Submitted in partial fulfilment of the requirements for the degree of

Master Of Computer Application

Noble University

Submitted By

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Enrollment No : 220441013

Guidence By

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Certificate

This is to certify that Mr./Ms./Mrs._____ Enrollment No. _____ has been done project report entitled _____ is a bonafide record of project work and submitted to the Faculty of Computer Application Noble University Junagadh in partial fulfillment for a Master of Computer Application (MCA) Semester-4.

Signature of Dean	**Signature of HOD**	**Signature of Guide**

PREFACE

There is a wide difference between theory and practical. If one has only theoretical background of any subject, one would not succeed in own aim therefore it is necessary for any person to have acceptable practical knowledge of the concerned subject. As I know MCA is a course based on "**Information Technology**"and it is totally practical field. With only theoretical knowledge one can't be succeeded or one can't be on the peak position.

In the course of MCA designed by the "Noble University" they have taken full care of these things and designed the course in such a manner with which student can get theoretical and practical both type of knowledge perfectly. According to the rules & regulation of "Web Development", I have a subject named **"Noble University".** In which we have to create a web project that provide information about university.

As a MCA student, I have gathered general information about university. Then I decided to develop the site for that. In this site you can visit University, Get all details about university, Student and Faculty can access their own account. You can also put any query and Enroll in university for make their bright future with the help of enroll now form, on this site.

In this project report I have covered all the information, which is required for this project.

I have tried as my best present this project report in such a way that it makes easy to understand the project work.

ACKNOWLEDGEMENT

I am thankful to all, who have helped me in preparing this project. I am very much happy to present this “Project Report”. Before you, expecting that you will acknowledgement it. It is a matter of great pleasure for me that I had an opportunity to express my view on the same.

As a part of my academic study as the student of MCA 4th – semester. I am required to experienced training web project an institute or industry in order to obtain practical knowledge and inform regarding the same.

At first, I would like to express my & humble thanks & gratitude to the who has provided me such a great, Co-operative & progressive environment.

Secondly at this moment, I would like to express my deepest sense of gratitude to my professor as well as project guides and who have contributed their precious time for the purpose of giving me the correct information with special interest & guidance throughout my project work.

I am also thankful to my classmate and few others who helped me directly or indirectly in solving problem & in making my software project more efficient & good working.

Noble

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Chapter – 1

Introduction and Object of Project

1.1 Existing system

1.2 Need for the new system

1.3 Objective of the new system

1.4 Problem definition

1.5 Core components

1.6 Project profile

1.7 Assumptions and constraints

1.8 Advantages and limitations of the proposed

Introduction

This project is specially designed for Students, because in this project Users get knowledge about all courses, Users get admission in university, and also student and faculty used their own account in this project **"Noble University".**

Students get their own profile, their result, give feedback, any complaint and other more functionality through our project **"Noble University"**.

Faculty get their own profile, update student detail and other more functionality through our project **"Noble University"**.

The **"Noble University"** project is a multi-user system.

It has been developed in a way that allows user to perform the function smoothly and with proper accuracy.

The system is developed in **HTML, CSS, Bootstrap, Angular, Node.js** and some other software for designing purpose.

So, this system is very useful for all types of Students.

1.1 Existing System

- The existing system of the Noble University website project encompasses four main panels : Visitor, Student, Faculty and Admin. Each panel is tailored to cater to specific roles within the university community and provides distinct functionalities.

- **Visitor Panel**:
  - Allows visitors to browse and explore all details regarding every course offered by Noble University.
  - Provides the functionality for visitors to enroll in Noble University.
  - Enables visitors to virtually tour the campus of Noble University.

- **Student Panel:**
  - Provides students with their own profile where they can access personal information.
  - Allows students to view their academic results.

- Grants access to various announcements and information relevant to students.
- Offers additional functionalities specific to students needs.

❖ **Faculty panel:**

- Provides faculty members with their own profile.
- Allows faculty to access profiles of individual students.
- Grants rights to update student details, such as academic records or personal information.
- Likely includes other functionalities relevant to faculty members roles.

❖ **Admin Panel:**

- Reserved for administrators with extensive privileges.
- Allows administrators to add students or faculty members to the system.
- Provides the capability to update both student and faculty profiles.
- Grants access to all information within the system, including student and faculty profiles.
- Allows administrators to add holidays and announcements.
- Provides all possible functionalities within the system.

1.2 Need For The New System

❖ **Scalability:**

- The current system may lack the scalability required to accommodate the growing needs of the university community. As the university expands its programs, student enrollment, and faculty members, a new system should be capable of handling increased user traffic and data volume efficiently.

❖ **Enhanced User Experience:**

- Improving the user experience is crucial for ensuring that visitors, students, faculty, and administrators can navigate the website seamlessly. A new system can incorporate modern design principles, intuitive navigation, and responsive layouts to enhance usability and satisfaction.

❖ **Advanced Functionalities:**

- While the existing system provides basic functionalities for each user role, there may be a need for additional features to streamline processes and improve productivity. This could include integrated communication tools, personalized dashboards, advanced analytics, and automation of routine tasks.

- **Security Enhancements:**
  - With the increasing prevalence of cyber threats, ensuring robust security measures is paramount. A new system should implement advanced security protocols to safeguard sensitive data, prevent unauthorized access, and mitigate potential risks such as data breaches or cyber attacks.

- **Integration Capabilities:**
  - Integration with other systems and platforms used by the university, such as student information systems, learning management systems, or financial systems, may be essential for seamless data exchange and workflow optimization. A new system should facilitate easy integration with existing infrastructure.

- **Regulatory Compliance:**
  - Compliance with data protection regulations and industry standards is crucial for maintaining trust and credibility. A new system should adhere to relevant regulations such as GDPR, HIPAA, or FERPA, ensuring the privacy and security of user data.

- **Feedback and Improvement:**
  - Gathering feedback from stakeholders and continuously improving the system based on user input is essential for meeting evolving needs and expectations. A new system should incorporate mechanisms for soliciting feedback and implementing iterative enhancements based on user insights.

1.3 Objective Of The New System

- **Enhanced User Experience:**
  - Improve the overall user experience by redesigning the website interface to be more intuitive, visually appealing, and easy to navigate for all user roles, including visitors, students, faculty, and administrators.

- **Scalability:**
  - Develop a scalable system architecture capable of accommodating the growing needs of the university community, including increasing numbers of users, courses, and data volume, without compromising performance.

- **Advanced Functionality:**
  - Implement advanced functionalities tailored to the specific needs of each user role, including comprehensive profiles, personalized dashboards, interactive communication tools, and streamlined administrative processes.

- **Security:**
  - Enhance security measures to protect sensitive user data and mitigate potential risks such as data breaches, unauthorized access, and cyber attacks, ensuring compliance with relevant data protection regulations and industry standards.

- **Integration:**
  - Facilitate seamless integration with existing university systems and platforms, such as student information systems, learning management systems, and financial systems, to enable data exchange and workflow optimization.

- **Feedback and Iteration:**
  - Establish mechanisms for gathering feedback from stakeholders and end users to continuously iterate on the design and functionality of the system, ensuring that it evolves to meet changing requirements and user expectations effectively.

- **Efficiency and Productivity:**
  - Streamline administrative processes and automate routine tasks to improve efficiency and productivity for both users and administrators, reducing manual effort and increasing overall operational effectiveness.

- **Training and Support:**
  - Provide comprehensive documentation, training materials, and ongoing support to ensure that users are equipped with the necessary knowledge and resources to effectively utilize the new system and maximize its benefits.

1.4 Problem Definition

The Noble University website currently faces several challenges and limitations that block its effectiveness in serving the needs of the university community. The key problems are as follows:

- **Outdated User Interface:**
  - The current website design lacks modern aesthetics and intuitive navigation, resulting in a suboptimal user experience for visitors, students, faculty, and administrators.

- **Limited Functionality:**
  - The existing system offers basic functionalities for each user role but lacks advanced features and customization options tailored to the specific needs of different user groups.

- **Scalability Issues:**
  - As the university grows and expands its programs, student enrollment, and faculty members, the current system may struggle to handle increased user traffic and data volume efficiently.

- **Security:**
  - Insufficient security measures pose risks such as data breaches, unauthorized access, and cyber attacks, potentially compromising the confidentiality, integrity, and availability of sensitive user information.

- **Integration Challenges:**
  - Lack of seamless integration with existing university systems and platforms inhibits efficient data exchange and workflow optimization, leading to disjointed processes and inefficiencies.

- **Manual Administrative Processes:**
  - Administrative tasks such as student enrollment, profile updates, and announcement management are predominantly manual, resulting in time-consuming and error-prone processes.

- **Training and Support Deficiencies:**
  - Users may lack adequate documentation, training materials, and ongoing support to effectively utilize the existing system, leading to underutilization and dissatisfaction.

1.5 Core Components

- **User Interface (UI):**
  - The UI component encompasses the visual design, layout, and interactive elements of the website. It will be redesigned to provide a modern, aesthetically pleasing, and intuitive interface that enhances user experience and facilitates easy navigation for visitors, students, faculty, and administrators.

- **User Profiles:**
  - This component allows users to create and manage their profiles within the system. Each user role (visitor, student, faculty, admin) will have a dedicated profile where they can access personalized information, update their details, and manage their preferences.

- **Security Infrastructure:**
  - The security component will encompass measures to protect user data and prevent security breaches. This includes encryption protocols, access controls, authentication mechanisms, and monitoring tools to ensure compliance with data protection regulations and industry standards.

- **Integration Layer:**
  - This component facilitates seamless integration with existing university systems and external platforms. APIs (Application Programming Interfaces) and middleware will enable data exchange and interoperability between the new system and other systems such as student information systems, learning management systems, and financial systems.

- **Feedback Mechanisms:**
  - Feedback mechanisms will be integrated into the system to gather input from stakeholders and end users. This may include surveys, feedback forms, and user analytics tools to collect data on user interactions and preferences, allowing for continuous improvement and refinement of the system.

- **Administrative Tools:**
  - Administrative tools provide administrators with the functionality to manage system configurations, user accounts, content publishing, and other administrative tasks. These tools should be user-friendly and efficient to streamline administrative processes and ensure smooth system operation.

- **Documentation and Training Resources:**
  - Comprehensive documentation and training resources will be developed to support users in understanding and effectively utilizing the new system. This includes user guides, video tutorials, FAQs (Frequently Asked Questions), and help desk support to address user queries and issues.

1.6 Project Profile

❖ **Project Description:**

- The Noble University website design for getting knowledge about university. Any new student get admission in university they can visit website and enroll easily from website. Also it is used full for existing student every student have their own id by using this they login in this website and watch their own account in this they see their profile, result, any announcement and holiday time table etc.. In this also faculty panel available in this faculty can see query list which new user or visitor apply and also have writes to update student profile.

❖ **Project Objectives:**

- Improve user experience by redesigning the website interface and enhancing usability.
- Implement advanced functionalities tailored to the specific needs of different user roles.
- Enhance security measures to protect sensitive user data and mitigate risks.
- Facilitate seamless integration with existing university systems and platforms.
- Gather feedback from stakeholders and continuously iterate on the design and functionality.
- Provide comprehensive documentation, training materials, and support resources for users.

❖ **Project Scope:**

- Redesign website interface for improved aesthetics and usability.
- Implement user-specific functionalities for visitors, students, faculty, and administrators.
- Enhance security measures to protect user data and prevent unauthorized access.
- Integrate website with existing university systems and platforms.
- Gather feedback from stakeholders and iterate on design and functionality.
- Provide documentation, training materials, and ongoing support for users.

❖ **Project Deliverables:**

- Redesigned website interface with improved aesthetics and usability.
- Implemented user-specific functionalities tailored to different user roles.
- Enhanced security measures to protect sensitive user data.
- Seamless integration with existing university systems and platforms.
- Feedback mechanisms for gathering input from stakeholders and end users.
- Comprehensive documentation, training materials, and support resources.

1.7 Assumptions And Constraints

❖ **Assumptions:**

- It is assumed that stakeholders, including university administration, faculty, and students, will actively engage in providing feedback and requirements gathering throughout the project, ensuring alignment with their needs. Additionally, sufficient resources, including personnel, budget, and technology infrastructure, will be available as per the agreed-upon plan. The project team is assumed to possess the necessary technical expertise to design, develop, and implement the new website system effectively. Compliance with relevant data protection regulations and industry standards is assumed, supported by the compliance officer. Furthermore, existing university systems and platforms are assumed to have documented APIs or integration capabilities to facilitate seamless data exchange and interoperability with the new system.

