D’MULOT RESIDENCE COMPLAINT SYSTEM

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CHAPTER 1

INTRODUCTION

1.1 Project Background

D'mulot Residence is a residential house that provides rental housing needs for students, especially female students, located near UTHM. D'mulot Residence is a well-established residential house strategically located near Tun Hussein Onn University of Malaysia (UTHM). This accommodation facility is dedicated to meeting the housing needs of students, with a particular focus on creating a safe and conducive living environment for female students attending UTHM. D'mulot Residence offers a total of 26 houses, each accommodating up to 8 residents provided with 2 bedrooms, 2 bathrooms, and a 32-inch TV. The houses also furnished with 8 beds and wardrobes, gas kitchen, automatic washing machines, refrigerators, exhaust fans, Unifi internet service, and lastly a dyer station designated for only female residents. At D'mulot Residence, the security measures include grilled house doors, gated entrances, and 24/7 CCTV surveillances. Lastly, D'mulot Residence offers a dedicated maintenance team to promptly address any repair issues or problem including that may arise within the resident's stay.

The landlord of D'mulot Residence, Mr. Norhalim Misri is responsible for maintaining the property in good condition. This includes routine repairs, landscaping, and ensuring that all the facilities are working to provide a safe and comfortable living environment for the residents. Well-maintained properties retain property values and attract quality residents. Resolving complaints promptly is a proactive way to preserve the property's condition and market appeal. Furthermore, landlord sees resident complaints

to detect issues at an early stage that will allow the addressing problems from escalating and preventing further damage. In addition, complaints are viewed as essential tools for ensuring the property's long-term quality, and tenant satisfaction.

Residents are encouraged to report or complain about any issues and problems that arise in their houses. Residents use WhatsApp platform to report any issues related to their rented property to the landlord that range from maintenance, utilities, safety, and any other issues. Th residents may send text messages, images, or videos to describe the issue effectively. From the issued complaint, the landlord will document each complaint received through WhatsApp. After that, the landlord will assign tasks to maintenance team through WhatsApp to address the reported issues. All the progress and status of the complaints are provided through WhatsApp. When the complaint is resolved, the landlord will inform the resident through the same platform.

The current process of issuing, receiving, tracking, resolving, and complaints record by using WhatsApp may not be the most efficient or organized way to handle complaints, especially in a formal student rental housing setting like D'mulot Residence. Over the years, landlords have encountered challenges in efficiently managing tenant and property records. Keeping track of tenant issues has also proven to be a cumbersome task for landlords. The management of client and property records has become increasingly challenging due to factors like data expansion, the absence of computerized systems, concerns regarding data security, and the sluggish and error-prone nature of manual record processing. Moreover, with the growth in population and urban migration, traditional manual methods are being replaced by contemporary computerized applications (Ikuomola. and Asefon, 2020).

Considering the limitations and challenges associated with using WhatsApp for complaint management, transitioning to a dedicated complaint system can offer several benefits. D'mulot Residence Complaint System is a digital platform designed to streamline and enhance the process of addressing issues and problems faced by residents residing in rental accommodations.

1.2 Problem Statement

In order to ensure the satisfaction of the residents at D'mulot Residence, it is essential to thoroughly address and resolve the challenges in the existing processes within D'mulot Residence. The problems concerning are:

1. Keep track tenant information:

Landlord may spend excessive time searching for specific documents or details when needed which is not only time-consuming but also prone to errors. Thus, the landlord may struggle to efficiently handle a high volume of complaints which can lead to operational inefficiencies, increasing the workload and costs for the landlord in terms of maintenance and resolution. It can lead to failure in addressing crucial complaints such as maintenance and safety. When complaints or issues reported by residents are not acknowledged promptly, it can lead to a breakdown in communication. Furthermore, without a systematic investigation process, complaints may lack a thorough examination that can result in misdiagnosed issues, prolonging the problem. Failure to resolve complaints effectively can result in resident's dissatisfaction and can impact the overall living experience.

2. Lack of Documentation:

Lack of proper documentation in the current process poses significant challenges for property management at D'mulot Residence. The lack of documentation will make it difficult to maintain a clear record of all complaints and their resolutions. When important details of complaints are not recorded properly, it becomes challenging to resolve issues efficiently and to maintain a clear and organized record of all complaints as retrieving specific complaint details and communication histories becomes cumbersome due to the limited search and categorization capabilities. Hence, in the absence of proper

documentation, historical data related to resident's complaints and resolutions may be lost over time. This makes it impossible to track trends and improvements over the long term.

3. Priority Handling:

The issue of priority handling in complaint management can lead to various challenges. When complaints are not prioritized or handled systematically, it can result in inconsistent response times. Some complaints may receive quick resolutions while others linger. Besides, without a clear priority system, there is a risk of overlooking urgent issues, such as maintenance emergencies or safety problems. that can lead to delayed or inadequate responses, potentially resulting in property damage, safety hazards, or resident injuries. Lastly, in the absence of a prioritization process, tracking trends and proactively addressing recurring problems becomes crucial.

