



INTERNATIONAL JOURNAL FOR ENGINEERING APPLICATIONS AND TECHNOLOGY

TITLE: DOCTOR - PATHOLOGY LAB SMART INTERACTION

Vaibhav Katkar¹, Paridhi Jain², Priya Tajane³, Shubham Gautre⁴

¹Student, Computer Science and Engineering, JDIET, Yavatmal, Maharashtra, India, vibhukatkar96@gmail.com

²Student, Computer Science and Engineering, JDIET, Yavatmal, Maharashtra, India, paridhijain26@gmail.com

³Student, Computer Science and Engineering, JDIET, Yavatmal, Maharashtra, India, priyatajane100@gmail.com

⁴Student, Computer Science and Engineering, JDIET, Yavatmal, Maharashtra, India, shubhamgautre786@gmail.com

Abstract

Website is an "Identity" to laboratory and a "Vision" to the patients, "Linked" by the Doctors. In the current scenario of digitalization, website gives connectivity between the laboratory and the patients through doctors. A medical specialty which analyses the bodily fluids such as blood and urine, as well as tissues, diagnosed in the laboratory using the tools of chemistry, clinical microbiology, haematology and molecular pathology is known as clinical pathology. Pathology plays a vital role in ensuring patients get accurate and timely diagnosis and treatment. Website should be captivating to engage more patients to Lab. Good and interactive websites always get more walk-ins and consultations. So In this we add more useful and efficient interface for the doctor so that they can interact with pathologist for the diagnosis of a patient. Also the interface for the patients and pathologist is provided. The System are used to control and manage samples, standards, test results, reports, and work flow automation. Information system will make it possible to easily transmit required data to the laboratory. A significant part of the operation of any Pathology lab involves the acquisition, management and timely retrieval of great volumes of information. This information contain patient information, doctor information, lab information, result history and various facilities.

Index Terms: Doctor, Pathologist, Patients, Reports.

1. INTRODUCTION

Doctor-Pathology Lab Smart Interaction is a module that can be used by the Doctors, Patients and Pathologist to book a test for the customer, enter customer's details and after conducting the test, gives test reports to the customer, and provides efficient management of pathology lab records. Using system based software applications provide a dynamic record keeping and data processing with other advantages for entire pathology and for end users. [1] The concepts and design of the Doctor-Pathology Lab Smart interaction module are to ensure that it can meet the demanding requirements that ideal software should have to manage today's busy pathology labs.

Pathology is a critical component of most care pathways inside and outside hospital. Pathology plays a vital role in ensuring patients get accurate and timely diagnosis and treatment. [2] Since Labs are now considered to be one of the highest sources of revenue. Therefore, this module will help you to expand your business, process more samples, and increase your revenues.

Doctor-Pathology Lab Smart Interaction is built for the purpose of effective and clear data saving and

manipulating. The system project highly minimize time and resource by which, searching the reports and data you can get the data in quickest time. [3] And almost the resources are wise used since most actions are done on this system. Some of the resources minimize the manpower and paper work. The feature is use to store data in a secure way. Doctor-Pathology Lab Smart Interaction can be used in any hospital that has medical/laboratory within the hospital for maintaining patient's tests and test report detail by customizing some of the features.

2. PROBLEM STATEMENT

A problem occurring while going for an offline pathology test is that the prescription provided by the doctor consisting names of the tests which are to be performed may get misplaced, or get destroyed by any other cause making the patient unable to proceed for the test. The reports which are generated may get misplaced and hence when the patient needs those reports he will not be able to get it when it is required.

If a patient resides in village or a place far away from the pathology lab, and is not able to visit the lab for collecting the reports, then he would face problem for getting reports and

will have to waste a lot of time for getting the reports. It will be very stressful for the patient or the family to get the report.

A patient having chronic disease will have to generate a report many times this generated report if is present in paper format becomes hectic to maintain and also is not possible to carry with all the time. If he will need the report in future when he visits a doctor in another place or city, it becomes impossible to get the report and may cause problem in serious conditions.

3. PROPOSED WORK

In an attempt to facilitate the smooth operations of doctor-pathology labs, it manages all the pathology related works such as Patient Registration, Conducting Tests & Delivering Reports to the patients and doctor related operations like registration for a new Patient, booking appointment and checking reports. This would have a very optimum and effective measures for removing the complicated manual process.

This project will automate the management of the Pathology Lab and Doctor's view from the date of patient registration till the end of the delivering reports to the patient. This system ensures that all the necessary functionality for a proper working of Pathology Lab and doctor are identified and implemented. The scope of the projects tends to provide the software in phases, so that further corrections and anomalies can be removed. Added security concerns and backup of the database shall be further implemented, in order to provide higher quality standard.

3.1 Admin's Module

In this module Admin authorizes new doctors and new pathologist who request to join. Admin can update the services provided and gallery.

