A Final Project Report on

Hospital Management Software

Submitted in Partial Fulfilment of the Requirement for the degree of **Bachelor in Computer Engineering** under Pokhara University.

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Abstract

This project is aimed at developing a Hospital Management Software by the use of which Hospitals can manage their Data and keep them wisely for future use. The Hospital Management System is a computer software system, which is used to manage the functioning and events   hospital or multi-specialty hospital. This software is made with the Programming language **C#** Windows Application and the Database used is **Mysql**. This project describes a case study, where we focus on managing the Hospital Management System in a modern way and make it more advanced. This project targets all the doctors and patients, providing them the easiest way of treatment with less time for getting the doctor's appointment and getting appointment of doctor and to get the advanced facilities.

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1. Introduction

Computers have become part of the life for accessing almost any kind of information. Life in the 21st century is full of technological advancement and in this technological age, it is very difficult for any organization to survive without utilizing technology.

The Hospital Management System is a computer software system. We developed a Hospital Management System application for multi-specialty hospitals to maintain hospital data such as doctors' detail, rooms detail, patients' detail, bill detail, and patient payment detail, etc. Hospital Management System project used to maintain and track patients record for any multi-specialty hospital.

Only hospital staff or admin staff can operate this software to maintain all details regarding the hospital. The Programming that is used is C# and the Database that is used is Mysql.

1.1 Problem Statement

- Lack of immediate retrievals: -The information is very difficult to retrieve and to find particular information like-E.g. -To find out about the patient's history, the user has to go through various registers. This results in inconvenience and wastage of time.

- Lack of immediate information storage: -The information generated by various transactions takes time and effort to be stored in the right place.

- Lack of prompt updating: -Various changes to information like patients are difficult to make as paperwork is involved.

- Error-prone manual calculation: -Manual calculations are error-prone and take a lot of time this may result in incorrect information. For example, calculation of patient's bills based on various treatments.

- Preparation of accurate and prompt reports: -This becomes a difficult task as information is difficult to collect from various registers.

1.2 Project Objective

General objectives:

To increase efficiency and improve services provided to the customers through better application of technology in daily operations.

Specific objectives:

The main objective of the C# Project on Hospital Management System is to manage the details of Medicines, Doctors, Hospitals, Appointments, Nurses. The project is built at the administrative end and thus only the administrator is guaranteed the access. The project aims to build an application program to reduce the manual work for managing the Medicines, Doctors, Patients, Hospitals. It tracks all the details about the Hospitals, Appointments, Nurses, Medicines.

1.3 Significance of the Study

The study is important to the hospital patients since they could have medical information without experiencing delays and incorrect information. If they wanted to access their medical history, they would not be going through a difficult process. The hospital especially the pharmacy and billing department would not go through a lot of paper reports when it comes to payments and accounting records. The use of paper would still be there but it could be reduced so that excessive paper loads would not be a problem.

The study was also significant to the staff since they would be able to register, update, delete, and search information within the system. It was beneficial to the hospital since it could improve their management by connecting all their existing computers in one system. In general, the study was important to the hospital and patients for it could serve as an applicable tool to maintain the productivity and quality of service in the hospital.

1.4 Scope

The software product is the Hospital Management System. The system will be used in any Hospital, Clinic, Dispensary Pathology labs in any Hospital. Clinic. Dispensary Pathology labs to get the information from the patients and then storing that data for future usage.

The current system in use is paper based. It is too slow and cannot provide updated lists of patients within a reasonable timeframe. The system intends to reduce overtime pay and increase the number of patients that can be treated accurately.

2. Literature Study/Review

HMS was introduced to solve the complications coming from managing all the paper works of every patient associated with the various departments of hospitalization with confidentiality. HMS provides the ability to manage all the paperwork in one place, reducing the work of staff in arranging and analyzing the paperwork of the patients.

2.1 Sources of Information

2.1.1 Primary sources

- Web Sites
- Suggestions from friends.

