RESEARCH PAPER ON SMART-PATH

*Prof. M. S. Khatib (Head of the Department)
*Lubaina Kazim,*Maheda Firdous, *Monika Mahajan,
*Shohrin Saiyyad, *Vibha Headoo.
Department Of Computer Science and Engineering
Anjuman College of Engineering and Technology Nagpur,
Maharashtra.

1.IN

ABSTRACT

This technology helps the lab assistant to make reports online and allow patient to gather their report. This application provide proper authentication to users in order to avoid any misuse. Once the report is generated patient can get their report online. All the reports are stored in the database. This entire system is design for pathology labs and their users. The "Smart Path" is designed for Any Pathology Lab to replace their existing manual, paper based system. The new system is to control the following information; patient information, room availability, staff and operating and patient invoices. These services are to be provided in an efficient, cost effective manner, with the goal of reducing the time and resources currently required for such tasks.

A significant part of the operation of any Pathology Lab involves the acquisition, management and timely retrieval of great volumes of information. This information typically involves; patient personal information and medical history, staff information, staff scheduling and various facilities waiting lists. All of this information must be managed in an efficient and cost wise fashion so that an institution's resources may be effectively utilized "Smart Path" will automate the management of the Pathology Lab making it more efficient and error free. It aims at standardizing data, consolidating data ensuring data integrity and reducing inconsistencies.

1. INTRODUCTION

Pathology is the study and diagnosis of disease through examination of organs, tissues, cells and bodily fluids. While you would probably never deal directly with pathology or laboratory as a patient, the dedicated staff in this area has worked with you if you have ever had a blood draw, urine test or any kind of medical test done at Laboratories.

Pathology also encompasses the related scientific study of disease processes, called general pathology. Medical pathology is divided into two main branches:

Anatomical pathology and clinical pathology.

Anatomical pathology:

Anatomical pathology is the study of anatomical features, such as tissue removed from the body, or even an entire body in the case of an autopsy, to diagnose and increase knowledge of disease.

Clinical pathology:

Clinical pathology diagnoses disease through laboratory analysis of bodily fluids and tissues. For example, the chemical components of blood may be analyzed, along with analyzing cells and identifying any microorganisms such as bacteria that are present in a sample.

The importance of pathology in modern medical practice must not be understood. Pathological reports are used in the diagnosis and treatments of an ever increasing

range of clinical conditions. They have become an integral part of clinical decisions making, with some studies indicating that large percentages of decisions affecting patient management involve pathological investigations. Pathology is also an integral part of postmortem studies to identify cause of death.

The purpose of this document is to describe the requirements for the Pathology Lab. Presently there are so many Pathology Lab but70% of it does not use the Software related to Pathology. They simply do their work on paper. So it becomes difficult and time consuming to get any information according to needs. This project is totally Computer based system so that Pathology Lab can fast access their functionality. It will improve the working capacity of the organization and due to computerized system paper cost will be reduced and easy to take any decisions.

2.LITERATURE REVIEW

Reports generated from the laboratory were sent to the health care administrators and the inputs from them were used to detect outbreaks early and plan preventives measures. Soon after its introduction, it was realized that the reports being transmitted electronically was better than that of hand written reports and provided information at a significantly earlier time to administrators in the health care system.

The experiment of sending SMS reports to patients is a novel one and not been tried by many authorities worldwide. The effort for doing such a thing had its own share of problems, which we plan to discuss in greater detail.

One more critical link in this concept is the mapping of the patient report with her/his telephone number. It would have been desirable to link the patient details including her/his telephone number via a barcode. Due to the layout constraints of the hospital, this idea was not feasible and hence an offline concept of using a data entry operator and mapping reports to Visit ID was resorted to.

After the few initial resistance from the laboratory staff to transform from the manual transcribing to computerizing of all laboratory reports, the system was well accepted by the staff. Computerization of the reports was not much of a paradigm shift from their routine work and hence was acceptable. This was mainly facilitated by the fact the computerization was achieved by in-house software development.

The concepts and design of the Pathology Lab Management System module are to ensure that it can meet the demanding requirements that an ideal software should have to manage today's busy pathology lab. Since Labs are now considered to be one of the highest sources of revenue. Therefore, this project will help you to expand your business, process more samples, and increase your revenues. Allow the main branch of pathology to handle its branches.

Odoo Pathology Lab Management System is a module that can be used in a pathology to book a test for the customer, enter customer's details and after conducting the test, give 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 The concepts and design of the Pathology Lab Management System module are to ensure that it can meet the demanding requirements that an ideal software should have to manage today's busy pathology lab. 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.

IMPLEMENTATION.

