



An Undergraduate Internship/Project on
“Web Application of an Online Marketplace promoting the youth
freelancers of Bangladesh”

By

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**Dissertation submitted in partial fulfillment for the degree of Bachelor of Science in
Computer Science**

Department of Computer Science & Engineering

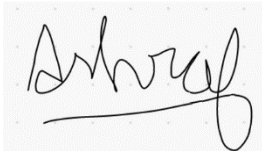
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Attestation

I, Ashraful Hassan, hereby certify that none of the work that has been done in this report is plagiarized or copied from anywhere. Any resources used are mentioned in the reference section of the report. No help was asked for during the completion of the report from a third party organization except the one that I have worked for in the last 3 months as an intern.

For any information, my internship supervisor, Mahtab Uddin Khan, at my company, Bengal Software Limited, can be contacted on 01816811482

Sincerely

A handwritten signature in black ink, appearing to read 'Ashraf', with a long horizontal stroke extending from the bottom of the letter 'f'.

31st December 2020

Ashraful Hassan

Acknowledgment

I would like to express my gratitude to my honorable supervisor Mr. Subrata Kumar Dey, Internship Supervisor & Senior Lecturer, Independent University, Bangladesh, who has given me suggestions regarding the research that I conducted and writing this report. He has helped me go through the whole process of making this report

It has been a great experience to work as an intern in a startup organization like Bengal Software Ltd. I would like to express my gratitude to Bengal Software firm for giving me a chance to work with them and for helping me work from home as well as giving me an opportunity to work at office to understand the office culture better and making the transition from a student to a software developer much smoother all during this COVID-19 pandemic. I am also thankful to them for allowing me to gather information and helping me in every possible way in preparing the report.

My endless thanks to Mr. Mahtab Uddin Khan, Managing Director and CEO, Bengal Software Limited, for supporting me during my internship. I would like to thank all my team members and co-developers, Mr. Mahbubur Rahman, Mr. Shakil Ahmed and Mr. Sumnan Azadi of the development department at Bengal, for guiding me and also giving me the chance to be familiar with the organizational environment and experiencing the procedures practiced at Bengal Software Limited. I believe that the experience that I have gained during the length of the internship program in this company should be vital for my future and career as a software developer.

My sincere gratitude goes to Independent University, Bangladesh for having an internship program for students which really shapes and prepares us to enter the corporate world.

Letter of Transmittal

9th January, 2021

Subrata Kumar Dey

Internship Supervisor & Senior Lecturer

Department of Computer Science and Engineering

School of Engineering, Technology and Sciences

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Subject: Internship report on ‘Web application for an online marketplace’ for Bengal Software Limited.

Dear Sir,

It is my pleasure to submit to you my internship report on ‘Web application for an online marketplace’ for Bengal Software Limited. This report has been prepared based on my three – month internship at Bengal Software Limited and the project that I had been working on during that time. The purpose of this report was to fulfill the requirements of the Bachelor degree of Computer Science and Engineering and also to gain an insight on how the organizations are dealing with the ongoing COVID-19 pandemic.

I tried to give my best effort to make this report successful. It has been an instructive and knowledgeable experience for me to work along with development team in Bengal Software Limited. I would be really happy if the report that I have created is able to serve its purpose. I am grateful to you for dedicating your valuable time, expertise, guidance and support. I have tried my best to complete the report appropriately as much as possible. I would be available to explain any kind of queries related with my report anytime.

Thank you.

Yours sincerely,

Ashraful Hassan

ID: 1722044

Student, SECS

Evaluation Committee

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Supervisor

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Internal Examiner

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Convener

Abstract

This is an internship report on the project that has been provided by Bengal Software Limited, as required by the Bachelor of Science (BSc) program in Independent University, Bangladesh. The objectives of the study are to analyze the different aspects of my internship at Bengal Software Limited, to distinguish and resolve problems that are associated with the given project of “Local Online Market place”.

Since the start of the pandemic at the start of this year, most local businesses are out of work and for which there are more unemployed people in Bangladesh than in recent times. According to a research about 39% of graduates are unemployed currently [1], hence due to Covid-19 virus the number is likely to increase going through the next year. Freelancing is a new form of attraction for the youth of the country and is encouraged by the government as well, but when it comes to work newcomers struggle to find work in international markets such as Upwork, Fiverr, People Per Hour etc. This is where Bengal software has come in with this project of Market Place. The target of this project is to provide an opportunity to those skilled graduates or students who has not yet entered the job market and has a minimal experience. This platform can act as a side-income as well as the main source of income for many. As focused with the youngsters the project is also focused on bringing freelance work from abroad, sell templates or tutorials to potential buyers abroad or locally. The application makes sure that any work that is done or uploaded has maintained an international standard.

This is a web based application where the users can access using the internet. In the application the users has the opportunity to do any of the four potential “money making services”, such as upload ready-made templates, upload tutorial videos on a topic or search for freelance work.

Keywords: Marketplace, Freelancing, Tutorial, Template, Seller, Buyer

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Chapter 1

Introduction

Bangladesh is a country of population over 150 million with literacy rate of more than 50 percent. In the last two decades, the country has fetched remarkable economic progress with GDP growth rate of more than 5 per cent. It is argued that there is a tremendous prospect for the country to leapfrog into industrialized economy through the development of the IT sector. Because Bangladesh has high potential to become a huge source of skilled human resources with its cultural adoption capability, English language skills, analytical capability and a large number of educated and energetic youths with bright aptitude, good quality and natural ability in software development. The economy of Bangladesh has also seen the effects of the rise of IT sector during the last five years. The government expects the IT sector to add 7.28 percent to GDP growth by 2021 [2].

Software and IT service industry in Bangladesh has crossed a long road over the last few decades. It has matured. The industry no more remains at the sideline. It joined the mainstream. Not only the industry is contributing significantly in the national income, but also it has been playing very crucial role in creating high quality employment for a sizable portion of young graduates of the country.

1.1 Background

An online marketplace is a type of e-commerce website where product or service information is provided by multiple third parties. In an online marketplace, consumer transactions are processed by the marketplace operator and then delivered to participating retailers or wholesalers. These type of websites allow users to register and sell single items to many items for a "post-selling" fee. There are also marketplaces for the online outsourcing of professional services like IT services, search engine optimization, marketing, and skilled crafts & trades work. Online marketplaces such as Upwork and Amazon Mechanical Turk allow freelancers to perform tasks which only require a computer and internet access. Payment is made on the successful delivery of

the IT services that have been promised. These marketplaces often handles the money transfer process on their own on the condition that a successful delivery has been made.

1.2 Objectives

The primary objective of any website based business is to make sure a steady revenue is generated during. The website needs to be regularly updated with data, keep the site bug-free, control the traffic to the site and give a great user experience to the users. Ultimately the users are the one who will grow the site as well as the company.

Another major goal is to encourage young enthusiasts to become freelancers and pursue a career as graphic designer, web developer, search engine optimization expert etc. Although it is not viable or possible to train everyone but providing work these people means more people are encouraged to pursue such a career, more importantly to develop a skill which can be a huge asset for themselves and increase the weight any resume or CV's.

The third objective is to attract foreigners to invest in the work of the local talents of Bangladesh. However, this can only happen if the local freelancers can maintain international standard and work ethics during the time of the contract of work. This would also mean that this platform will bring in huge foreign money to Bangladesh, therefore have a positive effect on the economy of the country.

1.3 Roles & Actions

There are 4 types of users that can enter the system.

- Developer / Freelancer
- Buyer
- Admin
- Seller
- Hirer

The functionalities of the users of the system are described in a table in the next page

Table 1.1: Action table for all the users

Actions Sr.	Admin	Developers	Buyers	Seller	Job Provider
1	No Registration	Registration	Registration	Registration	Registration
2	No Verification	Email Verification	Email Verification	Email Verification	Email Verification
3	Login	Login	Login	Login	Login
4	View Registered User Activity	View Jobs	View templates/ tutorials	Upload templates/Tutorials	Post Job
5	Edit/delete Users	Update personal Information in Dashboard	Update personal Information in Dashboard	Update personal Information in Dashboard	Update personal Information in Dashboard
6	View and verify uploaded files/ payment	Receive payment on successful work	Payment through gateway upon purchase	Receive payment if product sold	View applicant list applied on job posted
7	Logout	Logout	Logout	Logout	Logout

1.4 Out of scope

- Training Freelancers applying for the job.
- Maintaining international standard and work ethics.
- Access to internet in rural areas.

Chapter 2

Literature Review

2.1 Background

The literature review of the report is based on the ideas, theories and methodologies used to make the application. On this literature review, different aspects of the application such as the market analysis both for local and global markets, similarities and new functionalities included in this application will be thoroughly discussed. The report will also discuss relevant published journals, newspaper articles and research papers in this section.

The purpose of literature review is to identify need for additional research (justifying your research) Identify the relationship of works in context of its contribution to the topic and to other works. Place your own research within the context of existing literature making a case for why further study is needed.

The main goal of this segment of the report is to show how the application is similar to global brands around the world and what new features has been added in the application to achieve the primary goals discussed above.

2.2 Relationship with Undergraduate Studies

Throughout the undergraduate studies, from ‘Hello World’ to solving complex mathematical equations, were the basics of understanding how the real world applications work in general. To have the opportunity to do that and find the relevance of the project with some of the courses that are taught throughout the 4 year undergraduate course in IUB was simply exemplary. Since the project is a web based applications courses such as the CSE 203- Data Structure, CSE 211- Algorithm were the building blocks of understanding how a project data can be handled. The tools learnt from courses such as CSE 309- Web Application and Internet, CSE 303 – Database Management and CSE 213- Object Oriented Programming helped me to build and code the entire project. Finally courses like CSE 451- Software Engineering and CSE 458 – Software Quality and Testing helped my how to handle a project from start to bottom. It should be said most of the

courses that has been taught had some sort of contribution to my knowledge in the building part of the project.

2.3 Market Analysis

To look for existing applications in the sector, the application structure can be broken down into three specific sections. It is difficult to find application that supports all the functionalities that is offered by this applications such as:

- Selling Template
- Selling Video Tutorial
- Finding Jobs

Therefore the market analysis will be conducted with the following functionalities keeping in mind.

