CS560 Knowledge Discovery And Management

Project Plan

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**1.Introduction :**

The main idea of this project is to develop a disease management system using the big data which can help the user and the other people get the knowledge of the disease information and return the statistics associated with the disease. And the concerned physician as this information would enable us to determine the various factors that lead to the disease. This web application also provides with the symptoms of the diseases their by enabling the users to determine the disease as per the symptoms

**2. Project Goal and Objectives:**

**Overall Goal:**

The Goal of this project is to develop a Disease Management system to give users the information either the demographics and the statistics of the diseases along with the hospital information available in the area thus giving a chance for the better analysis and reducing in the health care expenditure.

**Significance:**

The money spent in the field of health is climbing high. Even today the many people don’t have good information about the various diseases and the concerned physicians that are associated with the disease. This application will group the disease conditions and then accordingly will retrieve the physician and the hospital information that is concerned with it.

This application is both useful to the users for their personal and to the officials. It helps the officials by analyzing the factors responsible for the disease such as the behavioural patterns or the lack of the facilities available or the health care system being adopted in that particular Location. With the use of the big data

**3. Related Work:**

There are many applications that use big data for the health care

**SickWeather llc :** This application scans the social media to track the outbreak of diseases, also forwarding the forecast to the users . This application is similar to that of the weather forecast in that location

**4)Proposed System:**

The entire functionality Is divided into two modules:

(i)Communal Module:

* The communal module returns the disease information and demographics for the particular region

(ii) Personal Module :

* The personal module returns the physicians information and the other information regarding the information entered by the user

**b) Technical Requirements:**

Mobile Device Specifications:

* Operating System : Android, 2.3 or higher
* GPS functionality
* Internet

**Application Specifications:**

* Web services : RESTful API
* Programming languages: JAVA
* Front end:   JQuery Mobile, HTML 5,Android
* Hadoop distribution : Cloudera
* Machine Learning tool : Mahout
* Searching tool : solr, lucene

**c) Business Process :**

* This server has both communal and personal modules. For the communal module they can return the Endemic and prevalent diseases for the given location and the facilities that are available for the given location and the machine can analyze the factors that are responsible for the prevalence of the disease. This module uses the google maps and charts to show the disease points in the map
* In the personal module the patient enter his disease conditions and the server returns the symptoms and once the patient confirms it . The server returns the physician and the hospitals information that are concerned with the disease. And it would also return the supplier data for the given vaccinations

**5.Service Architecture :**



**6. Service Specification:**

**(i) Geo Location Service:** This service gets the users current location from the GPS enabled device and this Geo Location helps the user in getting the nearby hospitals which treat the specific type of the disease and give the disease prevalent in that area.

(ii) **Search the data using Autocomplete** : The Entire data in the web site can be searched by using the search box . the outcome can be causality of the disease or the symptoms of the disease. Helping the users in the disease identification and the factors responsible for the disease

(iii) **Physician and Hospital Search** : This application will Search for the physician and hospital information which is concerned with the particular type of the disease and facilities available will also be known

(iv) **Mapping Disease Locations :** This web application will be using google maps and charts to demonstrate the diseases that are endemic and prevalent in the region. Looking at the medical facilities help the officials concerned with it to deploy Physicians concerned with it to treat the disease(We are still searching for the physicians data).

(V) **Grouping of Certain diseases :** The Diseases that falls under the various categories are grouped accordingly to their department of medicine and then get the physician information that matches that department of medicine

**7. Third Party dependencies:**  
Third party Web Services to be used in this application:

* Google Map
* Google Charts
* TTS API
* OMIM API

**8. Project Schedule:**

* First Increment:  Mar. 11 (T)
* Second Increment:  Apr. 1 (T)
* Third Increment: Apr. 18 (F)
* Fourth Increment: May 2 (F)
* Project Presentations: May 6 (T)& May 8 (Th)
* Final Project: May 9 (F)

**First Increment:**

* **User Login page**
* **Search with autocomplete Using solr**

**Second Increment:**

* **Grouping the diseases using solr**
* **Searching for symptoms from the text files**

**Third Increment:**

* **Implementing restful web services**
* **Web page design**
* **Machine learning using mahout**

**Fourth Increment:**

* **Analysis and validation of the results**
* **Publishing the results**

**Project Members:**

**Group 5:**

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* Rama krishna Tammabathula

**Git Hub Repository:**

**https://github.com/KDMproject5/groupnumber5**

**Scrumdo:**

[**https://www.scrumdo.com/account/login/?next=/projects/project/kdmproject5/**](https://www.scrumdo.com/account/login/?next=/projects/project/kdmproject5/)

**9.Bibliography:**

<https://data.medicare.gov/Physician-Compare/National-Downloadable-File-Extended-View/3uxj-hea6>

http://ranger.uta.edu/~zikos/courses/5339-4392\_content\_repository/presentations/WEEK6THEORY12-Examples%20of%20Applications%20and%20Services.pdf

[**http://omim.org/help/api**](http://omim.org/help/api)

**http://www.intel.com/content/dam/www/public/us/en/documents/white-papers/bigger-data-better-healthcare-idc-insights-white-paper.pdf**

**related work :http://www.sickweather.com/**