Patient Diagnosis System Using Evolutionary Computation

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Abstract— Hospital management and business processes in hospitals have changed importantly over the past twenty years, as did the use of hospital information systems. In order to manage, search, and display patient information more efficiently, we define a patient information package. It is a set of a patient's medical information from each visit. By means of patient information packages, both patient-oriented and problem-oriented query strategies, which are most frequently used in daily clinical practice and medical education, can be accommodated. As the symptoms of the patients were entered into the system and the system will run diagnosis system and gives result about the diseases he is suffering from. It also suggests the medicine for the particular disease from which the patient is suffering to doctor.

Keywords-component; formatting; style; styling; insert (key words)

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I. INTRODUCTION

Hospital database management and business processes in hospitals have changed significantly over the past twenty years, as did the use of hospital information systems. As the increasing population and increased in patients day by day it is very important to keep the data of each and every patient separately. Patient data should be secure. Our software manages all the information about the patient in well and efficient manner. Our software keeps the track of the information stored and updated in the database. In order for storing, searching and displaying data more efficiently, we define a patient information package as a concise data set of a patient's medical information from each visit. By means of patient information package, both patient-oriented and problem-oriented query, which are most frequently used in daily clinical practice and medical education, can be accommodated. As the symptoms of the patients were entered into his record the machine will run the diagnosis system and result the diseases he is suffering from. Some diseases are very hard to recognize by doctors sometime, software will give a correct result as the symptom were entered into the patient record. Sometime because of some problem it is hard for the doctor to recognize from what type of diseases patient is suffering from our system will help to focus on the correct disease.

Patient medical information system consists of chief complaint, history of illness, result of physical examination, laboratory tests and diagnostic. This information will be store in the database and a result of all the tests is generated on the paper that if patient goes to another doctor for checkup it will be helpful to him. The information store in the database is in the form of text. Thus, it is essential to design a medical information system that manage huge amount of heterogeneous data. Data were manages with the help of relational database system.

II. PURPOSE

The software is for the automation of hospital management. It maintains two level of Users:
1. Administrator level.
2. User level.

The Software includes:
1. Providing different test facilities to a doctor for diagnosis of patient are as follow:
   - X-Ray.
   - Urine Test.
   - Stool Test.
   - Sonography Test.
   - Gastroscopy Test.
   - Colonoscopy Test
   - Blood Test.
   - Biochemistry Test.
2. Maintaining patient's injection entry records.
3. Maintain patient's prescription, medicine and diet advice details.
4. Providing billing details for indoor/outdoor patients.
5. Maintaining backup of data as per user requirements (between mentioned dates).
6. If user forgets his/her password then it can be retrieved by hint question.

III. WORK DONE

First, Information about Patients is done by just writing the Patients name, age and gender. Whenever the Patient comes up his information is stored freshly. Bills are generated by recording price for each facility provided to Patient on a separate sheet and at last they all are summed up. Diagnosis information to patients is generally recorded on the document, which contains Patient

information. It is destroyed after some time period to decrease the paper load in the office. Immunization records of children are maintained in pre-formatted sheets, which are kept in a file. Information about various diseases is not kept as any document. Doctors themselves do this job by remembering various medicines. All this work is done manually by the receptionist and other operational staff and lot of papers are needed to be handled and taken care of. Doctors have to remember various medicines available for diagnosis and sometimes miss better alternatives as they can't.

IV.   GOALS OF PROPOSED SYSTEM

1. **Planned approach towards working:** the working in the organization will be planned and organized. The data will be stored properly in data stores, which will help in retrieval of information as well as its storage.
2. **Accuracy:** the level of accuracy in the proposed system will be higher. All operations would be done correctly and ensure that whatever information is coming from the center is accurate.
3. **Reliability:** the reliability of the proposed system will be high due to the above stated reason. The reason for the increased system is that now there would be proper storage of information.
4. **No redundancy:** in the proposed system utmost care would be that no information is repeated anywhere in the storage or otherwise. This would assure economic use of storage space and consistency in the data stored.
5. **Immediate retrieval of information:** the main objective of proposed system is to provide for a quick and efficient retrieval of information. Any type of information would be available whenever the user requires.
6. **Immediate storage of information:** in the manual system there are many problems to store the largest amount of information.
7. **Easy to operate:** The system should be easy to operate and should be such that it can be developed within a short period of time and fit in the limited budget of user.

V.   DEFINATION OF PROBLEMS

Problems with conventional system are as follows:
1. **Lack of immediate retrieval**: the information is very difficult to retrieve and to find particular information like to find out the patient history, the user have to go through various register. The result is inconvenience and wastage of time.
2. **Lack of immediate information storage:** the information is generated by various transaction take time and efforts to be stored at right place.
3. **Lack of prompt updating:** various changes to information like patient details or immunization details of child are difficult to make as paper work is involved.
4. **Error prone manual calculation:** manual calculation are error prone and take lot of time this may result incorrect information.eg; calculation of patient bill based on various treatments.

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

VI.   CONCLUSION

The software takes care of all the requirements of an average hospital and is capable to provide easy and effective storage of information related to patients that come up to the hospital.

It generates test reports; provide prescription details including various tests, diet advice, and medicines prescribed to patient and doctor. It also provides injection details and billing facility on the basis of patient's status whether it is an indoor or outdoor patient. The system also provides the facility of backup as per the requirement.

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