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Clinic Management System

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❖ Introduction:-

Medical field is very important to human life because it can save a thousand of life. **Clinic Management System** is a system that can help the clinic to manage their daily activity. This system help reduce the problems occur when using the manual system. This system enables doctors and clinic assistant to manage patient records, medicine stock, and appointment and produce reports.

The system is developed due to the problems that exist when using the manual system. Data inconsistency, data mix with other data and problem regarding reporting is the main problem that the user is facing. Due to that, this system is developed to overcome the problems.

This system is easy and simple to use and it can help the clinic to manage their activity and at the same time overcome the problem.

By using these kinds of system all the patient information will be save into database in systematic and efficiently. This also can reduce the lost data problem because all the information will be kept in the database. Also those data will be available for user to see his history from anywhere

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❖ The Problem Statement:-

Mostly all management system is done manually, therefore it is not effective. More problems will aroused by managing manually. From the registration until check out more problems exist. It is difficult for a doctor that wants to recall all the patient history during treatment if any facility of searching is not available. The doctor has to ask again the patient background before giving any treatment although the patient has been there before.

a) Goals of the System:-

- Convert manual to computerize. Before this, majority of the managing process in the ward is done manually. After converting it to computerize it will be easy to manage data. By computerizing this system, it is easier to understand the doctor's report which is hardly understood with different and complicated handwriting.
- To make management easy to maintain record.
- To enable clinic assistant to view and print-out various type of clinic reports.
- Ensure the system useful to user as it helps in daily activity in the clinic.

b) Benefits of the system:-

Our proposed System has the following benefits:

- Powerful, flexible, and easy to use
- Increased efficiency of doctor and Clinic staff
- Improved patient satisfaction
- Reduce the use of papers
- Simple and Quick

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c) **Project Significance:-**

Clinic Management System is used by the doctor and clinic assistant. The user will find it useful because the system has benefits that can help the operation of the clinic.

The web-based clinic management system gives profit to user as the user can retrieve data regarding themselves through the internet. They can access the clinic system throughout the internet and see their history.

The system makes record keeping more efficient and secure from an unauthorized people. Only authorized user has the right to retrieve data of their own. This will secure the patient's information.

Besides that, it is easy for the management to maintain record about the patient. The time for retrieving the information needed will be less compare to the manual. This will help the clinic assistant in doing the job.

Furthermore, the system helps in minimize the losing of data. The clinic assistant can view and generate report for the specified data.

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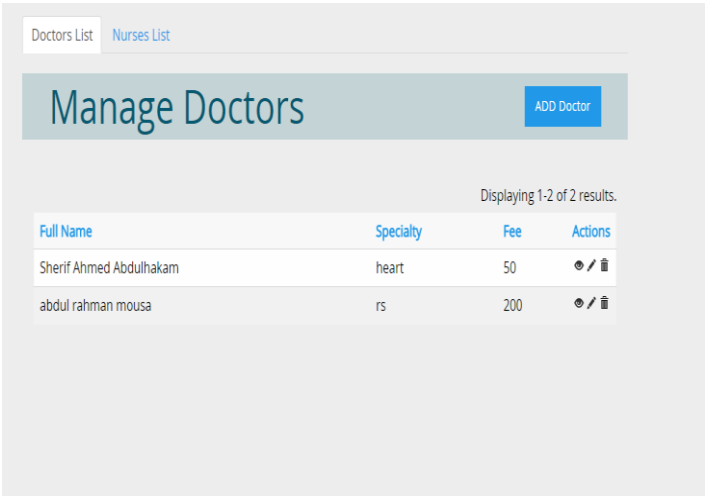
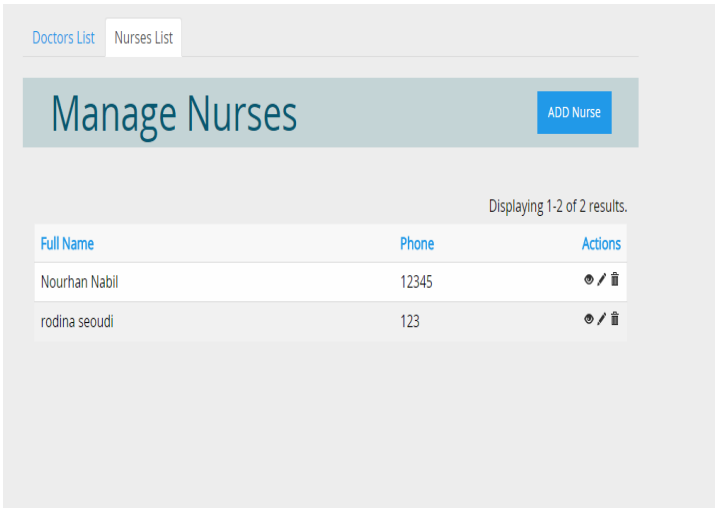
❖ The system Modules:-

1) Users Module

This module is for system users and gives them permission to access the system. Through this module all users' data will be kept and also can add a new user (Admin - Doctor - Nurse).





