



An Internship Report
ON
Web Application on an Ecommerce Portal System
Internship Report – Autumn 2020

Submitted By

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Submission Date

18th January, 2021

Letter of Submission

18th January 2021

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Subject: Internship Report Submission, Autumn 2020

Dear Sir,

With due honor and respect, I would prefer to say that, I Tanvirul Hasan need to submit my internship report on online application of e-commerce online looking portal "Crown Clothing". It has been 3 months program from eighteenth Oct 2020 to eighteenth January 2021. I did my internship as a front-end web developer at Unisoft Business Solutions Ltd.

In this report, I hooked up all of my best tried for data, operating and my capability with the end result of the work.

I am terribly grateful to you for your glorious guideline and support for doing this project. I will be significantly glad if you please kindly undergo this report and assess my works.

Sincerely yours,

Tanvirul Hasan

ID: 1522235

Acknowledgements

Firstly, I will give thanks to ALLAH for providing me the opportunity to work hard and stay strong.

Secondly, from the core of my heart I want to thank Sanzar Adnan Alam, Lecturer, Department of Computer Science & Engineering, Independent University, Bangladesh, for helping me throughout this entire course. He was so helpful regarding all the things I needed during my internship. He guided me to complete this report.

Then I would like to express my gratitude to my external supervisor **Engr. Mohammad Afzal Hossain** (Managing Director & CEO) and **Rayhan Ahmmed**, (Manager, Business development), Unisoft Business Solutions Ltd., for his assistance and encouragement during the path of my internship. The blessing, help, and guidance are given time to time shall carry me a long way in the journey of life on which I am about to embark.

I am very grateful to my office colleagues and peers for being so helpful. They have made my internship more enjoyable. Without them, it would be impossible to do this project.

Finally, I want to thank Independent University, Bangladesh (IUB) for giving me the opportunity to complete my internship. During this internship course it helped me explore many vital aspects of IT field. I have learned a lot during doing my project work.

Abstract

In this report I will be presenting all the information that I have gathered during my internship. This course “Internship” is offered by Independent University, Bangladesh (IUB). I joined Unisoft Business Solutions Ltd. for my internship. The company assigned me with tasks daily. They trained me to work on their systems.

This report describes the internship I spent at Unisoft Business Solutions Ltd. as a front-end Web Developer. In this report, I mainly have incorporated my experience at Unisoft Business Solutions Ltd. Especially the Ecommerce portal system I was working on where I also have provided details about my work experience as a web developer.

This report is about e-commerce portal system development. Detailed discussed given on this report. Chapter 1 describe the Company profile. In chapter 2 focuses on Literature Review. We planned about E-commerce portal system development, after development we tested the project. In the end conclusion and future work.

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Chapter 1: Introduction

Background

Internship provides a student an opportunity to relate their theoretical knowledge with the complex real-world environments. Moreover, if the internship is within a bachelor program and the students have to return to the academy after completing it, the skills that they have developed during the internship help them to gain a sounder academic result.

Independent University, Bangladesh (IUB) provides that glorious opportunity to their students of having an internship within their bachelor program. I started my internship as a React front-end Developer intern in 18thth October, 2020. The expectations were high and now almost nearing the end of my internship, I must admit that it was really a wonderful experience.

The journey was not that simple. There were many obstacles, new technologies that I have to handle with, yet after overcoming each challenge, I had discovered a new potential within myself. The skills that I have gathered are priceless to me. In addition to that, some of the non-technical skills that I have procured, combined with those technical skills will certainly prove worth in my career.

Objectives

Nowadays E-commerce is fast gaining ground as an accepted and used business paradigm. More and more business houses are implementing web sites providing functionality for performing commercial transactions over the web. It is reasonable to say that the process of shopping on the web is becoming common place.

The objective of this project is to develop a general-purpose e-commerce store where product like clothes can be bought from the comfort of

home through the internet. However, for implementation purpose, this paper will deal with an online shopping web site.

Scopes

This project is a virtual store on the internet where customers can browse the catalog and buy the products. It has:

- Home Page
- Shop Preview page
- Cart field
- Category page
- Sign-in and Sign-up page
- Payment option

Company Profile

Background of the Company

Unisoft Business Solutions Limited, known as UBSL is an emerging software company in Bangladesh producing world-class quality software for its clients since 2010. It produces intelligent and powerful software which completely maneuvers their clients job competently. They are committed to continuous advancement in our intellect and expertise and thus accomplishing its success through the pursuit of elevated performance and quality. They belief that their job is to listen, research and understand the requirements unique to each individual business. In fact, it is the long-term relationships with their clients that has served as a solid foundation for our company. For companies operating in the information age it help to leverage new technologies to competitive advantage. We deliver high value innovated solutions by bridging the gap between business and technology.

Mission

Their mission is to emerge as a leader in the bangladesh information technology industry – through total customer satisfaction and employee motivation.

Vision

To build a global service delivery company through transformation of human resource and skill with management expertise.

Company Services

UBSL is a component provider of any kind of software solutions including mission critical business applications, complex engineering of software, data centric analytical software, smart device solutions, web solutions and so on. Its expertise lies in clearly perceiving the business goals of their customers, choosing the most appropriate technologies and efficiently developing solutions catered to the business needs.

Working Environment

Working environment UBSL is very calm and professional. We get the correct guideline for accomplishing any task . the members of developers are very helpful here.

Objectives

This internship report is prepared primarily to fulfill the Bachelor of Computer Science and Engineering (BSc. CSE) degree requirement under the Faculty of Science and Technology.

Activities

The main responsibility was to build an e-commerce web site. When I joined UBSL I was assigned to practice React. After a week they describe the e-commerce project in details. The project was Crown-Clothing web site. Crown-Clothing is, a sister concern of UBSL.

Advisors

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Chapter 2: Literature Review

Project Relation to Undergraduate Courses

During this internship the learning's at my courses have helped me a great deal to fulfill my internship properly. Specifically, the Web Application course helped me a lot.

- CSC 455: Web Applications and Internet: this course taught me the web development. It included essential topics such as HTML and CSS, scripting language like JavaScript with jQuery and web servers. It helps me to learn dynamic website design which helps me to build my project "Crown Clothing" website.
- CSC 401: Database Management: this course introduces us to database design and the use of database management systems. It covered data modelling as E-R model, relational data model, integrity constraints, data model operations, normalization etc.

Chapter 3: Methodology

Overview

In this section, we will describe the methodology of our website. Here we are going to follow some new and easy process. There are many ways to develop methodology or system methodology that is needed for developing and maintain a project. There are many methodologies for doing project:

- Prototype Methodology
- Waterfall Model
- Agile
- Scrum

Here I choose the waterfall model

Waterfall Model

The Waterfall Model was the first Process Model to be introduced. In a waterfall model, each phase must be completed before the next phase can begin and there is no overlapping in the phases.

This means that any phase in the development process begins only if the previous phase is complete.

Waterfall Model - -Design

In the Waterfall Model approach the whole process of software development is divided into separate phases. In this model typically the outcome of one phase acts as the input of next phase sequentially.