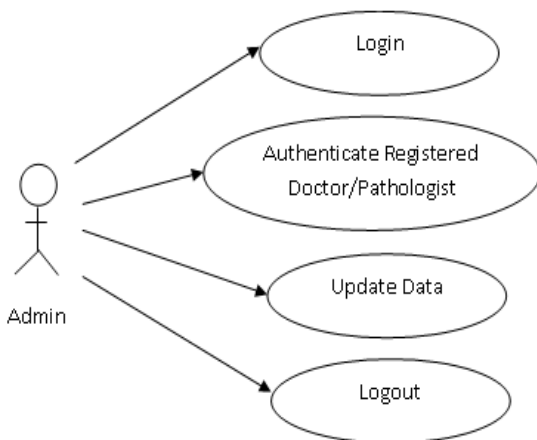


Fig-3: Admin

3.2 Doctor's Module

In this module new doctors will register and include all the details of them. The doctors will login. When the patient approaches to doctor, doctor will send a request to Pathologist which includes the tests and laboratory. Doctors can then view the reports of their patients by entering patient's id.

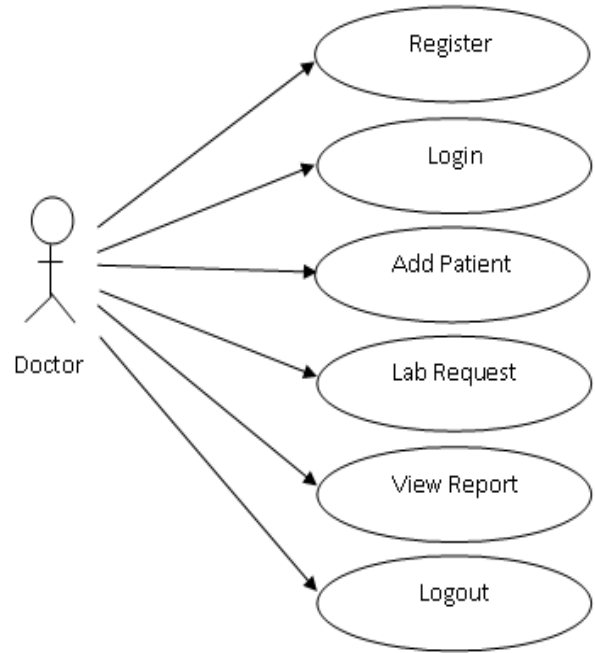


Fig-4: Doctor

3.3 Pathologist's Module

In this module new pathologists will register and include all the details of the tests and laboratory. After registering, Pathologist will login and will receive the request by the patients for lab visit. When patient visits the lab, pathologist will verify the patient's details and take a test which doctor has prescribed. After the test the generated report will be uploaded to both the patient's id and doctor's id.

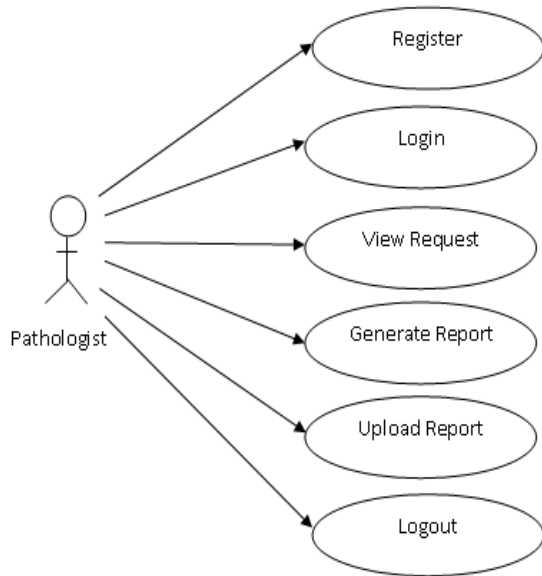


Fig-5: Pathologist

3.4 Patient's Module

In this module the patients will register. After registering, Patients can login for self test. For self test, patient will select the tests and nearby labs to take a test, Pathologist will take a test patient is registered, he can apply for further tests or go through all the previous records in future.

The patient's who visit the doctor, for them doctor will send the request to pathologist and the report is send to both doctor and patient.

