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ApplyBoard: A Platform to facilitate overseas education

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Independent University, Bangladesh

ApplyBoard: A Platform to facilitate overseas education

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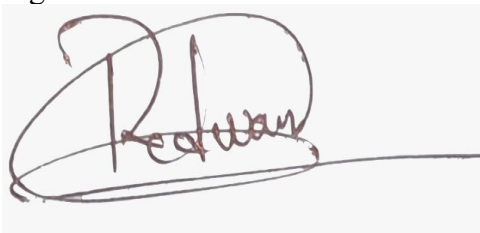Independent University, Bangladesh

October 15, 2023

This dissertation submitted in partial fulfillment for the degree of
Bachelor of Science in Computer Science

Department of Computer Science & Engineering

Independent University, Bangladesh

Attestation

This is a declaration that I, Redwan Masud Arko (ID: 1710336), have completed the report and have submitted it in part-fulfillment of the requirements for the Degree in Computer Science and Engineering from Independent University, Bangladesh (IUB). It has been finished under Md Shakhawat Hossain's supervision. Additionally, I certify that everything I have completed for my internship is original. All information sources used in this project and report have been properly acknowledged.

Signature

Date 15.10.2023

Write Your Name Here

_____

Name: Redwan Masud Arko

Acknowledgement

Letter of Transmittal

September 2023
Md Shakhawat Hossain, PHD
Assistant professor
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Subject: Report submission of the internship

Dear Sir,

With due respect and honor, I would like to submit my report of Internship for the completion of my Bachelor of Computer Science and Engineering degree. I prepared this report based on my internship experience in Bee Technology and Research Hub starting from 29th of April, 2023 till 15th of August . I was assigned in the development team as a Front-end Developer intern. I successfully served my internship period in BTRH.

In BTRH I worked under the supervision of Yeaser Karim, Head of Operations. This report is based on my project in BTRH. I was assigned with the project ApplyBoard website, where I worked as the front-end and back-end developer with the team. My experience in BTRH was great. The main objective of the internship is to learn and gain knowledge and enhance our skills and get the first taste of the corporate world, which I believe I have achieved by working here. I would also like to thank you Sir, for your continuous support and guidance which helped me to complete the project.

I pray and hope this report will be informative and fulfil your expectations. I have tried my best to avoid my deficiencies and hope that my report will be of satisfactory standard. I would also like to thank you again for giving me the opportunity to submit this report.
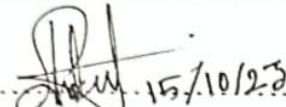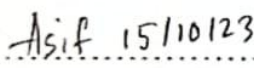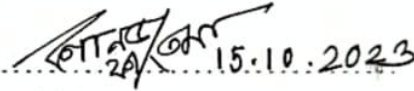

Sincerely,

Redwan Masud Arko

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Department of Computer Science and Engineering
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Evaluation Committee
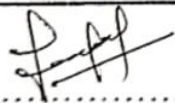
Supervision Panel

Academic Supervisor   Industry Supervisor

Panel Members

Asif 15/10/23   15.10.2023

Panel Member 1   Panel Member 2

Office Use

Program Coordinator   Head of the Department

Abstract

In the past, when students wished to study in another country, they typically sought assistance from agencies. These organizations offered information about visas and the nations that interested them, as well as specifics on their cultures, way of life, and educational systems. This strategy, nevertheless, has several drawbacks. Businesses, platforms, and organizations have had to adjust to and embrace digitization as a result of the inter-net's widespread availability in every country on earth. A web-based platform called ApplyBoard connects students from all over the world with educational opportunities at establishments across the world. The website promises to provide customers with a simple and user-friendly interface that makes researching institutions simple. ApplyBoard's website facilitates connections among students, colleges, universities, and other stakeholders in the education sector globally. Because of its user-friendly layout, the students may simply submit their applications to institutions in other countries. The website offers a variety of details about different colleges, universities, and programs, making it simpler for students to research their selections and submit their applications without difficulties.Colleges and universities also benefit from ApplyBoard by finding talented students worldwide. ApplyBoard utilizes data to assist these institutions in making informed decisions. In essence, ApplyBoard is transforming education by connecting individuals and educational institutions worldwide, simplifying the process of studying abroad, facilitating the discovery of exceptional students, and leveraging technology to enhance education for all. ApplyBoard achieves this by consolidating visa and country information into a single, user-friendly website. Now, students can easily access comprehensive information about visas, application procedures, and everything they need to know about their chosen study destination, all in one place. This modern approach eliminates the need for intermediaries, saving students both time and money.

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Chapter 1

Introduction

1.1 Overview of the Work

I had the honor of participating in an innovative effort aimed at improving the application process for overseas education during my internship at BTRH. This innovative platform offers a wide range of modules and functionalism, including user registration, program search, application management, document verification, visa support, accommodation assistance, and institutional partnerships. It was created to overcome geographical and administrative barriers. Although initially designed for this scope, the initiative has enormous potential for growth and expansion with the purpose of radically altering access to foreign education. We paved the way for a safe, user-centric, and adaptable platform that has the potential to reshape opportunities for global education by identifying and tackling fundamental infrastructure concerns, including data security and scalability.

1.2 Objectives

By simplifying faster applications for overseas education and eliminating intermediaries, we hope to increase clients. We seek an innovative, worldwide solution.

1.3 Scopes

I. **Landing page:** The index page of the website where users will get a summary of the full website.
II. **Student page :** Details for students, how to apply for overseas and choose high school,undergraduate and post graduate programs.
III. **School page:** Details about the schools, universities , and registration for their involvement.
IV. **Student Panel:**
V. **Student Profile: S**tudents providing all information needed
VI. **Recruitment partners page:** Detailed page for recruitment partners and their involvement in this website.
VII. **Discover Schools:** List of institute that are under our connections
VIII. **Discover programs:** Programs offered by the universities and schools.
IX. **Login page:** login page for all the users.
X. **Registration page:** Registration for students, universities and recruitment partner.
XI. **Our Story:** Successful stories.
XII.**Privacy Policy:**Detailed information about the privacy policy.
XIII. **Terms and condition, Terms of use, Cookie policy,**
XIV. **ApplyBoard fees:** Fees for using our services information

Chapter 2

Literature Review

2.1 Relationship with Undergraduate Studies

CSE 307, Web Application and Internet: This was the most important course for my **project** where the course covered the important parts of developing a web application. Here I have learnt HTML, CSS, PHP, MySQL etc. Which was directly implemented in my project.

CSE 213, Object-oriented Programming: Through this course I learnt the concept of treating data as an object and also modular code structure which made codes shorter but more efficient. The concept of using functions and class was very helpful and was widely used in my project.

CSE 303, Database Management: This was a basic core course which focused on teaching us how to plan and design a project. In this course I have learnt the basics of a database and how it works, database languages, Rich Picture, ER Model, Converting ERD-Relations, Introduction to Normalization and Structured Query Language. All these knowledge were useful while I designed and planned the project. Knowledge's of MySQL, PHP and use of local server was also useful in my project to make it dynamic.

System Analysis and Design (CSE 307): This course provides an understanding of the Used Case Diagram, Used Case Scenario, and SDLC, as well as how to apply them to a project.

