

Healthcare Application for Emergency & Security

Prof. Vasekar S. R.¹, Prof. Mulani K. S.², Prof. Inamdar I. Y.³, Prof. Pandhare S. D.⁴

Department of Computer Science & Engg
1,2,3,4 SMSMP Institute of Technology & Research, Akluj.

Abstract- This paper presents the research in Healthcare in Emergency. Our Indian healthcare industry is rapidly expanding; healthcare infrastructure in India is very poor. A noticeable percentage of India suffers from poor standard of healthcare services. Most of the healthcare facilities of India provided by the various healthcare services are limited and of low standard. Today, in India, we lack a system that regulates healthcare facilities and ensures that the needs of the citizens are met in an efficient manner. Providing Healthcare facilities at your fingertips is the sole purpose of this application that is known as Dr. Who. Besides providing on the go assistance and easy appointment bookings, it also has a dedicated emergency feature. People seeking emergency services which are currently very poor in the country can hugely benefit from a system like this which uses precise location tracking and clustering data sets to provide accurate assistance to the end user.

Keywords: Healthcare System, Healthcare Facilities.

I. INTRODUCTION

In spite of the fact that the Indian healthcare industry is rapidly expanding, healthcare infrastructure in India is very poor. A noticeable percentage of India suffers from poor standard of healthcare services. Most of the healthcare facilities of India provided by the various healthcare services are limited and of low standard. Today, in India, we lack a system that regulates healthcare facilities and ensures that the needs of the citizens are met in an efficient manner. Providing Healthcare facilities at your fingertips is the sole purpose of this application that is known as Dr. Who. Besides providing on the go assistance and easy appointment bookings, it also has a dedicated emergency feature. People seeking emergency services which are currently very poor in the country can hugely benefit from a system like this which uses precise location tracking and clustering data sets to provide accurate assistance to the end user.

II. EXISTING SYSTEM

A recent study analyzing initiatives in India, by the state governments of Delhi, Punjab and Rajasthan, to attract private investors into joint hospital ventures illustrates how the tasks of stewardship matter. All three schemes failed: no joint venture resulted. Different factors came into play in each

situation, but the report identifies failure in each of the above tasks of stewardship in the overall explanation. It specifically identifies:

- Inadequate policy on the role of the private sector by each state.
- Insufficient consultation with relevant stakeholders, and absence of mechanisms for coordination among the parties concerned.
- Absent, weak or inappropriate regulation machinery related to private providers.
- Ineffective performance monitoring and information sharing arrangements, making public-private partnerships vulnerable to inefficiency and high cost.

Requisite skills for carrying out these tasks were found to be lacking in the health departments of all three states.

In a developing country like India, the public sector has a critical role in ensuring healthcare delivery to all sections of the society. According to the Planning Commission, outpatient services are 20-54 percent costlier and inpatient services 100-740 percent costlier than public healthcare. Hence, the role of the public sector in ensuring accessibility cannot be emphasized enough. However, the current status of healthcare infrastructure in India and the huge regional disparity can be primarily attributed to the poor healthcare expenditure by the government. The public sector accounts for a mere 26 percent of the total healthcare expenditure. India's public health spending has increased from 0.22 percent of GDP in 1950-51 to 1.05 percent during the mid- 1980s and stagnated at a mere 1 percent of the GDP in the recent years. The per capita government spending is significantly lower than the other BRIC nations.

A recent study conducted by the US NATIONAL LIBRARY OF MEDICINE (NLM) was based on a retrospective record analysis of the emergency department from Jan 2010 to Dec 2010. The data was analyzed for various types of medical emergencies presented at Guru Gobind Singh Medical College and Hospital, Faridkot.

