

An Undergraduate Internship Report

On

Web Development ekShop.gov.bd

(ParllaxLogic Infotech Software & IT Solution)

This Report Is Submitted

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17th June 2021

In partial fulfillment of the requirements for the degree of Bachelor of Science in Computer Science

Department of Computer Science & Engineering Independent University Bangladesh

Attestation

I understand the nature of plagiarism, and I am aware of the University's policy on this. I certify that this is an original work by me during. However, following internationally accepted academic guideline of using others written work and / or software (in the form of code) in my university project is properly cited if used in any part of this work.

Signature:		Date:	
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Name: Md. Fahim Uddin

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First and foremost, I would like to thank Almighty Allah for giving me the endurance and the

ability to work hard. It is my privilege that I had the opportunity to do an internship in The

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Last but not the least, I would like to thank my parents and other family members for their eternal

support given to me.

Md. Fahim Uddin

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Letter of Transmittal

17th June 2021

Sabrina Alam

Lecturer,

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Subject: Submission of Internship Report for the completion of Graduation.

Dear Madam,

With due respect, I would like to inform you that I have completed my internship at Parallaxlogic Infotech Limited. I was under the supervision of Mahabub-A-Mawla (Team Lead, Senior Software Engineer). It was a great experience for me. I got the opportunity to work with the Web Development Team. Through this internship I learned Web development. I built a website for the Bangladesh Government. In this report, I have tried to include my experience along with some relevant information to make the report informative and comprehensive. I am extremely grateful for your guidance and kind cooperation on this report. It would be great if you kindly go through the report and evaluate my performance.

Regards,

Md. Fahim Uddin

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Department of Computer Science & Engineering,

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Abstract

This report describes my internship at ParallaxLogic Infotech Software & IT Solutions. This report is broadly categorized.

Into eight different chapters. This report focuses on the E-commerce website which I built during my internship.

The scope of this document is to identify and describe the analysis carried out, projects completed, experience gained and focus on achievement as software engineer Intern.

Independent University provides that glorious opportunity to their students of having an internship within their bachelor program.

During my internship at ParallaxLogic Infotech Software & It Solutions was introduced to some new technology, languages and frameworks. But the most amazing was to work in a multicultural work environment culture.

Overall, I am very satisfied with the results of my internship. I was able to use my software development knowledge and apply it to a real organization working in a real-life platform, I was able to see some differences in functioning that resulted from efforts. Due to the character of the internship and the short period spent at ParallaxLogic Infotech Software & IT Solutions, I took this experience as an opportunity to provide ParallaxLogic Solutions with the skills which I learned while a computer science and engineering student at Independent University Bangladesh.

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Chapter 1

Introduction

An internship allows a student to achieve first-hand exposure to operating within the globe. It additionally permits students to harness the ability and theoretical data they learned in university. They will acquire endless amounts of education in their life, however, that data does not continuously translate to the operating life. Once strolling back from the spot that helps to realize work expertise and, prepare them for his or her future career ahead as Associate in Nursing outcome.

I was granted the opportunity to work in ParallaxLogic infotech Software & It Solution to fulfill my requirements for the internship. I integrated whatever I have learned and put it to use. The environment in the office is always filled with friendliness, work-driven, and passion to achieve a better outcome in the work. I have mentioned my personal views about the company in detail in the report. ParallaxLogic Infotech Software & It Solution has very hard Restrictions and ethical standards to maintain in the office. I get to understand their way of working, and eventually, the corporate culture in general.

1.1 Background

ParallaxLogic wants an E-commerce website for Bangladesh government. They want a website where people can buy and sell all products in this marketplace. All User can track product to know product status like Admin will be able to track all kind of product from his account, Agent can track only their product to know their product status, Customer also can track their ordered product. All users can transit their money through this website by valid card safely. Customer will be able to add their desirable product into cart list. Find entrepreneur is one of the most important goal of government. So many people want to become entrepreneur but because of trust issues they cannot invest in online. For those people Bangladesh government want to do something which call uddokta mall. They want to Store all local E-commerce site into this site so that government can maintain all of them by rules and regulations.

I am working on phase two where I work as ekShop front end developer. I worked on ekShop about page where people will get all kind information about this website like what is there mission, vision, what they want to do what they will do in future and they will get all kind of articles, update news and what is trending now. People also can get update by subscribing to this website.

1.2 Objective of the project

The main objectives of the ekShop is making a digital marketplace where government can find entrepreneur. Bangladesh has no specific law for eCommerce business, so government wants to store all eCommerce site here and maintain in one way.

- a. **Digital Marketplace:** Government want to bring digital marketplace for country. Where people can buy and sell all the products without any hassle. The website more user friendly so user can use it easily.
- b. **Find Entrepreneur:** Bangladesh government want to find more entrepreneur who want to invest but they cannot trust another eCommerce site. So, government want give opportunity them to become an entrepreneur.
- c. **Make Trustable E-commerce:** Bangladesh have no law about online business because of this reason people are face fraud reseller and they lost trust in online shopping. For get back trust in this sector government take this step.
- d. **Economical Values:** Of course, there is an economical value of this website. This website is budling to make more profitable online business.

1.3 Scope of the project

Features available to user and admin after developing this web application are:

- Admin and User registration
- Admin User login page
- Dashboard for all user
- News and Product Details
- ekShop Wallet
- Shipping Address
- Online Payment

1.4 Output of the Project

- Admin can maintain all of things in website.
- Admin can upload picture, videos and make post here for another user.
- Admin and agent can create post to sell their product.
- All users can be able to set their shipping address and billing address.
- User can see all details of products.
- User can track their products.
- User can get Update news and trend they also read blog.
- User can buy and sell their products.
- User can make their wallet here.
- User can start their business as an entrepreneur.
- User also can transit money by valid card.

Chapter 2

Literature Review

During my internship, my graduation courses help me a lot to develop the project. it became quite easy for me to relate my project with my graduation courses.

2.1 Relationship with Undergraduate Studies

System analysis and design: Before developing any project, it is mandatory to design the project layout. To complete my project system analysis and design course played an important role. From that course, I learned about software development methodology. It helped me to select the perfect methodology for my project development. From a different type of methodology, I have selected the Agile methodology to create my project.

From that course, I have learned how to gather requirements for the project. How to use a different type of information-gathering methods. How to create an interview. How to create a Questionnaire for information gathering. When we need to use open-ended questions and closed-ended questions. how to arrange a question for an interview. What type of questions arranging methodology should we follow from the pyramid, diamond, funnel structure? I also learned the system development life cycle (SDLC), seven-phase of system, Identifying Problems, Opportunities and Objectives, Analyzing System Needs, System proposal.

From the system analysis course, I learned how to create Context-level data flow diagrams, what is the use case diagram, physical and logical data flow diagram. How to create an activity diagram.

System analysis course helped me a lot during project development.

Database management: Database management course is another most important course which helped me to understand my backend. I had learned how to design an Entity relationship diagram from that course. From that course, I have gained knowledge about the primary key, foreign key concepts. When I was facing any problem with my project entity and entity fields then the basic idea which I gained from the database management system helped me a lot.

