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ABSTRACT: *Health care is a fast growing industry in the world. Appointment scheduling is one of the key processes in this health industry. This paper focused on on-line appointment system for clinics. The objective of this thesis is to maximize patients' preferences and the number of patients seen during normal business hours. This is a multi-objective problem to balance the trade-off between overtime and patients' preferences. To achieve the objective, a simulation model was built to compare four policies proposed. Emergent patient were always assigned to the same day they requested appointment. In the basic policy, non-emergent patients are assigned to their first preferred date until the reserved capacity for non-emergent patients is full. In Naïve policy, non-emergent patients are always assigned on their first preferred day. Non-emergent patients were assigned based on daily reserved capacity in Policy In forecasted the expected number of patients to be scheduled for each day and assigned patients to a highly preferred day with lower number of patients scheduled or forecast to be scheduled. Based on simulation results, it was found that most of non-dominated solutions were close both minimum objective values, so policies proposed were helpful for the clinics to balance overtime and patients' preferences.*

Keywords: Scheduling, appointments, notification etc.

1. INTRODUCTION

This system help reduce the problems occur when using the manual system and helps patients to skip endless queues. The important thing is it will become easier for the data record and retrieval. This software also stores all the patient details, patients profile, prescriptions etc. This system enables doctors and clinic assistant to manage patient records and appointments. User can enter their details, update their profile and they can select doctors to make appointments. Other than that, the system is user friendly and it can help the clinic to manage their appointments. The system helps to avoid making duplicate appointments. Users can view available doctors and their timings and can make appointments according to it. Users also get an option to cancel their appointments. Users can view their upcoming appointments and past appointments are deleted automatically.

2. LITERATURE REVIEW

2.1 Background & Related work

The current standard operating procedure in the healthcare environment for patient registration and appointment

scheduling are time consuming and somehow troublesome. It is prone to duplications, unnecessary visits and skipped follow ups. It is practically impossible to make a faultless appointment schedule, if done by hand. Most people have been frustrated by the queuing and waiting to see a doctor Furthermore, changes and correction are so often necessary to be done, that the chance of errors and duplications increases enormously. An interactive solution shall be done to overcome these constraints. The usage of a medical appointment application in our country has not yet been known compare to others country. This chapter is one of the methods to identify the problem and shortcoming that occurs in the existing system. The study was conducted by distinguishing what has been studied from what should be reviewed in order to improve the existing system.

2.2 Problem Definition

The problem definition is to propose an online appointment system for patients and doctors on the basis of scheduling. This makes the health system easy for both the parties.

Objectives:

- Save time

- Avoid manual work
- easy registration

3. MODULES AND FUNCTIONALITIES

3.1 ADMIN :

- Add New User

Administrator can add new user by filling out required fields.

- Remove Existing User

Administrator can remove existing user by selecting user ID from the dropdown box.

- Doctor registration

Administrator can add doctors and assign them duty times and schedules.

- Remove Existing Doctor

Remove existing doctors by selecting them from a dropdown menu.

- Add New Department

The administrator can add new department by entering its name.

- Remove Existing Department

Administrator can remove existing departments.

3.2 DOCTOR:

- Doctor Profile

Doctors can edit their profile details such as Name, Qualification etc.

- Send Prescription

Doctor selects their patient name, appointment ID to send prescription.

- Upcoming Appointments

Doctors can view their upcoming appointments here. They can change appointment status to Pending or Active. They can even cancel the appointment

3.3 USER :

- User Registration

Registering the user by the details that include Name, Username, Email Address, Password, Residential Address, Phone Number, Gender etc.

- Profile

Users can edit and update their profile including their password.

- Doctors List

Users can browse through the entire list of doctors and select one for making appointment.

- View Prescription

User can view, print or delete prescriptions sent by doctors.

Upcoming Appointments

User can view/delete upcoming appointments. Past appointments are automatically removed from the list to show only the relevant contents.

- Make Appointment

User can search desired departments using the intelligent, auto filling search engine. The form shows suggestions / gets automatically filled as user starts typing. The search result shows relevant doctors list with available time, days etc. User can click make appointment and they get redirected to the date and time selection page. After selecting desired date, the system returns to user with an appointment ID.

- Notifications

User can view notifications if one his/her appointment request has been marked as ‘Pending’ by the doctor.