2.3.1 Global Market

In international market, anyone who hears the term “online marketplace” immediately thinks about companies such as Upwork, Fiverr, People per hour etc. Even though they are great sites for freelancers but our application supports much more than that, here users can also sell templates and video tutorials. International company for selling templates are Template Monster, Theme Forest etc, and for selling tutorial companies like Udemy has huge hold on the market. The next portion of the report will discuss about some of the companies.

- **Upwork** - The Upwork story begins over two decades ago when the tech lead of a Silicon Valley startup. It is an American freelancing platform where enterprises and individuals connect in order to conduct business. They are the go-to platform for any freelancers, regular work / job updates keeps millions of freelancers and businesses connected with each other. Upwork has over eighteen million registered freelancers and five million registered clients [3]. Three million jobs worth over \$1Bn USD are posted annually, making Upwork the largest freelancer marketplace in the world. [4].
- **Template Monster** – It is the oldest, is a very old maybe, if not oldest provider of the website templates on the Internet. It operates since 2002 and over 18 years of their life they have had over 60, 000 of items on their website. TemplateMonster is the pioneer of

what is called a full cycle website template's business model, which means that they have the in-house team of developers, designers, and QA team and the support team. This means that the whole cycle of the product life is handled within the company and even further, people who purchased templates years ago may still address the support team and they will get assistance.

- **Udemy** – It is an American massive open online course (MOOC) provider aimed at professional adults and students. It was founded in May 2010 by Eren Bali, Gagan Biyani, and Oktay Caglar. As of Jan 2020, the platform has more than 35 million students and 57,000 instructors teaching courses in over 65 languages. There have been over 400 million course enrollments. Students and instructors come from 180+ countries and 2/3 of the students are located outside of the U.S. [5].

2.3.2 Local Market

To look in the local market, online marketplace for freelancers are difficult to find, to mention companies and sites such as Belancer.com, Outsourcemyjob.com etc. In these sites the competition for work is very less since the number of freelancers and work is small but the quality of work and pay is low well. For template selling there are sites such as Bdthemes.com, bdtask.com. As for tutorial selling sites there are well known sites such as Bohubrihi.com. A detailed analysis done on some of these companies next.

- **Belancer.com** - It is the first online works freelancing Marketplace and Expert Hub in Bangladesh, any Local or Global Employer can Post Project in any category i.e Web, Mobile & Software Development, Design & Multimedia, Admin, Writing & Translation, Sales & Marketing and so on to receives 100s of proposal to compare in a min and chat with bidder & select, pay via safe online payment when employer 100% satisfied.
- **BdThemes** – It is a premium and creative template design company in Bangladesh which provides very high quality Joomla template and Wordpress theme templates. They also regularly release new both free and premium plugins for their templates, also providing 24/7 support to all their customers.
- **Bohubrihi** – It was founded as an online course marketplace in mid-2018, as an experimentation of providing paid online courses through internet. It is transforming everyday towards its vision of creating a complete ecosystem for engaging, practical and

employable learning opportunity. It might take some more years of intensive trial and error to clarify our emphasis on life transformation through acquisition of cutting-edge skills.

2.4 Analysis of Articles and Journals

- **S. S. Alsheikh, K. Shaalan and F. Meziane, "Exploring the Effects of Consumers' Trust: A Predictive Model for Satisfying Buyers' Expectations Based on Sellers' Behavior in the Marketplace," in IEEE Access, vol. 7, pp. 73357-73372, 2019, doi: 10.1109/ACCESS.2019.2917999.**

In this article the writers explain how the consumer-to-consumer or (C2C) is getting popular day by day. However, compared to the traditional business-to-consumer (B2C) stores, most modern C2C marketplaces are reported to be associated with stronger negative sentiments among consumers. These negative sentiments arise from the inability of sellers to meet certain buyers' expectations and are linked to the low trust relationship among sellers and buyers in C2C marketplaces. The growth of these negative emotions might jeopardize buyers' decisions to opt for C2C marketplaces in their future purchase intentions.

- **Y. Zhu, Y. Li and M. Leboulanger, "National and cultural differences in the C2C electronic marketplace: An investigation into transactional behaviors of Chinese, American, and French consumers on eBay," in Tsinghua Science and Technology, vol. 14, no. 3, pp. 383-389, June 2009, doi: 10.1016/S1007-0214(09)70055-0.**

Consumers from different countries demonstrate distinct purchasing behaviors online. This study uses eBay as the consumer-to-consumer electronic marketplace to investigate the eBay mechanisms and purchasing habits of consumers from the United States, France, and China to evaluate the effects of cultural and national differences on purchasing habits.

Chapter 3

Project Management

To start a project, every company has to create a timeframe through which every aspect of the project has to be determined, planned and execute according to this plan or schedule. This works as a guideline for the company to track the progress of the project and to make sure the smaller goals and deadlines have been met. A guideline with diagrams is shown in the next figures mainly through the Work Breakdown Structure, Gantt chart and Database design.

3.1 Work Breakdown Structure (WBS):

Breaking work into smaller tasks is a common productivity technique used to make the work more manageable and approachable. For projects, the Work Breakdown Structure (WBS) is the tool that utilizes this technique and is one of the most important project management documents. It singlehandedly integrates scope, cost and schedule baselines ensuring that project plans are in alignment. A good WBS is simply one that makes the project more manageable.

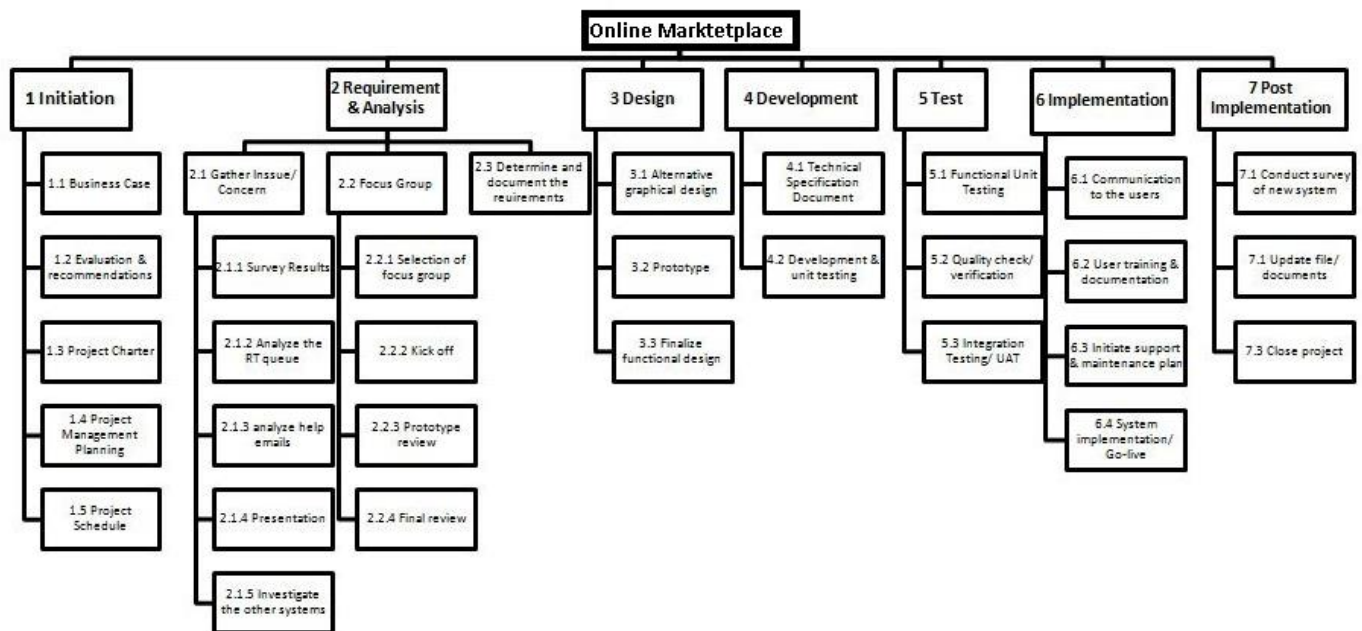


Figure 3.1: Work Breakdown Structure

3.2 Process/Activity wise Time Distribution

The time allocation for the 3 months project is shown on a chart using the critical path method. The critical path is the longest sequence of activities in a project plan which must be completed on time for the project to complete on due date. An activity on the critical path cannot be started until its predecessor activity is complete; if it is delayed for a day, the entire project will be delayed for a day unless the activity following the delayed activity is completed a day earlier.

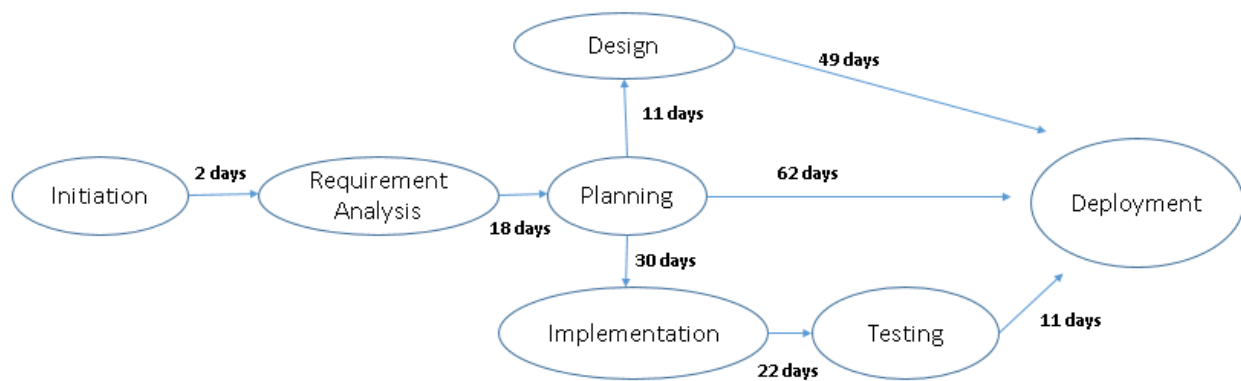


Figure 3.2: Critical Path

3.3 Gantt Chart

For this project, a Gantt chart was used in the planning phase of the application. Gantt charts are commonly used for tracking project schedules, and they are especially useful in project management. To put it simply, they illustrate and allow us to know what needs to be done, and when it needs to be done. Gantt charts are also able to show us additional information regarding the different tasks or sections of a project, such as how far have tasks progresses, how a group of tasks might depend or other groups of tasks, how important several tasks are, and resources are being used within a project.

