



An Undergraduate Internship on
Professional Website Development

By
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Bachelor of Science in Computer Science

Department of Computer Science & Engineering

Independent University, Bangladesh

Attestation

I, Wasi Al-Rahman hereby declare that this project on Professional Website Development is work of mine under the supervision of Mohammed Rashed Uzzaman from ANT.TECH. The whole documentation is authentic. No help was asked for during the completion of the report from any person or any third-party organization.

Sincerely,
Wasi Al-Rahman

Acknowledgement

I would like to express my gratitude to my honourable supervisor Md. Asif Bin Khaled, Internship Supervisor & Lecturer, Independent University, Bangladesh, who has helped me go through the whole process of making this report.

I am also thankful to ANT.TECH for providing me an opportunity to work in the real world which was vital for my internship. I am also thankful to my family and my well-wishers for supporting me not only during this crucial period but also throughout my B.Sc. Degree. I would like to express my profound gratitude and deep regards to my Organizational Supervisor, Mohammed Rashed Uzzaman, for his exemplary guidance, monitoring, and constant encouragement throughout the internship period. Last but not the least, I would also like to thank my parents, my wife and other family members, as well as my faculties for their eternal support given to me.

At last, I would like to show my humble gratitude to Independent University, Bangladesh for having an internship program for students which helps us to prepare for corporate world.

Letter of Transmittal

12th May 2022
Md. Asif Bin Khaled
Internship Supervisor & Lecturer
Department of Computer Science and Engineering
School of Engineering, Technology and Sciences
Independent University, Bangladesh

Subject: Submission of Internship Report.

Dear Sir,

It is my pleasure to submit to you my internship report on 'Professional Web-site Development' for ANT.TECH. The purpose of this report was to fulfil the requirements of the bachelor's degree in Computer Science and Engineering. This report gave me an opportunity to gain real-world experience in the workplace.

It has been an instructive and knowledgeable experience for me to work in ANT.TECH. I would be happy if the report that I have created is able to serve its purpose. With your kind guidance and encouragement, I tried my absolute best to fill the report as accurately as possible.

Sincerely,
Wasi Al-Rahman
ID: 1620146

1 Evaluation Committee

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Signature

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Name

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Supervisor

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Internal Examiner

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External Examiner

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Convener

2 Abstract

In today's fast-changing business world, it is essential to have a thorough understanding of the users' requirements. Website platforms are becoming popular because it helps people to get their desire information while staying at home.

This is a web-based application where the users can access the website using the internet. Users can get information or apply online using this web application. The interfaces are user friendly. They do not need much technical knowledge to use it. Users will be able to browse not only with just computers and laptops but also with smartphones as the website is responsive for various screen-size. Users can also ask anything if they have any queries through the website. This report outlines all the necessary information and processes required to design a modern educational website.

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Chapter 1

Introduction

1. (a) Background of the Work

Websites became popular in our country around 6 years ago, but it became necessary during the pandemic. Making a website for Kepler Academy will allow users to get their desired information while staying at home, which saves their time as well as money. They can also apply online for their desired course and ask for any queries through the website.

1. (a) Objectives

The main goal can be described as to build a web-based platform for online admission which is easy to use and is user friendly, which will save time and money of the customers. This project will help people to get their desired information while staying at home. The primary objectives are listed below:

1. To reduce manual work of users through an automated web-based system.
2. To develop user friendly interfaces for user satisfaction.
3. To make sure that the data and information remain secure.
4. To make the system responsive for smartphones.
5. To reduce workload.
6. To improve communication with users.

1. (a) Scopes

2. Login for admin
3. Logout
4. Responsive for smartphones
5. Online admission
6. Online payment
7. Send message

Chapter 2

Literature Review

2.1 Relationship with Undergraduate Studies

Since I have worked on Front-End Development in my project, so learning HTML, CSS, JavaScript and PHP from my “Web App & Internet” course has helped me to implement of my project work.

Before I started working on my project, I discussed with the clients and learned what they want in their website. So, learning functional and non-functional requirements, UML diagram, data flow diagram and activity diagram from this course has helped me to design my project work.

I have also worked on Back-End Development so concepts of SQL, ER Diagram and more that I have learned from “Database Management” course has helped me.

2.2 Related Works

In my project, I am part of the team where we have made a website for Kepler Academy. Kepler Academy is an English Language and IELTS Training Centre. The website will help them reach out to more people in the city.

The following lists will give an idea of what my project is related with:

1. Mentors’ –

Mentors’ is the most reputed educational institution and admission consulting house dedicated to preparing students in their admissions, standardized tests and academic studies. It’s a student-focused institution that offers a vibrant and inspirational learning environment.