Software Engineering (CSE 451): This course taught me how to collect system requirements, information, and approaches. Also, which approach must be used in which project, including SDLC

2.2   **Related works**

Although the idea of online platforms supporting applications for foreign education is not brand-new, it is very important to our company, Bee Technology and Research Hub, as we enter this industry. This growth is in keeping with our goal of helping customers and companies all throughout the country realize their full potential. We want to build a solid name in the IT industry as a trustworthy, creative, and user-friendly software service provider, satisfying client needs and providing outstanding online and app solutions that turn data into useful insights, enabling users to overcome difficulties successfully.

Few already established are:

1. GlobalStudyHub: GlobalStudyHub is a respected application platform for global education. Although it has many benefits, one of its shortcomings is that pupils don't receive individualized instruction. The platform's services might not properly satisfy the demands of each particular student, making it difficult for candidates to manage the complex application procedure.

2. EduConnect: Another portal in the field of global education, EduConnect is known for its user-friendly design. It has limitations, however, in terms of providing applicants with immediate assistance. During the registration process, students frequently need immediate help or clarifications, but EduConnect may not provide them.

3. StudyAbroadNow: This website speeds up the application procedure for students interested in studying abroad. However it contains privacy and data security restrictions. StudyAbroadNow may not offer effective data protection measures, which is a crucial concern when ensuring the confidentiality and integrity of applicant data.

Chapter 3

Project Management & Financing

3.1 Work Breakdown Structure

The tasks required to finish a project are organized into a Work Breakdown Structure (WBS), which is similar to a thorough map. It is set up in an order, starting with the overall scheme and then reducing it down into more compact, manageable chunks. This aids in our comprehension of the project's overall scope.

We've developed a WBS to keep our project operating smoothly and effectively. We followed a top-down methodology, which meant that we started with the major project objectives and then divided them into phases and smaller tasks. We can maintain organization and make sure nothing crucial is overlooked in this way.
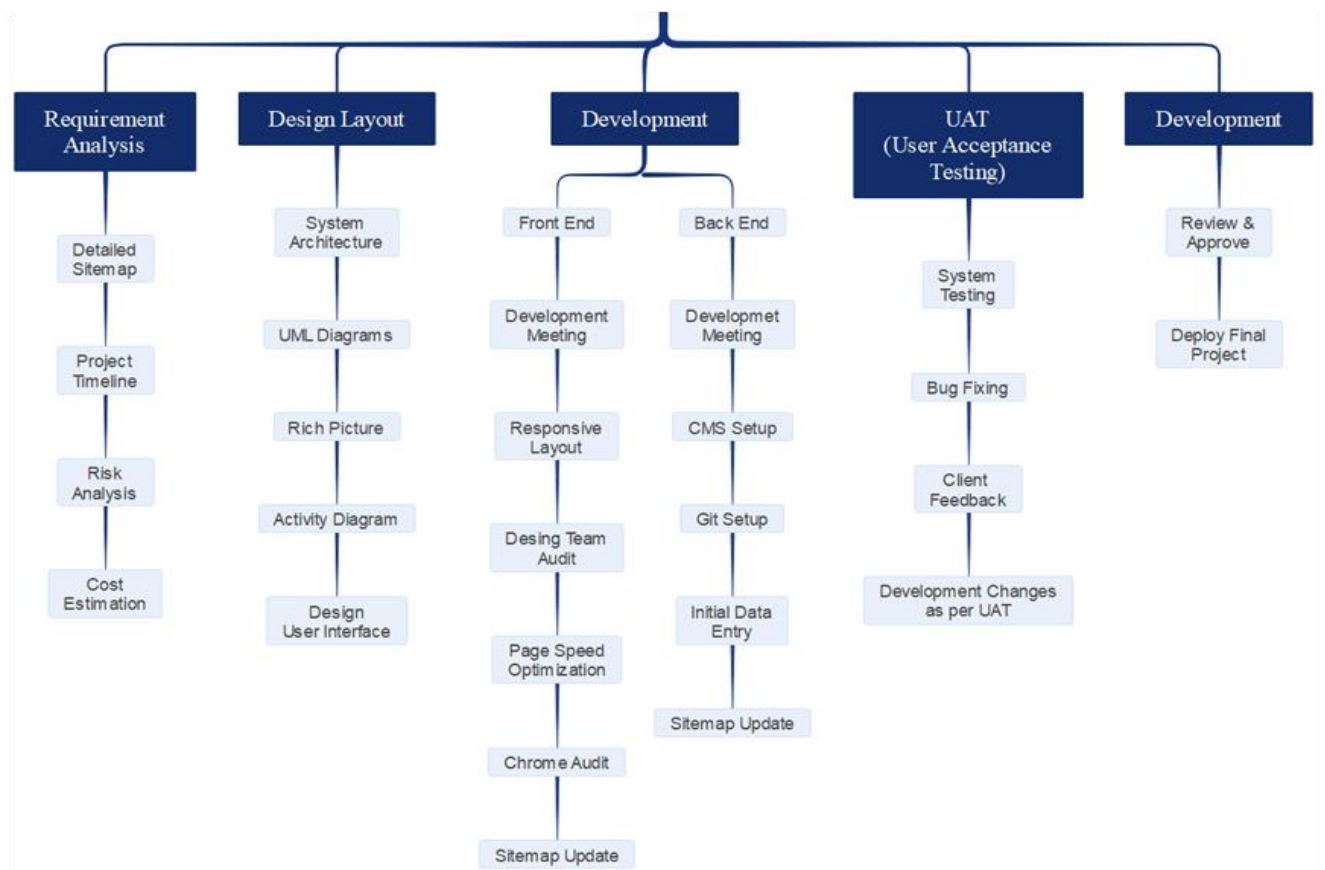
Figure 1: Work Breakdown Structure (WBS)

3.2   Process/Activity wise Time Distribution

Task	Days	Work Percentage
Requirement Analysis	10	10%
Design Layout	15	20%
Development	30	47%
User Acceptance Testing (UAT)	10	18%
Deployment	10	5%
Total	75	100%

Table 1: Process/Activity wise Time Distribution

3.3   **Gantt Chart**

Figure 2: Gantt chart

The project's time allocation is as follows:

1. Requirement Analysis (10 days - 10%): The entire team devotes 10% of the project's time to this phase (10 days) to comprehend and record the project requirements. This step is essential for establishing the project's direction and making sure that it meets the expectations of the stakeholders.

2.

3. Design Layout (15 days - 20%): This phase takes up 15% of the total project duration and concentrates on creating the platform's design and layout. Design is important because it affects how users interact with the platform and how well it functions as a whole.

4. Development (30 days - 47%): The development phase of the project requires the greatest time, accounting for 47% of that period. The team actually constructs the platform at this step using the requirements and design that were previously established.

5. User Acceptance Testing (UAT) (10 days - 18%): During this phase, which takes up 10% of the total project time, the platform is tested to see if it satisfies user expectations

and works as planned. UAT assists in locating and resolving any problems or inconsistencies.

6. Deployment (10 days - 5%): The deployment phase requires 10 days, or 5% of the total project time. The platform is built up for actual use by end users during this time, including server setup, configurations, and accessibility.

The project lasts for a period of 75 days in total, with each phase putting in its full got of work to get it done.