The result of the study was as follows:

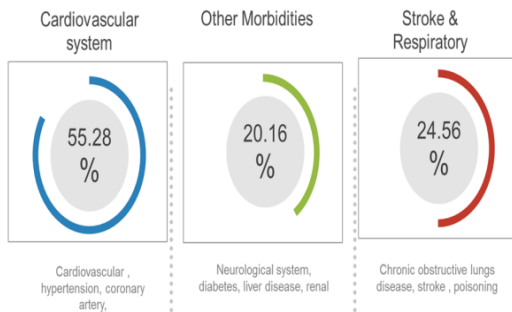


Fig 1: National Library of Medicine Case Study Result

A total of 2310 patients presented in the emergency department of which nearly half were males; a great majority were in the age group of 15–40 years. The diseases related to the cardiovascular system, 367 (15.89%), topped the list of which hypertension was noted in 267 (11.56%) cases. This was followed by morbidities related to the neurological system, diabetes, hepatobiliary, respiratory, renal 168 (7.27%), poisoning, pyrexia of unknown origin, and multi –organ involvement. With regard to the specific diseases, the majority were contributed by coronary artery disease 217 (9.39%), stroke 178 (7.71%), alcoholic liver disease 160 (6.93%), and chronic obstructive lung diseases 90 (3.90%).

A study at the government hospitals in Goa, which handle 90% of all emergencies, noted that most emergencies in Goa arise due to road traffic accidents and drowning, which have been compounded by the rise in the number of recorded accidents in 2007 to be above 4000. It is believed that 11 people meet with an accident on Goa's roads every day and this is expected to rise by 10% by the next year. Similar is the case with drowning and other medical emergencies.

III. PROPOSED SYSTEM

The use of Information Technology (IT) can play a very important role in enhancing the healthcare delivery mechanisms. While IT applications in the healthcare space have been increasing in India, they are still quite limited when compared with developed countries. Some areas where technology is being applied are hospital management systems, decision support systems that improve diagnosis and treatment, telemedicine and Picture Archiving and Communication System (PACS).

Building a secure Healthcare Application, which is the use of IT for delivering health services and information over distances, has a substantial scope for growth in India. The use of a healthcare application service can greatly aid in dealing with the shortage of healthcare staff and improving the penetration of healthcare infrastructure and resources in the

underserved semi urban and particularly rural areas. However, the current healthcare scenario in the country calls for the implementation of a large scale / nationwide healthcare program with a specific focus on underserved states.

Use of IT in healthcare improves patient care by enabling systems and processes to be introduced and monitored repeatedly. However, lack of standardization and regulations in the sector have been the major roadblocks in adopting IT solutions. Hence a more standardized approach needs to be adopted. Also, the fragmented nature of the Indian healthcare system has considerably slowed down the adoption of IT in the sector.

IV. MODULES

- Implementing alternative healthcare environment.
- Data Gathering and Storage.
- Implementation of Conflation Techniques to avoid duplication.
- Developing a stable Graphical User Interface.
- Database Management.
- Query processing.
- Google API Integration.
- Developing a stable Application on Android Platform.
- Testing of Application in real environment.

V. DESIGN SPECIFICATION

The design specification addresses different aspects of the design model and is completed as the designer refines his representation of the software. First, the overall scope of the design effort is described much of the information presented here is derived from system specification and the analysis model (SRS).