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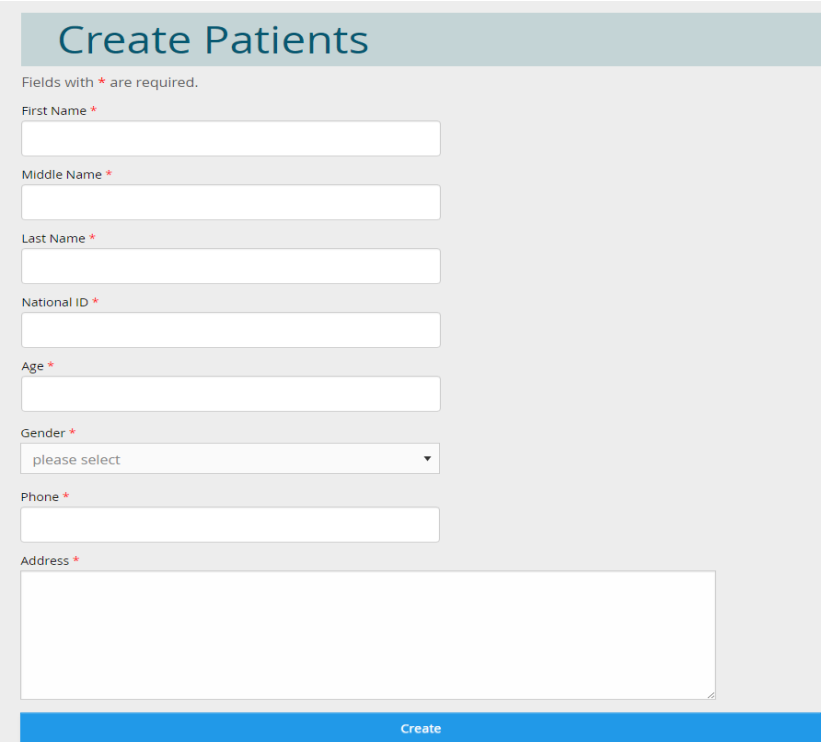
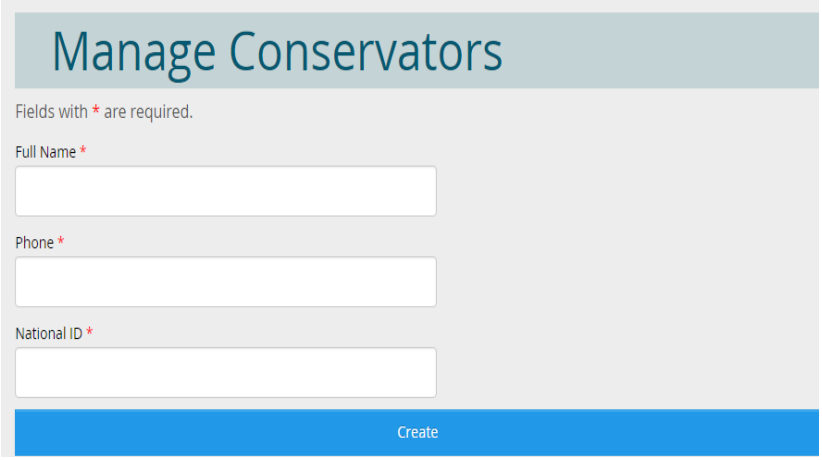
2) Patient Registration

Patient needs to register before use the facilities at the clinic. All the information will be keep in database. Through this module the nurse can add the patients' info and their conservator info.





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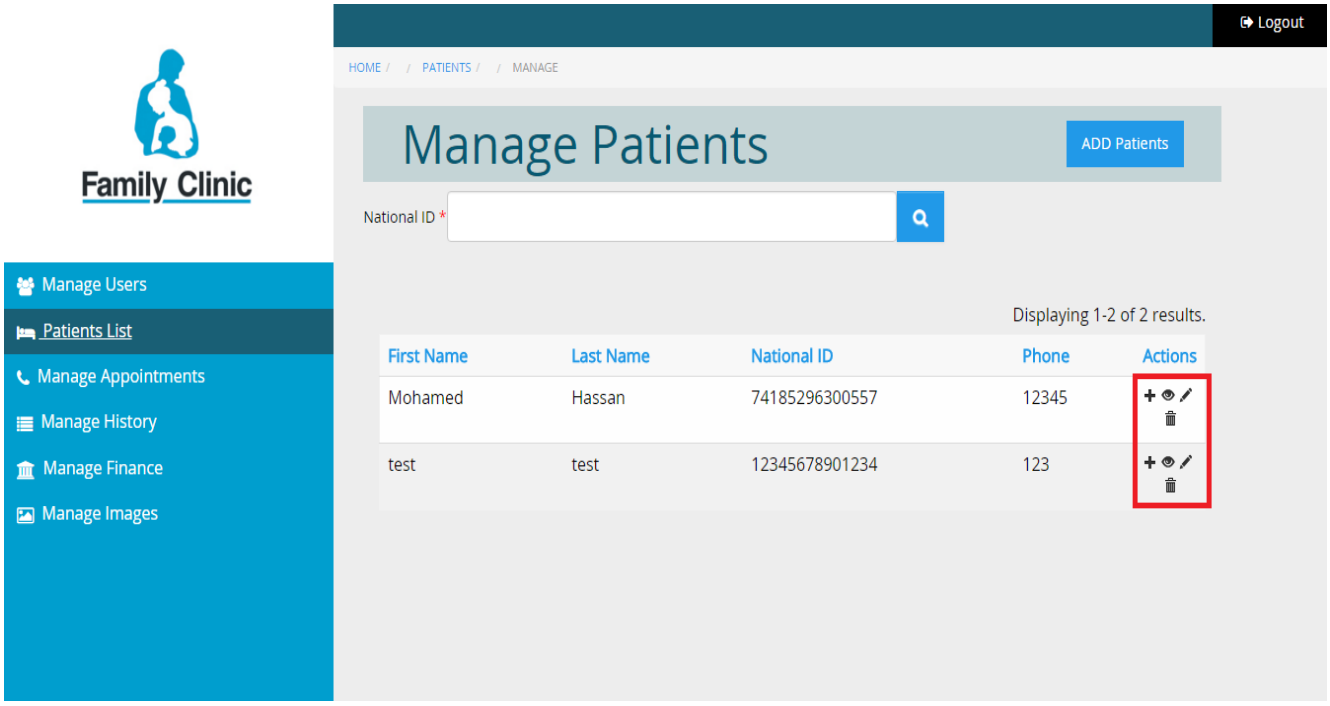
3) Patient List

Nurse can view all patients' that have been added to the system and there data. Through this module Nurse can add new patient and also can search for any patient easily to add appointment, view or Edit or delete his data.