Software Testing: When my project was testing phase I had implemented those methods which I have learned from my Software testing course. From that course, I learned which testing method I should choose for my project. How to conduct the white box and black box testing? How to fix the error. how to test the software after fixing the error. how to document the testing process. Which functionality of my project should I test first? how to divide the testing process.

Software testing course helped me a lot during my project testing phase.

Web application: From that course, I have learned how to create structure of website, how to make look fantastic view of the website. I have learned how to use the real-time database. how to host the project. From that course, I have learned about Mongo DB which is a SQL database. My project was built website. I work on my project as a front-end developer. If someone want to make website, he might have basic knowledge about html, CSS and JavaScript. I have created a project for my web application course, which basic idea helps me a lot to develop my internship project.

Java (OOP): Still, I can remember what a friend function in java is. The basic concept about the method, function I have learned from that course. If you want to develop anything for android, you might have basic knowledge about java programming language.

C++: This course is the foundation of all programming. I have learned about variable data types from that course. How to call a function on how to use the method.

2.2 Related Works

I am doing so many projects in my undergraduate course. In Undergraduate I did database management project, and web development project. Those projects are related to my internship projects. In database management project I worked on IUB admission management system and in web development course I made an ecommerce side for my final project. I made two small websites for my undergraduate course. For front end develop I used html, CSS, bootstrap and JavaScript. And for back end I used SQL database. In my Internship I worked on eCommerce side as a front-end developer. I also used here html, CSS, JavaScript and bootstrap in my intern period. It was totally fun for me. Because I was used to those language and technology. But of course, I learned more in my professional work.

Chapter 3

Project Management & Financing

3.1 Work Breakdown Structure of ekShop

This website develops by Agile Model, this is flexible. ekShop is government project, it is a long-term project that is why the Agile model has chosen.

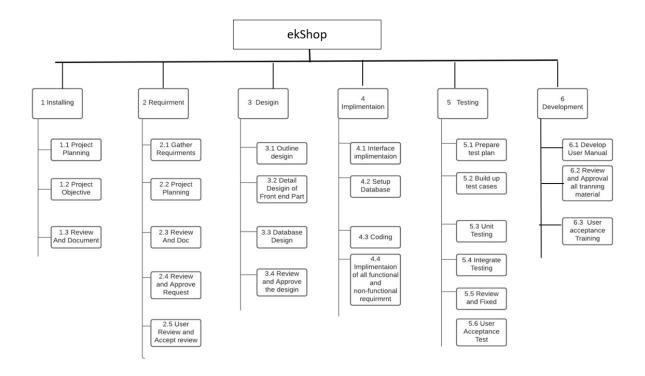


Figure 1 WBS of ekShop

3.2 Activity Wise Time Distribution

I divided my whole project into this timeline.

Activity	Expected Days	Work Percentage
Installing	10	7%
Requirements	10	7%
Designing	22	42%
Testing	5	4%
Implementation	20	40%
Total Days	67	100%
	Installing Requirements Designing Testing Implementation	Installing 10 Requirements 10 Designing 22 Testing 5 Implementation 20

Table 1. Project time distribution.

3.3 Gantt Chart

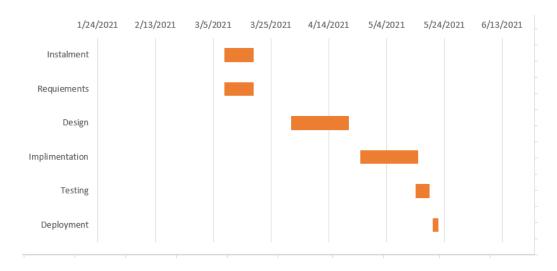


Figure 2 Gantt Chart

Chapter 4 Methodology

A web development methodology or system development methodology in software engineering is a framework that is used to structure, plan, and control the process of developing an information system.

There are several web development methodologies. Such as:

- Waterfall Model
- o Prototype Methodology
- o Rapid Application Development
- o Dynamic System Development Model Methodology
- o Agile Software Development Methodology
- o Spiral Model

I choose the agile process as a methodology for this project.

The Agile Methodology is based on iterative and incremental development instead of a linear approach. It does not build an entire system at once, but rather develops incrementally. Less time is invested upfront for documentation and analysis, as clients are constantly seeing and testing the product and providing feedback. The development and feedback process adds accountability (tangible milestones of completed work, not just documentation), and tends to improve client satisfaction by allowing ongoing input.



Figure 3 Agile web Development Methodology

There are several reasons for choosing agile processes.

Overhead Customer satisfaction: Agile project teams satisfy customers by

- Keeping customers or users involved and engaged throughout projects.
- o Having a product owner who is an expert on product requirements and customer needs.
- o Keeping the product backlog updated and prioritized to respond quickly to change.
- o Demonstrating working functionality to customers in every sprint review.
- o Delivering products to market quicker and more often with every release.
- Possessing the potential for self-funding projects.

Superior Product quality: Agile methods have excellent safeguards to make sure that quality is as high as possible by

- o Taking a proactive approach to quality to prevent product problems.
- o Embracing technological excellence, good design, and sustainable development.
- Defining and elaborating on requirements just in time so that knowledge of product features is as relevant as possible.
- o Incorporating continuous integration and daily testing into the development process, allowing the development team to address issues while they are fresh.
- Taking advantage of automated testing tools to develop during the day, test overnight, and fix bugs in the morning.
- Conducting sprint retrospectives, allowing the scrum team to continuously improve processes and work.
- Completing work using the definition of done developed, tested, integrated, and documented.

Customized team structures: Self-management puts decisions that would normally be made by a manager or the organization into scrum team members' hands. Because of the limited size of development teams — five to nine people — agile projects can have multiple scrum teams on one project. Self-management and size-limiting mean that agile projects can provide unique opportunities to customize team structures and work environments.

More relevant metrics: The metrics agile project teams use to estimate time and cost, measure project performance, and make project decisions are often more relevant and more accurate than metrics on traditional projects. On agile projects, you provide metrics by

- Determining project timelines and budgets based on each development team's actual performance and capabilities.
- Having the development team that will be doing the work provide effort estimates for project requirements.
- Using relative estimates, rather than hours or days, to tailor estimated effort to an individual development team's knowledge and capabilities.

- Refining estimated effort, time, and cost on a regular basis, as the development team learns more about the project.
- Updating the sprint burn down chart every day to provide accurate metrics about how the development team is performing within each sprint.
- Comparing the cost of future development with the value of that future development, which helps project teams determine when to end a project and redeploy capital to a new project.

Escalated project control: The many opportunities to inspect and adapt throughout agile projects allow all members of the project team — the development team, product owner, scrum master, and stakeholders — to exercise control and ultimately create better products.

Boost performance visibility: On agile projects, every member of the project team can know how the project is going at any given time. Daily scrum meetings, daily sprint reviews, and visible progress charts offer concrete ways to see progress.

