Development of an Online Room Management Application for Rental Properties Using Android

Trần Xuân Trữ
Thai Nguyen University of Information and Communication Technology
Thai Nguyen University, Thai Nguyen, Vietnam
dtc19h4802010055@ictu.edu.vn

***Abstract*—This thesis presents the development of an online room management application for rental properties using Java and Firebase. The application includes basic functionalities such as room management, user registration, and data storage using Firebase. The application was developed to manage rental properties online, but its scope is limited, and some functionalities are not fully effective. The author suggests that future development will focus on enhancing the application's quality, adding more features, and optimizing the user interface for better performance. The project highlights the importance of continuous improvement and the need for further development to meet user requirements.**

***Index Terms*—Android, Java, Firebase, room management, online application**

I. Introduction

The thesis introduces the development of an online room management application for rental properties using Java and Firebase. The author discusses the theoretical background of Java programming, Android development, and Firebase, highlighting the advantages and disadvantages of each. The project aims to provide a comprehensive understanding of mobile application development, emphasizing the need for a thorough understanding of the programming languages and tools used. The author also outlines the system requirements and use cases, which are essential for the successful implementation of the application [1]. Earlier ICTU student work on related designs is included here for context [5], [6], [7]. Related published studies provide context for the subject and methods [8], [9], [10]. These contextual works were selected for this English summary; they are not asserted to appear in the original thesis bibliography.

II. Methods

The author utilized Java for the application development and Firebase for cloud storage and real-time database functionalities. The project involved a detailed analysis of system requirements, including functional and non-functional requirements, and the development of use cases to ensure a comprehensive understanding of the application's functionalities. The author conducted a thorough review of relevant literature and resources, including Android Studio and Firebase documentation, to ensure the application's design and implementation were based on best practices [1].

Supervisor: Phạm Thị Thương, Thai Nguyen University of Information and Communication Technology (ptthuong@ictu.edu.vn).

III. Results

The application was successfully developed, incorporating basic functionalities such as room management, user registration, and data storage using Firebase. The author reported that the project helped improve their programming skills and understanding of mobile application development. However, the application's scope is limited, and some functionalities are not fully effective. The author noted that the application's design and implementation were based on the current understanding of the technologies used, but further development is necessary to enhance the application's effectiveness and user experience [1].

IV. Discussion

The application's limitations include its basic functionality and the need for further development to enhance its effectiveness. The author suggests that future improvements will focus on quality enhancement, adding more features, and optimizing the user interface for better performance. The author also acknowledges the limitations of the current implementation, such as the lack of advanced features and the need for more robust data management. These limitations highlight the need for continuous improvement and further development to meet user requirements [1].

V. Conclusion

The author successfully completed the development of an online room management application for rental properties using Java and Firebase. The project highlighted the importance of continuous improvement and the need for further development to meet user requirements. The author also emphasized the need for ongoing learning and improvement in the field of mobile application development [1].

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