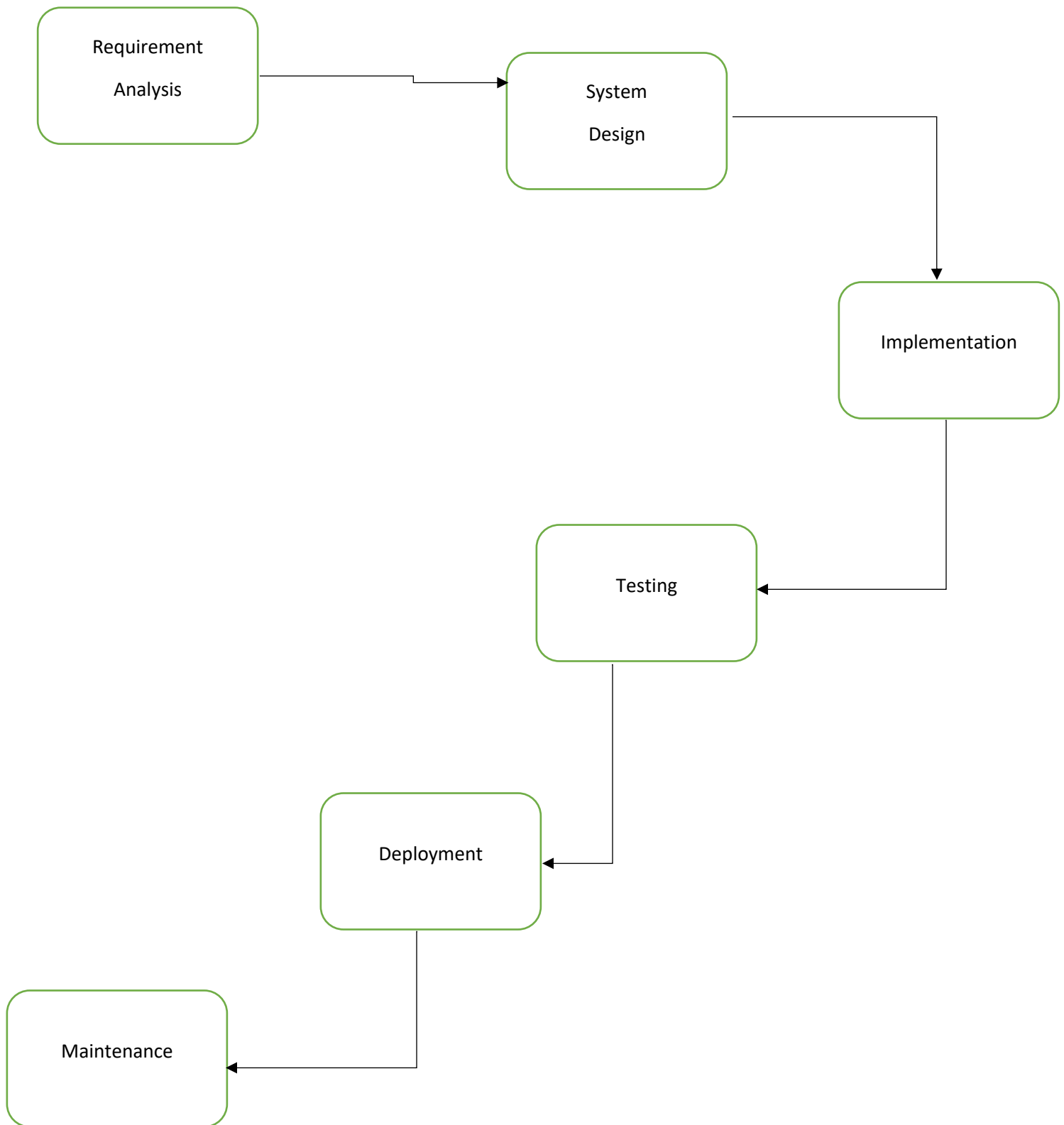


Figure3.1: Waterfall Model

The sequential phases in waterfall model are: -

- ❖ **Requirement Gathering and analysis:** all possible requirement of the system to be developed are captured in this phase and documented.
- ❖ **System Design:** in this phase the system is prepared to design based on the requirement specifications.
- ❖ **Implementation:** in this phase system is developed based on its design.
- ❖ **Testing:** in this phase the entire system is tested for any faults and failures.
- ❖ **Deployment:** once the functional and non-functional testing is done then the product is deployed to the customer.
- ❖ **Maintenance:** there are some issues which come up from the client after system released. In this phase is to fix those issues and enhance the product for better versions.

Waterfall Model Advantages

The advantages of waterfall development are that it allows for departmentalization and control. Development moves from concept, through design, implementation, testing, installation, troubleshooting, and ends up at operation and maintenance.

Some of the major advantages -

- It is simple and easy to understand and use
- Clearly defined stages
- Easy to arrange tasks

Waterfall Model Disadvantages

Disadvantage of waterfall development is that it does not allow much reflection or revision. Once an application is in the testing stage, it is very difficult to go back and change something.

Some of the major disadvantages –

- No working software is produced until late during the life cycle.

- High amounts of risk and uncertainty.
- Not a good model for complex and object-oriented projects.
- It's difficult to measure progress within stages.
- Cannot accommodate changing requirements.

Development Tools used

For e-commerce website "Crown Clothing" we used several modern development tools.

React:-



Figure3.2: React Logo

In a small definition react is a declarative, efficient and flexible JavaScript library for building user interfaces. It is created by Facebook.

It is currently one of the most popular JavaScript front-end libraries which has a strong foundation and a large community supporting it.

React can be used as a base in the development of single page applications or mobile applications. Complex react applications usually require the use of additional libraries for state management (redux), routing and interaction with an API.

As we all know many JavaScript frameworks like angular, backbone, ember and more and more were already in the industry to manage our applications but we used React-Js because it is: -

- ❖ Simple: beauty of react is its simplicity. It is a component-based language with a well-defined lifecycle. In react development developers use JSX which allows you to mix HTML with JavaScript. This is not a requirement and developers can write in plain JavaScript but JSX is much easier to use.
- ❖ Easy to learn: if anyone has knowledge in programming they can easily understand react but angular and ember are referred to as domain-specific-language which makes them difficult to learn. For react you just need basic knowledge of CSS and HTML.
- ❖ Native approach: react can be used to create mobile applications with “react native”.

The main point about react it is a component-based language and everything here is a component. If you make any UI it can work as a component for others.

Redux: Redux is an open-source JavaScript library for managing application state. It is most commonly used with libraries such as React or Angular for building user interfaces. Similar to Facebook's Flux architecture, it was created by Dan Abramov and Andrew Clark.

Firestore: -



Figure3.3: firebase

Firebase is an open-source toolset to build, improve and grow your app and the tools it gives you can cover a large portion of your applications back-end. This includes things like analytics, authentication, databases, configuration, file storage, push messaging and more. This is different than traditional app development which typically involves writing both front-end and back-end. However, with Firebase the traditional back-end is bypassed. And administrators can access Firebase as an online dashboard.