3.4   Process/Activity wise Resource Allocation

The 5 elements in our Level 1 and how the phases are followed is described briefly below:

1. **Requirement Analysis:** We begin by listening to what the client wants. Then, we create a map of the website or project based on those requirements. We then calculate how long it will take to complete the project, potential problems, and cost. This enables us to thoroughly plan out everything.
2. **Design Layout:** The second stage of developing a web application is user interface. UI design is made with the help of "Adobe xd" and "Figma" to prototype the front end of this.
3. **Development:**We begin with the website's front end and finish with its back end. Each of them has its own set of meetings and passes through a number of distinct phases. These phases include, among several other quality checks, ensuring the site functions properly on mobile devices, setting up content management, tracking version numbers, and entering data.
4. **Testing:** This phase starts when the site is functional and the site is taken through testing and fixing and showed to the client to obtain their feedback and further revisions are done.
5. **Deployment:** In this final stage upon client approval the site goes live.

3.5   Estimated Costing

The cost of a web app project depends on various factors such as its size, what it can do, how it looks, and any extra things the client wants. We've put together an estimated cost table that includes design services like themes, logos, icons, as well as features like a homepage slider, live chat, social media links, SSL certificates, SEO, and other plug-in and services provided.. We've also considered the cost of the resources we use. In total, we estimate it will cost BDT 2,00,000, including domain and hosting. If the client wants more services in the first year after the website is done, there might be extra charges.

Chapter 4

Methodology

To finish a project, every system needs to stick to a specified procedure known as the Software Development Life Cycle (SDLC). The SDLC is a comprehensive strategy that describes how software is developed, maintained, upgraded, or replaced.

The overall development process and the quality of the program are both improved by the SDLC. There are numerous models for the software development life cycle, such as the Big Bang Model, Iterative Model, Spiral Model, and Waterfall Model. I chose an agile development strategy for this project. Agile is not just the most widely used and finest SDLC methodology in the computer software sector, according to the yearly State of Agile research. Its adaptability to meet shifting requirements without suffering penalties is one of its main advantages. Agile has fared better than the conventional waterfall strategy because it is more flexible, quick, efficient, responsive, and consistent. It is adaptable to changes.

Agile is the project management method I used since it enables quick delivery to please clients and adapt to shifting expectations. Testing early prototypes leads to better finished goods. Segmenting the task makes it easier to communicate with users and helps with time and cost estimation. Agile is constantly improving, becoming more adaptable, quick, effective, responsive, and consistent. Anything that requires improvement or explanation can be quickly adjusted during each cycle.

Additional project management is provided by daily Agile meetings, which allow for the adoption of new updates as they become available. This method enables customization based on consumer demands and preferences, resulting in a useful, ready-to-use product. Continuously concentrating on a project allows you plenty of space for revisions, ultimately fostering its growth and development.

The product's high quality and alignment with customer needs are ensured by user priority at every stage of development. Individual engineers with a variety of skill sets can effectively work together on improvement measures at different stages of the development cycle in smaller teams.

- Agile Software Development Process -
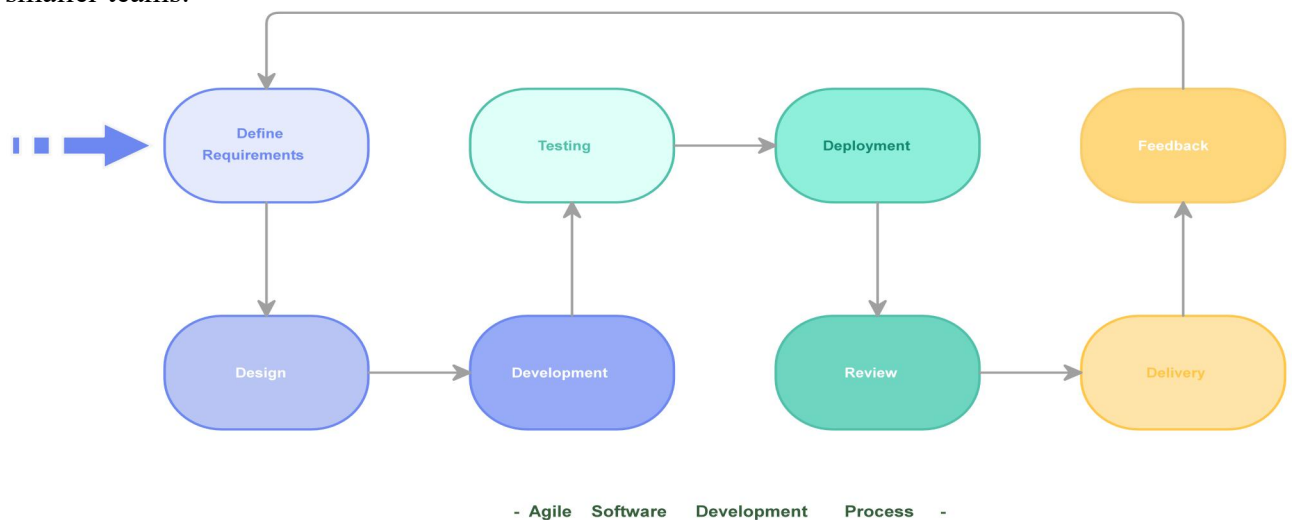
Chapter 5

Body of the Project

5.1   Work Description

ApplyBoard by BTRH is a web-based services. ApplyBoard is an all-in-one online platform that changes how students, schools, and partners work together for global education. To make sure the platform keeps working well and users are happy, this project will improve how different types of users, like administrators, universities, recruitment partners, and students, use it. Administrator will have a completely different panel while Universities, Partners and Students will be given different dashboard access for their specific need.
The ApplyBoard platform is designed with scalability in mind, allowing for future expansion and the addition of new features and functionalities as the international education landscape evolves.

In conclusion, the ApplyBoard project represents a revolutionary approach to international education application and enrollment. It strives to eliminate barriers and open up education to a worldwide audience while upholding the highest standards of data security and usability. The numerous modules and features meet the requirements of both students and institutions, fostering an ecosystem that is conducive to chances for international education.

The languages used for the front-end are:

- **HTML/CSS**
- **Bootstrap**
- **JavaScript**
- **j query**

Languages and frameworks use in back-end are:

