

MAD-BH: A Mobile-Based Boarding House Finder Application for Madridejos

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Abstract:

Finding a boarding house is challenging for students, especially those living far from school. This study developed a Mobile-Based Boarding House Finder Application: The BH-Mad System specifically at Madridejos using the Rapid Application Development (RAD) model. This application assists students to find a perfect boarding house based on their preferences (prices, inclusions, and location). Additionally, this application will serve as a platform for landlords to market rooms or bed space that are available and are ready to be occupied. The system followed four phases, Requirement planning, Design phase, Development phase, and release. The findings validated that the BH-Mad System, a mobile-based boarding house finder application, successfully achieved its objectives and proved to be a reliable and effective platform for both boarding house owners and students to efficiently manage and access boarding house information.

Keywords — lodger, landowner, mobile application, system

I. INTRODUCTION

Mobile technology had improved and made it easy for people to access online services through smartphones. In the Philippines, finding boarding houses is an ongoing challenge that students face every school year because most boarding houses in

the Philippines are privately owned and vary in amenities and living conditions, which are often unregulated [1]. Due to this, a lot of students are having difficulties finding and choosing a boarding that is suitable for their liking.

In the municipality of Madridejos, searching for a suitable boarding house is commonly done

traditionally such as, personally visiting the place or having to ask people that they know or even strangers if there are boarding houses in the area, which is very time consuming and inefficient[10]. The online rental platforms nowadays are very helpful but unfortunately, they are not specifically designed for small municipalities creating a gap in providing a localized and centralized boarding house listing system[9]. The mobile-based boarding house finder management application called MAD-BH was developed in order to address the gap of this research.

The system allows boarders to easily find, view available rooms in Madrdejos, and have different features such as, having a search bar where they can easily search available rooms, they can also converse with the owners and talk about further details, and they can easily filter options, making it easier and efficient. This system benefits both students and local landlords. Landlords can easily advertise their place effectively, and students can easily find a suitable place within their budget and within reach.

A. Objective

This study aims to develop a mobile-based application: MAD-BH: A Mobile-Based Boarding House Finder Application for Madrdejos. Specifically, it aims to:

1. To design and develop an application using the Rapid Application Development (RAD) software development model[2].
2. Determine the quality of the system based on ISO/IEC 25010 software quality standards[3].
3. Evaluate the quality of the system through a validated usefulness, satisfaction, ease of use, and ease of learning of the application questionnaire[4]

II. METHODOLOGY

B. Software Development Model

The methodology used in this work includes the following steps:

Rapid Application Development model (RAD): It focuses on quick development and frequent user feedback [2][5][7].

C. Phases

1. **Requirement planning:** Project requirements, scope, priorities, resources, budget, and platforms are defined collaboratively by users and developers.

2. **Design phase:** Users and developers work together using tools and prototypes to transform requirements into working system models and interface designs.
3. **Development phase:** The system is rapidly built and continuously improved through user feedback and ongoing testing.
4. **Deployment phase:** The finished system is delivered through user training, security checks, and transition from the old system to the new operational environment.

Figure 1 illustrates the process of Rapid Application and Development (RAD).

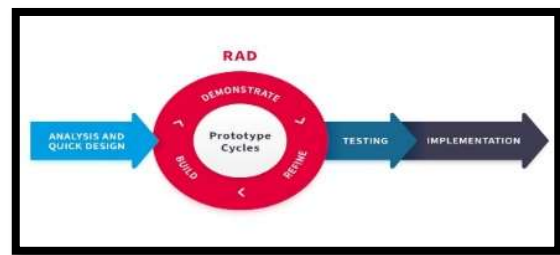


Fig. 1 The process of Rapid Application Development (RAD)

D. Evaluation tool

- 1) Usefulness, Satisfaction, and Ease of Use[4][6]
- 2) ISO IEC 25010 Software Quality Model[3][8].

III. RESULT

TABLE I
DASHBOARD DISPLAY: RATED BY USERS.

Dashboard	Mean	Verbal Interpretation
status of vacancy	5.00	Excellent
boarding house name list	5.00	Excellent
boarding house owner list	5.00	Excellent
total	5.00	Excellent

The Dashboard Display was rated Excellent by users, with all features receiving a mean score of 5.00. This includes the status of vacancy, boarding house name list, and boarding house owner list. The overall mean of 5.00 indicates that users found the dashboard clear, accurate, and highly effective in presenting important information.

