Development of a Hotel Management Website for Habana Hotel in Thai Nguyen

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***Abstract*—This undergraduate thesis describes the design and development of a hotel management website for Habana Hotel in Thai Nguyen. The system serves hotel administrators and customers through separate interface flows. The author uses Next.js for the browser-facing application, NestJS on Node.js for the server side, and MySQL for data storage; the report also presents a Gemini-based chatbot interface. Requirements are analyzed through actors, use cases, activity diagrams, sequence diagrams, and class diagrams. The implementation chapter shows administrator screens for rooms, services, customer information, and bookings, as well as customer screens for browsing rooms, registration, reservation, account information, and chat. The source reports that these basic functions were built and illustrates them with interface screenshots. It does not provide a controlled evaluation of booking completion, chatbot answer quality, or operational reliability. Although the interface includes a top-up and QR screen, integration with actual payment gateways is explicitly proposed as future work. The author identifies limited template coverage and further needs in performance, security, and requirements analysis. The result is a documented hotel-management prototype rather than evidence of a fully evaluated production service.**

***Index Terms*—hotel management, booking website, Next.js, NestJS, MySQL, chatbot**

I. Introduction

Hotel booking and room administration require coordinated information about rooms, services, customers, and reservations. The thesis proposes a website for Habana Hotel in Thai Nguyen that supports both staff operations and customer-facing discovery and booking. The report adds a chatbot interface for customer questions. It aims to reduce manual coordination through a web application but evaluates its own prototype chiefly through design documentation and displayed screens, without a field study of hotel operations [1]. Related earlier ICTU undergraduate theses provide context for this English summary [5], [6], [7], [8], [9]. Published books on the methods and subject of this project provide context for this English summary [10].

II. Methods

The author specifies administrator and customer actors and develops use-case, activity, sequence, and class diagrams. The described implementation uses Next.js for the frontend, NestJS on Node.js for backend services, and MySQL for persistent data. The theory chapter discusses Gemini for chatbot interaction. The implementation chapter presents screens for authentication, room and service administration, customer information, reservation processing, room browsing, profile management, top-up display, and chat. The report does not describe a quantified experimental protocol [1].

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III. Results

The thesis presents administrator pages for login, room categories, products or services, customers, and booking orders. Customer pages include registration, room selection, date entry, booking confirmation, account details, a chatbot interface, and hotel news. The author reports that the basic hotel-management workflow was implemented and illustrates these functions with screenshots. The available evidence does not establish live payment processing, measured service capacity, or independently verified chatbot accuracy; a QR or top-up screen alone does not establish gateway integration [1].

IV. Discussion

The prototype combines hotel administration and customer-facing booking in a single web system. Its visual template is described by the author as basic, and the report calls for better requirements analysis. Future work includes more interface templates, online payment gateways, server and cache optimization, and stronger access controls. These are proposals in the source, not results of the implemented system. The lack of numerical usability and reliability evidence limits conclusions about suitability for daily hotel operations [1].

V. Conclusion

The source documents a website prototype for Habana Hotel with room, service, customer, booking, and chat interfaces. It provides system models and implementation screens that support the existence of the reported functions. The report does not demonstrate integrated payment processing or measured operational gains. Additional interface development, security work, performance assessment, and real-world evaluation would be needed to judge production readiness [1].

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