

Implementation of Information Kiosk for BARC Hospital

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ABSTRACT

Kiosk is playing a vital role in human life from many years and is continuing. The best way to serve mankind and in simplified way is through kiosk. "Kiosk" is not just a computer with a touch screen enclosed in a box – it is an integration of various hardwares and softwares such as Mechanical, Computer Hardware, Software, Peripherals and Embedded Controllers, and a high order domain expertise and intellectual power is required to build it. The aim of this project is make the hospital services applications advanced with user interface. This paper will be guidance for those who wants to build a user-friendly kiosk for their organization and also for beginners who wants to possess basic knowledge of the kiosk. It has become a common scenario in IT world where the clients has their own business objectives to build a high complete level requirement.

Keywords: Kiosk, convenience, Multilingual

I. INTRODUCTION

Self-service an Information Kiosk deployed in hospital with pretty, user-friendly interface and ease of use has gained a big attraction due to. "KIOSK" which is physical prototype designed with user friendly interface benefiting visitors as well as patients. However, the kiosk has been designed to cater those with limited skills or experience, physical and cognitive impairments, also the interface should be intuitive, clear and pretty. Without wastage of time waiting in a long queue ,the user will now have answer to their queries within a second. And now they don't have to wait for the admin to answer them. The purpose of the hospital is not for cost saving but to improve the patient service. The experiences of leading organization have shown that kiosk can increase patient satisfaction by reducing waiting times and offering greater convenience and privacy.

II. OBJECTIVE AND SCOPE

We have proposed a technology and a business model for providing diagnostic health care services in an efficient manner; which could in time became as popular and pervasive as ATM's are today for financial activities

and other activities. The new visitor or patient coming to hospital are highly likely to get lost due to the complex layouts of building (new and old), various departments, doctor's availability, for getting an appointment for basic healthcare check-up, etc. There is no such system has been build for the hospital to overcome such problems. Patients and visitors itself rely on the other patients and visitors to find the directions of certain departments. Thus, design a kiosk for the convenience of patients and visitors is imperative.

"KIOSK" a system with user-friendly interface which can benefit visitors or patients without inconvenience. Moreover, it may help the user to find physicians and make appointment, navigate the building ,get a basic understanding of the medical service and guest service the hospital might offer, thereby decreasing waiting time, offer positive visitor experience. This kiosk designed to satisfy for those with limited skills or experience, physical and cognitive impairments, also the interface should be intuitive, clear and pretty. We need to provide more home and community care, so we can keep people out of hospital for longer time. We are working to make sure we have a hospital that will adapt to the changing needs and health services that is fit for the future. This

kiosk is not only limited to your hospital system but also for the airports ,malls, railways etc.

III. PROPOSED METHODOLOGY AND DISCUSSION

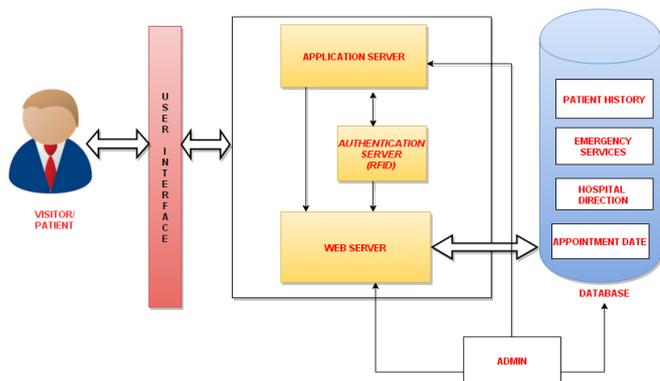


Figure 1 : System Architecture

This system architecture which has been designed in MVC based pattern. For implementing user interfaces Model-view-controller (MVC); a software architectural pattern is required. A given software application is divided by MVC into three interconnected parts, to separate internal representations of information from the user . This architecture has now become extremely popular in industrial market which traditionally was used for desktop graphical user interfaces, for designing web application.

