

SUPERIOR UNIVERSITY LAHORE



Faculty of Computer Science & IT

Final Year Project PROJECT REPORT

IndusCo

Project ID: [FYP-BSCS-F18-010]

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Project Report

[IndusCo]

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APPROVAL

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Date: _____ Signature: _____

PROJECT MANAGER

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Date: _____ Signature: _____

HEAD OF THE DEPARTMENT

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Dedication

This work is dedicated to my teachers and my parents, who was always present and support for me in every part of my life. In this stage of my life, I want to tell you that, you are the best. You shine above all the rest. So, accept my thanks for all you do. May you always be with me...Ameen

Acknowledgements

I am really thankful to my **Supervisor Sir Zaman Aziz** and to the **teachers** with much appreciation and special gratitude, whose contribution in stimulating suggestions and encouragement, helped us to coordinate our project (IndusCo) especially in writing this report. A special thanks goes to my team mate, Muhammad Qassim and Hamza Zaheer who help me to assemble the parts and gave suggestion about many points.

Executive Summary

The world is connected with each other through communication the major part of communication is their import and export, every country economy is based on their industries. All industries communicate with one another through a merchant and their personal interest. Which is very time taken and costly for each other. And some time industries don't know all existing industries in their area. To minimize that communication gap, we have designed a website in which all industries communicate with each other and understand other industry product with their price. In this website industries register itself with their product and their price after that if they want to buy anything, we have shown every product with their category and price. We have no direct competitor, some website dealing with customer through an online shopping and some provide platform for their user but their dealing is not secure.

Table of Contents

Dedication	iv
Acknowledgements.....	v
Executive Summary	vi
Table of Contents.....	vii
List of Figures	x
List of Tables	xi
Chapter 1	1
Introduction.....	1
1.1. Background	2
1.2. Motivations and Challenges	2
1.3. Goals and Objectives.....	3
1.4. Literature Review/Existing Solutions	3
1.5. Gap Analysis	3
1.6. Proposed Solution	4
1.7. Project Plan	4
1.7.1. Roles & Responsibility Matrix	5
1.7.2. Work Breakdown Structure	7
1.7.3. Gantt chart	7
1.8. Report Outline	8
Chapter 2	9
Software Requirement Specifications.....	9
2.1. Introduction	10
2.1.1. Purpose	10
Purpose of this document is to describe the external behavior of the system. In this document, every kind of requirement will be finalized. It describes the nonfunctional requirement, design requirements and provide the other detail, which will clear the whole idea about the online bulk marketing and how people can use online bulk marketing system.....	10
2.1.2. Document Conventions	10
2.1.3. Intended Audience and Reading Suggestions	10
2.1.4. Product Scope	11
2.1.5. References	11
• Black Duck Software “How to Increase Velocity and Value with Agile Development using Open Source”, Feb 17, 2009	11
• Adobe “Retail Stores of the Future: Four key focus areas for building them today”, Apr 23, 2018	12
• Oracle Commerce Cloud “On Demand Webcast: Your Roadmap To Digital Experience Success”, Sep 06, 2017.....	12
2.2. Overall Description	12
2.2.1. Product Perspective	12
2.2.2. Product Functions	12
2.2.3. User Classes and Characteristics	12
2.2.4. Operating Environment	13
2.2.5. Design and Implementation Constraints.....	13

2.2.6.	User Documentation	14
2.2.7.	Assumptions and Dependencies	14
2.3.	External Interface Requirements	14
2.3.1.	User Interfaces	14
2.3.2.	Hardware Interfaces	14
2.3.3.	Software Interfaces	15
2.3.4.	Communications Interfaces	15
2.4.	System Features	15
2.4.1.	System Feature 1	15
2.4.1.1.	Description and Priority	15
2.4.1.2.	Stimulus/Response Sequences	16
2.4.1.3.	Functional Requirements	16
2.4.2.	System Feature 2	16
2.4.2.1.	Description and Priority	16
2.4.2.2.	Stimulus/Response Sequences	16
2.4.2.3.	Functional Requirements	16
2.4.3.	System Feature 3	17
2.4.3.1.	Description and Priority	17
2.4.3.2.	Stimulus/Response Sequences	17
2.4.3.3.	Functional Requirements	17
2.4.4.	System Feature 4	17
2.4.4.1.	Description and Priority	17
2.4.4.2.	Stimulus/Response Sequences	17
2.4.4.3.	Functional Requirements	17
2.4.5.	System Feature 5	18
2.4.5.1.	Description and Priority	18
2.4.5.2.	Stimulus/Response Sequences	18
2.4.5.3.	Functional Requirements	18
2.5.	Other Nonfunctional Requirements	18
2.5.1.	Performance Requirements	18
2.5.2.	Safety Requirements	19
•	We will try the best to make product safe.	19
2.5.3.	Security Requirements	19
2.5.4.	Software Quality Attributes	19
Chapter 3		21
Use Case Analysis		21
3.1.	Use Case Model	22
3.2.	Fully Dressed Use Cases	25
	The following are the Fully Dressed Use Cases of the website of “IndusCo” that means, this completes all the sections of the use case specifications i.e. the basic flow, the alternative flow, special requirements, Pre/Post specifications are also described.....	25
Chapter 4		28
System Design		28
4.1.	Architecture Diagram	29
4.2.	Domain Model	30
4.3.	Entity Relationship Diagram with data dictionary	31

4.4. Class Diagram	32
4.5. Sequence / Collaboration Diagram	33
4.6. Operation contracts	35
4.7. Activity Diagram.....	37
4.8. State Transition Diagram	40
4.9. Component Diagram	42
4.10. Deployment Diagram	43
Chapter 5.....	44
Implementation	44
5.1. Pseudo codes	45
5.2. Components, Libraries, Web Services and stubs	45
5.3. Deployment Environment	46
5.4. Tools and Techniques.....	46
5.5. Best Practices / Coding Standards.....	46
5.6. Version Control	47
Chapter 6.....	48
Testing and Evaluation	48
Chapter 6: Testing and Evaluation.....	48
6.1. Use Case Testing:	48
6.2 Data flow testing	56
6.3 Unit Testing	56
6.4 Integration testing	57
6.5 Performance testing	58
Chapter 7.....	59
Summary, Conclusion and.....	59
7.1. Project Summary.....	59
7.2. Achievements and Improvements.....	60
7.3. Critical Review	61
7.4. Lessons Learnt	62
7.5. Future Enhancements/Recommendations.....	63
Appendices.....	64
Appendix A: User Manual	64
A.1. User login.....	64
.....	64
Appendix B: Administrator Manual	66
B.1. Logging in the admin panel.....	66
B.1.1. Admin Panel Interface.....	66
Reference and Bibliography	68
1) Black Duck Software “How to Increase Velocity and Value with Agile Development using Open Source”, Feb 17, 2009.....	68
3) Adobe “Retail Stores of the Future: Four key focus areas for building them today”, Apr 23, 2018	68
4) Oracle Commerce Cloud “On Demand Webcast: Your Roadmap To Digital Experience Success”, Sep 06, 2017.....	68
Index	69

List of Figures

1.1	Work breakdown structure	7
1.2	Gantt Chart	8
3.1	Use Case Model	23
4.1	Architecture Diagram	28
4.2	Domain Model	29
4.3	Entity Relationship Diagram	30
4.4	Class Diagram	31
4.5	Sequence Diagram	32
4.6	Activity Diagram	34
4.7	State Transaction Diagram	35
4.8	Component Diagram	36
4.9	deployment Diagram	37

List of Tables

1.1	Roles and Responsibility Matrix	5
2.1	Intended Audience and reading suggestions	11
3.1	Fully dressed use case	23
4.1	Operation Contracts	32

Chapter 1

Introduction

Chapter 1: Introduction

In today's world there are many industries but all these industries communicate with one another through a merchant and their personal interest. Which is very time taken and costly for each other. And some time industries don't know all industries existing in their area. After understanding the problem, we came up with a solution to make a website that reduced the communication gap between industries. This website provides a platform in which all of the industries communicate with each other and tries to import and export their daily lives materials.

1.1. Background

The documentation describes the complete project report of our final year project. This project is developed by three group member, **Muhammad Qasim, Hamza Zaheer** and **Nafay Ali Butt**. The project is **IndusCo**, which provide the platform in which industries communicate with other and deal their required things. **IndusCo** is an industrial website that contain industrial information, which is their import and export their products and the price of the products. Before that industries dealing with other on their own behalf and dealers that provide dealing with industries product and make their commission. In this time the big problem is that majority of the industries don't know about all industries which is exist in their own country and make that things which that needs. And if they know about these industries then they don't know about the prices of the product that those industry produce.

1.2. Motivations and Challenges

Economy of a country is based on the import and export. If there are a greater number of exporters than the number of importers, the country's economy become strong. It is often happening that most of the industries don't know about their compotators in the market, also small items manufacturers and their price on those items. Many industries dealing with other industries through dealers and their own behalf.

The big challenge is that many industries will not accept the change, like if they have a dealer and they don't want to purchase anything without dealer then how satisfy these industries. Many

industries don't trust any other industry without any satisfaction, how handle these types of industries.

1.3. Goals and Objectives

Our main objective is that to create a **website**, which name is **IndusCo**. In this website industries communicate with each other and find their competitor and also their product price. Through this website industries sale and purchase their needy products which means that the export is increasing and the import is decreasing. The objective is that to create website that play the big role for improving Pakistan economy. In website industries registered itself with their product, their location and price of the product, and if any industry want to buy anything that should be register itself. In both ends of communication will be secure.

The goals of our project is:

- Improving the Pakistan economy through increasing the export
- Minimize the gap between industries
- Find your all needed things in single platform
- Compare things through price and quality of products

1.4. Literature Review/Existing Solutions

In past industries communicate with other industries through dealer and their own behalf, in which industries have limited relation they cannot move one from other industries, and second is that if they communicate through dealer then they can pay extra money for dealer for their commission. **IndusCo** overtake these problems through providing a platform.

In this time only one website (**OLX**) exist, which seller upload their product and price then customer contact with seller and take information about product, and the main issue of this website is that which have very less product and no assured the product is guaranteed.

1.5. Gap Analysis

Since the major concern of our website development is that to minimize the communication gap between the industries. In Pakistan very big part based on industries, these industries play big

role of our economy stronger, our website provide proper platform which industries know about other industries and their product with their price and their location. In which industries compare one industry product with other industry and find the difference between them.

1.6. Proposed Solution

IndusCo is an industrial communication website which industries easily communicate and with other industries. This website provides a platform which industries know about other industries that exist in their area and country and also know about their product and price. Through this website any industry can find their competitors' products quality and price with their own product, this website provides a facility which industries dealing their required product with securely and guaranteed about product quality.

1.7. Project Plan

Creating website is a complicated task that involves the expertise of many skilled professionals from various disciplines including computer science, interface designing, media design and business. In this project we have developed a website, we planned this project is that firstly we collect information about industries, then planning about project and then documented the project and after documented the project we move development/coding and then testing the project and then final the document.

1.7.1. Roles & Responsibility Matrix

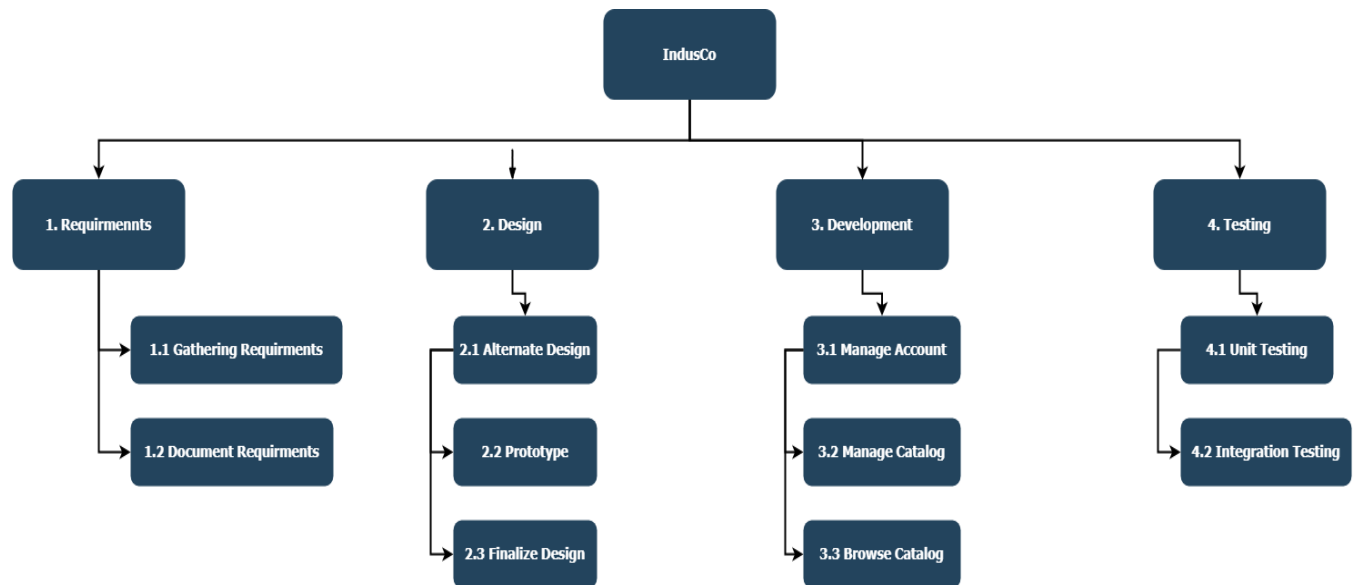
The following table explains the participation of project members and activities and deliverables time for the Final Year Project “IndusCo”:

WBS #	WBS Deliverable	Activity #	Activity to Complete the Deliverable	Duration (# of Days)	Responsible Team Member(s) & Role(s)
1	Project Idea Generation	1	Conduct ideas generation from the research gathered	13	Muhammad Qasim Nafay Ali Butt Hamza Zaheer
		2	Narrowing the ideas list		
		3	Selecting the most suitable idea		
2	Information gathering/ Survey	1	Gather information about industry (industry accept the change)	12	Muhammad Qasim Nafay Ali Butt
3	Project Planning	1	Create Vision Document	36	Muhammad Qasim Nafay Ali Butt Hamza Zaheer
		2	Setting tasks between the team members		
		3	Creating WBS & Gantt Chart to manage time efficiently		

		4	Documenting Project proposal		
4	Design	1	Alternate Graphical Design	22	Nafay Ali Butt Hamza Zaheer Muhammad Qasim
		2	Prototyping		
		3	Finalize Functional Design		
5	Development	1	Developing Accounts	72	Muhammad Qasim Nafay Ali Butt Hamza Zaheer
		2	Owner Catalog		
		3	Browse Catalog		
6	Testing	1	Unit Testing	18	Hamza Zaheer Nafay Ali Butt
		2	Integration Testing		
7	Documentation	1	Formalizing the documentation	7	Nafay Ali Butt

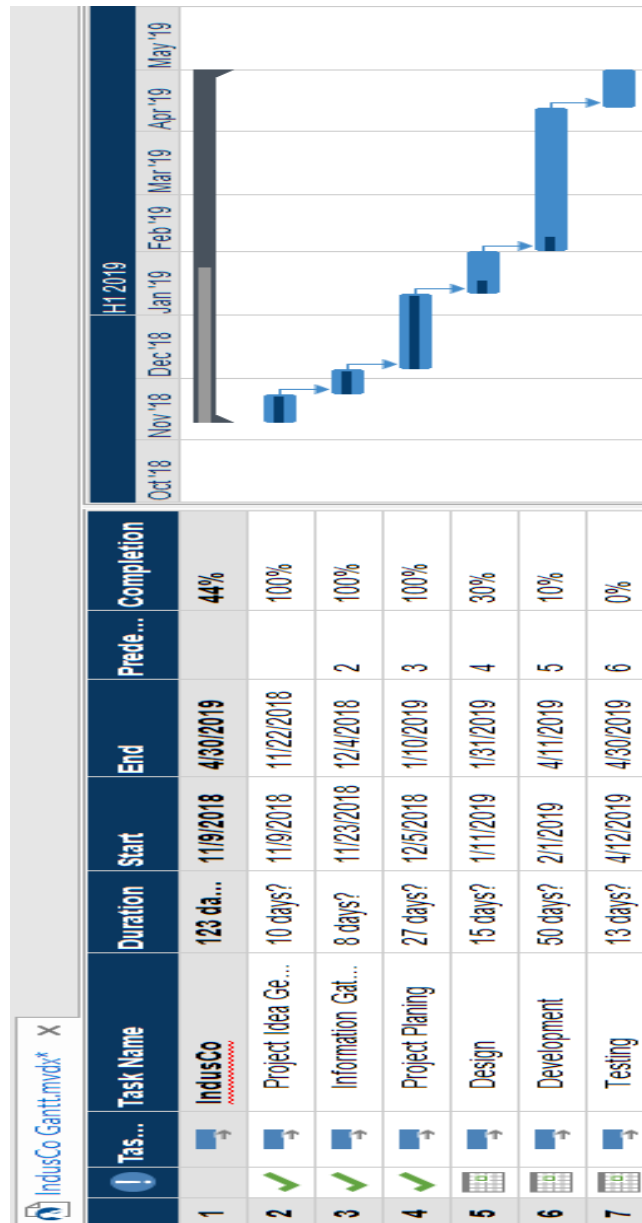
1.7.2. Work Breakdown Structure

The following chart explains the Work Breakdown Structure of our game.



1.7.3. Gantt chart

The following **Gantt chart** is a graphical depiction of our project schedule. It's is a type of bar **chart** that shows the start and finish dates of several elements of a project.



1.8. Report Outline

In this chapter we discuss about IndusCo (An Industrial Communication Website). Firstly, we discuss about project and then goals and objective and then motivation challenges, proposed solution, gap analysis, existing solution.

Chapter 2

Software Requirement Specifications

Chapter 2: Software Requirement Specifications

2.1. Introduction

2.1.1. Purpose

Purpose of this document is to describe the external behavior of the system. In this document, every kind of requirement will be finalized. It describes the nonfunctional requirement, design requirements and provide the other detail, which will clear the whole idea about the online bulk marketing and how people can use online bulk marketing system.

2.1.2. Document Conventions

Document contains headings and paragraphs.

First Heading: is bold, Font is Calibri and Size is 16.

Second Heading: is bold, Font is Calibri and Size is 14.

Paragraph: Font is Calibri, Size is 12 and line spacing is 1.5.

DB: Database

ERD: Entity Relationship Diagram

SRS: Software Requirement Specification

GUI: Graphical User Interface

2.1.3. Intended Audience and Reading Suggestions

We are making this document by keeping in mind different types of reader. This document will be useful for different audience in various ways.

Audience	Use
Developer	They will use this document for guidance for design and implementation phase
Manager	They will see the constraints all cover properly. Time and cost is within limits or not.

Marketing stuff	They can use this document to make advertisements for this web store because by reading this document they will know what the system will do. How this system is different from others.
User	They can ensure their self by reading the SRS that their needs being met in the web store or not.
Tester	They will test the implementation of the project according to the SRS base.
Documentation Writer	They will use this document during the documentation of the project. It will be helpful for them.

2.1.4. Product Scope

We describe what features are in the scope of the software and what are not in the scope of the software to be developed. In Scope:

- Our main objective is to create a **web** device.
- To create website, we use **HTML5** and **Bootstrap** for responsive interface and **PHP** use as a backend language
- Add, Change, Delete Information function will help the user & admin by several type of content.
- For content manager system: implement functions: Manager Authentic, Modify, Add, Delete content.
- Login function, guaranteed security information of the sellers out of scope:
- License of Server.

2.1.5. References

- Black Duck Software “How to Increase Velocity and Value with Agile Development using Open Source”, Feb 17, 2009
- IEEE Software Engineering Standards Committee, “IEEE Std 830-2016, IEEE Recommended Practice for Software Requirements Specifications”, October 20, 2016.

- Adobe “Retail Stores of the Future: Four key focus areas for building them today”, Apr 23, 2018
- Oracle Commerce Cloud “On Demand Webcast: Your Roadmap To Digital Experience Success”, Sep 06, 2017

2.2. Overall Description

2.2.1. Product Perspective

IndusCo industrial Bulk online store who want to reach out to the maximum cross-section of customer and common people who can be potential customer. This project envisages bridging the gap between the seller, the retailer and the customer. IndusCo should be user-friendly, quick to learn, reliable web, and mobile platform for the above purpose. IndusCo is intended to be a stand-alone product. It should run on both windows and android based platform.

2.2.2. Product Functions

To keep in view all reader we will simply describe product features. It will give merchant opportunity to sale their product and to customer to purchase product. We will also give product related gossips and actual news.

2.2.3. User Classes and Characteristics

Following are the major classes for our project users

- **System:**
It will be the system administrator class. He will maintain the overall web store.
- **Merchant:**
It includes the people who update their products on the web.
- **Login:**
This class will make login of customer and merchants.
- **Customer:**
It includes the people who will purchase the things. It will save the attributes of product sale.

- **Windows users:**

The web will create for the Windows users.

- **Adults:**

Either the interface of the web is very interactive and user friendly, the people of both types educated or not both of them can use the interface very easily. The mapping and constraints will tell user how to use the interface.

2.2.4. Operating Environment

IndusCo web and android base platform that shall operate in google Chrome, Mozilla Firefox, Opera and some other browser.

- First, for the **web development**:

- a Windows 10 laptop is required
- With **Dreamweaver** installed in it
- With **XAMP** local host installed in it

2.2.5. Design and Implementation Constraints

Following are the constraints related to the implementation and design of our Final Year Project:

- This website will run on windows and may be in future we will modify it for IOS and android devices.
- This website will not run on earlier version of web browsers. It will run on latest version after 2014.
- The website development must be done on Dreamweaver of at least Version 2017 or above, installed in a Windows 10 laptop.
- The interface of website is very simple everyone even uneducated person can understand it very easily.
- The web must complete its development, testing and documentation until the end of 8th Semester (May 2019).

2.2.6. User Documentation

We creating website and is any user feel problem to use website we will create a help page in which user can understand how to use website and what action will perform by pressing the buttons.

- We make design of our website as like as others that make user more comfortable to use. We are working on GUI phase very deeply.
- The users can always and whenever click the “help” button that will be provided in the website, to get knowledge about website controls and other instructions.

2.2.7. Assumptions and Dependencies

In order to maintain the accuracy, following assumptions are made:

- Geometric shape and color couple will uniquely define products.
- Letters on them will obtain different qualifications of the same type of product information.
- Items will have the form of square marker patterns.
- Customer get hints to perform actions against buttons to complete purchase process.
- Sales person will be recognized up to 3 meters.

2.3. External Interface Requirements

2.3.1. User Interfaces

The user interface for the software shall be compatible to any browser such as Internet Explorer, Mozilla or Netscape Navigator by which user can access to the system.

2.3.2. Hardware Interfaces

Since the application must run over the internet, all the hardware shall require to connect internet will be hardware interface for the system. As for e.g. Modem, WAN – LAN, Ethernet Cross-Cable.

- IOS or android operating system

- PC (Personal Computer)

2.3.3. Software Interfaces

- The IndusCo shall communicate with the Configurator to identify all the available components to configure the product.
- The IndusCo shall communicate with the content manager to get the product specifications, offerings and promotions.
- The IndusCo system shall communicate to credit management system for handling financing options.
- The IndusCo system shall communicate with CRM system to provide support.
- The IndusCo system shall communicate with Sales system for order management.
- The IndusCo system shall communicate with export regulation system to validate export regulations.

2.3.4. Communications Interfaces

The IndusCo system shall use the HTTP protocol for communication over the internet.

2.4. System Features

Following illustrates the organizing of the functional requirements for the Online shopping by system features, the major services provided by the Website.

2.4.1. System Feature 1

Customer Registration

2.4.1.1. Description and Priority

Description: customer fulfill the all registration requirement.

Company name

Industry number

Email
 Password
 Location
 Company major product
 Company registration number
 Phone number
 Fax number

2.4.1.2. Stimulus/Response Sequences

Customer register itself because they access the customer role in website.

2.4.1.3. Functional Requirements

REQ-SF1-1: All required data of registration must be provided

REQ-SF1-2: without registration customer does not login

REQ-SF1-3: Only admin register the customer

2.4.2. System Feature 2

Admin registration

2.4.2.1. Description and Priority

Requirement: Admin fill the all required field for registration

Company name
 Industry number
 Email
 Password
 Location
 Company major product
 Company registration number
 Phone number
 Fax number

2.4.2.2. Stimulus/Response Sequences

Registration process of admin is required because of control the all website

2.4.2.3. Functional Requirements

Following are the Functional Requirements

REQ-SF2-1: All required data of registration must be provided

REQ-SF2-2: without registration customer does not login

REQ-SF2-3: Only admin register the customer

2.4.3. System Feature 3

Customer Login

2.4.3.1. Description and Priority

Requirement: Customer fill the all required field for login and provide correct information

Username

Password

2.4.3.2. Stimulus/Response Sequences

To access the functionalities of the customer, login must be required.

2.4.3.3. Functional Requirements

Following are the Functional Requirements

REQ-SF2-1: user must be registered

REQ-SF2-2: User must be provide correct username and password

REQ-SF2-3: User update its profile

2.4.4. System Feature 4

Admin Login

2.4.4.1. Description and Priority

Requirement: Admin fill the all required field for login and provide correct information

Username

Password

2.4.4.2. Stimulus/Response Sequences

To access the functionalities of the admin, login must be required.

2.4.4.3. Functional Requirements

Following are the Functional Requirements

REQ-SF2-1: Admin must be registered

REQ-SF2-2: Admin must be provide correct username and password

REQ-SF2-3: Admin update its profile

2.4.5. System Feature 5

Add Product

2.4.5.1. Description and Priority

Requirement: Customer fill the all required field for add new product and provide correct information

Product name

Product price

Product Description

2.4.5.2. Stimulus/Response Sequences

Product is added for the customer understanding

2.4.5.3. Functional Requirements

Following are the Functional Requirements

REQ-SF2-1: Admin/Customer must be login

REQ-SF2-2: Admin/Customer must be provide correct information

REQ-SF2-3: Admin/Customer update and delete product

2.5. Other Nonfunctional Requirements

Following is an explanation of **non-functional attributes** of the shopping website.

2.5.1. Performance Requirements

- Any page of the application should not take more than 6 seconds to load on a DSL broadband connection.

- The system may be throttled or slowed down on heavy loads to ensure service for everybody. By throttling is meant that certain functionality may be unavailable during heavy server load.
- The application should be able to support 100 concurrent users without any performance degradation.
- Although striving to have a 100% uptime, unless during a scheduled maintenance period, which will be relayed to the users of the site well in advance, problems may occur. No hesitation will be present when the need arises to move over to another server, should the current server be insufficient to provide a decent level of service consistently.

2.5.2. Safety Requirements

- We will try the best to make product safe.

2.5.3. Security Requirements

There needs to be clearly defined roles of the users. These roles are 'customer' and 'administrator'. Each person that goes to the system's website will be required to register if they want to do more than just read / browse site content.

A secure server will be required to ensure confidentiality of customer's credit card and other details

Because of the different roles, passwords and user accounts must be implemented properly. It should be difficult to gain access to the site in an illegal manner.

2.5.4. Software Quality Attributes

- The web store well is easy to use.
- It will be easy to learn how to operate it.
- The web store will show easy to locate buttons
- The web store uses simple English so that user cannot confuse with terms.
- The web store should be easy to upgrade

Business Rules

Shop at known entities.

Any entity can be a known quantity if you do your homework. Instead of looking at the Net as a sea of unrelated competing entities, divide retailers into three subsets and attack each with a different strategy.

Set your own standards.

As a rule, before I consider shopping at any cyber store, I look for a toll-free number or e-mail address on the Web site. If I cannot find this information easily, I move on. I do not care if it is a well-known retailer or an aromatherapy dealer.

Shop at secure sites.

Secure sites are encrypted or designed to prevent a third party from seeing the information.

Encryption scrambles information or codes data that is transmitted. SSL (Secure Sockets Layer) is the standard “protocol” (method) to encrypt data and authenticate users.

Chapter 3

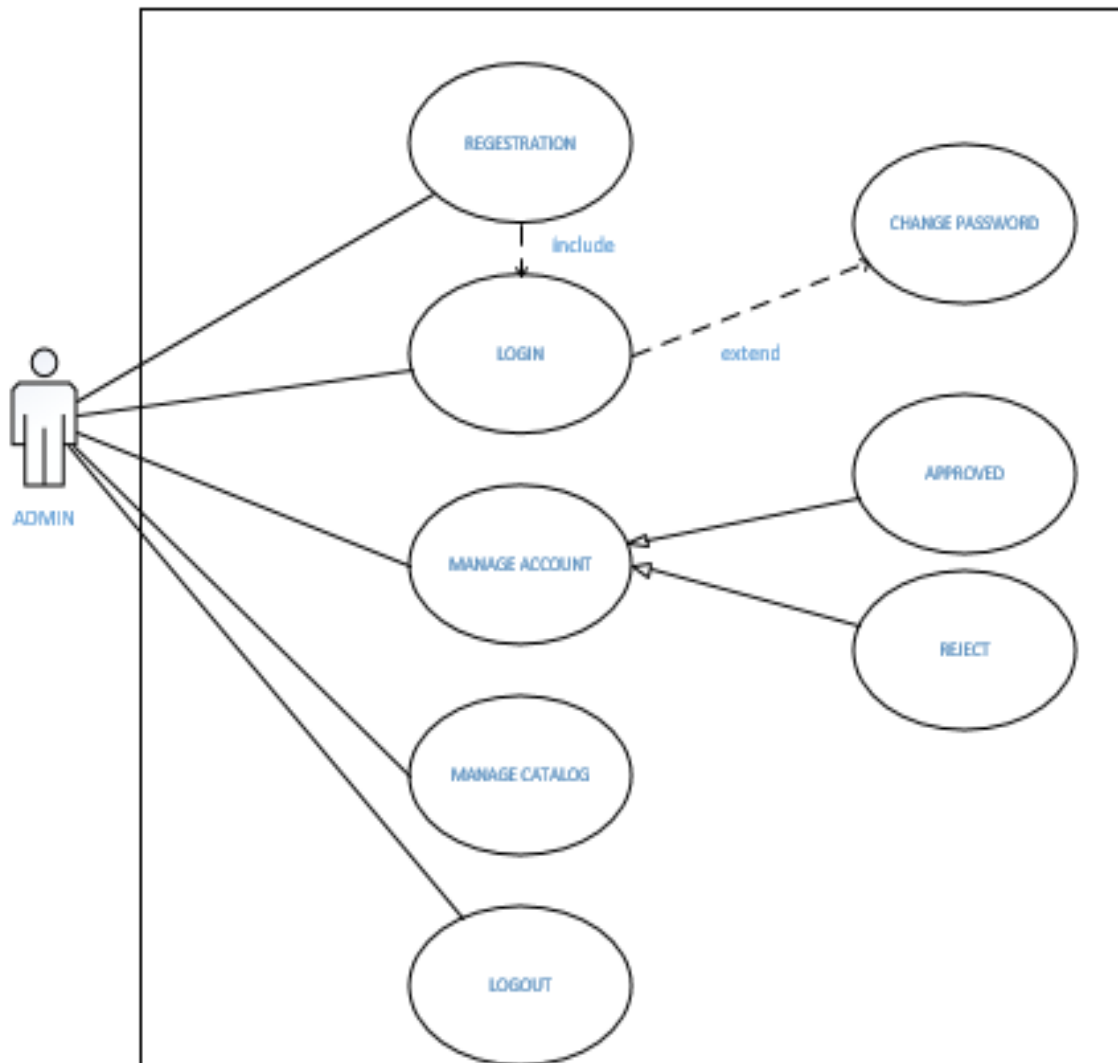
Use Case Analysis

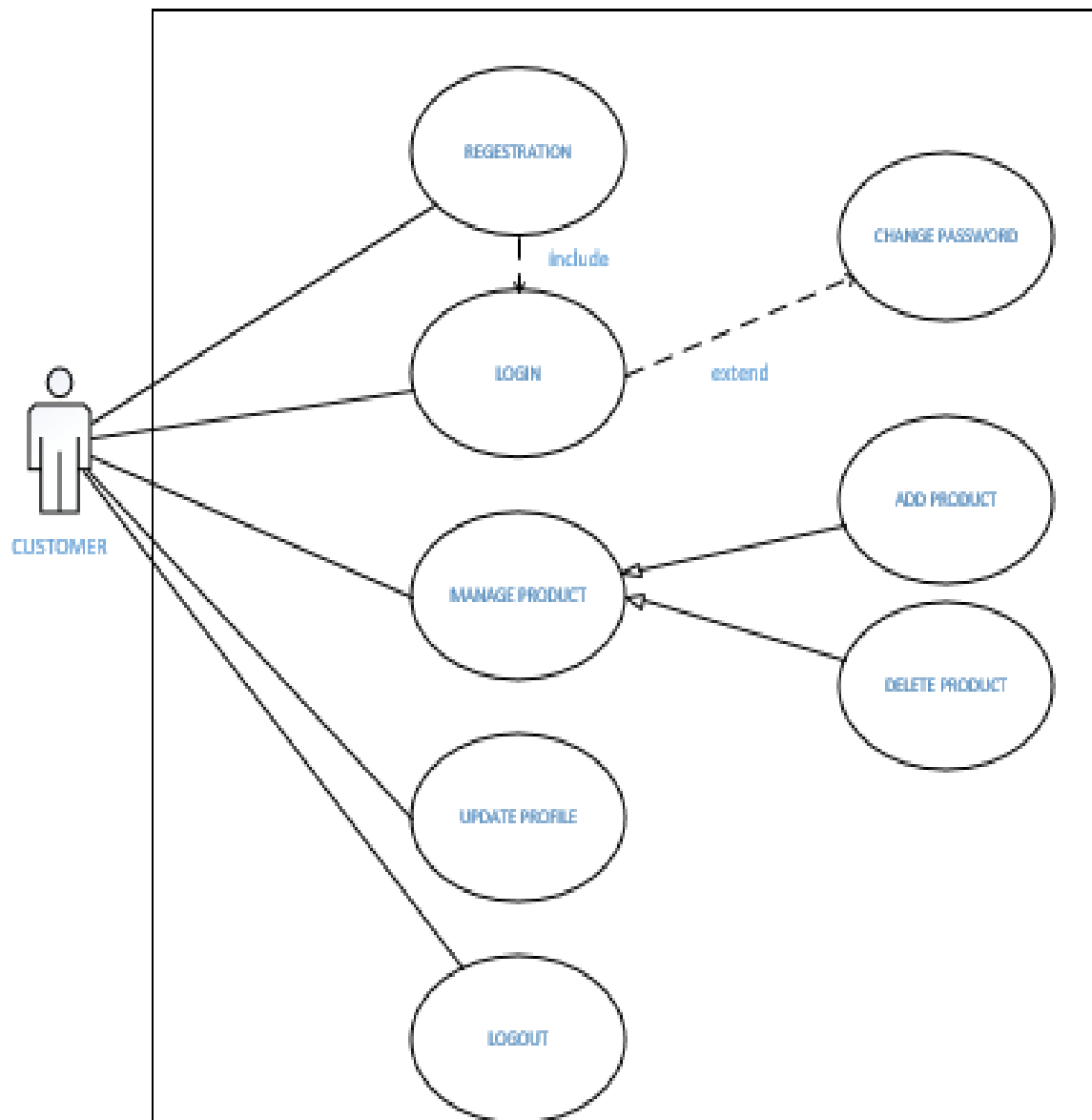
Chapter 3: System Analysis

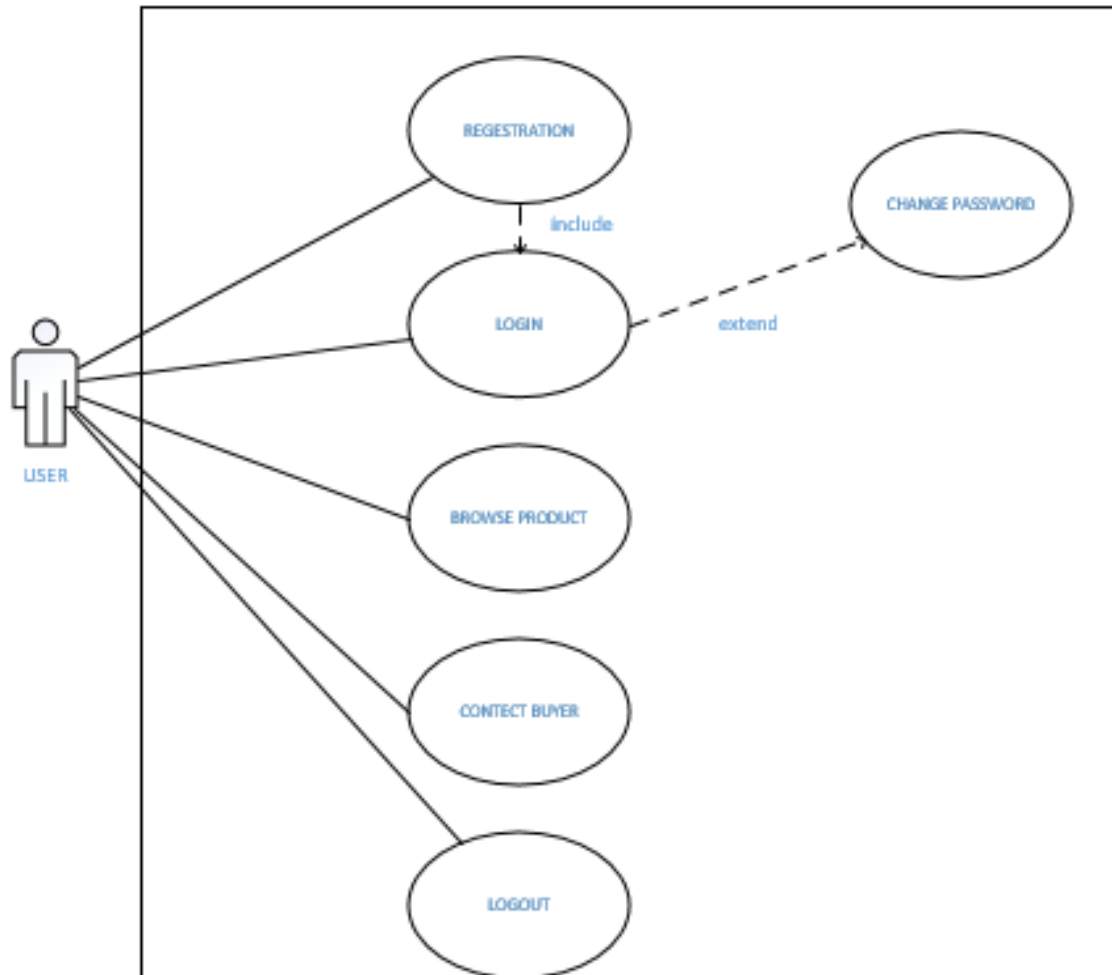
This chapter provides an understanding for analysis of functions and their interactions with other functions of the website, using Use Case Models. And also define the relation between different actor and function and their extended function. Use Case define the proper relation between actor and function.

3.1. Use Case Model

Following **use case diagram** that are the graphic depiction of the interactions among the elements of a game and actors of the game.

FOR ADMINISTRATOR

FOR CUSTOMER

FOR USER**3.2. Fully Dressed Use Cases**

The following are the Fully Dressed Use Cases of the website of “IndusCo” that means, this completes all the sections of the use case specifications i.e. the basic flow, the alternative flow, special requirements, Pre/Post specifications are also described.

3.2.1 Signup

Use Case	Signup
Actors	Admin
Type	Primary Actor
Description	Register itself to access the website by providing information that they need.
Includes	Authentication
Extends	None.
Cross Ref.	None.

3.2.2 Login

Use Case	login
Actors	Admin, Customer
Type	Primary Actor and Secondary Actor
Description	Login itself to access the website by providing information username and password.
Includes	Registration
Extends	Change password
Cross Ref.	None.

3.2.3 Add Product

Use Case	Add Product
Actors	Admin, Customer
Type	Primary Actor and Secondary
Description	Login itself for add product.
Includes	Update and Delete Product
Extends	None.
Cross Ref.	None.

3.2.4 Browse Catalogs

Use Case	Browse Catalogs
Actors	Admin, Customer
Type	Primary Actor and Secondary
Description	Provide correct product name
Includes	None.
Extends	None.
Cross Ref.	None.

3.2.5 Manage Account

Use Case	Manage Account
Actors	Admin
Type	Primary Actor
Description	Register itself to access the website by providing information that they need.
Includes	Authentication
Extends	None.
Cross Ref.	None.

3.2.6 Logout

Use Case	Logout
Actors	Admin, Customer
Type	Primary Actor and Secondary
Description	Login itself to access the website by providing information that they need.
Includes	Authentication
Extends	None.
Cross Ref.	None.

Chapter 4

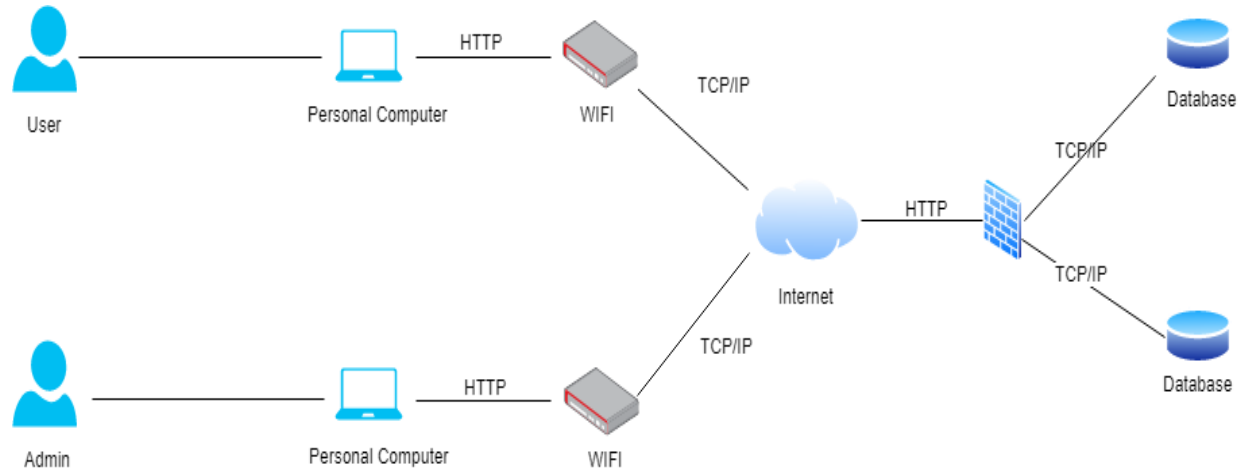
System Design

Chapter 4: System Design

For the architecture point of view the most important thing of the project IndusCo (Industrial communication website) is most simple and straight architectural website which user communicate with website through web interface, user request the web server for any type of request and the webserver request the database for the result of required thing, database response the web server where user see the result.

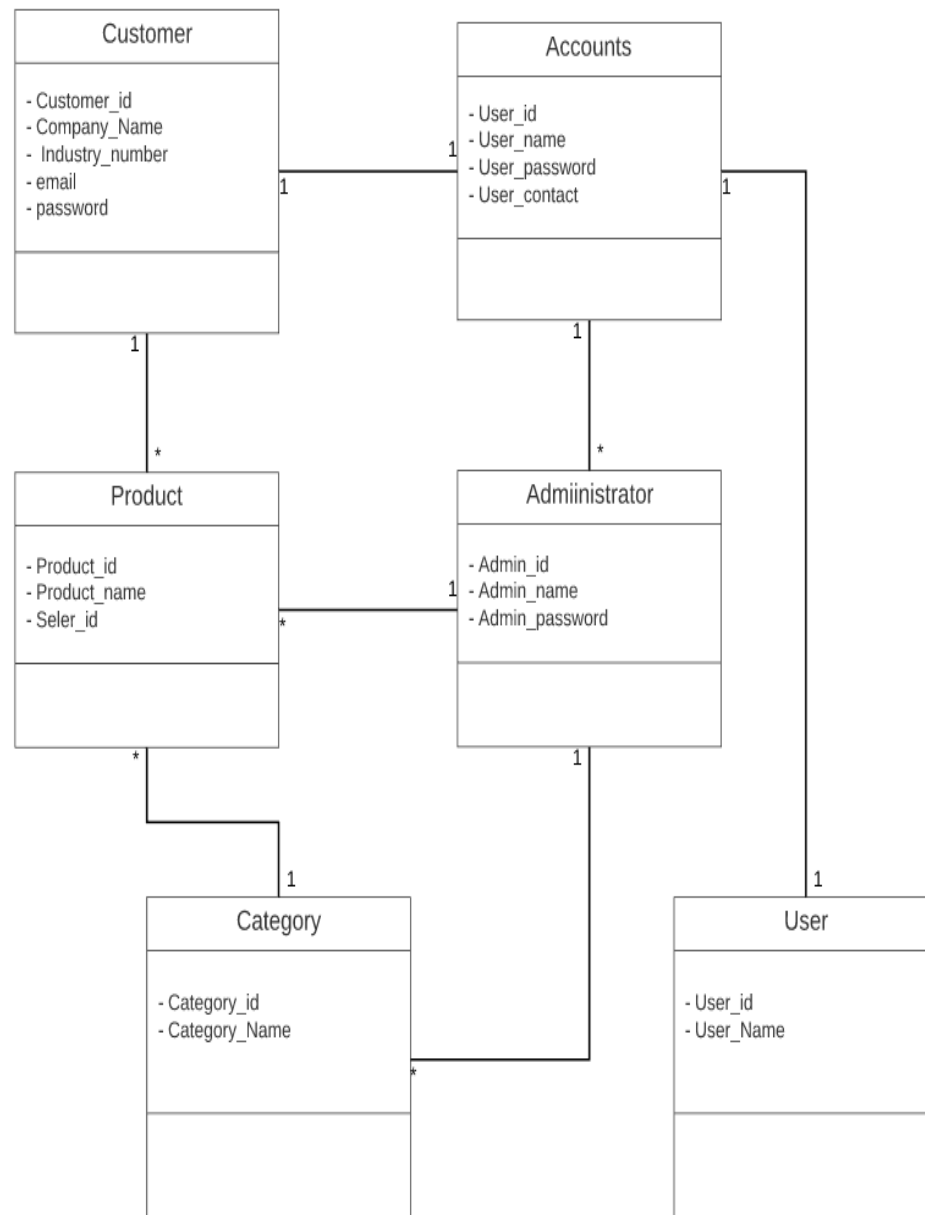
4.1. Architecture Diagram

The architectural diagram of this website IndusCo is graphical representation of this websites component that will use this website.



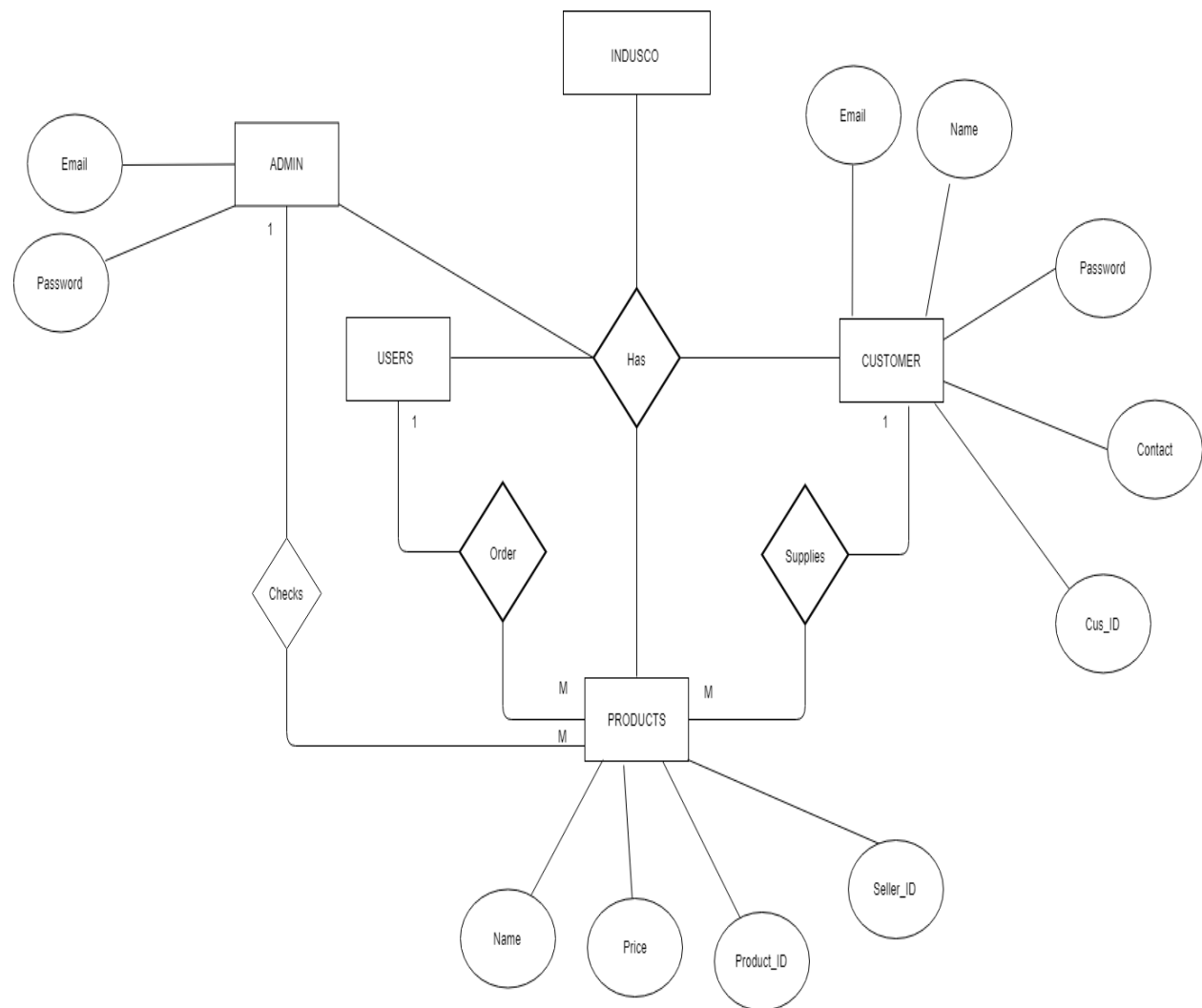
4.2. Domain Model

Domain model tell about attribute of all actors in graphical representation.



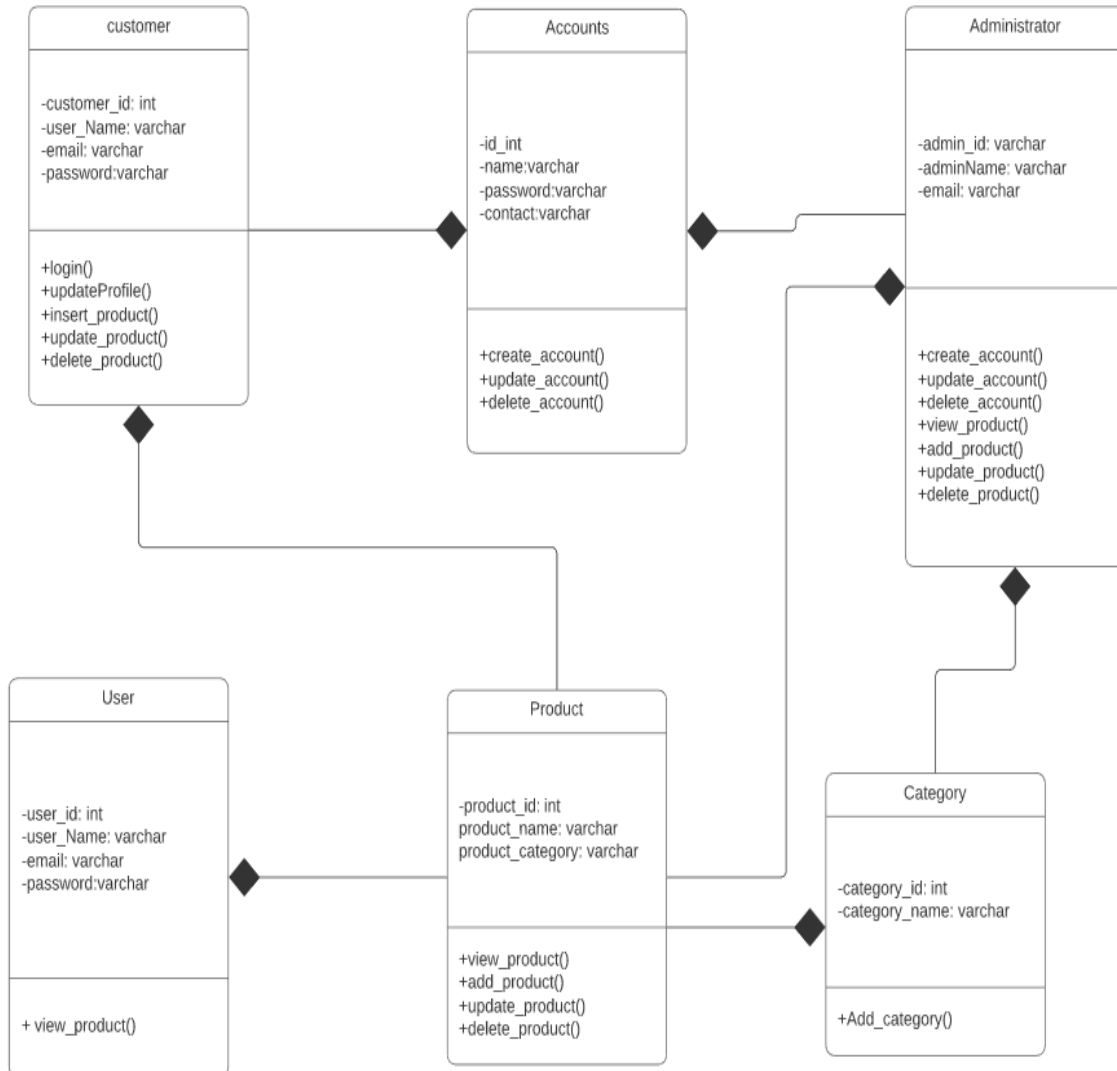
4.3. Entity Relationship Diagram with data dictionary

Entity relationship diagram show the relation of all major function just like how to user order user any product and how admin communicate with these all function.



4.4. Class Diagram

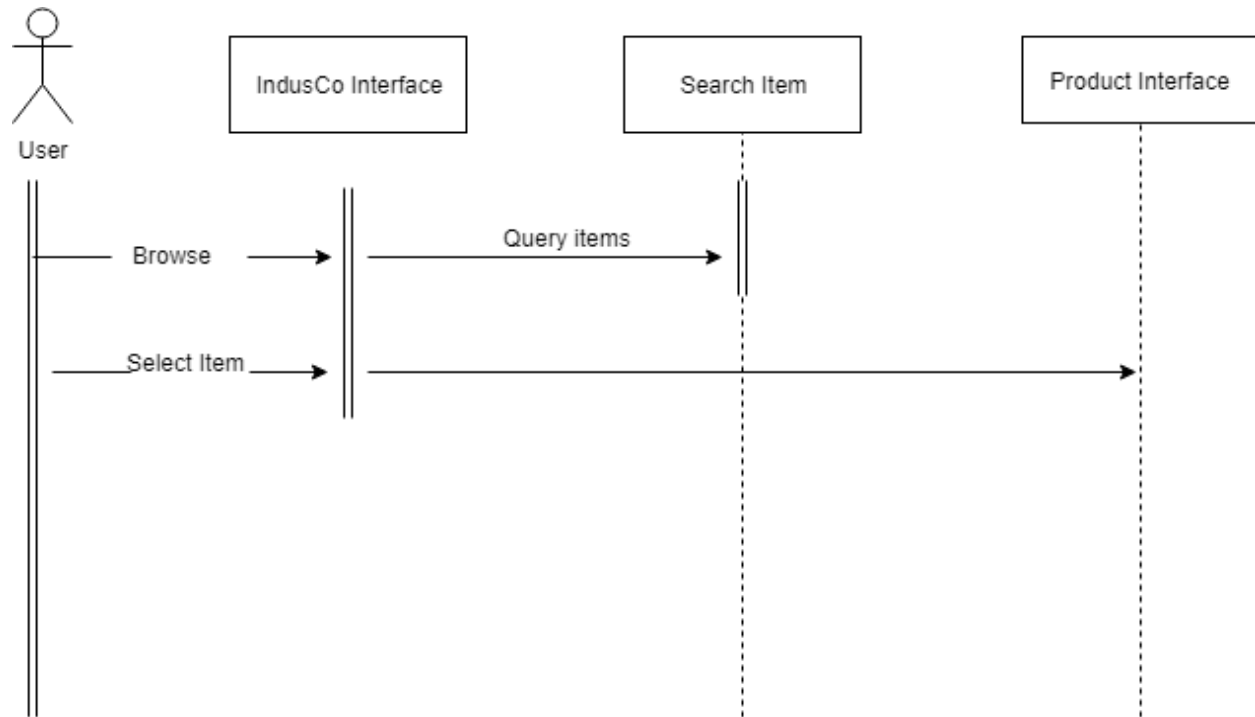
The following Class Diagram of our project gives an overview of IndusCo, by displaying its classes attribute and their relations.



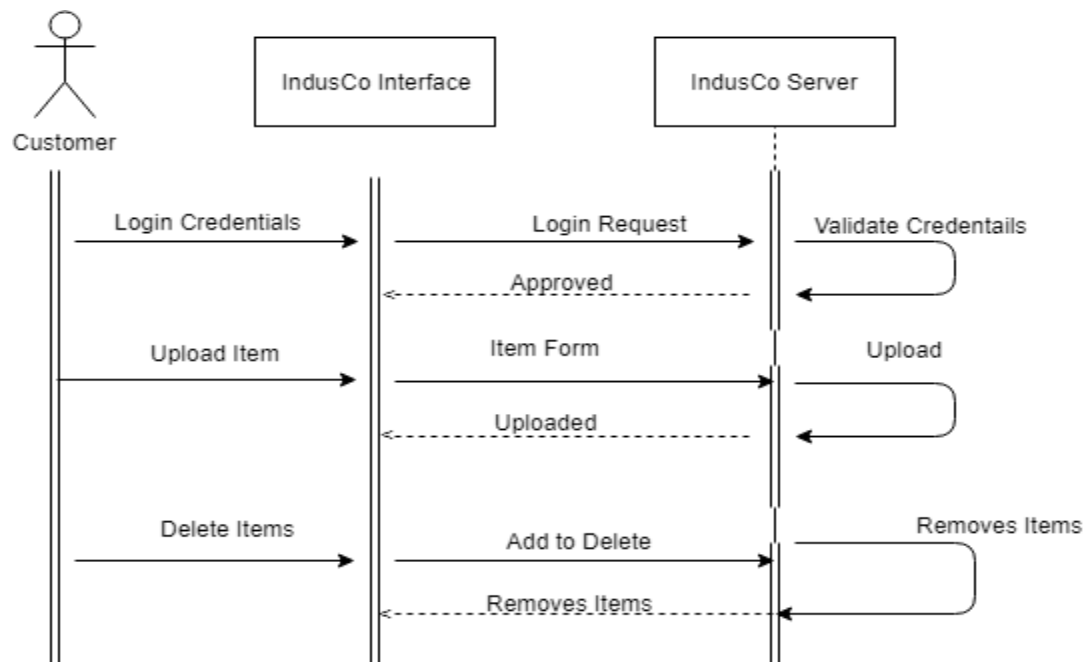
4.5. Sequence / Collaboration Diagram

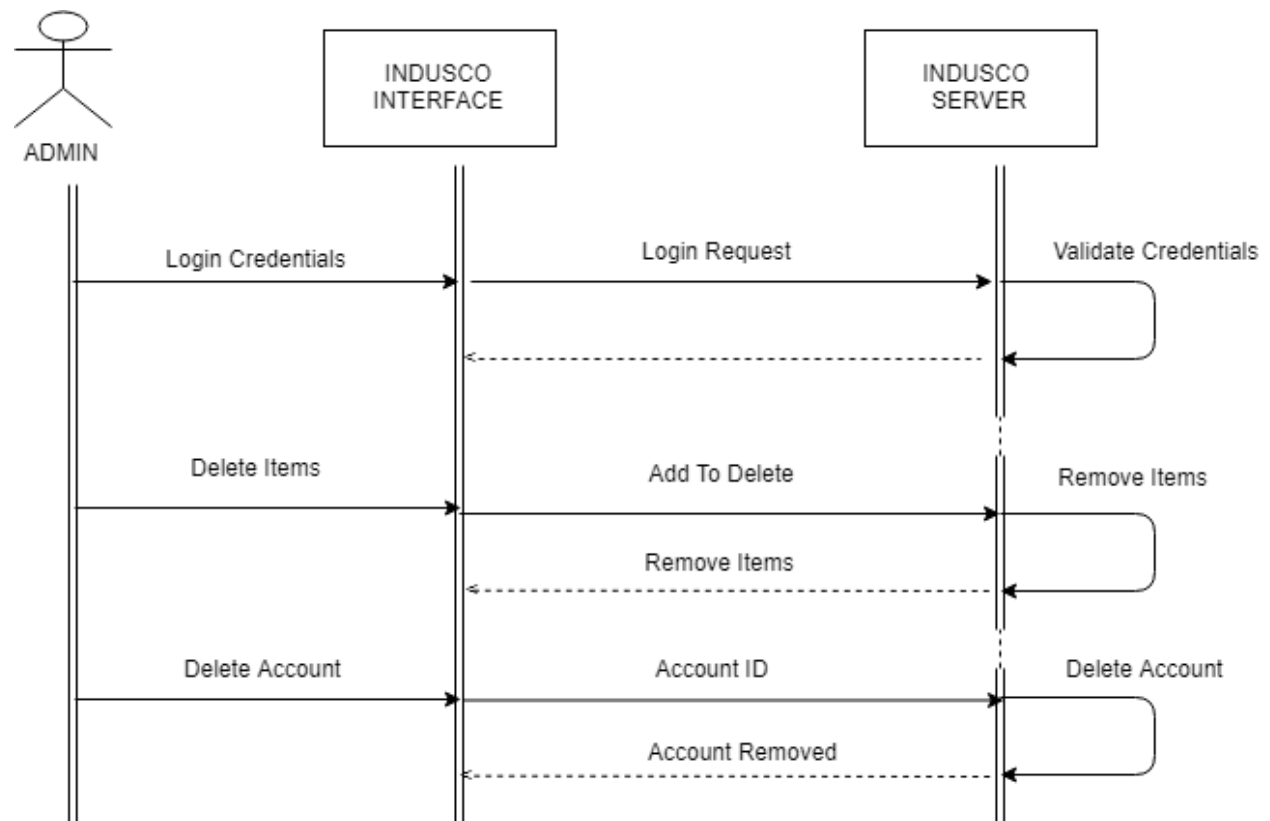
The sequence diagram shows the complete overview of the functions, how user interact with different function of this website.

For User



For Customers



FOR ADMIN

4.6. Operation contracts

The operation contract is describing the detailed manners of fully dressed use case.

Operation Name	Signup
Cross Reference	Signup
Pre-Condition	None
Post Condition	1-Customer request to admin for signup 2-Only admin register the user

Operation Name	Login
Cross Reference	Customer have to login
Pre-Condition	None
Post Condition	1-signup 2-Account (Customer_id,password,email) 3-Relationship between system and user

Operation Name	Add Product
Cross Reference	Customer have to login
Pre-Condition	Must have product name
Post Condition	1-Must chose category 2-provide proper name

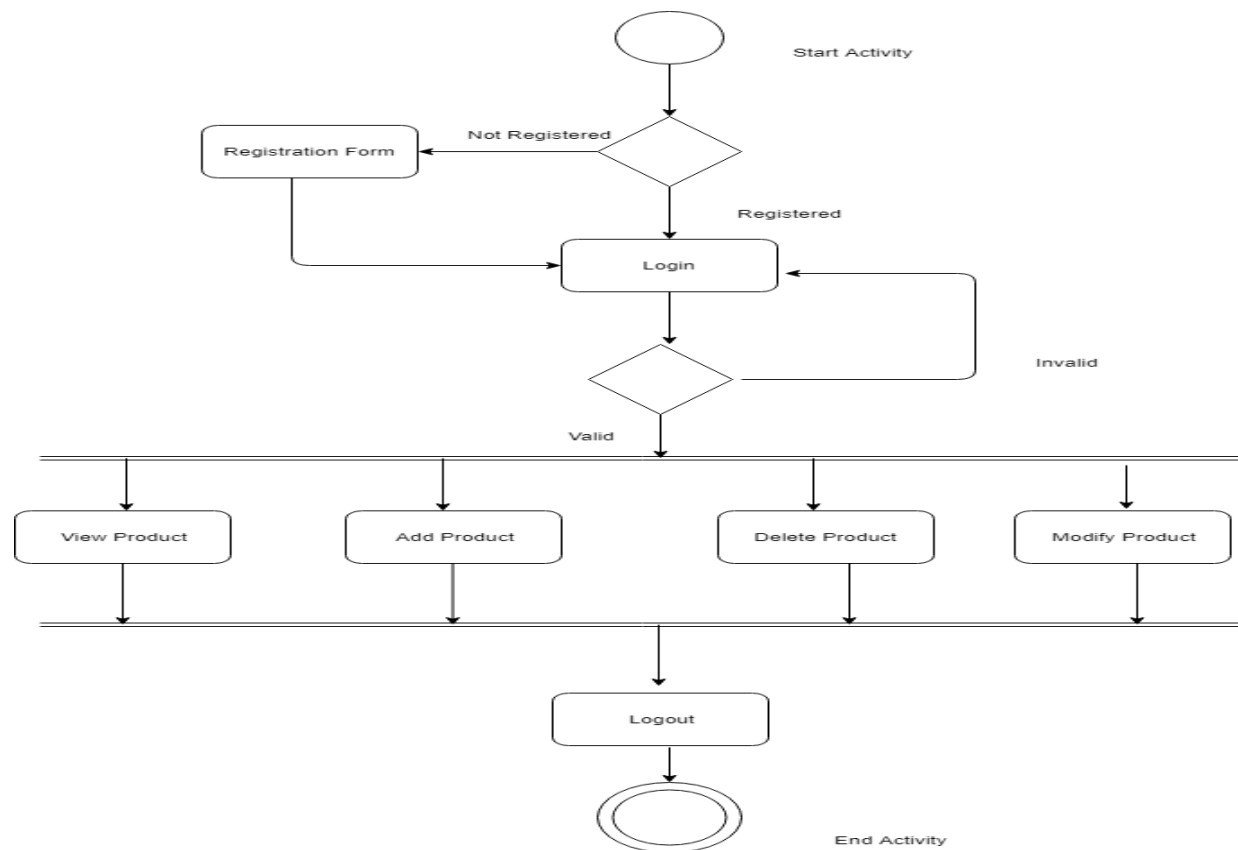
Operation Name	Browse Catalog
Cross Reference	User must have a product information
Pre-Condition	User must select any item
Post Condition	If product is exist then show the user otherwise show no record found

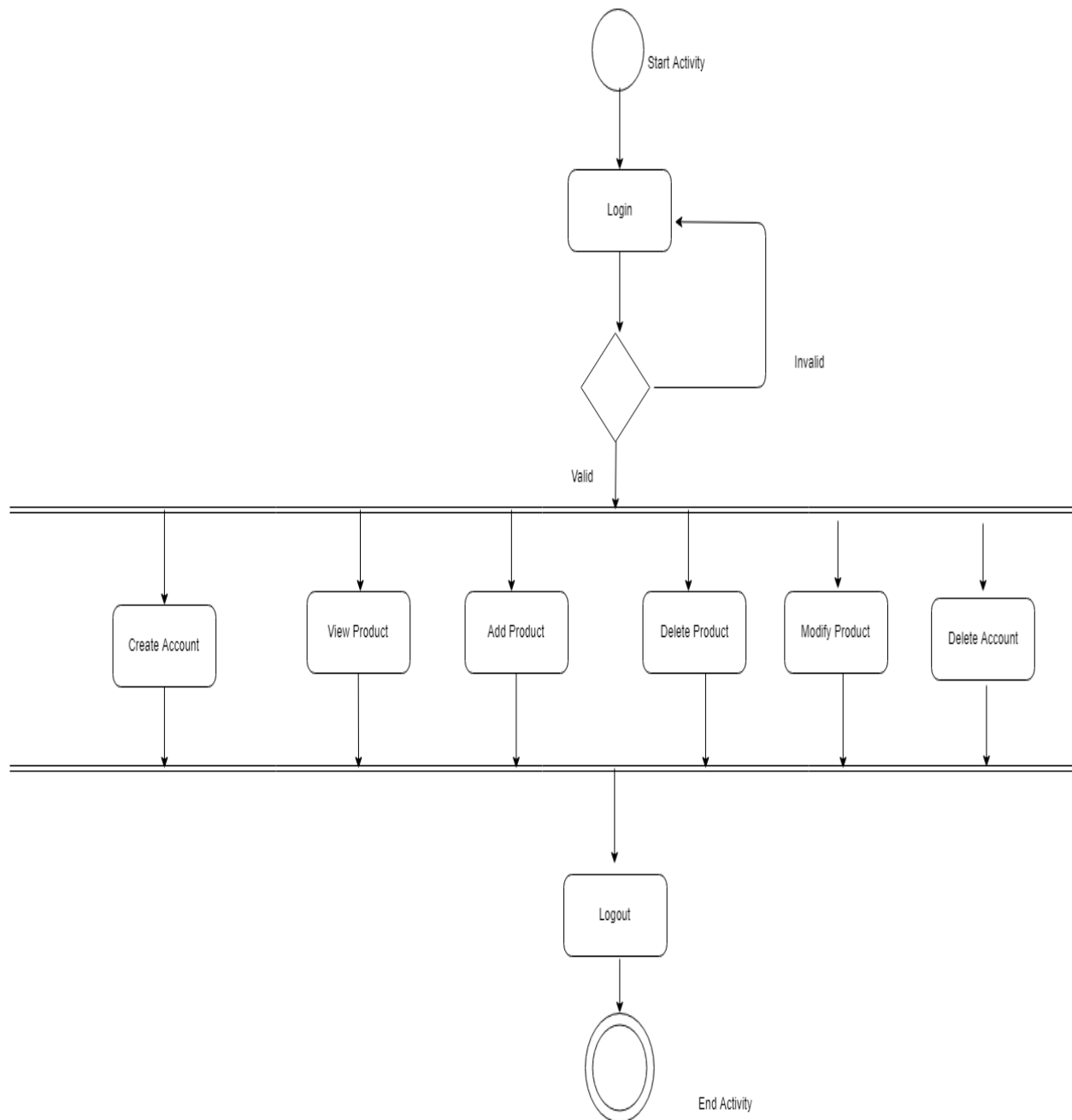
Operation Name	Logout
Cross Reference	Customer have to login
Pre-Condition	login
Post Condition	None.

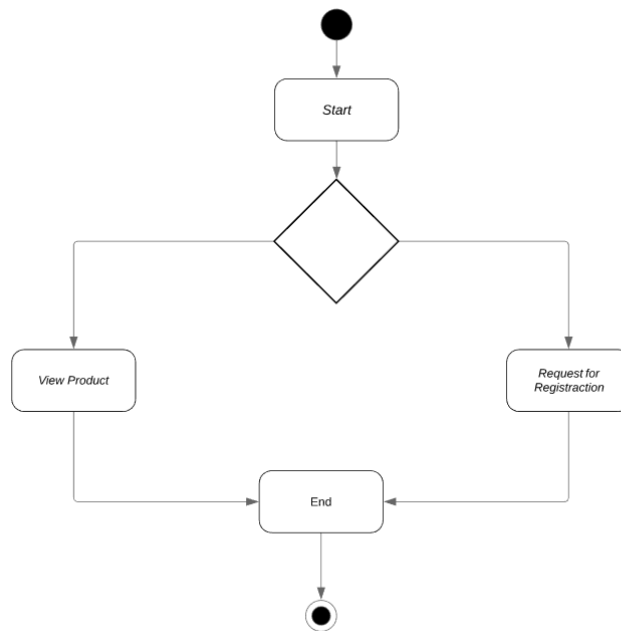
4.7. Activity Diagram

The activity diagram describes the major actions and the flow of this website through graphical representation.

For Customer



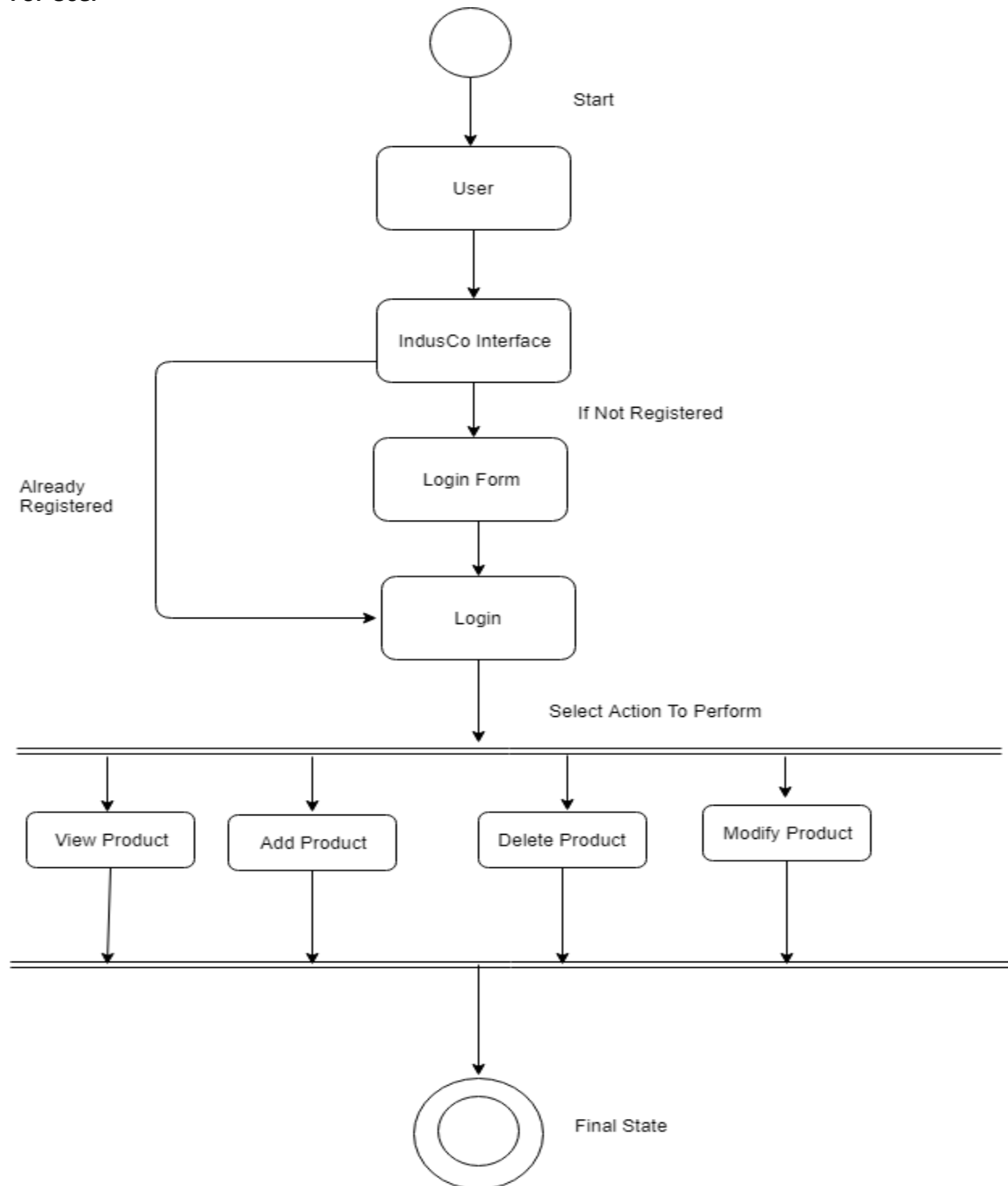
For Administrator

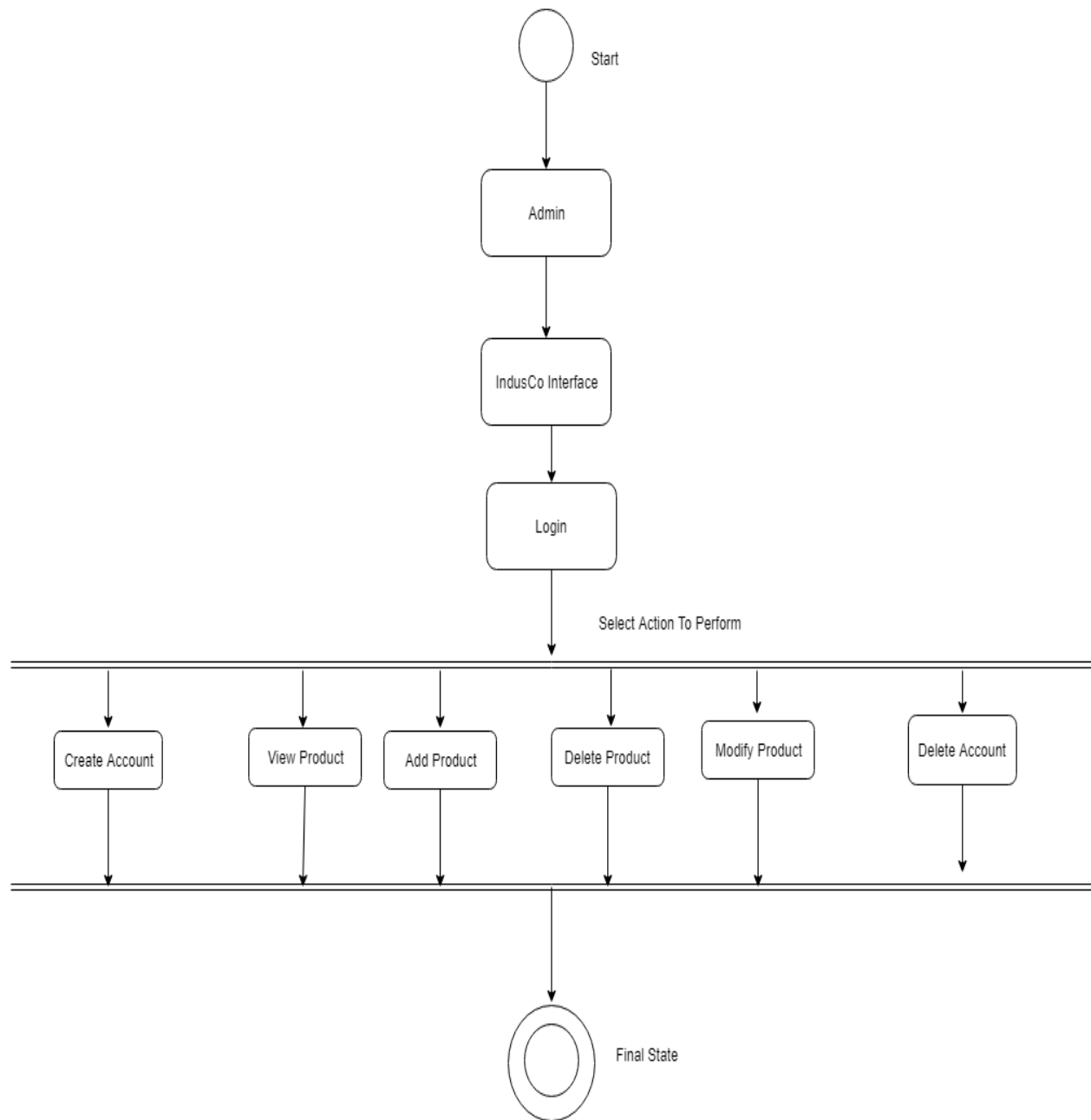
For User

4.8. State Transition Diagram

The state diagram shows the user communication with website from starting point to end point.

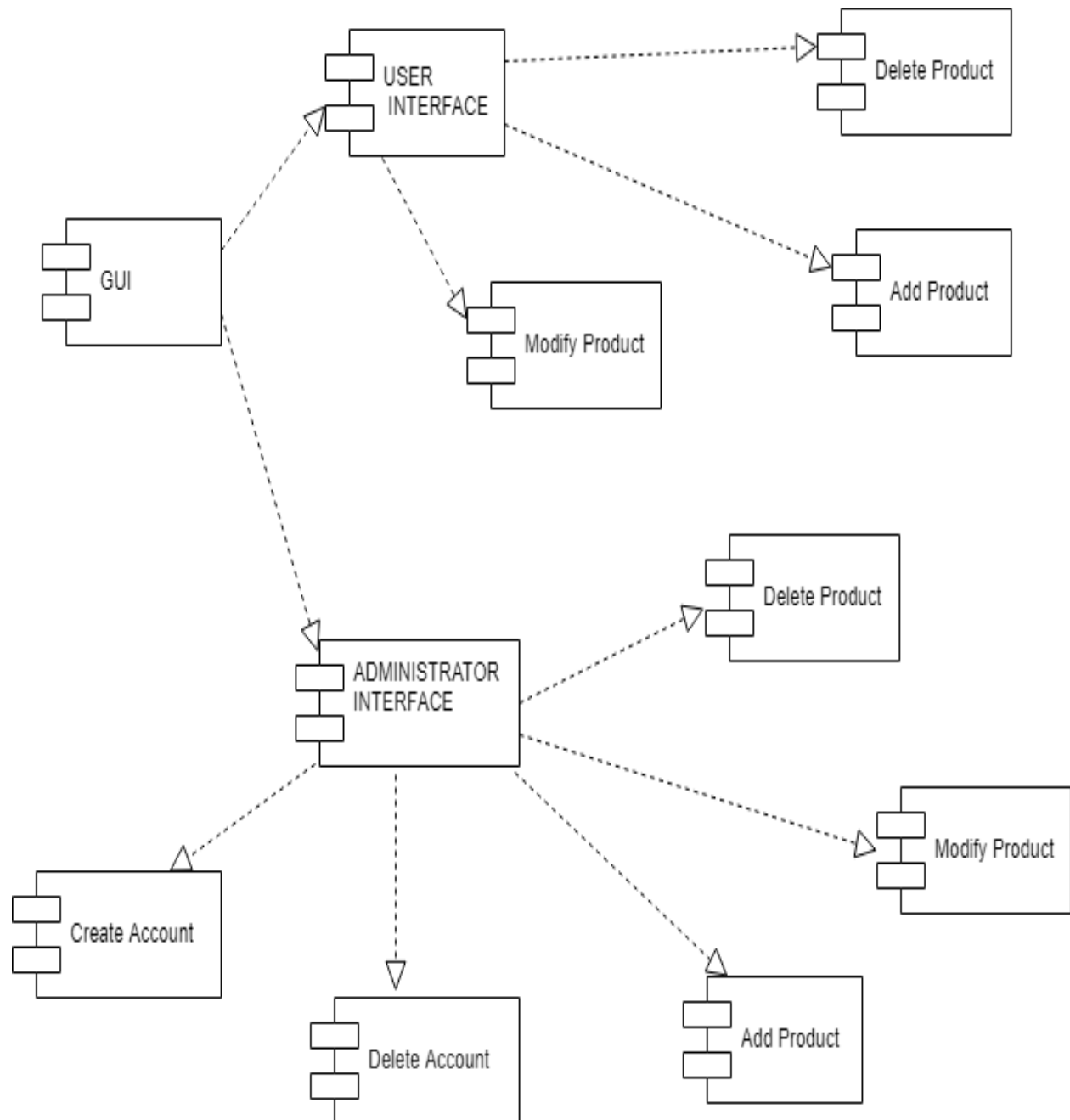
For User



For Administrator

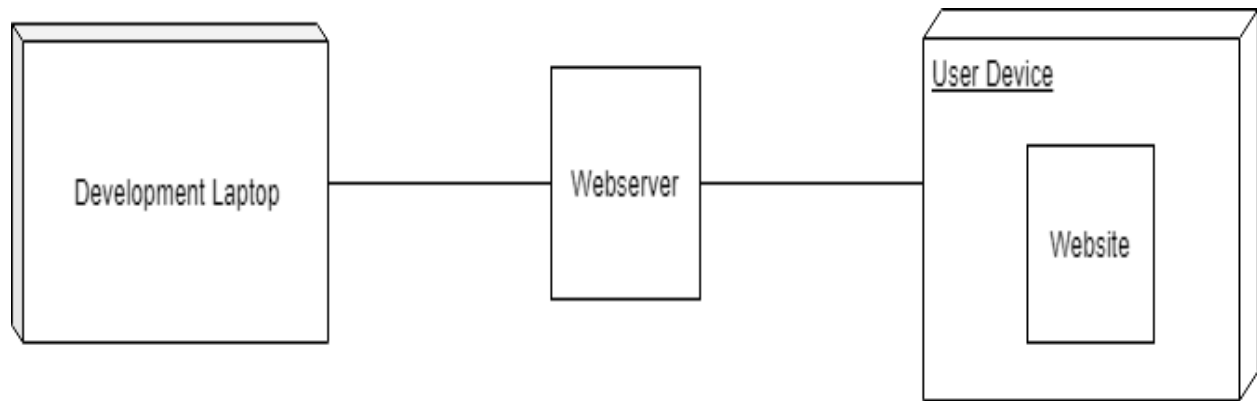
4.9. Component Diagram

The following Component diagrams show the dependencies and interactions between hardware and software components of IndusCo.



4.10. Deployment Diagram

4. The following diagram shows the structure of our project in a deployed environment.



Chapter 5

Implementation

Chapter 5: Implementation

The implementation of IndusCo (Industrial Communication website) is that, we used HTML5 and CSS3 as a layout development and php for backend development and XAMPP server as a communication for website and database server and we had used SQL Server from XAMfor the database.

5.1. Pseudo codes

Following is the **Pseudocode** of our website that helps to understand how it works and what will be the flow of code:

START

- 1 User open the website and see the front page
- 2 User search the required item by search box
 - 2.1 Else user find its required item by manually
- 3 If user find its required item through search box and find
 - 3.1 Else it will show "no record found"
- 4 If record found then it will appear all information about item
 - 4.1 User chose the item and see its detail and also compare with other item

END

5.2. Components, Libraries, Web Services and stubs

Following are the fundamental building blocks in website that will make us able to create our website (IndusCo).

Component:

Components define and control the behavior of website they are attached to.

Sublime

HTML

CSS

XAMPP

BOOTSTRAP

PHP

Website Objective:

Every kind of component of sublime text is objective of our website.

5.3. Deployment Environment

Since our project IndusCo is an industrial communication website so it is deployed on Localhost and PHP is used and IndusCo will be deployed live on web server after its complete development

5.4. Tools and Techniques

Following are the tools with the methodology of implementation

Tools & Techniques	
Implementation Tools	Implementation Methodology
MS WORD 2016	Documentation Production
SUBLIME TEXT 3	Front-End Development
SUBLIME TEXT 3	Back-End Development (PHP)
DRAW.IO	UML modeling and other diagrams
GANTTPRO	Online tool for Gantt chart designing

5.5. Best Practices / Coding Standards

HTML5 and CSS3:

HTML5 and CSS3 is used for front-end

Validation:

All HTML paged are verified against the W3C validator to ensure that the markup is well Formed.

Attributes and Tags:

All tags and attributes are written in lowercase. Additionally, attribute values are also lowercase.

Indentation:

Proper indentation is used in PHP and HTML to reflect logical structure.

Externalized CSS:

All the style sheets are externalized and used in HEAD of HTML JavaScript at footer:

To make page load quickly as possible all JavaScript who perform their functionality after the page has been loaded are placed in the footer.

Responsiveness:

The website will be responsive and mobile friendly to deliver content to mobile devices. The principal objective is to improve the user experience of the Web when accessed from such devices.

5.6. Version Control

GitHub Version Control

Git is a free and open source distributed version control system designed to handle everything from small to very large projects with speed and efficiency.

Chapter 6

Testing and Evaluation

Chapter 6: Testing and Evaluation

In this chapter we have added the results of the testing and evaluation of our system. This chapter discusses the brief testing procedures that have been carried out throughout the testing process to test the system functionalities. Testing is performed on localhost and by using different manual and automated tools. Anyhow errors and variation may affect the actual results.

6.1. Use Case Testing:

Test Case 1

Test Suite ID	TS001
Test Case ID	TC001
Test Case Summary	To verify that the user must enter valid Username and a valid password to access the system
Related Requirements	RS001
Prerequisites	1. The user must be authorized to access system.
Test Procedure	1. Enter the valid username and password on input fields 2. The user must have an internet connection.
Test Data	1. Validate Username and password from the database.
Expected Result	1. On clicking the login button if username and password are valid then the user can access the system. 2. On clicking the login button if either username or password any of them is invalid user cannot access the system. 3. The invalid message “Invalid Username/Password” should be displayed.

	4. On clicking the login button if input fields of username or password are empty then the message will be generated that “Please Enter Username and Password” to access the system.
Actual Result	1. On clicking the login button if username and password are valid then the user can access the system. 2. On clicking the login button if either username or password any of them is invalid user cannot access the system. 3. On clicking the login button if any field is invalid then the invalid message “Invalid Username/Password” is displayed. 4. On clicking the login button if inputs fields are empty then the message will be generated that “Please Enter Username and Password”.

Status	Pass
Remarks	This is a user validation test case.
Created By	Nafay Butt, Hamza Zaheer, Muhammad Qassim
Date of Creations	03/04/2019
Executed By	Nafay Butt, Hamza Zaheer, Muhammad Qassim
Date of Execution	03/04/2019
Test Environment	• OS: Windows 7, 8.1, 10 • Browser: Chrome Firefox

Test Case 2

Test Suite ID	TS002
Test Case ID	TC002
Test Case Summary	To verify that the user enters a valid username.
Related Requirements	RS002
Prerequisites	1. User has a valid username.

Test Procedure	1. The user enters his/her username.
Test Data	1. Validate User from the database.
Expected Result	1. If On clicking the login button if the username is valid then the user can enter a password. 2. The otherwise invalid message “Invalid username should be displayed”.
Actual Result	1. On clicking the login button if the username is valid user can enter his password. 2. On clicking the login button if the username is invalid error message is displayed.
Status	Pass
Remarks	This is a user verification test case.
Created By	Nafay Butt, Hamza Zaheer, Muhammad Qassim
Date of Creations	03/04/2019
Executed By	Nafay Butt, Hamza Zaheer, Muhammad Qassim
Date of Execution	03/04/2019
Test Environment	• OS: Windows 7, 8.1, 10 • Browser: Chrome Firefox

Test Case 3

Test Suite ID	TS003
Test Case ID	TC003
Test Case Summary	To verify that the user enters a valid password.

Related Requirements	RS003
Prerequisites	1. User has a valid password.
Test Procedure	1. The user enters his/her password.
Test Data	1. Validate User from the database.
Expected Result	1. If On clicking the login button password is valid then the user can access the system. 2. The otherwise invalid message "Invalid password should be displayed".
Actual Result	1. On clicking the login button if the password is valid user can access the system. 2. On clicking the login button if the password is invalid error message is displayed.
Status	Pass
Remarks	This is a user verification test case.
Created By	Nafay Butt, Hamza Zaheer, Muhammad Qassim
Date of Creations	03/04/2019
Executed By	Nafay Butt, Hamza Zaheer, Muhammad Qassim
Date of Execution	03/04/2019
Test Environment	• OS: Windows 7, 8.1, 10 • Browser: Chrome Firefox

Test Case 4

Test Suite ID	TS004
Test Case ID	TC004
Test Case Summary	To verify that the user can recover/modify his/her forgotten user Password either it is username or password.

Related Requirements	RS004
Prerequisites	1. User must have a valid E-mail address. 2. The user is authorized.
Test Procedure	1. If the user has forgotten his/her user account password they have to enter his/her E-mail in order to recover/modify his/her forgotten password.
Test Data	1. Validate the E-mail from the database.
Expected Result	1. On clicking forgot password system prompt user to enter his/her Email. 2. On clicking forgot password system ask the user to enter his/her Email. 3. The user can recover his/her account through his/her Registered Email. 4. If email is invalid or enters in an invalid email format warning message "Invalid E-mail" should be displayed.
Actual Result	1. On clicking system ask the user to enter his/her E-mail 2. On entering email system prompt user to check his Email where the system sends your Password. 3. If email is invalid or enters in an invalid email format warning message "Invalid E-mail" is not displayed.
Status	Pass
Remarks	Test case for recovering ID
Created By	Nafay Butt, Hamza Zaheer, Muhammad Qassim
Date of Creations	03/04/2019
Executed By	Nafay Butt, Hamza Zaheer, Muhammad Qassim
Date of Execution	03/04/2019
Test Environment	• OS: Windows 7, 8.1, 10 • Browser: Chrome Firefox

Test Case 5

Test Suite ID	TS005
Test Case ID	TC005
Test Case Summary	To verify that upon clicking the login button system must move a user (Administrator or User) to their appropriate user page where they can access their relevant data.
Related Requirements	RS005
Prerequisites	1. The user must enter their username and password and click on the Login button. 2. The user has a valid username and password.
Test Procedure	1. If the user has entered a valid username and password system move the user to their relevant page to access their appropriate user data. 2. The user must click login after entering their username and password.
Test Data	1. To provide user access to their account to access the system resources.
Expected Result	1. On clicking the login button after entering username and password the user must move to their appropriate user page.
Actual Result	1. On clicking the login button after entering username and password system move the user to their appropriate user page.
Status	Pass
Remarks	Test case for checking system functionality.
Created By	Nafay Butt, Hamza Zaheer, Muhammad Qassim
Date of Creations	03/04/2019
Executed By	Nafay Butt, Hamza Zaheer, Muhammad Qassim
Date of Execution	03/04/2019

Test Environment	• OS: Windows 7, 8.1, 10 • Browser: Chrome Firefox
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Test Case 6

Test Suite ID	TS006
Test Case ID	TC006
Test Case Summary	To verify that Admin with administration rights can manage Products and user accounts
Related Requirements	RS006
Prerequisites	1. The user is authorized. 2. Admin must be logged in to a system with admin rights.
Test Procedure	1. Admin can manage products and user accounts.
Test Data	1. To manage products and user accounts.
Expected Result	1. On clicking manage accounts button system provide different options to admin to manage products and user accounts like Create, Update and Delete. 2. The system allows Admin to manage accounts and provide options to manage the accounts
Actual Result	1. On clicking manage user account button system provide different options to admin to manage the accounts. 2. On clicking manage product button system allow admin to manage different products.
Status	Pass
Remarks	Test case to manage products and user accounts and to verify system functionality.
Created By	Nafay Butt, Hamza Zaheer, Muhammad Qassim
Date of Creations	03/04/2019

Executed By	Nafay Butt, Hamza Zaheer, Muhammad Qassim
Date of Execution	03/04/2019
Test Environment	- OS: Windows 7, 8.1, 10 - Browser: Chrome Firefox

Test Case 7

Test Suite ID	TS007
Test Case ID	TC007
Test Case Summary	To verify that the admin can update and delete products and user account
Related Requirements	RS007
Prerequisites	- Admin is authorized. - Admin must be logged in to a system with admin rights.
Test Procedure	Admin can delete and update products and user accounts
Test Data	To manage users and products
Expected Result	- On clicking Delete button system must delete the selected item or user - On clicking update button system must update item or user
Actual Result	- On clicking Delete button the selected item or user system must be deleted from the database. - On clicking update button system must be updated in the database
Status	Pass
Remarks	Test Case to manage user and products
Created By	Nafay Butt, Hamza Zaheer, Muhammad Qassim

Date of Creations	03/04/2019
Executed By	Nafay Butt, Hamza Zaheer, Muhammad Qassim
Date of Execution	03/04/2019
Test Environment	- OS: Windows 7, 8.1, 10 - Browser: Chrome Firefox

6.2 Data flow testing

Data Flow Testing Results		
Data Unit Name	Data Flow Method	Test Results
User Registration Form	Interface-->Database, Database-->Interface	Pass
Login Form	Interface-->Database, Database-->Interface	Pass
Account Recovery	Interface-->Database, Database-->Interface	Pass
User Updates Products	Interface-->Database, Database-->Interface	Pass
User Delete Product	Interface-->Database, Database-->Interface	Pass

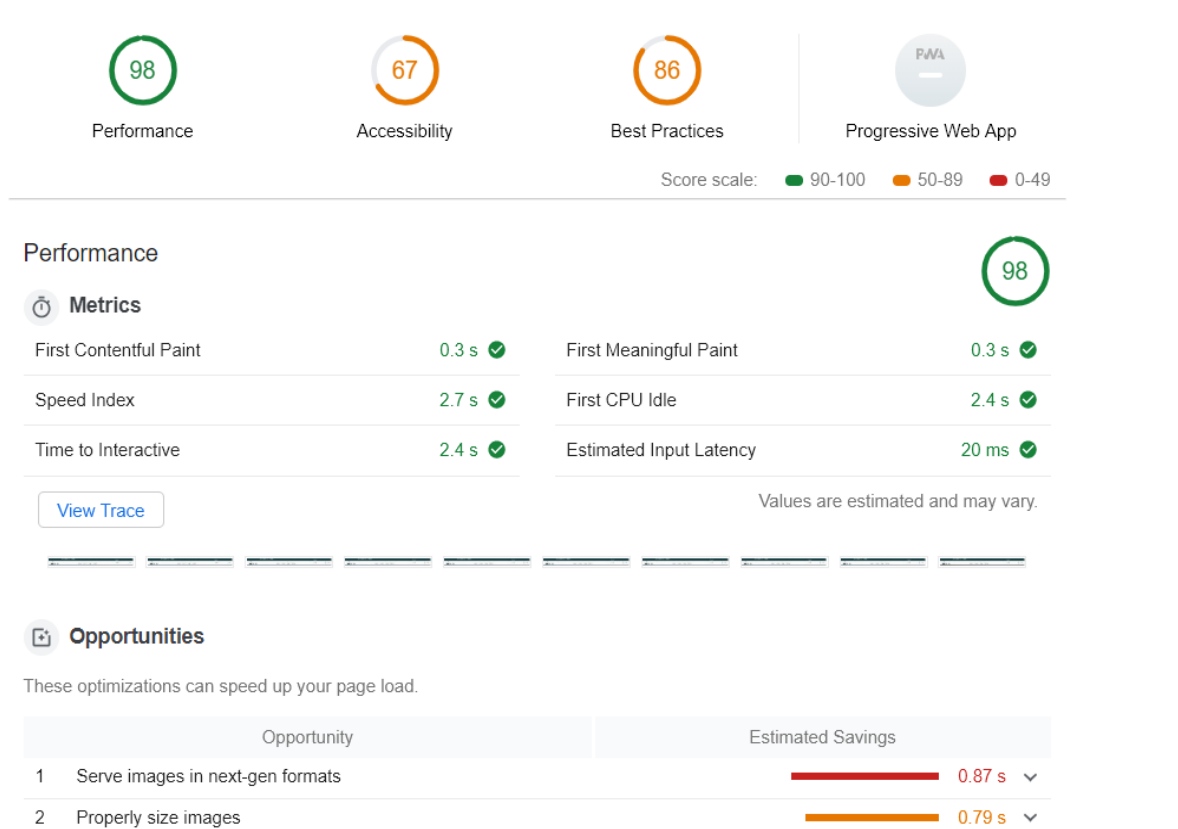
6.3 Unit Testing

Unit Testing of IndusCo Software Units		
Software Unit Name	Testing Method	Test Results
User Registration Form	Manual testing on localhost	Pass
Login Form	Manual testing on localhost	Pass
Account Recovery	Manual testing on localhost	Pass
User Updates Products	Manual testing on localhost	Pass
User Delete Products	Manual testing on localhost	Pass
User Modifies Products	Manual testing on localhost	Pass

6.4 Integration testing

Integration testing of IndusCo units			
Software Unit Name	Test with Unit	Testing Method	Test Results
User Registration Form	IndusCo Interface and relevant feature	Manual testing on localhost	Pass
Login Form	IndusCo Interface and relevant feature	Manual testing on localhost	Pass
Account Recovery	IndusCo Interface and relevant feature	Manual testing on localhost	Pass
View Items	IndusCo Interface and relevant feature	Manual testing on localhost	Pass
Modify Items	IndusCo Interface and relevant feature	Manual testing on localhost	Pass
Upload Items	IndusCo Interface and relevant feature	Manual testing on localhost	Pass

6.5 Performance testing



Chapter 7

Summary, Conclusion and Future Enhancements

7.1. Project Summary

Project Title: IndusCo

Project Supervisor: Sir Khurram Jilani

Project Team:

Nafay Ali Butt

Hamza Zaheer

Muhammad Qassim

The area to be served: Superior University, Lahore (Department of CS&IT)

Purpose:

The core purpose of this project is to fulfill the FYP requirement for the completion of the degree program in University Level. It also provides a centralized platform to the buyer and the sellers to meet at one single stage.

Description

The project IndusCo is developed by the students of Superior University (CS & IT) department under the supervision of Sir Khurram Jilani (Lecturer CS&IT Dept) with the sponsorship of FYP committee of Superior University.

Benefits:

This project will facilitate the buyer and sellers of different areas from Pakistan. It provides the state-of-the-art solution for the people of Pakistan to meet at one single platform instead of going each and everyone website or shop in the market.

Output/Outcome:

One platform for everyone to meet at a large scale.

7.2. Achievements and Improvements

Our achievement throughout the projects are given below

- Sellers to display their product at one place instead of many different sites
- Buyers to buy product from one place instead of many different sites
- Save time from getting the price from the market to buy desired product
- Get the price and estimation instantly instead of going to the door to door shop in the market
- Satisfaction of serving the humanity with knowledge
- Completely tested and problem-solving solution for the people of Pakistan
- Confidence to solve a problem that we have faced during our stay a university life.

7.3. Critical Review

Problem

Now a days it is very big problem for companies who import their goods from different merchants and industries, sometime they are expensive and time taken for them because some industries and merchants are in other cities so it takes time to deliver the products, which causes delay in the dead line of the main product. Which is expensive as it also increases the transport charges from other cities and as well the merchants take their commission.

Review

According to our findings, in today's world there are many industries but all these industries communicate with one another through a merchant and their personal interest. Which is very time taken and costly for each other. And some time industries don't know all industries existing in their area. After understanding the problems, we came up with a solution to make a website that reduced the communication gap between industries. This website provides a platform in which all of the industries communicate with each other and tries to import and export their daily lives materials.

Objectives

1. Sellers to display their product at one place instead of many different sites
2. Buyers to buy product from one place instead of many different sites
3. Save time from getting the price from the market to buy desired product
4. Get the price and estimation instantly instead of going to the door to door shop in the market
5. Satisfaction of serving the humanity with knowledge

Methodology

We have found that the people of Pakistan should meet at one dedicated platform for buying and selling products at a large scale where a seller of different area (city) can upload its products and the buyer of another city can buy that particular product instead of making phone calls and contacts just go to our site and get the prices and buy if got the right one.

Conclusion

This project IndusCo is developed with the aim to provide a centralized platform where buyer and seller can meet. In this website every individual register themselves along with their location, product and price of the product. Using this website industries import and export their daily lives material with least commission and also, they can communicate with each other which can be helpful for their business as well.

7.4. Lessons Learnt

Following are the learning outcome that we have learned during the development of the project:

- Learn how to apply software engineering techniques on a project.
- Learn about the importance and role of documentation in a software project.
- Learning of new technology and tools.
- Learn to meet deadlines.
- Learn to be flexible while developing a software project.
- Team building skill and responsibilities.
- Learn to manage the project effectively.
- Learn how to tackle the changes to the software scope during development.
- Learn how to develop use full and live working project.
- Learn communication skill for better project communication management.
- Learn new testing and development tools.

7.5. Future Enhancements/Recommendations

In future we will make multiple options inside our platform like the payment and multiple methods to be used in our platform instead of going for third parties

- Add new features and functionalities if needed and requested by the users
- Perform the SEO of the website to rank the site at the first top ten results of Google search.
- Improve the performance of the website recommended by automated tools such as Google website insights and on the request of the users.
- Perform the data warehousing of data of websites after two to five years to make knowledge archives.

Appendices

Appendix A: User Manual

User Manual explains the step by step activities that should be performed to use the system. It provides all step to carry out system tasks. It provides screenshots of the system functionality for Students.

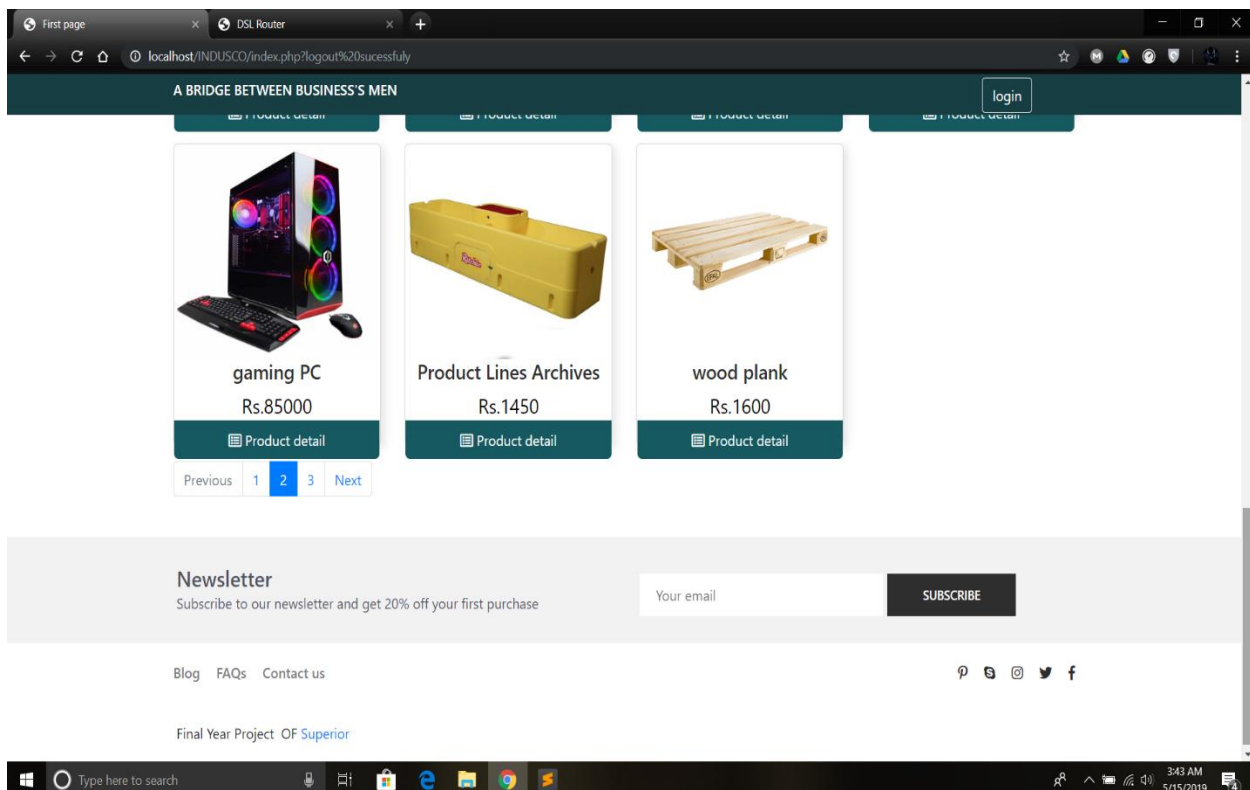
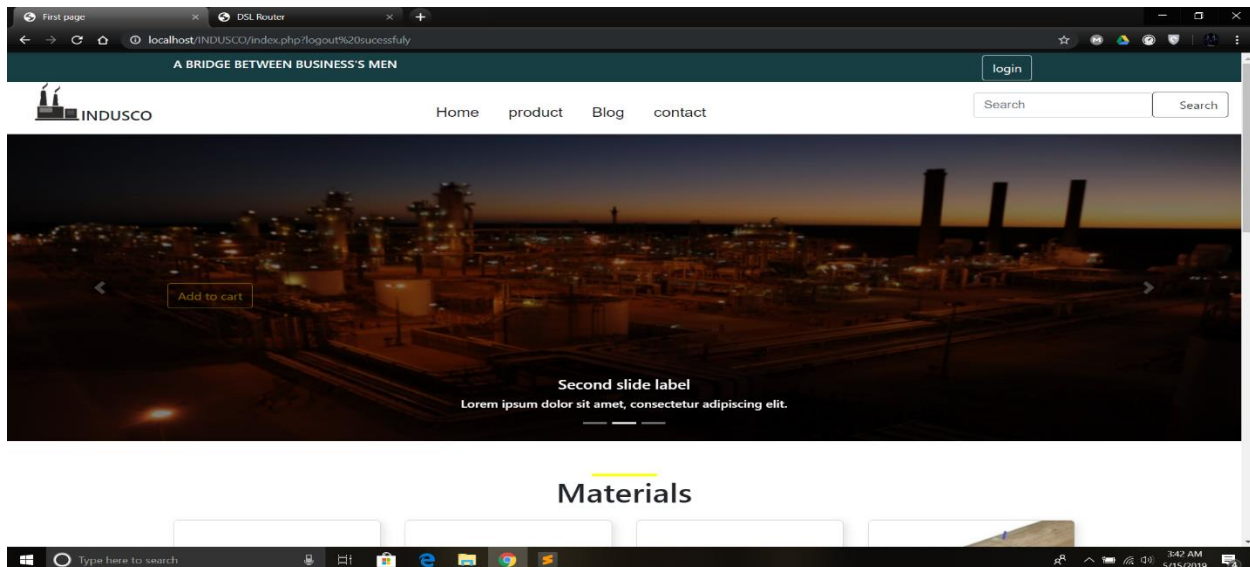
A.1. User login

The screenshot displays the login interface of the IndusCo website. The header includes the site's logo and navigation menu. The main area features a central heading 'Login or get your login' with an 'OR' separator between the login and contact forms. The login form requires an email address and password, while the contact form collects name, email, contact number, and a message description. A newsletter subscription bar is located at the bottom of the page.

In this page or activity, this is the first view of our site where the user and admin have to logged in to use the beautiful features of our E-commerce site here user have to generate or register for the use of our platform with registration user or visitor cannot login.

A.1.1 User Interface

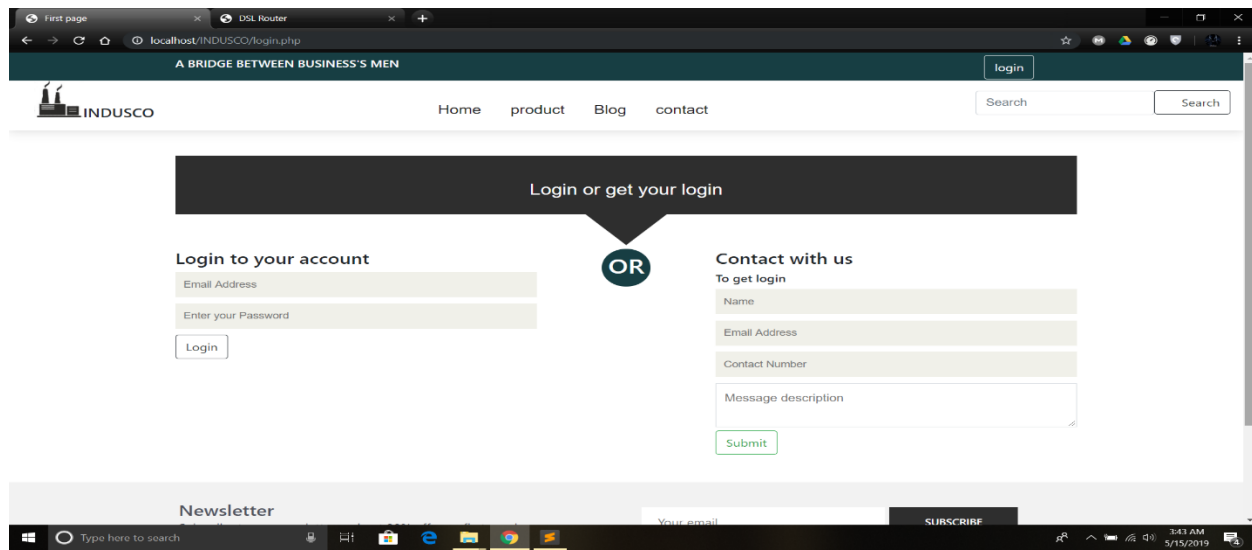
This is our basic front-end of our website where the detailed description of different areas of shop will be given or displayed



Appendix B: Administrator Manual

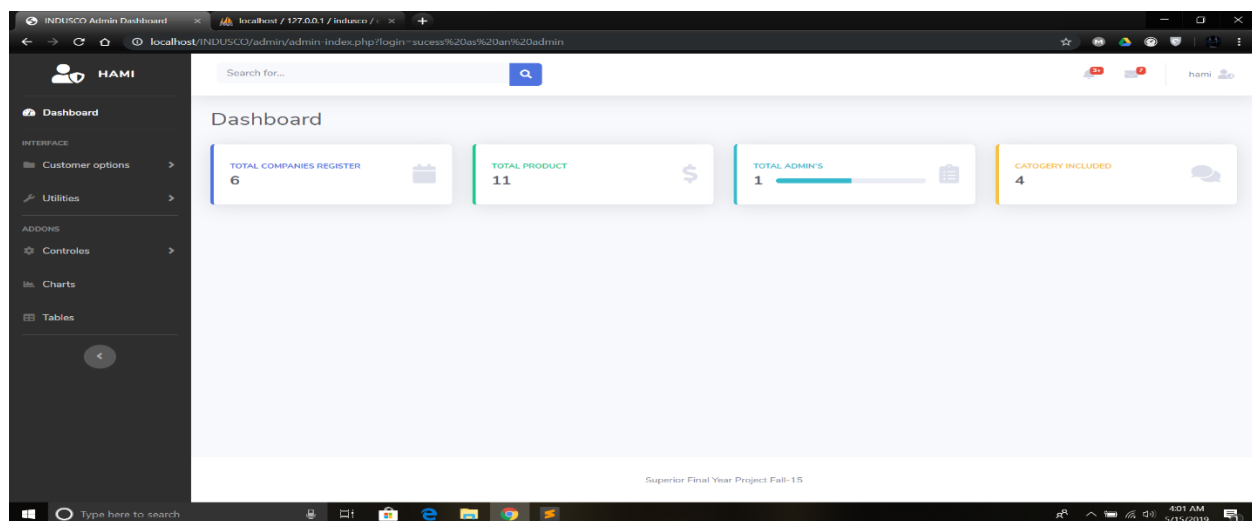
Admin Manual explain the step by step activities that should be performed to use the system. It provides all step to carry out system tasks. It provides screenshots of the system functionality for admin

B.1. Logging in the admin panel



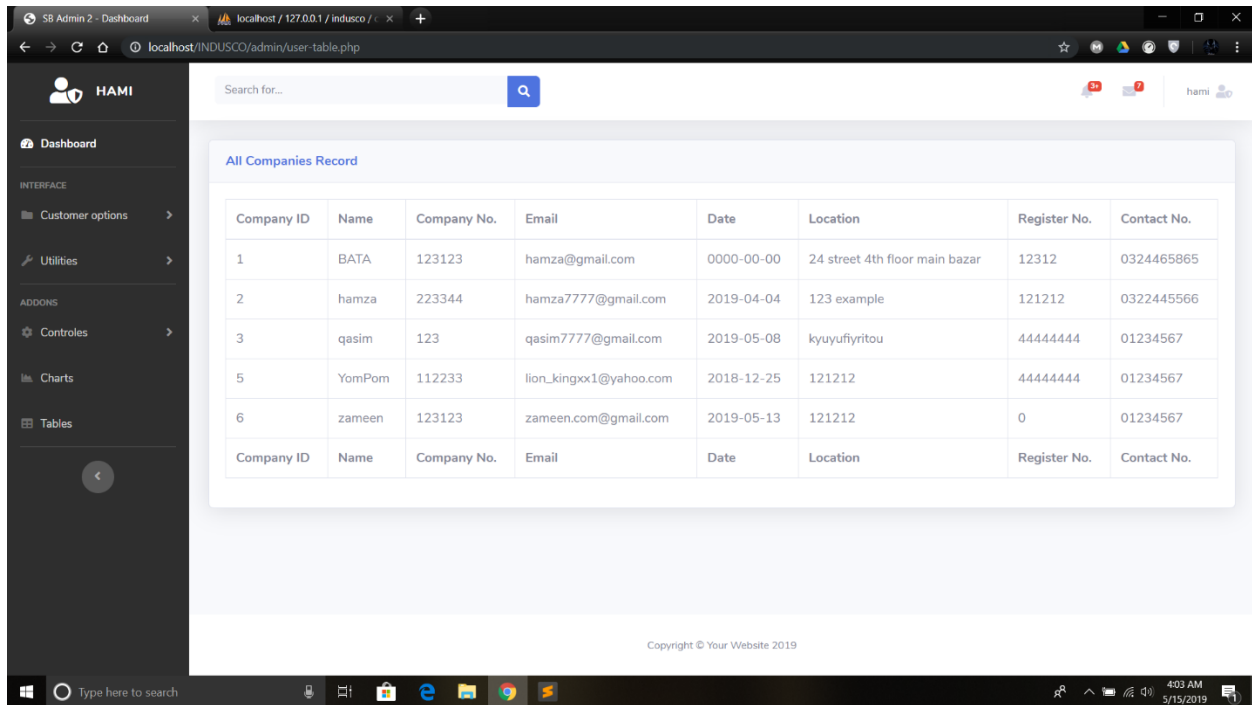
This is the common gateway for admin and user to login from one same place by entering his password and email.

B.1.1. Admin Panel Interface



After successful login admin redirect in their panel. There is an Admin panel interface. In this picture there are many steps here admin view total user accounts and its details and admin view total admin accounts

B.1.1.1. Performing Admin activities



The screenshot shows the Admin Dashboard of the IndusCo system. The left sidebar contains navigation links: Dashboard, INTERFACE (Customer options, Utilities), ADDONS (Controls), Charts, and Tables. The main content area displays a table titled 'All Companies Record' with the following data:

Company ID	Name	Company No.	Email	Date	Location	Register No.	Contact No.
1	BATA	123123	hamza@gmail.com	0000-00-00	24 street 4th floor main bazar	12312	0324465865
2	hamza	223344	hamza7777@gmail.com	2019-04-04	123 example	121212	0322445566
3	qasim	123	qasim7777@gmail.com	2019-05-08	kyuyufiyritou	44444444	01234567
5	YomPom	112233	lion_kingxx1@yahoo.com	2018-12-25	121212	44444444	01234567
6	zameen	123123	zameen.com@gmail.com	2019-05-13	121212	0	01234567
Company ID	Name	Company No.	Email	Date	Location	Register No.	Contact No.

Copyright © Your Website 2019

In this picture, the IndusCo system provides a function to manage the account where admin creates, update and delete user accounts.

Reference and Bibliography

Reference and Bibliography

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- 2) IEEE Software Engineering Standards Committee, "IEEE Std 830-2016, IEEE Recommended Practice for Software Requirements Specifications", October 20, 2016.
- 3) Adobe "Retail Stores of the Future: Four key focus areas for building them today", Apr 23, 2018
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Index

Index

[A]

Assumptions and Dependencies	19
Architecture Diagram	47
Activity Diagram	53

[B]

Background	2
Business Rules	28
Best Practices	69

[C]

Communication Interfaces	22
Class Diagram	48
Component Diagram	56
Components	65
Comments	70

[D]

Document conventions	14
Design and Implementation Constraints	19
Description and Priorities	24
Deployment Diagram	57
Data Flow Diagram	45
Deployment Environment	58

[E]

Executive Summary	vi
External Interface Requirement	21

[F]

Functional Requirement 25

[G]

Goals and Objectives 3

Gap Analysis 5

Gantt Chart 11

Good Programming Practices 70

[H]

Hardware Interfaces 22

[I]

Introduction 2

Intended Audience and Reading Suggestion 14

Implementation 62

[J]

[K]

[L]

[M]

Motivations and Challenges 2

[N]

Naming Conventions and Standards 69

[O]

Overall Description 16

Operating Environment 19

Other Non-Functional Requirements 27

Operation Contracts 51

[P]

Proposed solution 5

Project Plan 6

Purpose 14

Product Scope 15

Product Perspective 16

Product Functions 17

Performance Requirements 26

Pseudo Code 62

Programming Practices 70

[Q]

Quality Attributes 27

[R]

Roles and Responsibilities Matrix	9
Reference	16
Reference and Bibliography	77

[S]

Software Requirements and Specifications	14
Software Interfaces	23
System Features	24
Safety Requirements	26
Security Requirements	27
Software Quality Attributes	27
System Design	47
Sequence Diagram	50
State Transition Diagram	56

[T]**[U]**

User Classes	18
User Documentation	20
User Interfaces	21
Use Case Analysis	30
Use Case Models	31

[V]

[W]

Work Breakdown Structure 7

[X]

[Y]

[Z]