Improved project predictability: Agile project management incorporates several practices, artefacts, and tools for improved predictability:

- Keeping sprint lengths and development team allocation the same throughout the project allows the project team to know the exact cost for each sprint.
- Using individual development team speed allows the project team to predict timelines and budgets for releases, the remaining product backlog, or any group of requirements.
- Using the information from daily scrum meetings, sprint burn down charts, and task boards allows the project team to predict performance for individual sprints.

Reduced risk: Agile techniques virtually eliminate the chance of absolute project failure:

- Developing in sprints, ensuring a short time between initial project investment and either failing fast or knowing that a product or an approach will work.
- Always having a working product, starting with the very first sprint, so that no agile project fails completely.

- Developing requirements to the definition of done in each sprint so that project sponsors have completed, usable features, regardless of what may happen with the project in the future.
- Providing constant feedback on products and processes through daily scrum meetings and constant development team communication, sprint reviews and retrospectives, and releases in which the end user can see and react to new features on a regular basis.
- Generating revenue early with self-funding projects, allowing organizations to pay for a project with little up-front expense.

Chapter 5 Body of the Project

5.1 Work Description

Every work or project must have a plan. Without plan no project will be successful. In this project before start work a plan has been designed. Here already literature review has been done. Now first of all, a requirement analysis will be created. Requirement analysis will contain Functional and Nonfunctional requirements of the project. After Requirement analysis, the Designing of the project will be started based on the requirements. When designing has been completed then Implementation will be started. After Implementation of the project Testing will be started.

- Gather Requirements
 - o Functional requirements.
 - Nonfunctional requirements.
- Design
 - o Rich picture.
 - Use case scenario.
 - Data Flow Diagram
- Implementation
 - Language and Framework Selection
 - Frontend design.

- o Database design.
- o Frontend and backend connection.
- Testing
 - o Prepare Test case.
 - o Start testing.
- Deployment and Maintenance

5.2 System Analysis

5.2.1 Six Element Analysis

Process	Human	Non- Computi ng Hardwar e	Computi ng Hardwar e	Software	Database	Commun ication & Network
Order Track	Users need to log in. Users need to give order id or product id.	N/A	Computer Mobile	Browser ekShop website	Showing from Database	Internet 3G/4G
Online payment	Users need to add their card into account.	Acceptable bank card	Computer Mobile	Browser ekShop website	Generate payment database.	Internet 3G/4G
Newsfeed Update	Admin need to write news, upload picture and videos.	Sometime admin collect news from hard copy.	Computer Mobile	Browser ekShop website	Generate database.	Internet 3G/4G

Table 2 Six Element Analysis

5.2.2 Feasibility Analysis

- **FEASIBILITY STUDY:** An important outcome of the preliminary investigation is to determine the feasibility of the project. The main aim of the feasibility study activity is to determine whether it would be financially and technically feasible to develop a project. The feasibility study activity involves the analysis of the problem and collection of all relevant information relating to the product such as the different data items which would be input to the system, the processing required to be carried out on these data, the output required to be produced by the system as well as the various constraints on the behavior of the system. During feasibility study most of the high-level architectural design decisions are made.
- **OPERATIONAL FEASIBILITY**: The proposed project is beneficial only if it is turned into information systems that will meet the organization's operating requirements. This test of feasibility asks if the system will work when it is developed and installed. A factor considered for operational feasibility is that the proposed project be beneficial to users because it offers greater support to potential members and pin regards to interface friendliness, easy access and easy in understanding the flow of the system. This project meets operational feasibility as it has information that is being continuously updated.
- TECHNICAL FEASIBILITY: Technical feasibility involves the software and hardware
 requirements to develop this website. Hardware is not an issue as it runs on any Smart
 phone and computer which is connected to the Internet. The proposed technology must
 meet all software requirements, by considering factors.
- **ECONOMICAL FEASIBILITY:** Suitable budget, financial benefits, investment vs. profit are big factors for economic feasibility. This website needs less people than before who can control. Thus, any extra manpower to maintain is not required. Also, as this project

was developed using open-source technology no additional funding is needed for technology. So, this project is perfectly economically feasible.

- LESS RESPONSE TIME: Because of fast speed of server people can reach this without delay. As this website using SQL database for storing data so the performance will be good enough.
- **USER FRIENDLY INTERFACES:** All the interfaces of this apps is very user and clean. Users can understand the website very easily.

5.2.3 Problem Solution Analysis

The difference between offline marketplace and online marketplace is maintain. Offline marketplace maintenance is more hassle. In online marketplace seller do not need to build physical shop, seller only need to create an agent account for online payment they need to fill required form and need to give valid card information. By this procedure Seller can sell from home and customer can buy from home. Both transit their money on online by valid card without any problem. This marketplace is time saving, comfort and of easy to maintain.

5.3 System Design

Designing a website is the most important part of software development. This website focuses on admin, customer and Agent. So, designing is a very crucial part of this development session. You must visualize the website feature and think about how to implement it and design it so that it becomes user friendly.

5.3.1 Rich Picture

Admin Module:

When the admin goes to his/her profile, the admin sees the dashboard. Admin can update regular news, top stories, blog, trending. Admin can get notification from user comment.

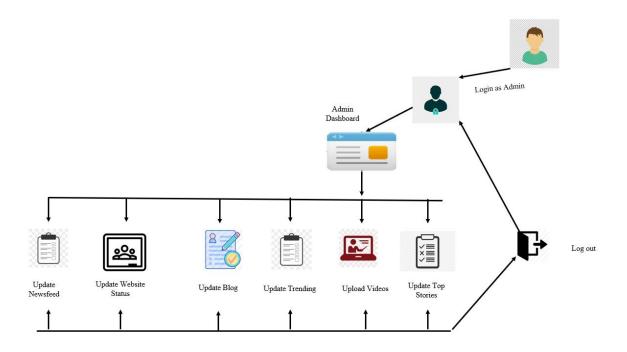


Figure 4 Admin Side Rich Picture

User Module:

When a user goes to his/her dashboard. User can see ekShop regular news; Stories; Trending; videos and photos. User can read those post and they will get update news always. User also can give comment in those post.

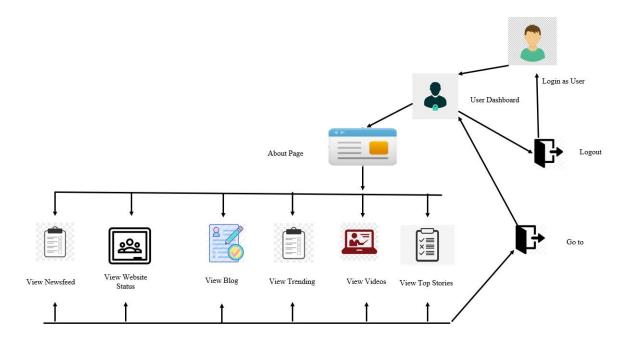


Figure 5 User Side Rich Picture

5.3.2 Use Case

Every website has some common features and some different features and scenarios. By using the use case scenario, we can understand which features are common and different. Use case scenario helps to understand which user can do what. In this use case scenario first, both admin and user need to create an account for login. Then in the login section users need to provide register mail and password. It will check for authentication in an included case. If the mail and password are valid then it will log in to admin or employee user profile.