❖ **Constraints:**

- Fixed budget and timeline limitations constrain resource allocation and may impact the scope of the project, requiring careful budget management and prioritization of tasks. Dependencies on legacy systems for integration pose compatibility challenges and may require additional effort for data migration and system integration, potentially affecting project scope and timeline. Stringent security and compliance requirements impose constraints on system architecture and deployment strategies, necessitating thorough risk assessments and mitigation measures. User adoption may be constrained by factors such as change management and training effectiveness, requiring careful planning and execution of user adoption strategies. Technical limitations, including hardware and software constraints, may impact system design and functionality, necessitating thorough analysis and mitigation strategies.

1.8 Advantages And Limitations Proposed System

❖ **Advantages:**

➢ **Enhanced User Experience:**
- The redesigned website will offer a modern, intuitive interface that improves navigation and accessibility for all user roles, enhancing overall user satisfaction and engagement.

➢ **Advanced Functionality:**
- The new system will provide tailored functionalities for visitors, students, faculty, and administrators, catering to their specific needs and streamlining their interactions with the platform.

➢ **Scalability:**
- With a scalable architecture, the system will be able to accommodate the university's growth in users, courses, and data volume without sacrificing performance or user experience.

➢ **Improved Security:**
- Robust security measures will safeguard sensitive user data and mitigate risks such as data breaches, ensuring compliance with data protection regulations and industry standards.

➢ **Seamless Integration:**
- Integration capabilities will facilitate seamless data exchange with existing university systems and platforms, optimizing workflow efficiency and reducing manual effort.

❖ **Limitations:**

➢ **Technical Complexity:**

- Developing and implementing advanced functionalities and integration capabilities may introduce technical complexities, requiring skilled resources and thorough testing to ensure system reliability and performance.

➢ **Resource Constraints:**

- Budget and timeline limitations may constrain resource allocation and scope expansion, potentially impacting the depth and breadth of features and functionalities that can be implemented within the project constraints.

➢ **Dependency Risks:**

- Dependencies on external vendors or services introduce potential risks related to reliability, service availability, and contract terms, which may impact project timelines and deliverables.

➢ **Regulatory Compliance:**

- Ensuring compliance with data protection regulations and industry standards may require ongoing monitoring and updates to policies and procedures, which could pose challenges in maintaining compliance over time.

Chapter – 2

Requirement Determination & Analysis

2.1 Requirement Determination

2.2 Targeted Users

2.1 Requirement Determination

- **Software:**
  - Node.js, Mongodb
  - Any Browser Like (Google Chrome, Internet Explorer, Mozilla etc.)
- **Hardware:**
  - Processor: P3 or higher
  - RAM: 512 MB or higher
  - Hard Disk: 50 GB or higher
- **Tools Used:**
  - **Front End:** HTML, CSS, JavaScript, Bootstrap, Angular
  - **Back End:** Node.js, Mongodb
  - **Operating System:** Windows 7 or higher

❖ **Requirement Determination:**

- **Stakeholder Identification:**
  - Identify all stakeholders involved in or affected by the project, including users, clients, managers, and developers.

- **Gathering Requirements:**
  - Collect requirements through various methods such as interviews, surveys, workshops, and observation sessions. This involves understanding the needs, goals, and expectations of stakeholders.

- **Analyzing Requirements:**
  - Analyze and prioritize requirements to determine their importance and feasibility. This involves identifying dependencies, conflicts, and potential trade-offs.

- **Validation:**
  - Validate requirements with stakeholders to ensure that they accurately represent their needs and expectations. This may involve review meetings, prototypes, or demonstrations.

- **Stakeholder Identification:**
  - Identify all stakeholders involved in or affected by the project, including users, clients, managers, and developers.

2.2 Targeted Users

Targeted users refer to the specific group of people or individuals for whom a product or service is designed or intended to be used. In the context of the Noble University project, targeted users would include anyone who researching about graduation or post-graduation course.

❖ **Targeted Users:**

- Prospective students and their families seeking information about academic programs, admissions procedures, and campus facilities.
- Alumni interested in reconnecting with the university, accessing alumni resources, and staying informed about university events.
- Potential donors, sponsors, and partners looking to learn about Noble University's mission, achievements, and opportunities for collaboration.
- Current undergraduate and graduate students enrolled in academic programs at Noble University.
- Prospective students exploring available courses, majors, and minors, as well as admission requirements and application processes.
- Alumni seeking access to academic transcripts, alumni networks, career services, and continuing education opportunities.
- Student organizations and clubs looking for resources, event management tools, and collaboration platforms.

