Mobile Application for Disease Awareness Region Wise in the scope of Health Analysis Development

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ABSTRACT:

The project "**Mobile Application for Disease Awareness Region Wise in the scope of Health Analysis Development**" is based on analyzing the health records of patients only including the area, disease and the time. This project will help the citizen and Municipal Corporation for awareness about the disease which is spreading in the particular area. Now-a-days only awareness for the disease is circulated by the news papers and news channels which may be accurate. But with the help of thee app government admin will be able to update about the awareness for a particular disease is going to spread in which region. In a survey there is not such an app which gives the proper information of current spreading disease data and awareness about the diseases. We are working in such area where would like to introduce an app through these app people will get right information about the diseases and can take the precaution. Our app uses the health records and analysis them and show the area wise graph of particular disease. Through this the citizens and government will up to date with the spreading diseases.

We are a developing country and our nation wants a rapid growth in every sector. And this is possible if the people of our country remain healthy and energetic. Our app plays a major role to keep our nation away from diseases, and make aware them about any epidemics so the government takes action and preventive measure against it.

Key words:- Mobile , application, Disease, Government , Health , Analysis, Development .

1 INTRODUCTION:

Today's healthcare industries are moving from volume-based business into value-based business, which requires an overwork from doctors and nurses to be more productive and Efficient. This will improve healthcare practice, changing individual life style and driving them into longer life, prevent diseases, illnesses and infections.

Over the last few years, healthcare data has become more complex for the reason that large amount of data are being available lately, along with the rapid change of technologies and mobile applications and new diseases have discovered. Therefore, healthcare sectors have believed that healthcare data analytics tools are really important subject in order to manage a large amount of complex data, which can lead to improve healthcare industries and help

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medical practice to reach a high level of efficiency and work flow accuracy, if these data analytics tools applied correctly, but the questions are how healthcare organizations are applying these tools today, and how to think about its future use? Also, what are the challenges they face when using such tools? And finally, what are the innovations can healthcare add to meet these challenges?

In order to meet our goals, the proposed study is going to discuss critically weaknesses, disadvantages, problems and gaps of traditional healthcare data analytics techniques in order to manage healthcare big data.[1] Also, it's going to develop a healthcare data analytic technique that will promise for a better medical practice and healthcare data predictive analytics based on filling gaps of traditional healthcare data analytics techniques and overcoming its problems.

In the health analysis project , we surveyed several hospitals in our area , where we observed that some hospitals are recording the patients data and several doesn't even has their own ERP module or electronic health record database. And those hospitals which has its own system to record the patients data is also based on MLC (Medico-Legal-Case) and Non-MLC. They record the patient's data only for the limited time of interval after this they discard the data. The data is not utilized by anyone. One problem is also here with the hospitals which doesn't has its own electronic health record system, they only store the data in registers and does the paperwork. These records can easily be destroyed by water and any other natural disaster. So they are also not in use to anybody[2].

2 LITERATURE REVIEW

2.1 SURVEY REPORT OF FIELD VISIT:

In the health analysis project, we surveyed several hospitals in our area, where we observed that some hospitals are recording the patients' data and several doesn't even have their own ERP module or electronic health record database. And those hospitals which has its own system to record the patients data is also based on MLC (Medico-Legal-Case) and Non-MLC.
They record the patient's data only for the limited time of interval after this they discard the data. The data is not utilized by anyone. One problem is also here with the hospitals which doesn't has its own electronic health record system, they only store the data in registers and does the paperwork.[3] These records can easily be destroyed by the rat, water, and any other natural disaster. So they are also not in use to anybody. Some of the hospitals were surveyed while our research. Few are listed below:-

1. **Eureka Hospital:**
   They also have software for managing the data. They store patients' data for 1-2 month and after that they give this data to the CMHO.

2. **Aashadeep Hospital:** They only store the patients' personal information like name, address, and contact number in the software. Data related to patients' health is maintained in registers.