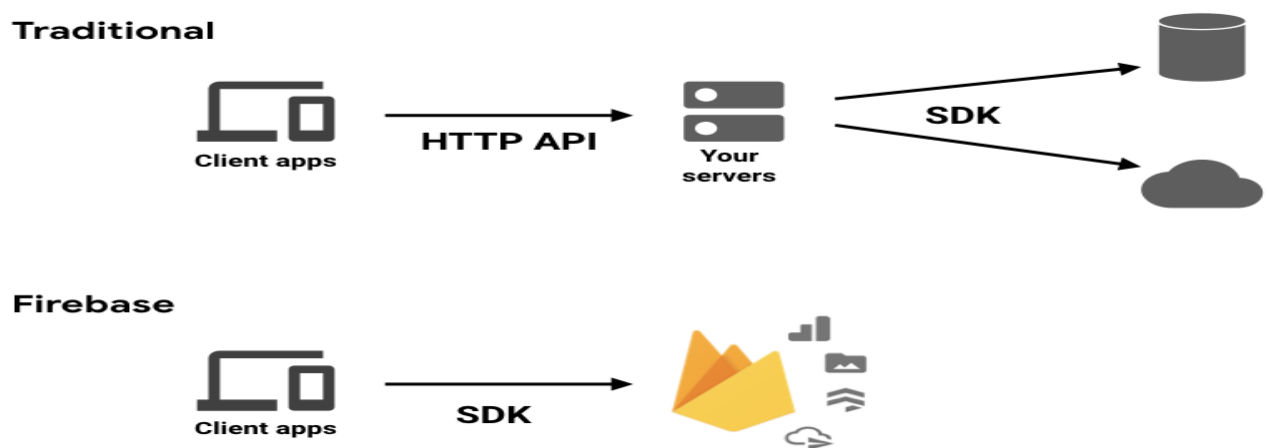


Figure3.4: firebase working flow

Git: -

Git is a free open-source distributed version control system. It is used for tracking change in source code during software development. It is designed for coordinating work among programmers, but it can be used to track changes in any set of files. Its goals include speed, day integrity and support for distributed non-linear workflows. Version Control is a system that records changes to a file or set of files, over time so that specific version can be recalled later.



Figure3.5: git

GitHub: -



Figure3.6: github

GitHub is a community where more than 56 million people learn, share and work together to build software.

Heroku: -

Heroku is a container-base cloud Platform as a Service (PaaS). Developers use Heroku to deploy, manage and scale modern apps. It is elegant, flexible and easy to use.

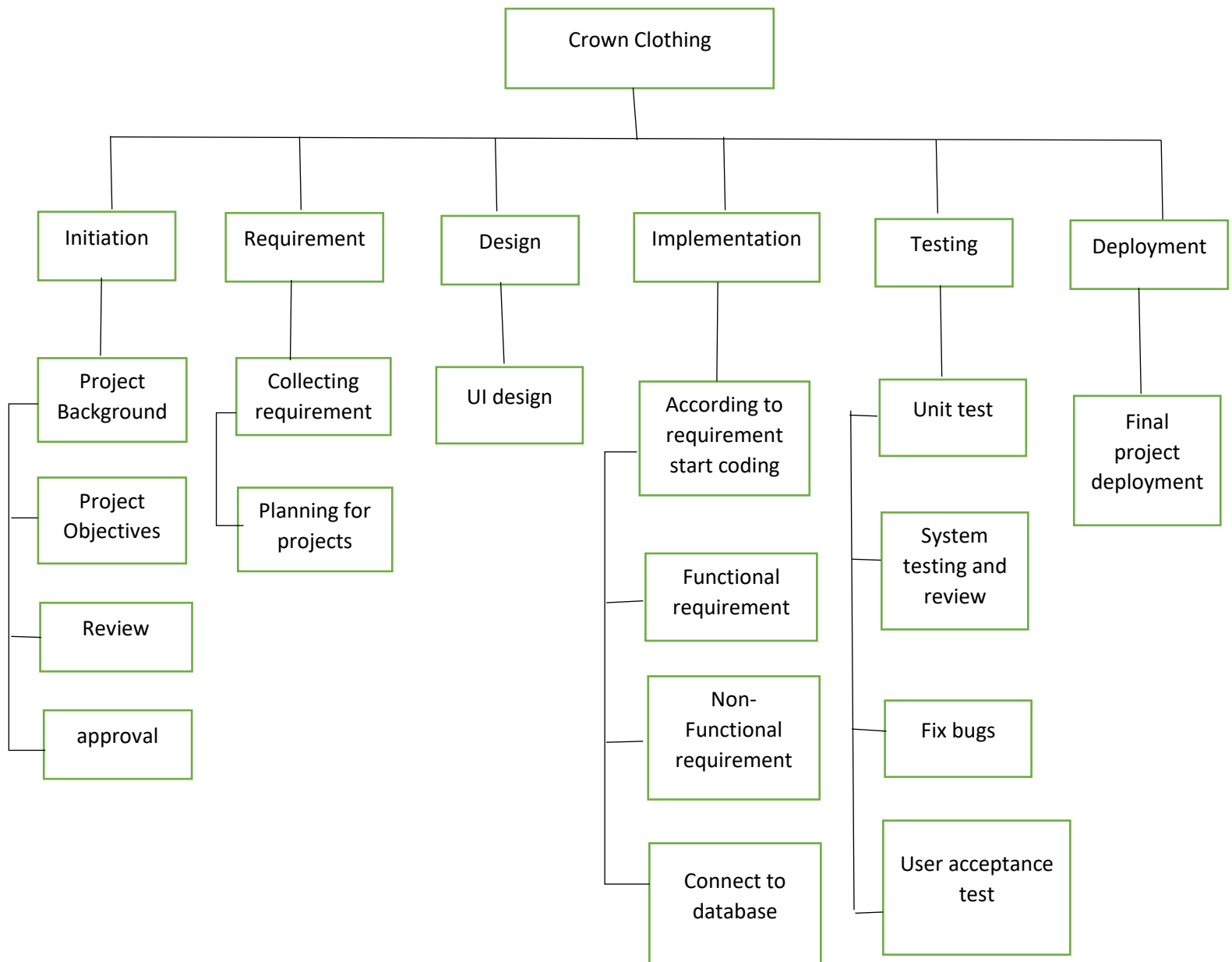


Figure3.7: heroku

Chapter 4: Project Management

Work Breakdown Structure

Dividing complex and large projects in simple and easy form is defined as work breakdown structure (WBS). Work breakdown structure is a hierarchical tree structure that breaks a project into smaller portions. In my project I use the top-down approach to describing the whole process.



Chapter 5: Body of the project

Description of the project

My project name is “Crown Clothing” which is an online shopping website. In this virtual store anyone can browse the catalog and buy products of interest.

- ✓ Any user can register, sign-in and view available products.
 - User also can sign-in with google account.
- ✓ Only registered-user can purchase multiple products regardless of quantity.
- ✓ Contact page is available to contact admin for queries.
- ✓ There are three roles available: - visitor, user and admin.
 - Visitor can view and can not purchase products
 - Registered-user can view and purchase
 - An admin has some extra privilege including all privilege of visitor and user.
 - Admin can add products, remove and edit products.
 - Admin can add/remove and edit user.

