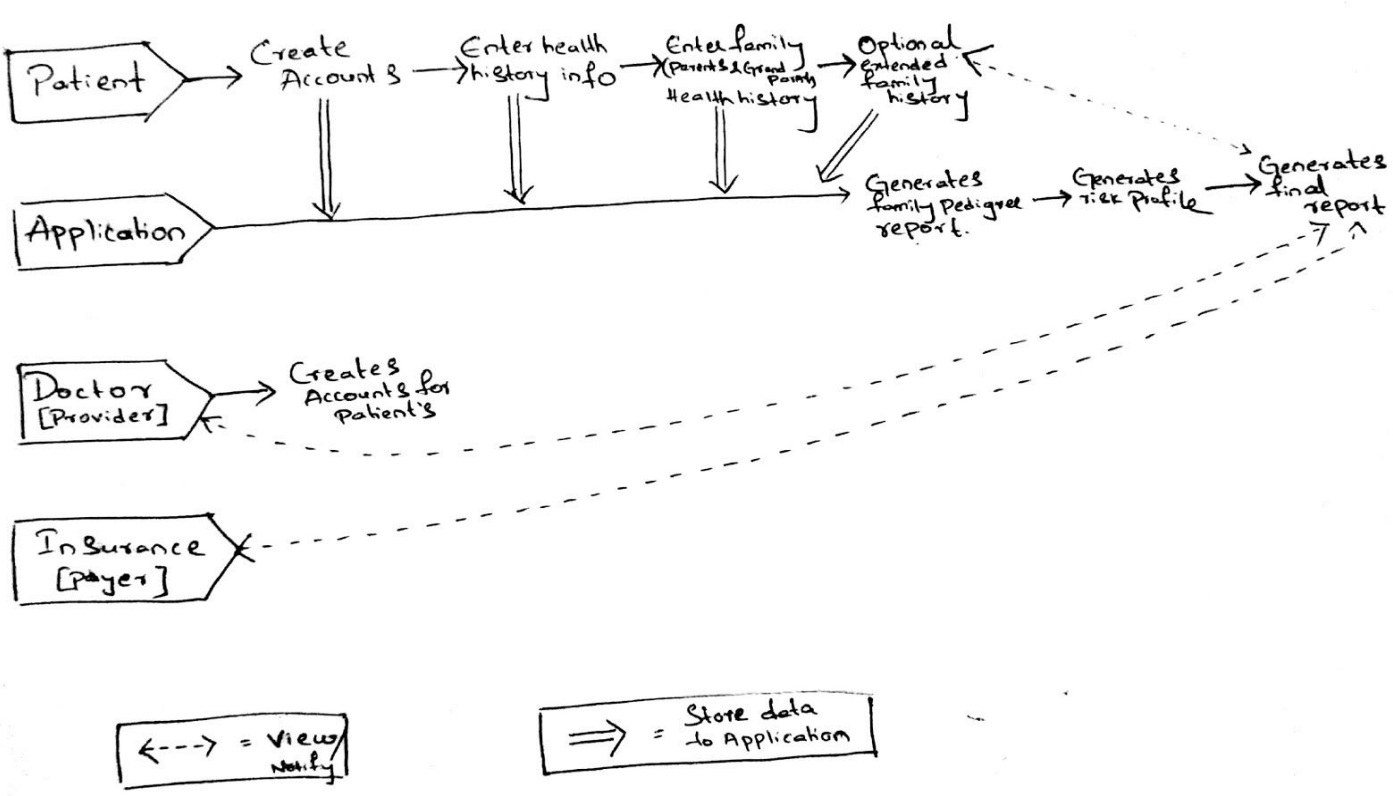
Digital Family Histories 2 - Research

1. **Long term goal**:
    a. The long term goal is to have a large number of patients use our application to enter and keep track of their Family Health History. Ideally, this system will be easy and even fun to use for people from varying backgrounds, levels of technical literacy, and culture. We hope that years from now, patients keeping a detailed family health history will not only be fairly common, but the norm. This provides major benefits to patients (who can receive preventative care earlier, and receive much more targeted care), to doctors (who can make much more focused and informed decisions), and even to insurance companies (who can focus on targeted preventative care, which is much cheaper in the long run). Therefore, such a process being commonplace could lower the cost of healthcare for all parties.
2. **Challenges**:
    a. What can we do to innovate on already existing systems, which have been designed by experienced UX designers?
    b. How do we make the system, which will always require a large amount of personal information, appealing to use?
    c. How do we increase the amount of patients both willing and able to enter their family health histories?
    d. How do we spread the knowledge about what family health history is, and what benefits keeping track of it has?
    e. How can we assure patients that their entered information won't be stolen/misused?
    f. How can we reduce the workload on patients, when an extensive amount of information will be required?
3. **Expert notes**:
    a. We met with the UX team at Optum; Art Swanson, Olusola Omosaiye, Jamal Cromity, Eethan Fricklas, Adam Nahirnyj
    b. They introduced themselves and gave an overview of what Family Health History is and why it is important (as described in our Long Term Goal).
    c. Their hope for this project is for us to look at MeTree, an existing family health history application, brainstorm a wide variety of improvements or alternate designs, and go more in depth with one particular design.
        i. Our design should improve on the application's ease of use or appeal
        ii. It should also target users between the ages of 14-40 years old
    d. They expect, at the very least, a wireframe showing off our design, or, ideally, a slightly interactive prototype (wireframe with links, for example).
    e. The mentor for our group is Jamal Cromity and he is the one that we consult with if we have any questions or concerns and who we show our project's progress.
        i. We can talk to him about our goals, challenges, accuracy of the maps we make and our design iterations for the application
4. **Problems/Opportunities**:
    a. How might we innovate on an already existing system, which already only requests the minimum amount of information?

b. How might we make the system appealing to use, when it involves personal information for the patient and their families?
c. How might we use other technologies (other than web forms) to improve or build upon the design?
d. How might we reduce the time patients take to input their family health history?
e. How might we connect to family member's profiles already in the system to autofill their data in the patient's profile so they don't have to fill it out themselves?
f. How might we make the input of the diseases more interesting/interactive?
g. How might we make the application easier to access?

5. Experience Map



6. Potential Solutions

a. We envision our application to have many of the standard features that existing family health history applications already have. This includes account creation, entering patient and family member health history, and viewing graphs and reports based on that information. What we hope to add is ways to make the application easier and more interactive to use. One of our thoughts is by having the ability to upload a pdf of a family health history sheet that is filled out and will autofill those fields in the application for particular family members. Another idea is instead of having a long list of diseases that users check boxes for, they could use a model/picture of a person that is interactive to show diseases throughout the body. For example, if they click on the brain, it will show a list of diseases for the brain. Also, we would like to have the ability to autofill family health history for a patient by connecting to their family member's accounts in the application.

b. By making the application smoother to use, and emphasizing the advantages of filling out the information, we hope to make it more appealing to use, especially for the younger users.
c. We will investigate and research the possibilities of using other technologies, considering their usability and availability
d. We should investigate options via brainstorming sessions, and literature reviews which discuss issues with the current system
e. We will research integration with Epic, Optum systems, or other popular EHR systems
f. This will require research and brainstorming sessions, with the goal of creating as many possibilities as possible
g. We must ensure the application is easy to use for those with low literacy levels, and that it properly supports screen-reader software.

7. **Target**:
    a. We will focus on patients entering their personal family health histories (rather than on the system's interactions with doctors or insurance companies)