Online Multispecialty Hospital Management System

Ajay Mule¹, Siddhesh Naik², Vinson Noronha³, Mihir Mule⁴

^{1, 2, 3, 4}Computer Engineering Department, Thakur Polytechnic, Mumbai, India

Abstract: This paper "Online Multispecialty Hospital Management System" aim at automation of hospital system that provide "service line operations" for want of a better term (i.e. - they provide care to individuals). As a result, in some of their information needs, and in terms of some of the systems with which they interact – that distinction (managerial versus care provision) is only made by the kind of information they seek – focused on individual patients as providers of care (service line), or conversely, focused on groups of patients, wards, business units or non-patient related (e.g. -finance, human resources (HR) and throughput), with their managerial hats on. This is therefore, the definition we will use of admin (some of whom also provide care), and of management information systems. This website "Online Multispecialty Hospital Management System" keeps track of day -to-day activities & records of its patients, doctors, nurses, ward boys and other staff personals that keep the hospital running smoothly & successfully. It allows to enter and retrieve details of both in-patient and out-patient easily. Patient id, patient name, address, admitted date, doctor name, and room numbers are entered in a form and stored for future reference. Also particular patient details can be viewed in the table using a separate form with an attribute patient id. This online web application provides recording and timely retrieval of great volumes of information. This information typically involves; patient personal information and medical history, staff information, room and ward, staff, operating theater scheduling and various other facilities. All of this information is managed in an efficient and cost wise fashion so that the resources are effectively utilized. Similarly, system automates the management of the hospital making it more efficient and error free. It aims at standardizing data, consolidating data ensuring data integrity and reducing inconsistencies. The project "Online Multispecialty Hospital Management System" is aimed to develop to maintain the day-to-day state of admission/discharge of patients, list of doctors, reports generation. All Information can be easily managed and accessed regarding patient personal details, medical history, staff details, room and ward scheduling, staff scheduling, operating theater scheduling and various facilities waiting lists. It aims at standardizing data, consolidating data ensuring data integrity and reducing inconsistencies.

Keywords: Web Application, Software process, Spiral model, Iterative development

1. Introduction

The project "Online Multilispecialty Hospital Management System" helps to maintain the day-to-day state of admission /discharge of patients, list of doctors, reports generation. All Information can be easily managed and accessed regarding patient personal details, medical history, staff details, room etc. It aims at standardizing data, consolidating data ensuring data integrity and reducing inconsistencies.

This system allows user to enter data of In-Patient and Out Patient personal data, symptoms and allocate doctors, ward, room, bed. It automatically generates patient code and case paper number through which same data can be retrieved at later stage for reference. After patient admission process, various medical test carried are entered through blood, urine, x-ray, operation reports forms which patient can also access, view and download. At the same time pharmacy bill can also be generated for whatever medicine used during his/ her treatment. Finally discharge summary, final bill is generated with treatment details, medical advice and follow ups. Help menu give all information about emergency and other department contact numbers, rules and regulation of hospitals, blood banks, ambulance phone numbers etc. guiding patient before getting admitted in the hospital. Gallery menu gives insight into hospital activities. Patients can also make inquiries and /or can gives feedback about services, facilities provided and suggestions, complaints for which they will get email.



The environment in which hospital managers operate is characterized by high demand pressures, strong public service expectations, and an ever diminishing income stream (in relative terms) with which to provide services. Hospitals have multiple competing priorities when viewed from a management perspective. This is despite the fact that the core mission of the hospital is to provide timely, safe care within available human and financial resources, to patients who present for care. This care can be across multiple care settings inside the hospital including the inpatient space, the operating theatres, the intensive care unit, and the emergency department; and in outreach settings.

2. Existing System

Many Hospitals currently use a manual system for the management and maintenance of critical information. The current system requires numerous paper forms, with data stores spread throughout the hospital management infrastructure. Often information (on forms) is incomplete, or does not follow management standards. Forms are often lost in transit between departments requiring a comprehensive auditing process to ensure that no vital information is lost. Multiple copies of the same information exist in the hospital and may lead to inconsistencies in data in various data stores.Following are drawbacks of the prevailing system,

- The manual work is not user friendly. It is highly complex to maintain.
- Chances for the occurrences of the error are more.
- Retrieving the record is more difficult and also consumes more time.
- Results are not accurate. Chances for frequent data loss.
- High cost of software development, deployment and improvement.
- Difficulty in migrating from manual processes, because both staff and patients are used to the manual processes and so are unable to speedily cope with the new system.
- Lack of IT friendly medical personnel is also presenting several challenges.

Huge influx of patients visiting hospitals makes the process of migrating to automated processes highly difficult. They do not have the patience to wait for registration and data entry and often fail to understand the functioning of automated processes.

3. Proposed System

With Complexity and structure expanded medical services, increasingly, need to develop automated information systems and create communication flow within and between organizations increases. Online Multispecialty Hospital Management Systemprovides the benefits of streamlined operations, enhanced administration & control, superior patient care, strict cost control and improved profitability. There are different modules in the process of the project. These includes, Patient management, Services management, Appointment scheduling, Admission management, Pharmacy management, Store control, Discharge processetc.



Main features of our project are,

- Improving staff efficiency with coordination of various departments.
- To remove duplication and unnecessary procedures.
- Statistics and data mining techniques faster and more accurate.
- Improving quality of health care with advance techniques available.

- To create a modern working methods and systems and standardized hospital.
- Data communication systems, medical engineering.
- Data communication between hospitals and medical centers in.
- Promotes community health care system.

4. Methodology

Our project is based on the database, object-oriented programming language and networking techniques. My SQL (Structure Query Language) is used in areas where keeping the records in the database is necessary, this system uses JAVA as the front-end software which is an object-oriented programming technique and has connectivity with My SQL, the back-end software.

The software process model used for our project is Spiral Model. The spiral model has four phases. A software project repeatedly passes through these phases in iterations called Spirals. In contrast to sequential processes, in which a list of distinguished activities is done one after another, cyclical processes do the same thing over and over. The goal is that each cycle brings the development closer to its successful completion. The various cyclical processes choose different things to do over and over, and may have specific relations between successive cycles.



The spiral software process is a cyclical model whose steps are not the activities of development (requirements, architecture, etc.) but rather four phases for addressing whatever problem has the greatest risk of causing the development to fail. The spiral model combines the idea of iterative development with the systematic, controlled aspects of the waterfall model. Spiral model is a combination of iterative development process model and sequential linear development model i.e. waterfall model with very high emphasis on risk analysis. It allows for incremental releases of the product, or incremental refinement through each iteration around the spiral.

5. Conclusion

Our system has delivered following features and advantages to the users, the package was designed in such a way that future modifications can be done easily. The project has fully computerized the working in a hospital. The software takes care of all the requirements of an average hospital and

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is capable to provide easy and effective storage of information related to patients that come up to the hospital. Our online project has brought three required members patient, doctor and hospital management in the process together for better and appropriate treatment of the patients. The following conclusion can be deduced from the development of the project.

Automation of the entire system improves the efficiency

- It provides a friendly graphical user interface which proves to be better when compared to the existing system.
- It gives appropriate access to the authorized users depending on their permissions.
- It effectively overcomes the delay in communications.
- Updating of information becomes so easier.
- System security, data security and reliability are the striking features.
- The System has adequate scope for modification in future if it is necessary.

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