Web Page Details

- Homepage
- Shop page
- Category page
- Cart page
- Sign-in and Sign-up page
- Admin page

System Analysis

System analysis is a process of studying and observing a system to know how it works and identifying the problems and decomposition of a system into its components.

System analysis is conducted for the purpose of studying a system or its parts in order to identify its objectives. It is a problem-solving technique that improves the system and ensures that all the components of the system work efficiently to accomplish their purpose. What system should do system analysis specifies it.

Six Element Analysis

Process	System Roles					
	Human	Non computing hardware	computing hardware	Software	Database	Communication and network
View homepage	Visitor/User/admin	N/A	Pc/Mobile	Windows 10/ any version of android or iOS	Firebase	Internet
View category page	Visitor/User/admin	N/A	Pc/Mobile	Windows 10/ any version of android or iOS	Firebase	Internet
View shop page	Visitor/User/admin	N/A	Pc/Mobile	Windows 10/ any version of android or iOS	Firebase	Internet

Sign-in and Sign-up page	Visitor/User/admin	N/A	Pc/Mobile	Windows 10/ any version of android or iOS	Firebase	Internet
View cart dropdown option	Visitor/User/admin	N/A	Pc/Mobile	Windows 10/ any version of android or iOS	Firebase	Internet
Cart page	Visitor/User/admin	N/A	Pc/Mobile	Windows 10/ any version of android or iOS	Firebase	Internet
Admin page	Admin	N/A	Pc/Mobile	Windows 10/ any version of android or iOS	Firebase	Internet
Contact page	Visitor/User/admin	N/A	Pc/Mobile	Windows 10/ any version of android or iOS	Firebase	Internet
Payment	User/admin	N/A	Pc/Mobile	Windows 10/ any version of android or iOS	Firebase	Internet

Table5.1: six element analysis

Feasibility Analysis

On the off chance that the proposal is satisfactory to the administration then the next step is to apply the practicability study. This is a system to test the work is workable or not. These are categorized in many parts like technical, operational, social, economic, time consumption, etc. it helps to know the opportunity of this work. In practicability study will also show us about the cost as well as the benefits of which we are going to invest here.

Types of feasibility study:

1. **Technical Feasibility:** Technical feasibility focuses on the technical resources available to the project development. It helps the developers determine whether the technical resources meet capacity and whether the technical team is capable of converting the ideas into working systems. It also involves the evaluation of the hardware, software and other technical requirements of the proposed system. In my project I used very popular technologies like React-Js, firebase for database. So, this project is technically practicable.
2. **Operational Feasibility:** The software must be user-friendly and operationally feasible by means that the software must work by each functionality given with no difficulties. This project “Crown Clothing” is user-friendly and easy to use. So, “Crown Clothing” can be determined as operationally feasible.
3. **Economic Feasibility:** As we all know no one can live their life without money so the economy is the most important part. Nowadays E-Commerce site is popular to everyone. So that it can be beneficial both for company and the client. So, “Crown Clothing” is Economically Feasible.

System Design

It is a process of planning a new business system or replacing an existing system by defining its components or modules to satisfy the specific requirements.

Nowadays E-Commerce is very profitable business paradigm. It is reasonable and become common place for shopping.

“Crown Clothing” is an online shopping website. In this store user can choose their desire product and add to cart. User can register and also can sign-in with google. In the cart user can increase the quantity. For payment user pay bills via credit card.