Chapter – 3

System Design

3.1 Use Case Diagram

3.2 Class Diagram

3.3 Interaction Diagram

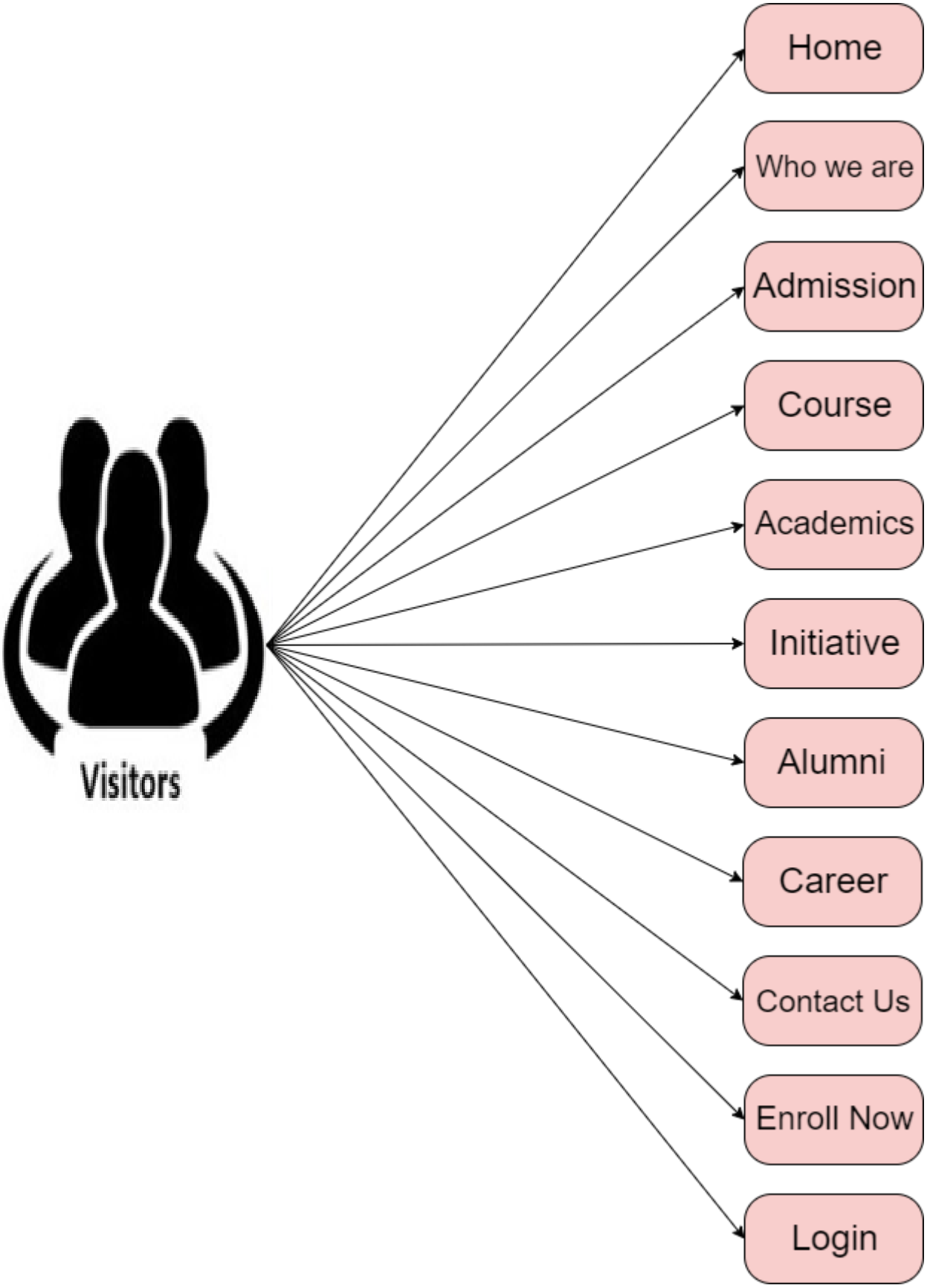
3.4 Activity Diagram

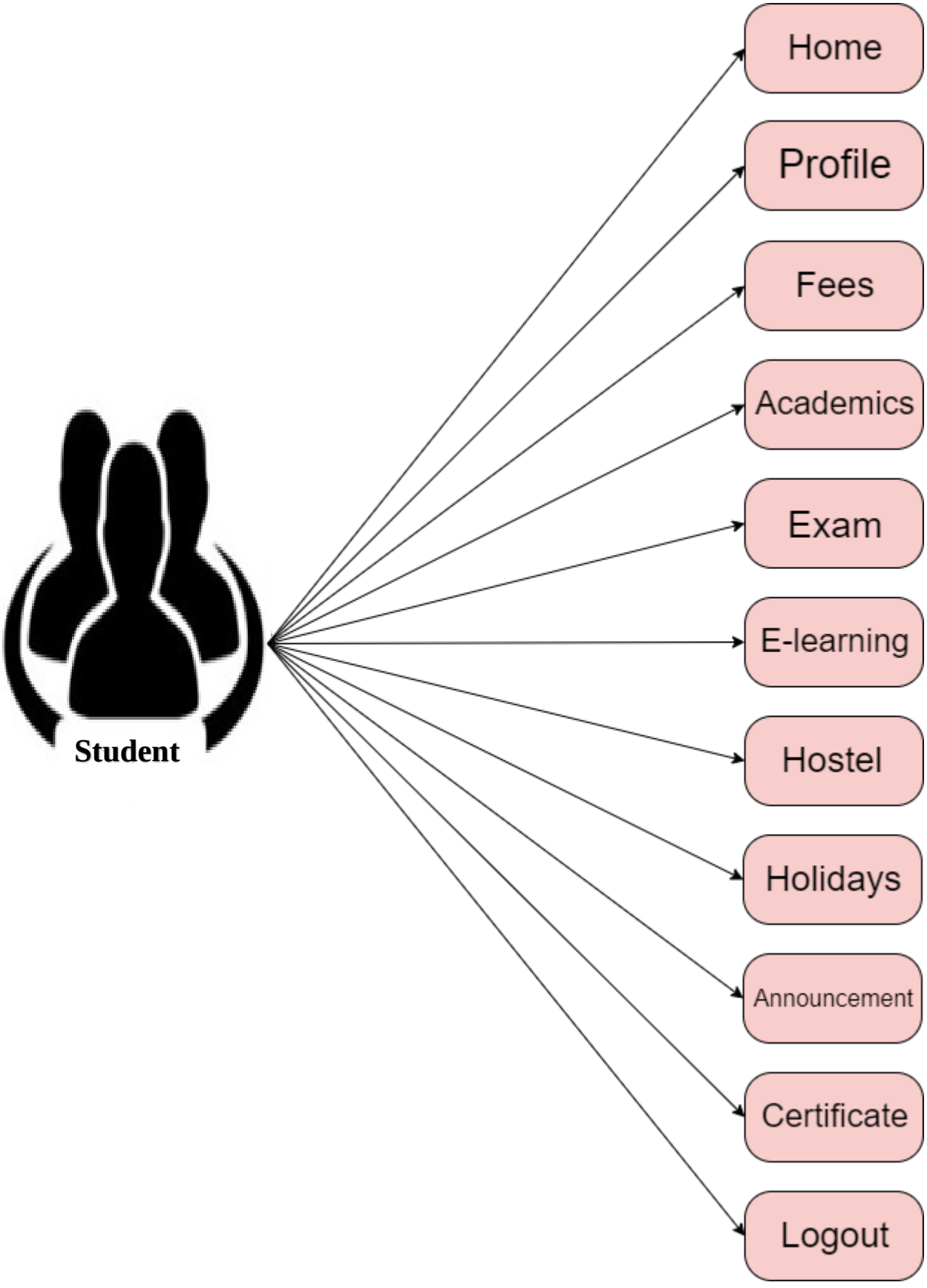
3.5 Data Dictionary

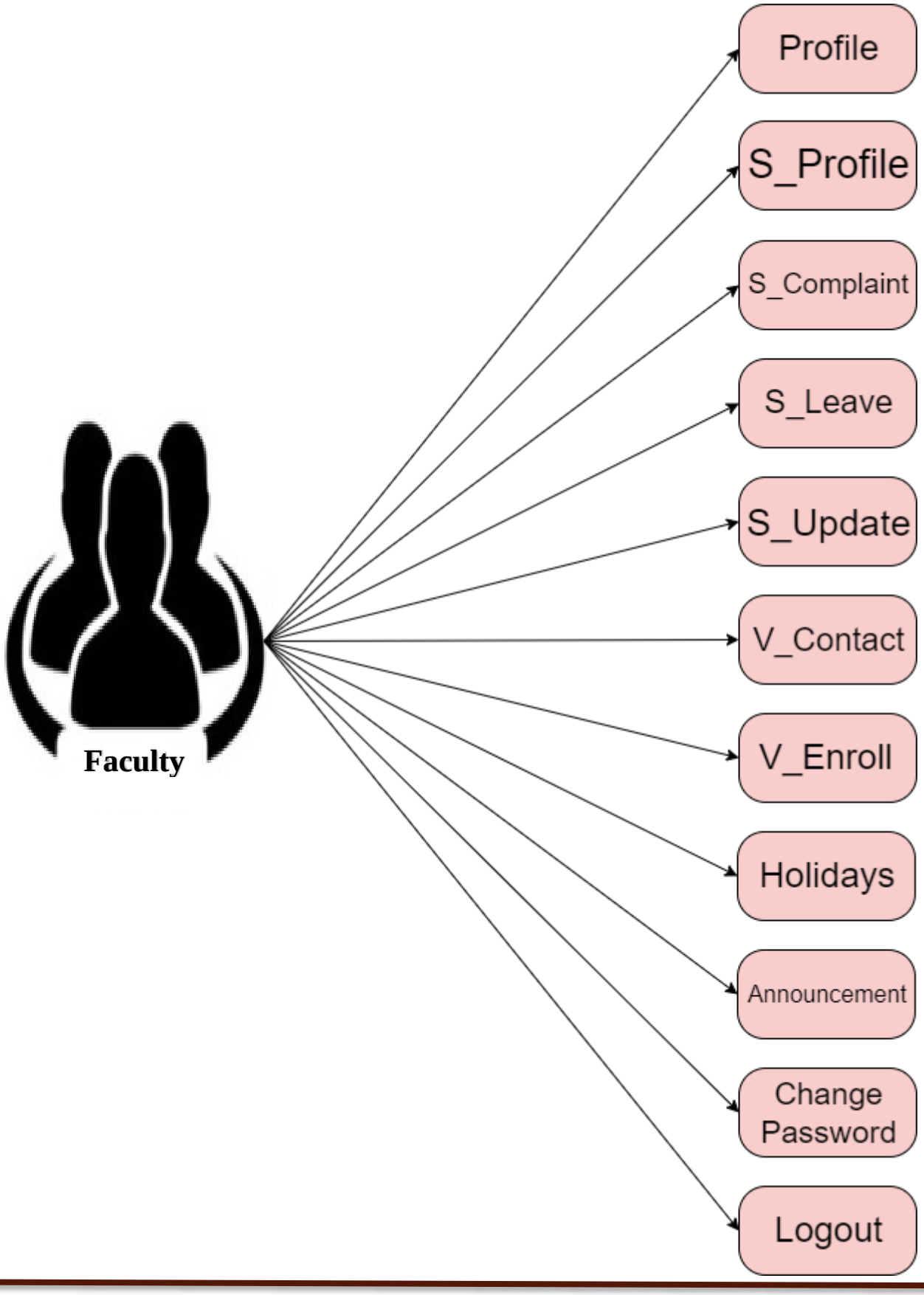
3.1 Use Case Diagram

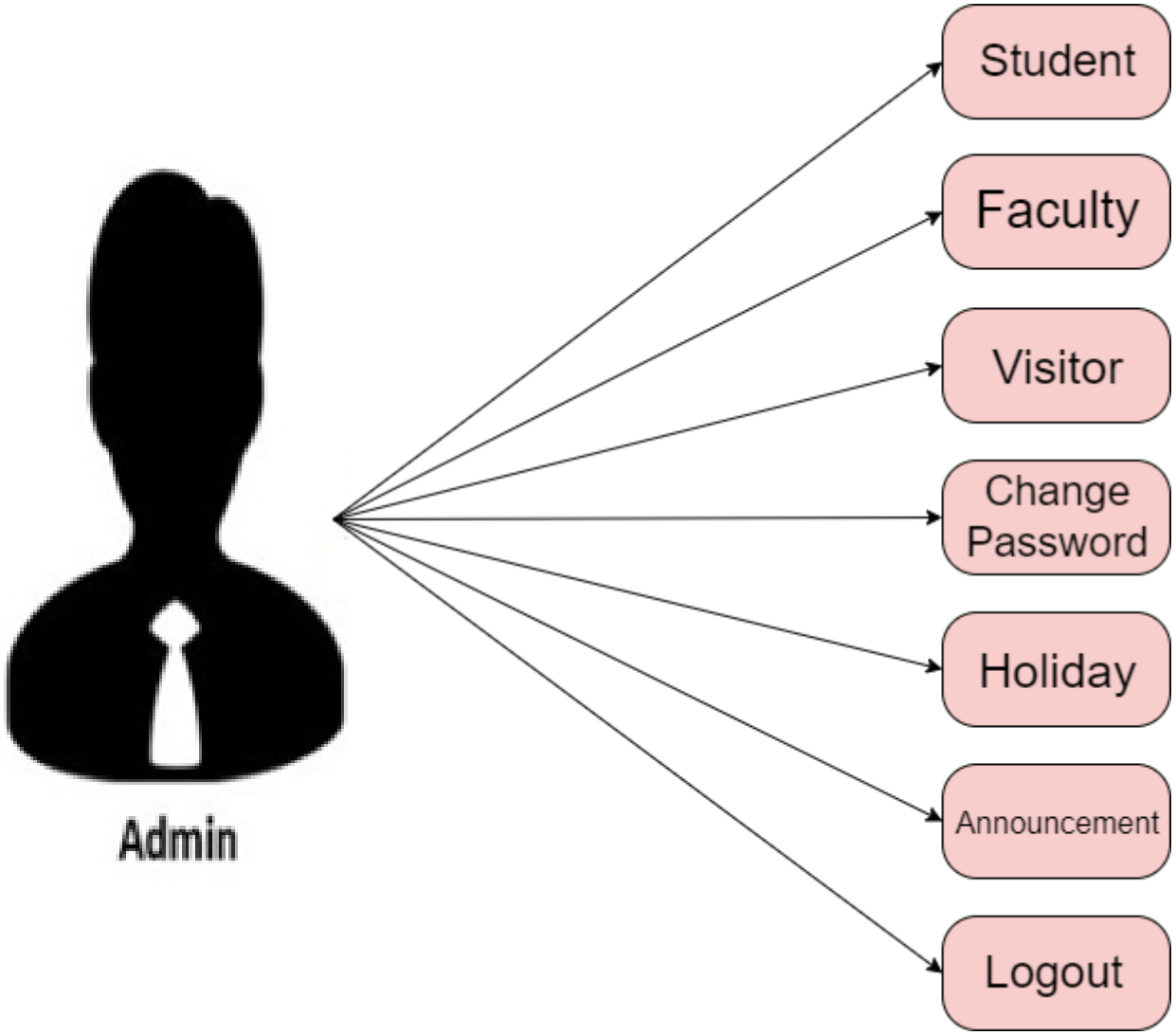
A use case diagram provides a high-level overview of the interactions between users or systems and the system being developed. In the case of the Noble University website, the users are the visitor, student, faculty, and admin. Here's a simplified use case diagram outlining the interactions between these users and the system:

Noble

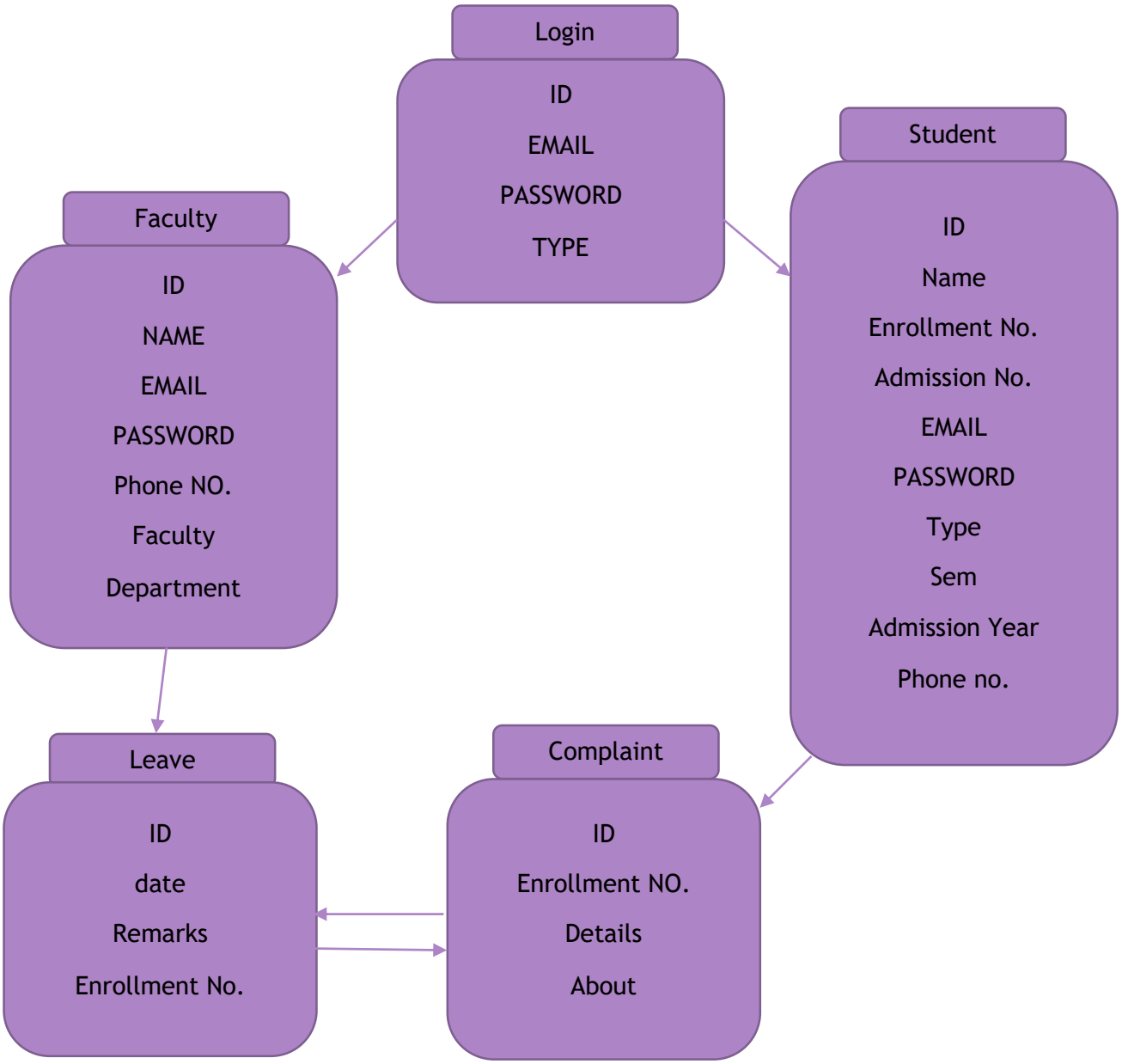

Home
Who we are
Admission
Course
Academics
Initiative
Alumni
Career
Contact Us
Enroll Now
Login
Visitors


Home
Profile
Fees
Academics
Exam
E-learning
Hostel
Holidays
Announcement
Certificate
Logout
Student