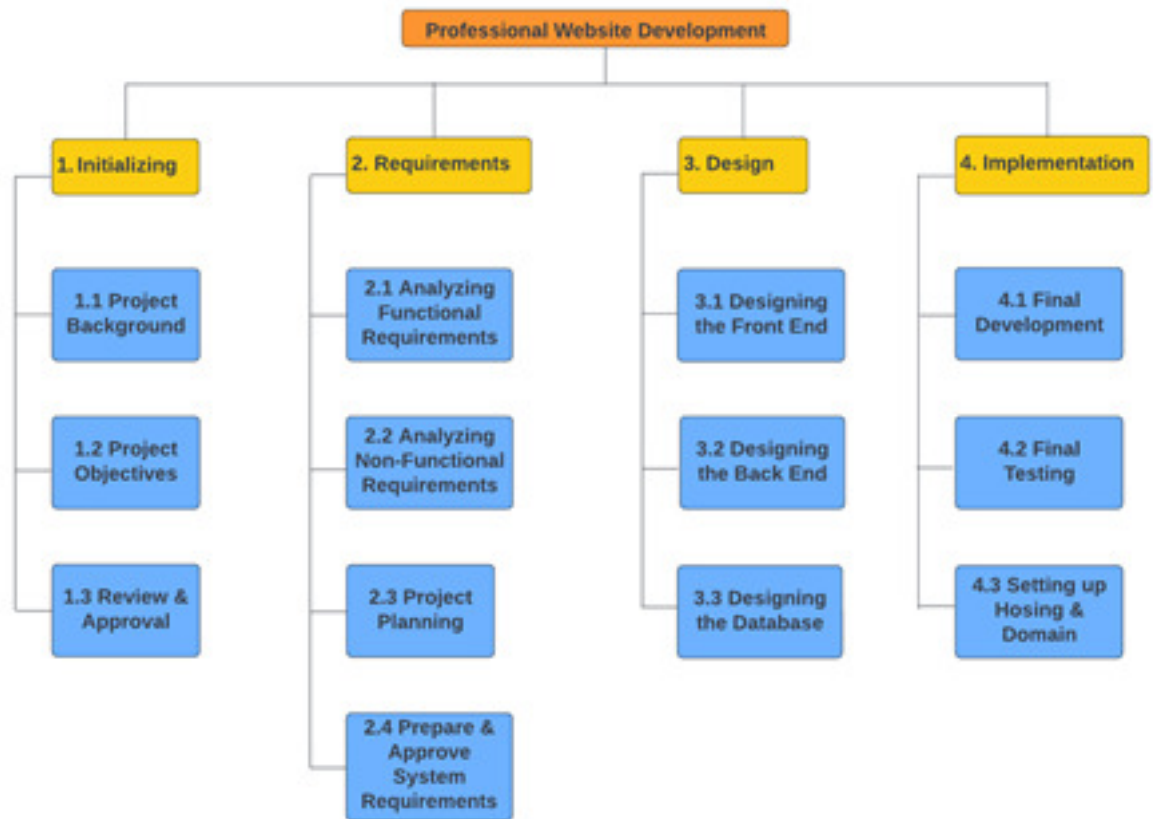
1. E2 Language –

E2Language is the leading online PTE Academic, OET Cambridge Boxhill Language Assessment, IELTS, and TOEFL Preparation Provider

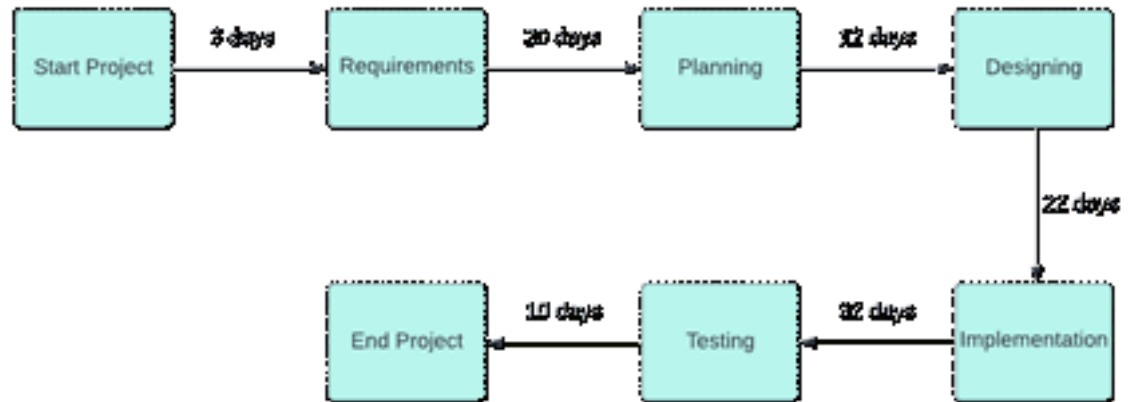
1. IDP Education –

IDP Education Limited is an international education organisation offering student placement in Australia, New Zealand, the USA, UK, Republic of Ireland and Canada. IDP has more than 100 offices in 31 countries and 550 counselors.

