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WEB 4350

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Information Gathering

**Project Proposal**

Over the course of four months, our team will design and create a fully functioning web-based budgeting application. The main audience of this project will be students who have any level of income and are looking to create a proficient budget for their specific schooling and personal needs. We chose our target audience since each of us are students and recognized we could highly relate to other students' needs as we would have also benefited from this application during our time attending Weber State University.

As such, there are a few different elements that this project requires. To protect the safety and privacy of both users and our systems collected data, the application will need to include profiles with the ability to log in and out. Having individual profiles will allow users to view only their data as permitted by the application’s user permissions. Each user will be able to create and add transactions to various budgets utilizing different categories such as: savings, bills, income, and debt. After the transactions have been added, users will be able to generate and view reports for each category as a whole or individually, as well as configuring and generating a daily spending limit. The daily spending limit will provide aid with budgeting by automatically calculating the amount of money allotted to the user depending on the user’s preferences, the amount of money available, and days left until their next deposit.

One key feature that the client has requested is the ability to generate reports for each budgeting category including but not limited to; anticipated spending, money spent, and the remaining budget for the user’s specified time period. This is one aspect of the application our team wants to focus on perfecting both the front and backend functionality and visual design.

Another important client request for this application is a daily spending limit. Once a user inputs all of their income and expenses, the application will automatically calculate what they have left over and report the daily spending limit to the user.

The application’s design will embody a wide range of features with the intent of helping users to easily organize and budget their expenses with ease and efficiency. In addition, the web-based application will need to properly function and appear visually appealing to the user on both the mobile and desktop versions.

If there is time remaining after finishing the main components of our project, our team is going to implement the ability to add bank accounts to the user’s profile. This is not a priority for the project, however, the client has mentioned that they would like this feature if it is possible in the allotted time frame. If time allows, we will provide the users the ability to connect their bank information to the application so the transactions will automatically appear on the site and the user can more easily assign these transactions with the labels our application provides.

In order to fully accomplish these tasks, the webpage will need to utilize a database to store and retrieve information. The database will create, maintain, and edit transactions, user profiles, and category labels. Our team will not only work towards a practical and responsive frontend, but a functional backend that will work seamlessly with the user interface. To implement our application successfully we have decided to use the language Python, utilizing the Django and Bootstrap frameworks. Our team has successfully developed several web applications coded in Python in previous semesters and feel confident in our skills and abilities to accomplish a fully functional web application that meets the requirements of this project as well as meeting the needs and wants of our target audience.

**Team**

We have three team members working in tandem to accomplish this project. Each member will be assigned unique responsibilities that showcase their development and design expertise as well as working with other team members in every aspect of the project to improve each of our skills in becoming well-rounded developers.

Travis is going to take lead on the project as a whole by acquiring leadership responsibilities such as: facilitating meetings, monitoring due dates and status of the team’s progress, as well as other administrational duties, such as creating shared documents for team collaboration. In weeks one and two, Travis has taken the lead by configuring the Discord server and leading the discussion in regard to completing this Information Gathering assignment. Travis will also play a large role in coding both the frontend and backend, as well as helping to design the user interface. His skills and practice coding in Python and Django originate from a class taken in a previous semester. He is currently working on application designs in his career and has completed a design internship during the spring semester of 2022. Travis will implement the many design techniques he has learned and is continuing to perfect in our application’s user interface.

Amanda’s expertise lies mostly on the front end design of our team’s project. She will be taking the lead for our web applications user interface design and implementation. This includes but is certainly not limited to; the low, medium, and high fidelity wireframes, the low, medium, and high fidelity prototyping, utilizing Bootstrap for CSS styling, and conducting user testing. She is currently a beginner with Django and server-side deployment as she just started taking courses in the subject this semester. Amanda will continue to learn and improve her Python skills in order to help code and debug this budgeting web application later in the semester.

Sara is primarily responsible for taking lead in the development process for this web application. She has a strong knowledge of Python, Django, Bootstrap, and SQL gained from previous classes and work experience. Sara will be taking lead in the database design and implementation as well as setting up the web application’s environment to allow for team collaboration throughout the semester. Sara will also help in implementing a user friendly and visually appealing interface under the direction of her team member Amanda. Sara will take lead during the user testing phase of the project, as this is a large part of her current career and she is very familiar with the process and requirements to sufficiently test a web application.