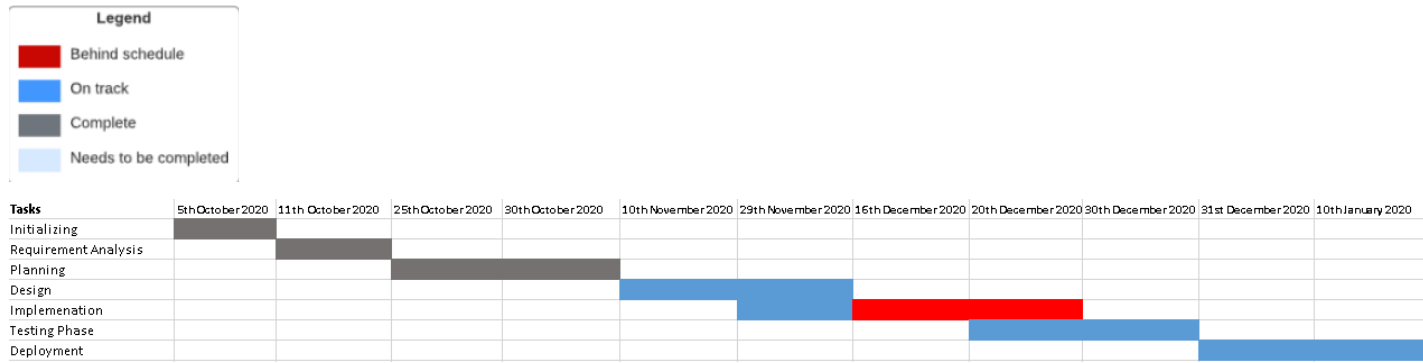


Figure 3.3: Gantt chart

3.4 Resource Allocation

For this project, the developers are considered as the primary resource followed by the computers used in the office, the servers (VPS) required for the deployment of the project. Every employee of the company is considered a resource, hence everyone has assigned a particular assignment with certain deadlines, all of which collaborated to the entire production of the project. Following are the details of every step of the project.

1. **Initializing:** This is the first period of the project, where the idea of the project was presented by the CEO of the company. Since this was a in-house product, no delay was made and the paperwork for the project was started.
2. **Requirement Analysis:** During the first few weeks the CEO and the developers discussed the entire requirements for the completion of the project. For example, Computer specifications, software/tech to be used to build the application, features and developers required.
3. **Planning:** In this section of the development process, the developers and the CEO engaged in hours of discussion of how this project should be built from top to bottom, the approaches to be taken, creating smaller goals and setting deadlines for them.
4. **Design:** In this phase few graphic designers were hired for designing the web pages of the application as well as the management team started working on the high level and low level diagrams for the project in order the get the bigger picture on sight.

5. **Implementation:** At this stage, the designs for the web pages were complete and the developers started working on writing the code for the front end and backend of the application, while the management team kept regulating whether all the deadlines were maintained.
6. **Testing:** Testing started as soon as a feature was added to the site. Hence simultaneously the testing was being carried out by the developers. At the end of the implementation phase unit testing for the application started.
7. **Deployment:** After the testing was truly completed, the team realized that it was behind schedule. For deployment, a VPS (Virtual Private Server) and a domain was bought to deploy the application on a live server.

3.5 Estimated Costing

Table 3.1: Cost Estimation table

Requirements	Quantity	Amount (BDT)
Salary Payments (3 months)	5	375000
Computers (desktop)	5	100000
Printer	1	10000
Electricity Bill (3 months)	1	30000
Domain/Server/Hosting	1	1500
Desks	5	5000
Rent (3 months)	1	48000
Internet Bill (3 months)	1	3600
Subtotal	-	573100

Chapter 4

Methodology

Successful projects are managed well. To manage a project efficiently, the manager or development team must choose the software development methodology that will work best for the project at hand. All methodologies have different strengths and weaknesses and exist for different reasons. For this project the Bengal development team has used, like most modern applications, the agile software development life cycle. Other methodologies includes:

- Waterfall
- Prototyping
- Iterative and Incremental Development
- Spiral Development
- Rapid Application Development
- Extreme Programming

4.1 Agile Development

In software development, agile practices approach discovering requirements and developing solutions through the collaborative effort of self-organizing and cross-functional teams and their customers or the users of the program [6]. It advocates adaptive planning, evolutionary development, early delivery, and continual improvement, and it encourages flexible responses to change. Teams use the agile development methodology to minimize risk (such as bugs, cost overruns, and changing requirements) when adding new functionality. In all agile methods, teams develop the software in iterations that contain mini-increments of the new functionality. There are several methods for that is followed in agile development such as scrum, crystal, extreme programming (XP), and feature-driven development (FDD).

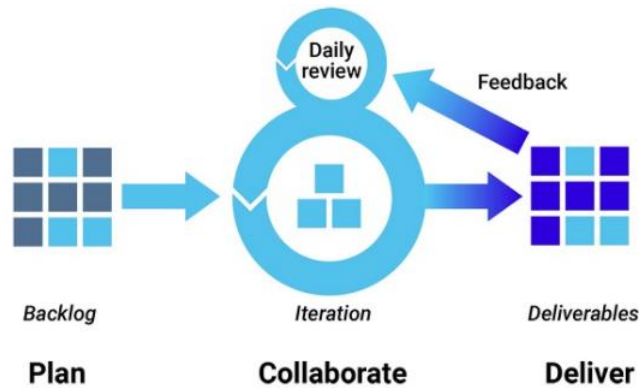


Figure 4.1: Agile Methodology

4.2 Why Agile for this project?

The primary benefit of agile software development is that it allows software to be released in iterations. Iterative releases improve efficiency by allowing teams to find and fix defects and align expectation early on. They also allow users to realize software benefits earlier, with frequent incremental improvements. When the development process began there were lack of information in the requirement section of the project, which eventually got added up in the future. As new features and updates on design patterns got updated the design team implemented them in a progressive manner much like what the agile methodology suggests.

4.3 Agile Implementation

The entire plan was decided when determining the requirements during the planning phase, how the development team made sure they divide all the work according to daily basis. Every day some of the coding section of the project would be implemented and at the end of the day a meeting would be conducting between the development team and the management committee to make sure all functionalities that had been implemented throughout the day, was valid and up to the standards as well as the requirements, any changes suggested could be implemented accordingly.

Chapter 5

Body of the Project

5.1 Work Description

As a member of the development for the project, I had contributed to both the front end and the backend of the application. Even though I had to no part in the design and requirement analysis of the project, the front end built with the Reactjs framework of JavaScript language and mainly building REST apis for the backend using the Express framework of Nodejs. Every day a target of the tasks to be completed throughout the day would have been appointed to me, and at the end of the work day those targets needed to be fulfilled and explained properly.

5.2 Client Requirement Analysis

5.2.1 Introduction

From the initiation of any project, it is very important to know who the client is for the application, its users, admins and the management operating the entire system. Since the application was not outsourced and suggested by the CEO, the client for the application was the CEO. Keeping that in mind, the developers had to think of ways to make the application as user friendly as possible and also how should the application be in a responsive state. More question such as will this application be successful in the market. Here all the shareholders, the CEO of the company and other developers engaged in meetings and carried out several methods to achieve a complete understanding of the application that was required to build. The methods include:

- Surveys & Questionnaires
- Group Interviews
- Developing a prototype
- Document Analysis

5.2.2 Surveys & Questionnaire

Surveys are useful in describing the characteristics of a large population. No other research method can provide this broad capability, which ensures a more accurate sample to gather targeted results in which to draw conclusions and make important decisions [7]. In this case, the survey was conducted between several user groups such as university students, established freelancers, several IT institutes teaching freelance skills and few foreign clients who posts works in other freelance sites, to truly understand the demand, functionalities and feasibility of the application to be built. The questionnaires are attached to Appendix-A.

5.2.3 Group Interviews

As an in-house product, the client interviews conducted were limited to the head of the company and the development team. To get a greater sense and to get the bigger picture of the application the interview question were conducted in two different methods.

- **Close ended questions:** These are question types that ask respondents to choose from a distinct set of pre-defined responses, such as “yes/no” or among set multiple choice questions. In a typical scenario, closed-ended questions are used to gather quantitative data from respondents.
- **Open ended questions:** These are question types that allow respondents to answer in open text format so that they can answer based on their complete knowledge, feeling, and understanding. It means that the response to this question is not limited to a set of options. In a typical scenario, open-ended questions are used to gather qualitative data from respondents.

5.2.4 Prototype

Before a full application can be developed, a prototype of the application is developed. The prototype goes under rigorous testing, design tests and UI checked by the client. The data and information obtained from the surveys and interviews were used to develop the prototype. On approval from the client, using this prototypes software developers can then begin to actually work on the whole application. Since an agile methodology was being followed, any design or UI changes can be adjusted accordingly.

5.2.5 Conclusion from research and analysis

From the surveys and interviews conducted, it is quite clear that the demand for such an online market place is really necessary, a platform for all university students or graduates to look for a start in their prosperous careers. The according to the survey it is seen that the application will mostly be used for searching freelance or full time work. On the other hand, from the interviews that company views to generate good revenue from functionalities such as selling templates and tutorials.

Down below are detailed descriptions for the application. All the roles and their work summary is listed down.