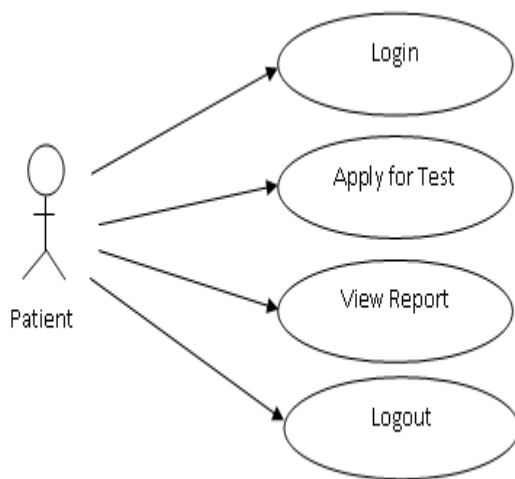


Fig-6: Patient

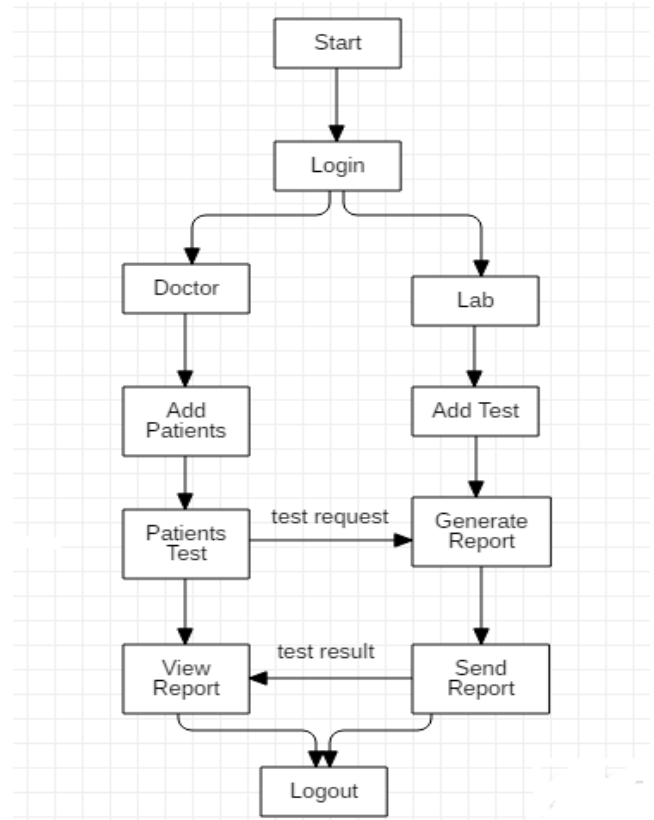


Fig-1: Doctor and Pathologist

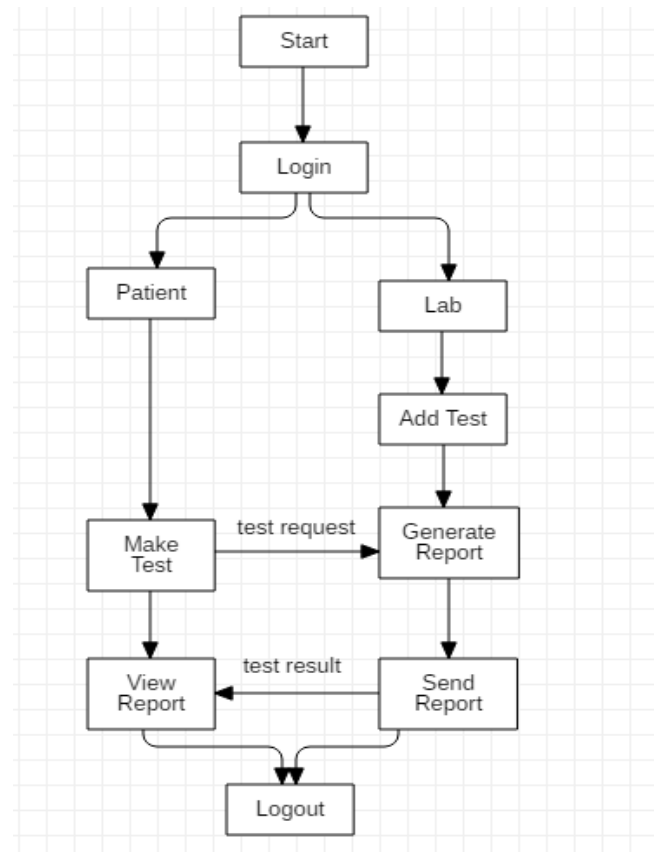


Fig-2: Patient and Pathologist

4. ADVANTAGES AND DISADVANTAGES

4.1 Advantages

1. By using this technology, Paper work is reduced.
2. The time required for completing the same job manually will be more than that required by this technology.
3. Patient's workload to collect a report is reduced as the reports will be uploaded directly to the patients and doctors Id's.
4. All the records will be maintained in a separate database hence, it reduces Patients efforts to maintain the records of reports.
5. It will be easier for Patients to visit the lab.
6. Maintaining database is easier than maintaining files.

4.2 Disadvantages

1. Doctors need to keep track on reports sent by the Pathologist.
2. Pathologist needs to be online for accepting a request sent by Doctors or Patients.
3. Connectivity is essential for doctors and pathologist.

3. CONCLUSION

The web-based system for Doctor - Pathology Lab Smart Interaction has shown significant benefits, such as on-time availability of reports, reduction in the use of documentation, and increased overall efficiency of the Doctor pathology lab smart interaction by eliminating extra tasks that were being performed prior to the implementation of this system. The biggest effort, however, was replicating the offline process of the pathology lab. Pathology lab's analyses suggest that the website has indeed been able to solved most of the problems, which is probably one of the biggest reasons for the successful implementation of this Technology.

REFERENCES

- [1]. Srijan Manani," Pathology Lab Management System", 2016
- [2]. Sasha Karakusevic, Nigel Edwards, Ruth Lewis and Mark Dayan "The Future of Pathology" June 2016, Nuffield Trust
- [3]. Race GJ, "Department of Pathology: Baylor University Medical Center", 1981.