**Proposed Timeline**

Week 1

This week was dedicated to getting communication set up between everyone on the team. We set up a Discord server for the team and ensured everyone could access the chat. We communicated throughout the week and got to know each other a little better. We discussed schedules to ensure we had time to meet together weekly and the skills we would like to contribute to this project.

Week 2

We met as a team and created a plan for the semester. This week’s assignment was to submit the Information Gathering Document, which entailed creating an approach to accomplishing a successful build of a budgeting application. We then decided which team member would work on each task and planned when each task would be due, as seen below in our project proposal timeline.

Week 3

Before working on the project itself, our team needs to brainstorm ideas and plan out the fundamentals of our project. As such, we will be creating sitemaps, wireframes, database ERD’s, and more to scope out our web application. In order to do so, we will brainstorm ideas based on previous projects and applications similar to what we are looking to create. This week will be dedicated to sitemaps and wireframes, where we map out the frontend structure. The wireframes will consist of two documents; one focused on the frontend content and placement of elements, and the other demonstrating the backend framework.

Week 4

In continuation of Week 3, we will continue to plan out our project. This week will be focused more on backend planning, where our team will design a database ERD to map out what information our application will use and how it will be implemented. This will map out tables, relations, columns, and types that our database needs. In addition, we will plan and research the desired development stack that will be used to connect the frontend, backend, and database.

Week 5

Week 5 will be a time to finalize our team’s planning stages and to make sure each member is on the same page before moving forward in the development process. After we submit our documents (consisting of our sitemap, wireframes, database ERD, and development stack choices) we will divy out specific responsibilities to each team member for them to accomplish within the next couple of weeks.

Week 6

To prepare for the coding stages, we will update our wireframes to become low-fidelity prototypes. To make them as such, we will create a more realistic layout by including content, replacing lorem ipsum text, and develop more of an attractive design. We want to make efficient design decisions to ensure that users will use and appreciate this app with ease. Additionally, we will update any functionality to make sure elements are connected and clickable.

Week 7

Once our low-fidelity prototype is complete, we will conduct user research by gathering feedback from users outside of class. We will seek out recommendations and changes that need to be made on both design and user experience. Once completed, we will make the necessary changes based on the feedback. This week we will submit all prototype documents, feedback notes, and a list of changes made in our web application via Canvas.

Week 8

This week will be dedicated to coding the project. We will start our project and get it uploaded to Github so our team can all work on it together. Based on the plans and prototype we developed, we will determine where to start with our code. For example, one team member can begin with the database code, while the other can focus on coding the front end simultaneously.

Week 9

This week will be a continuation of last week’s coding and will depend on how far we reach in the project at that given point. The goal is to be as far along as possible, and to begin to connect the frontend, backend, and database together. It is important for our team to meet regularly during the coding phase to ensure our project is on track for completion. We will meet as frequently as our schedules allow during this phase.

Week 10

As part of the schedule, the Capstone Project Part 1 check-in is due to check our progress. This will be another week to code depending on how much we still need to work on.

Week 11

After we turn in the Capstone Project Part 1, we will hopefully get some feedback on what we need to tweak and bugs we need to remediate. There may be aspects that we need to revisit and improve for the final version of our budgeting application, this week is intended to improve those functionalities and designs. We also intend to meet with Professor Squadroni to get some more one on one style feedback. This way we can get some more personalized notes and discuss the project in a more focused sense in order to maximize our grades.

Week 12

Week 12 will be focused more on code revision based on the feedback received from Professor Squadroni. We hope to make substantial progress in our code at this point, but in the event that we are missing any content, this week will be a continuation of coding.

Week 13

Capstone Project Part 2 will be due during this week, which will provide another helpful checkpoint with Professor Squadroni where our code’s progress will be checked. Our team will assess what still needs to be done, and specify a more detailed plan to take action in finishing our web application.

Week 14

This week is dedicated to testing and debugging our code in order to make final revisions. If desired, we will continue to conduct user research tests with users outside of the class and from Professor Squadroni to ensure our project functions as required and desired.

Week 15

During this week, we intend to push our code to production. With this, we will choose a client in which to host our application and get everything uploaded. Once that is complete, it will be our responsibility to conduct further testing to make sure that everything is functioning properly and do some final checks. If everything is functional, we will be ready to move on to the final week.

Week 16

As we wrap up our project, week 16 will be dedicated to finalizing any loose ends and preparing for our final presentation. We want to submit our final, fully published application earlier in the week so that we can spend the rest of the week recording our video presentation. We are excited to present how the final product turns out!