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Introduction

Our project proposal consists of a hospital database system that will be able to contain and manage all of the information that a hospital and the people in it need. We wish to solve the problem that many hospitals are running on outdated systems that may no longer be supported. These older systems may make the work done with them inefficient in comparison to a modern system. Our solution is to offer a cheap and straightforward hospital system that may be used to help modernize systems that are getting out of date. Our proposal contains the following sections:

- **Problem Definition** - A more detailed insight of the problem we wish to solve
- **Proposed Solution** - Our proposed solution to the above listed problem
- **Motivation** - Why this is a viable solution and what we hope to achieve with our solution
- **Conclusion** - A final summary of our proposal
- **References**

Problem Definition

Hospitals have been a part of humanity from the beginning, and as science and technology has developed so has the methods of administering care and support at hospitals. However in this modern age, some hospitals have been slow at keeping up with the pace of technology, mostly on the administrative side. A hospital needs to have extensive infrastructure to keep track of patients, doctors, nurses, and specialists as well as keeping track of treatments and scheduling. To assist with the technologies already used, we propose a website based database to help the hospital administration keep track of the basic functions of their hospital. There are currently applications and databases for hospitals available[1], however these can be expensive and hard to understand at times. Smaller hospitals with less funding also are less likely to buy expensive software solutions, which can leave them vulnerable to cyber crime[2].

Proposed Solution

Our proposed database will be cheaper and easier to use, meant to target hospitals that do not have as much funding or are not in need of large amounts of infrastructure, such as hospitals in small towns. We propose a simple web based database that will allow a hospital to securely keep track of various functions with minimal cost and minimal amount of upkeep. This project will result in a database, accessible through a website, that will have different features available depending on the user's status. The proposed database will keep track of medical staff (doctors, nurses, specialists, etc.) and their history (recent patients, scheduled appointments, working hours, etc.). It will also keep track of patients and their history with the hospital (doctors seen, tests done, prescriptions given, bills paid). It will also track spaces available in the hospital, how many beds available, and how many beds in any room there are.

Motivation

Our proposed solution will be a simple and robust solution for hospitals to use in place of old and outdated systems. We aim to streamline the user’s experience showing them only the information they need at the given time. Our project aims to be a cheap and efficient solution to

let hospitals modernize their old systems with a new one that is easier for the average user to understand. This should achieve a more positive user experience for anyone who is involved in the system.

Conclusion

This project intends to create a simple,efficient, and cost efficient system for hospitals. This project is targeted more towards hospitals that are smaller, with less budget and infrastructure, that have yet to update to more modern systems. This project would keep track of personnel, patients, and room management for the hospital. The project is expected to be delivered as follows:

- Detailed entity relationship diagram (Friday, October 11th)
- Logical relational model (Monday, October 21st)
- Initial draft design of functional part of project, including UML and sequence diagrams, or HIPO and DFD diagrams, as well as a list of possible SQL statements(Monday, November 4th)
- Project will be demonstrated to TAs in the last week of classes.
- Final report, along with all code and a user manual (Friday, December 6th)

These deliverables are consistent with the project specification[3]

References

[1] List of hospital management software available, https://www.capterra.com/hospital-management-software/

[2] NHS Ransomware attack, resulted from computers that had not been updated, https://www.telegraph.co.uk/news/2017/05/13/nhs-cyber-attack-everything-need-know-biggest-ransomware-offensive/

[3] Group Project Specification,DEPARTMENT OF COMPUTER SCIENCE, Fall 2019 CPSC 471: Database Management Systems. Available on D2L