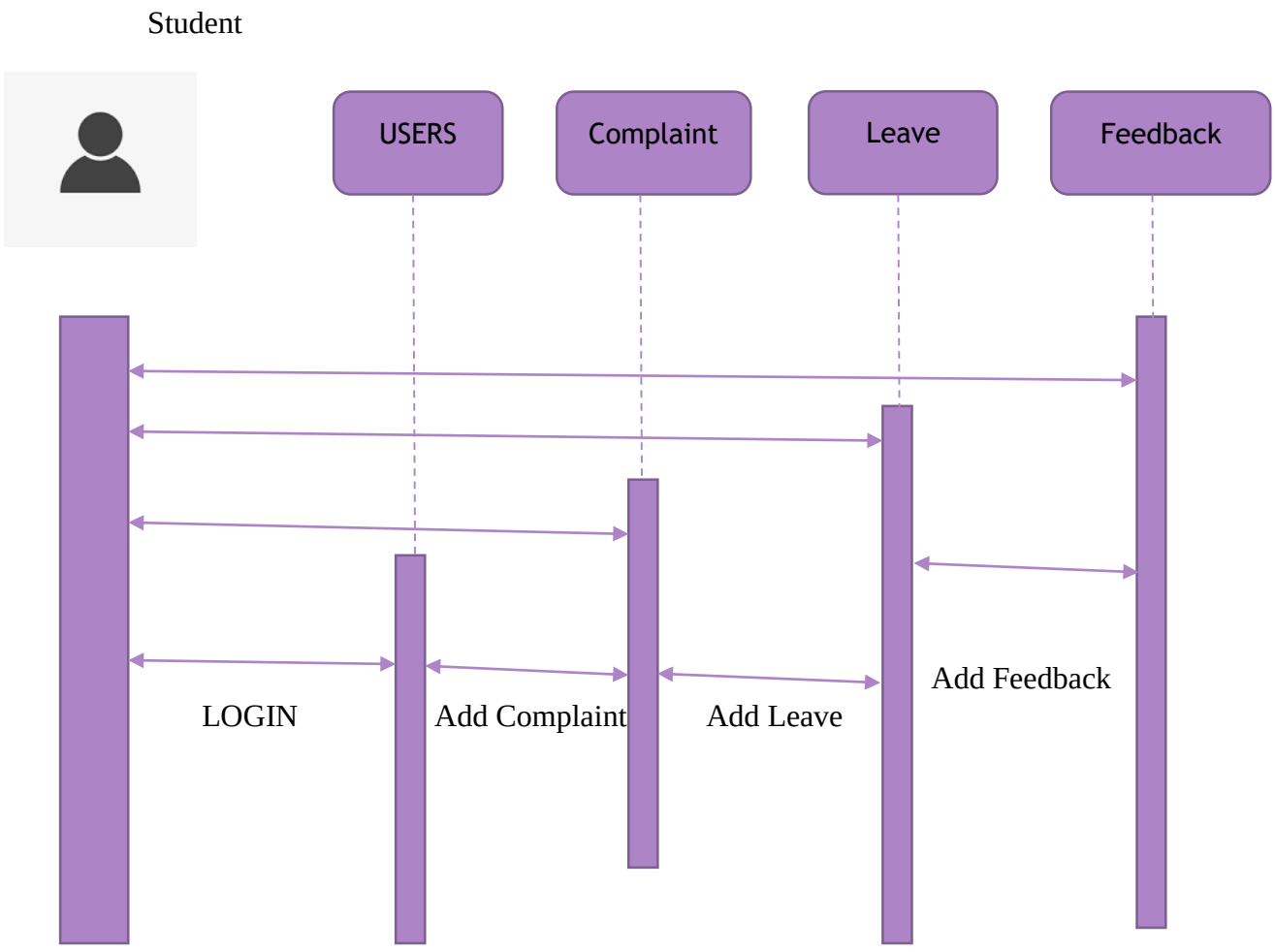

Profile
S_Profile
S_Complaint
S_Leave
S_Update
V_Contact
V_Enroll
Holidays
Announcement
Change Password
Logout
Faculty


Admin
Student
Faculty
Visitor
Change Password
Holiday
Announcement
Logout

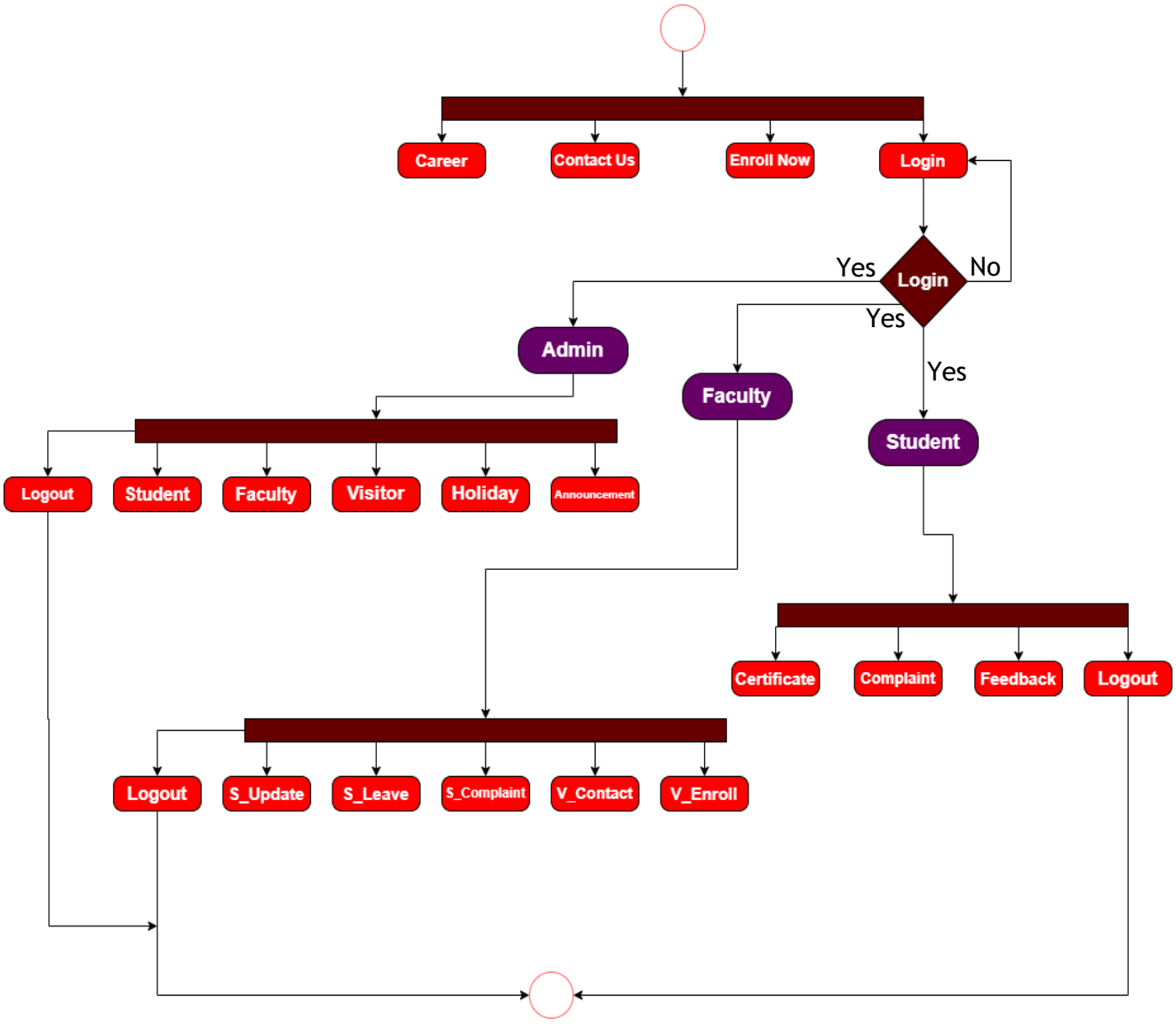
3.2 Class Diagram



3.3 Interaction Diagram



3.4 Activity Diagram



3.5 Data Dictionary

1) Login:

```
_id: ObjectId('663b4dcd3cd68c6f9c578e2c')
id : "66337f6e25bb8cd540296e04"
post : "Admin"
name : "Jigar Mashru"
password : "123"
email : "test@gmail.com"
__v : 0
```

2) Visitor Careers:

```
_id: ObjectId('663b1e0632745af8819fb3bb')
prefix : "Mr."
firstname : "Jigar"
middlename : "Hareshbhai"
lastname : "Mashru"
pno : 9106441410
email : "jigarmashru4@gmail.com"
applyforpost : "Professor"
applyforfacultyof : "Computer Application"
applyingfor : "Non Teaching"
file : Binary.createFromBase64('QzpcZmFrZXBhdGhcQ292ZXIgTGV0dGVyLnBkZg==', 0)
__v : 0
```

3) Student Certificate:


```
_id: ObjectId('663395f44ad71a3830572d4e')
name : "Jigar"
enrollmentno : 220441013
certificate : "Bonafide"
purposecertificate : "Leaving"
__v : 0
```


4) Student Complaint:


```
_id: ObjectId('663e0b43dc670c8053b7188c')
name : "Jigar Mashru"
enrollmentno : 220441013
complaint : "Grievance"
subcomplaint : "06 - Faculty Of Nursing (NU)"
description : "Hii, Testing Done."
__v : 0
```


5) Holidays:


```
_id: ObjectId('663e13dc13275725659d519f')
name : "test"
fromdate : "02/05/2024"
todate : "06/05/2024"
description : "testing done....."
__v : 0
```