2.2 HEALTH ANALYTICS & DATA MINIG:

Data Mining is described as a process by which data is gathered, analyzed and stored in order to produce useful and high quality information and knowledge. This term also includes the way of how this data is gathered, filtering and preparation of the data for use and finally the processing of data to support data analytics and predictive modeling.

2.3 DATA COLLECTION:

The first stage of data mining is the process of gathering and collecting data. However, even before gathering the data, ideas and plans should be assumed to decide which data should be gathered in order to collect specific data as desired and use it efficiently[4].

The needs of healthcare providers, government agencies, health plans, and researchers for quality data must be met to ensure adequate medical care and to make improvements to the healthcare system,
While still ensuring the patients right to privacy.

Data collection should be limited to necessity for medical care and by patient preference beyond that care. Such limits would protect patient privacy while minimizing infrastructure costs to house data.

When possible, patients should be informed about what data is collected prior to engaging in medical services

3 ANALYSIS & DESIGN:

Now the gathering of data is done, after this the process of analysis begin in which the data

are arrange in such a manner that it should be analyzed in effective Manner.

So that the result we gain is accurate and approx. Here we use a graph tool name Google Charts which filters the complex data and separate the data, shows the result.
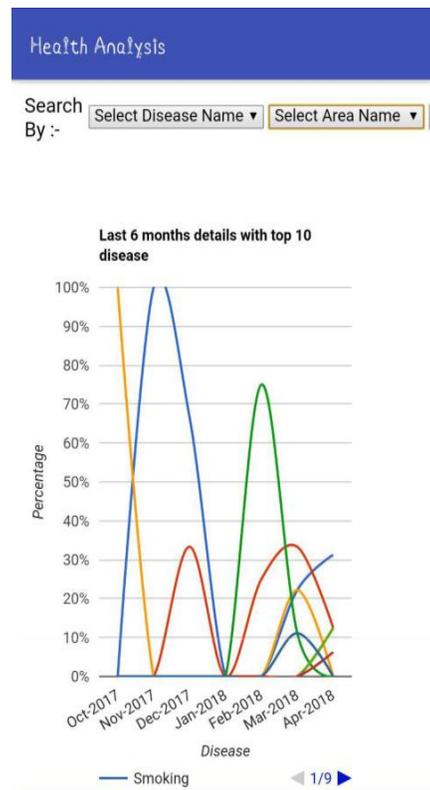

Figure No. 3 Disease Graph
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Google Charts provides a perfect
way to visualize data on website.Charts are exposed as JavaScript classes. Charts are highly interactive and expose events that let us connect them to create complex dashboards or other experiences integrated. Charts are rendered using HTML5/SVG technology to provide cross-browser compatibility (including VML for older IE versions) and cross

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platform portability to I Phones, I Pads, and Android. Your users will never have to mess with plug-in or any software. If they have a web browser, they can see our charts[5].

The Data Table provides methods for sorting, modifying, and filtering data, and can be populated directly from our web page, a database, or any data provider supporting the Chart Tools Data source protocol. That protocol includes a SQL-like query language and is implemented by Google Spreadsheets, Google Fusion Tables and third party data providers such as Sales Force.

3.1 TECHNOLOGY USED:
- **MySQL:** MySQL is a fast, easy-to-use RDBMS being used for many small and big businesses. MySQL uses a standard form of the well-known SQL data language. MySQL works on many operating systems and with many languages including PHP, PERL, C, C++, JAVA, etc.
- **Android:** Android is an open source and Linux-based Operating System for mobile devices such as smartphones and tablet computers. Android was developed by the Open Handset Alliance, led by Google, and other companies.
- **iOS (iPhone Operating System):** iOS, which was previously called iPhone OS, is a mobile operating system developed by Apple Inc. It is the operating system that presently powers many of the company's mobile devices, including the iPhone, iPad, and iPod Touch. It is the second most

popular mobile operating system globally after Android.

