

### **Project Title**

### "Order place and maintain system"

Submitted By **Ahmed Musa** 152-35-1141

Supervised By

Ms. TapusheRabayaToma

Lecturer

Department of Software Engineering Faculty of Science & Information Technology Daffodil International University

A project submitted in partial fulfillment of the requirement for the degree of Bachelor of Science in Software Engineering

Department of Software Engineering DAFFODIL INTERNATIONAL UNIVERSITY

Spring-2019

#### **Letter of Approval**

This project report "Order place and maintain system" prepared by Ahmed Musa (ID: 152-35-1141) is approved in Partial Fulfillment of the requirement for the Degree of BACHELOR OF SOFTWARE ENGINEERING. The said student have completed his project work under my supervision. During the working period I found him sincere, hardworking and enthusiastic.

Dimed

**Ahmed Musa** ID: 152-35-1141 Batch: 17<sup>th</sup>

Department of Software Engineering

Faculty of Science & Information Technology

**Daffodil International University** 

**Supervised By** 

Ms. TapusheRabayaToma

lecturer

Department of software engineering,

**Daffodil International University.** 

#### Acknowledgement

First of all, I am very much blessed as I have successfully reached towards the final semester. And so this is why I am pleased to my almighty. From the very beginning of my university life, I have learned a lot about software engineering as well as core computer science related knowledge from my course teachers. Moreover, they teach us ethics, morality and politeness.

Besides, I am so much thankful to my parents that, I was always supported by them. They always prioritize my opinion and inspired me as well.

I am also so many grateful to my supervisor **Ms. TapusheRabayaToma**for allowing me to work on this project. She always supports me to make this projects successful. Specially, I am very thankful to my brother **Mutasimbillah**who always appreciate my professionalism.

#### **Dedication**

I would like to dedicate this project to my respectable Elder brother and one of friends, my instructor, my Honorable teachers who are always dear and near to me and without whose patience, care, understanding, unsparing support, affection and most of all deepest love it would not have been possible to come up to this position.

#### **Abstract**

This project is aimed to developing an online order place. The entire project has been developed keeping in view of the distributed client server computing technology, in mind. The project entitled "Order place and maintain system" is a web application. It is developed using Laravel (PHP Framework), used Bootstrap 4 for frontend and MySQL. This project has tried to incorporate all the advanced features of PHP such as to fulfill the aim of the project. The application has been designed such that it encompasses the managerial as well as public functionalities. Among the managerial functionalities are the task performed by the various offices. The public features are exercised by the users and outsiders according to the permissions level availed to them.

# Table of Contents

Chapter: 01	
Introduction	1
1.1 Project Overview	2
1.2 Project Purpose	2
1.3 Stakeholders	3
1.4 Project Schedule	4
Chapter: 02	6
Software Requirement Specification	6
2.1 Functional Requirements	7
2.2 Data Requirements	12
2.3 Performance Requirements	12
2.4 Dependability Requirements	13
2.5 Maintainability & Supportability Requirements	14
2.6 Security Requirements	15
2.7 Usability and Human-Interaction Requirements	16
2.8 Look and Feel Requirements	17
2.9 Operational and Environmental Requirements	17
2.10 Legal Requirements	18
Chapter: 03	19
Requirement Analysis	19
3.1 Use Case Diagram	20
3.2 Activity Diagram	26
3.3 Sequence Diagrams	32
Chapter: 04	37
System Design Specification	37
4.1 Development tools and technology	37
4.2 Class Diagram	
4.3 Database Design Diagram	40
Chapter: 05	41

System Test	41
5.1 Testing Features	42
5.2 Testing Strategy	42
5.3 Testing Schedule	44
5.4 Testing Environment	45
5.6 Test Cases	45
Chapter: 06	48
User Manual	48
6.1 Website	49
6.2 Customer login page	49
6.3 Customers landing page	50
6.4 Making order by photo ID	50
6.5 Making new order by uploading photo	51
6.6 Order confirmation	52
6.7 Selecting payment gateway	52
6.8 Paying by bKash	53
6.9 Paying by Card	53
6.10 Customer orders history	54
6.11 Customer saved order	55
6.12 Focus point/Studio location	55
6.13 Sending message to admin	56
6.14 Customers profile	56
6.15 Customers logout	57
6.16 Admin login	57
6.17 Admins Dashboard	58
6.18 All orders	58
6.19 Photo gallery	59
6.20 Pending task	59
6.21 Undelivered orders	60
6.22 Photo size and price settings	60
6.23 Customers observing	61
6.24 Messages	61