2.1.2 Secondary sources

- Reference

3. Proposed Methodology/Technical Description
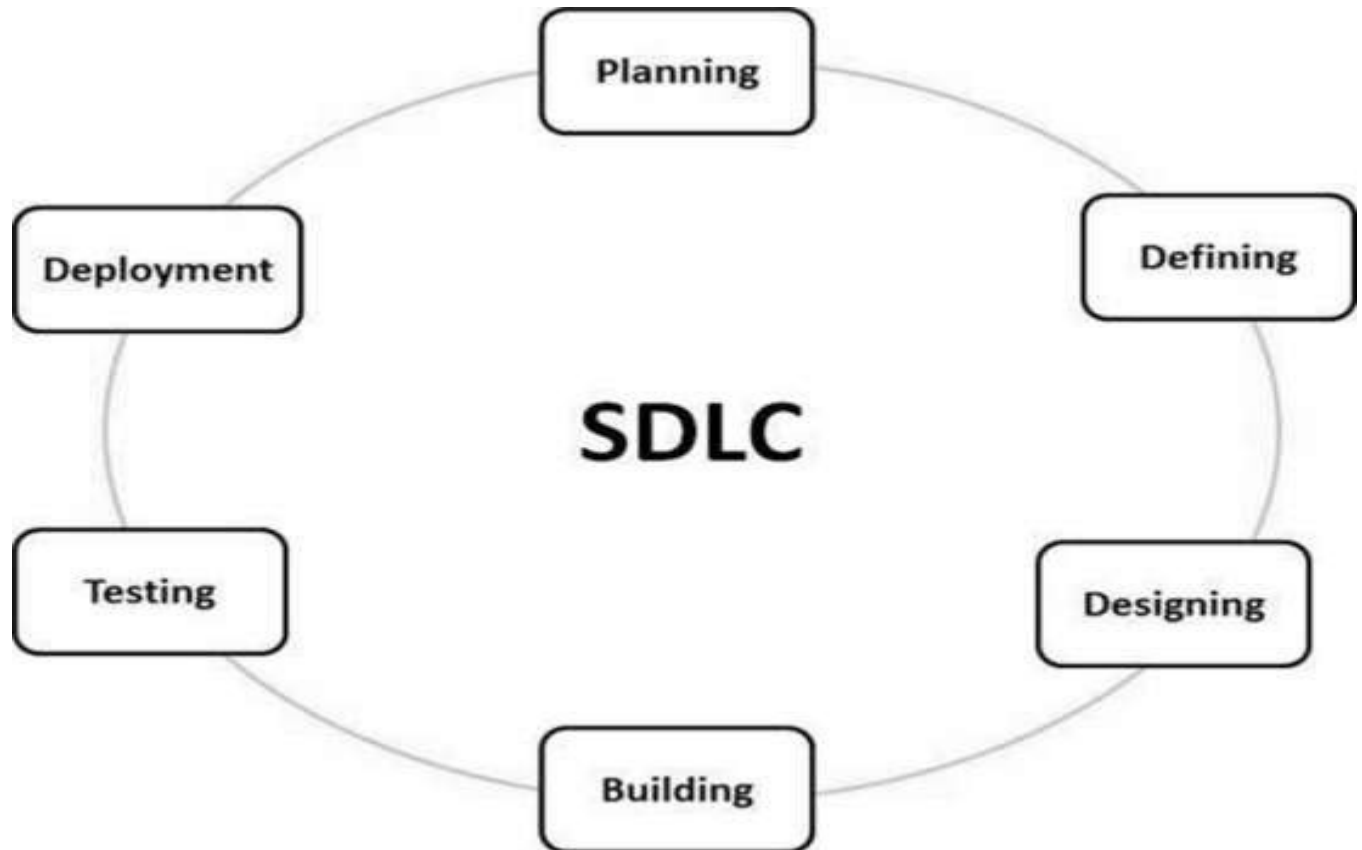
3.1 Software development lifecycle

Fig1: Software development life cycle

3.2 Features

It was beneficial to the hospital since it could improve their management by connecting all their existing computers in one system. In general, the study was important to the hospital and patients for it could serve as an applicable tool to maintain the productivity and quality of service in the hospital.

3.3 Modules

The main modules of this project are:

Doctor module, Room module, Patient module, Bill module, Room shifting module, Patient payment module, Patient discharge module, and last but most important Reports module.
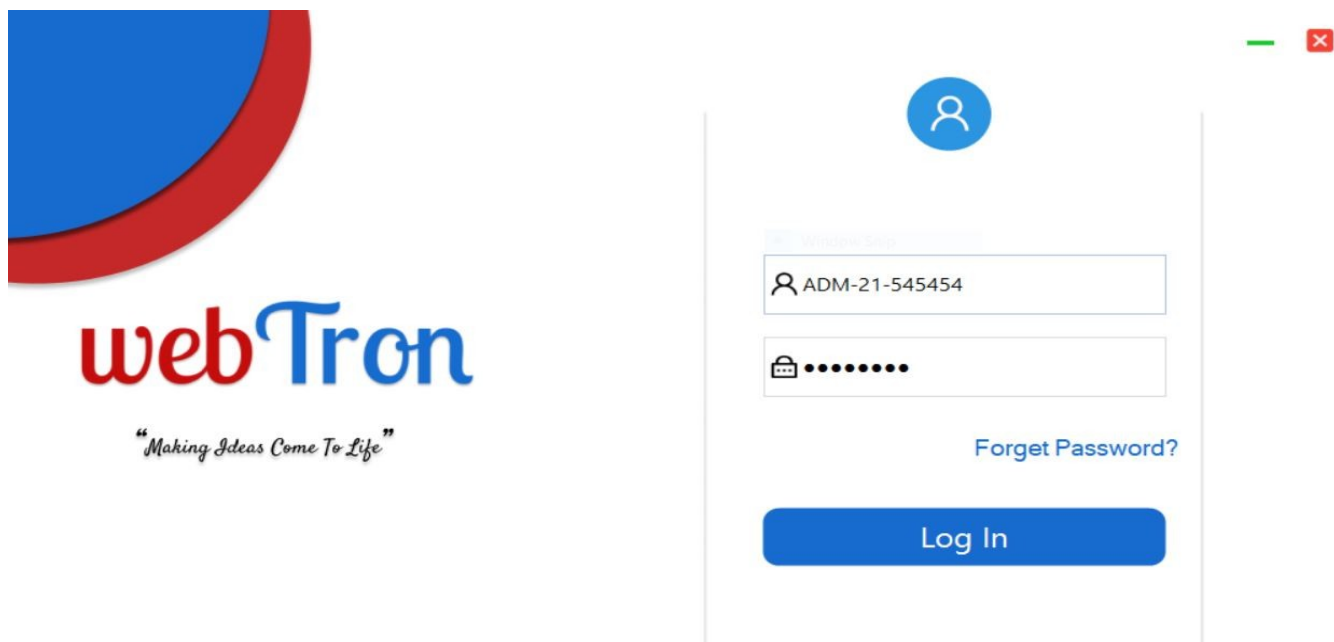
Fig2: Log in Form
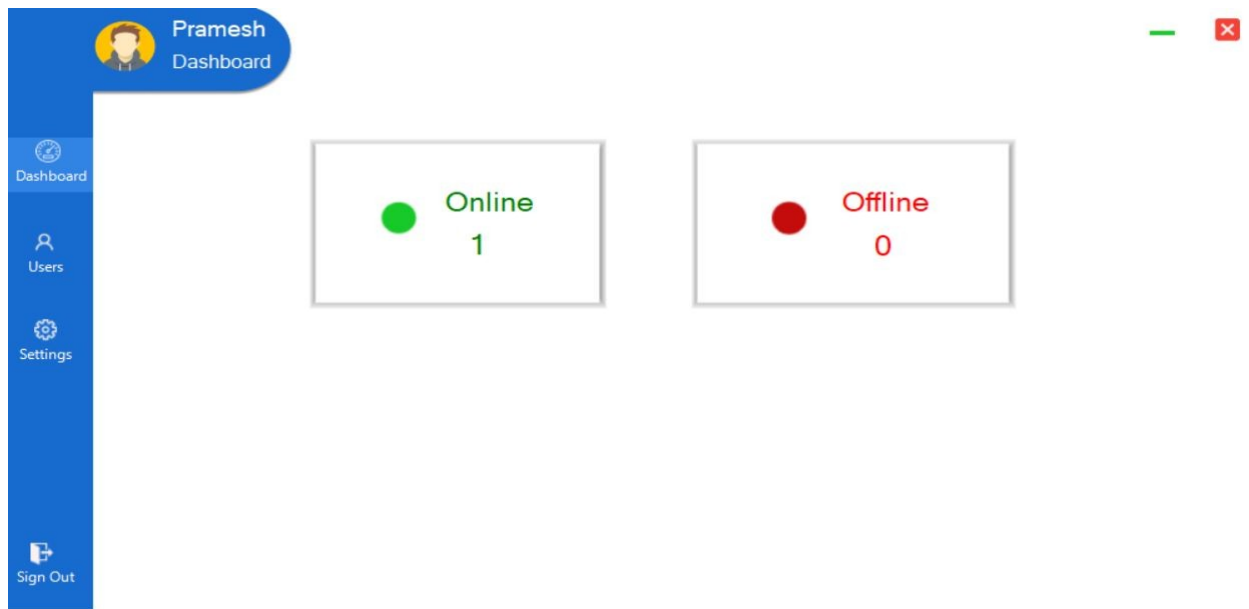
Fig3: Admin Dashboard
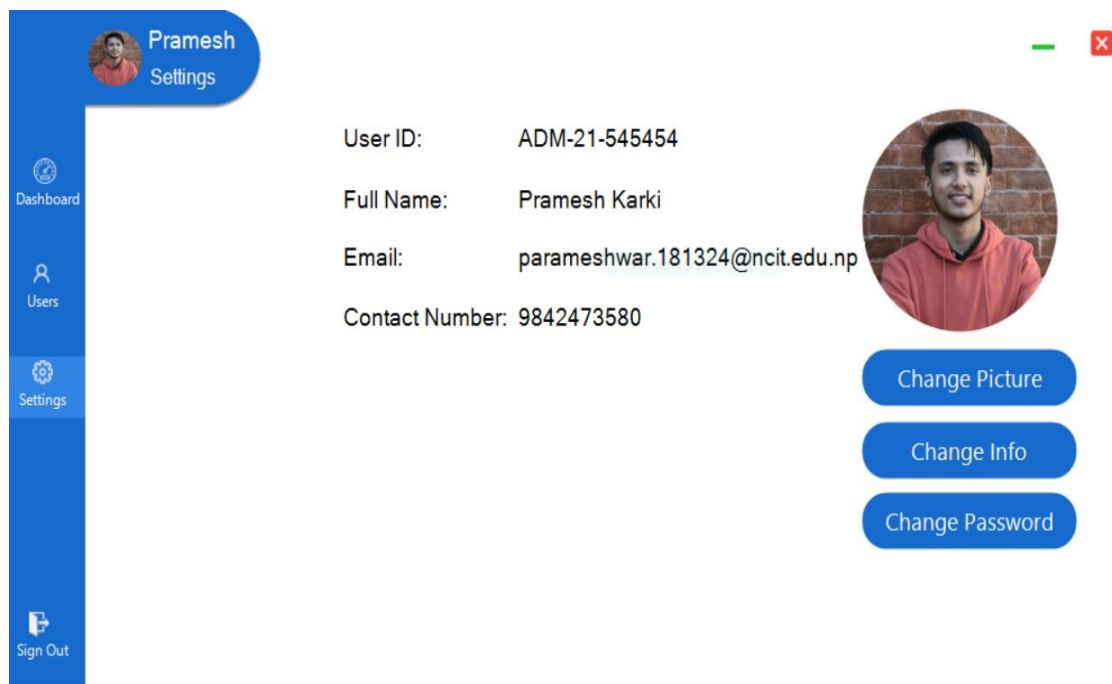
Fig4: Admin Profile

