

E DIAGNOSTIC LAB MANAGEMENT SYSTEM

System Study , Requirement analysis and Feasibility study

Project Guide:

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SYSTEM STUDY

Existing System

People need to wait on laboratories for booking and getting result for a long time. If any of the lab is busy they need to go for another lab which is time consuming and discomfort to patients. One who need to get report they need to gain the bill from reception. Also home services are not much developed and people need to contact the lab manager for booking. If the manager is not able to contact at that time patient need to go to lab.

Daily routine checkup can be done in home using health monitoring devices instead of going to labs.

Drawbacks of Existing System

- Time Consuming.
- Expensive when health monitoring device purchase from shops
- Addition fuel cost
- Less user friendly
- People need to wait from lab to lab

Proposed System

People can book for testing in the available slots through websites. Go to the lab on the provided time. For home service, instead of contacting the lab manager they can book on the website directly and get the result through the website. Also health monitoring devices can be easily purchased based on their needs in affordable cost.

Advantages

- Reduced expenses
- No fuel cost
- Purchasing of health monitoring devices can be done at any time.
- Booking can be done at any time in available slots .
- User-friendly .
- Whole test details of the patient in present and past can be viewed by themselves.

REQUIREMENT ANALYSIS

Requirement analyses involves gathering, documenting, and understanding the specific needs and expectations of stakeholders.

User Registration and Login:

- User should be able to register on the website and log in with their credentials(admin,patient,staff,delivery boy).
- User roles and permission management(admin,patient,staff,delivery boy).
- Password recovery and security features.

Patient Management:

- Patient registration and profile management.
- Patient contact information storage.
- Patient communication tools(email).

Test Booking:

- Patients can browse and book diagnostic tests offered by the lab.
- Patients can choose the home service booking .

Lab Management:

- Admins can manage the list of tests offered by the lab.
- Admins can manage the patient details.
- Admins can add a new test, edit the details of an existing test (update the cost of CBC), or remove tests that are no longer offered.

Payment Processing:

- Patients should be able to pay for their booked tests online securely.
- Patients can select their preferred payment method (credit card, PayPal, etc.).

Test Result Reporting:

- The system generates and delivers test reports to patients.
- After a test is conducted, the system generates a report with the patient's results and sends it to the patient's profile on the website and via email.

E-commerce Integration:

- Users can purchase health detection devices from the online store.
 - Admin can add products to e-commerce site.
- E.g: Users can browse health devices, add a blood pressure monitor to their cart, proceed to checkout, and make a purchase.

User Support and Enquiry:

Patients and users can contact administrators or support for assistance or inquiries.

Data Security and Privacy:

- Ensure the security and privacy of patient data, complying with healthcare regulations
- Implement encryption for patient data, restrict access to authorized personnel only.

Feedback Mechanism:

- Collect feedback from users to understand their experiences and improve the system.
- Users can rate their experience and provide comments after booking a test, helping the system identify areas for improvement.

Questions for requirement gathering.

1. What are the prime details collected from the patients?

Name, Age, Mobile no and which test need to be test.

2. How there details are filed and included in the laboratory?

Details are stored using different softwares (named “grapes”).

3. On What basis the patients are treated?

One who is registered with the lab and has a file .For their details and booking requirements MR no: is needed. It is a 6 digit number. Instead of MR no: Mobile phone number can be used which is used at the registration time. MR no: is a permanent number. By that no: complete test details of the patient can be viewed by the lab manger.

One who is not a regular customer they provided a bill with OP no:.. It is a temporary 4 digit no:.. and always change.

4. How often the results of test are issued?

Based on the situation the results are issued. That is for an early morning lab test almost 1 hr waiting is requested to patients for their result. Other cases manage it by based on test. For outside testing reports it might takes days for getting results.

5. How the results are informed?

Through email or whatsapp. The test result updated by the lab technicians can be automatically updated in the reception system also. By then the receptionist issue reports.

6. How the testing procedure is scheduled and managed?

One who come to lab for testing first they need to take the bill from reception. Based on that billed details the lab technicians guide the patients. The report is only issued after the bill registration scenario.

7. How the payment is managed? Is it necessary for paying complete bill for getting report?

By the wish of patient, one can pay a minimum amount at beginning of billing or not and after the complete test they can pay the balance amount.

If someone not able to pay the complete amount and they need the report urgently they will be included in the pending bill. Pending will always be red marked.

8. How the home service is managed?

The patient enquires to the lab through phone call for home service and the name, address, place, test details are collected from the patients. The amount is combined with the testing amount and service charge. For minimum distances service charges are not taken.

9. How their bill are managed?

After taking the samples, their bill is to be included in the pending section. The result is issued only after complete payment.

10. What are the basic requirements needed for home services?

The home services is based on customer priority. But the time schedule and staff availability is also analysed for it.

11. Working time of labs?

24 hrs. Staff are scheduled with regular interval of days and times.

Feasibility study

Objectives

1. Evaluate the technical feasibility of developing an e diagnostic management system.
2. Assess the operational feasibility of implementing the system with in the existing system.
3. Analyze the economic feasibility, including cost estimates and potential revenue streams.
4. Determine the scheduling feasibility and project timeline.

1. Technical Feasibility

- Hardware and Software Requirements: Identifying the necessary hardware and software components for system development.
- Security and Privacy: Ensuring compliance with data security and privacy regulations.

2. Operational Feasibility

- User Acceptance: Gathering feedback from potential users to ensure they embrace the system.

3. Economic Feasibility

- Cost Estimation: Estimating the development, implementation, and maintenance costs of the system.

4. Scheduling Feasibility

Scheduling feasibility involves planning the project timeline:

- Project Phases: Dividing the project into manageable phases with specific milestones.
- Resource Allocation: Allocating human and financial resources to each phase.
- Risk Assessment: Identifying potential project risks and mitigation strategies.

5. Behavioral Feasibility

The presented system encompasses the subsequent inquiries:

Is there sufficient support for the users