3.2 DATABASE TABLES:

1) ADMIN REGISTRATION TABLE:

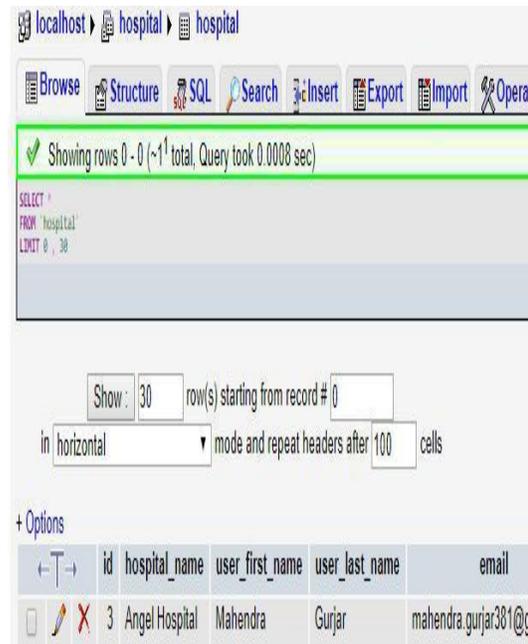All the details of hospital admin are there in this table.

Figure no.3.2.1 Database Table

2) DISEASE DETAILS TABLE:
Disease details are stored in this table.

id	name	emp_id	area_name	hospital_id	created_at
59	Dengue	21002	9	3	2018-04-08 14:55:36
60	Typhoid	238	8	1	2018-04-08 17:01:22
61	Viral Fever	241	8	1	2018-04-08 17:01:49
62	Malaria	245	10	1	2018-04-08 17:02:11
63	Jaundice	247	4	1	2018-04-08 17:02:30
64	Viral Fever	250	8	1	2018-04-08 17:03:07
65	Viral Fever	250	8	1	2018-04-08 17:03:08
66	Dengue	248	2	1	2018-04-08 17:04:42
67	Malaria	251	8	1	2018-04-08 17:05:05
68	Jaundice	253	10	1	2018-04-08 17:05:22
69	Thyroid	254	8	1	2018-04-08 17:05:45
70	Cholera	256	10	1	2018-04-08 17:06:09
71	Cholera	258	2	1	2018-04-08 17:06:28
72	Cholera	259	8	1	2018-04-08 17:07:04
73	Tuberculosis	261	8	1	2018-04-08 17:07:32
74	Zika Fever	265	8	1	2018-04-08 17:08:27

Figure no.3.2.2 Database Table

4 METHOD:

The objective of this website was to conduct a review, which encourages professionals, doctors, medical staff and patients to adopt and utilize technologies in order to assist Healthcare analytics and improve decision making process in our everyday life.