Chapter 3
Project Management & Financing
3.1 Work Breakdown Structure



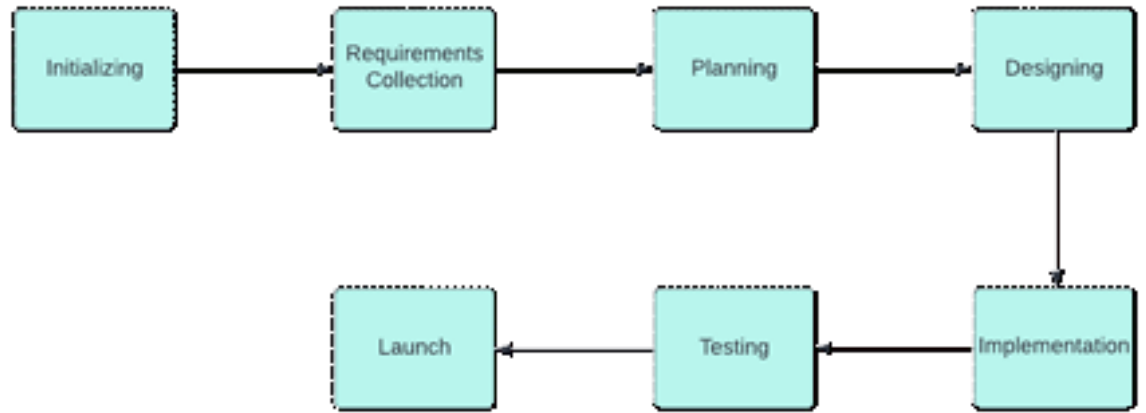
3.2 Process Wise Time Distribution



3.3 Gantt Chart



3.4 Process Wise Resource Allocation



3.5 Estimated Costing

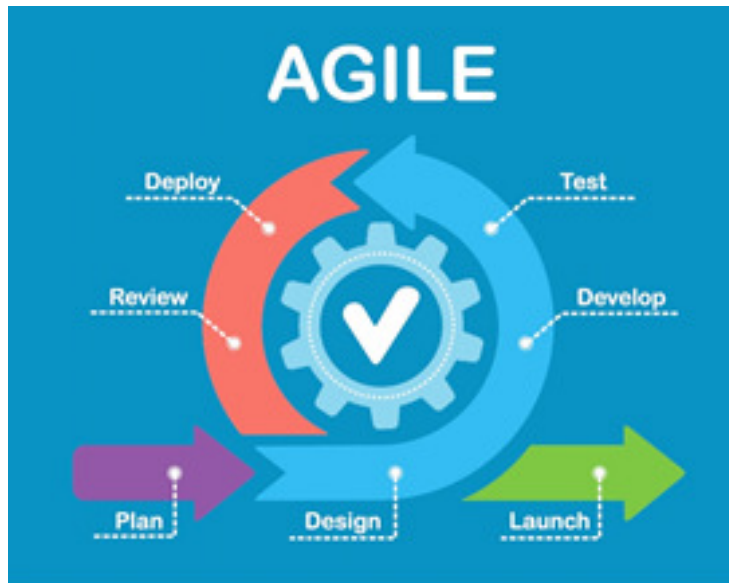
Requirements	Amount
Domain	3000 BDT
Employee Salary	40000 BDT
Electricity Bill	6500 BDT
Computer Components	60000 BDT
Testing	12000 BDT
Total	121500 BDT

Chapter 4 Methodology

Agile methodology is being used for the project. The Agile methodology is a way to manage a project by breaking it up into several phases. It involves constant collaboration with clients and continuous improvement at every stage. Once the work begins, the team cycles through a process of planning, executing, and evaluating. Continuous collaboration is vital, both with team members and clients.

So, if there are unexpected changes either from the client's side or internal, this model becomes the perfect choice for team leader and its members. This eventually minimizes the risks when a new functionality is added to the system.

For example, while designing the "About Us" page, at first the layout and contents of the page were selected by analysing the other similar popular websites. After selection of the components for "About Us" page, the contents of the page and execution of the design was performed by using HTML, CSS and JavaScript. After completion, testing of the website was performed by using live server. The website was later reviewed by the company's supervisor and clients. After attaining the final approval from them, we went to the next stage of the project work.