- **PHP**
- **Laravel**
- **MySQL (Database)**

5.2   Requirement Analysis

5.2.1 Rich Picture
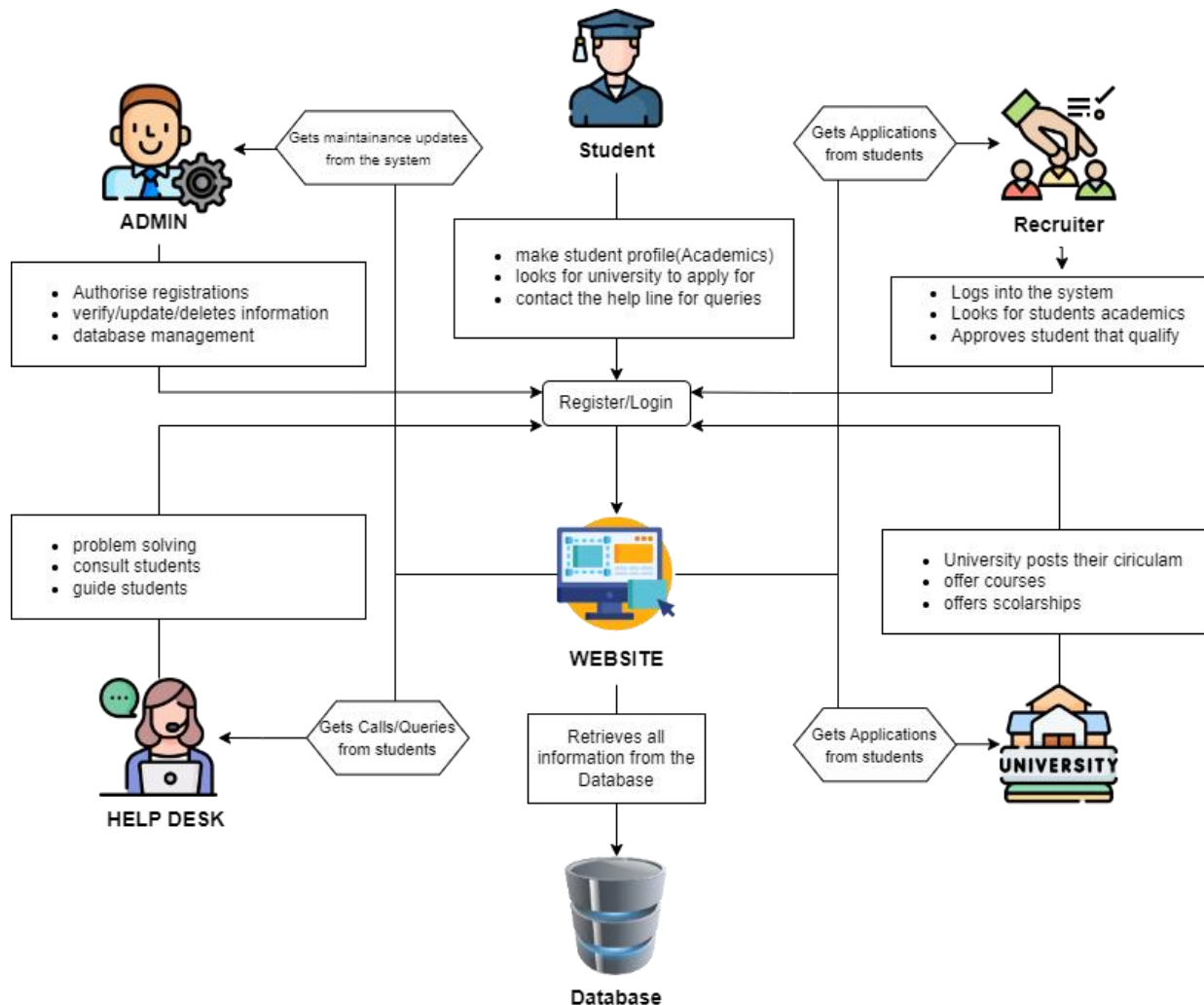
Figure 3: Rich Picture

5.2.2 Functional and Non-Functional Requirements

Functional Requirement

1. **User Registration:** Users should be able to create accounts on ApplyBoard using their email addresses and passwords.
2. **User Login:** Registered users should be able to securely log in to their ApplyBoard accounts using their email addresses and passwords.
3. **Program Search:** Students should be able to search for educational programs offered by various institutions worldwide.
4. **Application Management:** Students should be able to initiate and manage their application processes through ApplyBoard.
5. **Document Verification:** ApplyBoard should provide a mechanism for verifying the authenticity of submitted application documents, ensuring their accuracy.

6. **Visa Application Support:** ApplyBoard should offer resources and guidance to help students with the visa application process, including document preparation and interview tips.
7. **Accommodation Assistance:** ApplyBoard may facilitate connections with housing providers or offer advice on finding suitable housing.
8. **User Dashboard:** Registered users should have personalized dashboards where they can manage their profiles, track application progress, and access important notifications.
9. **Admin Dashboard:** Administrators should have access to a dedicated dashboard for managing user accounts, programs, applications, and institutional partnerships.
10. **Program Verification:** ApplyBoard administrators should be able to verify the accuracy and completeness of educational program information before making it available for student search.

Non-Functional Requirements:

1. **Security:** The platform must implement robust user authentication and authorization mechanisms to safeguard user data and sensitive information.

2. **Performance**: The website must have low latency and rapid response times to ensure a smooth and responsive user experience.
3. **Scalability:** ApplyBoard should be designed with scalability in mind, allowing for the addition of new users, educational programs, and partner institutions as the platform grows.
4. **Usability:** The user interface should be intuitive, user-friendly, and easy to navigate to accommodate a diverse user base.
5. **Reliability:** The platform must have a high level of reliability and availability, ensuring that it is accessible to users whenever they need it.
6. **Compatibility:** ApplyBoard should be compatible with various devices (desktops, laptops, tablets, smart-phones) and popular web browsers (Chrome, Firefox, Safari, Edge) to ensure accessibility from different platforms.
7. **Maintenance:** The platform's architecture and code-base should be well-documented and modular to facilitate ease of maintenance and updates.

5.3   System Analysis

5.3.1   Six Element Analysis

	Human	Non Computing Hardware	Computing Hardware	Software	Database	Communication
Register/ Login	Users	Monitor, mouse, keyboard, modem/int ernet	Desktop, Laptop, Smart phone	Web Browser	MySQL	Internet Connection
Admin Login	Admin	Monitor, mouse, keyboard, modem/int ernet	Desktop, Laptop, Smart phone	Web Browser	MySQL	Internet Connection
Update informatio n	Admin, users	Monitor, mouse, keyboard, modem/int ernet	Desktop, Laptop, Smart phone	Web Browser	MySQL	Internet Connection
Search	Users	Monitor, mouse, keyboard, modem/int ernet	Desktop, Laptop, Smart phone	Web Browser	MySQL	Internet Connection
Submit Form	Users	Monitor, mouse, keyboard, modem/int ernet	Desktop, Laptop, Smart phone	Web Browser	MySQL	Internet Connection
Manage Forms	Admin	Monitor, mouse, keyboard, modem/int ernet	Desktop, Laptop, Smart phone	Web Browser	MySQL	Internet Connection

Table 2: Six Element Analysis

5.3.2 Feasibility Analysis

The feasibility analysis for the ApplyBoard project encompasses three key dimensions: technical, economic, and operational feasibility.

1. **Technical feasibility:** The project's development and maintenance are well supported by available technology and resources. Leveraging common web development technologies, frameworks, and cloud-based services, ApplyBoard can effectively create and scale its platform. Integration with educational institutions' databases and APIs is possible, provided necessary partnerships are established, and the platform's scalability and availability can be ensured through cloud infrastructure.

2. **Economic Feasibility:** ApplyBoard is well-positioned due to the high market demand for international education services. With a robust revenue model that includes transaction fees from institutions, subscription fees from users, and potential advertising partnerships, the platform has the potential to generate substantial income. Moreover, the relatively low competition in the international education application space gives ApplyBoard a competitive edge.

