Vision Statement

About the Team

Company: Well Health  
Project Title: SMART  
Team Name: Log  
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Project Summary:

An intelligent virtual assistant to remind patients allergic and medical history and explain the sophisticated medical terms from the doctor while patients and the doctors are having a live conversation online.

Background

Problems

• Due to the current pandemic situation, most of the health care is taking place remotely and some obstacles exist which makes online health care more challenging.
  ○ Patients sometimes are having hard times understanding the complicated medical terms, and doctors cannot efficiently and intuitively explain the terms for them via online health care.
  ○ Patients sometimes forget about their allergic and medical history.
  ○ Additional ways to intuitively explain complicated medical terms, remind patients of their allergies and medical information, and secure their personal health information are required.
Why are these problems important?
- A lot of time, patients are not able to understand the medical jargons and as a result they cannot understand their health situation clearly.
- As patients forget about their medical and allergies history, patients will need to spend extra time scanning their EHRs and extracting relevant information from EHRs. This can waste about 1 to 5 minutes of time.
- According to American health privacy, encryption for patients medical information is necessary.

How is this problem solved today?
- Abridge
  - Pros:
    - It is able to understand some medical terms
  - Cons:
    - It is not able to accurately distinguish medical terms.
    - It does not support the live conversation. Inference takes extra time to complete.
    - It only provides the definition of the term which is not intuitive.

Outcome
- The creation of an intelligent agent that is able to understand the medical terms and response based on some informative terms.
- The creation of an interface to explain complicated medical terms.
- The creation of an interface for patients and doctors to interact at real time.
- Build a better machine NLP model to better recognize the medical terms and understand patients' EHRs.

Solution implementation/design
- Platform: WebApp
- Frontend: React
- Backend and database: Node.js, SQL
- APIs: Facebook Messenger API, OpenAI API, Medical dictionary API, Twilio.
• Cloud server: AWS

**Milestones and how to achieve them**

• Creating a webapp to set up video communication between patients and doctors using Twilio.
• Implementing third party API (Medical dictionary API) to understand medical terms in the conversation.
• Implement a user-friendly interface to intuitively explain the medical jargons using React.
• Linking the NLP output to the UI with python.
• Set up a database to store the encryption of the patient's information.
• Using react to visualize conversation script, medical terms, and patients allergies and medical history.
• Deploy the server and database to the AWS cloud.