When admin will update news from his/her account then other user able see and read that news. There has a blog site admin also can write on the blog and user can read those blogs. User can give their opinion by comment. After commenting Admin will get notification. User also will get all kind of new trend in ekShop.

Use case:

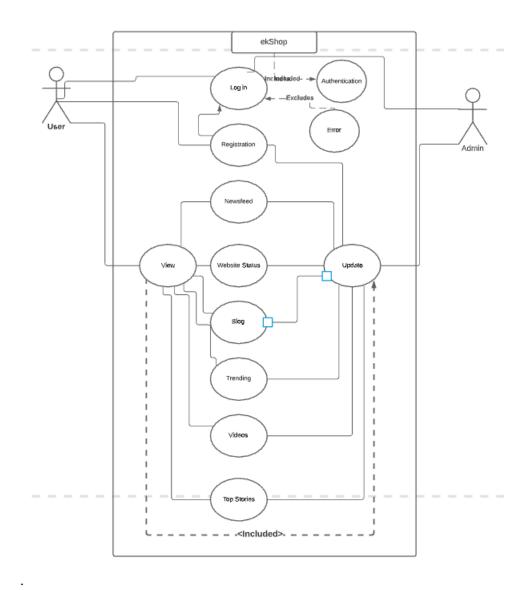


Figure 6 Use case Scenario.

5.3.3 Flow Chart

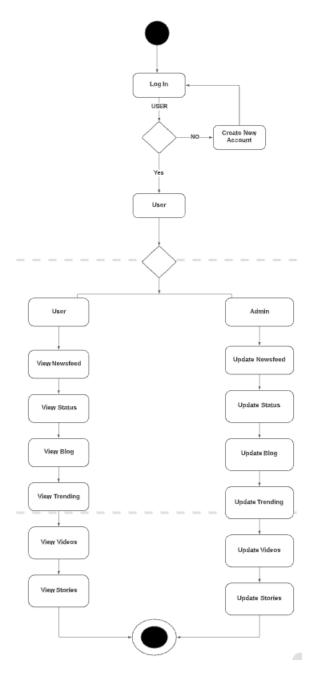


Figure 7 Flow Chart

5.3.4 Functional and Non-Functional Requirements

Requirements Analysis is the process of defining the expectations of the users for a website that is

to be built or modified. Requirement's analysis involves all the tasks that are conducted to identify

the needs of different stakeholders. Therefore, requirements analysis means to analyze, document,

validate and manage software or system requirements. High-quality requirements are documented,

actionable, measurable, testable, traceable, helps to identify business opportunities, and are defined

to facilitate system design.

To gather requirements of this Software and monetization plan, a survey questionnaire has been

conducted with some employees of that office and admin. Questionnaire Survey added to

Appendix A

Advantages Questionnaire Survey:

1. It is practical due to the questions being straight forward.

2. Large amounts of Information can be collected in a short period of time.

3. The results of the questionnaire are easily qualified by the researcher.

4. It can be analyzed more objectively than other methods.

☐ Functional Requirements

A functional requirement defines what a website and its components are and what these

components are supposed to accomplish. The following functional requirements were gathered,

and their inputs, behavior and output are discussed below.

Table: Compatibility

Name of the Function: Must be compatible with all devices like iOS, Android.

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Input:	Process:	Output:
1.N/A	1.website must develop in common development Environment	1.Website must be use by any version of operating system browser. Like chrome, safari, Firefox etc.
Precondition: User must have	a smartphone or computer	
Postcondition: User must kno	w how to operate phone and con	mputer.
Alternate Option: N/A		

Table 1 Functional requirements: Compatibility

Table: Create an account.

Input:	Process:	Output:
1.User email and password	1.Need website in user	1.View register interface.
required for authentication.	device	
Precondition: User must have	a smartphone, computer and	Internet connection
Postcondition: User must kno	w how to operate phone and c	computer
Alternate Option: If the user	missed any input field then it	will show error

Table 2 Functional requirements: Create an account.

Table: User login.

Name of the Function: Login	to user account (Admin, Custo	omer, Agent)
Input:	Process:	Output:
1. User registered email and password required for authentication.	1. Need an browser on a user device.	1.View login page where user can input email and password
Precondition: User must have user	a smartphone; computer; Int	ernet connection and a registered
Postcondition: Need register u	ser	
Alternate Option: If user pass	word or email is incorrect it w	rill show error.

Table 3 Functional requirements: User login.

Table: User dashboard.

Name of the Function: Every user can see an individual profile. (Admin, customer, Agent)				
Input:	Process:	Output:		
1.User email and password required for authentication.	1. Go to user profile page	1.View user profile interface		
2.User need to provide register email and password				
	e a smartphone; computer; In	ternet connection and user must		
register.				

Postcondition: Need register user, need valid email and password. Users can see his/her website features.

Alternate Option: if user is not register then user cannot see login

Table 4 Functional requirements: User dashboard.

Table: Admin update regular news.

Name of the Function: An admin can submit regular update news about ekShop

Input:	Process:	Output:
1.User email and password	1. Go to about page of	1.The news will be stored
required for authentication	ekShop.	into the SQL database.
and registration.	2.write news	
2. An employee needs to	3. Then press submit button	
register an email and	3.Then press submit outton	
password.		
3. An employee can log in to		
his/her profile.		

Precondition: The admin must have a registered account with valid email and password.

Postcondition: The admin needed to fill text field and press submit button

Alternate Option: if the User is not registered then the user cannot log in. If the user doesn't provide all information, it will show an error. The admin needed to fill text field and press the submit button.

Table 5 Functional requirements: Admin can submit regular news.

Table: Admin can create post.

Name of the Function: Admin can post details about product with photos and videos

Input:	Process:	Output:
1.User email and password required for authentication and registration. 2.Admin needs to provide a registered email and	 Go to the user profile page. write product details on text field. 	1.The post will be stored into the SQL database. 2.Post will show in website.
password. 3. Admin can login to his/her profile.	3.Upload photos or videos.4.Then press submit button.	

Precondition: Admin must have a register account with valid email and password

Postcondition: Admin needed to fill the whole form and submit the post.

Name of the Function: Admin can track all order from his/her own profile.

Alternate Option: if the user is not registered then the user cannot login. If user do not provide all information, it will show errors.

Table 6 Functional requirements: Admin can create post.

Table: Admin can track all order.

Input:	Process:	Output:
1.User email and password	1. Go to the user profile	1.Show product details and
required for authentication	page.	condition.
and registration.	2.Then go to Database.	
2.Admin need to provide a	3.Search by order id.	
registered email and	S.Scareir by Graci ia.	
password.	4.Then press submit button	

3. Admin can login to his/her	
profile.	

Precondition: Admin must have a register account with vail email and password

Postcondition: Admin needed to provide order id.

Alternate Option: if the user is not registered then the user cannot login. If users do not provide all information, it will show errors.

Table 7 Functional requirements: Admin can track all order.

Table: Customer can track their order.

Name of the Function: Customer can track their order.

