Idea/Approach details

Problem statement type: Healthcare and Biomedical Devices
Problem statement: Predictive analysis on Medicines & Doctors availability in Government hospitals.
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Current AICTE application no:

Abstract

Solution: Human life is priceless and it is the most valuable asset in the universe. Medicines are an essential component of patient care and they must be administered to the patient in a timely manner. Non-availability of life-saving drug costs life of patients. Majority of patients at the hospital face problems in getting treatment because of non-availability of the doctors. Hence there is a need for development of a Healthcare Information system to provide predictive analysis on medicines and doctors availability in Government hospitals thereby increasing efficiency of patient treatment.

The historical and current data of the doctors availability,medicine usage and patients inflow for a particular disease is taken and the data is analysed.
The data being analysed is as follows:

- The number of patients with respect to diagnose and medicines prescribed
- The details of doctor along with the rate at which he/she can diagnose a patient per cycle
- Availability of medicines and the amount of medicines required for a diagnose

Based on the analysed data the number of patients of a particular disease, doctors required to treat the patients and medicines required can be predicted.

The prediction is based on each of the below mentioned time frame situations:

- On a daily basis
- Peak of a disease
- Weekends, holidays
- Peak hours of a day

The proposed system that is being described will have the following actors in it.

1. Admin
2. Hospital Personnel
3. Healthcare department

Admin:

- Admin handles the creation of logins to hospital personnel who updates the details of the hospital.

Hospital Personnel:

- The hospital personnel has the responsibility of updating the details of the hospital on a regular basis which include:
    - The details of patients according to diagnose
    - Number of doctors available according to their specialization
    - Medicine availability
    - The timings of the availability of doctors

Healthcare department:

- The department is presented with an interface which consists of a **Search Field** on a **real time map background** centered at the area being monitored by the department.
- If there is a need for a change in location, a location search tab is provided.
- The map shows the location of all the Government hospitals. The details of the hospital such as medicine and doctors availability, predicted number of medicines and doctors for a particular disease can be displayed with a click on a particular hospital on the map.
- The department can search for a particular hospital with respect to:
    - Name of the hospital
    - Disease being treated
- When the department searches for a hospital by its name, the map gets centered at that hospital location and on click the control flow is directed to another instance with the details of the hospital:
    - Diseases treated in that hospital
    - The number of doctors with respect to specialization
    - Medicines availability
    - Predicted number of medicines and doctors
    - Comparison of predicted and available doctors and medicine
- When the department searches by the name of disease, the information about the hospitals treating that particular disease in a list format will be given.
- The UI also consists of a tab which is capable of displaying information about the most trending disease in a given area and the health awareness initiatives being conducted including location in the map.

Technologies Stack:
Backend: Django, MongoDB
Frontend: HTML, CSS, JS