Green University of Bangladesh

Department of Computer Science and Engineering (CSE)
Semester: (Spring, Year: 2024), B.Sc. in CSE (Day)

GUB Hostel Website

Course Title: Web Programming Lab
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Section: 213-D1

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Lab Project Status	
Marks:	**Signature:**
Comments:	**Date:**

Contents

Chapter 1

Introduction

1.1 Overview

This project report presents the development of an official website for the Green University Hostel. The website facilitates student registration, room booking, and hostel management through a user-friendly interface. It includes separate login systems for students and administrators, enabling efficient hostel management and streamlined student services.

1.2 Motivation

The motivation behind this project stems from the need for an efficient and modern hostel management system at Green University. The traditional manual process of handling hostel accommodations is time-consuming, prone to errors, and lacks transparency. By digitizing this process, we aim to provide a seamless experience for students and ease the administrative burden on hostel management.

1.3 Problem Definition

1.3.1 Problem Statement

The primary problem addressed by this project is the inefficiency and lack of transparency in the traditional hostel management system. The existing process involves manual record-keeping, which is error-prone and cumbersome. There is a need for an automated system that allows students to register, book rooms, and manage their hostel stay online, while also enabling administrators to efficiently manage hostel operations.

1.3.2 Complex Engineering Problem

P1: Depth of knowledge required Developing this system requires knowledge of web development, database management, and user authentication mechanisms.

P2: Range of conflicting requirements Balancing the needs of students for a user-friendly interface with the administrative requirements for detailed management capabilities presents conflicting requirements.

P3: Depth of analysis required The system necessitates a thorough analysis of user needs, security requirements, and data management processes.

P4: Familiarity of issues Issues such as data security, user authentication, and session management are critical and require familiarity with best practices in web development.

P5: Extent of applicable codes Compliance with web standards, data protection regulations, and university policies is essential.

P6: Extent of stakeholder involvement and conflicting requirements Stakeholders include students, hostel administrators, and IT staff, each with different needs and expectations that must be reconciled.

P7: Interdependence The system's functionality depends on the interaction between various components, including the database, user interface, and server-side scripts.

1.4 Design Goals/Objectives

The primary objectives of this project are:

- To create an intuitive and responsive website for Green University Hostel.
- To facilitate online student registration and room booking.
- To enable administrators to manage student data, room allocations, and booking approvals efficiently.
- To ensure data security and user privacy.
- To provide a seamless user experience for both students and administrators.

1.5 Application

The Green University Hostel website serves as a comprehensive platform for managing hostel accommodations. It simplifies the registration process for new students, provides a transparent room booking system, and allows administrators to manage hostel operations effectively. This system can be applied to any university hostel seeking to modernize its accommodation management process.

Chapter 2

Design/Development/Implementation of the Project

2.1 Introduction

This chapter details the design, development, and implementation of the Green University Hostel website. The project involves creating a dynamic web application that supports user authentication, student registration, room booking, and administrative management.

2.2 Project Details

2.2.1 Homepage and Contact Page

The homepage provides an overview of the Green University Hostel, with information about its facilities and services. The contact page includes contact details and a form for inquiries.

2.2.2 Registration Page

The registration page features a form where new students can register. The form includes fields for student name, mother's name, father's name, date of birth, local guardian name, address, phone, email, password, and an image upload.

2.2.3 Sign In Page

The sign-in page offers two options: sign in as a student or sign in as an admin. Students use their email and password to log in, while admins use a username and password.

2.2.4 Student Dashboard

After logging in, students can choose between Standard Class Room and Business Class Room options, view room facilities, check availability, and book rooms. They can also view their profile and log out.

2.2.5 Admin Dashboard

Admins can view and manage student information, update details, delete records, search available seats, create rooms with detailed information, and approve booking requests.