Here comes the role of IMC admin who analyze the data which provide on our website and he can provide alert message or notification to take actions. And the Interface of our website makes it very easy to analyze the data according to a specific area and a specific disease in a specific season or simultaneously all factors should be observed at a time[6].
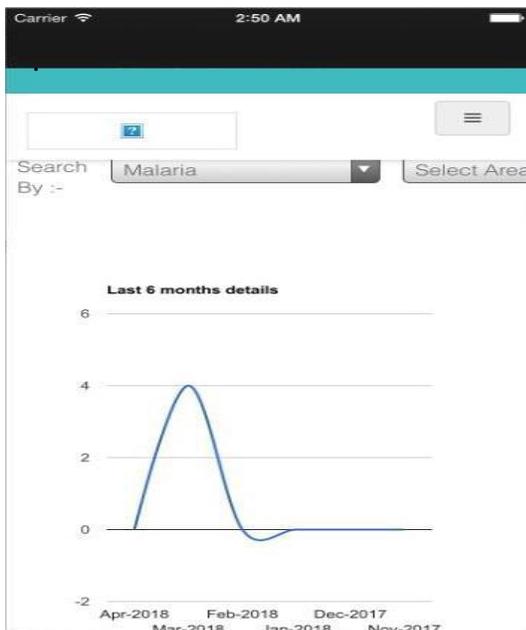
In the above Snapshot two columns are visible one for selecting disease and other for selecting area. If the admin select only the disease then he can only able to view the specific disease graph.
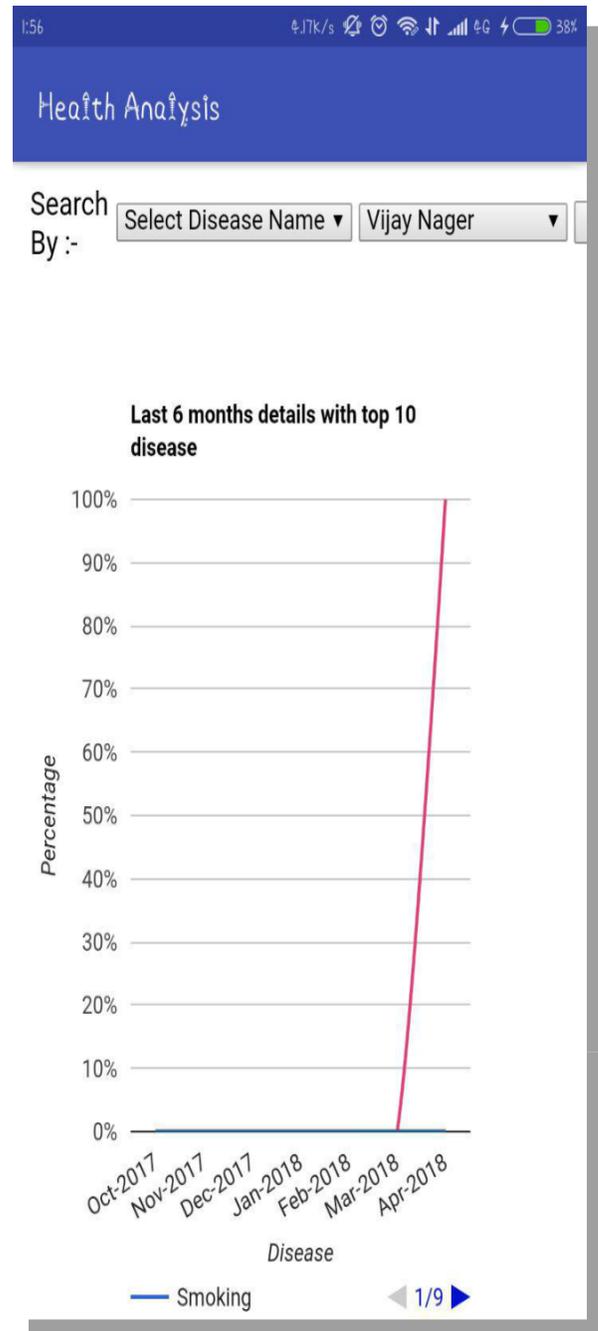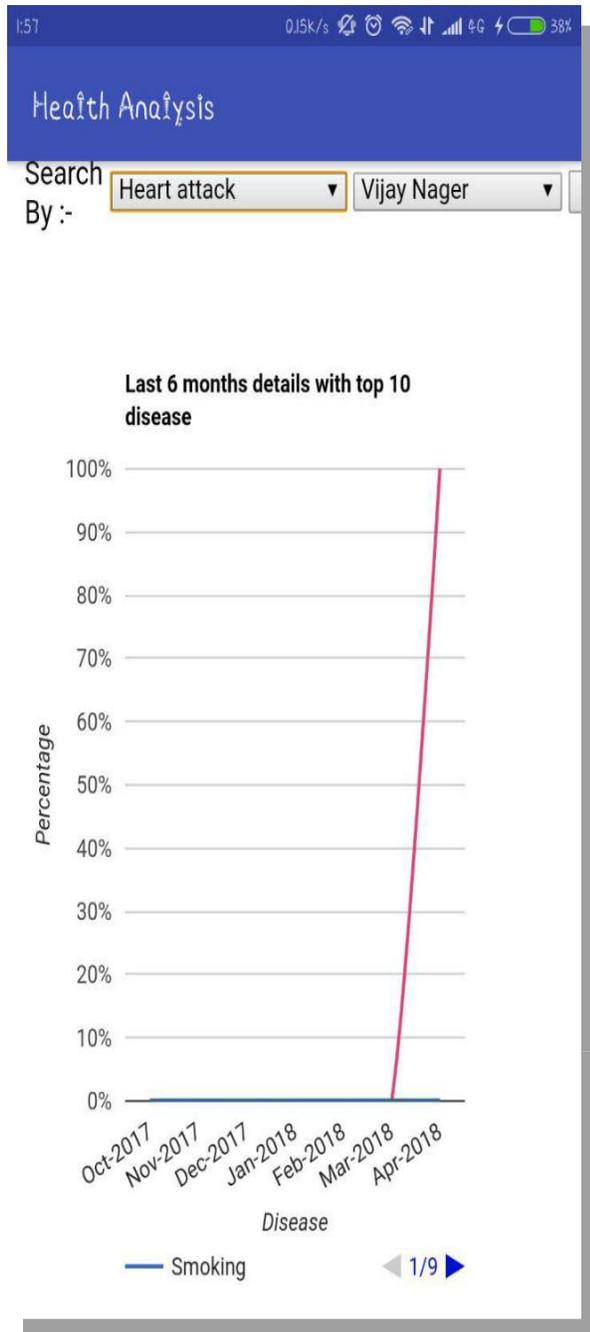