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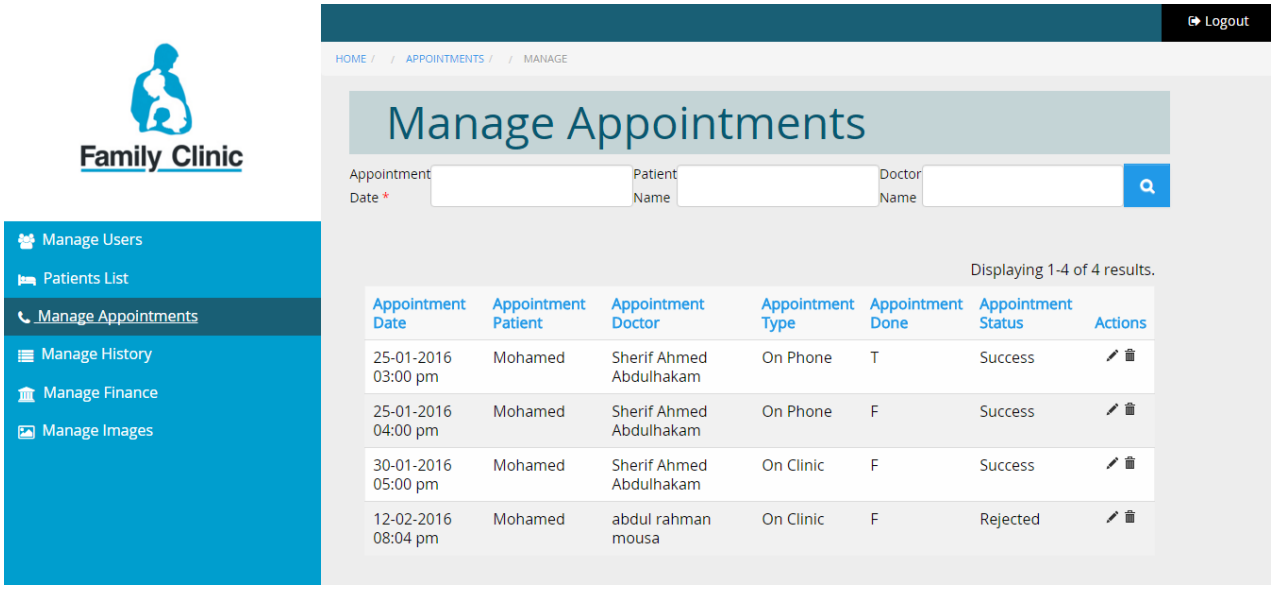
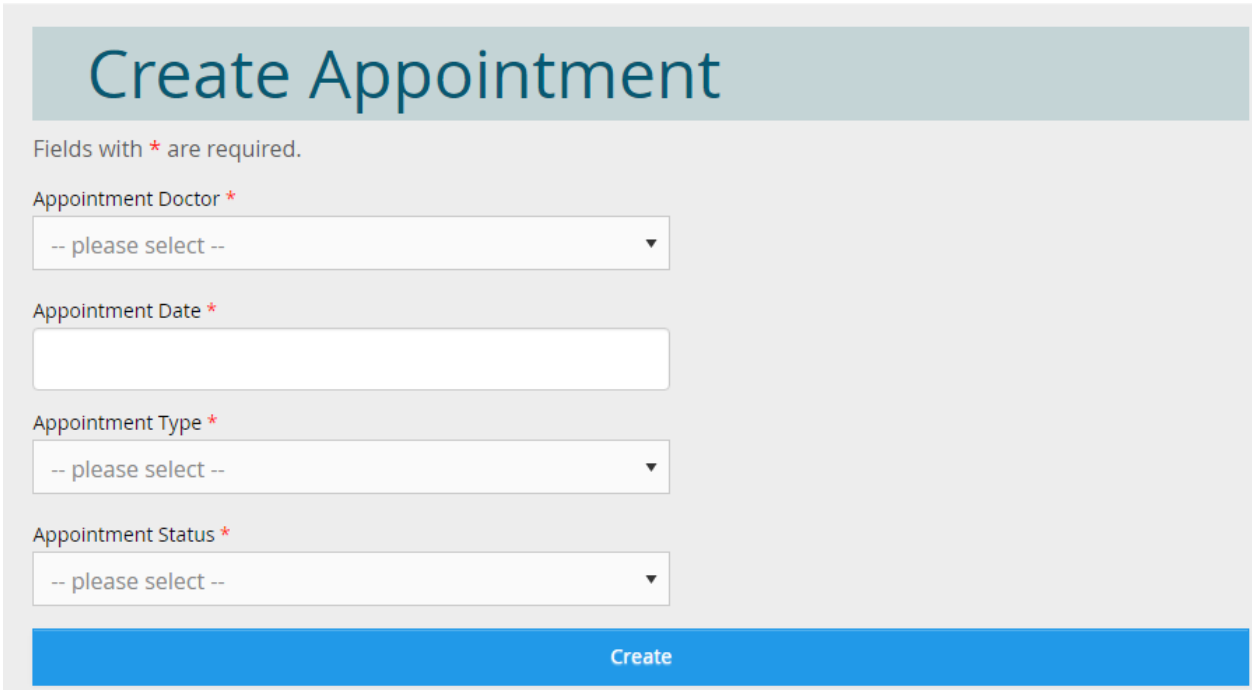
4) Manage appointments

This module manages appointment made by nurse to the patient. Through it nurse can add appointment to register patient to particular doctor.





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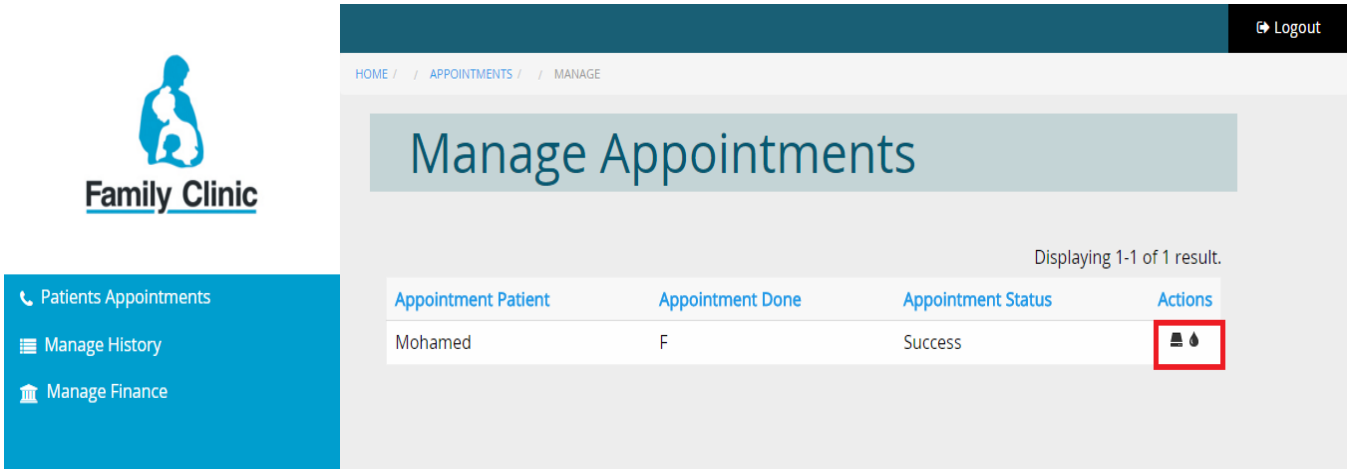
5) Patients appointments

This module is for doctor only to view the patient who made appointment and became under his responsibility. Through this module doctor can see the patient history and add medicine to him.