Use Case Diagram

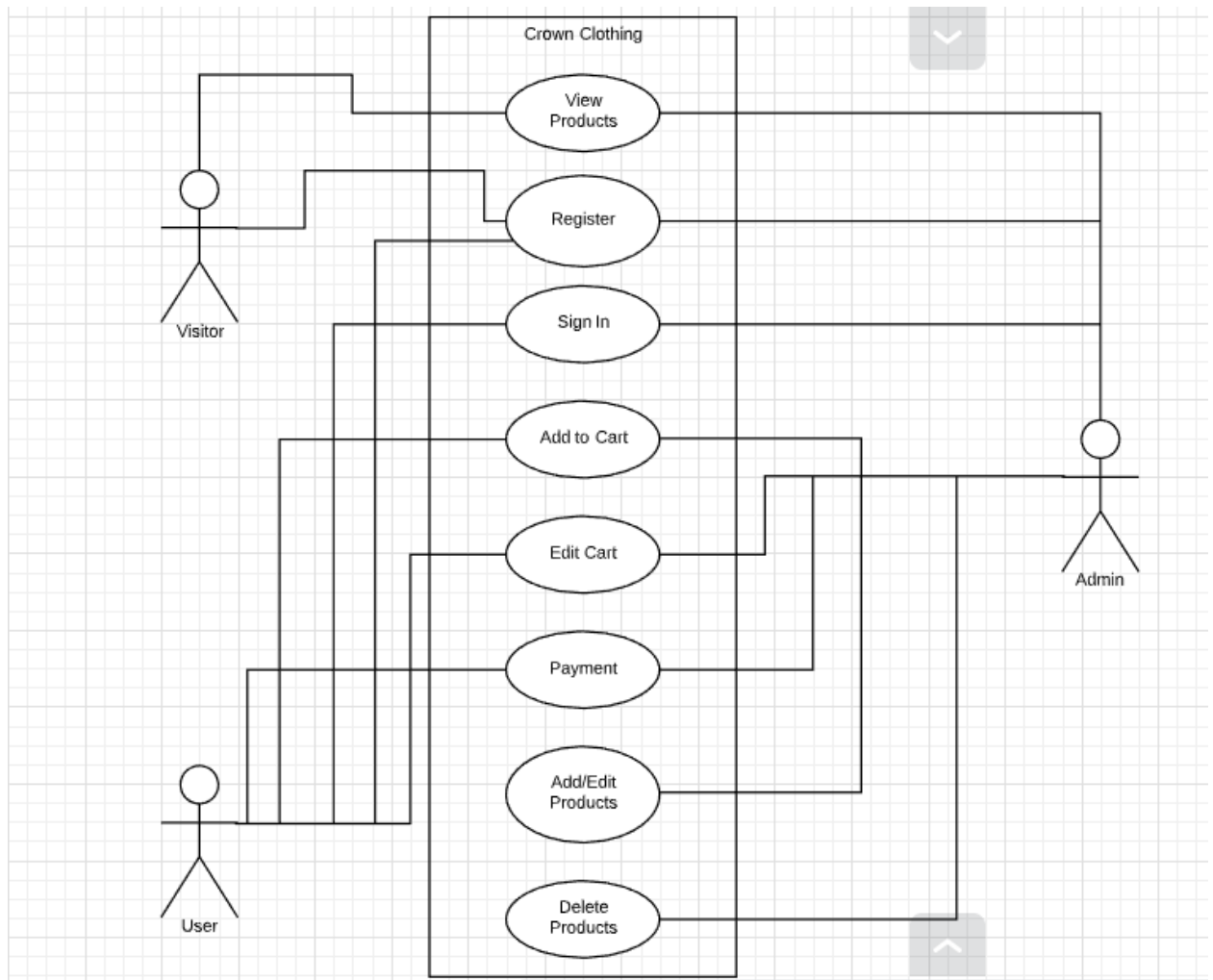


Figure 5.2: use case diagram

Activity Diagram

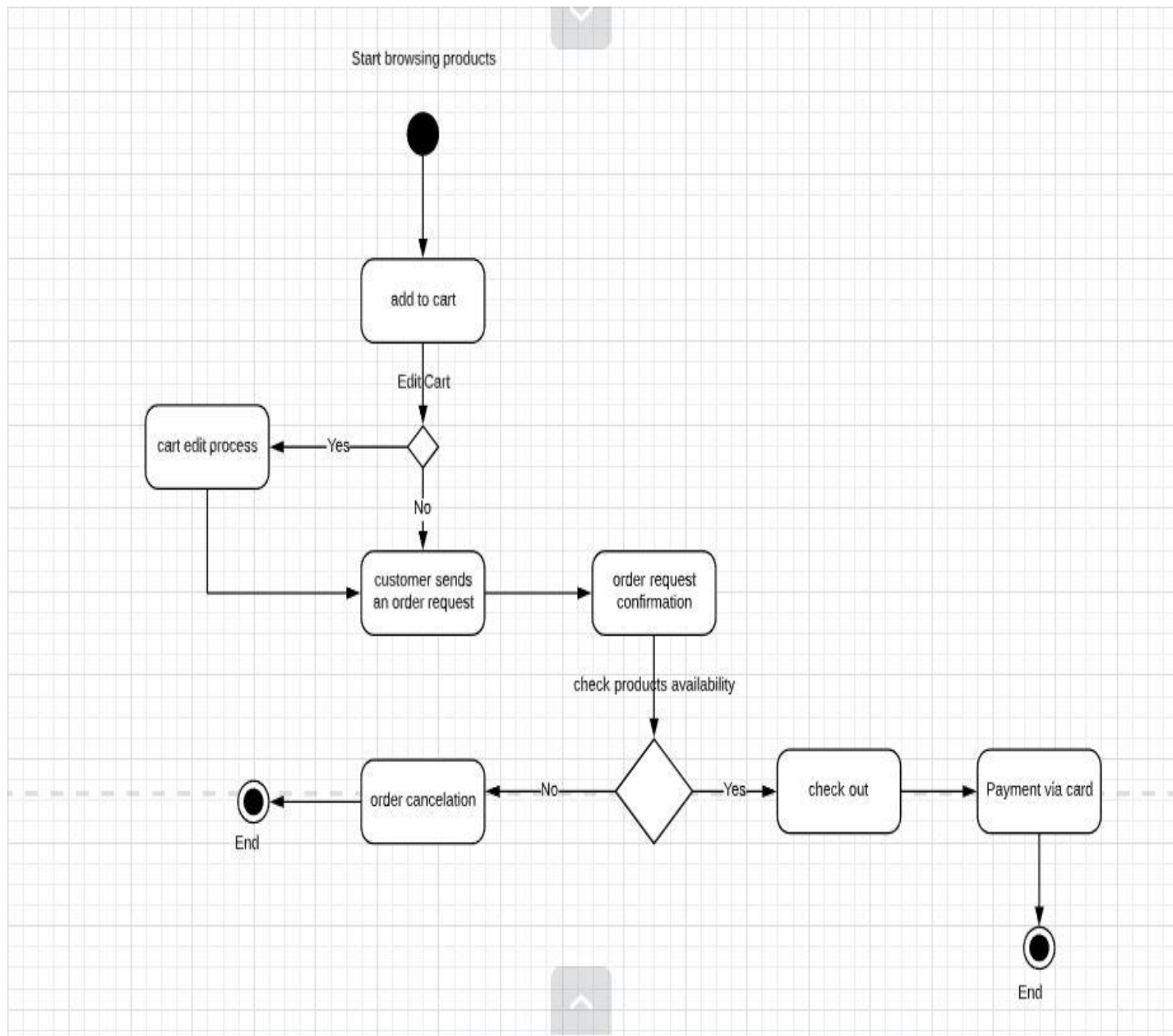


Figure5.3: activity diagram

Functional and Non-Functional Requirements

Non-Functional Requirements

Security

- Page of the website must be access in the way they were intendent to be accessed. Included files shall not be accessed outside of their parent file.
- Administrator can only perform administrative task on the pages they privileged to access. Customers will not be allowed to access the administrator pages.

Efficiency and Maintainability

- Page loads should be returned and formatted in a timely fashion depending on the request being made.
- Administrators will have the ability to edit the aspects of the order forms, product descriptions, prices and website directly.

Functional Requirements

The functional requirement is that it essentially specifies something a system should do. The Functional Requirements are the operations and activities that a system must be able to perform. In our project. In this section we try to find functional requirements for User Interface/Admin. The following functional requirements were gathered and their inputs, behavior and output are discussed below.

Function Name: Consistent with all devices		
Input: N/A	Process: website must be created in React Development Environment.	Output: This website will accessible in every device.
Pre-Condition: User must have a smart device with net connection.		
Post Condition: Anyone who can use a smart device also can use this website easily.		
Alternative Option: N/A		

Table5.4: Consistency

Function Name: Sign-in for Admin		
Input: Email & Password	Process: Admin Sign-in interface in the website	Output: Administration interface in the website.
Pre-Condition: Must have internet connection and devices like Computer or smart phone.		
Post Condition: Admin can login and can maintain & observe activities		
Alternative Option: If email or Password are not valid then showing the alert.		

Table5.5: Sign-in for Admin

Function Name: Registration for User		
Input: DisplayName Email, Password, Confirm Password	Process: Website Register Interface	Output: View Home Page or Cart Page in the website.

Pre-Condition: Must have internet connection and devices like Computer or smart phone.
Post Condition: Admin can add and remove the user information's
Alternative Option: N/A

Table5.6: Registration for Admin

Function Name: Sign-in for User		
Input: Email & Password	Process: Website Sign-in Interface	Output: View Home Page or Cart Page in the website.
Pre-Condition: Must have internet connection and devices like Computer or smart phone.		
Post Condition: Admin can login and can maintain & observe activities		
Alternative Option: If email or Password are not valid then showing the alert.		

Table5.7: Sign-in for User

Function Name: Administration Page Activities		
Input: N/A	Process: Admin can add, edit and delete the data	Output: Administration Interface admin Page
Pre-Condition: Must have internet connection and devices like Computer or smart phone.		
Post Condition: Admin can maintain & observe activities		
Alternative Option: N/A		

Table5.8: Administration Page Activities

Function Name: Home Page Activities		
Input: N/A	Process: Can view the category of products	Output: View Home Page
Pre-Condition: Must have internet connection and devices like Computer or smart phone.		
Post Condition: N/A		
Alternative Option: N/A		

Table5.9: Home Page Activities

Function Name: Shop Page Activities		
Input: N/A	Process: Can view the preview of all products	Output: Shop preview page
Pre-Condition: Must have internet connection and devices like Computer or smart phone.		
Post Condition: N/A		
Alternative Option: N/A		

Table5.10: Shop Page Activities

Function Name: Cart Page Activities		
Input: N/A	Process: Can view the order details of products, also remove product from cart and add	Output: Cart Page
Pre-Condition: Must have internet connection and devices like Computer or smart phone.		
Post Condition: N/A		
Alternative Option: N/A		

Table5.11: Cart Page Activities

Function Name: Category Page Activities		
Input: N/A	Process: Can view the overview of individual category	Output: category overview page
Pre-Condition: Must have internet connection and devices like Computer or smart phone.		
Post Condition: N/A		
Alternative Option: N/A		

Table5.12: Category Page Activities

Chapter 6: Results

Overview

Anyone can view this Online Shopping portal and available products, but every user must sign-in by his/her Email and password in order to purchase or order products. Unregistered members can register by navigating to registration page. Only Admin will have access to modify roles, by default developer can only be an 'Admin'.