Chapter 5

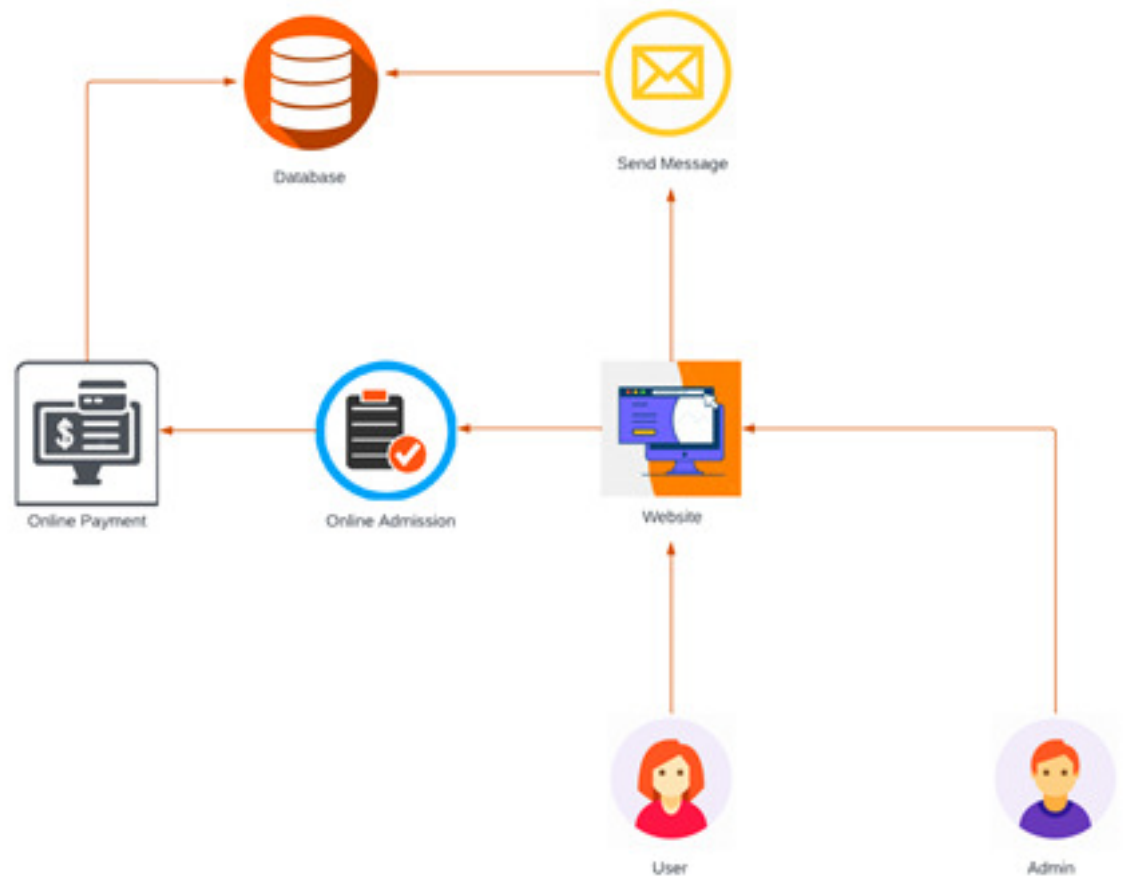
Body of the Project

5.1 Work Description

This is a web-based platform where users can apply their desired course or send messages if they have any queries. I have contributed to the front-end and back-end part of the application. For the front-end part, HTML, CSS, Bootstrap and JavaScript has been used. For the back-end part, Laravel has been used. In the home page, there is basic information about the institution and the courses they offer. In the courses section, there is detailed information about all the courses they are offering and their tuition fees and time schedule. Finally, in the about us section, there is more information about the institution.

5.2 Requirement Analysis

5.2.1 Rich Picture



5.2.2 Functional & Non-Functional Requirements

Functional Requirements –

1. Browse website
2. Responsive for various screen size
3. Navigation bar
4. Login
5. Logout
6. Online admission
7. Online payment

8. Send message

Non-Functional Requirements –

1. **Operational** - The system should run all PCs with windows 7 or higher version of OS.
1. **Security** - The system will be secured with a password. So, only authorized persons will be able to gain access into the system.
1. **Usability** - The website should be pleasant to use. It is user-friendly, even non-technical user can easily use the platform.