Input:	Process:	Output:
 User email and password required for authentication and registration. Customer needs to provide a registered email and password. Customer can login to his/her profile. 	 Go to the customer profile page. Search by order id in dashboard. Customer will get status his ordered product. 	1.It will show in customer dashboard.2.Customer can see the order status from customer profile

Precondition: Customer must have a register account with valid email and password

Postcondition: Customer can track down the ordered product status.

Alternate Option: If customer is not registered then customer cannot login.

Name of the Function: Customer can payment money from their account

Table 8 Functional requirements: Customer can track their ordered product.

Table: Customer can payment on online.

Input: Process: **Output:** 1. Go to the Customer 1.Information will be stored 1.User email and password required for authentication profile page. into the database. and registration. 2. Select online payment 2.payment notification will 2.Customer need to provide a system. be provided registered email and 3.Fill up required form. password. 4.submit to payment 3. Customer can login to his/her profile. 4. Customer need to give card information

Precondition: Customer must have a register account with valid email and password

Postcondition: Customer can submit or leave the payment procedure.

Alternate Option: If customer is not registered then Customer cannot login.

Table 9 Functional requirements: Customer can payment on online

Table: Agent receive payment through online.

Name of the Function: Agent can see the payment details from his dashboard.

Process:	Output:
1. Go to the Agent profile	1.Information will be stored
page.	in database.
2.Select online payment	2. payment notification will
system.	be provided.
3. Fill up required form.	
	 Go to the Agent profile page. Select online payment system.

Precondition: Agent must have a register account with valid email and password

Postcondition: Agent can receive and see notification

Alternate Option: If agent is not registered then agent cannot login.

Table 10 Functional requirements: Agent receive payment on online.

Table: Agent can create post.

Name of the Function: Agent can create post with product details, photos and videos

Input:	Process:	Output:
1.User email and password required for authentication and registration. 2.Agent needs to provide a registered email and password. 3. Agent can login to his/her profile. 4. Agent need to fill up required form	1. Go to the Admin profile page. 2. Select employee details button. 3. Admin delete specific employee.	1.Admin see all employee details including name email phone number
Precondition: Agent must have	a register account with valid er	nail and password

Postcondition: Agent needed to fill the whole form and submit the post

Alternate Option: If agent is not registered then agent cannot login.

Table 11 Functional requirements: Agent can create post.

Non-Functional Requirements

The non-functional requirements are listed in this section to identify the major operations of the system. There are various types of non-functional requirements like performance, security, reliability, maintainability, extensibility, feasibility, economical, operational, technical which are listed in this section, and they are often called qualities.

PERFORMANCE REQUIREMENTS: This website should be the best performance for the user. The main reason to build this website is to maintain business on online. Admin can get updated, and customer and agent will maintain their business through this website also they can transect money here. website should run fast enough to satisfy users.

- SECURITY REQUIREMENTS: Security and administration is always a concern. All
 information on the main website is secured. The only website administrator has access to
 SQL database. This project uses php language as a backend, which has various layers of
 security, security requirements have been taken care of.
- EXTENSIBILITY AND MAINTAINABILITY REQUIREMENTS: There is one standard template used for one look and feel throughout the site. The website can be expanded to accommodate many further modules without making any changes to any existing modules. The website is created in such a way that the administrator can easily maintain both at a server and user sides.

5.4 Testing

6.4.1 Items to be tested.

All the features which are discussed in the functional requirement will be tested. According to the detail features, description, constraints of the website below functionalities will be scope of the testing-

- 1. Compatibility Test
- 2. Create a new account.
- 3. Login to user account
- 4. Admin Update News
- 5. Create post.
- 6. Admin can Track all product.
- 7. Customer can track ordered product.
- 8. Online payment.

Test Case: Compatibility Test

Test case	Purpose	Precondition	Test Step	Expected	Actual	Status	Remarks
Name			to	Result	result		

Compatibility	1.)	1.) Built	1.open into	1.) If	1.) On every	Pass	No
Test	Check	website first	different	everything	browser and		Remarks
	websites	for open	browser	ok, then	device, it		
	support		and device	website will	works		
	all			run	properly		
	browser			successfully			
	and						
	device						

Table 12 Test Case: Compatibility Test.

Test Case: Create a new account.

Test case	Purpose	Precondition	Test Step	Expected	Actual	Status	Remarks
Name			to	Result	result		
Create a	1.) Check if	1.) User must	1.) Fill up	1.) User	1.) User	Pass	No Remarks
new	the user	have smart	the	input all	accounts		
account.	registration	phone,	registration	the	create		
	is	Computer.	form with	information	successfully		
	successfully	2.) Must	valid	correctly			
	done	connected to	phone	and submit			
		the internet	number	the user			
			email,	will go to			
			password,	the login			
			name, and	page			
			other				
			details				

Table 13 Test Case: Create a new account.

Test Case: Login to user account

Test case	Purpose	Precondition	Test Step	Expected	Actual	Status	Remarks
Name			to	Result	result		

Login to	1.) To	1.) Users	1.) Users	1.) If user	1.) User can	Pass	No
user	check	need to	need to	email and	login to		Remarks
account	register	register first.	register	password is	their		
	user can	2.) Must	email and	correct,	account		
	login to	connect to	password.	then it will	successfully		
	their	the internet		go the user			
	account			profile			

Table 14 Test Case: Login to user account

Test Case: Admin update regular news.

.

Test case	Purpose	Preconditio	Test Step	Expected	Actual	Statu	Remark
Name		n	to	Result	result	s	s
Admin	1.) To	1.) admin	1.) when	1.) If admin	1.) Admin	Pass	No
Update	check	need to	admin	will update	can update		Remarks
Regular	newsfeed	register first.	update	news	news and		
News	admin can	2.) Then	news from	successfull	that news		
	write	login to	his account	y that news	store in		
	regular	hie/her	then news	will store in	database.		
	news from	account.	will be	database			
	his account.	3.) Must	store in	2) Other			
		connect to	database.	user can			
		internet.		that news			
				in			
				newsfeed.			

Table 15 Test Case: Admin update regular news.

Test Case: Create post.

Test case	Purpose	Precondition	Test Step	Expected	Actual	Status	Remarks
Name			to	Result	result		
Admin	1.) To	1.) Admin	1.) When	1.) If admin	1.) Admin	Pass	No
and agent	create post	and agent	Admin and	and agent	and agent		Remarks
can create	for selling	must be	agent go to	submit post	can create		
post from	product	registered.	the post	it will store	post		
their		2.) Must	create it	into	successfully.		
account.		connect to	will show	database.	2.) Post		
		internet.	all require	2.) Admin	stored into		
			2.) Admin	and agent	the database.		
			and agent	can see the	3.) Admin		
			need to fill	post from	and agent		
			required	his/her	can see the		
			form.	profile.	post.		

Table 16 Test Case: Create post.

Test Case: Admin can track all product.

