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**Wedding App:**

*An in-depth proposal of Team CASC’s Strategy & Proposal; Including Formulation, Analysis, Time-Line, Risk Analysis, & Background*

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Problem Solving & Software Design

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The project proposal is worth 10% of the project grade. You should come to class with a document that describes the main idea of your project. We will have about 10 minutes to meet with each team, so we ask that you come to the meeting without your laptop, but with a printed version of your document. You should designate one of the two team members to take notes. In addition to the printed document, you should  
also have posted this proposal to your project GitHub repository. Your document should contain the seven sections listed below. We don't expect this proposal to be 20 pages long, but the more detail you provide here the better help and feedback when can provide your team (both during our face-to-face meeting and after the fact):

1. The Big Idea: What is the main idea of your project? What topics will you explore and what will you generate? What is your minimum viable product? What is a stretch goal?

* The main idea of our project is to create an application that improves the wedding planning process for future married couples. Our app allows you to create and manage your budget, create & manage track of to-do lists, organize vendor info & payments with the application, includes a countdown timer to the wedding day, and helps you monitor the status of invitations and RSVPs.
* Our minimum viable product will include a survey to gauge a couple’s preferences for their ideal wedding. The survey will allow users to annotate their preferences through selection. After Python logs the user's preferences, the product will return a personalized wedding checklist, complete with reminders, timeline, do-dates, etc.
* Our stretch goal is to create a fully-functioning application that will provide couple’s with a single platform to plan and create the wedding of their dreams. The application would assist couples by providing recommendations based on the user’s inputted wants, needs, and tastes and will provide potential wedding venues, dining & catering options, floral arrangements/florists, wedding themes/color palettes, wedding dresses/tuxedos, entertainment, gift registry options, officiants, etc.

2. Learning Goals: Since this is a team project, you should articulate both shared and individual learning goals.

Considering that this group’s members are all at relatively close programming levels, especially when it comes to Python, many of our goals & learning aspirations are quite similar.

They include:

* To learn and be comfortable with using Python as a means to solve problems
* To learn how to design and program Python applications
* Apply relevant examples (lists, tuples, and dictionaries) in the Python program and run basic unit tests
* To learn how to design and program python applications
* To learn how to write loops and decision statements in Python
* To learn how to build a module for re
* Be more comfortable with using python to solve problems
* Create valuable software that demonstrates our learning throughout the course

However, our goals do differ slightly, as well have different career aspirations & outlooks.

The differences include:

* Python, especially in recent years, has become the programming language of choice for those who wish to work in more quantitative sectors of the financial sector, particularly the quant. & algorithmic trading sectors, backtesting purposes (dataset researching), & trade generation (stock-screening). Should you want to work in those fields, advanced knowledge of python is a necessity, as it should be. Given its simplicity, efficiency, and versatility, its use in the financial sector should only increase.
* But we’re not limited to just using it for our careers. We can also use python to improve processes in our daily lives. For example, you can use python to create a program to automatically regulate your PC's temperatures, power consumption, monitor processes, etc. Or you can use it to create a program that allows you to visit Soundcloud.com, organize your playlists & build new ones based on listening history & prior ratings, and then download the new playlists to a local device. Your possibilities are literally endless.

3. Implementation Plan: this will probably be pretty vague initially. Perhaps at this early juncture you will have identified a library or a framework that you think will be useful for your project. If you don't have any idea how you will implement your project, provide a rough plan for how you will determine this information.

* At this stage, we’re not entirely sure about implementation & development strategies. We plan to use a variety of resources to help identify which libraries, frameworks, etc. we’ll be needing to utilize for the construction of the app.
  + However, the two frameworks we’ve identified are:
    - Django, a high-level Python Web framework that allows for quick development & a clean design (two characteristics crucial to our project’s completion).
    - Flask, which is a microframework that doesn't require particular tools or libraries.
  + Given that we have very little knowledge regarding both of these frameworks we plan to use a variety of resources to learn about them & how we utilize them in completing our project:
    - We plan on using:
      * Djangoproject.com
      * Various Udemy courses (already purchased)
      * Tango with Django: an extensive set of free introductions to using the framework
      * Flask mega tutorial by Miguel Grinberg: according to the Python subreddit it’s a perfect starting resource for using this web framework.

4. Project schedule: You have 8 weeks (roughly - I know Thanksgiving week is off) to finish the project. Sketch out a rough schedule for completing the project. Depending on your project, you may be able to do this in great specificity or you may only be able to give a broad outline. Additionally, longer projects come with increased uncertainty, and this schedule will likely need to be refined along the way.

* Week 1:
  + Turn in the project proposal
  + Begin researching all of the general python functions necessary to create the application
  + Continue researching and pinpoint the exact functions to include on the application
* Week 2 & 3:
  + Begin creating the database
  + Research website designs and initiate sketching the MVP
  + Begin writing python codes to execute the simple functions of the application like the countdown
  + Check in with Professor Li in Week 2
* Week 4 & 5 & 6:
  + Code and develop the website
  + Code and develop the python functions
  + Link the front-end website design, the python logic, and the back-end database
  + Test and retest the codes
  + Check in with Professor Li in Week 4 and 6
* Week 7:
  + Assess the user-friendliness of the application and makes any last minute improvements
  + Debug and improve python code
  + Clean up the code and determine if there are more efficient ways to write the code
  + Begin creating the final presentation and prepare for a demo of the application
* Week 8:
  + Check in with Professor Li
  + Finalize the project and fix any last minute bugs
  + Finalize the design of the application and the design of the web pages

5. Collaboration plan: How do you plan to collaborate with your teammates on this project? Will you split tasks up, complete them independently, and then integrate? Will you pair program the entire thing? Make sure to articulate your plan for successfully working together as a team. This might also include information about  
any software development methodologies you plan to use (e.g. agile development). Make sure to make clear why you are choosing this particular organizational structure.

* Our collaboration strategy will involve primarily involve working via face to face meetings. Seeing as we all live on campus, have reasonably similar schedules & obligations, & have amicable relationships with each other, we see no issue with working in this manner & believe that is innumerable advantages when compared to working remotely. This will allow us to communicate significantly more effectively, boost productivity, etc.
* However, we’ll definitely need to account for the fact that we’re not all going to be available all the time, and utilize a variety of communication mediums & apps to ensure we're on the same page & working efficiently. We’ve already worked out our travel schedules & adjusted our study schedules so that we’ll be meeting at least 3 times a week, for 1.5 hours each time. And if we’re lagging on our work, or find that we need more time to work together, we can adjust our further to meet for longer.

6. Risks: What do you view as the biggest risks to the success of this project?

* The single biggest risk to the success of this project is individuals falling behind on the timeline. It is crucial to the success of our application to remain consistent and do a little bit of the project each week so we are not pressed for time by the end of the semester to complete the project.
* Another risk is working through team conflicts and making sure every member of the team has valuable work to contribute to the final product. Organizing and coordinating meeting times and working together on the codes is going to be a challenge.
* Another risk is trying to gauge whether our project in reference to our current skills that have been developed from class We feel that there is the possibility that we won’t be able to execute an innovative idea, due to the limitation of our skills.

7. Additional Course Content: What are some topics that we might cover in class that you think would be especially helpful for your project?

* Of course, we’d like to cover web development in class, even if it’s just the basics. Going over that material in a classroom setting would help us get started, and introduce us to the concept of web-development in Python.
* Furthermore, we’d like to cover more Object-Oriented Programming, as our app intends to receive a user’s input data & then output a different set of data utilizing our program, which is exactly what OOP intends to do.