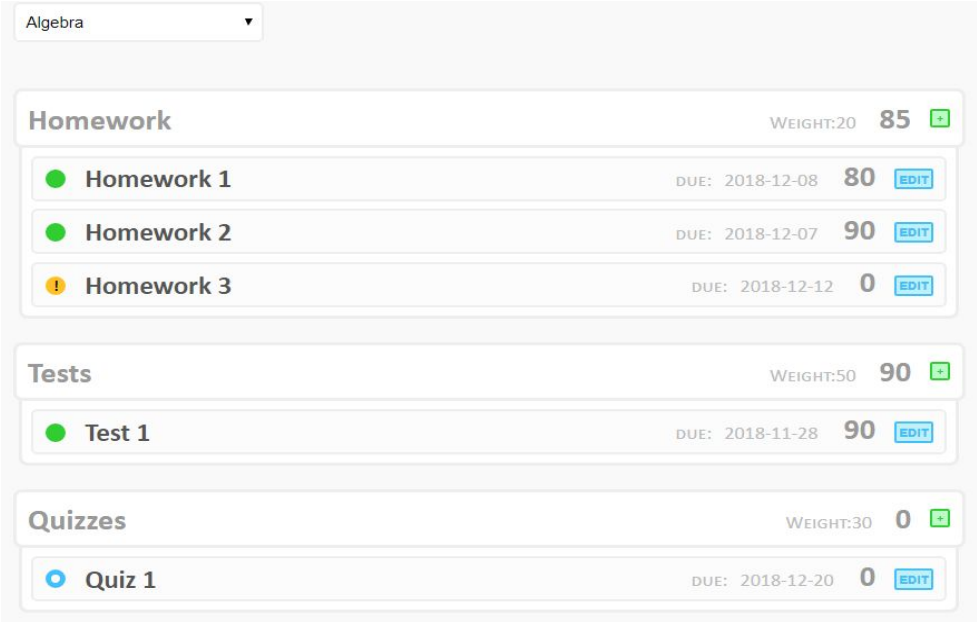
Grade Calculator

The grade calculator takes a class and an assignment category in that class. Assuming that the average score in all other categories is held constant, the calculator tells how many points someone would need on the remaining assignments in the chosen category to achieve their grade goal.



A class view with categories for homework, tests, and quizzes

This is the separate class tab that can be accessed through the drop down at the of the page.



Assignment category with add assignment feature and a late assignment

Users can add assignments to the their respective classes, which will be saved in the database and will show under the respective category when they refresh the page.

Future Goals

If we were to continue work on this website following the conclusion of the class we would like to add more functionality. For example perhaps we could integrate with Google calendars or some other calendar service. We also hope to allow professors or teachers to manage students in their classes. Perhaps schools and universities could add this service to their networks to facilitate grading and workflow.

In the future, we would like to implement a few more features to improve on our registration page, which would be to authenticate the email, set a minimum for the length of the username and password, and salt the password for the user. We would also like to implement a feature where the user can add as many classes as they want since the user can currently only add one assignment at a time. Furthermore, we will add the function for user to delete assignment.

Conclusion

The goal for the website is to help students easily keep track of their scores and performance in their classes. It will improve upon existing organizational tools, such as calendars and planners, as well as providing students with their own methods of tracking their grades without having to rely on their teachers and professors. With time, *Academia* could become a standard tool for students and their academic careers.