Getting inside into kiosk, the user makes request through user-interface. The web server gets the request where it searches for the static information stored into the database. Here, the user could be visitor or patient. The visitors activities is very short process when we compare to the patients activities that directly requests to the web-server. Whereas,if the user is a patient then its request goes to application server and further to the authentication server for the validation purpose of the user and fetches the data from the databse. Visitor,a normal user goes to application server where authentication is not required.The employees authenticate themselves by using their RFID. The employees have full access to the system where as visitor can only get the normal queries easily on the user-interface.

IV. IMPLEMENTATION METHODOLOGY

To get into the system, the user first request through the user-interface. A normal visitor has no authentication permission so the request first goes to the web server where it gets the static content like facilities, services, emergency services etc. through HTTP protocol to display the information on user- interface. Here, the user is either the visitor or patient. The visitors request is a not a big process as compared to the patients request as the visitor has only simple query which will be in web server itself.

But, in case the user is patient itself then the request further goes to application server that forwards it to the authentication server to validate the particular users identity by using their RFID and further sends it to the web server which is directly has connection to the database to fetch the dynamic information which has to be displayed on the user-interface (screen) that includes- the appointment dates, availability of doctors patient’s history, recent reports, their history, appointments dates etc. The employees have full access to the system where as visitor can only get the static pages access on the user-interface.



Figure 2:User Interface



Figure 3. Emergency Services

V. EXPECTED OUTPUT

The report of the recent diagnose and past report of the patient will be displayed . The patient would be able to book their appointment according to their requirement. The patients can check the availability of the doctor and available appointment. The emergency and various services provided could be viewed by both visitor as well as patients.

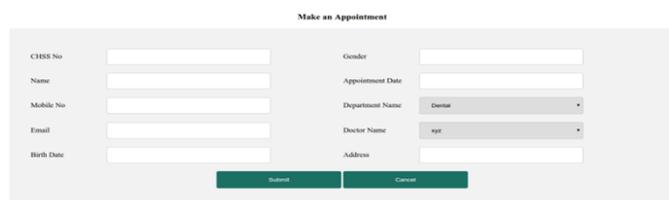


Figure 4. Appointment page

VI. FUTURE SCOPE

We need to provide more home and community care, so we can keep people out of hospital for longer time. We are working to make sure we have a hospital that will adapt to the changing needs and health services that is fit for the future. This kiosk is not only limited to your hospital system but also for the airports, malls, railways etc. A person can ask a doctor via self-service technology "KIOSK". The person can receive response either by email or on their phones by attaching his/her picture or upload lab report and ask for advice related to health.

VII. CONCLUSION

The project is all about reduced the time of the user in this busy lifestyle of people. Gathering of information has become a easiest way to et. Both patients as well as medical professionals could save up to 90 percent of their formerly wasted time. .Most important, the quality of the medical services has been increased, since the newly created workflow brings together patients and doctors in front of the clinical workplace, to check whether all entries are correct.

VIII. ACKNOWLEDGMENT

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IX. REFERENCES

- [1] Touchscreen Check-In:Kiosks Speed Hospital Registration prepared for CALIFORNIA HEALTHCARE FOUNDATION by Jared Rhoads,Senior Research Analyst,CSC and Erica Drazen,Managing Partner,CSC,March 2009.
- [2] Kiosks Design in Emory University Hospital, Rui Feng Georgia Institute of Technology ,advisor: Dr. Ellen Yi-Luen Do,May 2012.
- [3] .Hagen, S. , & Sandnes, F. (2010). Toward Accessible Self-service Kiosks Through Intelligent User Interfaces. *Personal & Ubiquitous Computing*, 14(8), 715-721.
- [4] Adamus, N. (2005). Make Self-service a Delight with a User-friendly Kiosk Interface. *Inside Microsoft PowerPoint*, 12(10), 6-10. 5.Wagner, M. (2001). Web Services Show Promise -- Software Interfaces Support Expansion of Kiosks, Personal Financial Apps. *InternetWeek*, PG.11.