2.3 Implementation

2.3.1 Website Structure Diagram

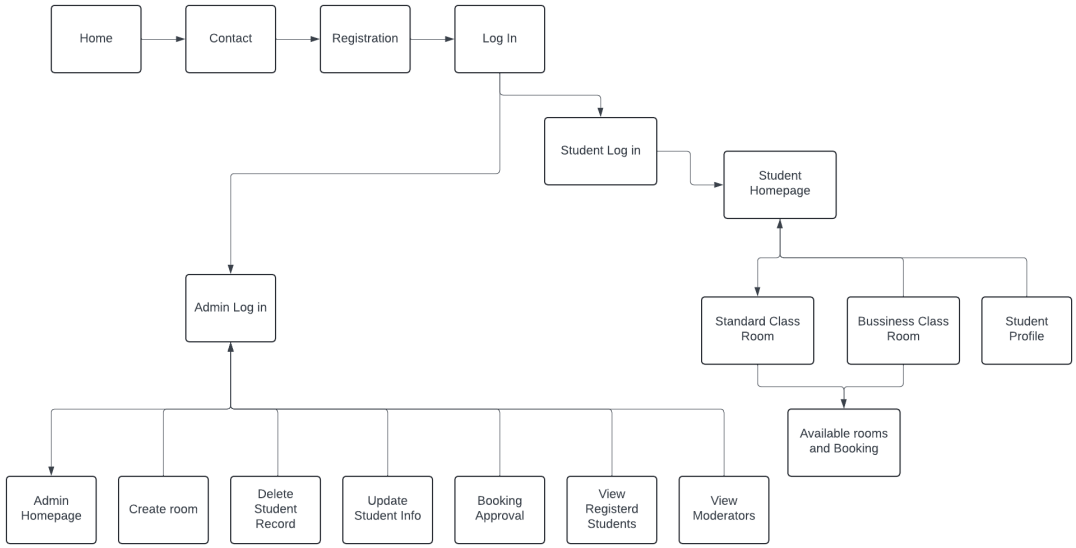

Figure 2.1: Website pages structure

2.3.2 Screenshots

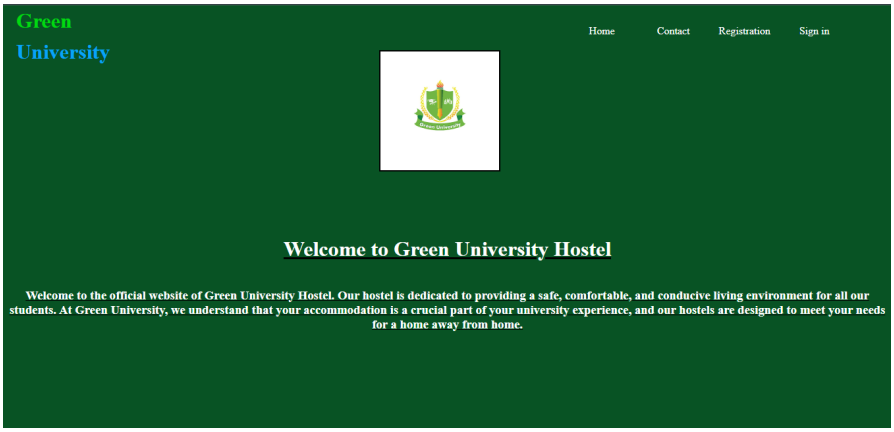

Figure 2.2: Homepage

Figure 2.3: Contact page

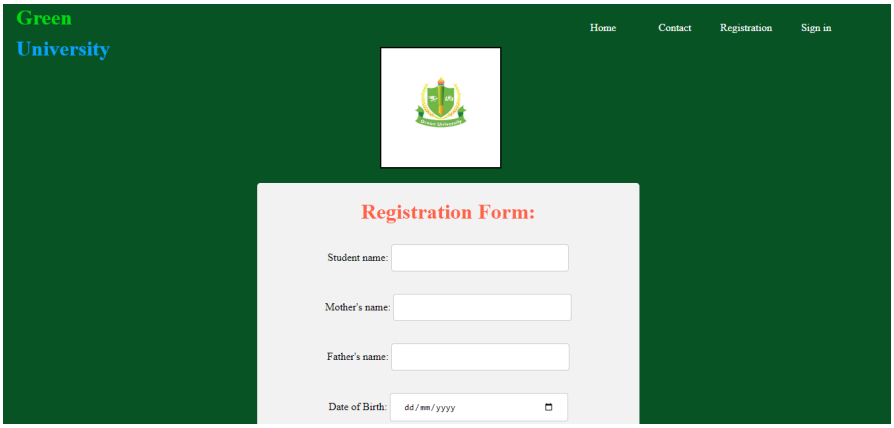

Figure 2.4: Student Registration Page

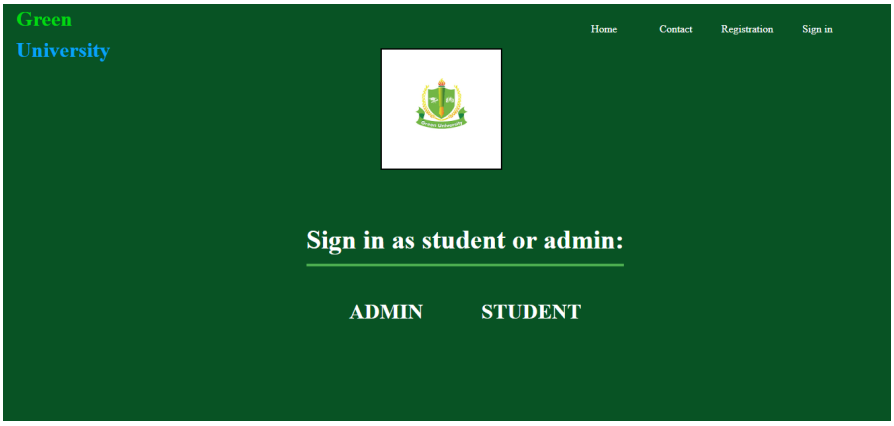

Figure 2.5: Sign in page

Figure 2.6: Admin Log in

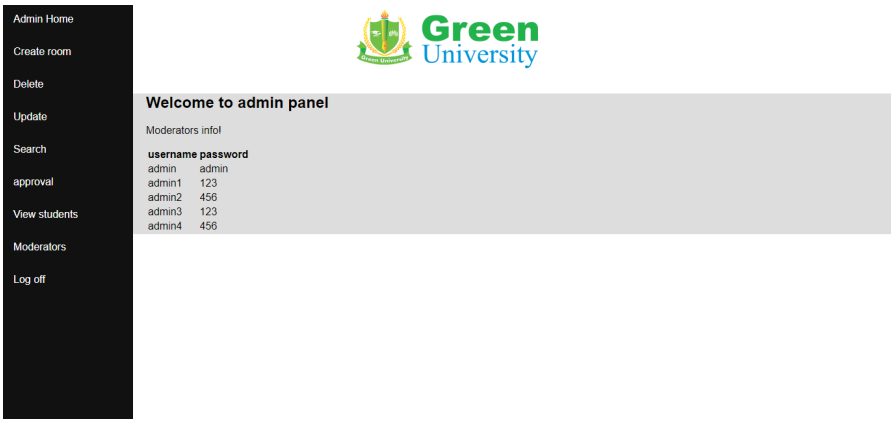

Figure 2.7: Admin panel

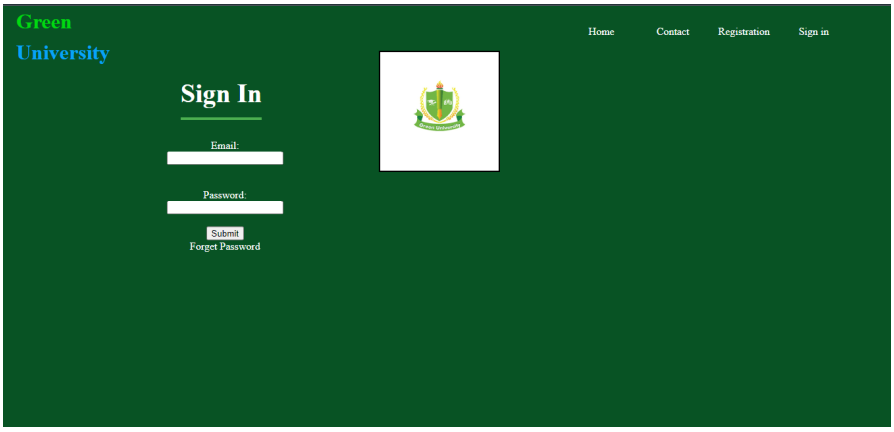

Figure 2.8: Student Log in

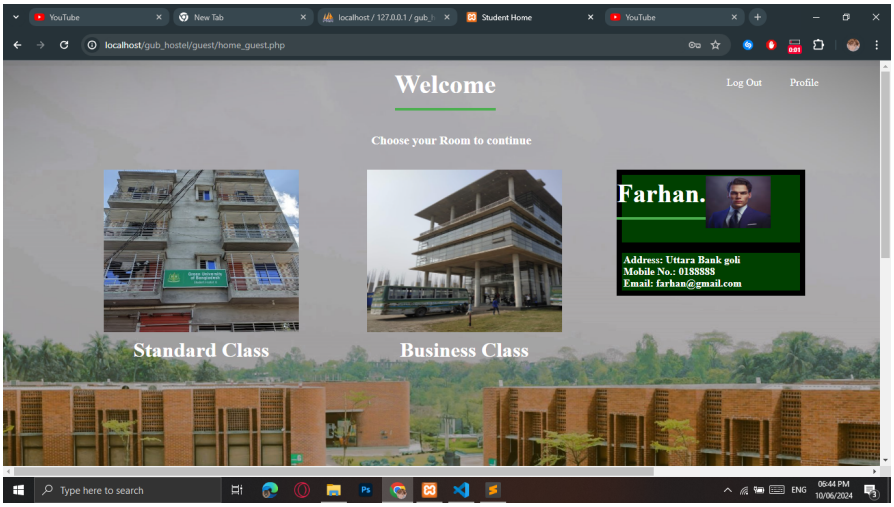

Figure 2.9: Student Panel

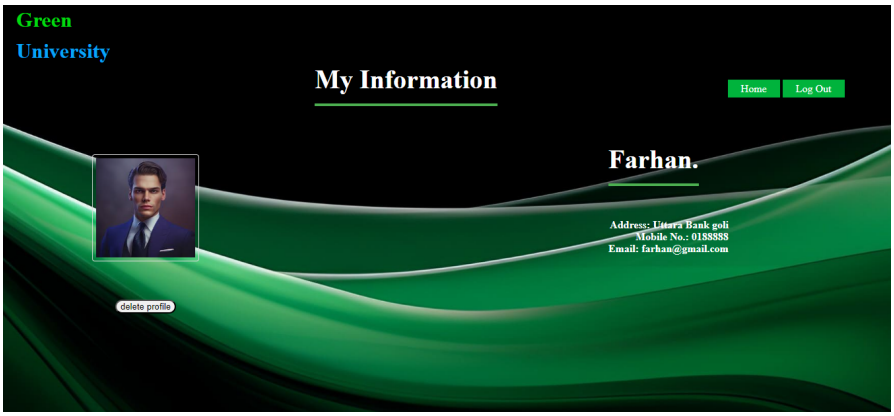

Figure 2.10: Student Profile

Chapter 3

Performance Evaluation

3.1 Simulation Environment/ Simulation Procedure

The website was developed and tested in a local development environment using XAMPP, which includes Apache, MySQL, PHP, and Perl. The website was tested on various web browsers and devices to ensure compatibility and responsiveness.

3.2 Results Analysis/Testing

3.2.1 Registration Testing

Registration form submission.
