Smartcare Management

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Abstract:- **The project aims in reserving an appointment to doctors in a hospital. The user can fill in their concerned details and make an appointment. As soon as the appointment is made by the user the server database will be updated and, a token number and timing will be sent to the user through message. If the users wish to cancel their booking, the process of cancellation can be made. The subsequent users will be scheduled to the previous time where the cancellation occurred and the notification regarding the changes in the schedule will be sent to the user. This reduces the waiting time of the users. At the same time in the social welfare view, it reduces the rush in the hospital. This invokes the uniqueness of the project apart from other appointment systems. The project also supports the feature where the travels like OLA, Fast track or others, can register their service to the hospital. This facilitates the user to book a cab which is been tied up with the hospital. The project includes medication remainder system, where the medicine prescribed by the doctors will be entered in the database, and sent as a remainder alarm to the patients at their prescribed time.**

1. INTRODUCTION

The project facilitates the user to reserve an appointment to the doctors in a hospital. This system involves patients, doctors, cab providers and the admin. In patient login, the user can login into their home page and check the availability of doctors for making the booking. If the login is not valid then the user must register their respective details in the registration form to create their account in the site.

Then, if the appointment is available, it facilitates the user to book an appointment , otherwise an optional date and time will be suggested for the users from which they can select their comfortable timing. If the user wishes to cancel their booking, the process of cancellation can be made. The Doctor site will contain the details needed by the doctors to view. They will be having their patients details, their schedule details and so on.

The project holds the feature where the travels can register their service to the hospital. This facilitates the user to book a cab which is been tied up with the hospital. This cab-booking process could be enabled by the users while they are making appointment to the doctor. The project also encounters the feature of medication remainder alarm, where the medicine prescribed by the doctors will be entered in the database, and sent as a remainder alarm to the patients to their mail at the time prescribed by the doctors.

The project could be still enhanced by creating an inventory that consists of the information of patients which could be updated for future purpose. Mining of the patient details allows to schedule the services of specialized doctors and also this helps the doctors to predict the disease in a particular season. The stocks of medicine can also be kept for future purpose so that precautionary measures can be taken by the patients.

EXISTING SYSTEM

A patient appointment system or appointment schedule for health care center started long time ago. Management of patient's appointments has earlier works and has developed simplified queuing models and fairly static scheduling conditions. Another attempt was made to calculate the waiting time between patient and doctor using the mathematical queuing models to minimize waiting time.

However, traditionally the appointment system has considered that the doctor time is more important than patient time. So an appointment system was designed to minimize the doctor idle time but current designing of an appointment system is based on decisive factors with respect to both the patient and doctor. Most of the hospitals currently use a manual system for maintaining the booking and cancellation details. Klassen (2004) developed another method for managing patient's appointment using multiple schedule appointment in multiple period environments.

Patients can call for any appointment time but if the period time is full, they should replace the appointment to another time. Moreover, various combinations for multi appointment and double booking are measured and recommended for different operational use depending on the health care environment because the varying appointment request has little effect on appointment system performance, especially maintaining acceptable

performance, except when the system has the overloaded option. Hence, the appointment provider in the health care center can schedule a patient into an appropriate time slot on a given day.

2. PROPOSED SYSTEM

The proposed project is a smart appointment booking system that provides patients or any user to book a doctor's appointment in a easy way through online .This is a web based application that overcomes the issue of managing and booking appointments according to the user's choice and demands. The task becomes very tedious for the compounder or doctor in manually allotting the appointments for the users as per their availability.

According to the existing system it was revealed with a problem that patients were appointed with a similar time which caused confusion and stress among the patients .Hence this project offers an effective solution where the users can view various booking slots available and they can select the preferred date and time. This system also allows the user to cancel their booking anytime so the subsequent users will be scheduled to the previous time where the cancellation occurred and the notification regarding the changes in the schedule will be sent to the user.

This reduces the waiting time of the users. At the same time in the social welfare view, it reduces the rush in the hospital. The project also includes medication remainder system, where the medicine prescribed by the doctors will be entered in the database, and sent as a remainder alarm to the patients at their prescribed time. This project also supports the feature where the travels can register their service to the hospital. This facilitates the user to book a cab which is been tied up with the hospital.

Design Architecture

PATIENT LOGIN

The username entered by the user will be given in textbox and the password entered by the user will be given in the password type .These details of the user will be

verified with the login database then, the user will be validated to the next page. The users who have not registered can create their new account by entering their details in the "Sign up" module. The details are stored in MySQL database and the user details are accessed every time when the application is started. When the user is validated to their home page, it consist of modules for availability checking, booking appointment, cancelling appointment, viewing doctor details and hospital details.

This patient login is the one which are becoming common place within healthcare organizations, provide online access to a patient's healthcare information. The type of patient identifiers collected during registration is important for finding an accurate match. The e-mail address is necessary for the activation process and subsequent communications. Balancing the need to establish secure patient details procedures with ease of use of the patient login is important.
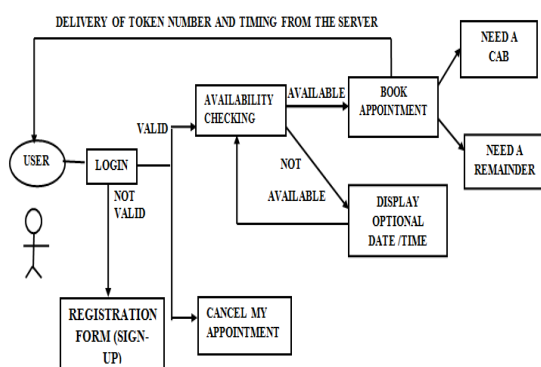
The doctor name entered by the doctor will be given in textbox and the password entered by the doctor will be given in the password type .These details of the doctor will be verified with the doc login database, then doctor is validated to the next page. The doctors who have not registered can create their new account by entering their details in the "Sign up" module. The details are stored in MySQL database and the doctor details are accessed every time when the application is started.