Test case	Purpose	Preconditio	Test Step	Expected	Actual	Statu	Remark
Name		n	to	Result	result	S	s
Admin can	1. To track	1. Only	1. When	1. If admin	1. Admin	Pass	No
track all	all product	registered	admin	give correct	can find		Remarks
product.	correctly	admin can	give order	order id	product		
		track all	id it will	product	status		
		product.	show the	status will	successfully		
		2. Must	status of	show.			
		connect to	product.	2. Admin	2.) Product		
		internet	2. Admins	can see the	status stored		
			need to	product	into		
			give	status.	database.		
			correct				
			order id.				

Table 17 Test Case: Admin can track all product

Test Case: Customer can track ordered product.

Test case	Purpose	Precondition	Test Step	Expected	Actual	Status	Remarks
Name			to	Result	result		
Customer	To track	1. Only	1. When	1. If	1. Customer	Pass	No
can track	ordered	registered	customer	customer	can find		Remarks
ordered	product	customer can	give order	give correct	product		
product.	correctly	track all	id it will	order id	status		
		product.	show the	product	successfully		
			status of	status will			
		2. must	product.	show.			
		connect to		2.Customer			
		the internet	2.	can see the			
			customer	product			
			need to	status.			
			give				
			correct				
			order id.				

Table 18 Test Case: Customer can track ordered product.

8. Test Case: Online payment.

Test case	Purpose	Precondition	Test Step	Expected	Actual	Status	Remarks
Name			to	Result	result		
Online	1.To	1. Only the	1.	1. If	1.For valid	Pass	No
payment	payment	registered	customer	customer	information		Remarks
	in online	customer can	need to go	fill			

by	payment in	online	required	payment is	
accepted	online.	payment	form and	accept.	
card.	2. must	system.	give valid		
	connect to	2.Fill up	card		
	the internet	required	informatio		
	3. Must need	form with	n payment		
	accepted	valid card	will		
	card.	number	accept.		
		3. Submit			
		to			
		payment.			

Table 19 Test Case: Online payment.

5.5 Features of ekShop

Registration:

- Amin and User can create their account.
- Users need to provide all information for registration.
- Email and Password to specify the user authentication.
- Date of Birth will use date picker, so user does not need to put it manually.
- User can choose to register as customer and admin. This will be a common register as page for both user and Admin. If the user chooses to register as user, then it will create a user account for those email and password.

Post Create:

- Admin will post details about Product with photos and videos.
- Agent will post details about Product with Photos and Videos.
- Admin can edit and delete post.
- Agent can edit and delete post.
- Admin and agent can add or remove products from category.

Product Order:

• Customer can order product.

- Customer can choose product category wise.
- Customer can increase and decrease product quantity.

Order Track:

- Admin can track all order.
- Customer can track products which is ordered by them. They need to check their dashboard by searching order number.
- Agent can track their product which is posted by them to sell. They need to check their dashboard by searching product key.
- All users will get update status of product track from their dashboard.

Online payment:

- All users need to add their card.
- After accepting card, they need to pay their amount.
- Bank will confirm payment will accept or not.
- User will get update about payment.

News Details:

- Admin will log in his account.
- Update news from his/her account
- Write blog, update trending.
- Customer can read and comment here.
- Admin will get notification.

Chapter 6 Project as Engineering Problem Analysis

6.1 Sustainability of the Project

The use of mobile smartphones, computer and the internet, among all classes of people, have increased dramatically in Bangladesh over the last decade. The growth suggests that the use would increase even further in the future. Starting from ordering food to booking plane tickets everything has become more digitized in their manner. Considering such a change in the social atmosphere, it is safe to say that the online business or eCommerce is highly sustainable. It helps to maintain business in online which is easy to handle. Day by day online business platform is more popular,

reseller is selling their product from home without any hassle and customer are also buy their desirable product from online marketplace, they can pay their payment form home. For easy maintenance and convenient use online marketplace become more sustainable.

6.2 Social and environmental effects and Analysis

ekShop is a online marketplace. The main target of ekShop is reduce shopping time, convenient shopping. By taking this step business become easy to maintain. Customer also happy they can save their time, they don't need to out for shopping, they can buy anything from one place this more convenient for customer. If we look from reseller side, we can see they also save their time by using this website. They can transit their money online which is comfortable and time saving. So, we can say this website have good impact on socially.

This website also has environmental effect. They have many resellers they just create their account here and stat their business on the other hand if any one start business offline they need built shop physically which impact on economic and environment. For physical shop a seller needs space and money. For maintain this shop seller need to stand by his/her shop. And customer also need to come for buy their product. After those analysis we can see online marketplace is has good impact on environment.

Chapter 7 Internship Experience and observation

I have started mine working at ParallaxLogic Infotech software & It Solution from 9th March 2021 as an Intern in their Web Development Team. My supervisor was Mr. Mahabub-A-Mawla (Senior Software Engineer, ParallaxLogic Infotech Software & IT Solution).

ParllaxLogic Infotech Software & It Solution is very popular company. From the first day of my working, I have found a friendly environment. My supervisor was very friendly and cooperative. he was always there whenever I faced any problem, he helped me to understand the root of the problem and give me hints to solve that problem. He always supports me to gain confidence in my work. I have learned many important things during my internship time. The most important thing that I learned from there, first think about your work then visualize and then start working. During

my internship, I observed many things. The most important thing was that you must work mandatory besides that you have to communicate with the other people. During my internship, I observed many things. The most important thing was that you must work mandatory besides that you have to keep communication with the other people. Another thing that I learned is that in our life we must work in a different situation in every situation we need to handle that.

ParallaxLogic is concerned about their employee health. In this COVID situation, they provide masks and sanitizers to their employees, and everyone must maintain 5 feet distance from each other. They maintain punctuality very strictly; the office starts from 10:00 am to 6 pm. I tried my level best to maintain the punctuality. I also tried my best to do the assigned work without any error.

7.1 Problem and Challenges face in the workplace

During my internship, I had to face many problems. Three months is not enough for working on a software farm without any experience.

First, I had few ideas about responsive website. JavaScript has so many Frameworks and plugin It was a very short time for any student to learn and implement it into the project.

When ParallaxLogic gave me the project I had some idea about the project. I had developed project on university course. But here I work professionally.

7.2 Solution of those Problems

Understanding the Software Farm work Environment:

During my internship period, I experienced how a Software company works. I learn who employees behave in a software company and how they deal with their regular tasks and get the solution. I observed the situation very deeply and the office culture became truly clear to me.

Understanding the Software Industry:

Before my internship, I had no experience with any desk job. I had some basic ideas about the software industry. Now I have got deep knowledge about software companies, how they work and how they deal with their clients. I also observed how they divide the work into timestamps and

maintain the deadline. I also learn how they impress their clients and how they understand the concept and ask the potential question. I also learn how they present their work to their clients.

Learn How to Work Under pressure:

My other supervisor Mr. Mahabub-A-Mawla (Senior Software Engineer, ParallaxLogic Infotech Software & IT Solutions) is a very experienced person. He served in different sectors for a long time. He always discussed his experience with us. He used to say that never lose hope to gain confidence that you can solve this, it will take time but if you try you can solve it. He also said that in a pressure situation you must control your mind. Learn things first then apply that in your work. If you have no basic idea about your work, then it will be very difficult for you to finish that. He also said that if you have lots of work then finish it one by one and make a schedule.