4. Communication Gaps:

Complaints may not receive the timely attention they require that can result in delayed responses and resolutions, which can frustrate residents who expect swift action and problem resolution. Urgent complaints made outside regular business hours may go unanswered until staff return to work. This delay can be particularly problematic for emergencies or urgent issues, as it may lead to extended periods of inconvenience or even safety risks for residents.

1.3 Objective

The objectives of the project are to:

i. design the complaint system for student rental houses.
ii. develop the complaint system using an object-oriented approach.
iii. conduct user acceptance test with the system's stakeholders.

1.4 Scope

The case study domain is D'mulot Residence which is the organization responsible for managing and renting out accommodations to students. The domain stakeholders are Landlord, who is responsible for overseeing these accommodations, Students who are residents in the rental accommodations, Maintenance team in total of 2 persons. The total property: 26 houses which each can have more than one tenant for up to 8 people.

The proposed solution involves the development of a web-based complaint system with two versions which are web-based and mobile based versions. This project's purpose is to implement a dedicated complaint management system that provides a structured framework for receiving, prioritizing, tracking, resolving, and complaints record.

Table 1.1: Main Features of D'mulot Residence Complaint System

MAIN FEATURES	DETAIL FEATURES
User Authentication and Registration	• The system should allow the users (residents, landlord, maintenance team) to create accounts. • The system should allow the users (residents, landlord, maintenance team) to log in into the system securely. • All residents of each house can issue the complaint. • Features: Registration form, login functionality, password reset, and user profiles.
Make a Complaint Module	• The system should allow the users (residents) to submit complaints about issues in their rental properties. • The users can submit complaints by keying facilities to be complained and provide the details of the complaints. • Features: Complaint form with fields for details, category, level of urgency (Highest Priority / Medium Priority / Low Priority / Non-Urgent), and attachments, and others. • The system will record the timestamp of the complaint submission. • Feature: Automatically record the date and time when a complaint is submitted. • The system should allow the user (residents) to track the status and progress of their submitted complaints. • Features: Display complaint status (Pending / In-progress / Resolved / Postponed). • The system should allow the users to search for specific complaints and filter them based on criteria. • Features: Search bar, filter options (by date, category, status).

Table 1.1(continued)

MAIN FEATURES	DETAIL FEATURES
Record Property	• The landlord will create a list of all facilities available in each house. • Facilities including number of bedrooms and bathrooms, kitchen appliances, furniture, laundry facilities, and parking facilities. • Utilities and services include electricity, water, gas, ventilation system, internet, and cable TV providers. • Unique identifier for addressing each unit of the property for easy reference.
Record Maintenance Activities	• Keep records of any maintenance or renovations that have taken place in the house or unit, including dates and details of work done. List the materials, tools, and equipment used during the maintenance activity. This includes any replacement parts, cleaning supplies, or specialized tools. • Include the cost associated with the maintenance activity, including labor, and materials. • Documents related to the maintenance, such as "before and after" photos, invoices, receipts, and relevant reports can be attached.
Monitoring and Tracking Complaint Module	• The system should display the landlord's dashboard. • The system should allow the landlord to monitor and track user complaints. • The system should allow the users (landlord) to manage the entire complaint system, manage users, and oversee complaint resolution. • The landlord will have access to a dashboard where they can oversee the entire complaint process, assign tasks, and ensure timely resolution. • Features: View and prioritize complaints, assign tasks to maintenance team, update complaint status, and communicate with tenant.

Table 1.1(continued)

MAIN FEATURES	DETAIL FEATURES
Predict Maintenance Cost Module	• The system will allow the users to provide complaint details. • Historical data regarding maintenance costs for similar complaints, including material, and labor will be gathered. • The system will provide specific details about the rental property, such as its age, condition, and past maintenance history. • The system will consider external influences like inflation rates, market prices of materials, and labor charges in the cost prediction process. • Data Analysis: Serve as the foundation for predictive modeling. This process will be conducted to identify trends, patterns, and correlation within the historical maintenance data. • Cost Estimation Models: Develop predictive models based on the insights gained from historical data analysis. These models will estimate potential maintenance costs for various types of complaints. • Factor consideration: The prediction process will incorporate various factors, including inflation rates, market fluctuations, and specific property conditions, to ensure that cost estimates are as accurate as possible. • Machine Learning Algorithms: Enhance the accuracy of our maintenance cost predictions based on real-time data and changing trends. • The system will provide a reliable estimate of the expected maintenance cost for a given complaint. • The system will also provide a detailed cost breakdown, outlining the expected expenses for materials, labor, and other relevant factors.
Generate Report Module	• The system will provide insights into the most common complaints for each house for different user types. • The system will also display the total complaints recorded, including those completed, in-progress, pending, and postponed. • **Owner Report:** “Common Complaints Overview" • This report provides an overview of the most common complaints reported for each house owned by the user. It includes statistics on complaint types, their frequency, and status (completed, in progress, pending, and postponed). • **Administrator Report:** "Property-Wide Common Complaints" • The system will generate reports summarizing the most common complaints across all properties they oversee (daily, weekly, monthly, yearly). The report includes data on common issues, response times, and resolution rates. • **User (Resident) Report:** "House Complaint Report" • The system will generate a personalized report specific to their rental property. It outlines the most common complaints for their house, their status, and any user-specific data, such as the response time for their complaints.