3. **Operational feasibility:** ApplyBoard has access to a skilled workforce in software development, customer support, and international education consulting. The use of cloud-based services simplifies platform management, allowing for efficient scaling and maintenance. The platform runs well thanks to existing support infrastructures, such as those offered by cloud service providers. Compliance with international education regulations and standards is integral to operational feasibility, and ApplyBoard has the means to establish processes ensuring adherence to these requirements.

5.3.3 Problem Solution Analysis

Conducting a problem solution analysis is a crucial step for addressing any issues that may arise in web-based applications like ApplyBoard. To tackle the common problems that may arise, here are some potential solutions:

Problem: Complex Application Process - Users of ApplyBoard may find the application process for studying abroad confusing and time-consuming, discouraging them from using the platform.
Solution: To simplify the application process, ApplyBoard can create intuitive step-by-step guides, offer live chat support for applicants, and develop a mobile application for easier access. Additionally, they can use machine learning algorithms to pre-screen applications, reducing the time it takes for students to receive responses from universities.

Problem: Limited University Partnerships - ApplyBoard may not have a wide variety of university partnerships, limiting the options available to prospective students.
Solution: ApplyBoard can actively expand its network of partner institutions by engaging in strategic collaborations with universities worldwide. This can involve hosting recruitment events, establishing partnerships with educational consultants, and using data analytics to identify universities that match the interests and qualifications of applicants.

Problem: Language Barriers - Language proficiency requirements and language barriers can hinder international students from applying to universities through ApplyBoard.

Solution: ApplyBoard can provide language resources such as language courses, tutorials, and language proficiency testing directly on the platform. They can also offer translation services for application materials and ensure that support staff are multilingual to assist non-English speaking users effectively.

Problem: Financial Challenges: For many students, the cost of studying abroad can be a significant challenge.

Solution: ApplyBoard may connect students with financial advisers who can help them through the process of obtaining funding for their education and provide information on scholarships, grants, and other alternatives for financial aid.Additionally, they can partner with financial institutions to offer student-friendly loan options.

Problem: Lack of Transparency - Students may be uncertain about the status of their applications and the progress of their admissions.

Solution: ApplyBoard can implement a user-friendly dashboard that allows applicants to track the status of their applications, receive updates, and communicate with universities directly through the platform. They can also provide real-time notifications to keep applicants informed.

Problem: Visa and Immigration Challenges - Navigating the visa and immigration process can be overwhelming for international students.

Solution: ApplyBoard can offer comprehensive visa and immigration support, including guidance on visa applications, document preparation, and interviews. They can also provide resources on work permits and post-graduation immigration options.

5.3.4 Effect and Constraints Analysis

Effect analysis evaluates how a web application like ApplyBoard might affect various stakeholders, whereas constraints analysis identifies and addresses any obstacles or constraints that might prevent the platform from being implemented successfully. The following are some possible consequences and limitations of ApplyBoard:

Effects:

Global Access to Education: ApplyBoard can provide students with the opportunity to access educational institutions worldwide, enabling them to explore a diverse range of educational options beyond their geographical constraints.

Streamlined Application Process: ApplyBoard can simplify the complex application process for international students, making it more efficient and user-friendly. This can lead to increased application submission rates.

Increased Educational Opportunities: ApplyBoard can enhance the visibility of educational opportunities by connecting students with universities that match their academic interests and qualifications, potentially leading to more successful admissions.

Financial Support: By offering information on scholarships and financial aid options, ApplyBoard can help students secure funding for their education, reducing financial barriers to studying abroad.

Language Proficiency: ApplyBoard's language resources can aid students in improving their language proficiency, which is essential for success in foreign academic environments.

Constraints:

Data Privacy and Security: ApplyBoard must address concerns related to the security and privacy of applicant data to build trust among users and ensure compliance with data protection regulations.

Regulatory Compliance: ApplyBoard needs to navigate complex international education and immigration regulations, including visa and immigration requirements, which can be challenging due to varying rules in different countries.

Technical Scalability: As ApplyBoard grows, it may face technical challenges related to platform scalability, ensuring that it can handle an increasing number of applicants and partner universities.

Competition: ApplyBoard competes in a crowded market of educational consultancy services, and it must continuously innovate and offer unique value propositions to stay ahead of competitors.

Cultural Sensitivity: ApplyBoard must be culturally sensitive to the diverse needs and expectations of students from different backgrounds to provide effective support and guidance.

Language and Communication: Ensuring clear communication between applicants and universities with varying language preferences can be a constraint, requiring multilingual support and translation services.

Dependence on Partner Universities: ApplyBoard's success is closely tied to its partnerships with universities, making it important to maintain strong relationships and ensure universities continue to use their platform.

Economic and Political Factors: Economic fluctuations and political changes in different countries can impact the willingness and ability of students to study abroad, affecting ApplyBoard's operations.

Effect and constraint analysis helps organizations like ApplyBoard anticipate the potential positive outcomes and challenges they may encounter while implementing their web-based

