SYNOPSIS
HOSPITAL MANAGEMENT SYSTEM

1. Title of the Project:
Hospital Management System

2. About the Problem:
The existing hospital management system is primarily manual, leading to inefficiencies in patient record management, appointment scheduling, and resource allocation. This manual process consumes a significant amount of time and is prone to human error. The proposed system aims to automate these processes, thereby improving accuracy and efficiency.

3. Primary Reason to Choose this Topic:
The primary reason for choosing this topic is to enhance the management of hospital operations by leveraging technology. This system will minimize errors, reduce manual workload, and provide quick access to information, which is critical in healthcare settings.

4. Main Objective of the Project:
The main objective is to develop a web-based application that manages various aspects of hospital operations, including patient management, appointment scheduling, staff management, billing, and inventory management. The system should ensure data security and privacy while providing an intuitive interface for users.

5. Scope of the Project:
The system will handle patient registration, appointment scheduling, doctor-patient interactions, billing, and reporting. It will provide different user roles, including admin, doctor, nurse, and patient, each with specific access privileges. The system will also generate various reports to assist in decision-making and operational management.

6. Working Methodology:
The project will use JSP and Servlet for the backend, along with a MySQL database to store data. HTML, CSS, Bootstrap and JavaScript will be used for the frontend. The system will have several modules:

1. Admin Module: Manage users and doctors, view reports, and handle system settings.
    - Login
    - Manage Doctors (Add, Update, Delete)
    - View Appointment

2. Doctor Module: Manage patient records, view appointments, and prescribe medications.
    - Login
    - Manage Appointment

3. Appointment Module: Helps Patient to take appointment with the doctor.
    - Take Appointment

4. Patient Module: Create account, Book and View appointments.
    - Register / Login
    - Take Appointment

7. Details about Hardware and Software:

Hardware:
- Processor: AMD Ryzen 5
- Memory: 8 GB RAM
- Storage: 512 GB SSD

Software:
- Front-End: HTML, CSS, JavaScript, Bootstrap
- Back-End: JSP, Servlet, MySQL
- Operating System: Windows
- Web Browser: Google Chrome, Mozilla Firefox

8. Testing Technologies:

- Unit Testing: Testing individual units of the system to ensure they work as intended.
- Integration Testing: Ensuring that different modules work together seamlessly.
- UI Testing: Validating the user interface for usability and correctness.
- Security Testing: Ensuring that the system is secure against unauthorized access.

9. Limitations of the Proposed System:

The system may require internet access for full functionality. Additionally, there may be a learning curve for users unfamiliar with web-based systems. The system will also require regular updates and maintenance to address bugs and incorporate new features.

Integrating with payment gateways or financial systems for transactions can be challenging and may require additional libraries or frameworks, adding complexity to the system.

10. Contribution of the Project:

This system will significantly improve the efficiency of hospital operations, reduce manual errors, and provide a streamlined process for managing patients, staff, and resources. It will also provide a foundation for future enhancements, such as telemedicine integration and advanced data analytics.

11. Conclusion:

The Hospital Management System will provide a robust and scalable solution for managing hospital operations, reducing manual workload, and improving patient care quality. By automating key processes, the system will enhance the overall efficiency and effectiveness of the hospital’s administrative and clinical operations.

12. Plagiarism report: