Web-based To-Let Management System for Students

Sazib Chowdhury
Dept. B Sc. CSE
Green University of Bangladesh
Dhaka, Bangladesh
ORCID:0000-0002-1718-0736

Kowser Ahmed Sajol
Dept. B Sc. CSE
Green University of Bangladesh
Dhaka, Bangladesh
kowsersojol@gmail.com

Juliet Jahan
Dept. B Sc. CSE
Green University of Bangladesh
Dhaka, Bangladesh
julietjahan0@gmail.com

Abstract—In this paper, we propose a To-Let Management System, which is a single platform for listing property rentals that aim to meet the housing needs of students in urban regions. Students can use the platform to discover a single room, apartment, or whole house close to the school of their choice. It is designed to be convenient and easy to navigate. The To-Let Management System offers a variety of choices, including single rooms, double rooms, single beds, double beds, and apartments. Users can also communicate directly with homeowners and view property locations and images. The platform also includes a feature that allows students to find properties close to their university.. The proposed system is designed to allow students to quickly and easily find suitable housing without the use of middlemen throughout the leasing process.

Index Terms—Rental Management, Student Accommodation, Property Listing, Urban Areas, Educational Institutions, Convenience, Streamlined Process

I. Introduction

Finding a good rental property, particularly in urban areas, has become a crucial issue in modern society. The administration of rental properties, specifically in city areas, has enhanced an important issue in current society.

Rental property management has become increasingly important. Thus, the importance of rental housing in modern society is immense. Houses should be provided in all areas of town and village. Especially for students, rental houses are in high demand. Our project focuses primarily on providing rental options for students. Numerous understudies seek their degrees in the city from all across the region. The demand for acceptable accommodation has significantly increased as more students move to cities for higher education. Higher education must prioritize the supply of accommodation, especially for students who commute from other districts to urban regions. Yet, it might be difficult for students to obtain a nice rental home in the city, which frequently causes issues with their academic performance.

For students, especially those who are new to the city or unfamiliar with the urban environment, the conventional approach to searching for rental properties can be time-consuming and challenging.

To address this problem, we propose a To-Let Management System, a single rental and property listing platform aimed at simplifying the process of finding suitable accommodation for students. The proposed system provides students with an easy-to-use platform to search for different types of properties such as single rooms, and apartments, near their chosen educational institution. The system also includes a feature for students to search for properties based on their proximity to their university and send spatial requests for accommodation finding.

The To-Let Management System allows scholars to view straightforwardly possessions neighborhoods and view pictures of the features, providing the ruling class accompanying the unavoidable facts to form a conversant resolution about their reconciliation. Additionally, the plank involves various types of apartments or rooms like sole rooms, double rooms, sole beds, double beds, and apartments that are tailor-made to meet the needs of students.

The projected structure aims to specify students accompanying the usefulness of judgment-acceptable reconciliation in a sleek and adept class, outside the need for mediators in the renting process. The To-Let Management System can help students form the change to city history and devote effort to something their studies, alternatively worried about judgment a place to live. In this project, we will debate the design, exercise, and judgment of the To-Let Management System.

II. Related Work

People increasingly use online rental websites due to the challenges in finding suitable housing. There are different types of home rental needs. In current years, the demand for rent possessions has increased considerably, specifically in urban extents. This has led to the tumor of online rent possessions websites, which provide an appropriate and effective habit for tenants to find acceptable possessions and for landlords to exhibit their properties. These websites offer various features such as search filters, detailed property information, and agreement forms.

Before working on this project we looked at various websites. After visiting various websites, we analyze those projects. We have found out the advantages and disadvantages of different websites. We researched some popular rent-home websites and learned about them. With the rising standard

for rent characteristics, it is owned by having an adept and trustworthy floor for residents and landlords to connect. In this context, several online rental property websites have emerged, each with its own set of advantages and limitations. In this study, we will analyze some of the well-known rent property websites in Bangladesh, including rentalhomebd.com [9], bproperty.com [10] rents.com.bd [8], bdhousing.com [7], and bdto-let.com [6]. We will analyze the advantages and limitations of each platform to help tenants and landlords make informed decisions when using these websites. By providing an inclusive study of these websites, we hope to help the increasing methodical study of part of the material world on the rent property retail in Bangladesh.

By offering students a simple platform to search and filter for various types of properties such as single rooms, double rooms, and apartments close to their preferred educational institution, our proposed To-Let Management System utilizes these earlier works. The demand for rental properties has risen considerably in recent times, specifically in urban fields, superior to the growth of connected internet rental property websites. In this chapter, we have reviewed and analyzed some of the popular rental property websites in Bangladesh, including their strengths and limitations. Our project aims to provide a more efficient and reliable platform for tenants, specifically targeting students, to find suitable rental properties. Although our project has a few disadvantages and missing lineaments, we will touch better and add more appearance. Overall, by contributing to the growing body of knowledge on the rental property market in Bangladesh, we hope to help tenants and landlords using online rental property websites.

III. Methodology

There are several different software development life cycle (SDLC) models that can be used to implement an online To-Let management system. The specific method chosen is the Agile Model, which uses a flexible, iterative process to quickly deliver functionalities based on user stories. This approach is particularly beneficial for a To-Let Management System.

The To-Let Management System is a web-based platform that is built using a combination of PHP [12], MySQL [5], and Front-end Technology such as Bootstrap 5 [1], CSS [2], JavaScript [11], etc. PHP is a server-side Programming language that is mainly used for web development and as well as it can also be used to create dynamic websites. MySQL is another needed tool for data storage and database management system used to store and retrieve data for the website

The system also allows landlords to list properties on the platform, and tenants can submit location-based accommodation requests. Landlords can submit information about their properties, location, services, number of rooms, rent price, and pictures. After, that this information will be stored in the database of our web platform and displayed to the users when they search for properties.

To ensure the security of the To-Let Management System, we use encryption login passwords with various security features such as input validation. Also, the system can easily handle to accommodate an increasing number of users and properties.

In this paper, we will present a detailed description of the To-Let Management System, its implementation, and the security measures. We will also present the results of the user evaluation of the system, which demonstrate its effectiveness in addressing the accommodation needs of students in urban areas

A. *Use Case Diagram*

Here, we have presented the use case diagram drawing of our project. In this drawing, we illustrate how to create the admin and user profiles and how the user can login, post, and what else can be done. The To-Let Management System functionality between the admin and the user is represented in Figure: 1.
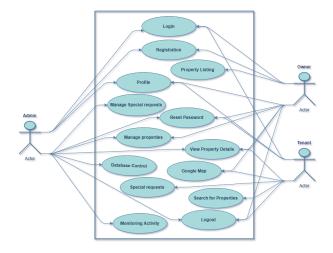

Fig. 1. ER Diagram of the System

Admin:

- Database control: The admin can manage the system's database, which includes adding, modifying, and deleting information.
- Monitoring activity: The admin can monitor the activity for all users so the admin can understand anything wrong or OK.
- Manage properties: The admin can manage the properties listed on the platform, including adding new properties, editing existing properties, and removing properties.
- Manage special requests: The admin can manage any special requests made by tenants, such as maintenance or repair requests.

Tenants:

- Search properties: Tenants can search properties to meet their specific requirements, such as location, price, university type of property, etc.

- Special Request: Tenants can make special requests for rental to the admin.

Owner:

- Listing properties: Owners can list their properties, by providing details such as photos, descriptions, rental rates, etc.
- Manage properties: Owners can manage the properties removing properties that are no longer available.

B. *Project Features*

Our project has some features. Here are some of the features we discovered:

- Registration and Profile Creation: Users must first register and create a profile to log in to the website.
- Searching for Room: Users can find rooms according to their requirements here.
- Post for New Room: Users can post for a new room if they want to change their home.
- Comment Section: Here users can post their comments.
- Apply for Special Request: Here the user tells us what type of room they need, and what facility they need.
- Compare Properties: Users can compare properties.
- Blog: User can view and comment on blog posts gained knowledge from the blog posted by admin
- Property Management: The system should allow owners to manage their properties, Listing and Deleting.
- Advance Search Option: We have an advanced search option. People will come to our website to search for their rooms.
- Logout User: Here the user can logout of their profile.

C. *Functional Requirement*

Functional Characteristics:

- User Authentication: The ability for the To-late management system should have user authentication capabilities to ensure that only authorized users have access to the system.
- Record Keeping: The ability for system should be able to record the time and date that a student submits a spatial request, as well as owner listing properties.
- Feedback: The ability for users to provide feedback on their submissions or other problems for renting.
- Admin: The ability for the admin to manage and monitor all activities.
- Tenant:
  - Property Search: The system allows tenants to search properties.
  - Properly filter: The system allows the filter to tenants for location, size, proximity location, and rental price.
  - The ability for tenants to send special requests for renting property.
- Owners:
  - Property Management: The system should allow owners to manage their properties, Listing and Deleting.
  - Communication: The system allows owners to communicate with the admin to modify any changes.

D. *Non Functional Requirement*

Non-functional Characteristics:

- Usability: The system should be easy to use and intuitive for students and homeowners, with clear instructions and minimal errors.
- Reliability: The system should be dependable and have a high level of up-time, with minimal downtime or errors Users can find their products by visiting a single page.
- Efficiency: We use a navigation bar, so users can visit all pages easily and shortly. Data will be stored separately for the Owner and Tenant, so data fetch will be faster.
- Scalability: The system should be able to handle increasing levels of user traffic and data inputs without the need for major upgrades or changes.
- Security: The system should be designed with strong security measures, including password protection and encryption.
- Maintainability: The system should be easy to maintain and update, with clear documentation and support for ongoing improvements.
- Accessibility: The system should be accessible to students with disabilities, with features such as screen reader compatibility or support for assistive technologies.

E. *How To-Let Management System Works*

The system starts with a home page if users have an account they can login to access their accounts.

After successful login, students can access the search page where they can search for homeowners who can submit properties for rent.

The system retrieves the relevant property listings from the database based on the user's search criteria and displays them on the search results page.

Only login users can view the details of the properties, including location, number of rooms, rent price, and pictures also Google map location.

Landlords can access their accounts and add new properties, including details such as location, number of rooms, rent price, pictures, etc. They can also manage their existing properties, deleting properties that are no longer available.

The system keeps track of all records.

If a student or landlord needs assistance, the system provides a help center and a customer support service.

The system runs continuously and updates the information based on the new listing properties.

IV. PERFORMANCE EVALUATION

Testing for performance evaluation is a crucial mandatory part of the software development process. It ensures that the website is functional, user-friendly, compatible with different devices, performs well, and is secure and makes sure everything works as expected. In this project, we have developed

a To-Let Management System, a single rental and property listing platform aimed to address the accommodation needs of university students in urban areas. To ensure that the system meets the project requirements, different types of testing were done.

Functional Testing: This type of testing focuses on verifying that the website meets the functional requirements specified in the project requirements.

Usability Testing: This type of testing mainly focuses on the user experience and the ease of using the website. Testing could be done to check if the website is easy to navigate if users can easily find the information they need and if everything is accessible easily.

Compatibility Testing: This type of testing mainly focuses on verifying that the website works as intended on different web browsers, operating systems, and devices. Testing could be done to ensure that the website is compatible with popular browsers and that it functions correctly on different devices like large screens and mobile devices.

Performance Testing: This type of testing is spatially done to verify that the website performs well on every device and does not have any performance issues.

Security Testing: This type of testing verifies that the website is secure and that users' personal and sensitive information is protected.

User Acceptance Testing: This type of testing is done to get feedback from actual users to ensure that the website meets their needs and expectations.

A. *Results and Discussion*

The results of the efficiency judgment and consumer testing of the To-Let Management System signify that bureaucracy is a working, working, and direct form for helping students find acceptable reconciliation in city regions.

User testing results indicated that most users found the system easy to navigate and intuitive, with a clear and user-friendly interface. The functionality experiment results revealed that bureaucracy was able to correctly follow characteristics and display the relevant results to the consumers. The influence experiment results showed that most of the consumers were smart to find a suitable feature inside a reasonable amount of momentary utilizing bureaucracy.

The To-Let Management System was developed and tested using various testing methods. Functional testing guaranteed that the website met the functional requirements specified in the project necessities, usability testing guaranteed that the consumer experience and ease of utilizing the site were satisfactory, compatibility testing ensured that the site was suitable with various instruments and browsers, performance testing guaranteed that the website acts well, and security testing guaranteed that consumers' private and sensitive information is secured. Finally, consumer acceptance testing ensured that the site meets the needs and beliefs of juniors and characteristic landowners the one have used the system. The To-Let Management System is immediately ready for

arrangement, providing a sleek and effective habit for students to find appropriate accommodation outside mediators in the renting process.

V. CONCLUSION

This paper presented a web-based To-Let Management System for students. Our project can specify a foundation that will help students find their chosen accommodation within a restricted time frame. This method can also be used by rent apartment proprietors to rent their apartments. Several user-friendly interfaces have also been selected for our project. Our project will lead fluency to in custom and connectedness between holders and tenants. Also, our project has a location system that will be a bigger benefit for consumers, as it makes it smooth to find the home location on a map. Our project will play a very effective part in fulfilling all the necessities of the consumers.

We have successfully operated our To-let management system(Chatrabash). However, our system has proven its robustness with its performance. We are working on our project. Our project has some limitations. We have set some restrictions for users, such as the lack of a property editing option and real-time chat. We will discuss the issues and challenges encountered during the development process below. In the future, we aim to improve our system through additional testing and user feedback. We will try to update our project focusing on users' needs.

A. *Future work*

The main objective of our project (To-let management system) is to find accommodation for students near their respective universities. We have made this project for students to find their preferred accommodation without any effort. We have added many features to our project for the convenience of users. We intend to do more work on our project in the future. All that is intended to be done is:

Integration with other platforms: Integrating with University with the To-Let Management System so university transportation systems can work together, can help students find their university transportation.

Mobile application: Developing a mobile application for Android and iOS to make the To-Let Management System more accessible, allowing students to search for properties and book accommodations on the go.

Automated rent and payment management: Adding an automated payment system for paying rent and payment management can help landlords manage their properties more efficiently, and also ease the process of paying and receiving rent for the students and storing it in the database.

Predictive analysis: Implementing Predictive machine learning models for analyzing the data collected from the system can provide insights into the student's accommodation preferences and help in predicting the demand for certain types of properties in certain areas, which can be useful for landlords in making strategic decisions about their properties.

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