When the doctor login to their account, there will be several modules which is needed by the doctors. They will have their patient's details and the schedule for them. This schedule display for the doctors will be updated on daily bases, so that the doctors could view over their appointments. The doctor's site will help them to view and store their patient's database clearly. The patient's database from this will be useful in our medication remainder process. Simply, this will facilitates the doctors to manage their patients details effectively.

AVAILABILITY CHECKING

The availability checking page allows the user to check for the availability of the doctors in a hospital. When the patient login to their account they can book the appointment after seeing the availability status of the doctors. The page contains a form where the user should choose the doctor name from the drop-down list box, for their required date and time. The appointment can be booked if the doctor is available. Incase if a particular doctor is not available, the list of other doctors who are available at the time mentioned by the user will be displayed.

This is the screenshot of the availability checking module where the patients should check for the availability of their doctor at the prescribed time. This module is present to avoid the clashing of timings between the patients for a particular doctor. This module is present inside each user account. Every user before booking their appointment to a particular doctor should check the doctor's availability.

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APPOINTMENT BOOKING

This module facilitates the user to fix an appointment to the doctor. When the patient login to their account they can book the appointment after seeing the availability status of the doctors and the notification will be sent to the booked users.

MEDICINE REMAINDER

The category of patients involve all human beings-teachers, students, businessmen, housewives, children and also all of us have a busy hectic schedule. Today's life is full of responsibilities and stress. So people are prone to diseases of different types and it is our duty to make ourselves stay fit and healthy. If the patient stays at home then he or she might get someone to look after him/her but when one is not at home, is out of the city or state   away from home then it is hard for the familymembers to call them and remind them their dosage timings every time.

The remarkable problem is that patients forget to take the proper medicines in proper proportion and in proper time. Medication adherence, which refers to the degree or extent to which a patient takes the right medication at the right time according to a doctor's prescription, has recently emerged as a serious issue because many studies have reported that non-adherence may critically affect the patient, thereby raising medical costs. Hence we have merged the remainder system along with booking of a doctor appointment.

The medication remainder system is the process where the medicine prescribed by the doctors will be entered in the database, and sent as a remainder alarm to the patients at their prescribed time.

CAB BOOKING

The cab booking module includes two phases, the registration of travels where their details will be stored in a database i.e the travels can register their service to the hospital. This facilitates the user to book a cab which is been tied up with the hospital.

The registered travels will be displayed in a dropdown list to the users from which they can select their cab provider. This process of booking a cab by user/patient could be done while they are booking an appointment to the doctor.

TIME SAVING

Staff spends less time on the phone booking and managing appointments, thereby freeing up their schedule for more important and pressing tasks. Booking individuals also save time, as they no longer have to commit a part of their busy schedule to calling their medical, healthcare or wellness provider (or remain on hold, which adds minutes to the scheduling process).

MONETARY SAVINGS

The time savings experienced by a facility can translate into monetary savings, as both staff time and services translate into expenses and revenue, respectively. As staff resources can now be directed at other tasks, a scheduling system can eliminate the need for a staff member to work overtime or for management to hire new staff members to handle the work overload created by the appointment-scheduling process. In the latter scenario, the savings could be quite significant, as an average yearly salary of a medical office administrative assistant is $36,000.

24-HOUR CONVINIENCE

Scheduling appointments over the phone usually requires an individual to phone in during office hours, as few facilities offer round-the-clock phone booking. This is an inconvenience for most

patients, as they too are working at this time. Additionally, many individuals prefer to schedule their appointments online rather than over the phone. An online scheduling system allows for 24-hour scheduling, not just during normal facility or office hours.

CUSTOMER SUPPORT

24-hour, live support should be a requirement when researching an online scheduling software provider. The ability to immediately sss reach a dedicated contact or support representative is imperative for a scheduling application that needs to be functional at all times and one that reaches across multiple locations.

CONCLUSION

With the development of web based medical appointment booking system, patients are able to book and manage their own appointment with ease. They will be reminded of their appointments via SMS/email that will be promptly sent to them before their appointment date. The system itself also provides a quick view of their appointment at the appointment schedule page. These functions could indirectly help to reduce the number of missed medical appointments and patients no-show up for their appointment.

Patients would be notified via SMS/email if their appointment were affected, when there is urgent needs of the service provider at other place or in case of any situation that can result to the absence of the service provider. Patients could also track and monitor their own appointment record with this system. The system is mainly designed to facilitate appointment booking between the patient and the health personnel. The system delegates some administrative work to the patients by allowing them to manage their own appointment and personal profiles. Time will not be wasted on converting paper-based appointment record into electronic-based.

In today's competitive service industry, the technology in service systems is used in a wide range of areas. One of the most important service system institutions is the hospital. In the aim of increasing the hospitals service quality level, internet based appointment systems are used. With this help of expert system at hospitals, the queues in the

hospitals decline, the patients and doctors   save time and finally the user satisfaction and quality level increases.

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