- **Developers**
 - a. Browse through posted jobs or work.
 - b. Apply for jobs.
 - c. If selected, employer contact through application chat system.
 - d. On work completion, submit work through the system
 - e. Receive payment through the system
- **Sellers**
 - a. Upload template/tutorial
 - b. Wait for admin approval for the product
 - c. On product sale, receive payment through the system
- **Buyers**
 - a. Browse through posted template/tutorial
 - b. Buy any product and payment through the system
- **Hirer**
 - a. Post Jobs with valid profile
 - b. Receive job applicants with a list in dashboard

- c. Contact selected candidate through the system chat system
 - d. On work order confirm, payment must be made to the system
- **Admin**
 - a. View all the users
 - b. Has full support of the system, can conduct any CRUD operations
 - c. Has to approve any uploaded template or tutorial
 - d. Holds the right to ban any account on misconduct

5.3 System Analysis

5.3.1 Six Element Analysis

Table 5.1: Six Element Analysis Table

Process	Human	Non Hardware	Hardware (computing)	Software	Database	Communication Network
Login/ Register	Users enters email and password	NID number when register	Keyboard, Mouse and Computer	Web Browser	Stores register data and retrieves login data	Internet
Post Job, Template, Tutorial	Users fills up respective forms		Keyboard, Mouse and Computer	Web Browser	Stores posted data in database	Internet
Apply for a Job	User clicks to apply for a job		Mouse, Computer	Web Browser	Stores applied user data	Internet
Buy Template, Tutorial, Service	User goes through to the checkout process	Credit Card information	Keyboard, Mouse and Computer	Web Browser, Payment Gateway	Stores data if payment successful	Internet

	and gateway					
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5.3.2 Feasibility Analysis

Feasibility is defined as the practical extent to which a project can be performed successfully. To evaluate feasibility, a feasibility study is performed, which determines whether the solution considered to accomplish the requirements is practical and workable in the software. Feasibility study is carried out based on many purposes to analyze whether software product will be right in terms of development, implantation, contribution of project to the organization etc. There are different types of feasibility studies that are conducted such as:

- **Technical Feasibility:** In Technical Feasibility current resources both hardware, software along with required technology are analyzed and assessed to develop project. Questions such ‘Is the application upgradable?’, ‘Technical capabilities and skills of the developers?’ are answered in this section. For this current applications the scalability depends on the number of users of the application, since it is a module based application any addition of a module can easily be added or removed if required. A downside of the program is that the application has become very technical, therefore non-technical users might have a harder time to understand the program completely.
- **Operational Feasibility:** It assesses the extent to which the required software performs a series of steps to solve business problems and user requirements. This feasibility is dependent on human resources (software development team) and involves visualizing whether the software will operate after it is developed and be operative once it is installed. The major users of the application are the freelancers, one of the most critical barrier is the language barrier, the application is developed completely in English, hence without understanding the language it should be harder for the user to guide through the program specially in the rural parts of the country
- **Economic Feasibility:** This feasibility study determines whether the required software is capable of generating financial gains for an organization. It involves the cost incurred on the software development team, estimated cost of hardware and software, cost of performing feasibility study, and so on. After this study is conducted it is seen that to make

it a profitable business for the Bengal Software company, there needs to be sales in templates that are uploaded at least 10 a week. Other mode of revenue generation includes the selling of tutorials and the most important of all keeping a cut of all the projects that have been developed by a freelancer through this application.

5.3.3 Problem Solution Analysis

Problem analysis is the process of understanding and defining the problem to be solved. Problem solving identifies solutions that conform to the needs and constraints of the problem. Much of what is done in designing and building information systems is to solve problems, even though the objective of the system may be seen as improving existing systems or taking advantage of market opportunities.

Problem 1: Less number of defined requirements.

Definition: At the start of the project, when the requirements for the project was set, the survey and questionnaire did not involve too many people for the project. The sample size for the survey was low since only university students and established freelancers were surveyed.

Solution: More participants needed to participate in the survey that was conducted, the application has to be viewed through the eyes of any possible freelancers for example housewives, retired personal etc.

Problem 2: No defined process for testing.

Definition: Even though the development team has great abilities with development phase, but there were no testing or SQA team, hence the testing had to be done by the development team as a result due to lack of experience no proper testing process was defined.

Solution: An experienced SQA professional was hired during the development phase of the project. His expertise led to the development of a testing process which is defined in the next chapter.

Problem 3: Choosing the type of hosting to be used.

Definition: After the development of the project, there was a huge confusion if the team had to go with a shared hosting server (C-panel) or a dedicated hosting server (Digital Ocean).

Solution: Both the server would have worked, but with shared hosting there is a scalability issue. Hence the team decided to host on a dedicated server.

5.3.4 Effects and Constraints Analysis

A constraint is a restriction on the degree of freedom a company can have in providing a solution. Constraints are effectively global requirements, such as limited development resources or a decision by senior management that restricts the way the development team develop a system. Constraints can be economic, political, technical, or environmental and pertain to project resources, schedule, target environment, or to the system itself. Some of the constraints and its effects are described below:

Constraint 1: Budget

Effect: This constraint has critical effect on how many employees for the project are hired and for how long the project can continue to be developed before reaching a conclusion to deadline.

Constraint 2: Time

Effect: Both the budget and time constraint are interrelated to each other. Time strictly depends of the budget of the company for the particular project. For this project the project was given a time of 4 months and a deadline of 4th of February was decided to be the deadline.

Constraint 3: Scope

Effect: Scope defines whether the requirements set for the project are met. During the development phase the developers needs to keep a close eye on the requirements of the project, if a deadline is too near the scope of the project can be stretched and delivered on a later date. This restricts the development team and has to undergo regular discussions, reviews and meetings to make sure the quality is up to the mark.

5.4 System Designs

5.4.1 Rich Picture

A rich picture is a drawing of a situation that illustrates the main elements and relationships that need to be considered in trying to intervene in order to create some improvement. It consists of pictures, text, symbols and icons, which are all used to illustrate graphically the situation.

In the following rich picture shows the summed up activities of the five different user groups of the system namely Admin, Seller, Buyer, Hirer and Freelancer. All the users groups has to login and register except admin who can willingly ban or add a user from the group and has all the power to view any of the data. Hirers post jobs and can view the applicant list, sellers sells templates and tutorials which are bought by buyers. Buyers can also get services as a product provided by the developers. The Freelancers finally can apply for the posted jobs and sell their service as a product