The system consists of four major modules which are Admin, Lab, Patient, and Emergency. The Admin module has central control over all the labs. It is capable of updating, deleting, modifying the information. The Lab module is cable of adding new patients, perform various test and generate a unique reference number for a patient. The patient module allow the newly entered patients to choose various tests and access report generated by labs. The Emergency module allows the user to take necessary actions when the emergency situation occurs, and also allow patient to see various symptoms, precautions and step by step treatment in order to handle the situation.

Model Layer

This is the data layer which contains business logic of the system, and also represents the state of the application.

It's independent of the presentation layer, the controller fetches the data from the Model layer and sends it to the View layer.

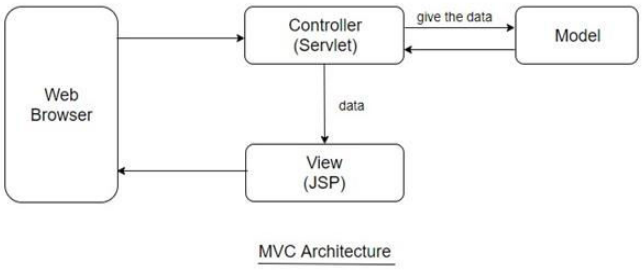
Controller Layer

Controller layer acts as an interface between View and Model. It receives requests from the View layer and processes them, including the necessary validations.

The requests are further sent to Model layer for data processing, and once they are processed, the data is sent back to the Controller and then displayed on the View.

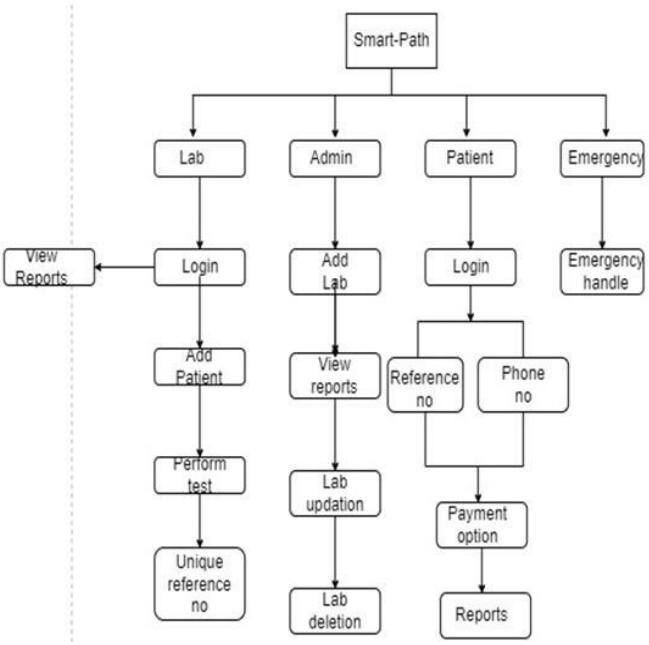
View Layer

This layer represents the output of the application, usually some form of UI. The presentation layer is used to display the Model data fetched by the Controller.



MVC Architecture

Working of modules:



Here patients are first allowed to register on the site and also login using registered details. Once registered with their address and contact details, the patients may now see a variety of tests conducted by the lab along with their costs. The system allows for CBC, Blood Glucose, KFT, LFT tests to be booked by patient. The test also consists of parameters like Hemoglobin, WBC, etc. Now the system allows users to book any test needed. After successful booking system calculates costs and allows users to pay online. After payment the patient test is booked and the lab may now collected samples from patients registered address. After successful testing the user now gets a notification of test result through an email. The system

allows admin to attach a copy of the report into the system and automatically into websites to intended patient.

SUMMARY.

The overall description of a project (smart-path) is medical device and healthcare site has designed for the comfortness of patients as well as labs. This project is being implemented on the core idea of making ease for the patients. It is an application where reports are generated online and given to the patient only when the online payment is done.

CONCLUSION.

Throughout this project our aim was to develop an application that allows user to interact with pathology labs in an easiest way. The entire application will help the user to manage their customers and reduce manual efforts. It also allow Admin to centrally manage their labs. We were successful in creating a user friendly application.

REFERENCES.

1. www.scribd.com
2.OverhageJ.M.,SuicoJ.,McDonaldC.J.Electronic laboratoryreporting:barriers,solutionsandfindings.JPublic HealthManagePract.2001;7(November(6)):60–66.
3.M'ikanthaN.M.,SouthwellB.,LautenbachE.Automatedla boratoryreportingofinfectiousdiseasesinaclimateofbioterrori sm.EmergInfectDis.2003;9(September(9)):1053–1057.[PubMed]
4. www.ncbi.nlm.nih.gov
5. Selenium express and Telusco(YouTube channel).