Client:
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Team:
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CostCoach
Project Contract

Overall Goals:
The client's overall goal is to ensure that when cancer patients receive their diagnoses, they are empowered from the beginning of their journey with the knowledge of the financial expenses they are going to incur. The client envisions this app playing a role in ensuring that the patient receives the right treatment at the right time. While patients have insurance, patients on average reach their out of pocket maximum within the first 30 days of diagnosis. The client wants to help the patients navigate this economic burden by providing them with information based on their diagnosis, insurance and treatment plan, when to expect to reach the out of pocket cost and how much the overall treatment is expected to cost.

Feature Scope:
For the purpose of this project, the client wants this app to be a demonstration product. We will be using the same questions that the final product would use, but we will limit the potential answers to these questions. The goal is to convey the potential such an app has. The app will use a database provided by the client, and will use inputs provided by the user, to calculate the output: time to reach out of pocket maximum and expected treatment cost. (More details in Design Goals).

The client and team agrees that a web app is most suitable for this project, as it is an app we envision users will visit on an infrequent basis (1-2 times a month). Additionally, the inputs (questions the app asks patients to answer) will be such that they do not violate HIPAA requirements.

Design Goals:
This app is supposed to be a demonstration app. A core requirement of the app is that it provides users an expected time to reach out of pocket max. To fulfill this, a core feature of the app is that it will ask the user 3 questions, and will use the answers to these questions as inputs into the algorithm which calculates the output. The questions will ask:

- What type of cancer being considered
- The insurance plan being considered
- The type of treatment being considered

For the demonstration app the team will build, we will have one input for the type of cancer (prostate cancer with a concentration in Infusion approaches). We will only be considering

users on Duke insurance, under which there are four varying plans (DukeBasic, DukeSelect, DukeOptions, and DukeCare). In addition to the four Duke insurance plans, we will also add an “Add Your Own Insurance Option”. This option would ultimately allow the user to add their own insurance information (OOP and Copay) if they are not insured by one of the four Duke insurance plans. We will also provide two inputs for treatment options in the third and last question. This feature of the app is dependent on the medical data which the client is responsible for providing. The questions could be changed in the future, provided that the answers to potential future questions can be found as inputs in the data.

Another core feature of this app is that it will provide a conversational guide for users. This will entail advice about how to have a conversation with an oncologist or other medical providers about the expected financial burden. This is a conversation which patients rarely have with their physicians, but is important and could further empower patients to be prepared to cope with the costs they will incur. The client will be responsible for providing the information which will appear in this part of the app.

A feature which we could include would be to provide contact information for the various insurance companies, to make it easier for users to contact their insurer if questions arise as they use the app. This would be a page on the website which provides the relevant phone numbers for the relevant insurance companies the app covers.

Impact:
Expected users of this demonstration app include Duke health providers (42% of users), patients with Duke insurance (52% of users), and potentially family members of such patients (6% of users). For example, our client is a potential user of this app.

Currently, both the patients and the health providers have no simple way of calculating the expected cost of their treatment, or when they expect to reach their out of pocket maximum. Thus, health providers do not have a way of informing their patients of what costs they should expect to incur. Additionally, patients do not have enough information to plan sufficiently. This app expects to provide a solution to the health provider as well as the patient, as it will empower both sides of the cancer process with this vital information. Since this app will be a demonstration app, it will provide this impact for the specific inputs we have allocated. It will also show the potential for such an app and how it can work, so that it can be expanded on to reach more patients.

Dependencies:
This project is dependent on health data which the client will provide. The client will also be responsible for providing the relevant information for calculating expected costs, including the algorithm which carries out this calculation.

The client is also going to provide the data, and a statistician who is familiar with the data and the algorithm which will calculate expected cost based on the users inputs. We will likely use Vue.js and Flask for this assignment. We decided on Vue.js and Flask as the frameworks for this project due to past familiarity with both frameworks and their ease of integration. Vue.js, the framework used for front end development, is easy to use and ideal

for backend integration. Flask, which will be the framework used for backend logic, is written in Python, which ultimately makes it possible for us to integrate the client's Python script for calculating user treatment costs.

Concerns:
A potential concern could be connecting the algorithm which calculates the expected cost and time to reaching the out of pocket max, to the web app we will build. There could be unexpected complications during this process.

Team Organization:
We have already had our first whole team and client team meeting, and have agreed upon a time to meet with the client on a weekly basis. The internal team is in frequent communication to ensure that everyone is up to date and aware of most aspects of the project. Additionally, we plan to work on all aspect of the project where possible to ensure we all learn from it and help each other. That said, below are some designated aspects of the project each team member will be predominantly responsible for.

- Ofir: Coordinating with the client and ensuring internal deadlines are met, design and user experience
- Abdulla: Coordinating with client (research perspective) and web/UI building
- Stefani: Design and user experience and user outreach
- Mitchell: Head web developer due to experience with building web apps