Fig5: Change Admin Info Form

Fig6: Delete Users Form

Fig7: Change Password Form

3.4 Functions

- Maintain the medical records of the patient
- Maintain the contact details of the patient
- Keep track of the appointment dates
- Save the insurance information for later reference
- Tracking the bill payments.

3.5 Advantages

The advantages of HMS can be pinpointed to the following:

- Time-saving Technology
- Improved Efficiency by avoiding human errors
- Reduces scope for Error
- Data security and correct data retrieval made possible
- Cost-effective and easily manageable
- Easy access to patient data with correct patient history
- Improved patient care made possible
- Easy monitoring of supplies in inventory
- Reduces the work of documentation
- Better Audit controls and policy compliance.

3.6 Validation Schema

- All the fields such as Medicines, Doctors, Nurses, Patients are validated and does not take invalid values
- Each form for Medicines, Doctors, Patient cannot accept blank value fields
- Avoiding errors in data
- Controlling amount of input

4. Conclusion

In conclusion, our project is a window based minimal hospital management software, build to minimize the system complexity used in managing hospital data. We have implemented relational database management system. Also, all the paper work is digitized which reduces paper cost of the hospital.

It is a computerized system with simple user interface. During the process, we have mainly focused on implementing the things we have been learning in order to come up with satisfactory outcome along with some extra research. Requirement analysis have been given more emphasis.

5. Further Works

Currently the system focuses in digitizing the work of accountant, patient, employee and doctors. Further the system will be able to manage tests reports and related aspects of management.
The following features will be incorporated further in the system.

1. Tests data management
2. User interface will be improved
3. Appointment system can also be implemented
4. Application can be made web-based to overcome the difficulty of fulfilling system requirement.

6. Bibliography

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