Development Plan

FashionFinder

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Project Overview

Many customers encounter frustration and inefficiency when shopping for new clothes online, navigating through an overwhelming range of options and utilizing filters that, while helpful, still leave them struggling to find items that align with their unique preferences. This challenge results in time-consuming searches, user dissatisfaction, and a need for a more personalized and tailored approach to enhance the overall shopping experience.

The incorporation of an AI-powered personal designer in the FashionFinder platform offers a groundbreaking solution. This intelligent feature, designed to interact with users and understand their preferences, enhances the overall shopping experience. By leveraging AI to personalize recommendations, the clothing brand addresses the challenge of overwhelming choices, providing customers with tailored suggestions. This innovative approach not only sets the brand apart but also ensures a more efficient and satisfying shopping journey for users, ultimately boosting customer engagement and loyalty.

Project Purpose

This project's purpose is to create a website that integrates an AI-powered personal designer. While conventional e-commerce websites may lack creativity and personalization, the addition of a personal designer allows users to input preferences, creating a more personalized and user-oriented shopping experience. This innovative approach aims to set the business apart from competitors and provide a unique solution to the challenges customers face when searching for clothing items online.

Scope

We will deliver a website that allows users to have a personalized shopping experience through a personal designer feature. The website will allow users to find outfits from various brands that legally allow web scraping. Users can enter their preferences or an event they are going to and will then be asked questions from the personal designer to refine the search. Once a match has been found, it will be returned in image and link form. The link will redirect them to the company page of wherever that piece of clothing is from. Users will also be able to add these outfits to an album which they can create. At this moment, our features consist of; the personal designer, creating and deleting albums, adding and removing items from albums, a customer

review system, outfits being returned to the user in image form with links, customer support, creating an account, changing password, authentication, brand preferences and a budget preference. We will not be implementing any purchasing features as we are not the vendors of the clothes themselves.

The brand and budget features will make it so that users do not need to enter these into the personal designer on each use as the personal designer will have access to this information. If the user inputs their brand preference or budget into the personal designer, these features will override whatever they have set these values to be within their account.

Objectives

The main objective of our AI personal designer project is to change the way individuals experience personal style and design choices. By emphasizing the importance of user experience, we aim to create a project that delivers unique preferences to each user, providing custom design recommendations across our platform.

Satisfaction Strategies

Ensuring customer satisfaction with our design is an important aspect we will address in our creation of this product. We will offer competitive prices on site as well as provide customers with affordable options. Also, prioritizing our customers by recommending quality products, sourcing items from verified suppliers and conducting quality control checks. User reviews and ratings provide valuable feedback and ensure we don't run into any user issues. Our personalized recommendations enhance the shopping experience, ensuring that each customer finds items tailored to their preferences. With that, we will guarantee customer satisfaction and bring value to our customers.

Team Organization

Here are the responsibilities of each team member:

1. Maria Alsamaien
    - Team Lead
        - o Assign weekly tasks to team members.
        - o Assign weekly due dates.
        - o Monitor progress and ensure that tasks are completed on time.

- Ensure team members are adhering to team policies.
- Assist wherever help is needed.

- Documentation Lead
  - Take notes during lectures.
  - Take notes during Q/A and while receiving feedback from classmates, GTAs and the professor.
  - Ensure team's documents are organized and easily accessible by all team members.
- Presentation Lead
  - Design visually appealing slides that complement the presentation content.
  - Review and proofread documents and presentations to make sure our work satisfies the three main points discussed in class: clarity, correctness and completeness.
  - Ensure coverage of all required sections in the slides.
  - Use consistent branding elements and ensure a professional look.
  - Prevent recurrence of mistakes and make improvements based on the given feedback.
- AI Lead (Main Lead)
  - Define the AI strategy.
  - Collaborate with front-end developer to create a user-friendly interface.
  - Integrate the AI tool with back-end systems to access relevant information.
  - Maintain clear and comprehensive documentation for AI implementation code.
  - Implement version control practices to manage changes and updates to the AI codebase effectively.
  - Troubleshoot and resolve AI implementation related issues.
  - Ensure timely completion of AI development tasks.
- Assist with front-end development.
  - Offer help whenever it's needed.
  - Provide feedback and helpful resources.

- Assist with troubleshooting.

2. Alex Gjeka
    - UI/Front-end Lead
        - Design interface to ensure a visually appealing and interactive experience.
        - Implement design elements that enhance user interaction and overall experience.
        - Implement version control practices to manage changes and updates to the front-end codebase effectively.
        - Maintain clear and comprehensive documentation for front-end code.
        - Collaborate with back-end developers, ensuring seamless integration between front-end and back-end components.
        - Troubleshoot and resolve front-end related issues.
        - Ensure timely completion of front-end development tasks.
    - AI Assistant Lead
        - In the absence of the main lead (Maria) for the AI part, Alex is expected to do the following:
            1. Make any necessary decisions in regard to the AI integration part.
            2. Assist with completing any tasks that fall within the timeframe.
            3. Troubleshoot and resolve any coding issues.
            4. Implement version control practices to manage changes and updates to the AI codebase effectively.
            5. Provide a detailed list of everything that got worked on/ fixed or completed.
            6. Ensure timely completion of tasks.
    - Presentation Assistant Lead
        - Review and proofread documents and presentations to make sure our work satisfies the three main points discussed in class: clarity, correctness and completeness.
        - Prevent recurrence of mistakes and make improvements based on the given feedback.
        - Use consistent branding elements and ensure a professional look.

    - Use consistent branding elements and ensure a professional look.
- Assist with back-end/ database development.
    - Offer help whenever it's needed.
    - Provide feedback and helpful resources.
    - Assist with troubleshooting.

