Evaluation Report on Hospital Management System

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1 Introduction

This report evaluates the hospital management system designed to handle various tasks such as patient record, medical record, billing, and staff scheduling. The system has built relevant database tables, queries, and functions to assist employees and patients in managing medical information and services.

2 Strengths

The system has several key strengths:

- **Clear Use Case Devision:** The system clearly defines the different login identities of employees and patients. The access levels of different users are well divided to ensure that personal privacy information is protected.
- **Well-Designed Database Structure:** The system is built on a well-designed database structure. Each table is appropriately linked through primary and foreign keys to ensure reference integrity.
- **Future Expansion Plans:** The project outlines the future application of the project. By expanding to other departments of the hospital, such as laboratories, radiology and finance, the system can provide more comprehensive management functions and enhance the patient's medical experience.

3 Weaknesses

The system has some aspects that can be improved:

- **Manual Data Entry for Patient Information:** Currently, all patient information is manually inserted into the database, which can lead to errors and inconsistencies. In the future, it may be beneficial to integrate with other healthcare systems to automate data input and reduce manual work. This could improve the accuracy and timeliness of patient data.
- **Basic Queries:** The existing queries are functional but relatively simple. To increase the system's capabilities, more advanced features, such as anomaly detection and predictive analytics, could be incorporated. For example, the system could automatically flag unusual patient behavior or medication usage, providing valuable insights for staff and management.

- **Refined Access Control:** The system currently divides users into basic roles such as administrator and patient. However, with the amount of sensitive data being stored, it is important to implement more granular access control. Access should be based on specific roles, such as doctors, nurses, and administrative staff, with different access levels to sensitive data based on job responsibilities. This will ensure that privacy is maintained and that data security is not compromised.

4 Recommendations

Based on the weaknesses identified, the following recommendations are made:

- **Automate Data Entry:** To improve data accuracy and efficiency, consider integrating the system with other healthcare platforms. This could include electronic health records (EHR) systems or lab results databases, reducing the need for manual data input and ensuring real-time updates.
- **Enhance Query Functionality:** It is recommended to incorporate more advanced database functions, such as anomaly detection and predictive analytics. Implementing machine learning models could help identify outliers in patient data or predict patient health trends, which could support clinical decision-making and operational planning.
- **Implement Granular Access Control:** Refine the user roles and access control mechanism to ensure that sensitive data is only accessible to those who need it. Different levels of access should be created for various staff members, such as doctors, nurses, and administrative personnel. This would ensure that privacy is upheld and reduce the risk of unauthorized access to confidential information.

5 Conclusion

The hospital management system is effective in handling basic tasks, such as patient record management and billing. However, there are areas that could be enhanced to improve efficiency, security, and functionality. By automating data entry, enhancing query capabilities with advanced features, and implementing more granular access control, the system could become more powerful, secure, and capable of supporting more complex operations. These improvements would further strengthen the hospital's ability to manage medical data efficiently while ensuring patient privacy and safety.