Home Page

In the home page where user find their favorite products. It has category menus and header navigation.

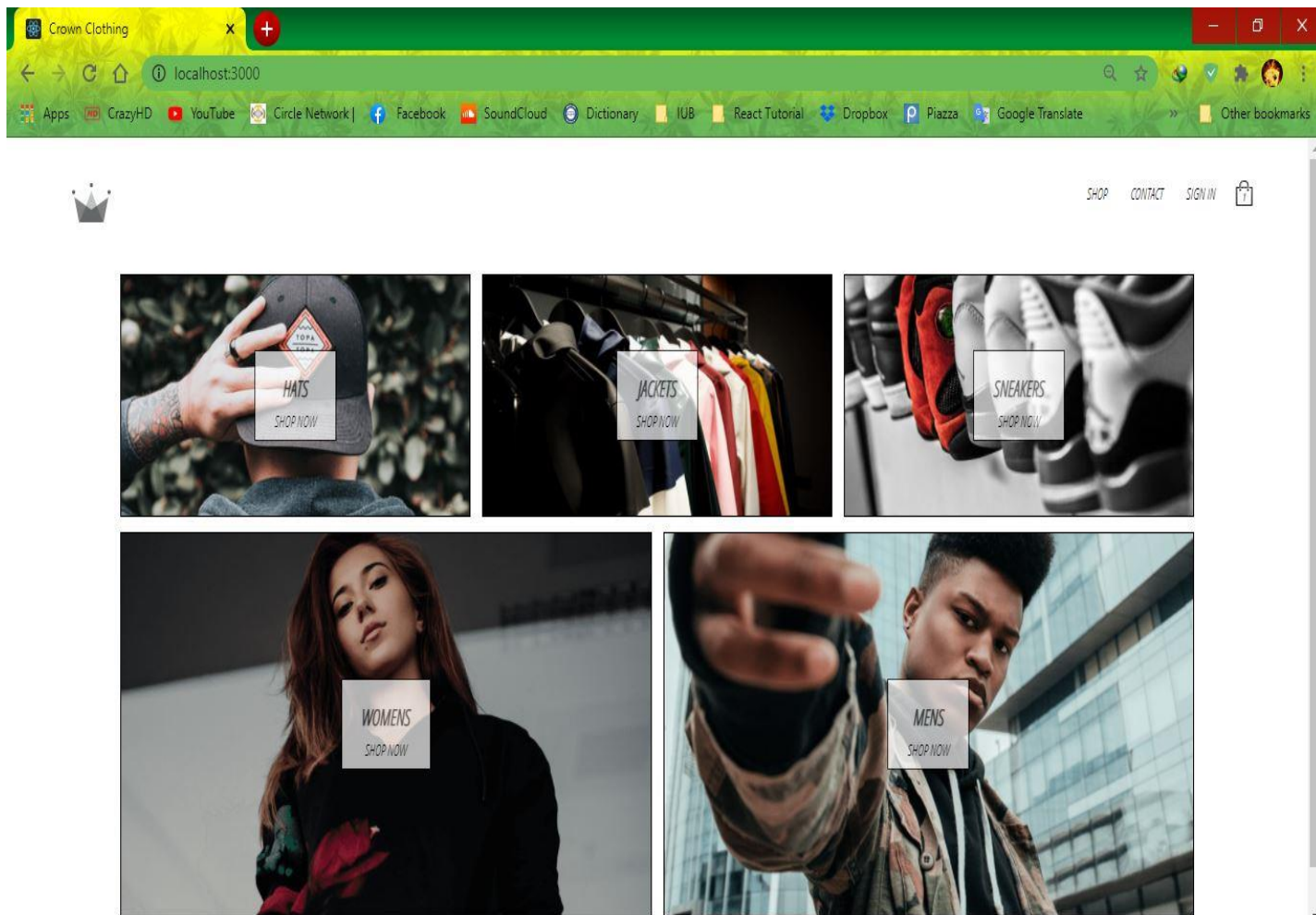


Figure6.1: home page

Shop Page

This is a preview page. This page shows all the available products for preview.