5.3 System Analysis

5.3.1 Six Element Analysis

			System Roles			
Process	Human	Non-Computing Hardware	Computer Hardware	Software	Database	Comm & Network
Browse website	User browses the website	N/A	Computer, mouse, keyboard, smart-phone	Chrome, Firefox, Edge	MySQL	WLAN
Login	User enters username & password	N/A	Computer, mouse, keyboard, smart-phone	Chrome, Firefox, Edge	MySQL	WLAN
Online admission	User fills up the form and select their desired course	N/A	Computer, mouse, keyboard, smart-phone	Chrome, Firefox, Edge	MySQL	WLAN
Online payment	User pays for the desired course	N/A	Computer, mouse, keyboard, smart-phone	Chrome, Firefox, Edge	MySQL	WLAN
Send message	User asks their queries	N/A	Computer, mouse, keyboard, smart-phone	Chrome, Firefox, Edge	MySQL	WLAN

5.3.2 Feasibility Analysis

It is basically an analysis of a proposed project to determine if it is feasible or not and the development of the project. The main priority of this analysis is to figure out the confirmation or design, development, plan, and strategy makes sense or not. Few types of feasibility analysis were taken under consideration and those are given below:

1. Technical feasibility –

Technical feasibility helps the company to determine whether the technical resources meet capacity and whether the technical team can convert the ideas into working systems. The technical aspect of a feasibility study helps to determine the efficacy of the proposed project by examining the details of intended process, including logistics and technology related to producing, delivery process and tracking the services you intend to develop.

1. Economic feasibility –

Generally, it describes whether a project is feasible cost wise or not. We hope that the company will be highly benefited when the server goes live, because it will reduce a lot of cost including manpower, pen, and paper etc.

1. Operational feasibility –

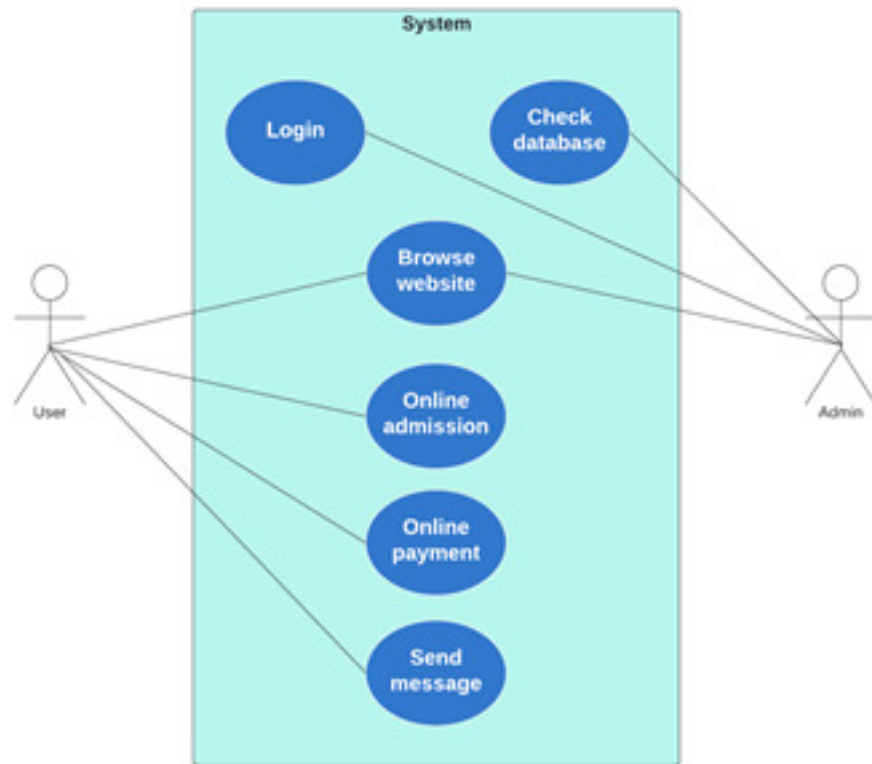
Operational feasibility is the ability to understand, support and perform the necessary tasks of a system or project. It includes everyone who creates, operates, and uses the system. To be operationally feasible, the system must fulfil the requirements. This web application has been developed by fulfilling the requirements so that anyone can easily use it from the website.

5.3.3 Problem Solution Analysis

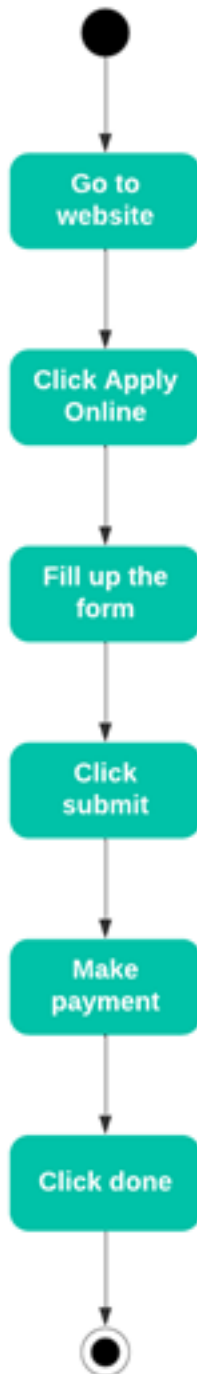
Problem – Load shedding can be a barrier to use the webpage.