Communication Skill:

During my internship, it's like an ice-breaking session. That enhances my communication skills.

Analytical Experience:

There were times when I had to use my judgments. I needed to make choices and give the verdict using my judgment. Usually, the whole thing helped me to boost up my confidence for the future.

Personal Development:

I always appreciated my punctuality and work. I always tried to finish the work in time and explain that very clearly. It helps me to build my working capabilities and time management and how to solve problems. First few days it was ridiculously hard for me to cope with the situation, but it became easy when I found a friendly office environment.

Interaction with Co-worker:

Interaction with co-worker is especially important in the workplace. In ParallaxLogic employees used to sit straight to each other with their team members, it helps them to discuss the issues and progress. If any member has some problem with the work another team member can help them easily. I was assigned to the Web development team. My team members always help me if I face any problem, I never hesitate to ask them. All employees of parllaxLogic were very friendly.

Organization Culture:

Organizational culture includes an organization's expectations, experiences, philosophy, as well as the values that guide member behavior, and is expressed in member self-image, inner workings, interactions with the outside world, and future expectations. Culture is based on shared attitudes, beliefs, customs, and written and unwritten rules that have been developed over time and are considered valid.

Work Environment:

First, ParallaxLogic office environment is genuinely nice. Every employee has their own workstation. Beautifully decorated interior. High configured computer for employees and discussion room. Wi-Fi and other facilities are also available.

Chapter 8 Conclusion

8.1 Future Work

EkShop website is ready, now they are already started working on ekShop app. For ekShop app they choose flutter because they want to build app for android and IOS. Developer team starting plan depend on given requirements.

8.2 Conclusion

During internship I was trying to develop an online marketplace which name is ekShop. It's a government project. Bangladesh government want to strong this sector and find more intrapreneur. The main goal of the project is easy maintenance of business and convenient use. This website saves seller and customer time.

It has been a tremendous opportunity to work as an intern at the reputed software company ParallaxLogic Infotech Software and IT solution. The internship program will help to gain important knowledge on how the IT sector is shaping in the country. It enabled me to understand the technologies that are frequently used in the software industry. The program has helped me develop good judgment, proceed on my own in new technological challenges, and develop better analytical skills. This internship was very successful to me. It has given me new knowledge, skills. This internship was also good to find out what strengths and weaknesses are.

It was a great feeling to be a part of this project. This is a wonderful way to improve skills and knowledge. It makes me feel very proud to be an intern of parallaxLogic infotech Software & IT Solution. It was really a great chance to gather knowledge of the corporate world before entering the job field. These practical experiences which gather in ParallaxLogic will help me in our professional life.

Reference

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- [4] https://stackoverflow.com/
- [5] https://relevant.software/blog/agile-software-development-lifecycle-phases-explained/
- [6] https://www.lucidchart.com/pages/

Appendix A (Questionnaire)

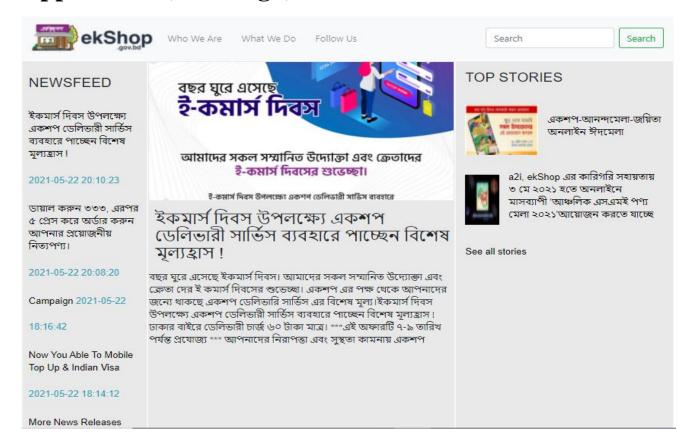
Questionnaire

Please Answer All the questions

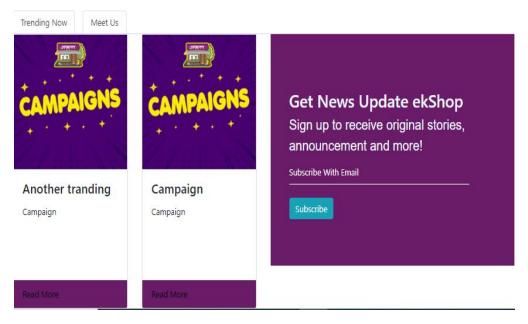
For Admin, Employee Customers, Agents

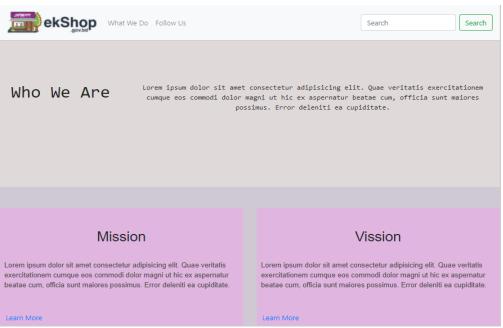
1.	I am a/an
	a. Employee
	b. Admin
	c. Customer
	d. Agent
2.	My educational background can be described as
	a. Secondary
	b. Higher Secondary
	c. BSc
	d. MSc
3.	How is your previous Website?
	a. Extremely Comfortable
	b. Comfortable
	c. Not so comfortable
4.	Are you comfortable with your current web system?
	o Yes
	o No
5.	Do you want online Registration process?
	o Yes
	o No
6.	Do you want online Payment system?
	o Yes
	o No
7.	Does your previous system support online payment system?
	o Yes
	o No
8.	Does your Previous system support Online Product Tracking?
	o Yes
	o No
9.	Do you want online system Product Tracking system?
	o Yes
	o No
10.	Do want to see all your All product details?
	o Yes
	o No
11.	Do you want online facility of update new product in your system
	o Yes
	o No
12.	Give us some feedback.

Appendix B (UI Design)