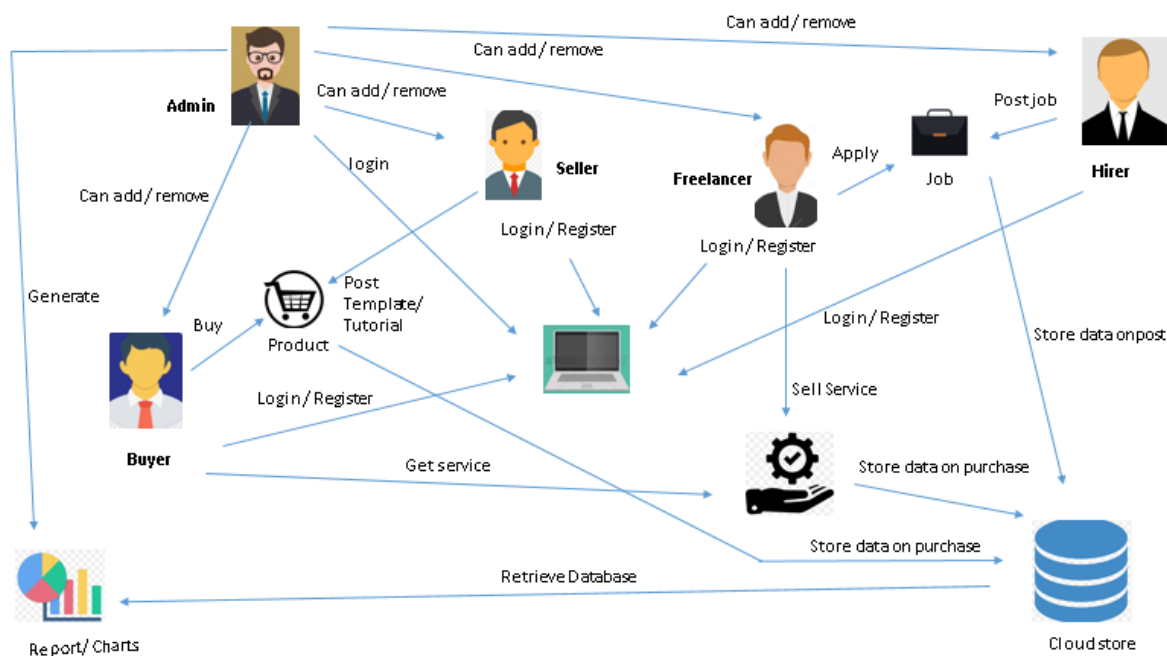


Figure 5.1: Rich Picture

5.4.2 Entity Relationship Diagram

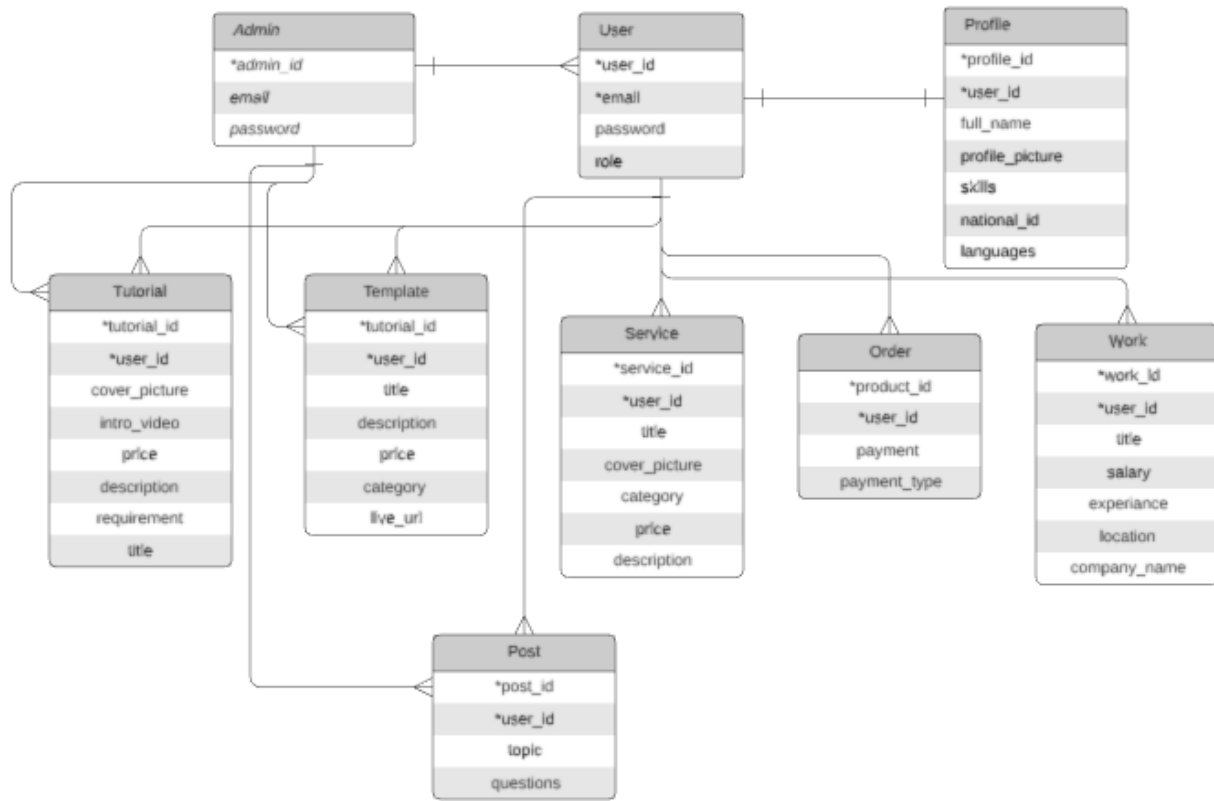


Figure 5.2: Entity Relationship Diagram

5.4.3 UML Diagrams

A UML diagram is a diagram based on the UML (Unified Modeling Language) with the purpose of visually representing a system along with its main actors, roles, actions, artifacts or classes, in order to better understand, alter, maintain, or document information about the system.

In this section, the activity diagram for all the user groups is shown, Activity diagram is essentially an advanced version of flow chart that modeling the flow from one activity to another activity.