4. USE CASE DIAGRAM FOR THE SYSTEM

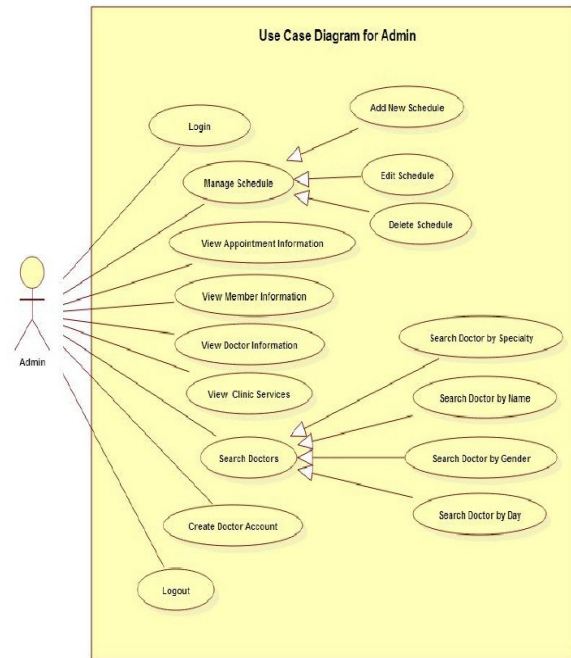


Figure 1: Use Case Diagram

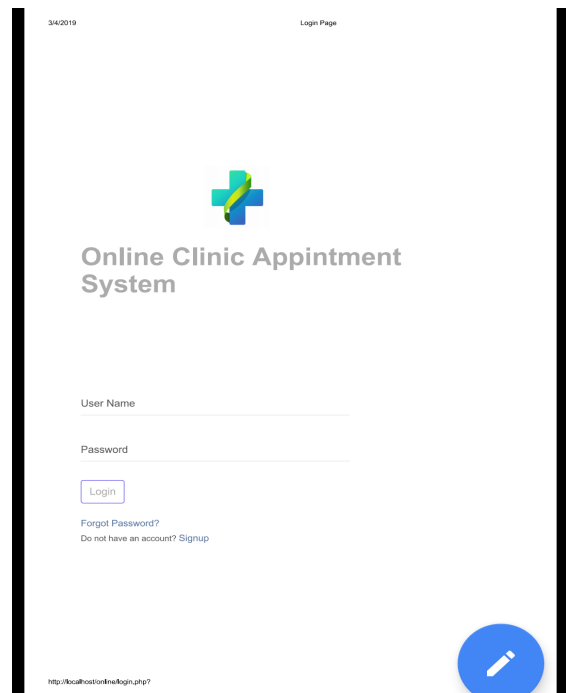


Figure 2: Login Page

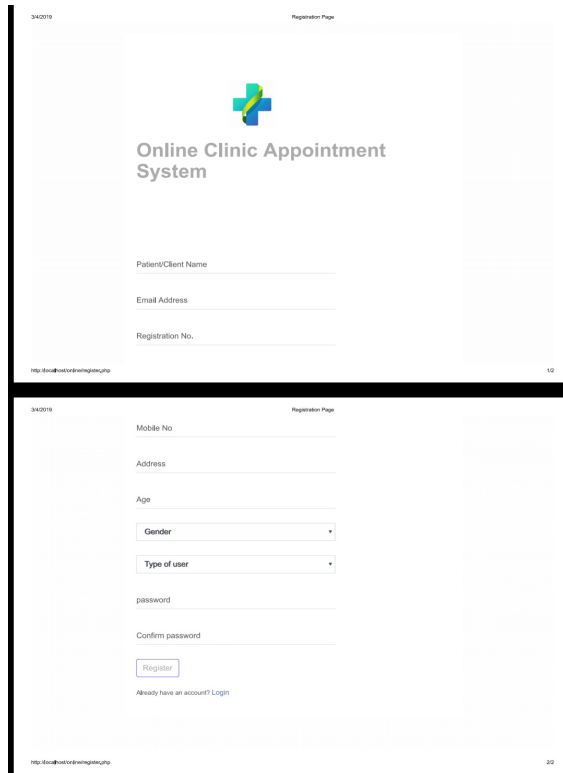


Figure 2: Registration Page

5. ADVANTAGES

- Hassle free - User can sit anywhere and find out the best doctors in your area and book your appointments
- Time effective - User have a pre scheduled appointment and don't have to stand in queues to visit your preferred doctor.
- Cost effective – User know before hand, how much you are going to be charged and there's complete transparency.

6. FUTURE SCOPES AND CONCLUSION

- In future following points will be implemented Mapped with Insurance Companies for claim processing
- Online Billing
- Blood Bank Information Management

The appointment-scheduling process, historically viewed as a necessary burden in medical offices, healthcare facilities and wellness centers, can be completely automated through an inefficient online scheduling software program. The benefits of implementing this technology touch everyone involved in the scheduling process, as administrators and staff can conduct their tasks more efficiently and accurately, while customers and clients have the ability to book their appointments and reservations quickly and more conveniently.

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