Figure no.4.1 Disease Graph particular disease wise

Figure no.4.2 Disease Graph particular disease wise and area wise

If the admin select only the specific area then he can only able to view the diseases spreading in that area.

Figure no.4.3 Disease Graph particular disease wise and area wise

In the above Snapshot, the graph is now shows the specific disease in a specific area which make the admin analyze very easy.

5 HEALTHCARE PREDICTIONS:

Healthcare prediction is another data analytics method focusing on reducing future medical costs. Predictive technique uses patient medical history to evaluate all the potential health risks and predict a future medical treatment in advance .By retrieving and reviewing past details, information and Diagnoses from the databases, predictive methods can take a place through forecasting, reducing time and costs.

Predictive analytics supports healthcare sectors to achieve a high level of effective overall care and preventive care, as predictive systems' results allow treatments and actions to be taken when all the risks are recognized in early stages, which aids for minimizing costs.

6 CONCLUSION & FUTURE WORK:

However, a research in this area is kind of difficult, as it's hard to push healthcare sectors and public to adopt a new data analytics techniques and tools, however we believe that highlighting some of the main factors is useful as it would help and provide a guidance with respect for healthcare data mining and analytics, as it would add a benefit to the healthcare decision systems and improve healthcare performance in the future, as well as pointing to some of the possible gaps in this topic. This work attends to give a good start for further studies in healthcare sectors as it

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demonstrates the positive impact of emerging between

Information Technology field and Healthcare sectors.

However we see that this area would help to increase patient's awareness and level of health education, so we suggest to have an equal attention to this area, as it helps people to be more connected to the healthcare analytics systems in order to prevent and predict diseases and to keep them highly attached to the healthcare systems.

6.1 FUTURE WORK:

We had completed the scope of work till now, and implemented the project and created a user friendly graphical user interface for both Mobile and Web Application. Now we are looking on extra features for this web application.

In further update we make it useful for an individual, following functionality we will add:

We will add feature called digital locker in which patients can upload their health records and when in need they can access those records anywhere and anytime.These records can also be used to analyze. We will expand the anlyzation area in different cities.

7 REFRENCES:

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5 https://developers.google.com/chart/intera ctive/faq

6 https://cloudfront.escholarship.org/dist/pr d/content/qt2kp0t3rk/qt2kp0t3rk.pdf

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