6) Patient History

Keep the history of any patient registered to the system. Through this module doctor can view the patient history or add a new history to him.

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Create Patient History

Fields with * are required.

Diagnosis *

Medicine *

Notes

Create

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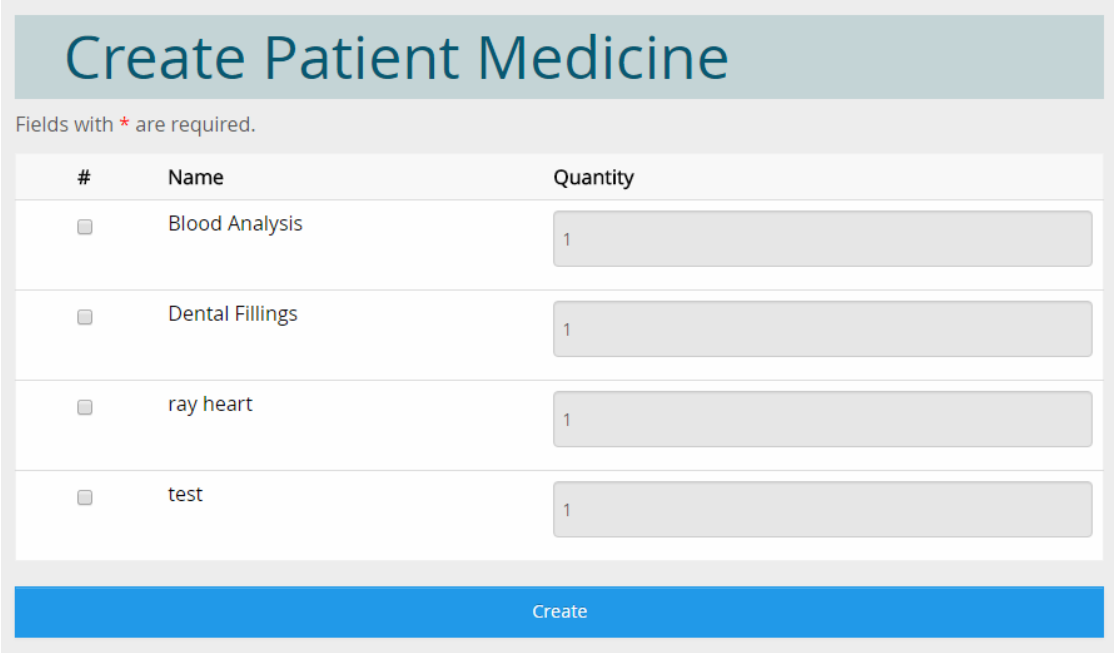
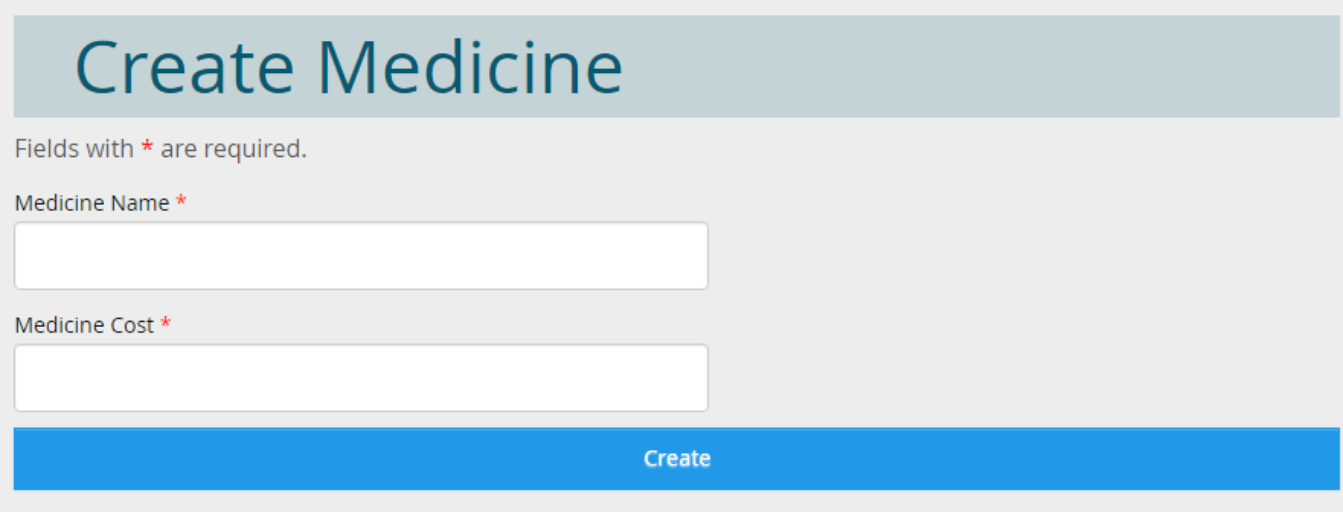
7) Patient Medicine

Through this module doctor can add a medicine from the clinic store and the quantity to the patient and its cost will be added to the invoice.



8) Medicine Registration

This module manages all the medicine stock in the clinic and its cost. Through this module can add new medicine and the cost of it.



