

HANOI UNIVERSITY OF SCIENCE AND TECHNOLOGY

GRADUATION THESIS

Building a web-based hospital management system

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ABSTRACT

In small-scale healthcare settings such as clinics and local hospitals, managing patient care, administrative tasks, and operational processes efficiently can be challenging due to limited resources and manpower. These healthcare facilities often rely on manual or fragmented systems that can lead to delays, errors, and inefficiencies in delivering quality care. The need for an affordable, easy-to-use, and comprehensive solution is crucial to streamline operations and improve service delivery without the complexity and high costs of larger hospital management systems.

With the rise of affordable technology and cloud-based solutions, there is an opportunity to bring digital transformation to smaller healthcare settings. These systems can automate day-to-day activities, enhance communication between staff, and provide real-time access to patient records and medical history—ultimately improving patient outcomes and operational efficiency.

This thesis focuses on designing and implementing a hospital management system tailored specifically for small-scale hospitals and clinics. The system includes key functionalities such as patient registration, appointment scheduling, electronic medical records (EMR), billing and invoicing, inventory management, and staff management. The system is user-friendly, cost-effective, and scalable, catering to the specific needs of smaller healthcare facilities. Additionally, the administrative dashboard enables easy management of hospital operations, user access, and data security. By incorporating these features, the proposed system aims to improve the quality of care, reduce administrative overhead, and enhance overall efficiency in small-scale healthcare settings.

Student

(Signature and full name)

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LIST OF ABBREVIATIONS

| Abriviation | Full Expression |
|--------------------|------------------------------------|
| API | Application Programming Interface |
| CSS | Cascading Style Sheets |
| DB | Database |
| ERD | Entity Relationship Diagram |
| HTML | Hyper Text Markup Language |
| IDE | Integrated development environment |
| JS | Javascript |
| TS | Typescript |
| UI | User interface |