Conclusion       62         7.1 GitHub Link       63         7.2 Project Summary       63         7.3 Limitations       63         7.4 Obstacles and Achievements       63         7.5 References       64	Chapter: 07	62
7.1 GitHub Link637.2 Project Summary637.3 Limitations637.4 Obstacles and Achievements63	-	
7.2 Project Summary637.3 Limitations637.4 Obstacles and Achievements63		
7.4 Obstacles and Achievements63		
	7.3 Limitations	63
7.5 References64	7.4 Obstacles and Achievements	63
	7.5 References	64

# List of figures

Figure 1.0: Gantt Chart	4
Figure 3.1: Use Case diagram for "Order place and maintain system"	21
Figure 3.2: Activity diagram for Registration	26
Figure 3.3: Activity diagram for Login	27
Figure 3.4: Activity diagram for Print Stored Photo	27
Figure 3.5: Activity diagram for Print Non-Stored Photo	28
Figure 3.6: Activity diagram for Save order	28
Figure 3.7: Activity diagram for Payment	29
Figure 3.8: Activity diagram for Exact Map	30
Figure 3.9: Activity diagram for Search Order	
Figure 3.10: Activity diagram for Pending Task	31
Figure 3.11: Activity diagram for Undelivered Orders	31
Figure 3.12: Activity diagram for Customer Observing	
Figure 3.13: Sequence Diagram for Print Stored Photo	
Figure 3.14: Sequence Diagram for Print Non-Stored Photo	33
Figure 3.15: Sequence Diagram for Save order	33
Figure 3.16: Sequence Diagram for Payment	
Figure 3.17: Sequence Diagram for Exact Map	
Figure 3.18: Sequence Diagram for Pending Task	
Figure 3.19: Sequence Diagram for Undelivered Orders	
Figure 3.20: Sequence Diagram for Customer Serving	
Figure 4.0: Class Diagram	
Figure 4.1: Database Diagram	
Figure 6.1: Website	
Figure 6.2: Customer login page	
Figure 6.3: Customers landing page	
Figure 6.4: Making new order by photo id	
Figure 6.5: Making new order by uploading photo	
Figure 6.6: Confirm order	
Figure 6.7: Selecting payment method	
Figure 6.8: Paying by bKash	
Figure 6.9: Paying by card	
Figure 6.10: Orders history and status	
Figure 6.11: Saved order	
Figure 6.12: Focus Point	
Figure 6.13: Sending message to admin	
Figure 6.14: Customers profile	
Figure 6.15: Customers logout	
Figure 6.16: Admin login page	
Figure 6.17: Admins dashboard	58

Figure 6.18	All orders	58
Figure 6.19	Photo gallery	59
	Pending task	
-	Undelivered Orders	
Figure 6.22	Photo size and price settings	60
-	Customer observing	
•	Messages from customers	

Chapter: 01

Introduction

#### 1.1 Project Overview

We are living in a generation where technologies are like magic. Here, whatever you want to do you can do that. It just matter of little bit time and trick of hands. Our job is make things weird to ordinary, darkest to brightest, Inflexible to flexible, and here is my project to achieve our goal. I am working for a Photography company named 'Focus Digital Color Lab' which is prints photos for customers for last more than ten years.

#### 1.2 Project Purpose

Until this time the company take orders manually. Like, customer come to them  $\rightarrow$  for place an order  $\rightarrow$  pay cash by hand  $\rightarrow$  take a receipt  $\rightarrow$  come again next day for collecting their photos. On the other hand employee takes orders in a ledger book, they have to write all information about orders. I can see that here's the problem. By this old process it takes too much time to accepting a order, takes money and space for the ledger book and stuffs. So I offered them to do the same thing automatically.

#### 1.2.1 Background

I went to print my photo from "Focus Digital Color Lab", Suddenly I realize that the way they prints customers photo this is too much old and time consuming process and also expensive. So, I decided to offer them a paperless way where customers can give orders by their own, and the manager can see customers orders.

#### 1.2.2 Beneficiaries & Benefits

My application would be beneficial for some point of view. Now, I am mentioning those below:

#### **Beneficiaries**

- > Studio owner
- > Customer

#### **Benefits**

- ➤ A great paperless way to maintaining orders
- ➤ Look after orders per week, per months, per year
- > Customers increasing by online marketing
- > Business growth
- > Customers knows what is the condition of his/her order
- > Easy communication with customers

- > Getting customers information by their registration process
- ➤ No negotiation with service cost
- > Knowing customers information
- ➤ Influencing design for customers
- Customers don't need to think about photo printing sizes
- > Online payment system
- > Customers can change their info at anytime
- > Storing previous orders of customer
- > Facility to paying later for unpaid orders
- > Reducing customers time
- ➤ Quick customer support

I have mentioned some benefits as well as beneficiaries. So, I think this application is very much helpful for customer and the studio owner.