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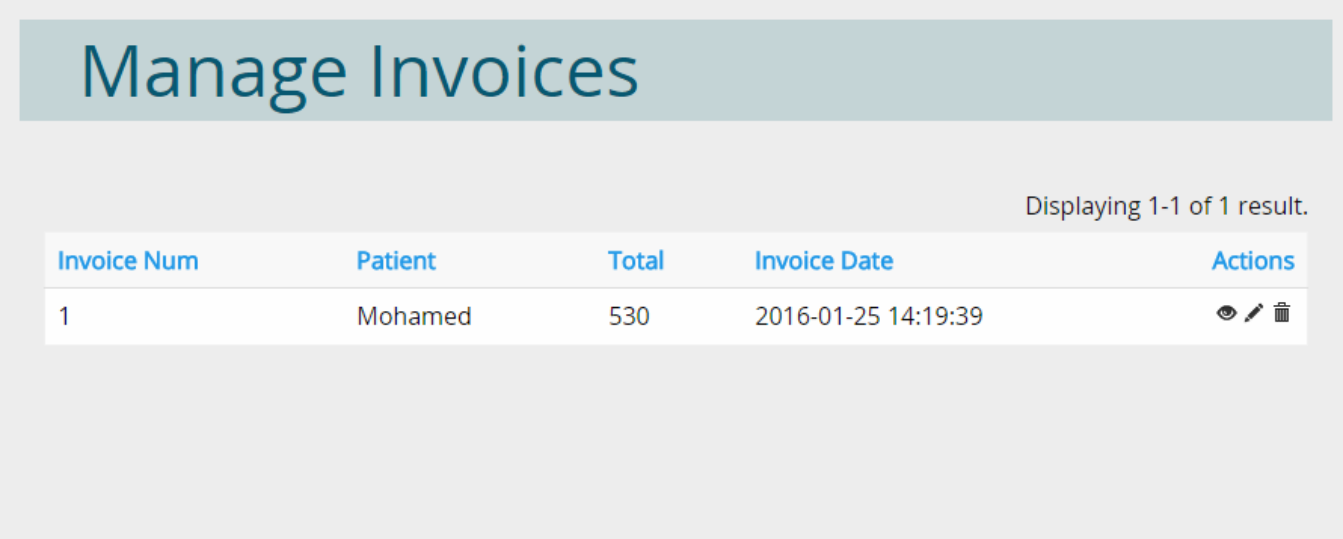
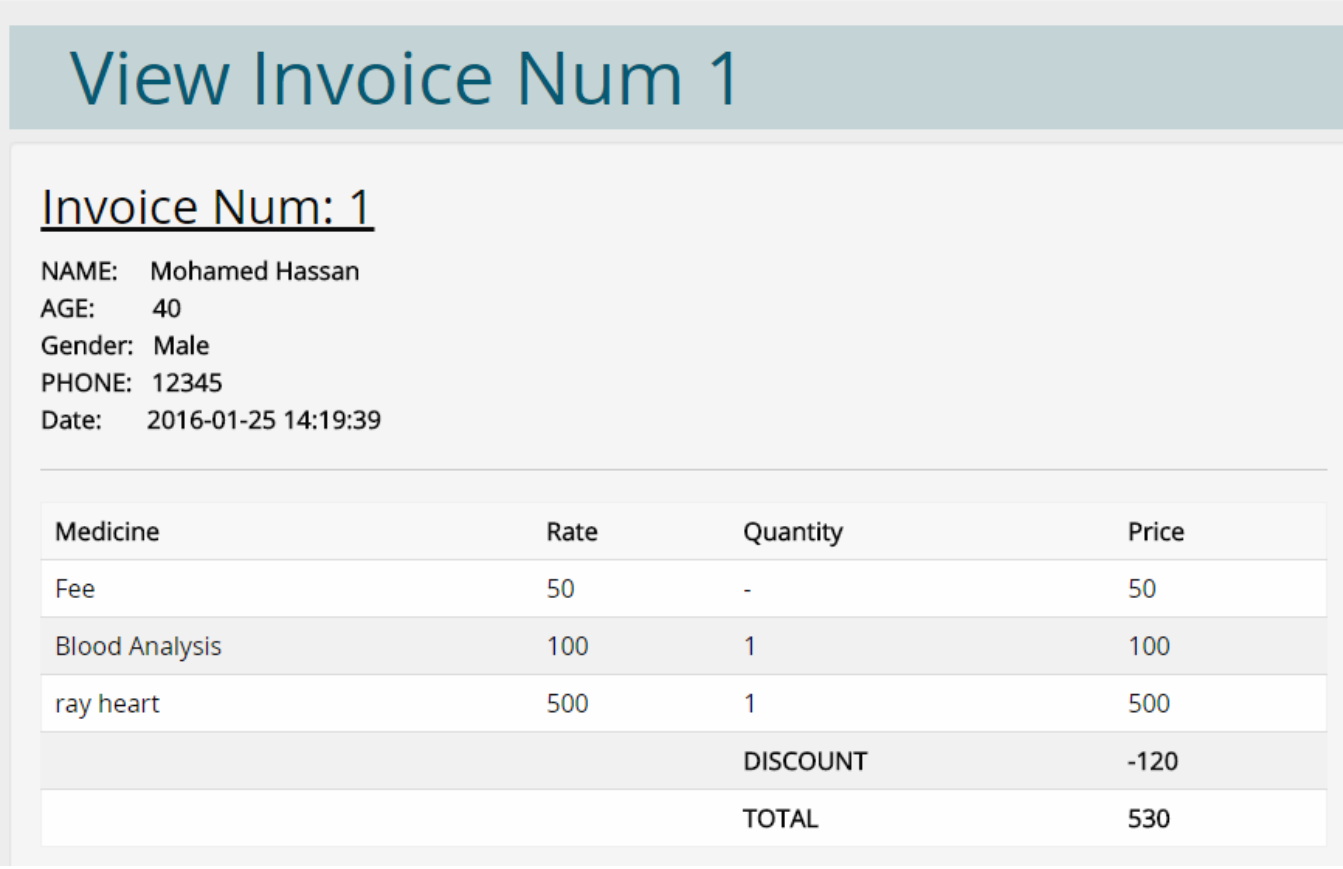
9) Invoice Financial

Through this module clinic staff can view, Edit or delete all invoices details.