Solution – This system can be used in smartphones and laptops, which does not require constant electrical connection.

5.4 System Design
5.4.1 UML Diagrams
Use Case Diagram



State Chart Diagrams –



1.

Online Admission

& Payment

1. Send Message



5.4.2 Architecture

System architecture is a conceptual model that describes the structure, behaviour, and view of a system. It is basically what we are building overall. A good structure can be effectively managed, and it can be the idea for a long run. It should offer scalability and the system can be updated easily.

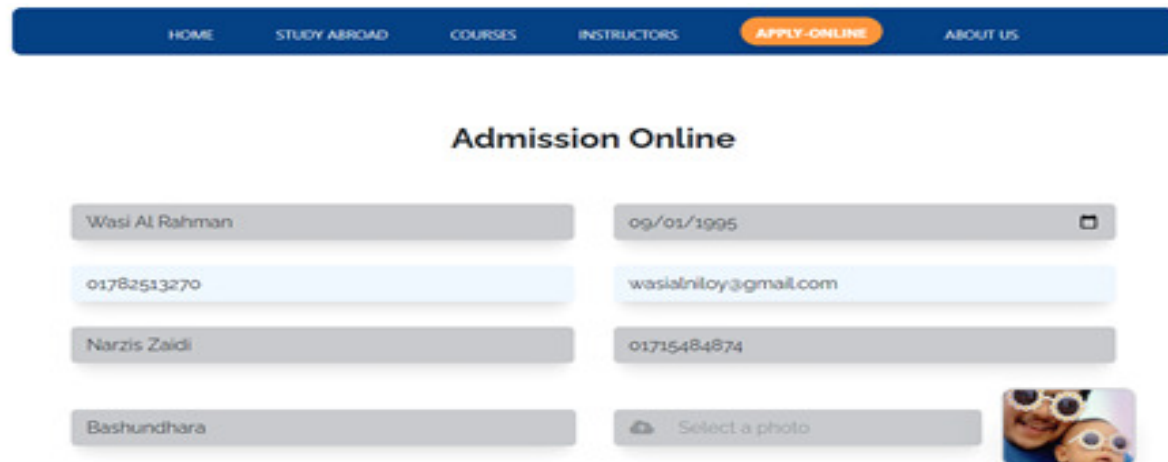
There are various types of system architecture. For this project, web application architecture is considered as the most important. The web application architecture determines the interactions between applications, databases, and middleware systems on the web. It ensures that multiple applications work simultaneously.

As soon as the user hits the go button after typing a URL in the address bar of a web browser, it requests for that web address. The server sends files to the browser as a response to the request made. The browser then executes those files to show the requested page.

Finally, the user can interact with the website. The most important thing to note here is the code parsed by the web browser.

5.5 Testing

5.5.1 Input



The screenshot shows a web application interface for online admission. At the top is a dark blue navigation bar with white text links: HOME, STUDY ABROAD, COURSES, INSTRUCTORS, APPLY ONLINE (highlighted in an orange button), and ABOUT US. Below the navigation bar is a section titled 'Admission Online'. The form consists of several input fields arranged in two columns. The first column contains fields for 'Wasi Al Rahman', '01782513270', 'Narzis Zaidi', and 'Bashundhara'. The second column contains fields for '09/01/1995', 'wasialniloy@gmail.com', '01715484874', and a photo selection area with a camera icon and the text 'Select a photo'. A small profile picture of a person wearing sunglasses is visible next to the photo selection area.