#### **1.2.3 Goals**

The main goals of this project is to develop an application based on web. As more than 90% of people are uses internet on their mobile device or on their Computer at home, office, university etc. So my target is to develop a system for easy going life.

#### 1.3 Stakeholders

- > Studio owner
- > Customers
- ➤ Bkash
- > Studio owner: Studio owner have an individual panel of this application named Admin Panel. Admin who accepts orders from customer and maintain those until delivered to the customer.
- ➤ Customer: Customers have an individual panel of this application named Customer panel. By this panel customer can register their user account and can give orders from it and also can see what is the condition of his/her order so that customer can collect his/her photos from the studio.
- ➤ **Bkash:**Bkash is the only payment gateway for this application. I build an API for completing transactional process of customers payment. So, the system have to send request to bkash cluster server and bkash cluster server has to be responded.

### 1.4 Project Schedule

I need to prepare a scheduling plan to complete the project on time. It also refers to make communication with what task need to get done within timeframe.

#### 1.4.1 Gantt Chart

Gantt chart is mainly a production control tools. It remained us to complete our assigned tasks within a certain period of time. For developing software, it is mostly used. Now I will show a Gantt chart for my project.

Activities		W	W	W	W	W	W	W	W	W	W	W	W	W	W	W	W
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Planning	Ideas																
	Problem definition																
	Proposal planning																
Requirements	Requirement specification																
	Requirement analysis																
QA – 1	Quality assurance																
System design	Sketching																
	Design specification																
	Database design																
Implementation-1	Crud operation																
QA – 2	Test cases																
Implementation-2	Photo uploading																
Testing	Unit testing																
	Blackbox testing																
Delivery	Software release																
Scheduled time	•	•	•														
Buffered time																	

Figure 1.0: Gantt Chart

# 1.4.2 Release Plan or Milestone

The release plan or milestones are given below:

Activities	Duration in week	Total week
Brainstorming	Week 1	1
Problem identification	Week 1, Week 2	2
Requirement specification	Week 2	1
Requirement analysis	Week 2	1
Sketching	Week 4	1
Design specification	Week 4	1
Database design	Week 5	1
Customer experience	Week 5, Week 6, Week 7, Week 8	4
Quality assurance	Week 3,	1
Test case	Week 3, Week 7, Week 8, Week 9	4
Getting feedback	Week 10, Week 11, Week 12, Week 13	4
Unit testing	Week 11, Week 12	2
Black-box testing	Week 13, Week 14, Week 15	3
Software release	Week 16	1

5

# Chapter: 02

**Software Requirement Specification** 

### 2.1 Functional Requirements

Functional requirements refer to the functions which are mandatory to the system. Functional requirements must be able to perform on the software system. Every system must have some functional requirements. Now, I am going to mention functional requirements associating with my project.

#### 2.1.1 Photo studio based website

Requirements 1	Photo studio based website
Description	A Studio website, where people can know about studio, product and service charge.
Stakeholders	Customer

### 2.1.2 Registration process

Requirements 2	Registration process		
Description	Studio customers have to sign up for the first time to place an order for service.		
Stakeholders	Customer		

### 2.1.3 Login process

Requirements 3	Login process			
Description	A Studio website, where people can know about studio, product and service charge.			
Stakeholders	Customer			

### 2.1.4 Print stored photo

Requirements 4	Print stored photo				
Description	A copy of a photo has stored in studios database with a Photo Id.				
Stakeholders	Customer				

### 2.1.5 Print non stored photo

Requirements 5	Print non stored photo			
Description	Photos are uploaded by customers with different sizes.			
Stakeholders	Customer			

### 2.1.6 Photo id for print

Requirements 6	Photo id for print
Description	A specific photo id for stored photo provided by studio.
Stakeholders	Customer

### 2.1.7 Gallery photo

Requirements 7	Gallery photo
Description	Soft copy of photos customers wants to print.
Stakeholders	Customer

# 2.1.8 Photo size for print

Requirements 8	Photo size for print
Description	Have to select which sizes are want a customer to print.
Stakeholders	Customer

# 2.1.9 Quantity for print

Requirements 9	Quantity for print
Description	Have to select how many photos customers want to print.
Stakeholders	Customer