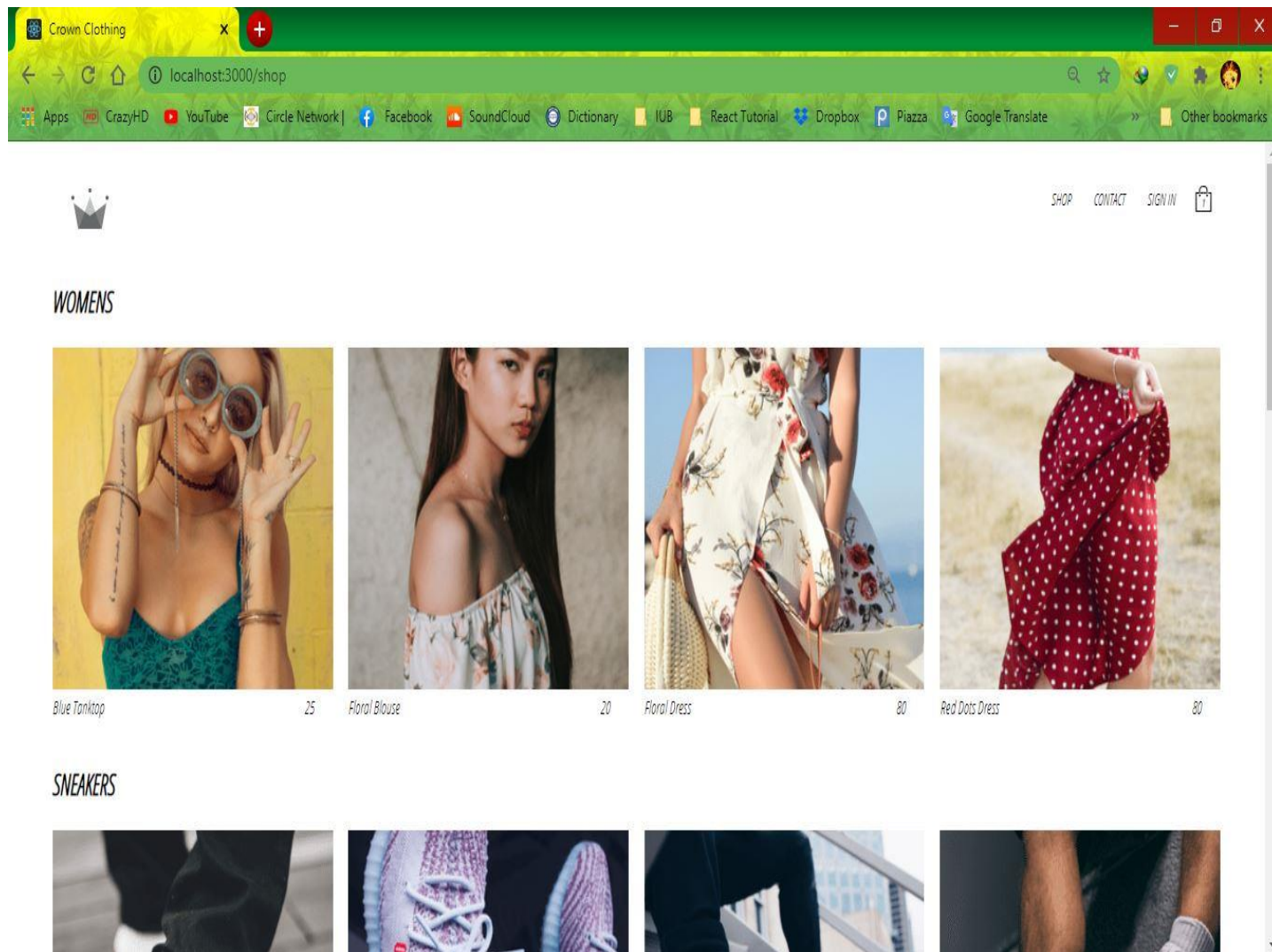


Figure6.2: shop page

Sign-in And Sign-up page

This is the sign-in and sign-up page. User can sign-in with email and password or sign-in with google account for quick access. The authentications part covered with firebase. User can sign-up and it connected with cloud storage provided by firebase. User information will save in firebase database both for authentication and sign-up.

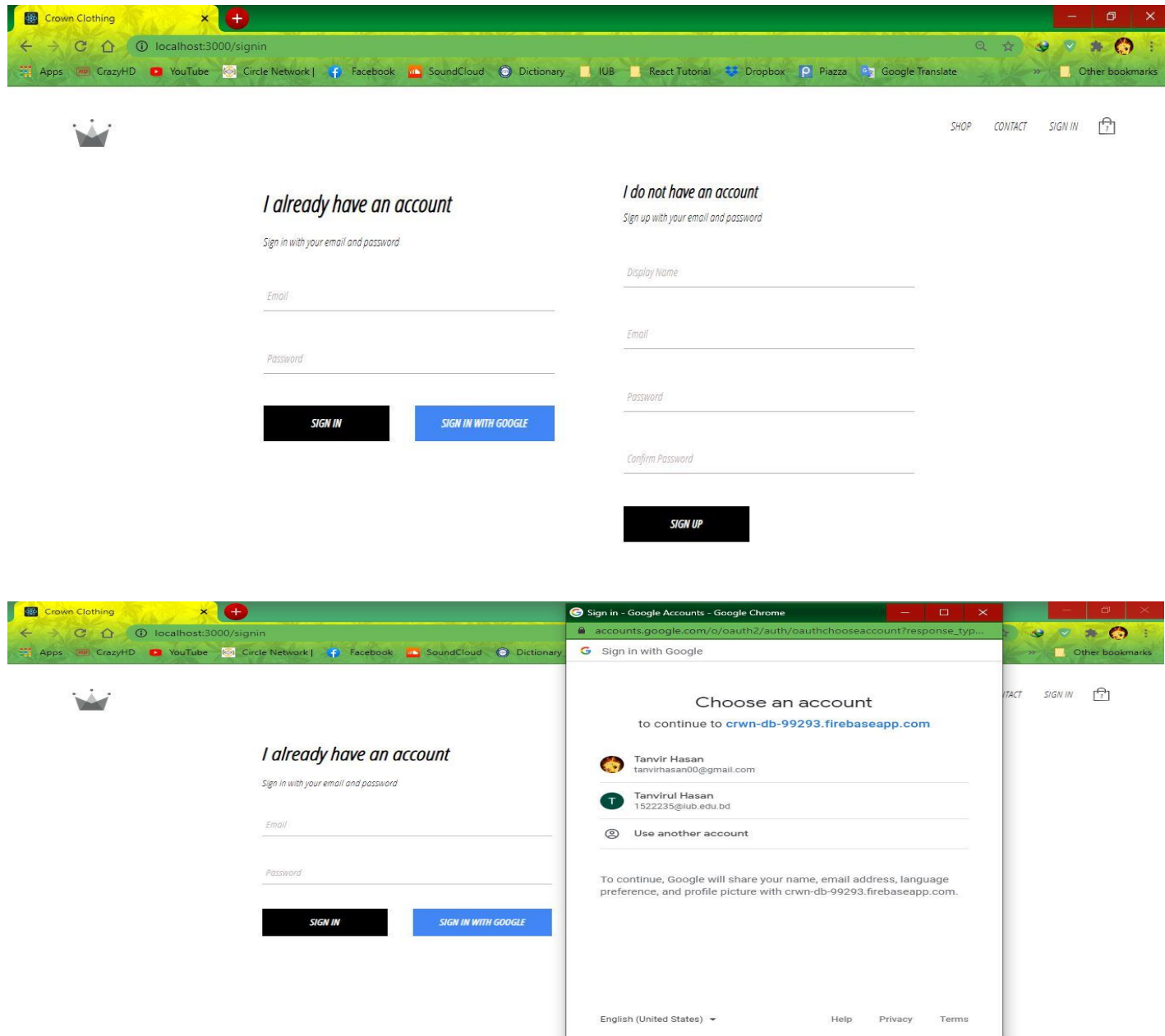


Figure6.3: sign-in and sign-up page

Checkout page

After adding product to cart visitors and registered users can view cart page and the total amount and total quantity, after then only registered users can purchase their desired products. If visitors want to order, it required sign-in/register.