- Activity Diagram for Admin

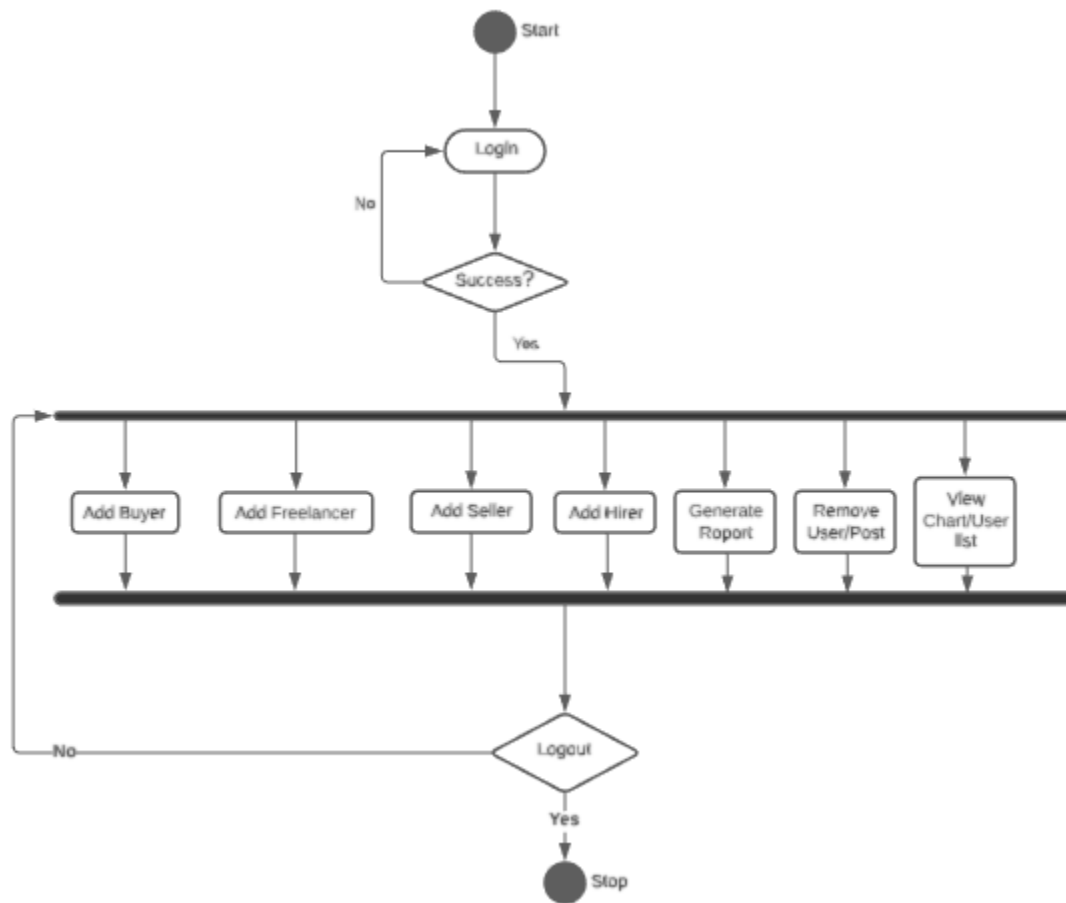


Figure 5.3: Activity Diagram for Admin

- **Activity Diagram for Freelancer/Developer**

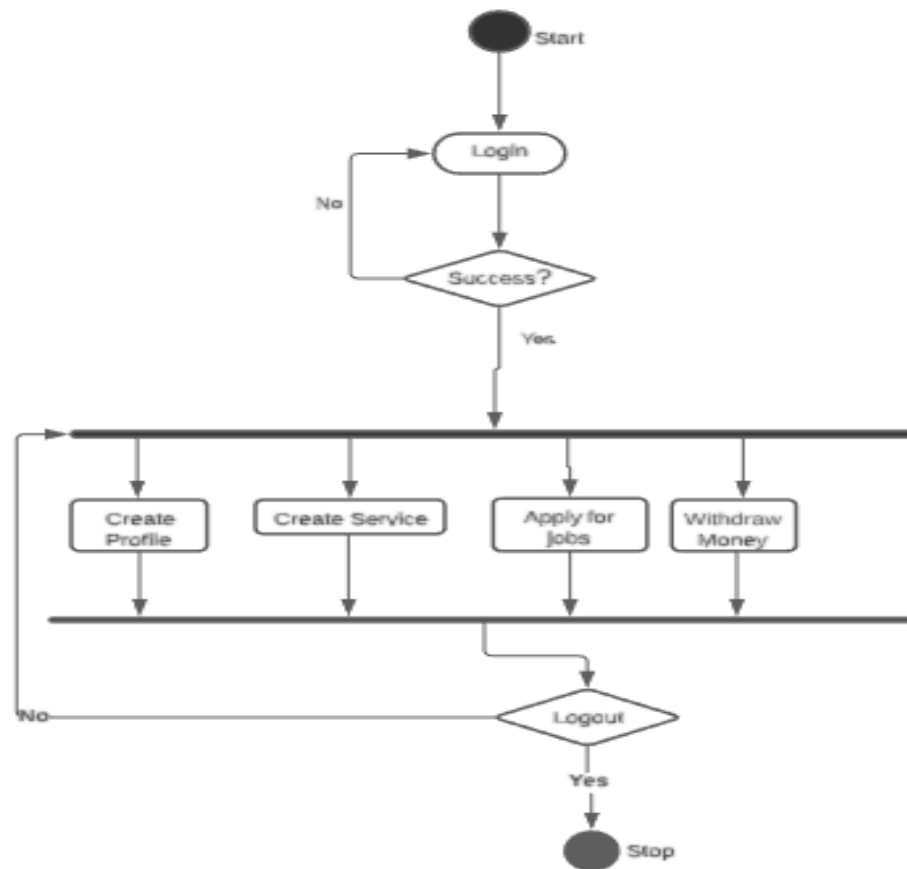


Figure 5.4: Activity Diagram for Freelancer

- Activity Diagram for Seller

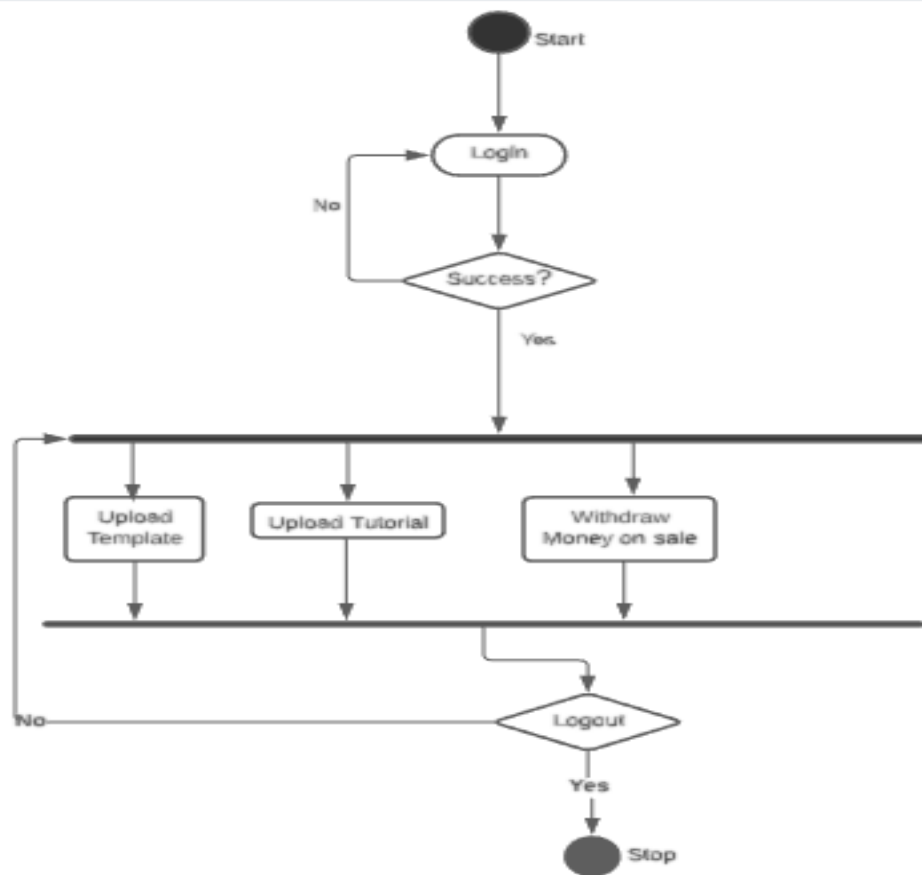


Figure 5.5: Activity Diagram for Seller

- Activity Diagram for Buyer

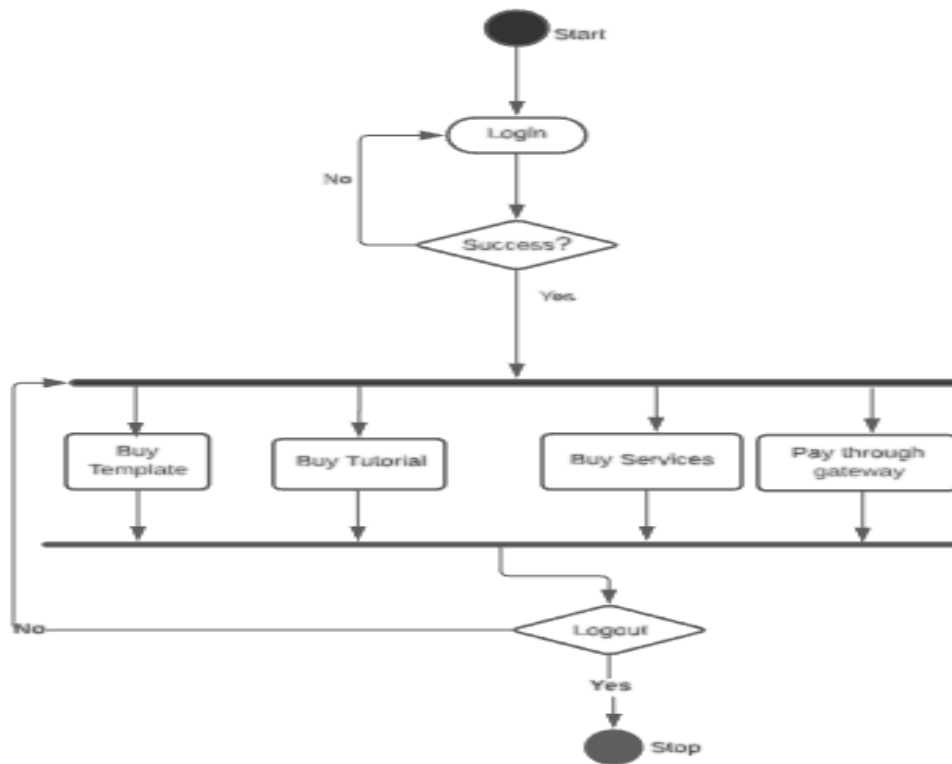


Figure 5.6: Activity Diagram for Buyer

- **Activity Diagram for Hirer**

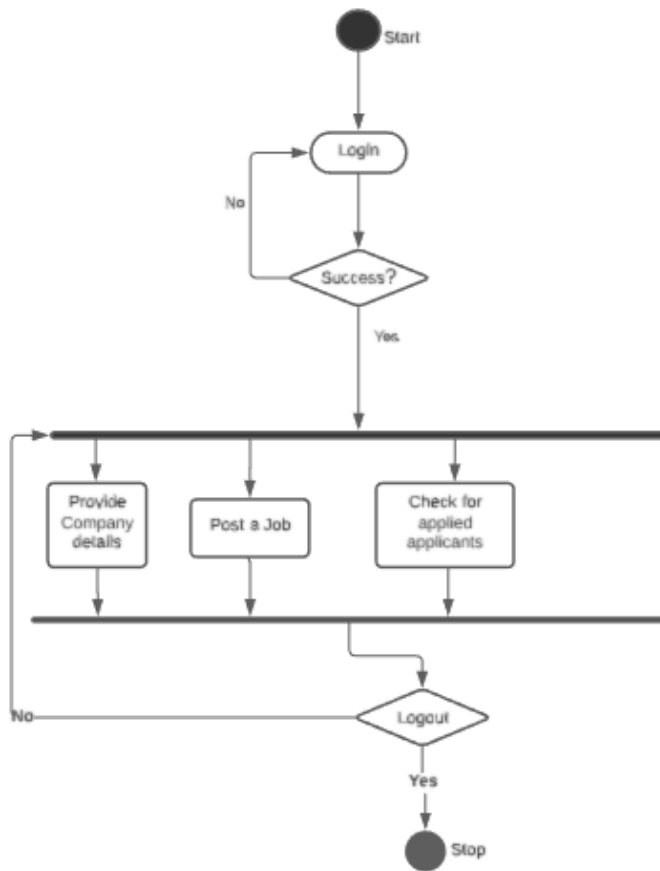


Figure 5.7: Activity Diagram for Hirer

5.4.4 Functional and Non Functional Requirements

Functional requirements define the basic system behavior. Essentially, they are what the system does or must not do, and can be thought of in terms of how the system responds to inputs. Functional requirements are features that allow the system to function as it was intended. Functional requirements are product features and focus on user requirements.

Non-functional requirements specify how the system should do it. Non-functional requirements do not affect the basic functionality of the system. Non-functional requirements define system behavior, features, and general characteristics that affect the user experience.

Functional Requirements:

- When the user enters information for registration and login, the application sends approval if information is correct and redirects to user dashboard per role.
- Forms filled in every job post, tutorial or template uploads, on success the user is redirected towards the corresponding display page.
- On every purchase, the user is sent a confirmation mail along with the purchase slip.
- In every 6 hours if the user has already logged in through a browser, the user is automatically logged out.
- The system allows admins to show the activity of every user ie: Template/Tutorial upload, Template sale etc.

Non-Functional Requirements:

- On any POST request (Registration, Login, forms) the database on receiving the data, saves the information on the database and responds with a status of 200, else if there is a problem saving, it responds with a status of 404.
- The layout shall allow users to reach their profile data from any page within 2 clicks.
- The background color for all screens shall be '#f5f5f5'
- Upon registration the system must send a mail to corresponding email address within 10 minutes.
- On payment slip, the data saved must be in pdf.

5.5 Product Features

Login and Registration: Like any other web application that contains user systems, login and registration is the most common features of any application. Upon registration a mail is sent to the user mail for verification upon complete verification, the user then can login to the system.

Profile Creation: Every freelancer has their own way of portraying themselves on the vast online world and the potential hirers or job providers. Having a unique profile is required as well as making sure any hirer has all uniform information for any hiring process and can decide by comparing certain opportunities.

Template/Tutorial upload: This application just do not stop at just matching the potential developers or freelancers to their hirers. Users who do not want to work on full time jobs can still earn money by creating products such as tutorials or templates. Products are only uploaded to the system once the admin has granted permission.

Service: Freelancers cannot only apply for jobs, but create several service posts on any problems or expertise they can offer, which can also be purchased by a user if needed.

Cart system: A trivial cart system for any users who wants to buy a product through this application. Just like any e-commerce sites cart system will end up taking the users to the checkout page.

Record of all information: The system will keep record of all the data starting from user data, products uploaded, purchase history etc, which can be viewed by the admin in the admin dashboard.

5.5.1 Input

The following table shows the processes and the fields required for the inputs of the corresponding process.

Table 5.2: Input table with their fields

Process	Fields (Type)
Registration	Name – String, Email – String, Password – String, Confirm Password - String
Login	Email – String, Password - String
Create Profile / Edit Profile	Company – String Website- String Bio – String Location- String

	Date of Birth- String Skills- Array of Strings Status- String Religion - String Language- Array of Strings Caption- String Marital Status - String Nationality - String National Id - String Mobile 1 - String Mobile 2 - String Twitter - Url Facebook - Url Linkedin - Url Youtube - Url Instagram - Url Profile Picture - File
Add Experience	Company - String Title - String Location - String From - Date To - Date Current - Boolean Description - String
Add Education	School - String Degree - String Field of study - String From - Date To - Date Current - Boolean Description - String

Add Service	Cover Picture - File Header - String Price - String Video - File Description - String
Upload Template	Category - String Title - String Caption - String Description - String Live Demo - Url Template Files – File (Zip) Cover Picture - File Version - String Compatibility - String Features - String Additional Features - String Tech - String Functionalities - String Bootstrap Used - Boolean Support - Boolean Authorized - Boolean Price - Number Terms – Boolean Available for sale - Boolean
Upload Tutorial	Category - String Header - String Intro Video - File Intro Video Description - String Card picture - File Description – File

	Price - Number Requirements - String
Purchase Product	Credit Card number – String Debit Card - String Bkash / Nogod – String Name – String Expiry - String

5.5.2 Output

The outputs of the process are listed in the table below

Table 5.3: Output table with process

Process	Output
Registration	On Success – Message shown “Registration Successful” On Failure – Error shown under the field’s input
Login	On Success – Message shown “Login Successful” and redirect to user dashboard On Failure – Error shown under the field’s input
Create Profile / Edit Profile	On Success – Message shown “Profile successfully created/ edited” and redirect to user dashboard On Failure – Error shown under the field’s input
Add Experience	On Success – Message shown “Experience successfully created/ edited” and redirect to user dashboard

	On Failure – Error shown under the field's input
Add Education	On Success – Message shown “Education successfully created/ edited” and redirect to user dashboard On Failure – Error shown under the field's input
Upload Template/ Tutorial	On Success – Message shown “Product successfully added, please wait for admin approval” and reloads the form On Failure – Error shown in a message mentioning the entered field wrong
Purchase	On Success – Message shown “Product successfully purchased, please check your e-mail” and redirects to homepage On Failure – Error shown in a message mentioning the entered field wrong or if unable to process card.