Chapter – 4

Development

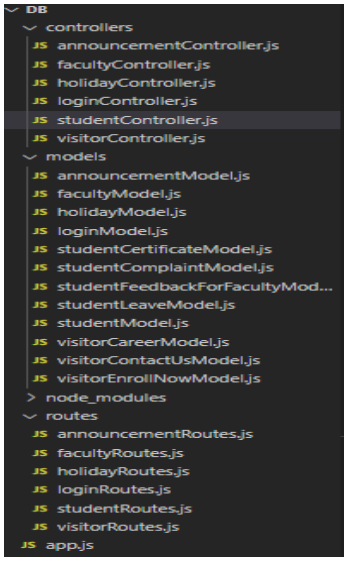
4.1 Coding Standards

4.2 Screen Shots

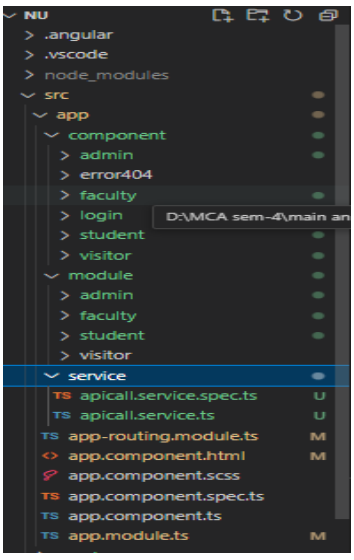
4.1 Coding Standards

❖ **Backend Folder Structure:**

❖

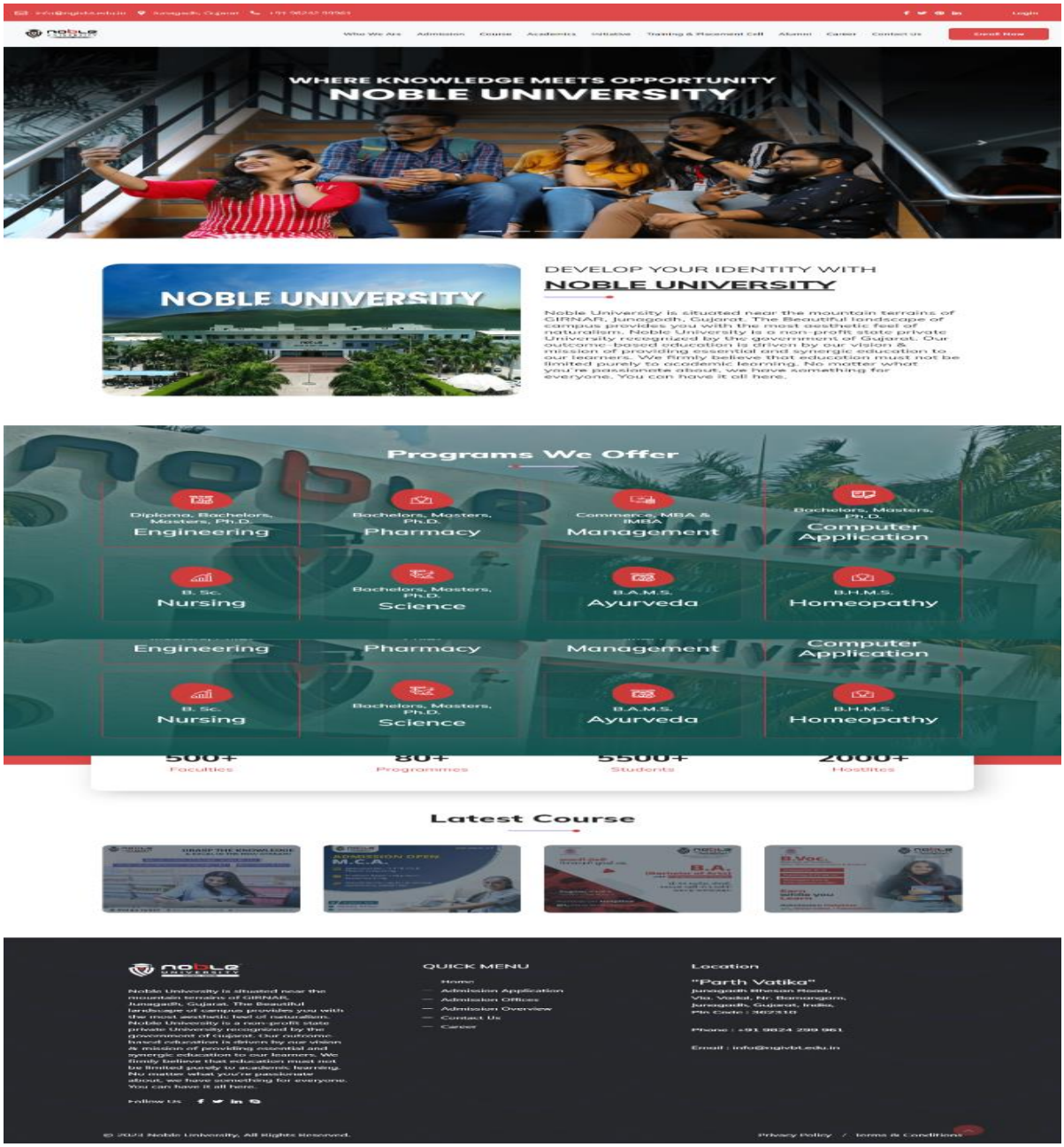


Frontend Folder Structure:

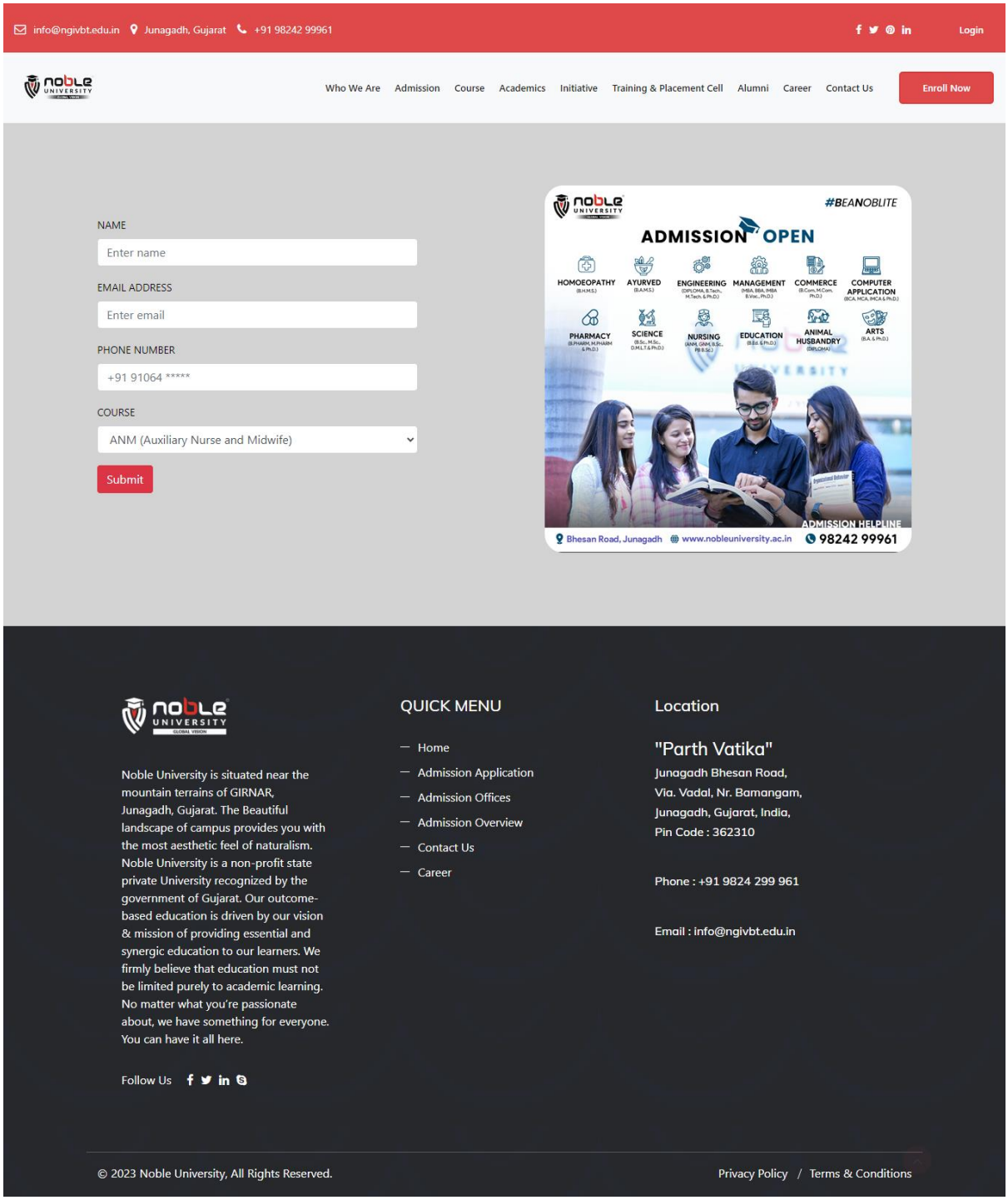


4.2 Screen Shots

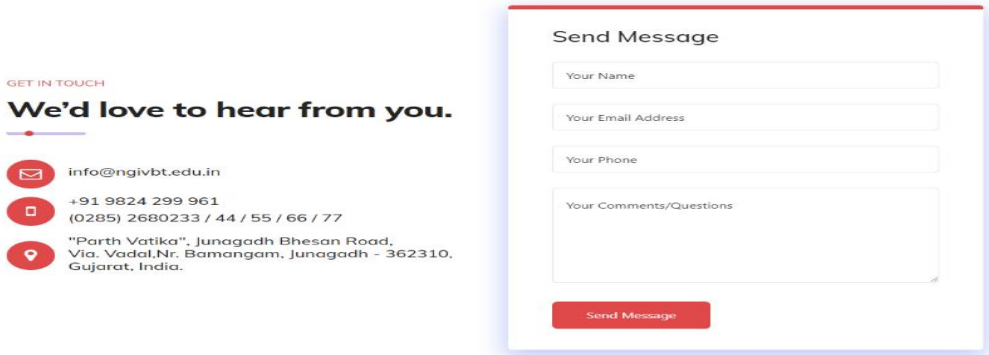
❖ **Visitor Home:**

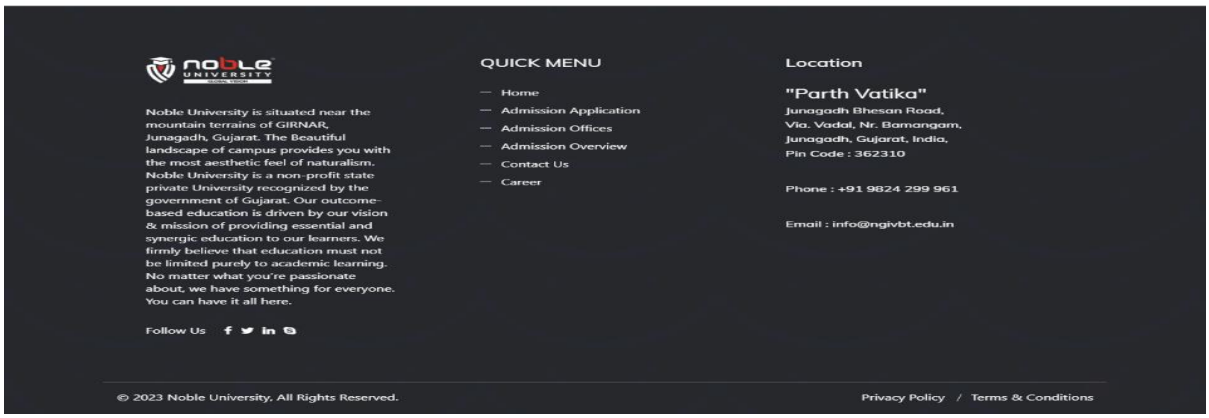


❖ Visitor Enroll Now:

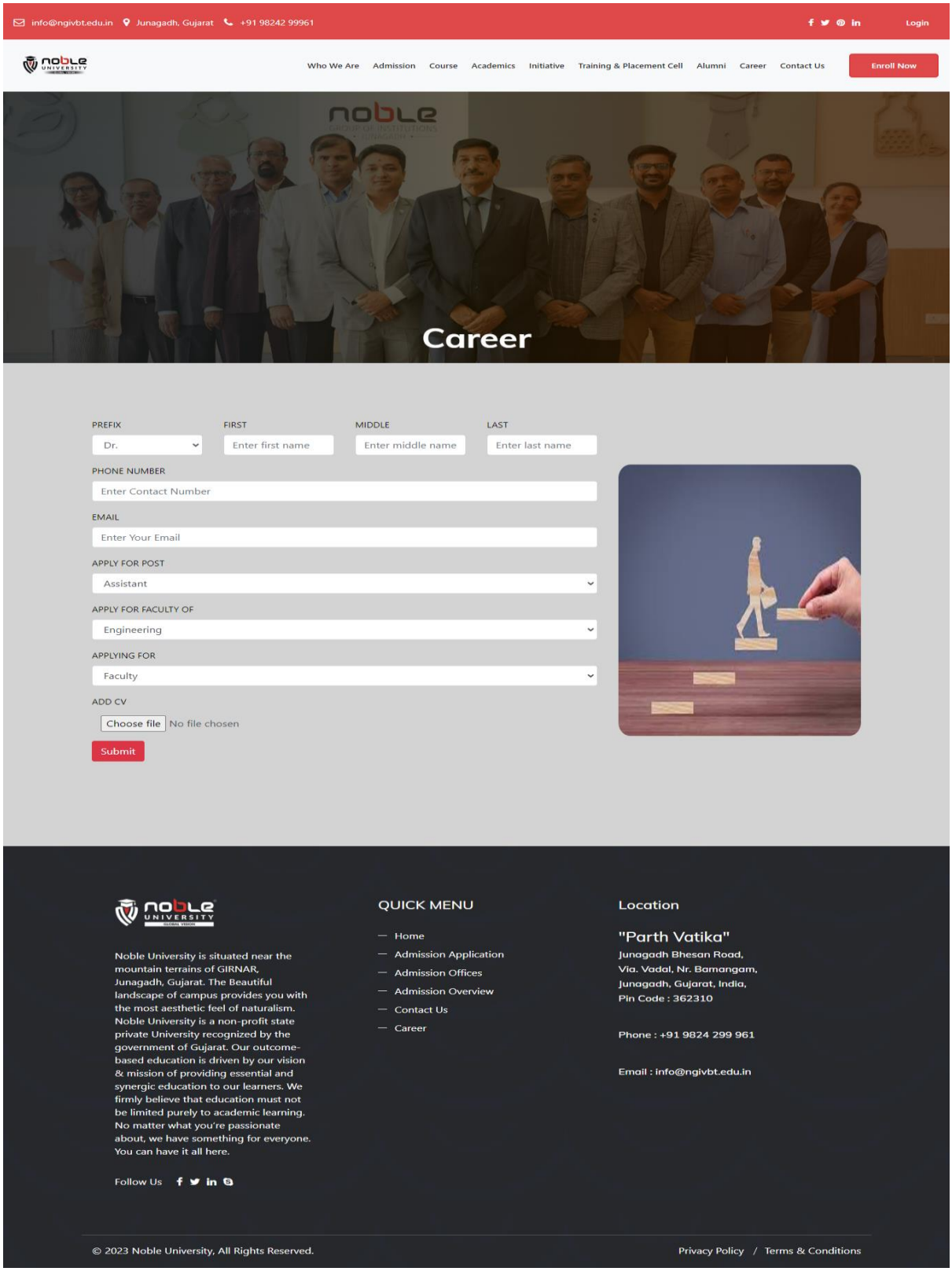


❖ Visitor Contact Us:





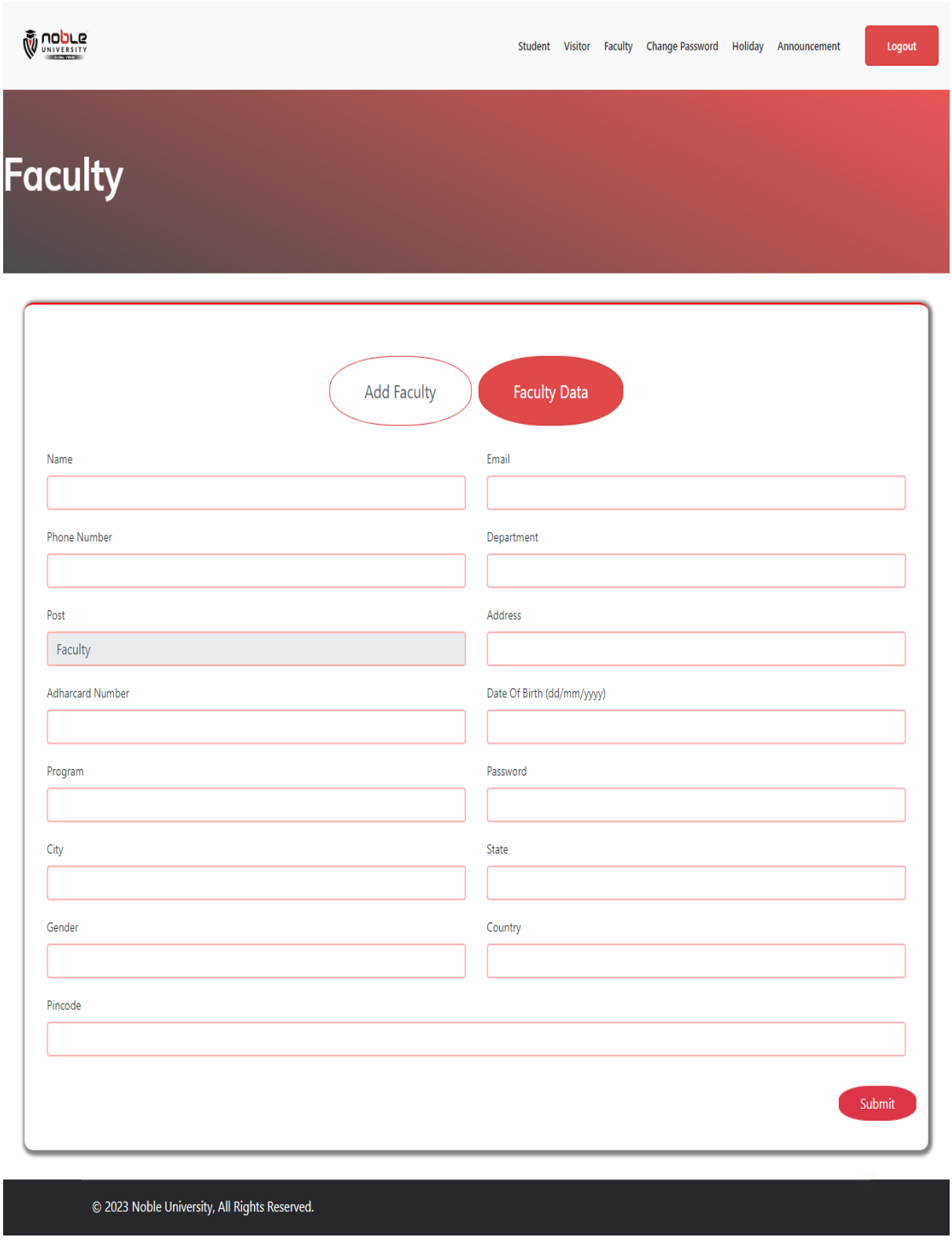
❖ Visitor Career:



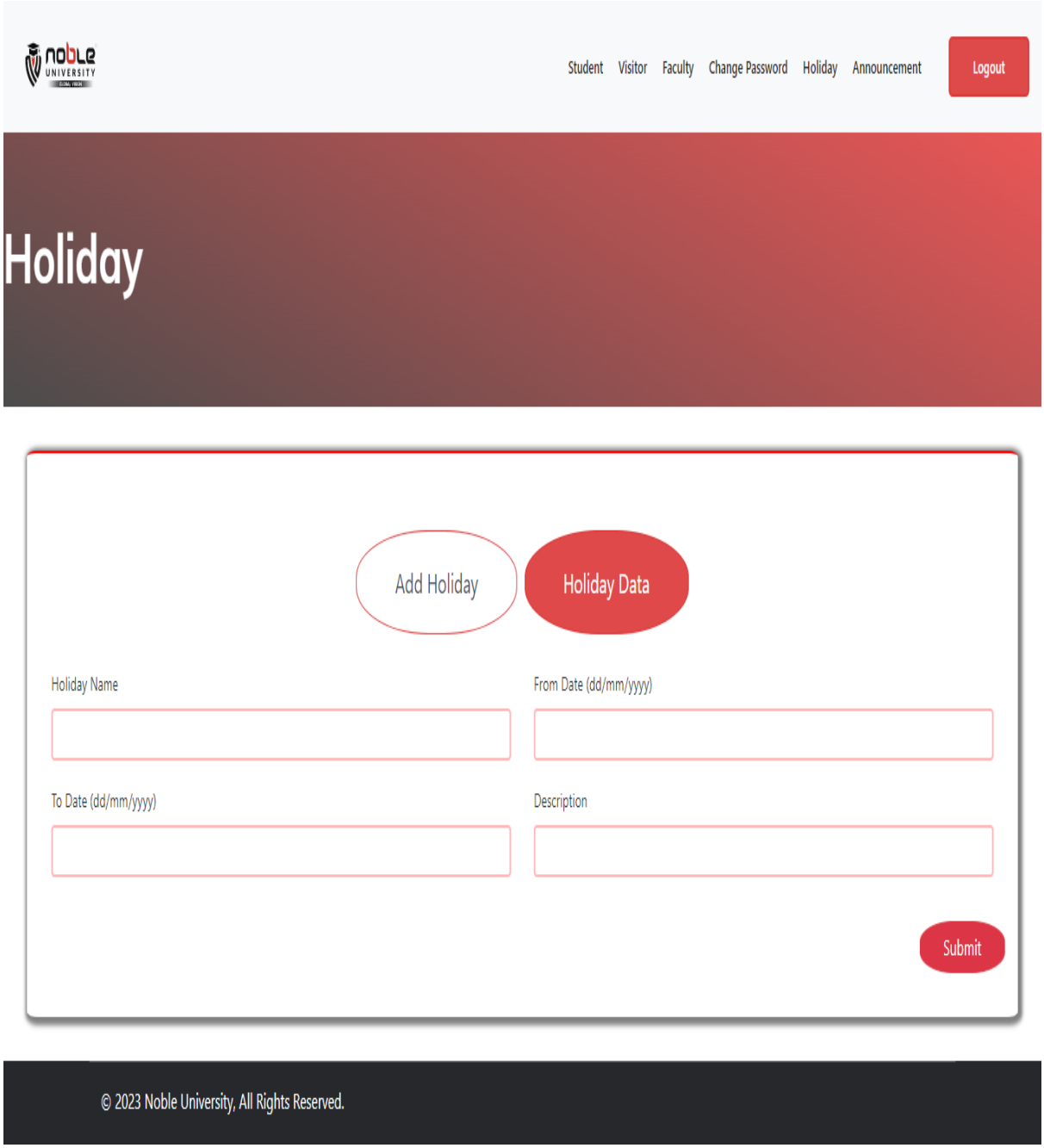
❖ **Login:**

noble
UNIVERSITY
Email
Password
Login
NOBLE JYOT
NOBLE JYOT

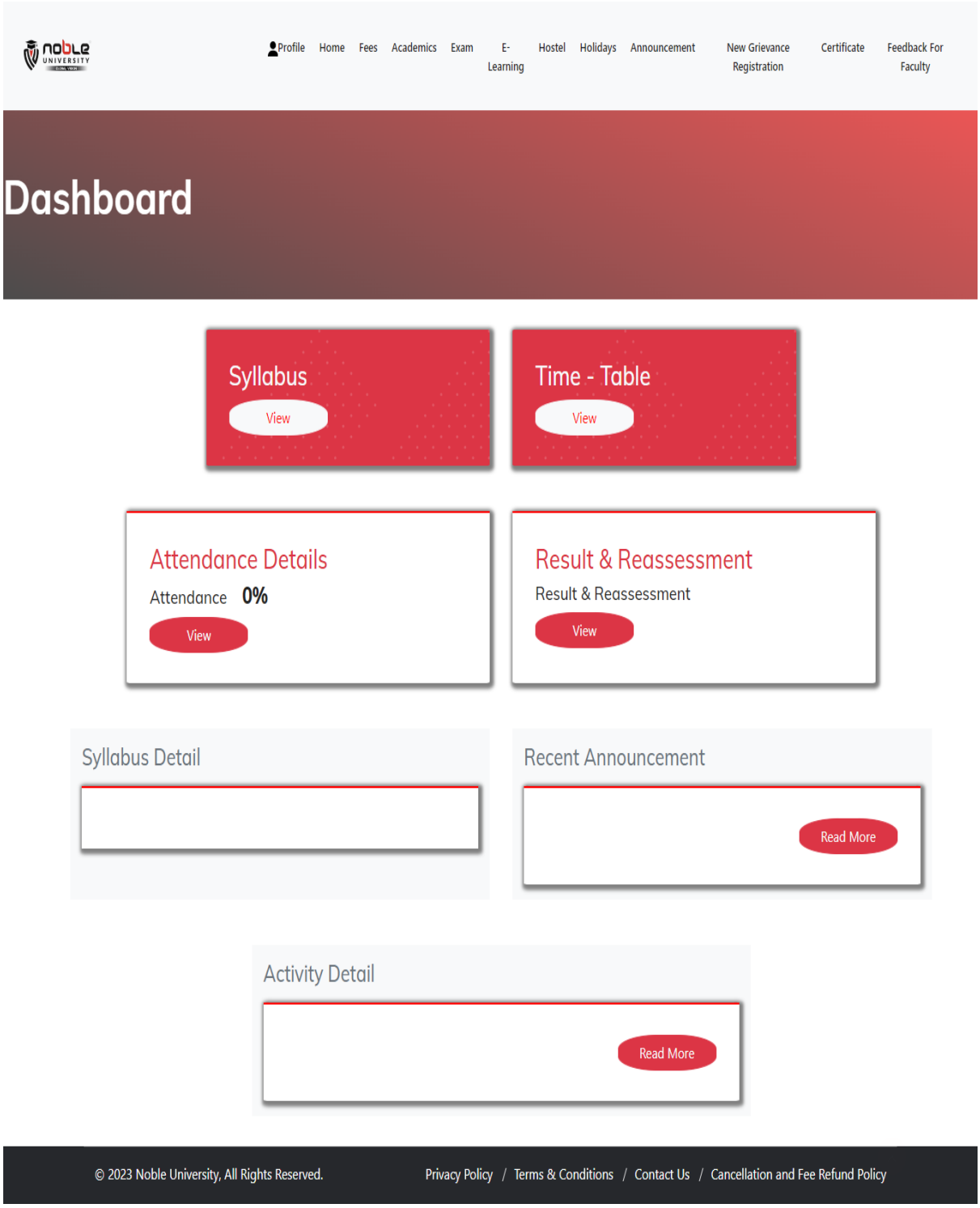
❖ Admin Faculty:



❖ Admin Holiday:

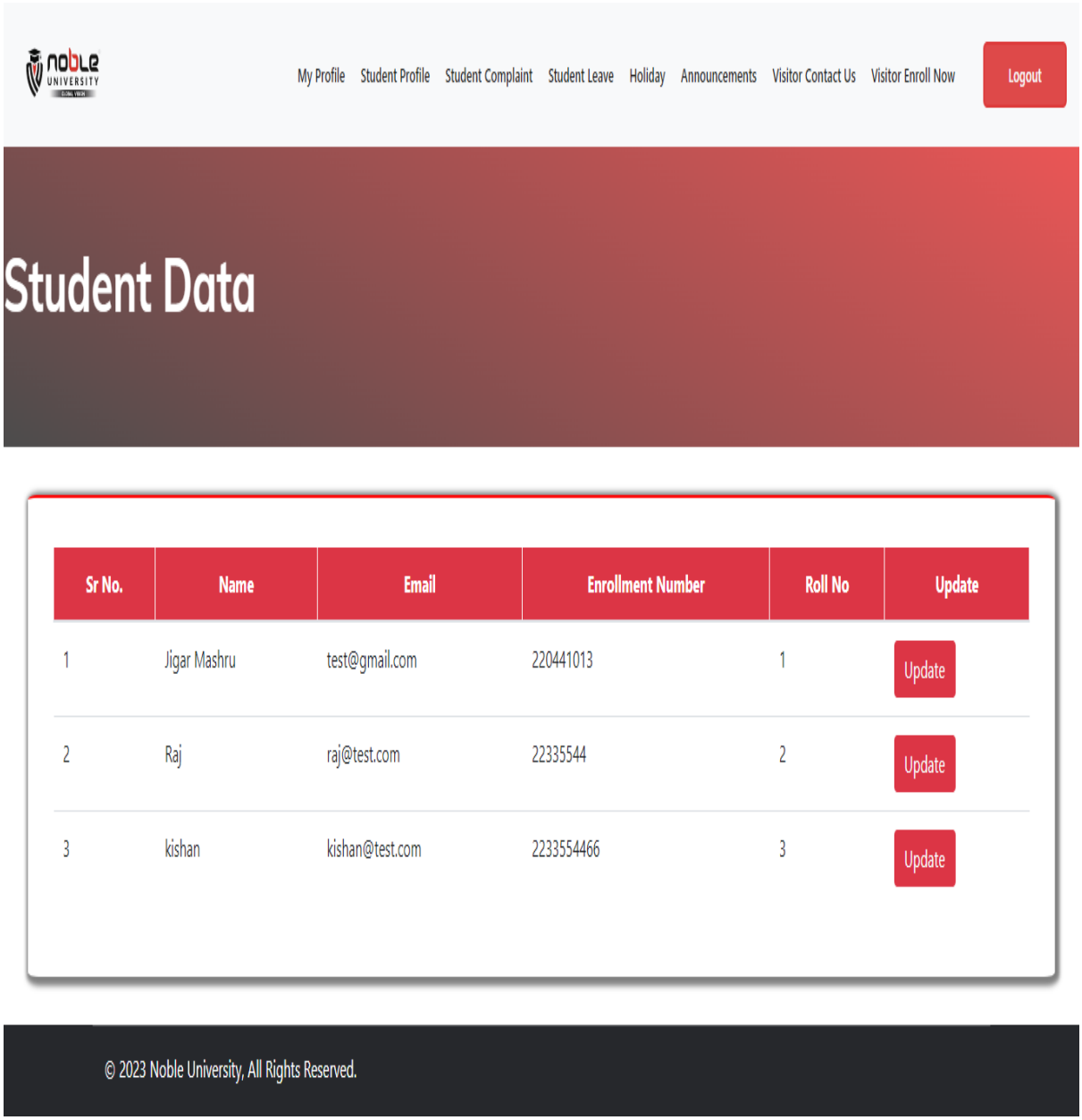


❖ Student Home:



❖ Student Feedback:

❖ **Student In Faculty Panel:**



Chapter – 5

Agile Documentation

5.1 Agile Project Charter

5.2 Agile Roadmap / Schedule

5.3 Agile Project Plan

5.4 Agile User Story (Minimum 3 Tasks)

5.5 Agile Release Plan

5.6 Agile Sprint Backlog

5.7 Agile Test Plan

5.8 Earned – value and burn charts

5.1 Agile Project Charter

❖ **Project Vision:**

- To create a modern and user-centric website for Noble University that caters to the needs of visitors, students, faculty, and administrators, enhancing accessibility, functionality, and user experience.

❖ **Project Objectives:**

- Redesign the Noble University website to improve navigation, accessibility, and overall user experience.
- Implement tailored functionalities for visitors, students, faculty, and administrators to meet their specific needs and requirements.
- Enhance security measures to safeguard sensitive user data and ensure compliance with data protection regulations.
- Foster collaboration and communication within the university community through features such as announcements, forums, and profile management.
- Increase user engagement and satisfaction by providing personalized experiences and intuitive interfaces across all user panels.

❖ **Project Scope:**

- Design and development of frontend and backend components for the Noble University website.
- Implementation of user authentication, authorization, and profile management functionalities.
- Integration with existing university systems and databases to ensure data consistency and interoperability.
- Deployment of security measures, including encryption, secure authentication methods, and data protection protocols.
- Testing and quality assurance to ensure functionality, usability, and performance meet project requirements.
- Documentation of system architecture, design decisions, and user manuals for future reference and maintenance.

❖ **Stakeholders:**

- **Project Name:** Noble University
- **Project Sponsor:** Jigar Mashru
- **Project Manager:** Jigar Mashru

❖ **Constraints:**

- **Time:** The Noble University Project Report must be completed within specify timeframe.
- **Resources:** Limited availability of resources for report development, including time and personnel.
- **Scope:** The report must focus on essential aspects of the Noble University project within defined boundaries.

❖ **Project Risks:**

- Technical challenges in integrating with existing university systems and databases.
- Scope creep due to evolving requirements and stakeholder feedback.
- Resource constraints, including budget limitations and availability of skilled personnel.
- Security vulnerabilities and compliance risks related to data protection regulations.
- User adoption challenges due to change management and training requirements.

❖ **Success Criteria:**

- Successful deployment of the redesigned Noble University website within the specified timeline and budget.
- Positive feedback from stakeholders, including improved user satisfaction and engagement metrics.
- Compliance with data protection regulations and industry standards, ensuring the security and privacy of user data.
- Seamless integration with existing university systems and databases, minimizing disruptions to ongoing operations.
- Achievement of project objectives, including enhanced functionality, accessibility, and user experience.

❖ **Milestones:**

- Project Kickoff and Requirements Gathering
- Design and Prototype Development
- Frontend and Backend Development
- Integration and Testing
- Deployment and User Acceptance Testing
- Project Closure and Handover

❖ **Cost Estimation:**

Working time estimation is as given,

2 months + 4 days = 64 days

5 hr / 64 day = 320 hours

Now, the expenses & cost estimation are given below:

Computer rent	= 2 ,000 /-
+ Light Bill Rs. 7 / unit	
Worth 400 units	= 2,800 /-
+ Database design & creation	= 4,200 /-
+ Coding& Validation	= 5000 /-
Amount	= 14,000 /-
Total	= 14,000 /-

5.2 Agile Roadmap / Schedule

- **Phase 1: Project Initiation (Week 1-2)**
  - **Kickoff Meeting:**
    - Gather project team and stakeholders to introduce the project objectives, scope, and timeline.
  - **Requirements Gathering:**
    - Conduct interviews and workshops to collect user stories, functional requirements, and acceptance criteria.
  - **Setup Environment:**
    - Configure development environments, version control systems, and project management tools.

- **Phase 2: Design and Planning (Week 3-4)**
  - **User Story Refinement:**
    - Refine user stories, prioritize backlog items, and create initial sprint plans.
  - **UI/UX Design:**
    - Develop wireframes, mockups, and prototypes for frontend components and user interfaces.
  - **System Architecture:**
    - Design backend architecture, database schemas, and integration points with existing systems.

- **Phase 3: Sprint 1 (Week 5-6)**

- **Sprint Planning:**
  - Select user stories from the backlog for implementation during the sprint.
- **Frontend Development:**
  - Implement frontend components using HTML, CSS, Bootstrap, and Angular.
- **Backend Development:**
  - Develop backend APIs, authentication mechanisms, and database interactions using Node.js and MongoDB.

❖ **Phase 4: Sprint 2 (Week 7-8)**

- **Sprint Planning:**
  - Review progress from Sprint 1 and select additional user stories for implementation.
- **Integration Testing:**
  - Test integration between frontend and backend components, identify and resolve any compatibility issues.
- **User Authentication:**
  - Implement user authentication and authorization functionalities to secure access to user profiles and data.

❖ **Phase 5: Sprint 3 (Week 9-10)**

- **Sprint Planning:**
  - Review progress from Sprint 2 and select remaining user stories for implementation.
- **Profile Management:**
  - Develop user profile management functionalities for students, faculty, and administrators.
- **Announcement System:**
  - Implement features for creating, managing, and displaying announcements to users across panels.

- **Phase 6: Sprint 4 (Week 11-12)**
  - **Sprint Planning:**
    - Review progress from previous sprints and prioritize remaining tasks based on project objectives.
  - **Testing and Bug Fixing:**
    - Conduct comprehensive testing of all system functionalities, identify and address any bugs or issues.
  - **Documentation:**
    - Prepare system documentation, including user manuals, API guides, and deployment instructions.

- **Phase 7: Deployment and Launch (Week 13)**
  - **User Acceptance Testing:**
    - Invite stakeholders to participate in user acceptance testing to validate system functionality and usability.
  - **Deployment:**
    - Deploy the redesigned Noble University website to production servers, ensuring a smooth transition from development to production environment.
  - **Launch:**
    - Announce the official launch of the new website to the university community, including students, faculty, and administrators.

- **Phase 8: Post-Launch Support and Maintenance (Ongoing)**
  - **Monitoring and Optimization:**
    - Monitor system performance, user feedback, and usage metrics to identify areas for optimization and improvement.
  - **Bug Fixes and Updates:**
    - Address any issues or bugs reported by users, implement minor updates and enhancements as needed.
  - **Continuous Improvement:**
    - Collect feedback from users and stakeholders to inform future iterations and enhancements to the website.

5.3 Agile Project Plan

- **Project Initiation:**
  - **Duration:** 1 week
  - Define project vision, goals, and scope.
  - Identify stakeholders and establish communication channels.
  - Set up project infrastructure (development environment, collaboration tools).

- **Sprint Planning and Execution:**
  - **Duration:** 4 weeks (4 sprints)
  - Conduct sprint planning meetings to prioritize user stories.
  - Execute development sprints focusing on implementing prioritized
  - user stories.
  - Conduct daily stand-up meetings for progress tracking and issue resolution.

- **Sprint Review and Retrospective:**
  - **Duration:** Ongoing (after each sprint)
  - Demo completed features to stakeholders.
  - Conduct sprint retrospective meetings to reflect on performance and identify improvements.

- **Testing and Quality Assurance:**
  - **Duration:** 2 week
  - Conduct comprehensive testing including unit tests, integration tests, and user acceptance testing (UAT).
  - Identify and address bugs and usability issues.

- **Documentation and Reporting:**
  - **Duration:** 1 week
  - Prepare project documentation including technical specifications, user manuals, and release notes.
  - Compile project reports summarizing progress, achievements, and lessons learned.

- **Project Closure:**
  - **Duration:** 1 week
  - Conduct final project review with stakeholders to evaluate outcomes and gather feedback.
  - Complete administrative tasks and close out the project.

5.4 Agile User Story (Minimum 3 Task)

As a student, I want to be able to manage my profile information on the Noble University website so that I can keep my personal details up-to-date.

❖ **Tasks:**

➢ **Task 1: Create Profile Page**

- **Description:**
  - Develop a page where students can view and edit their profile information.
- **Acceptance Criteria:**
  - The page should display student's personal details such as name, email, and contact information.
  - Students should be able to edit their profile information and save changes.
  - Validation should be implemented to ensure that required fields are filled correctly.

- **Task 2: Implement Profile Editing Functionality**
  - **Description:**
    - Enable students to edit their profile information.
  - **Acceptance Criteria:**
    - When a student clicks on the "Edit Profile" button, the fields should become editable.
    - Students should be able to make changes to their personal details, including name, email, phone number, and address.
    - Changes made by the student should be reflected in the database upon saving.