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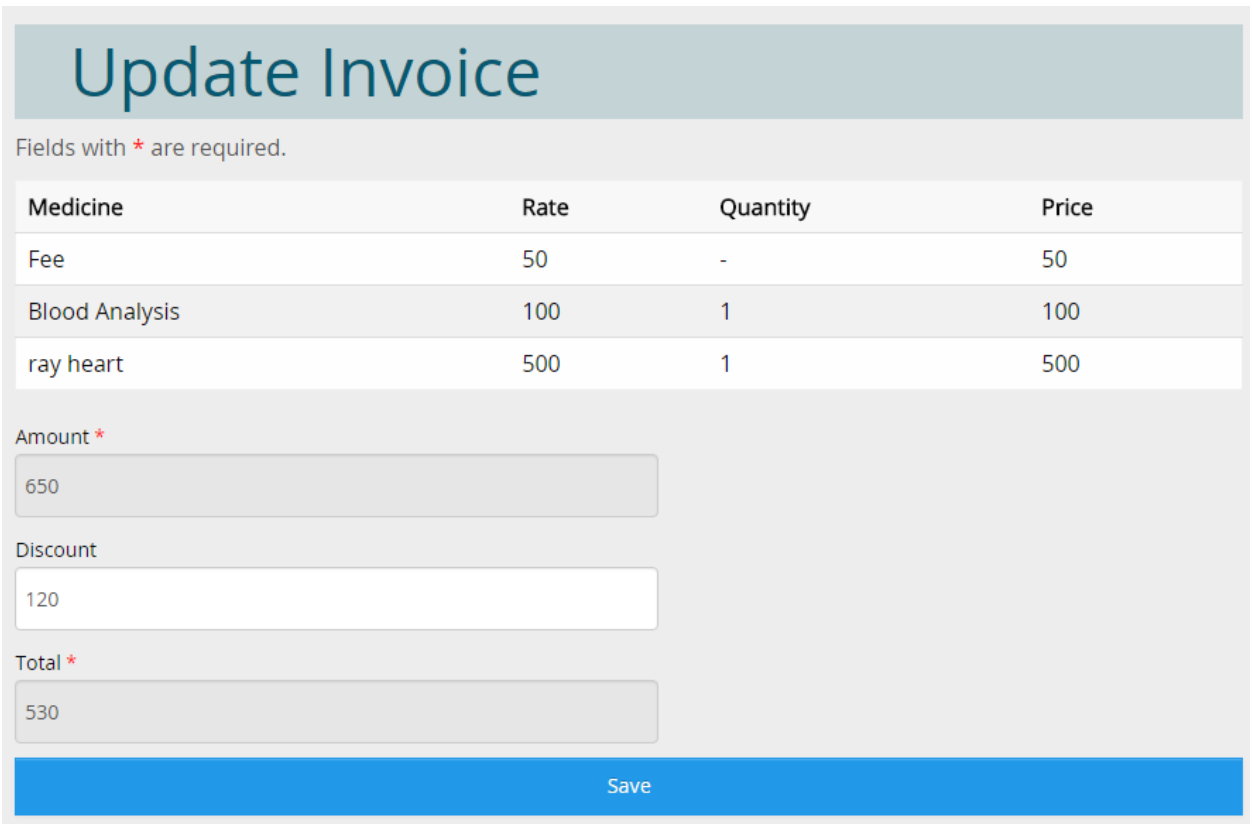

10) Reporting

This module manages generate report according to the user need. **Such as:**

- Payment history for patient.
- Patients with an outstanding balance.
- Patient payments with insurance issues.

- **Monthly report:**
  - Total patients per month.
  - Total patient payments per month.
  - Total payments per month.
- **Yearly report:**
  - Total patients per year.
  - Total patient payments per year.
  - Total payments per year

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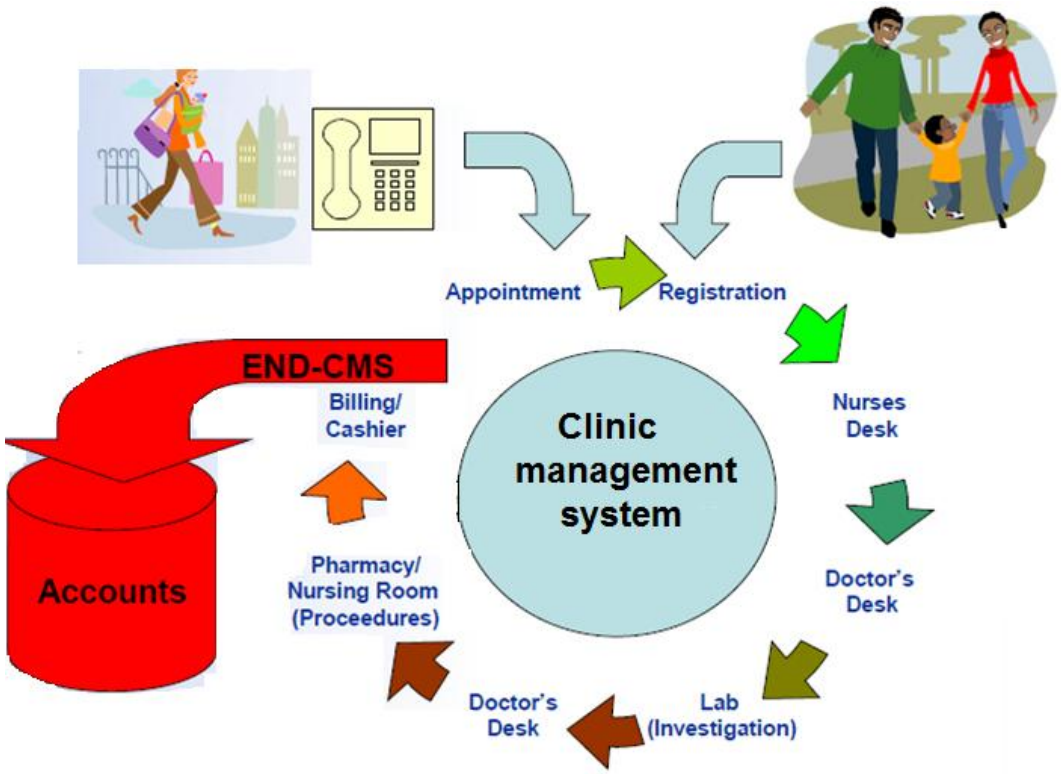
❖ System scenario:-

- When the patient will visit on clinic, they will ask to provide their name, ID, address, sex and age. After entering these fields, patient will be asked for his conservator info name, phone, his relation to the patient and ID. After that patient will be provided with a registration slip including their name, name of doctor and arrival time.
- The doctor will prescribe medicines to the patient. For taking medicine patient have to give his name to the clinic assistant, where they will get all the medicines and their bill details.
- The patient will be able to see his information and history from anywhere or another clinic by his ID

❖ System process overview:-



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❖ Requirements:-

➢ Data Requirements:-

- For patient personal information, the system will keep track of patient ID, patient last name, patient first name, age, sex and address. The system will store patient emergency contact information including name, phone number, relation to the patient and national ID.
- The system will also track initial medical history including a history date, medications used (including over-the-counter medications), Diagnosis and any notes.
- During the initial visit the initial medical history will be recorded including preferred doctor, descriptions of patient, Diagnosis, and names of current patient medications will be stored along with the date they were added or updated. These fields will be confirmed and updated during subsequent appointments.
- Medical history will be tracked by visit date.
- Diagnosis will also be recorded by patient visit.
- For Doctor Information, the system will track doctor name, doctor login, doctor password, email, primary phone number, specialty, Fee and doctor availability times.
- For Nurse Information, the system will track nurse full name, nurse login, nurse password, email and primary phone number.
- For appointments, the system will track appointment date, doctor, type and status of appointment. Each appointment will be scheduled by one staff member and each visit will be supervised by one doctor and at least one nurse. An appointment or visit will only be associated with one patient. Each appointment will be associated with one visit. Each visit may or may not have an appointment. For each visit the system will track visit date and time.