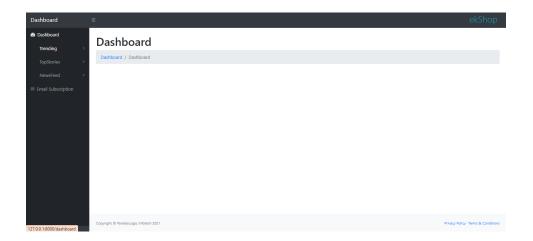


About Home

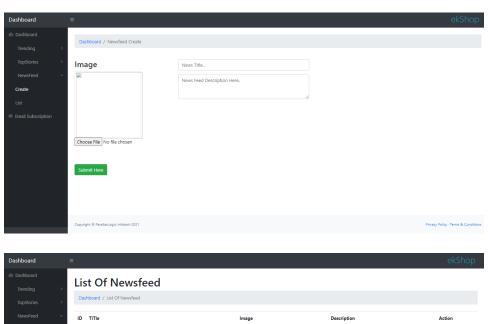


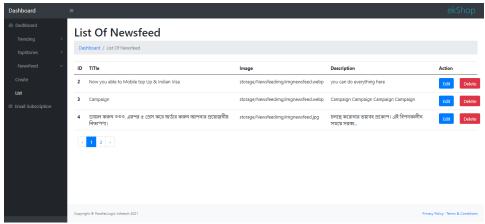


Dashboard

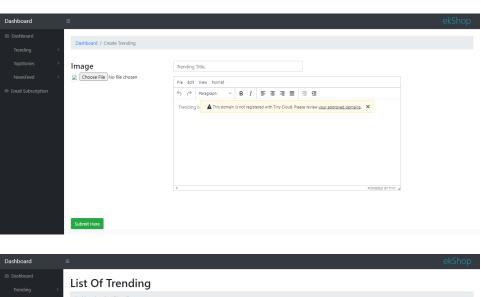


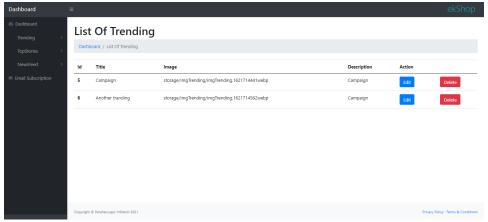
Create News



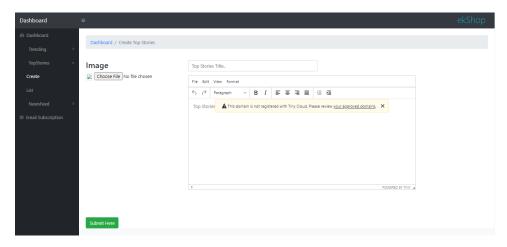


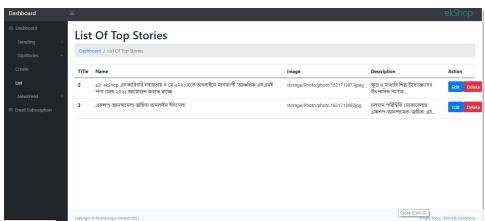
Trending create & List



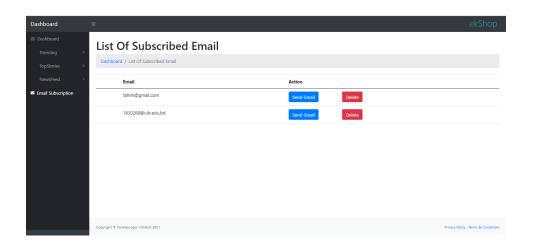


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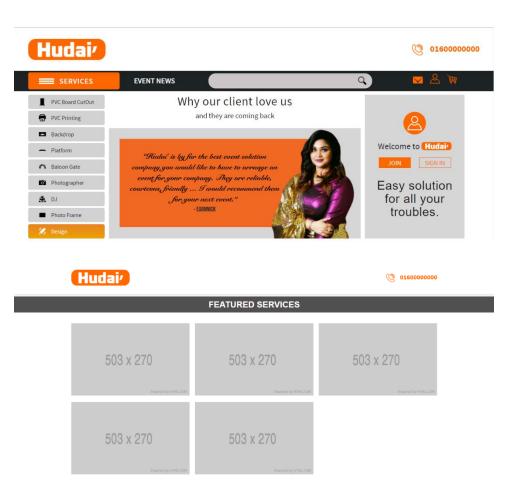


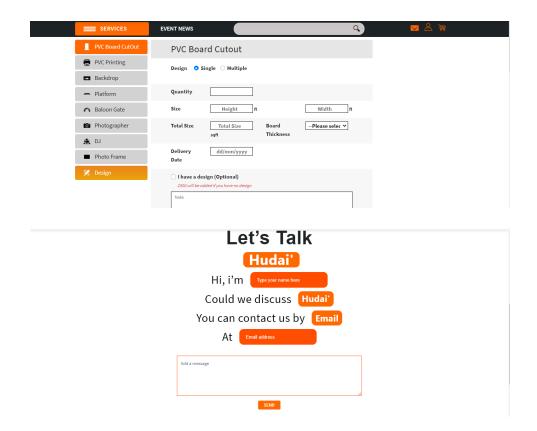


Subscribed Email List



Extra Work:





Appendix C (Log File)

Internship Daily Task and progress

Date	Task
09/03/2021	Discussing the project and features. Which project should I work on? Choosing the framework and Language. Discussing the project in detail. the company gave me their app requirements.
13/03/2021	The company offered me to build a website. Which is government online marketplace. This project was live they are working on a phase 2, and company want me to work with them as a frontend developer with them.
14/03/2021	My first task was making invoice for ekshop user by html and CSS.

15/03/2021	After submit invoice I got some feedback and what client exactly need. And finished based on client requirement.
16/03/2021	I have to work for responsive website that's why my supervisor advise me to learn bootstrap and JavaScript. Started learning Bootstrap.
23/03/2021	Strat working on project my supervisor gives some guideline how need to work for project. Show some demo User interface. Practicing JavaScript.
24/03/2021	Making structure of about page by using html. Give some view by CSS. Give update to my supervisor.
25/03/2021	Start making responsive website by using Bootstrap. Practicing JavaScript.
27/03/2021	Working on responsive website by JavaScript Framework. Practicing JavaScript.
3/04/2021	Submit first responsive website where contain Newsfeed, trending, what we do, who we are, and blog page to my supervisor and get some feedback from him to more appropriate. Try to use some JavaScript.
8/04/2021	Assign to making dashboard for backend developer. Start work what had assigned me by my supervisor.

10/04/2021	Submit news update dashboard. Where admin can update News title, Picture and news
	details. Also made table for listing that news. Getting some feedback
	Assign to make top story page and top stories table.
	Working on assign work.
	Practicing JavaScript and JavaScript plugin.
13/04/2021	Submit top stories dashboard. Where admin can update all the stories title, Story details and can submit pictures and videos. Getting some feedback about tops stories page.
	Assign to make to some extra work on another project to design home page. Show some demo. Strat working on assign work.
18/04/2021	Submit hudai agency home page. Get some feedback in hudai home page.
	Submit newsfeed and top stories again what was my feedback.
	Assign to make subscribe dashboard page and list, and hudai client table.
	Practicing JavaScript and Sass.
24/04/2021	Submit ekShop blog page with correction.
	Submit Hudai home page, client requirement table.
	Assign work to do more responsive ekShop by using some plugins.
	Assign Hudai services page. PVC, backdrop, platform
2/05/2021	Submit Hudai services page.
	Start work hudai responsive.
	Digital health translates backend language.
	Assign ekShop about page more requirements.
12/05/2021	Submit Final About page of ekShop. Get some feedback.

	Working on hudai agency responsive and features and contact page.
17/05/2021	Submit responsive hudai agency website with features and contact page.
	Complete feedback work of ekShop and submit to supervisor.
	Assign hudai video adding, hot deal and trending.
21/05/2021	Complete hudai agency assigned work.
	Final discusses about ekShop.
	Success fully run ekShop.
22/05/2021	Testing ekShop website.