Table 1.1(continued)

MAIN FEATURES	DETAIL FEATURES
	• The system should display the landlord's and user's dashboard. • Features: View dashboard, manage profile, generate report. • The system should keep users informed about complaint updates and important system events. • Features: User (resident) will receive real-time notifications when complaints are updated or resolved. • The system should allow the users (Residents) to give feedback on the resolution process and landlord's performance. • Features: Feedback forms, rating system for landlord and maintenance teams.

1.5 Expected Result

The dedicated complaint system is designed to streamline the process of issuing, receiving, tracking, and resolving complaints. This will result in faster response times and more efficient complaint resolution. The new system will provide an organized platform for managing complaints and property records. It will make it easier to categorize, prioritize, and track complaints, leading to better record-keeping. Hence, the complaint system will provide valuable data for analyzing trends in complaints and identifying recurring issues. In summary, transitioning to a dedicated complaint system is expected to result in improved operational efficiency, resident satisfaction, and overall property management. It aligns with modern property management practices and can contribute to the long-term success of D'mulot Residence as a preferred rental housing option for students near UTHM.

1.6 Project Significance

The contribution of this project to the user is simplifying complaint management and improving satisfaction among residents. As for the organization, it will streamline complaint handling, reducing issues, and enhancing overall operations. The proposed complaint system can address various problems concerning resolving issues, tenant contentment, overseeing maintenance, communication, and overall property management

in student rental housing. It will also improve the living experience for student tenants, making it more peaceful and efficient, while also streamlining property management tasks for landlord.

The system can be applied to various housing accommodation types, which can provide prompt issue resolution, maintenance supervision, tenant contentment, efficient property management, and fostering positive landlord-tenant relationships, are universally applicable to diverse types of housing accommodations.

1.7 Chapter Summary

Chapter 1 introduced D'mulot Residence as a student rental housing facility with a commitment to providing safe and comfortable living spaces. It set the stage for the challenges in the current complaint management process and the transition to a dedicated complaint system. It highlights identified challenges, emphasizing their impact on efficiency and tenant satisfaction. Chapter 1 outlined the project's objectives and scope, focusing on the development of a comprehensive complaint system for D'mulot Residence and the importance of user acceptance testing. The chapter serves as the foundation for the project's goals and solutions.

1.8 Report Organization

Chapter 1 introduces D'mulot Residence, a student rental housing facility near UTHM, emphasizing its dedication to providing safe accommodations for students. The chapter highlights the challenges it poses. The objectives of the project are clearly outlined, focusing on the design and development of a dedicated complaint management system, with an emphasis on involving stakeholders through user acceptance testing. The scope of the project encompasses a web-based system with web-based and mobile-based versions. The rest of the report is organized as follows.

Chapter 2 (Literature Review) provides an in-depth examination of the D'mulot Residence Complaint System, offering a comprehensive insight into the project. It commences by introducing the technical backdrop of the system and then delves into the

technology and methodologies utilized, providing a closer look at the development tools and techniques employed in the system's creation. It goes on to conduct a thorough analysis of existing systems and approaches.

In Chapter 3 (Methodology), the document introduces the selected methodology for developing the D'mulot Residence Complaint System and outlines the distinct phases inherent to this methodology. The chapter initiates by providing an understanding of choosing the methodology and how it harmonizes with the project's aims. Each of the phases is examined in depth, emphasizing its significance and its contributions to the project's overall success. This chapter equips the systematic approach that will steer the project's development process.

Chapter 4 (Analysis and Design) of the document delves into the technical aspects of the D'mulot Residence Complaint System, offering valuable insights. The chapter begins with an introduction and proceeds with the proposed solution, explaining how it intends to overcome previous challenges and enhance the efficiency of student housing complaint management. The document then explores parameter and testing methods, identifying influential parameters and the evaluation techniques.

Chapter 5 (Implementation and Testing) delves into the practical implementation and testing phases of the D'mulot Residence Complaint System. This chapter takes a deep dive into system implementation, covering coding, and presenting the outcomes in terms of the user interface. This section essentially serves as a hands-on guide to how the system is put into action. Next up, functional testing, which involves evaluating specific system functions to ensure they work as intended. The system undergoes testing by its intended users, allowing for feedback and validation of its usability.

Chapter 6 (Conclusion) offers a comprehensive summary of the D'mulot Residence Complaint System project. Chapter 6 delves into the project's achievements, explaining the findings based on the implementation and results. It also highlights the contributions of the project, outlining the attainment of project objectives and discussing both the advantages and disadvantages of the project's outcomes. This chapter also peers into the future, providing insights into potential areas for further work and development. Finally, the chapter concludes by summarizing the projects and its significance in the realm of student housing complaint management.

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