5.5.3 Architecture

For developing this application, the Single Page Application or (SPA) was used. A single-page application (SPA) is a web application or website that interacts with the user by dynamically rewriting the current web page with new data from the web server, instead of the default method of the browser loading entire new pages. In a SPA, all necessary HTML, JavaScript, and CSS code is either retrieved by the browser with a single page load or the appropriate resources are dynamically loaded and added to the page as necessary, usually in response to user actions. The page does not reload at any point in the process, nor does it transfer control to another page [8]. For the development JavaScript framework React was used for the front end and express framework of NodeJs was used for the backend. As for the database a NoSQL database called MongoDB was used. Overall a MERN (Mongo-Express-React-Node) stack was used to develop the entire application.

Front-end:

JavaScript is a programming language. It is designed to create network centric applications. It is complementary to and integrated with Java. Alongside HTML and CSS, JavaScript is one of the core technologies of the World Wide Web. JavaScript enables interactive web pages and is an essential part of web applications. It has a lot of frameworks and libraries one of which is Reactjs. React (also known as React.js or ReactJS) is an open-source, front end, JavaScript library for building user interfaces or UI components. It is maintained by Facebook and a community of individual developers and companies. React can be used as a base in the development of single-page or mobile applications. The reason React was used for the application was mainly due to the fact that it works well with NoSQL databases and in the future making mobile app for the application will be much simpler with React-native.

Backend:

Node.js is an open-source, cross-platform, back-end, JavaScript runtime environment that executes JavaScript code outside a web browser. Node.js lets developers use JavaScript to write command line tools and for server-side scripting—running scripts server-side to produce dynamic content before the page is sent to the user's web browser. For this application the express framework of Node.js was used. Express is a minimal and flexible Node.js web application framework that provides a robust set of features for web and mobile applications. The reason to use express was because the application was api driven. Hence REST apis were created using express.

Database:

MongoDB is a cross-platform document-oriented database program. It is a NoSQL database program, MongoDB uses JSON-like documents with optional schemas. The reason for choosing MongoDB as the database was mainly due to the abundance of resource and has a huge number of built in functions also with no initial cost to maintain the database, it was the ideal database to choose.

5.6 Testing

5.6.1 Introduction

Software testing is a process, to evaluate the functionality of a software application with an intent to find whether the developed software met the specified requirements or not and to identify the defects to ensure that the product is defect-free in order to produce a quality product. The main purpose is of identifying any errors, gaps or missing requirement versus the actual requirement.

The testing phase for this application started right in between the implementation phase. The Bengal team worked to make sure every time a functionality was implemented it was tested thoroughly, following a testing pattern called test driven development or TDD. Since an agile development lifecycle was being followed any new addition was repeatedly tested. A testing strategy was followed described in the next chapter.

5.6.2 Testing Strategy

The main objective of software testing is to design the tests in such a way that it systematically finds different types of errors without taking much time and effort so that less time is required for the development of the software. The steps used are detailed below:

- Before testing starts, the requirements gathered are understood and made a list in a quantifiable manner.
- The objectives of the testing are identified and developed. This step was mainly used to identify test cases.
- The user groups of the application are identified and their functionalities.
- Before testing, effective formal reviews are used as a filter.
- Conduction of formal technical reviews to evaluate the nature, quality or ability of the test strategy and test cases.
- For this software, only the Black Box testing was implemented.
- Test report generated

5.6.3 Testing Analysis

5.6.3.1 Testing Synopsis

Functionalities of the application noted down in the above chapters needed to be tested. Here are the functionalities in summary.

- Login
- Registration
- Users creating their profiles
- Users adding education
- Users adding experience
- Users uploading templates/tutorial
- Users posting a job post
- Cart System
- Users creating services ‘gigs’
- Users applying for a job
- Users viewing job applicants
- Admin viewing data on admin panel/dashboard
- Logout

5.6.3.2 Test Table

Table 5.4: Test Table

Sr No	Test Case	Purpose	Precondition	Test Steps	Expected Results	Actual Result	Status	Remark
1	Login	Check if user login is working	a. Users need to have stable internet connection b. Users must enter credentials	i) Enter credentials in the fields provided ii) Enter the login button	Success-Message shown “Login Successful” and redirect to user dashboard	Message shown “Login Successful” and redirect to user dashboard	pass	none

					Failure – Error shown under the field’s input			
2	Registration	Check if a user can successfully register	a. Users need to have stable internet connection b. Users must enter credentials	i) Enter credentials in the fields provided ii) Enter the login button	Success-Message shown “Registration Successful” Failure – Error shown under the field’s input	Message shown “Registration Successful”	pass	none
3	Create Profile	Check if a user can successfully create profile	a. Must be logged in b. Must enter profile information in the form	i) Enter profile data in the fields in a form. ii) Click on the submit button	Success-Message shown “profile created” and redirect to user dashboard Failure – Error shown under the field’s input	Message shown “profile created” and redirect to user dashboard	pass	none
4	Add Education	Check if user can successfully add education details	a. Must be logged in b. Must enter education information in the form	i) Enter education data in the fields in a form. ii) Click on the submit button	Success-Message shown “education added” and redirect to user dashboard Failure – Error shown under the	Message shown “education added” and redirect to user dashboard	pass	none

					field's input			
5	Add experience	Check if user can successfully add experience details	a. Must be logged in as a developer b. Must enter experience information in the form	i) Enter experience data in the fields in a form. ii) Click on the submit button	Success-Message shown "experience added" and redirect to user dashboard Failure – Error shown under the field's input	Message shown "experience added" and redirect to user dashboard	pass	none
6	Upload Template/ Tutorials	Check if user can successfully upload products	a. Must be logged in as a seller b. Must enter experience information in the form	i) Enter product data in the fields in a form. ii) Click on the upload button	Success-Message shown "Product uploaded successfully. The Bengal team will go through the product before uploading" and reloads the form Failure – Error shown under the field's input	Message shown "Product uploaded successfully. The Bengal team will go through the product before uploading" and reloads the form	pass	none
7	Post for a job	Check if user can successfully post a job	a. Must be logged in as a hirer b. Must enter job information in the form	i) Enter job data in the fields in a form. ii) Click on the	Success-Message shown "post added" and redirect to work page	Message shown "post added" and redirect to work page	pass	none

				submit button	Failure – Error shown under the field’s input			
8	Cart System to checkout	Check if user can successfully add cart products	a. Must be logged in as a buyer b. Click on add to cart button to add items to cart and then click to checkout page and finally to payment gateway.	i) Click on the ‘add to cart’ button ii) Click on checkout button on checkout page iii) Click to proceed to payment button	Success- Redirects to payment gateway Failure – Button do not do any activity	Redirects to payment gateway	pass	none
9	Adding services	Check if user can successfully add services	a. Must be logged in as a developer b. Must enter service information in the form	i) Enter service data in the fields in a form. ii) Click on the submit button	Success- Message shown “service added” and redirect user to dashboard Failure – Error shown under the field’s input	Message shown “service added” and redirect user to dashboard	pass	none
10	Apply for a job	Check if user can successfully apply for a job	a. Must be logged in b. Click on the apply button in the apply button	i) Click on the apply button under each job post	Success- Message shown “successfully applied to this job” and redirect to work page	Message shown “successfully applied to this job” and redirect to work page	pass	none

					Failure – Button do not work			
11	Viewing job applicants	Check if user can successfully posted job applicants	a. Must be logged in as a hirer b. Must click the view applicant button to look at the applicant	i) Click on the view applicant button in dashboard	Success- Views list of applicants under each job Failure – No activity on button click	Views list of applicants under each job	pass	none
12	Admin viewing all information in lists	Check if admin can successfully view all kinds of information	a. Must be logged in as a admin	i) Click on corresponding data tables to view the data.	Success- Views all the data under each tab Failure – No activity on tab click	Views all the data under each tab	pass	none
13	Logout	Check if user can successfully logout	a. Must be logged in as a seller b. Must click on logout in navbar	i) Click on logout button in the navbar	Success- User logs out Failure – No activity on logout click	User logs out	pass	none

Chapter 6

Results & Analysis

6.1 Overview

During the initial stages of the requirement collection, the team had categorized 4 major ways to get all the required requirement for the project. First of the interview of the CEO, and other residing board members were taken to make understand the product the company is trying to build. Once all the interview had been conducted and a general idea of the project was developed. The second part was the survey, where from university students to housewives participated. This made clear the functionalities that should be involved in a project like this. Another interview session occurred where the UI/UX, what tech is going to be used, and the data that was needed was determined. Finally came the prototype with all the gatherings that had been found though the interviews and surveys.

6.2 Results from surveys and interviews

From the interview, initially it was quite clear what the company wanted to create as a business and how this application would be a source of revenue. Several sectors of revenue was developed, moreover a business model was established.

From the surveys, the functionalities of the application, especially for the freelancer section of the application, was being identified. Simple questions such as what the user really wants and how to make the application more user friendly was answered through this survey. It could be shown that from the survey, most of the users are very interested from freelancing. Especially for the young generation who did not like the idea of conventional 9-5 jobs had very positive response. Hence through the surveys the company was very sure that such an application would be lack in users.

6.3 Testing Results

Not all the functionalities of the application is added, they are being added as the requirements are fulfilled. Hence there are more chances of more test cases in the future for this application. Any

problem that arises during the test are immediately resolved by the developers. If the testing phase is completed 100%, a beta version of the application will be released for the customers to user.

From the test table, it can be observed that all the test cases were passed. The failure and success outcomes of each functionalities have also been mentioned. It should be noted that the functionalities usage depends on the type of user that is logged in, but if a user wants they can easily switch to other roles to access other functionalities by going to their dashboard.

After the completion of the testing process, the team will make sure to prepare user manuals, documentation for the test cases, documentation for the defects in order to explain the complicated tasks in plain English for the non-technical personnel as well for the future developers who might join the development team. A test summary will also be generated to show how the testing were done and the difficulties faced.

6.3 Conclusion

Bangladesh has already become the second-largest supplier of online labor, according to the Oxford Internet Institute (OII). About 500,000 active freelancers are working regularly, out of 650,000 registered freelancers in the country; between them they are generating \$100 million annually [9]. Bangladesh is one of the few countries in Asia that has a huge youth population. Of its 163 million people, almost 65% are under the age of 25. [9] This vast, young and strong human resource, however, is still lacking in the knowledge necessary to thrive in the competitive global market. This is exactly the gap, the Bengal team is trying to utilize. For this application youth and unemployment is a very good mix.