5.4   System Design

5.4.1   UML Diagrams
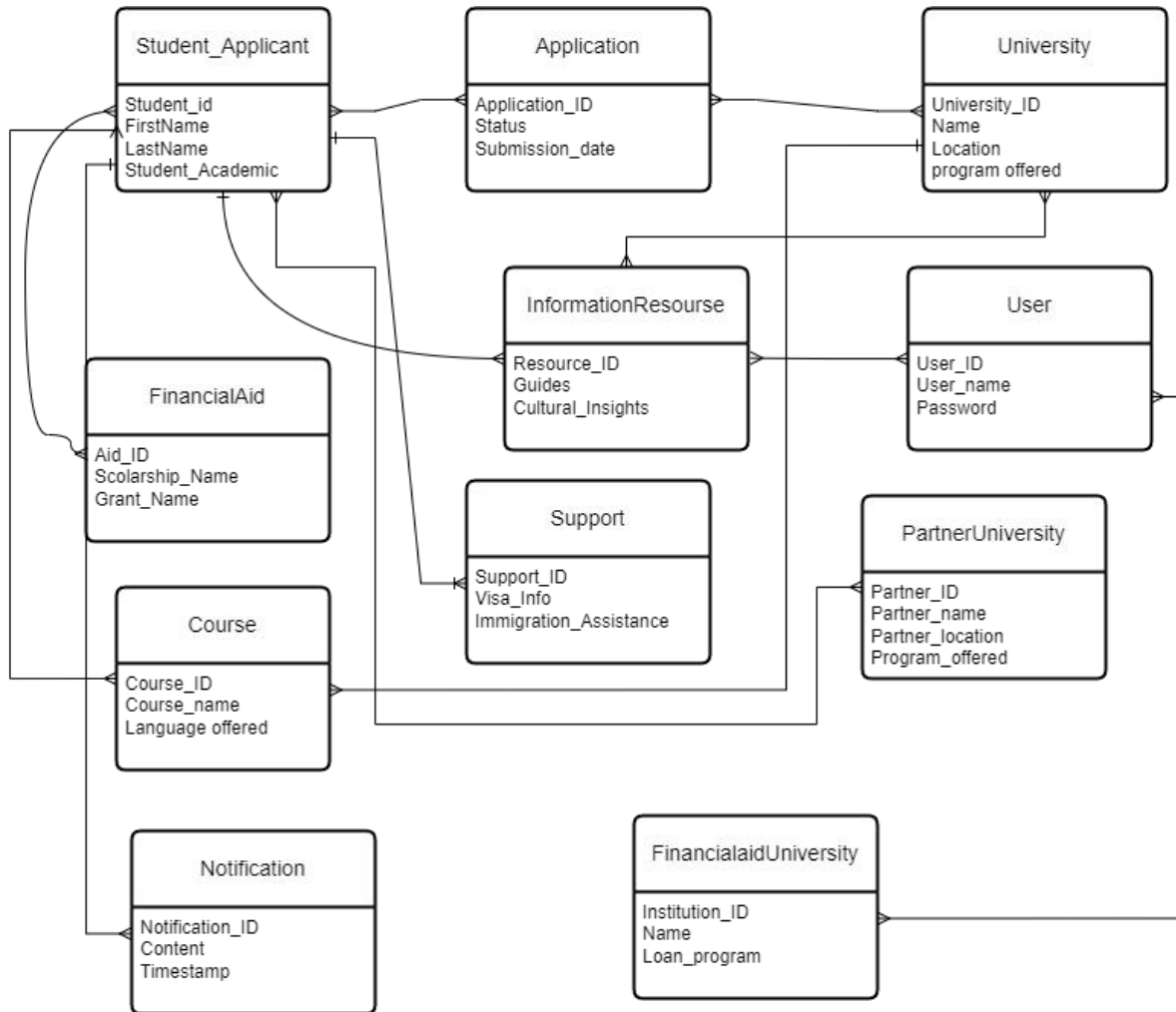

Figure 4: Entity Relationship
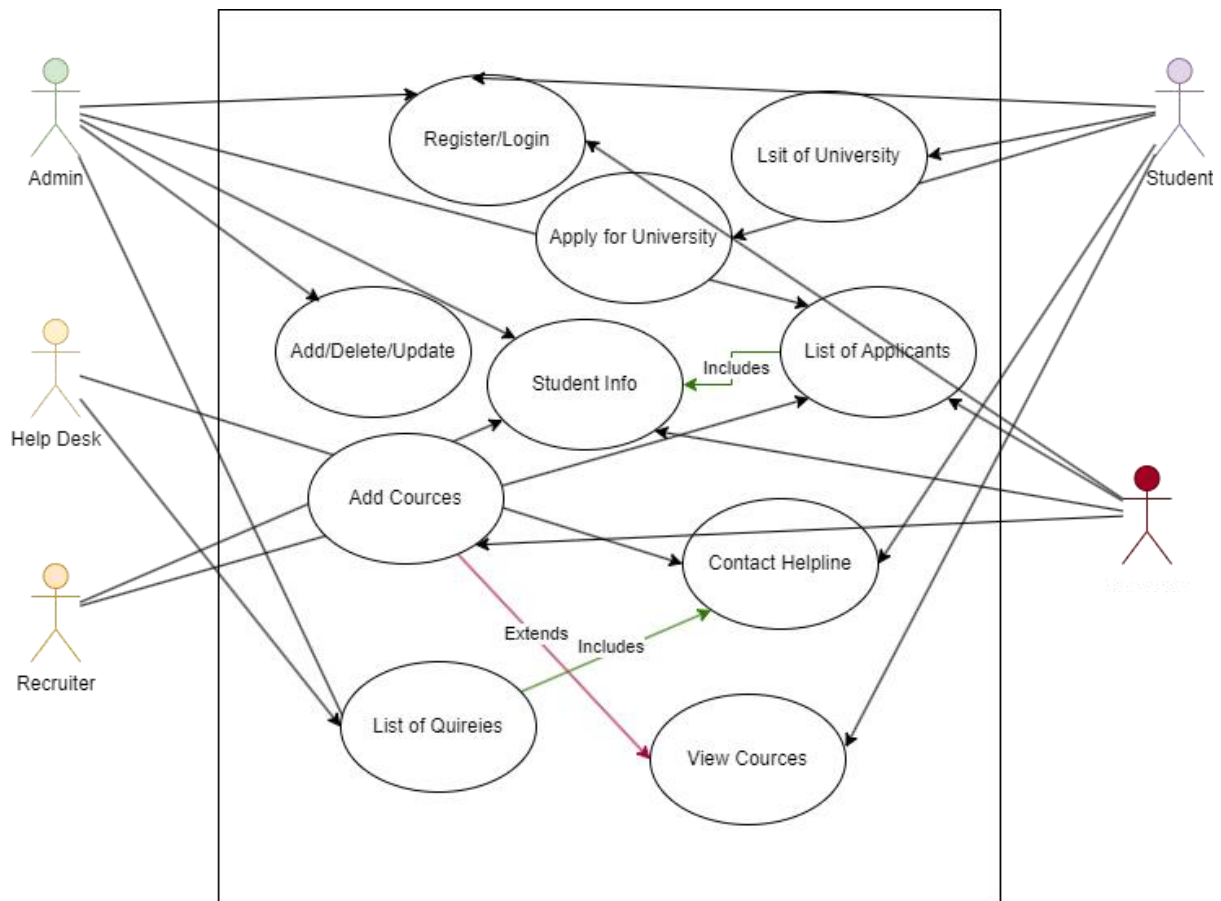
Figure 5: Use Case Diagram.

5.4.2 Architecture

1. Web Application: ApplyBoard's frontend is primarily a web application that users access through browsers. It's built using HTML, CSS, Bootstrap, and JavaScript.

2. Web Server: At the core of the backend, there are web servers that handle incoming requests and manage responses by using PHP, Laravel.

3. Application Logic: This layer contains the business logic of ApplyBoard, including user management, application processing, recommendation algorithms, and integration with external services.

4. Database Server: The backend communicates with a database server to store and retrieve data. ApplyBoard likely uses relational databases for structured data and MySQL databases for unstructured or semi-structured data.

5. APIs: ApplyBoard provides APIs (Application Programming Interfaces) for both frontend and external services to interact with the backend. These APIs allow data retrieval, user authentication, and other functionalism.

6. Third-Party Integrations: ApplyBoard integrates with various third-party services, such as payment gateways, language testing platforms, and educational institutions' databases.

7. Hosting: ApplyBoard may use cloud services like Amazon Web Services (AWS), Microsoft Azure, or Google Cloud Platform (GCP) to host its infrastructure. This provides scalability, reliability, and easy management.

8. Content Delivery Network (CDN): To deliver content efficiently to users globally, ApplyBoard might use a CDN to cache and distribute static assets, such as images and videos.

9. Security:Authentication and Authorization: ApplyBoard implements authentication mechanisms like OAuth , JWT (JSON Web Tokens), or SAML (Security Assertion Markup Language) to ensure secure user access.

10. Encryption: Sensitive data, such as user credentials and personal information, is encrypted both in transit (using HTTPS) and at rest (in the database).

11. Firewalls and Intrusion Detection Systems: ApplyBoard deploys security measures like firewalls and intrusion detection systems to protect against cyber threats.

12. Auto-Scaling: ApplyBoard's infrastructure can automatically scale resources up or down based on demand, ensuring optimal performance during peak usage times.

