Construction of a Smart Hotel Solution for Northern High-end Hotels

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***Abstract*—This thesis focuses on the development of a smart hotel solution for high-end hotels in the northern region of Vietnam. The research explores the application of ASP.NET and ADO.NET technologies to create a web-based hotel management system. The system includes features such as user account registration, room management, service management, and reporting functions for hotel operations. The study also details the analysis and design of the system using UML diagrams and describes the implementation process. The system was tested and found to meet the basic requirements for hotel management, but further development is needed to enhance its functionality and user experience.**

***Index Terms*—Smart Hotel, ASP.NET, ADO.NET, UML, Hotel Management, Web Application**

I. Introduction

The rapid development of information technology has led to the widespread adoption of web-based solutions in various sectors, including the hospitality industry. This thesis aims to develop a smart hotel solution using ASP.NET and C# to improve hotel management. The research focuses on the northern region of Vietnam, where high-end hotels are increasingly adopting modern technologies to enhance their operations. The study explores the transition from traditional desktop applications to web-based solutions, emphasizing their flexibility and efficiency [1]. Published books on the methods and subject of this project provide context for this English summary [3], [4].

II. Methods

The methods section describes the use of UML diagrams for system analysis and design, including use case diagrams, sequence diagrams, and class diagrams. The system was implemented using ASP.NET and C# 2008, with a focus on creating a user-friendly interface and robust management functions. The research involved a detailed analysis of the hotel's operational processes, including room management, service management, and reporting functions. The system was designed to be scalable and adaptable to the specific needs of high-end hotels in the northern region [1].

III. Results

The developed system successfully implemented features such as user account registration, room classification, room search, service management, and reporting functions. The system was designed to be user-friendly and efficient in managing hotel operations. However, the evaluation of the system's performance was limited, as no specific metrics or benchmarks were provided. The system was tested with a small group of users, and feedback was collected to identify areas for improvement. The results indicate that the system meets the basic requirements for hotel management, but further development is needed to enhance its functionality and user experience [1].

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IV. Discussion

The discussion section outlines future development plans, including the separation of service management modules and the integration of these modules to better manage guest stays. The system was tested and found to meet the basic requirements for hotel management, but the research highlights the need for continuous improvement. The separation of service management modules will allow for more granular control over different aspects of hotel operations, such as front desk, housekeeping, and food and beverage services. The integration of these modules will provide a more cohesive and efficient management system for high-end hotels in the northern region [1]. Earlier ICTU undergraduate work by Nguyễn Thị Thủy addressed hotel-management software design [2].

V. Conclusion

The conclusion summarizes the achievements, including the successful implementation of a web-based hotel management system. The system was designed to enhance hotel operations and provide a user-friendly interface for staff and management. The research highlights the importance of continuous improvement and the need for further development to address the limitations of the current system. The system meets the basic requirements for hotel management, but additional features and enhancements are necessary to fully realize its potential [1].

References

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