Chapter 7

Project as Engineering Problem Analysis

7.1 Sustainability of the Project/Work

Thinking about the future, the company has made huge plans to make sure enough revenue is generated. Initially the goal is to make sure all the upcoming graduates gets involved in the software. The next plan is to target the IT training providing academies, they are the largest generators of freelancers throughout the country. Therefore this business plan should bring in more users to the application. Eventually more users means more revenue will be generated through this application. Finally the bigger picture for the company is to compete against the lights of marketplace giants such as Upwork, Fiverr etc. The program is made such that the application is scalable, any new functionalities by the developers can easily be integrated to the application.

7.2 Social and Environmental Effects and Analysis

Freelancing provides an alternative career plan of people from any background. From business personnel to CS graduates, anyone can sell their expertise or services through online platforms. But with Bangladeshi culture there is a problem that comes with freelancing. In Bangladesh, ‘earning a living’ is done outside the home, people who are sitting in the house are worthless and have no social background at all. Such mentality is quite common in rural areas, and freelancing promotes just that. No matter the amount of money earned such views has significant effect on the social life of a full time freelancer.

As for the environment, freelancing has a quite positive effect on the environment. Less going out to work means less traveling as a result carbon released from vehicles is reduced. According to BusinessEnergy.com, businesses can consume as much as 250,000 kWh per year (compared to an average household which typically uses 10,972 kWh of electricity per annum). Hence energy is also saved. Working remotely from home results in less paper, plastic, and bottle waste around the world. Overall remote work has a positive impact on the environment all over the world.

7.3 Addressing Ethics and Ethical Issues

A great deal of work has been done to make sure that the user data provided, or the money transferred through the platform is secured. A lot of experts has been involved during and after the final completion of the project just to look into the security issues of the application. Certain guidelines from institutions such as from NHL guideline trustee committee is and will be followed. The application makes sure that the passwords set by the users are hashed and unavailable to others other than the admin. Another restriction of the program is to make sure that the products which are uploaded are comparatively within the market value range, any illogical price set may set warnings to the user who has uploaded the product.

Chapter 8

Future Work & Conclusion

8.1 Future Works

For the future, as discussed above, this current application is just for the web. In the future the company has the target to create a mobile app for the application. Some of the functionalities will be on hold for now, such as selling tutorials. The company looks to begin the application with just selling templates and mainly as a job market. There are many design issues still which will be resolved in another month of testing and correction.

8.2 Conclusion

This report is based on the project of “Online Marketplace” for the company Bengal Software Limited. The report goes through all the intricate details of the project from the conceptual level to the functional level and the design patterns. Although the project will be incomplete during the creation of the report, but most of the functionalities should in the application. The report also explains the sustainability and the methods where the application should bring in money for the company.

Throughout the internship period, working on this project has made me realize a few things. It has made me realize how diverse, competitive the real corporate world is. It has made me feel to make an actual difference in the real world. As an undergraduate student, it is really tough for any student to have an actual taste of how the real companies of the world works. But to actually live it for 3 months was an unique experience and hopefully will be the start of my journey into the corporate world as a developer.

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Appendix A (Questionnaire)

Survey Questionnaire

Q1. State your age?

Q2. State your gender?

Q3. State your profession?

Q4. Are you familiar with the use of websites as a product?

Q5. Your interest in conventional 9-5 jobs?

Q6. Are you familiar with freelancing?

Q7. Do you often buy products online? What features do you want if you want to buy a template?

Q8. How often do you need website services for your/a business?

Q9. How often do you hire remote workers/ freelancers?

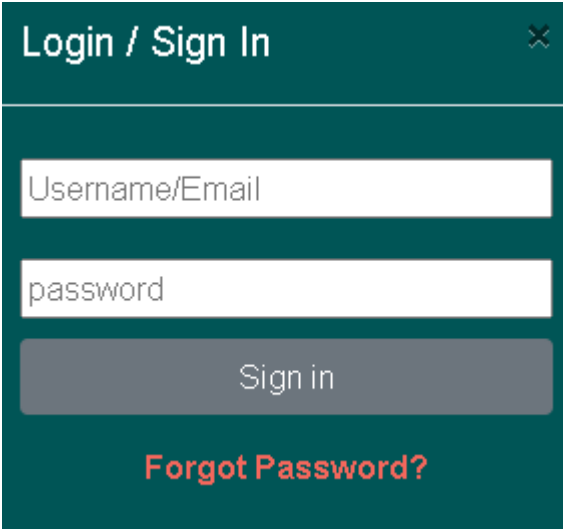
Q10. Is it more feasible for the website to be in cross-platform?

Q11. What kind of problems do you face if you are working as a freelancer? What features do you want in this website as a freelancer?

Q12. How often can you find work remotely?

Q13. What platforms do you use to hire employees if you are a business owner? What information do you look for the most as a hirer? What features would you want as a hirer?

Appendix B (UI Images)



A dark teal login popup with a title bar 'Login / Sign In' and a close button. It contains two input fields for 'Username/Email' and 'password', a 'Sign in' button, and a 'Forgot Password?' link.

Login / Sign In

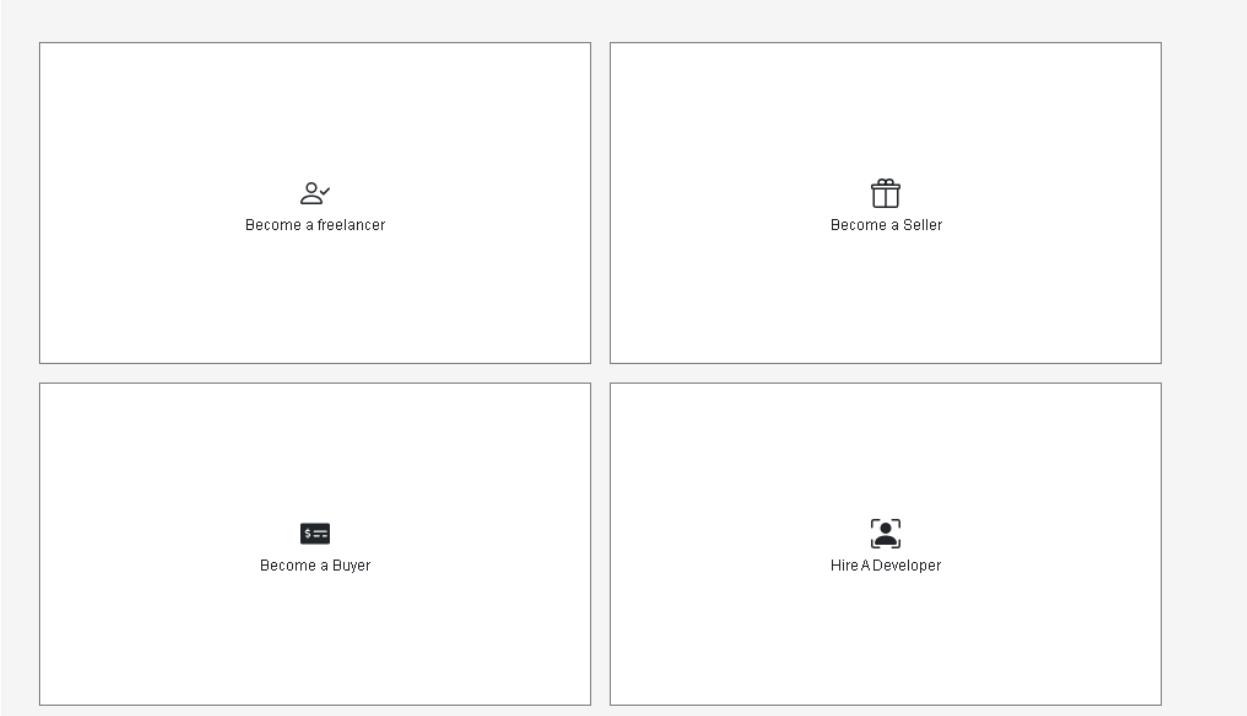
Username/Email

password

Sign in

Forgot Password?

Login Popup



A registration page layout with four buttons arranged in a 2x2 grid. Each button has an icon and text: 'Become a freelancer' (person icon), 'Become a Seller' (gift icon), 'Become a Buyer' (credit card icon), and 'Hire A Developer' (person with magnifying glass icon).

Become a freelancer


Become a Seller

Become a Buyer

Hire A Developer

Registration Page

Bengal

Home Developer Hub Get Service Seek Work Developers Post a Work Tutorial  Hello Neela

Website Template Wordpress Magento WooCommerce Graphics Marketing Apps

Welcome, Neela

Current Role

SELLER

Switch to

Edit Profile

Your Handle : Neela

Your Email : nil@gmail.com

Your Address : dhaka

Relationship status : Single

Nationality : Bangladeshi

Languages : ,

Your skills : **HTML**

Github Username :

Company :

Portfolio :

Professional Status : Web Designer

Mobile1 : 01711111111

Mobile2 :

Date Of Birth : 20/05/1990

Nationalid :


Hourly Rate :

Twitter :

Facebook :

Linkedin :

Instagram :

 developer

User Dashboard

ADMIN

Admin List

MODULE

Templates

Developer-hub

Services

Work

Developers

Post Work

Tutorial

Account

Cart

Seller **NEW**


Admin

Country

Contact


Skills

Activity



Yiorgos Avraamu

New | Registered: Jan 1, 2015




Email2@gmail.com

0173245411458

Skill Set


Last login

10 sec ago



Avram Tarasios

Returning | Registered: Jan 1, 2015




Email2@gmail.com

0173245411458

Skill Set


Last login

5 minutes ago



Quintin Ed

New | Registered: Jan 1, 2015




Email2@gmail.com

0173245411458

Skill Set


Last login

1 hour ago



Enéas Kwadwo

New | Registered: Jan 1, 2015



Email2@gmail.com

0173245411458

Skill Set

Last login

Last month

Admin Dashboard