3. Angjelo Mana
    - Back-end Lead
        - Define and evolve the back-end architecture based on project requirements.
        - Ensure scalability, performance, and maintainability of the back-end system.
        - Ensure timely completion of back-end development tasks.
        - Design and develop APIs (Application Programming Interfaces) for communication between front-end and back-end.
        - Troubleshoot and resolve back-end related issues.
        - Maintain clear and comprehensive documentation for back-end code.
        - Implement version control practices to manage changes and updates to the back-end codebase effectively.
4. Oloofa Kalid
    - QA Lead
        - Create detailed test cases that cover all aspects of the software application.
        - Ensure that test cases are aligned with functional and non-functional requirements.
        - Report test progress, including identifying and addressing any issues.
        - Collaborate with development teams to ensure timely bug resolution.
        - Maintain clear and comprehensive documentation for testing.
        - Implement version control practices to manage changes and updates.
        - Ensure that testing processes adhere to established quality standards and best practices.
    - Assist with back-end development.

- Offer help whenever it’s needed.
- Provide feedback and helpful resources.
- Assist with troubleshooting.

Problem Resolution Policies

For this project, we will be using a 3-strike policy. This policy will apply to group meetings with the team and with the GTA. If a team member misses a meeting, they will earn 1 strike and be contacted by the team lead informing them that they have earned a strike. If another meeting is missed, the team lead will contact the GTA and let them know of the issue, this being the second strike. On the third meeting missed, the professor will be contacted. If a team member must miss a meeting, they must inform the team a week in advance, in this case they will not be given a strike. This exception is only permissible once; if an occasion arises again where a team member cannot attend a meeting, they will earn a strike.

Missing a deadline/assignment is not permissible as this affects the grade and disrupts the timeframe of the entire team. If a deadline is missed, the GTA will be immediately contacted by the team lead. If another assignment is missed, the team lead will get in contact with the professor.

In the case where there is a dispute on technologies, each group member must research the technologies in question and return with their reasoning and evidence as to why we should pick one over the other. The team will then vote, if we still cannot get a majority vote, the lead for that side of the project will make the decision on which technology to go with. For example, if different back-end technologies were not being agreed on and no majority vote can be made, the back-end lead will make the decision on which of the back-end technologies will be used.

Possible Problems and how they will be handled

To ensure the project progresses smoothly and successfully, we must anticipate and handle potential coding and general challenges. Coding issues, such as bugs and compatibility issues, may arise during development. We'll address these by conducting thorough testing and debugging sessions regularly to catch and fix any issues promptly. Additionally, general challenges like team coordination and resource management could impact project timelines. We'll reduce these by communicating effectively and helping each other as needed. As well as

establish early deadlines within our team to ensure everyone does their required tasks. By addressing coding and general issues in advance, we can ensure our project goes smoothly and ends successfully.

Project Plan (Iterations, Project Schedule)

The AI Personal Designer project is built around a well-defined schedule to promote efficient communication and development. We'll be conducting weekly in-person meetings with the assigned GTA every Monday at 6:45 p.m. to 7:45 p.m. Internal in-person team meetings are scheduled on Mondays and Wednesdays at 3 p.m. to 5 p.m., with additional collaboration sessions on Thursday starting at 11:30 a.m. to 1:30 p.m. on Zoom. Flexibility is maintained for additional meetings based on team members' availability.

The development of this project starts with creating an overall project model, followed by identifying features, assigning tasks, design, and completing feature development. Iterative development is highlighted with weekly iterations, where planning and meetings are conducted between team members. In these meetings, the team discusses present and future features, weighing feature merits and demerits, and considering the previous iteration's successes and areas for improvement.

Below is the team's current initial project outline:

- Prototype 1 (Due 2/5/2024):
    - Basic UI of the application is created.
    - Database is up and running.
    - Data can be stored and received.
- Requirements (Due 2/12/2024)
- Design Specifications (Due 2/26/2024)
- Prototype 2 (Due 3/4/2024):
    - AI Personal Designer will be implemented for users to interact.
    - The FashionFinder website will include most features.
- Test Plan (Due 4/1/2024)
- Final (Due 4/15/2024):

- All applications are fully functional.
- All applications are fully tested.

Configuration Management Plan

The team has a shared folder that includes sub-folders for each assignment. Each sub-folder contains the Word document, presentation slides, and any other necessary files for the respective assignment. This approach ensures easy access and promotes overall team organization.

The source control method that we will be using is GitHub. Here is the URL to our repository: https://github.com/mariasam16/AI-PersonalDesigner-.git. We will have a main/ develop branch that we will merge our code with. In addition to that, each team member will have their own branch. Two team members will need to review the code before merging it with the main branch. They will have up to 24 hours to review and approve it.

Technologies

The chosen technological stack comprises Next.js and Tailwind CSS for the front-end. Next.js for its server-side rendering capabilities and Tailwind CSS for rapid and maintainable styling. For the backend, Python along with the FastAPI framework to make building server-side applications easier. For the database, we chose MongoDB Atlas due to its scalability and flexibility. Its document-oriented structure aligns well with the dynamic and varied data requirements of an fashion platform.

The versions for our technologies are as follows:

Front-end:

- Next.js v14.0.4
- Tailwind CSS v3.4.1

Back-end:

- FastAPI v0.96.0

Database:

- MongoDB Atlas v6.0.13

Languages:

- JavaScript ECMAScript 2023
- JavaScript Extension: JSX v5.1.1
- Python v3.12.1

Open AI Model:

- gpt-3.5-turbo

Version Control:

- GitHub