13. Logging: ApplyBoard maintains logs for auditing, debugging, and monitoring system health.
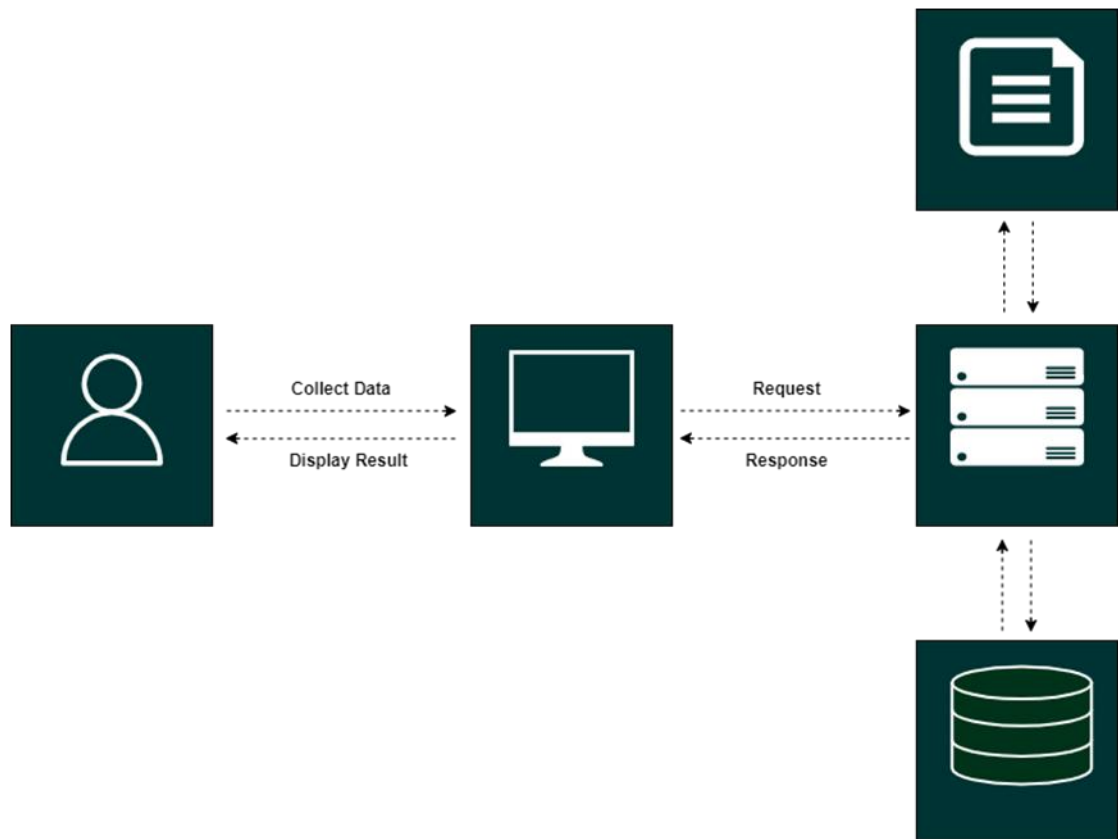
Figure 6: Website Architecture

5.5   Implementation

After that, the implementation phase will start. Following the designs and planning, the database will be set up and the front end will be coded. During the entire coding phase, the capabilities that were chosen in the preceding stages must be properly integrated.

5.6   Testing

5.6.1 Input

Process	Field: type
Login	Email: String Password: String
Sign up	Name: varchar Email: varchar Phone: varchar Password: varchar
Search Property	Keyword: varchar Type: string

Table 3: Input Table

5.6.2   Output

Process	Field: type
Login	On Success: Access to the user dashboard. Failure: Return to the log in page again
Sign up	On Success: a new user is created. Failure: Return to the sign in page again.
Search Property	On Success: list of property is shown. Failure: nothing is shown.

Table 4: Output Table

Chapter 6

Results & Analysis

ApplyBoard is a web-based platform to streamline the international student application and enrollment process. This analysis delves into the key aspects of ApplyBoard's platform, its features, and the challenges and opportunities encountered during its development. It is a website that has been made easier for students from other countries to apply to schools abroad.

ApplyBoard's platform is built with a strong and organized structure that uses something called the Model-View-Controller (MVC) design pattern. This structure is like the backbone of our platform, making sure everything runs smoothly for international students and schools. Our platform is like a one-stop-shop for handling all things related to international education, making it easy for students and educational institutions to work together seamlessly and efficiently.

ApplyBoard's platform offers a range of key features designed to make the international student application and enrollment process more accessible and efficient. These features include an easy-to-use program search tool for students to explore educational programs worldwide, a comprehensive application management system that simplifies the application process, document verification tools to ensure the authenticity of application documents, visa application support to help students navigate complex visa procedures, assistance in finding suitable accommodations during their studies, and valuable partnerships with educational institutions worldwide, providing students with a wide array of choices for their academic pursuits. Together, these features contribute to ApplyBoard's mission of facilitating international education opportunities for students while maintaining transparency and integrity in the application process.

ApplyBoard struggled with a number of difficulties as it developed. Given the sensitive nature of the student information the platform handled, ethical considerations about data protection, security, and openness were of the utmost importance. Second, there were technical challenges to solve, such as the difficulties of system integration, making sure the platform could expand successfully, and continual maintenance to guarantee its dependability and performance. To secure the platform's integrity and functionality, these problems required thorough consideration and answers.

To address ethical concerns, ApplyBoard has implemented a series of crucial measures. They've established a secure login system that collects personal information from both students and educational institutions, ensuring that access to sensitive data is tightly controlled. Furthermore, ApplyBoard prioritizes data security by employing encryption protocols that safeguard customer information, guaranteeing its confidentiality and integrity. The platform also enforces data retention policies to protect customer data, ensuring privacy and compliance with relevant regulations.

In conclusion, ApplyBoard has been successful in creating a solid and trustworthy platform that streamlines the application process for overseas students. It stands out as a leader in the field of educational technology thanks to its user-friendly interface, multi-layered architecture, and ethical data handling procedures. Even though there were difficulties throughout development, ApplyBoard's dedication to security, openness, and scalability has enabled it to succeed in its goal of connecting students with educational opportunities around the world.

Chapter 7

Project as Engineering Problem Analysis

7.1   Sustainability of the Apply Board

Sustainability and Environmental Effects:

Economic Sustainability: ApplyBoard is at the forefront of economic sustainability within the realm of international education. By acting as a bridge between students and universities across the globe, the platform not only supports the aspirations of countless students but also fosters economic growth within the education industry. ApplyBoard's services not only streamline the application process but also enable educational institutions to reach a broader audience of potential students, increasing their revenues and global reach. Furthermore, ApplyBoard's commitment to affordability ensures that students have access to financial aid, scholarships, and cost-effective language courses, making studying abroad a more economically viable option. This dual impact on both students and educational institutions contributes to a sustainable educational ecosystem.

Social Sustainability: In the context of social sustainability, ApplyBoard plays a informativeness role by expanding access to education. The platform breaks down geographical and linguistic barriers, ensuring that students from diverse backgrounds can pursue their educational dreams globally. ApplyBoard's comprehensive approach, offering language resources and visa support, empowers students to overcome language and immigration hurdles, thereby promoting inclusive. By providing equal opportunities for education, ApplyBoard contributes to a socially sustainable future where education is not limited by borders or language, fostering a more equitable and harmonious world.