TABLE 1.2
ADMIN FUNCTION (CRUD)

CRUD	Mean	Verbal Interpretation
Update user information	4.68	Very Satisfactory
Delete User	4.92	Very Satisfactory
Read the house status	5.00	Excellent
Total	4.87	Very Satisfactory

The CRUD functions received an overall mean of 4.87, interpreted as Very Satisfactory. Update User Information scored 4.68 and Delete User scored 4.92, both rated Very Satisfactory, while Read the House Status obtained a perfect score of 5.00, interpreted as Excellent. This indicates that the system performs efficiently in managing and accessing data.

TABLE 1.3
IN TERMS OF USEFULNESS, SATISFACTION, EASE OF USE, AND EASE OF LEARNING OF THE APPLICATION

Criteria	Mean	Verbal interpretation
Usefulness	4.87	Excellent
Satisfaction	4.91	Excellent
Ease of Use	4.83	Excellent
Ease of Learning	5.0	Excellent
Total	4.88	Excellent

Table 1 shows the user feedback in describing the usability of MAD-BH: A Mobile-Based Boarding House Finder Application for Madridejos based on usefulness, satisfaction, ease of use, and ease of learning. Table 3 shows a mean value of 4.88, which is interpreted as excellent.

TABLE 1.4
IN TERMS OF ISO 25010 SOFTWARE QUALITY MODEL

Criteria	Mean	Verbal interpretation
Functional Suitability	4.88	Very Satisfactory
Performance Efficiency	4.88	Very Satisfactory
compatibility	4.91	Very Satisfactory
Reliability	4.83	Very Satisfactory
Security	4.88	Very Satisfactory
Total	4.87	Very Satisfactory

Table 2 shows the result of the IT people feedback in describing the quality of the MAD-BH: A Mobile-Based Boarding House Finder Application for Madridejos based on the characteristics set in the ISO 25010 software quality model. The system shows the average score of 4.87, which means that the evaluators have a very satisfactory experience when using the MAD-BH system.

IV. LIMITATION

The Mad-BH is only available at the Madridejos boarding houses, with the focus of providing information about the available boarding houses. It does not include payment and booking transaction features, and it can not operate without a network.

Additionally, the system relies on boarding house owners to regularly update availability details to ensure that the information displayed remains accurate and current.

V. DISCUSSION

The findings of this study show that A Mobile-Based Boarding House Finder Application: The BH-Mad System was able to support users, especially students from Madridejos Community College, in searching for a good budget-friendly and suitable boarding house through a mobile-based platform. The system was able to provide accurate and well-organized information about the boarding house availability, location, and rental fee. Thus, the reason why we developed a mobile-based platform that makes it easier for users to search for a boarding house and does not need to look for it on the website anymore. Feedback from the users showed a high level of satisfaction in relation to usability, accessibility, and convenience. Most of the users found the system interface easy to use and the search tools useful in narrowing down the boarding house options based on their preferences. The location-based service of the system enhanced the efficiency of the search process by allowing the user to see the boarding houses close to them. In relation to performance, the BH-MAD system showed stable functionality, quick response time, and few errors during the process of operation. The results also indicated that the application took less time and effort compared to the conventional methods of searching for boarding houses. In general, the results have confirmed that the A Mobile-Based Boarding House Finder Application: The BH-Mad System has fulfilled its intended objectives and has been a reliable tool for both seekers and owners of boarding houses in managing and accessing boarding house information.

VI. CONCLUSIONS

The results show that the system is effective and beneficial for both students and local landlords. The dashboard features, including the status of vacancy, boarding house name list, and boarding house owner list, all received a excellent verbal interpretation

which means the mean is 5.00. This indicates that users found the system very clear and helpful. The system's usefulness also received a high rating of 4.87 an excellent verbal interpretation. Based on the ISO 25010 software quality model, the system achieved Very Satisfactory ratings in functional suitability, performance efficiency, compatibility, reliability, and security, with an overall mean of 4.87 this proves that the system is highly functional. In terms of user acceptance, satisfaction, ease of use, and ease of learning all received Excellent ratings with an overall mean of 4.88, showing that the system is user-friendly and easy to understand. Overall, the findings proves that the boarding house finder system is a highly reliable and effective platform when it comes to helping landlords to advertise their properties and also enabling students to easily find suitable boarding houses within their budget and preferred location.

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