### 2.1.10 Confirm order

Requirements 10	Confirm order
Description	Check all the arrangement before place a order.
Stakeholders	Customer

### 2.1.11 Save order

Requirements 11	Save order
Description	Customers can save their orders to pay later.
Stakeholders	Customer

### 2.1.12 Orders history

Requirements 12	Orders history
Description	Customers can view their orders history.
Stakeholders	Customer

#### 2.1.13 Orders status

Requirements 13	Orders status
Description	Customers can watch their order status.
Stakeholders	Customer

# **2.1.14 Payment**

Requirements 14	Payment
Description	After completing all the arrangements customers have to pay the service bill.
Stakeholders	Customer, Bkash

### 2.1.15 Support Message

Requirements 15	Support Message
Description	Customer will get support if they needed, its link one-to-one offline chat.
Stakeholders	Customer

### **2.1.16 Exact Map**

Requirements 16	Exact Map
Description	Customers will get exact location of that studio.
Stakeholders	Customer

### 2.1.17 Admin Login

Requirements 17	Admin Login
Description	Admin can login with special account to monitor and maintain orders.
Stakeholders	Studio Owner

### **2.1.18 Orders**

Requirements 18	Orders
Description	A page of all orders.
Stakeholders	Studio Owner

### 2.1.19 Search Orders

Requirements 19	Search Orders
Description	Admin can search orders by photo id.
Stakeholders	Studio Owner

### 2.1.20 Orders Statistics

Requirements 20	Orders Statistics
Description	A graphical view of orders by current month and current year.
Stakeholders	Studio Owner

### 2.1.21 Pending Task

Requirements 21	Pending Task
Description	Those orders which is reached but employees didn't work on it.
Stakeholders	Studio Owner

#### 2.1.22 Undelivered Orders

Requirements 22	<b>Undelivered Orders</b>
Description	Those orders which is done, but customers didn't collect it.
Stakeholders	Studio Owner

### 2.1.23 Customers Observing

Requirements 23	<b>Customers Observing</b>
Description	Watching customers list and active or inactive them.
Stakeholders	Studio Owner

### 2.1.24 Support Reply

Requirements 24	Support Reply
Description	Admin will reply of customer messages.
Stakeholders	Studio Owner

#### 2.1.25 Set size and price list

Requirements 25	Set size and price list
Description	Admin will set what will be the price for specific size.
Stakeholders	Studio Owner

#### 2.2 Data Requirements

To defining data requirements for my application almost all of data would be loaded from remote users. And for that purpose I need to focus on some major points. Such as:

- > Types of entity of the system
- > Route data locations
- > Capacity and resources of the data requirements
- ➤ Data source sequence
- > Data availability schedules
- ➤ Quantity of data
- > Availability of data

### 2.3 Performance Requirements

It is very important to maintain performance of any software system. To ensure performance, I need to maintain some steps. Now, I will explain some perspective by which I am going to enhance the performance of my project.

#### 2.3.1 Speed & Latency Requirements

Speed and latency requirements must be ensured while retrieving data from the cloud server.

SLR-1	Search result must be faster.
Description	When traffic police search for a vehicle, then the search result must show within seconds.
Stakeholders	Studio Owner

#### 2.3.2 Precision & Accuracy Requirements

Results that is to be shown to the end user is need to be accurate. Because, wrong information might be ruined the whole business process.

PAR-1	Search result must be accurate
Description	When studio owner search for a order, then the search result must be according to the input value given by Studio owner.
Stakeholders	Studio Owner

#### 2.3.3 Capacity Requirements

The developed system by me must be capable to handle user data, provide accurate information, handling database, manage http request etc.

CR-1	The system will handle thousands of data.
Description	The system need to handle data thousands of data every moment.
Stakeholders	Studio Owner

### 2.4 Dependability Requirements

The term dependability is measured based on four dimensions. Such as:

- 1. Availability
- 2. Reliability
- 3. Safety
- 4. Security

If I want to say that my application system is dependable then it must fulfill the four dimensions. But there are other tasks. Like there is no way to make mistakes or my system should have the ability to detect and then remove errors. Besides that, it is also very important to limit the damage which might be caused by system failure.

#### 2.4.1 Reliability & Availability Requirements

Now, I will mention requirements which is related to reliability and availability.

PAR-1	The system must be available on 24 X 7
Description	<ul> <li>Our system must be available all day long, every day in a week</li> <li>The system must be updated regularly</li> <li>System must be malware free</li> </ul>

Stakeholders	Studio Owner, Customer
--------------	------------------------

#### 2.4.2 Robustness or Fault-Tolerance Requirements

To ensure robustness and fault-tolerance facilities to the end users, it is urgent to ensure 0% crush. Moreover, it must show accurate results.