Organizational Sustainability: Organization sustainability is at the heart of ApplyBoard's mission and values. The company is committed to ethical practices, ensuring that its partnerships and operations are characterized by transparency and integrity. ApplyBoard values its employees' well-being, nurturing a work environment that supports their growth, job satisfaction, and overall welfare, recognizing that motivated and content employees are crucial to its continued success. Innovation is a cornerstone of ApplyBoard's organizational sustainability, as the company continuously embraces technological advancements and service enhancements to provide the best possible user experience. Additionally, ApplyBoard takes its responsibility to the community seriously, giving back through initiatives like scholarships for local students and educational support programs. These practices not only generate long-term value but also maintain ApplyBoard's competitive edge in the dynamic field of global education.

7.2 Social and Environmental Effects and Analysis

ApplyBoard, as a web-based platform facilitating international education, has a profound impact on social and environmental aspects, primarily through the promotion of global education accessibility.

Social Impact: ApplyBoard significantly enhances social sustainability by breaking down educational barriers. The platform connects students from various backgrounds with educational institutions worldwide, fostering inclusivity and diversity in higher education. By facilitating access to scholarships, financial aid, and language resources, ApplyBoard ensures that studying abroad becomes a feasible option for a broader demographic. This, in turn, leads to greater cultural exchange, cross-cultural understanding, and a more interconnected world.

Environmental Impact: While ApplyBoard's primary focus is on social impact, it indirectly contributes to environmental sustainability by promoting remote education. By enabling students to study abroad without the need for physical relocation, ApplyBoard reduces carbon emissions associated with international travel. Furthermore, by offering digital resources and services, the platform minimizes the need for physical paperwork and documentation, reducing environmental waste.

In conclusion, ApplyBoard's commitment to expanding educational opportunities worldwide generates positive social impacts by promoting inclusivity and diversity in education. Its support for remote education also aligns with environmental sustainability goals by reducing the carbon footprint associated with international mobility.

7.3 Addressing Ethics and Ethical Issues

ApplyBoard, as a facilitator of global education opportunities, operates in a complex ethical landscape, with various considerations unique to its services:

1. Transparency in University Partnerships:ApplyBoard must prioritize transparency in its partnerships with educational institutions. Ensuring that partnerships are based on ethical principles and align with the best interests of students is essential. Clear communication of partner relationships is necessary to build trust with students and parents.

2. Data Privacy and Security:ApplyBoard handles sensitive personal data from students and applicants. Ethical handling of this data is crucial, necessitating robust security measures and compliance with data protection regulations to safeguard the privacy of users.

3. Access to Educational Opportunities:ApplyBoard's ethical responsibility includes making sure that access to educational opportunities remains open to all qualified students regardless of their backgrounds, promoting diversity and inclusion in the admissions process.

4. Anti-Discrimination Policies:Ethical considerations include implementing and upholding anti-discrimination policies to ensure that students are not discriminated against based on factors like nationality, race, gender, or socioeconomic status.

5. Affordability and Financial Transparency:ApplyBoard has an ethical obligation to provide transparent information about costs, fees, and financial aid options to students. Ensuring affordability and avoiding hidden costs is essential to protect the financial well-being of applicants.

6. Truthful Marketing and Advertising:Ethical marketing practices involve providing accurate and truthful information to potential students about the services offered by ApplyBoard and the benefits of studying abroad.

7. Community Engagement:ApplyBoard can enhance its ethical standing by actively engaging with and giving back to the communities where it operates. This may include scholarship programs for local students or supporting educational initiatives.

8. Stakeholder Accountability:ApplyBoard should remain accountable to all stakeholders, including students, partner institutions, employees, and the broader community. Ethical conduct involves addressing concerns and feedback from these parties.

Ethical considerations are paramount in ApplyBoard's operations as they influence the experiences and well-being of students and stakeholders. Upholding ethical standards not only ensures the integrity of the platform but also contributes to its long-term success and positive impact on global education.

Chapter 8

Lesson Learned

I've discovered through my experience working on the ApplyBoard project that problem analysis is a crucial stage in the design and creation of information systems. The issues that must be resolved must be clearly understood and outlined. When it comes to information system design, a large portion of the work centers around problem-solving, whether it's enhancing current systems or taking advantage of emerging market opportunities. Finding solutions to problems entails matching them with their requirements and constraints. I faced a variety of difficulties and complexities throughout my internship on this project, which reaffirmed the need of careful problem analysis as the cornerstone of successful solutions.

In addition to ApplyBoard, I also had the opportunity to work on another project with BIID Foundation for the E-Pushti website Funded by USAID. Handling clients and managing their needs taught me essential lessons in client interaction and requirements gathering. Collaborating with a colleague, I was responsible for collecting client requirements and creating a Software Requirements Specification (SRS) for the E-Pushti website. This process broadened my knowledge and exposed me to the intricacies of estimating project costs. It also taught me the importance of patience, as clients often had changing layout preferences and requirements, and the need to maintain a professional and adaptable approach to meet their expectations effectively.

8.1 Problems Faced During this Period

Since this was my first try at a significant real-world project, I encountered a variety of difficulties. The majority of them included problems that I didn't fully grasp, such modifying jQuery animation plugins, keeping the grid responsive, and writing SQL queries for forms. knowing how javascripts will operate in a certain project component. As I am extremely new to the new technology utilized to construct the website, which I have not done previously, we were also having trouble figuring out how to configure the server. We had frequent meetings as a team with our supervisor to address any issues we were having or anticipated having in the future.

8.2 Solution of those Problems

The solution to the next problem is to keep learning and practicing the technologies more in depth. Spending more time with these technologies will surely make me an expert like the other developers in the team in near future.

Chapter 9

Future Work & Conclusion

9.1   Future Works

ApplyBoard's commitment to sustainability, both environmental and social, can be further enhanced through future initiatives and improvements:

- Environmental Responsibility: Implementing more sustainable practices within the company, such as reducing office-related waste and optimizing server energy efficiency, can contribute to a greener future.
- Data Security: Continuously improving data security measures to safeguard the personal information of students and educational institutions is essential for maintaining trust.
- User Experience: Ongoing enhancements to the user interface and experience can make the platform even more user-friendly, attracting a broader audience of students and institutions.
- Global Expansion: Expanding partnerships with educational institutions in emerging markets can further increase access to education and promote international cooperation.

9.2   Conclusion

My internship journey with Bee Technology and Research Hub has been a truly enriching experience. Working on the project, I have had the privilege of contributing to a platform that simplifies the complex world of international education applications. My role in front-end and back-end has provided me with valuable insights into web development and collaboration within a dynamic team. ApplyBoard's dedication to exclusivity and accessibility in education has been inspiring, and the technical excellence demonstrated through modern technologies and robust security measures has been impressive. As I wrap up my internship, I am grateful for the knowledge and skills I have acquired and confident that ApplyBoard will continue to empower students globally in their pursuit of education. I extend my heartfelt thanks to the entire ApplyBoard team for their support and mentor-ship, and I look forward to the platform's continued success.

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ApplyBoard: A Platform to Facilitate Overseas Education

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Consent from Supervisor

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