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- For each invoice, the system will track the invoice number, the invoice total, the invoice status and the date. Invoices will contain invoice items that will have a sequence number, a description and a price. Each patient appointment will have at least one invoice.
- For each payment, the system will track the payment ID, the payment amount and the date. Each payment will be associated with at least on invoice. Payment method will be recorded. Credit payments will have a credit card number. Check payments will have a check number. Insurance payments will have a claim number.

➢ Functional Requirements:-

The system will need to allow the following functions:

1. **Log in.**
2. **Log out.**
3. **Manage Patients:**
   - Add a new patient.
   - Edit patient information.
   - Delete Patient.
4. **Find a patient and applicable information.**
5. **View patient list, sort appointment dates/times.**
6. **View patient information, sort able by field.**
7. **Manage employee users "Doctor \ Nurse":**
   - Add employee.
   - Edit employee information.
   - Delete employee.
8. **Manage appointments:**
   - Add appointments.
   - Edit appointment information.
   - Delete appointments.
9. **View appointments and patient visits, sort able by date or by patient.**
10. **Add patient medical history.**

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11. **Edit patient medical history:**
    - Add initial medical history.
    - Edit initial medical history.
    - Add appointment notes.
    - Edit appointment notes.
    - Add prescription, diagnosis or referral to visit.
    - Edit prescription, diagnosis or referral.
    - Upload patient forms.
    - Edit patient forms.
12. **View medical history by visit date.**
13. **Search and view medical history**
14. **Make patient payment:**
    - Make payment with cash or check.
    - Submit patient insurance claim.
15. **View payments, sort able by patient, date, and visit.**
16. **Generate invoices for a specific patient, all patients, or patients without standing balance.**
17. **Generate Reports:**
    - Payment history for patient.
    - Patients with an outstanding balance.
    - Patient payments with insurance issues.
    - **Monthly report:**
        - Total billing per month.
        - Total billing per month per doctor.
        - Total payments per month.
        - .Total patient payments per month.
    - **Yearly report:**
        - Total billing per year.
        - Total billing per year per doctor.
        - Total payments per year.
        - Total patient payments per year.

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❖ Use Case Model:-

➢ Actors and their Goals

- **Doctor: -**

  Doctors of the clinic are a specialization of the Staff actor. They have the unique goals of creating diagnosis, creating referrals and managing prescriptions.

- **Assist :-**

  Has a goal of searching medical history, managing appointment notes (which comprise the medical history), adding the initial medical history for patients and managing exam notes.

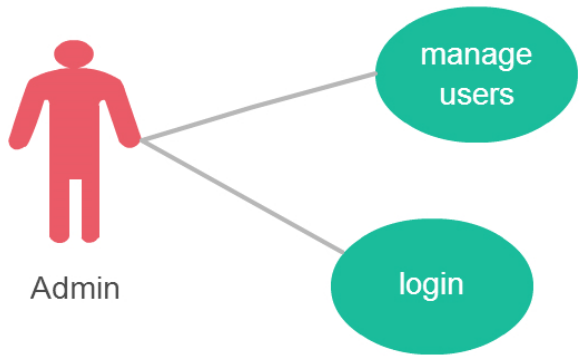
- **Admin :-**

  Has a goal of managing users.

- **Patient " web-user" :-**

  Has a goal of showing his information, medical history, send his Rays and medical tests to the doctor

➢ Use Case Diagram



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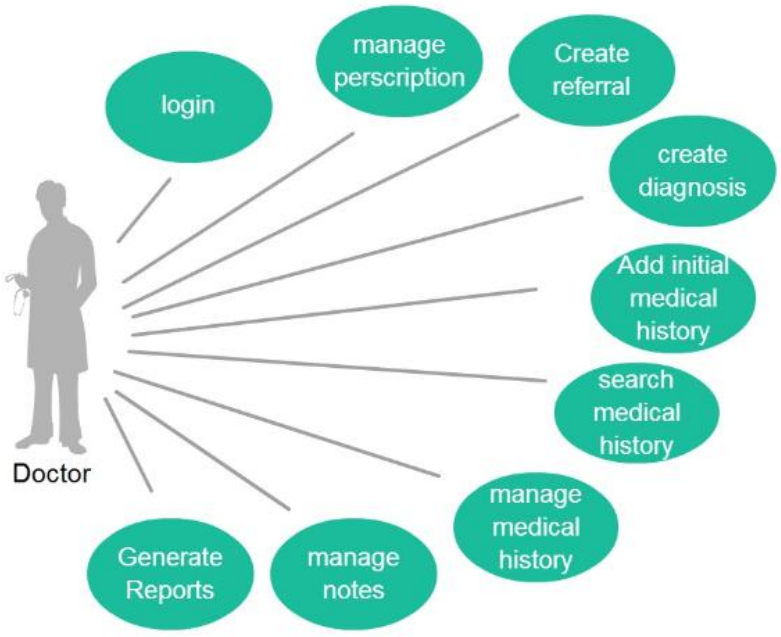