Discussion: The form successfully captures student details and stores them in the database.

3.2.2 Login Testing

Student and admin login pages.
Discussion: Both login systems authenticate users correctly and redirect them to their respective dashboards.

3.2.3 Booking System Testing

Room booking process.
Discussion: The booking system accurately displays available rooms and processes bookings.

3.3 Results Overall Discussion

Overall, the performance evaluation results indicate that the GUB Hostel website project performs well in terms of search functionality and the buying process. The system

demonstrates robustness and scalability, allowing admins to search for available rooms efficiently and complete booking seamlessly. The simulations validate the effectiveness and reliability of the implemented features.

While the results are promising, it is important to note the limitations of the evaluation, including the use of simulated data and a controlled environment. Real-world testing with a larger user base and diverse scenarios would provide a more comprehensive understanding of the system's performance.

Nevertheless, based on the conducted simulations, the Green Unversity Hostel Website project proves to be a viable and efficient solution for creating an interactive and user-friendly hostel management system. The performance evaluation results validate the project's design choices and demonstrate its potential for practical applications in the web development industry.

Chapter 4

Conclusion

4.1 Discussion

The Green University Hostel website project successfully addresses the need for an efficient and modern hostel management system. It simplifies student registration, room booking, and administrative tasks, providing a seamless experience for both students and administrators.

4.2 Limitations

One limitation of the project is the dependency on internet connectivity for accessing the website. Additionally, while the system is secure, there is always a potential risk of data breaches, which necessitates continuous monitoring and updates.

4.3 Scope of Future Work

Future enhancements could include adding a payment gateway for online fee payments, implementing a mobile application for better accessibility, and integrating more advanced security features such as two-factor authentication.