- **Task 3: Add Profile Picture Upload Feature**
  - **Description:**
    - Allow students to upload or change their profile pictures.
  - **Acceptance Criteria:**
    - Students should have the option to upload a profile picture from their device.
    - The uploaded picture should be displayed on the profile page.
    - Accepted image formats should be specified, and validation should be implemented to ensure compatibility.

5.5 Agile Release Plan

❖ **Release 1: Basic Functionality**

➢ **Release Goal:**

- Implement core functionalities to provide basic features for users to interact with the Noble University website.

➢ **Duration:**

- 3 Sprints (6 weeks)
  - **Sprint 1: Frontend Setup and Authentication**
    - ♦ Develop basic frontend layout using HTML, CSS, and Bootstrap.
    - ♦ Configure backend server with Node.js.
    - ♦ Implement user authentication mechanism.
  - **Sprint 2: Profile Management and Course Information**
    - ♦ Create user profile management features for students.
    - ♦ Develop functionalities for viewing course information for visitors.
    - ♦ Implement announcement system for publishing updates.
  - **Sprint 3: User Panels and Integration**
    - ♦ Develop student, faculty, and admin panels with respective functionalities.
    - ♦ Integrate frontend and backend components.
    - ♦ Conduct integration testing to ensure seamless functionality.

- **Release 2: Enhanced Features**
  - **Release Goal:**
    - Enhance user experience and add additional features to improve usability and engagement.
  - **Duration:**
    - 2 Sprints (4 weeks)
      - **Sprint 4: Advanced Profile Management**
        - Enhance profile management features with additional fields and options.
        - Implement profile picture upload functionality for students.
        - Develop user profile viewing and editing features for faculty and admin panels.
      - **Sprint 5: Interactive Features and Optimization**
        - Add interactive elements such as forums or discussion boards for student engagement.
        - Optimize website performance and responsiveness across different devices.
        - Conduct user acceptance testing and gather feedback for further improvements.

- **Release 3: Final Touches and Deployment**
  - **Release Goal:**
    - Finalize remaining features, address any outstanding issues, and prepare for deployment.
  - **Duration:**
    - 1 Sprint (2 weeks)
      - **Sprint 6: Bug Fixes and Deployment**
        - Address any reported bugs or issues identified during testing.
        - Conduct final testing and quality assurance checks.
        - Prepare documentation and user manuals.
        - Deploy the Noble University website to production servers.

5.6 Agile Sprint Backlog

User Story	Tasks
Frontend Setup and Authentication	1. Develop basic frontend layout using HTML, CSS, and Bootstrap.
	2. Configure backend server with Node.js. Set up routing for authentication endpoints.
	3. Create login and registration forms.
Profile Management and Course Information	4. Develop a page where students can view and edit their profile information.
	5. Enable students to edit their profile information.
	6. Create features for displaying course information for visitors.
User Panels and Integration	7. Develop features for students to view their profiles, results, and announcements.
	8. Implement functionalities for faculty to view student profiles and update details.
	9. Develop user management features for admins to add/edit student and faculty profiles.

5.7 Agile Test Plan

❖ **Testing Approach:**
- ➢ **Continuous Testing:**
  - Testing activities will be integrated into each sprint, allowing for continuous feedback and improvement.
- ➢ **Collaborative Testing:**
  - Testing will involve collaboration between developers, testers, and stakeholders to identify issues early and address them promptly.
- ➢ **Automation:**
  - Where applicable, automated testing tools and scripts will be utilized to streamline testing processes and improve efficiency.

❖ **Testing Activities:**
- ➢ **Unit Testing:**
  - Developers will perform unit tests on individual components to ensure they function correctly in isolation.
- ➢ **Integration Testing:**
  - Integrated components will be tested to verify interactions and interfaces between frontend and backend systems.
- ➢ **User Acceptance Testing (UAT):**
  - Stakeholders will conduct UAT to validate system functionality, usability, and alignment with business requirements.
- ➢ **Security Testing:**
  - The system will undergo security testing to identify and mitigate vulnerabilities, including penetration testing and code reviews.
- ➢ **Performance Testing:**
  - Performance testing will be conducted to assess system responsiveness, scalability, and resource utilization under varying loads.

- **Testing Criteria:**
  - **Functional Requirements:**
    - Verify that all functional requirements outlined in user stories and acceptance criteria are met.
  - **Usability:**
    - Assess user interface design, navigation, and accessibility to ensure an intuitive and user-friendly experience.
  - **Performance:**
    - Evaluate system performance under normal and peak loads, ensuring responsiveness and scalability.
  - **Security:**
    - Identify and address security vulnerabilities, including authentication, authorization, data encryption, and protection against common attacks.
  - **Compatibility:**
    - Test compatibility across different browsers, devices, and operating systems to ensure consistent behavior.

- **Testing Schedule:**
  - Testing activities will be conducted iteratively throughout each sprint, with specific testing tasks identified and assigned in alignment with development activities. Continuous testing and feedback loops will facilitate early detection and resolution of issues, ensuring timely delivery of quality software.

5.8 Earned-Value And Burn Charts

A Burn Chart, also known as a Burn Down Chart, is a visual representation of the amount of work completed over time in a project. It helps project teams track their progress towards completing a set amount of work within a specific timeframe.

Burn Charts provide a visual representation of how work is being completed over time. Team members can easily see if they are on track to complete the work within the desired timeframe.

Burn Charts can be used to forecast when the project will be completed based on the current rate of work completion. This helps project teams make informed decisions about resource allocation and project scheduling.

Earned Value, Actual Cost, and Planned Value are important metrics used in project management to measure progress, track costs, and assess performance. They provide valuable insights into the health and status of a project, enabling project managers to make informed decisions and take corrective actions as needed.

❖ **Burn Chart:**

- **Earned Value (EV):**

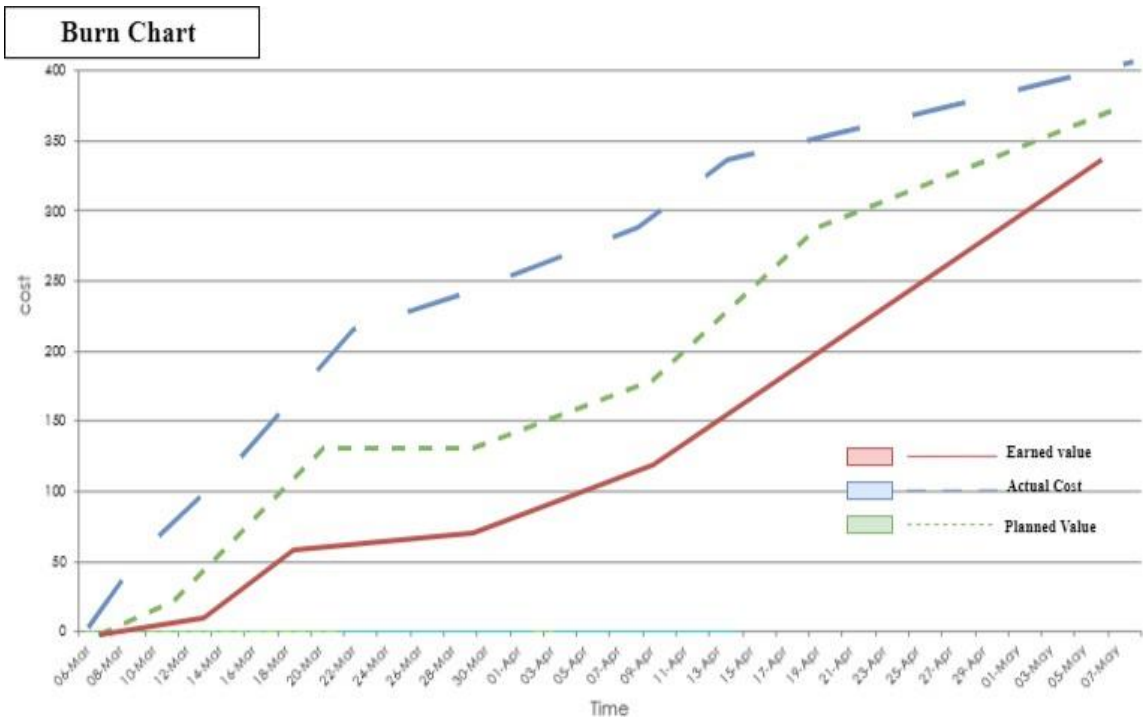
  Earned Value is a project management technique used to measure the value of work completed at a specific point in time.

- **Actual Cost (AC):**

  Actual Cost is the total cost incurred for the work performed on a project at a specific point in time.

- **Planned Value (PV):**

  Planned Value is the budgeted cost of work scheduled to be completed at a specific point in time.



Chapter – 6

Proposed Enhancements

- **Interactive Course Catalog:**
  - Enhance the course information section with interactive features such as filtering options based on department, level, or semester. Implement a search functionality allowing users to easily find courses based on keywords or specific criteria. Additionally, incorporate multimedia elements such as videos or virtual tours to provide a richer understanding of each course.

- **Collaborative Learning Spaces:**
  - Introduce virtual collaborative learning spaces where students can engage in group discussions, project collaborations, and peer-to-peer learning. Integrated messaging and file-sharing functionalities would facilitate seamless communication and collaboration among students and faculty members, fostering a sense of community and enhancing the learning experience.

- **Personalized Recommendations:**
  - Implement a recommendation engine based on user preferences, academic history, and interests. Provide personalized course suggestions, extracurricular activities, and resources tailored to each user's profile. Utilize machine learning algorithms to continuously refine and improve recommendations based on user interactions and feedback.

- **Mobile Application:**
  - Develop a mobile application companion for the Noble University website, offering convenient access to key functionalities and resources on smartphones and tablets. The mobile app could include features such as course enrollment, event notifications, campus maps, and real-time updates, enhancing accessibility and engagement for users on the go.

- **Virtual Campus Tours:**
  - Create immersive virtual campus tours using augmented reality (AR) or virtual reality (VR) technology. Allow prospective students and visitors to explore campus facilities, classrooms, libraries, and recreational areas from the comfort of their homes. Virtual tours could also include interactive guides and multimedia content to provide a comprehensive campus experience.

- **Student Feedback System:**
  - Implement a feedback system where students can anonymously provide feedback on courses, instructors, and university services. Collect and analyze feedback data to identify areas for improvement and enhance the overall student experience. Provide mechanisms for administrators to respond to feedback and take appropriate actions to address concerns raised by students.

- **Career Services Platform:**
  - Develop a dedicated platform for career services, connecting students with internship opportunities, job postings, career counseling, and professional development resources. Allow students to create online profiles showcasing their skills, experiences, and career goals, enabling employers to discover and recruit top talent from Noble University.

Chapter – 7

Conclusion

In conclusion, the proposed enhancements for the Noble University website aim to transform it into a cutting-edge platform that not only meets the basic needs of users but also exceeds expectations by providing innovative features and personalized experiences. By incorporating interactive course catalogs, collaborative learning spaces, and personalized recommendations, the website can cater to the diverse learning preferences and interests of students while promoting engagement and academic success.

Furthermore, the introduction of a mobile application, virtual campus tours, and career services platform enhances accessibility and connectivity, allowing users to seamlessly navigate campus life, explore career opportunities, and stay informed on the go. Integration with alumni networks, multilingual support, and gamification elements further enrich the user experience, fostering a sense of community, inclusivity, and achievement within the university ecosystem.

In essence, these proposed enhancements reflect a commitment to continuous improvement and innovation, aligning with Noble University's mission to provide a dynamic, supportive, and transformative educational experience for its students, faculty, alumni, and stakeholders. By implementing these enhancements, the Noble University website can serve as a hub for learning, collaboration, and growth, empowering individuals to achieve their academic and professional aspirations in an ever-evolving digital landscape.

Chapter – 8

Bibliography

For the successful implementation of this project, I've relied on a variety of sources for code snippets, logic, and valuable tips and tricks. I've extensively searched for the required resources on Google.com, utilizing its vast repository of information.

Additionally, I've gained practical experience and insights through an internship, where I had the opportunity to apply theoretical knowledge to real- world scenarios and collaborate with industry professionals. This hands-on experience has been instrumental in enhancing my skills and understanding of the project's requirements.

Web Links:

- GitHub
- Bootstrap.com
- Stack Overflow
- Chat GPT

THANK YOU