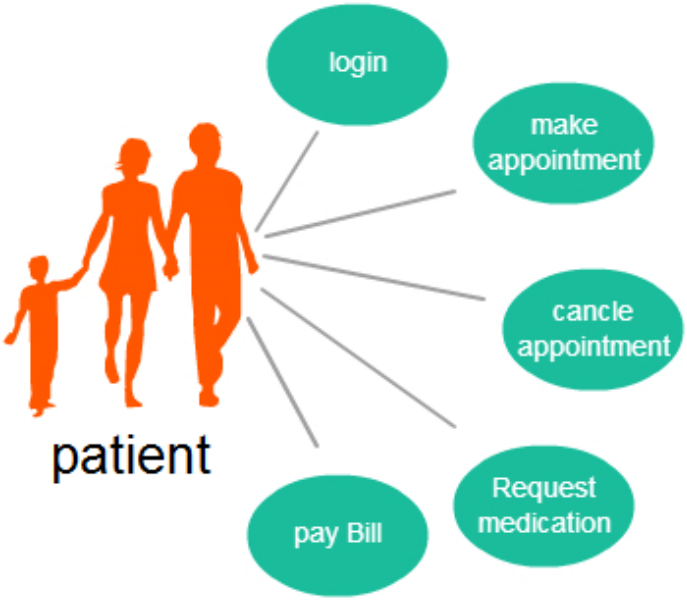

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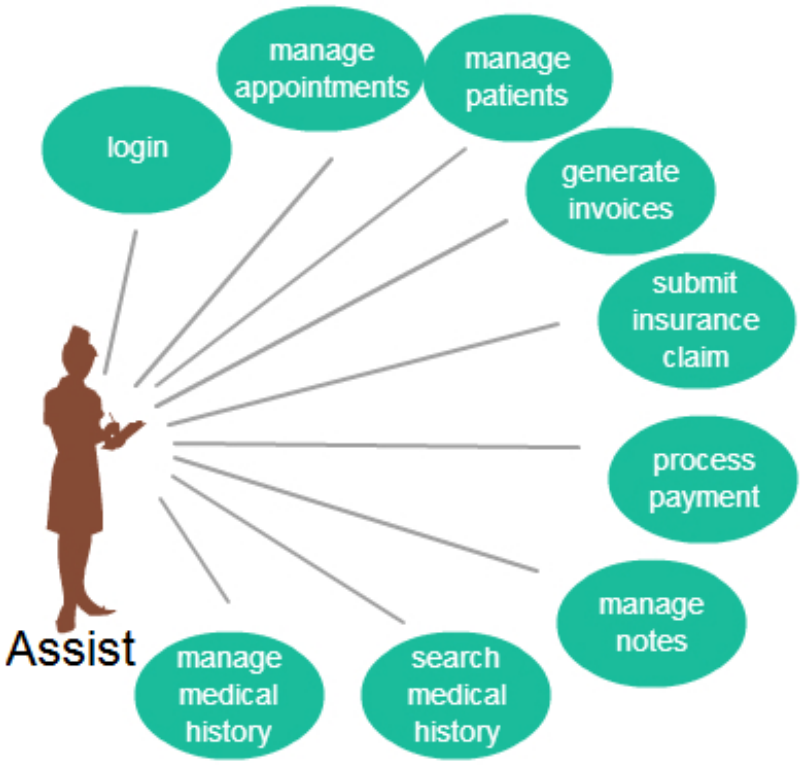

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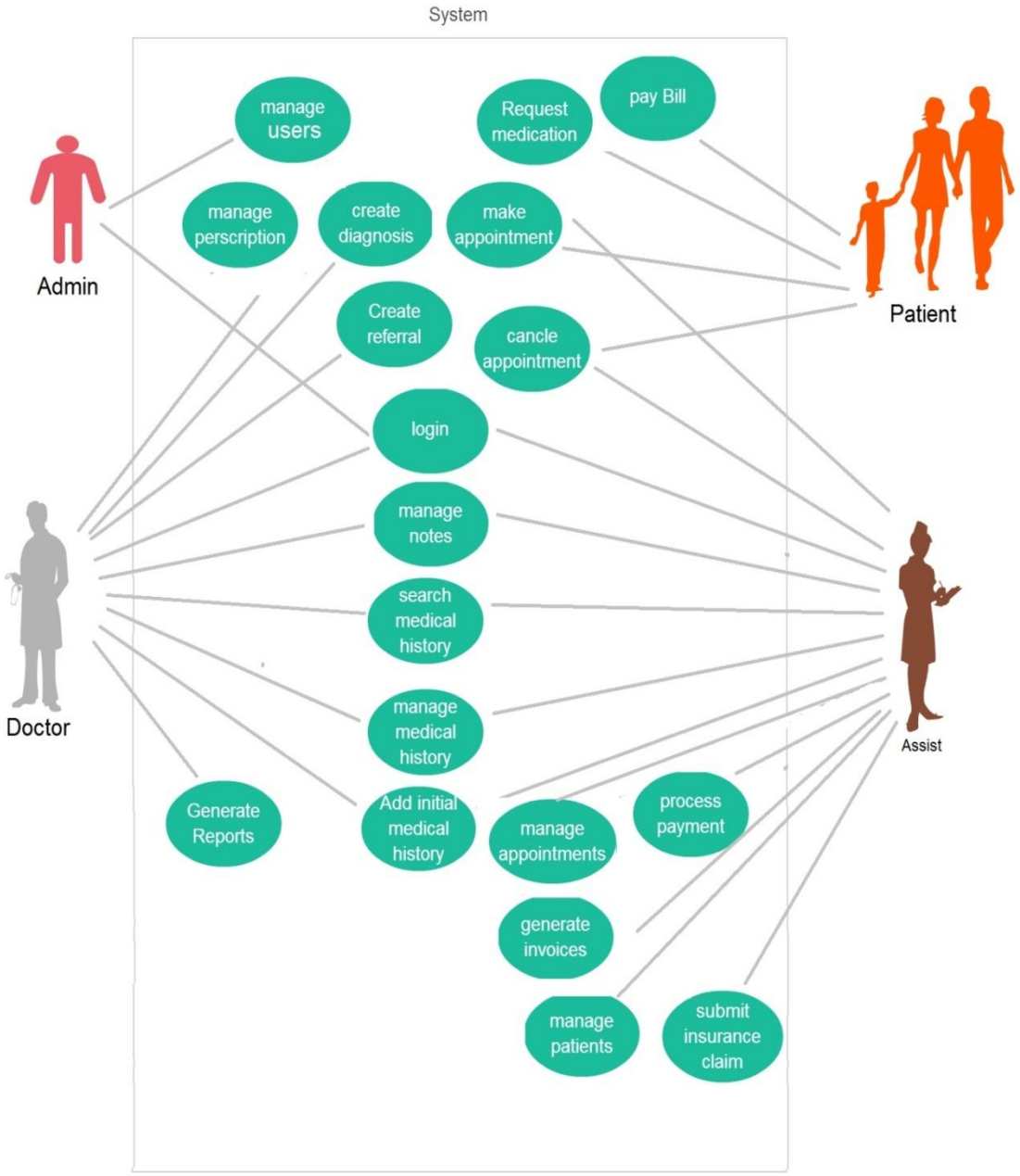

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❖ Conclusion:-

Clinic management system is a computerized patient record system. The main purpose of the system is to reduce the burden of doctor and nurses and improve the patient records management; our system integrates clinical, scheduling, electronic medical records, charting and data reporting components that enable clinics to provide patients with quality care.

As a conclusion, the proposed system will bring benefits to doctors and nurses. Much workloads and planning can be schedule more effectively. It is aims to assist users in achieving their respective goals and objectives.

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