Architecture

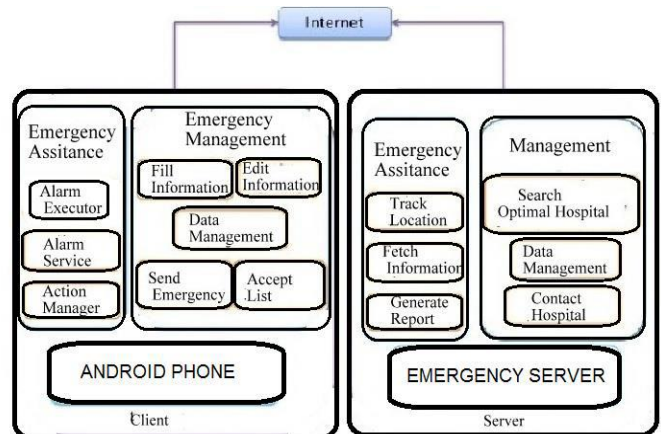


Fig 2: Architecture Diagram

VI. APPLICATIONS & FUTURE ENHANCEMENT

The existing system which highly dependent on the server, must have network connection and hard for non-expert users. While the data transfer over network cause loss of quality of data in term of accuracy, integrity which raise problem of data selection and quality optimization in a distributed e-Healthcare environment. The future work is to resolve the problem of data selection and quality optimization in a distributed environment. For this purpose focused on medical data extraction for the SOA-based healthcare systems.

The proposed system will be practically deployed and integrated with E-healthcare information systems for local hospitals. The experimental results will be show that the proposed EA was able to optimize the medical data workflow on a medical experimental data. It reduces the medical error. It can receive data in real time. The better quality and accuracy in the decision making, shared access to database. The time is less consumable by proposed system. The miscommunication can be reduced and provide user with the best service. The patient life can be more secure. The enhancing security and privacy of patient information will be providing. The cost is reducing through decreased paperwork. It reduces duplication of test and improves the health of patient. The physician has immediate access to patient information. The patient can save time not by having to revisit to clinic to pick up the test result and through the scheduling appointments. The care plan can be change as assessment results gather. There is no need to manually information enter into system because this step is eliminate.

VII. CONCLUSION

Hence conclude that rationalizing and improving emergency services by maintaining a uniform record keeping system. Having a streamlined health IT system by improving the infrastructure for healthcare facilities Prioritize and handle request more effectively & efficiently.

The projected outcome for Dr. Who would be to bridge the gap between the healthcare facilities provided in the urban and rural population in the country and thereby having a uniform platform for healthcare services. Making the entire project cost effective so as to not exceed the current government expenditure. Reduction in the percentage of deaths due to unavailability of emergency services Encouraging people to take advantage of the healthcare facilities rather than opt for homemade remedies or care. Make doctors more accessible to the users and help build a strong doctor-patient relationship. On a wider scope, the National ranking for healthcare systems in

the World Health Report by the World Health Organization can be drastically improved which is currently at 112 out of a total 190 countries thereby transforming Healthcare facilities and setting a new benchmark for the world to follow.

ACKNOWLEDGMENT

We would like to thank the anonymous referees for their helpful guidance that have improved the quality of this paper.

REFERENCES

- [1] "An Efficient Algorithm To Detect The Nearest Location Of A Map For A Given Theme" by M. A. P. Chamikara, Y. P. R. D. Yapa, S. R. Kodituwakku, J. Gunathilake- INTERNATIONAL JOURNAL OF SCIENTIFIC & TECHNOLOGY RESEARCH VOLUME2, ISSUE 4, APRIL 2013 ISSN 2277-8616.
- [2] "Alerts in Mobile Healthcare Applications: Requirements and Pilot Study" by Eleanna Kafenza, Dickson K. W. Chiu, S. C. Cheung and Marina Kafezain, IEEE Transactions on Information Technology in Biomedicine, Vol. 8, No. 2, June 2004.
- [3] "An Efficient Emergency, Healthcare, and Medical Information System" by Shihab A. Hameed, Aisha Hassan, Shahina Shabnam, Vladimir Miho & Othman Khalifa, in International Journals of Biometric and Bioinformatics (IJBB), Volume (2): Issue (5).
- [4] "Healthcare applications of the Internet of Things:A Review", Alok Kulkarni, Sampada Sathe , (IJCSIT) International Journal of Computer Science and Information Technologies, Vol. 5 (5) , 2014, 6229-6232.
- [5] "The Appliance Pervasive of Internet of Things in Healthcare Systems", Mir Sajjad Hussain Talpur, IJCSI Journal, Volume 10, Issue 1, 1 January 2013.