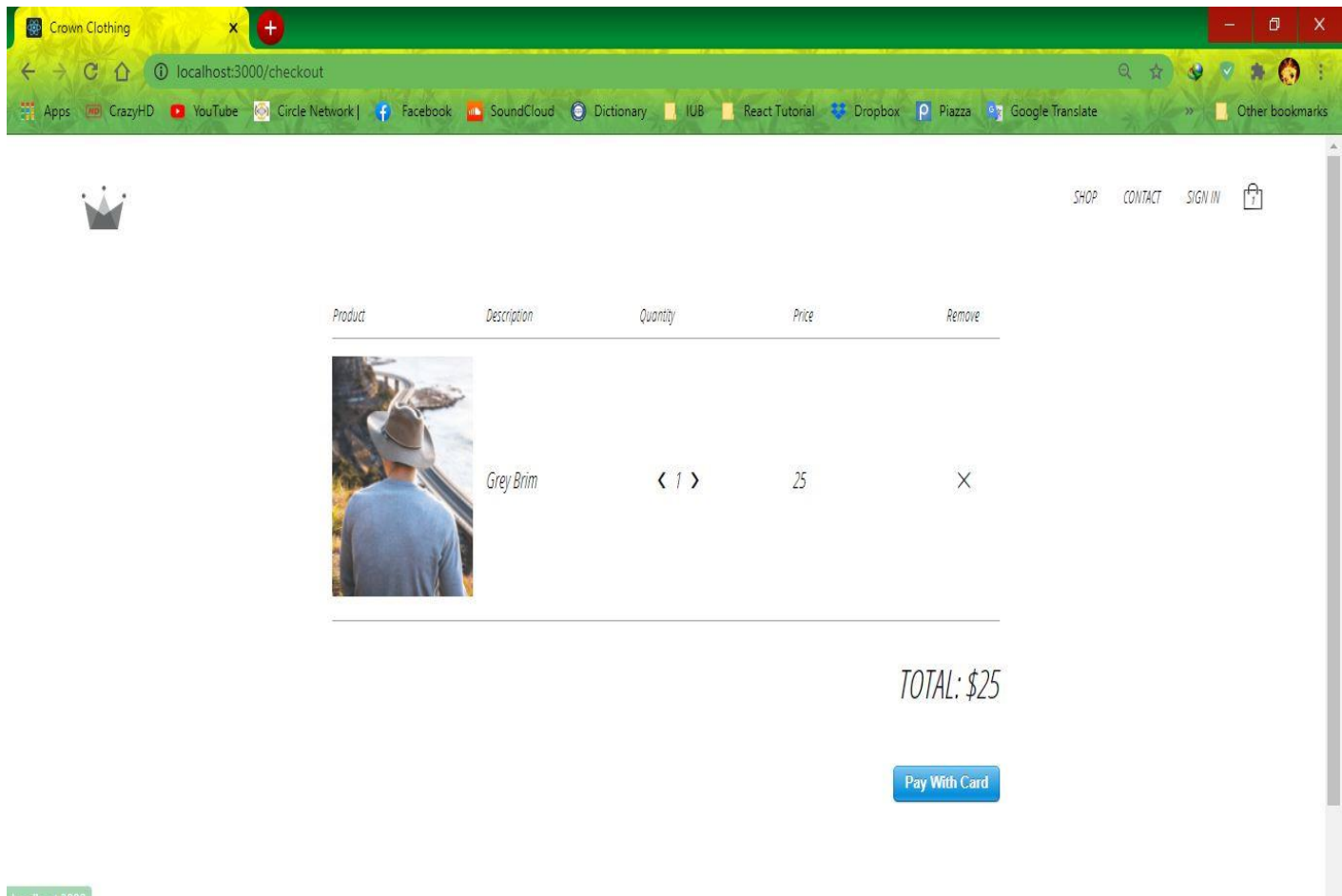


Figure6.4: checkout page

Payment

This is the payment method: it accepts card for payment.

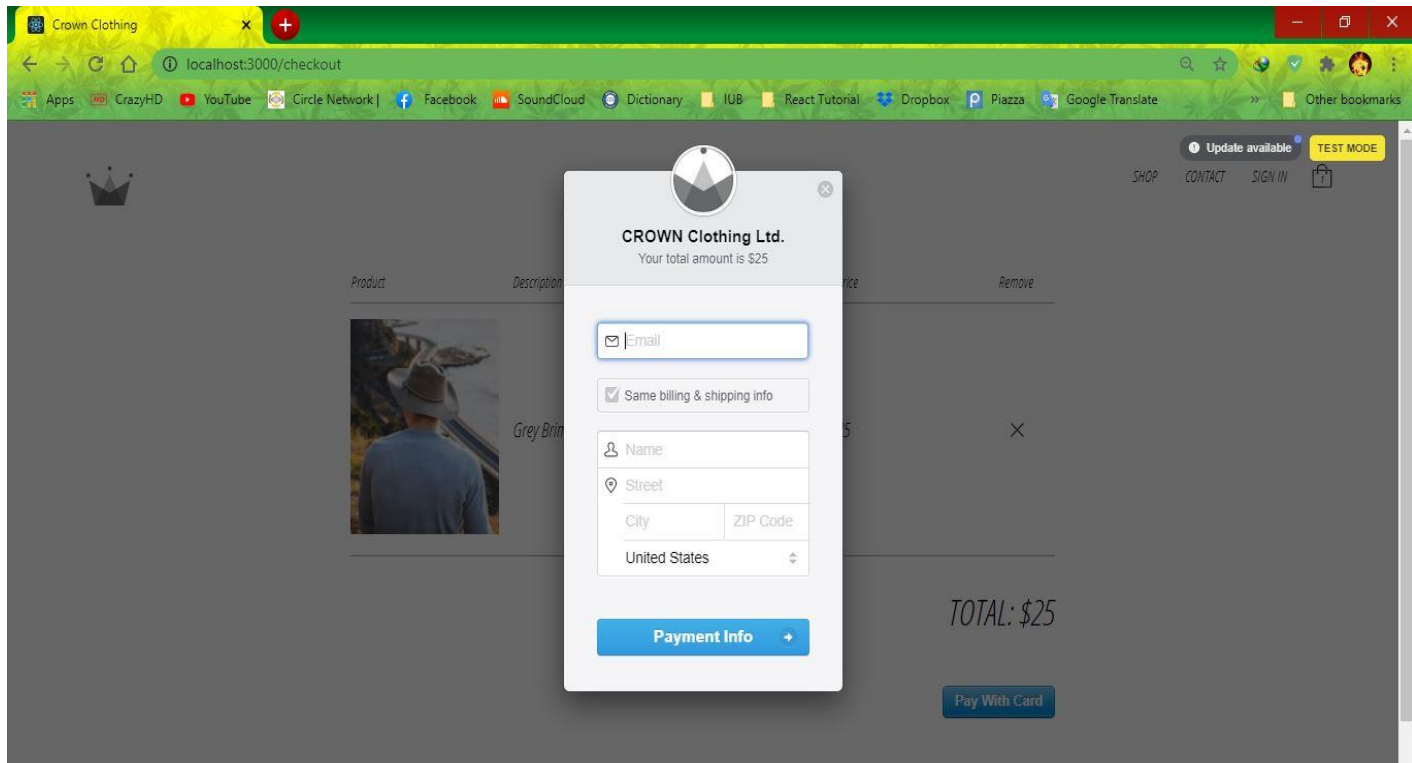


Figure6.5: payment option

Chapter 7: Future Work and Conclusion

Conclusion

This internship program helped me to know how the software industry works, their proper culture, working environment and a complete process of a software development. UBSL organized weekly team meeting and every employee must have to participate this session, participating every meeting enrich my vision about software industry and inspired me also. The weekly project update system put me on a proper discipline and build a never give up attitude. During this project I faced problem in team work because of my communication skills now I have better team work capabilities and also respect the team mate's suggestions. In this project, Team discussion helped me a lot to identify and solve unknown problems which would have been impossible without this opportunity. Finally, I would like to say that these experiences gave me a broad idea of how organizations and companies work. This will definitely help me in the coming future. Thanks to the fellow workers who helped me though out this journey.

Future Work

This project "Crown Clothing" is still in development phase and there are some planned features that are to be add in the near future. Some of them are given below:

- ☞ Create security system of this project
- ☞ Create a dynamic Admin manager
- ☞ Order tracker
- ☞ Add more payment method

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