Programming for the Web Project Proposals

Bhargav Kalluri BHARGAVK
Jacob Varghese JACOBVA
Nidhi Angle VNIDHI

1) **Secure Provider/Patient Portal (Arjun Parasher)**
   - **a)** Telemedicine can be beneficial to patients in isolated communities and remote regions, who can receive care from doctors or specialists far away without the patient having to travel to visit them.Remote patient monitoring through mobile technology can reduce the need for outpatient visits and enable remote prescription verification and drug administration oversight, potentially significantly reducing the overall cost of medical care. The goal of this project is to create a mobile friendly application with primarily two responsibilities, Store-and-forward telemedicine involving the acquisition of medical data (like medical images, biosignals etc.) and then transmitting this data to a doctor or medical specialist at a convenient time for assessment offline. This would involve collaboration between doctors as well. Remote monitoring that enables medical professionals to monitor a patient remotely using various technological devices.
   - b) The rough distribution on work will be as follows-
     - i) Understanding the scale of the project and all the specifics to ensure all health laws are being complied with.
     - ii) Application required for patient to doctor interaction with an application constituting a chat, video conferencing and documents upload tool
     - iii) A similar required for doctor to doctor interaction with an application constituting a chat, video conferencing and documents upload tool. The tool would also incorporate patient management to ensure a more streamlined process. Video chats would be recorded and stored for future references.
2) **Penn Memo** (Justin Grischkan, Damian Leri)
   - a) The aim is to create a secure platform for efficient and organized communication between caregivers in hospitals. The rough design (keeping in mind the existing code) is a web app that allows messages to be sent with priority tags, ‘must-know’ information, time till which the information will be relevant etc. It will allow for the composition of messages and will incorporate a reply feature, for feedback purposes. The

design features will be along the lines of the features on piazza, as we feel this design makes for easier and more efficient group communication. If possible, it will incorporate a ‘self-tag’ feature to tag outdated messages.

b) The rough distribution on work will be as follows-
    i) Dashboard
    ii) Message composition
    iii) Message thread display

3) **Financial Aggregator** (Nalaka Gooneratne)
    a) The aim is to create a secure website which displays the financial summary of a elderly user from multiple banks and share these viewing permissions with trusted people for better financial management. -The website will feature a **separate** secure 2 step (password+code via e-mail) login for the user and their caregiver. The website will also notify the user when a caretaker accesses it through e-mail. Upon logging in,the dashboard is displayed.
    b) **Quick view:** This lists out all the user’s existing bank accounts and displays the individual Account Balance/debt depending on the the type of account
    c) **Summary:** This gives the overall sum of all the balance and credit amounts as +$$ or -$$
    d) **Search:** The user can search for what his earnings/spending on a particular Day or Month or in a financial year
    e) **Account activity:** This asks the user to select an account and displays the individual account activity
    f) **Manage accounts:** This allows user to add/remove their accounts from display
    g) **Add/remove caregiver:** This allows the user to manage their caregiver’s
    h) **Manage Permissions:** This allows the user to manage the permissions given to their caregiver. The viewing/editing permissions for all the tabs can be changed according to the client’s requirements.
    i) The caregiver’s dashboard will display the tabs depending on the permissions given by the user.
    j) The rough distribution on work will be as follows-
        i) Dashboard
        ii) Message composition
        iii) Message thread display

4) **Applicant Tracking System (Daimler AG in collaboration with the University of Hamburg and University of Bari)**
    a) The aim of this project is to develop a web portal for automated ranking of job applicants and hence to aid with their screening at the first level. The portal needs to collect the standard information expected from an individual and add to this data by fetching from the web via social media(facebook and linkedin) and code base management resources(Github). This ensures a more holistic approach to screening as it makes sure no detail is missed out.
    b) The rough distribution on work will be as follows-
        i) Basic data collection via the portal as seen on standard recruitment portals
        ii) Fetching data points from non traditional sources like social media and code base management portals
        iii) Putting together the data collected and implementing an algorithm to rank the candidates

5) **Web Dashboard for Delirium Detection** (Nalaka Gooneratne)
    a) The aim of this project is to design and implement a website that allows doctors and nurses to closely monitor the activities of patients in the hospital, to help them identify delirious patients. The design will be such that each patient will have an account where the readings will be displayed in the form of an activity plot versus time, with short notes on the patient's health status etc on the side for reference. Alerts will be sent if the readings cross a danger threshold. Another design could have one account for every doctor, with all of his/her patients' data on one page. The design will change as per the requirements of the client.
    b) The rough distribution of work will be as follows-
        i) Data storage and retrieval
        ii) User interface and activity plot display
        iii) Data querying and alert notifications

6) **Sinus Doc** (Arjun Parasher)
    a) The aim is to create a website with a questionnaire which guides the patients suffering from acute sinusitis towards their next course of action. The website will show a small information about the purpose of the questionnaire and give the directions for the patient on how to fill it. It can also display some information about sinusitis.There will be a link to start the questionnaire. When the patient clicks on it, it will redirect to the

survey and records the patient's response. The website will then compare the patient response with the diagnosis algorithm and gives out the result.

b) The rough distribution on work will be as follows-
    i) Implementing the questionnaire.
    ii) Diagnosis Algorithm.
    iii) User Interface.