1. Online Page -

Qualification

Level	Board	Group
A LEVEL	Dhaka	Science
2.5	2015	
IELTS		
		CANCEL SUBMIT

1. Send Message -

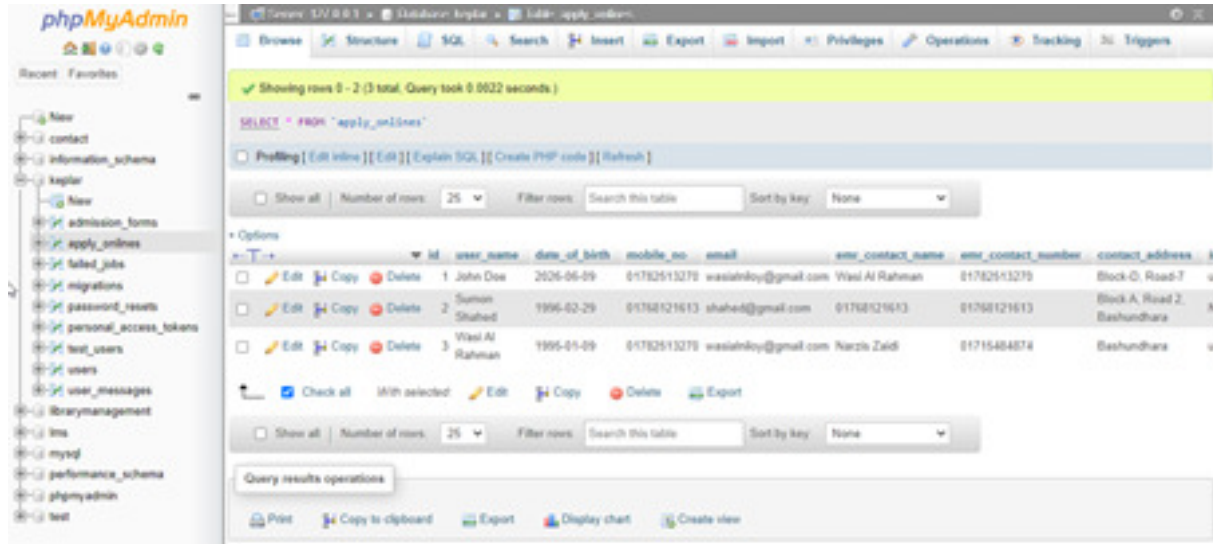
Then IELTS crash course is the best option for you. We offer competitive real-time Mock tests that include spoken sections with our highly trained professionals. We also offer ESL, spoken English, anything you need to improve your English proficiency.

Not sure what you need?

No problem – come and take our free assessment and demo class. After our assessment, we will offer the best solution to fit your busy schedule. Our experienced instructors will help you to achieve your desired IELTS band score! Do not wait and give us a try! Kepler can promise to exceed your expectation.

Skills	Pricing	Send Message
Wasi		wasiahiroy@gmail.com
Hi, can you kindly tell me when the next IELTS batch will start? It would be great if you can tell me the tuition fees as well. Thank you.		
SUBMIT		

5.5.2 Output



Showing rows 0 - 2 (3 total. Query took 0.0022 seconds)

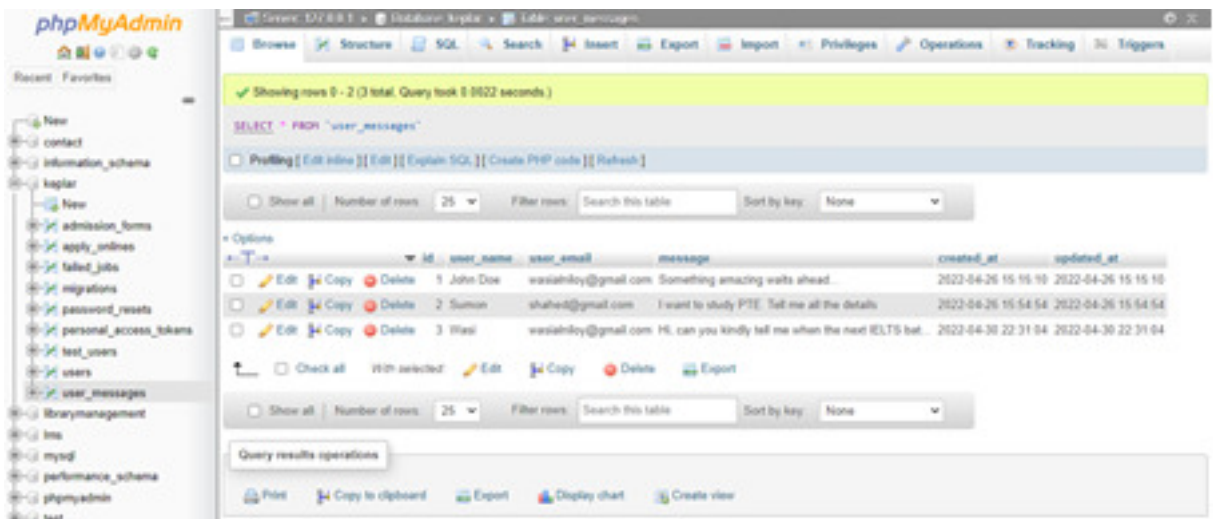
SELECT * FROM `apply_online`

Options: Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

	id	user_name	date_of_birth	mobile_no	email	emr_contact_name	emr_contact_number	contact_address
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	1	John Doe	2026-06-09	01782513278	wasiakloy@gmail.com	Wasi Al Rahman	01782513278	Block D, Road-7
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	2	Sumon Shahed	1996-02-29	01768121613	shahed@gmail.com	01768121613	01768121613	Block A, Road 2, Bashundhara
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	3	Wasi Al Rahman	1996-01-09	01782513278	wasiakloy@gmail.com	Nazim Zaid	01715484874	Bashundhara

