

Hospital Management System for Medical Personnel

Introduction

Recent technological advances have resulted in a substantial increase in the use of management software by various health organizations that make use of databases. Currently available hospital management systems enable users to access and manage patient data in a database. Though, most of the hospital management software prioritizes functionality over usability (Wronikowska *et al*, 2021). As a result, the system's inexperienced users are unfamiliar with its functionality and operations are delayed. In order to minimize the adaptation period for new clients to the management application, an improved approach to the user interface can be adopted (Zaki and Islam, 2021). Additionally, the security of the system needs to be considered throughout the development process. The security aspect can be addressed with a multi-factor authentication approach (Nigam *et al*, 2022). This project aims to deliver a hospital management application which is intuitive and user friendly.

Problem Domain

The paper presented by Nasution *et al* (2020) creates an overview and states the functionalities of a hospital pharmacy management system. Although the overview provides a clear understanding of the major features of the management system, such as the ordering system and scheduling, it lacked information about the technical features, such as the client-side and security measures of the system. Additionally, the paper Ardiani *et al* (2022) presented, states the importance of a hospital management system and database usability. Nevertheless, the paper lacked details about the client-side and the security measures of the system. The application should be as efficient as its usability. This leads to a better understanding of the system's features by the new clients. In addition, better usability decreases the time required for learning the application and reduces the time required to learn the system's interface and features. Data safety is further ensured by security measures, such as multi-factor authentication.

Methodology

The research introduced by Ismail *et al* (2020) states different methods for creating a hospital management system, including cloud-based, internet of things-based and client-server-based. This project will be developed using a client-server-based approach since it will not be as extensive as one that would be developed in a cloud, nor will it have any capabilities for communication between the internet of things (IoT). In addition,

two-factor authentication method will provide improved security since the application requires internet access. The main framework of the application will be making use of a browser interface for flexibility purposes (Molina-Ríos and Pedreira-Souto, 2020). Therefore, clients will be able to access the server without having to download an executable file. Some features of the application will be the ability to customize and save prescription templates, filtering the patient list according to certain parameters.

Evaluation

The success of the project will be determined by the time taken to communicate between the clients and the server, quality of the security measures and usability of the user interface (Deeksha, S.M, 2022). Evaluation of the database will be carried out by using artificial data for testing purposes. A survey will be conducted by a group of volunteers from related departments of the hospital in order to determine the usability of the interface. The result of the surveys will be taken into consideration for future development of the project.

References

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