Query results operations: Print | Copy to clipboard | Export | Display chart | Create view

1. of online admission form filled up by users –



Showing rows 0 - 2 (3 total. Query took 0.0022 seconds)

SELECT * FROM `user_messages`

Options: Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

	id	user_name	user_email	message	created_at	updated_at
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	1	John Doe	wasiakloy@gmail.com	Something amazing waits ahead...	2022-04-26 15:15:10	2022-04-26 15:15:10
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	2	Sumon	shahed@gmail.com	I want to study PTE. Tell me all the details	2022-04-26 15:54:54	2022-04-26 15:54:54
<input type="checkbox"/> Edit <input type="checkbox"/> Copy <input type="checkbox"/> Delete	3	Wasi	wasiakloy@gmail.com	Hi, can you kindly tell me when the next IELTS bat...	2022-04-30 22:31:04	2022-04-30 22:31:04

Query results operations: Print | Copy to clipboard | Export | Display chart | Create view

1. of messages sent by users –

Chapter 6

Results & Analysis

This web-based application was built to satisfy the users and to save their time. The front-end part was designed in such a way so that people from all class can use this website easily. They don't need much technical knowledge to use it. Users can easily get all the information they are looking for and they can apply online for their desired course. So, we tried to design the interfaces which will attract the users. If they have any queries, they can send a message through the website.

Chapter 7

Project as Engineering Problem Analysis

7.1 Sustainability of the Project/Work

1. Adapting to the business environment of new technologies –

New to this field, it was quite difficult for me to comprehend the process for the first few weeks. I had to learn a new language adaptation to develop a website that I found rather tough. Therefore, my learning curve was initially quite low. Despite this, I was able to stay up with my supervisor's correct guidance. I had to adjust my tasks and hustle with the new languages in a proper timetable.

1. Understanding the requirements –

Since I was inexperienced in this sector, the requirements were difficult to comprehend. I had to research and grasp my organization's aims to understand them.

7.2 Social & Environmental Effects & Analysis

Each organization needs to preserve safe records for its own benefit and utilize these data to estimate the statistics of its status and draw up a better plan for the future.

Now, there are databases that can be simply handled to save the data in a safe way, but they do not fill in the other unique needs and you will not have the possibility to modify those systems.

This database system is built such that the company has better visualization and high security instead of building up Excel sheets and collecting the scattered data.

7.3 Addressing Ethics & Ethical Issues

The system is completely secure. Any of the user's data is saved in a way where no one else will use it. Maximum security is provided on the website. Initiatives has been taken to install SSL certification to convert to https for payment area so that users can feel secure to provide their personal information. Automatic inactivity logout feature will be also added for user security. Overall, we can say that our system will work for all the users maintaining all ethical issues properly.

Chapter 8

Lesson Learned

8.1 Problems faced during this period

1. Coping with the other members of the project.
2. Not getting any sort of help from team members.
3. Not being able to satisfy clients' requirements.

8.2 Solution of those problem

1. Putting more effort and time to cope with my team members
2. Popular websites like W3Schools, Geeks for Geeks, Stack Overflow have helped me to clear out the problems I faced. YouTube have also helped me a lot.
3. Seeking advice from people who have experience in dealing with clients.

Chapter 9

Future Work & Conclusion

9.1 Future Works

In the future the product will be launched as a mobile application for android & iOS. For registering an account, an email notification will be sent. Different languages can be provided for the system as well. Few more features can be added to attract the customers.

9.2 Conclusion

This was a very successful internship for me. I've acquired new knowledge, know-how and met so many new people. I got to work and have professional practice in my field. An internship is a great opportunity to achieve this experience. The internship was good to explain my strengths and weaknesses. This helped me determine what skills and knowledge I must improve in the next time. I learned JavaScript, Bootstrap, Laravel, etc, during my internship. Now I understand how a website could be made. As has, I have worked in Ant Tech with a developer team. Now I know how to work with the team in a software company and how to communicate in conjunction with other staff members in the project.

Bibliography

1. <https://mentors.com.bd/>
2. <https://www.idp.com/global>
3. <https://www.e2language.com/Course/IELTS/General>