RFT-1	The system handles all user access without system errors	
Description	Thousands of user might hit our application system at a time. All their requests must be handled without any fault.	
Stakeholders	N/A	

#### 2.4.3 Safety-Critical Requirements

There are only safety-critical requirements in my project, and that is payment transaction ID.

#### 2.5 Maintainability & Supportability Requirements

It is very important to provide after service or support to the end users.

#### 2.5.1 Maintainability Requirements

MR-1	System helps to update user profile	
Description	t is very important to update user profile.	
Stakeholders	Studio Owner, Customer	

#### 2.5.2 Supportability Requirements

Supportability requirements may have related to some extends.Like:

- > Testability
- > Extensibility
- ➤ Adaptability
- ➤ Maintainability
- > Compatibility
- ➤ Configurability
- > Serviceability
- ➤ Install ability

My application meets all of the above requirements related to supportability.

### 2.5.3 Adaptability Requirements

There are no adaptability requirements in our system software.

#### 2.6 Security Requirements

Making software security as a requirement is very important. Software security requirements should be its functional requirement. Software security enforces security of an application system. Functionality related to software security can either be directly tested or observed. Some security related requirements is given below:

- > Signing in a customer
- > Signing in a admin
- Get access according to logged in user
- > Upload photos to the server without having any issue as a customer
- Maintaining all orders without having any issue as a admin
- > Signing out as a customer and admin
- > Handling encrypted passwords

While accessing to the system, each and every features must provide a central authentication mechanism. There is also a process to prevent entering into the system by ensuring hashed password for the unauthenticated users.

#### 2.6.1 Access Requirements

For accessing to our application system, there remains some authentication and authorization techniques. And every features of my system will provide it. Now I will provide an explanation below.

AR-1	Application provides security mechanism.	
Description	Every features is designed in such a way that it only give access to the authorized and authenticated users.	
Stakeholders	Studio Owner, Customer	

### **2.6.2 Integrity Requirements**

Integrity requirements refers to a security system which ensures an expectation of data quality. It also ensures that all data of the system would never be exposed to the malicious modification or accidental destruction. For that reason, I will store system user passwords as encrypted formatwhich is impossible to decrypt. It is also called hashed password.

#### 2.6.3 Privacy Requirements

It is very important to ensure privacy of the system users. Privacy requirements enhances to protect stakeholder's privacy. In this way, all data or a partial part of data are going to be disclosed according to system's privacy policy. To ensure privacy, the central database should be protected.

#### 2.7 Usability and Human-Interaction Requirements

The main target of developing any system is to make the system user friendly and easy to usable for the end users.

#### 2.7.1 Ease of Use Requirements

My application is easy to use and also easily understandable.

EUR-1	Application must be usable for the end users.	
Description	This apps is enough usable to the traffic police by which they can operate this system easily.	
Stakeholders	Studio Owner, Customer	

#### 2.7.2 Personalization and Internationalization Requirements

There are not any personalization and internationalization requirements to our system. This maiden version of our application is only be operated by Bangladesh.

### 2.7.3 Understandability and Politeness Requirements

It is already said that the application which we are going to develop, is understandable enough. The system provides hints to users whether any error occurred or wrong. By reading those errors users can be able to operate the system easily.

### 2.7.4 Accessibility Requirements

There are no specific accessibility requirements associated to our system yet.

### 2.7.5 User Documentation Requirements

Documentation are mainly two types. One is internal documentation which is generally written by the application engineers. It is prepared to make development life cycle easier for the system engineers or system analysts.

UDR-1	The system engineer documentation		
Description	To develop my application named Automatic order place and		

	maintaining system, firstly I have make a system analysis team as well as documentation team.	
Stakeholders	System analysts or software developers.	

#### 2.7.6 Training Requirements

Training requirements involved in after service of any application. It is very necessary to properly train up end users to the system so that they would be capable to operate easily. After launching the full package to the market, firstly I provide training to the end users like, customer, studio owner.

#### 2.8 Look and Feel Requirements

Look and feel requirements mainly refers how the system will look like and how the user interface or graphical user interface of my system will display to the user.

#### 2.8.1 Appearance Requirements

General customer and studio owner must know which input fields are required and which are not. For that reason, I will use labels for all input fields. Input fields might be text type, radio, checkbox, spinner etc.

AR-1	Labels of mandatory fields must be bold.	
Description	The mandatory field's label must be bold and all input fields must have placeholder to make it easier for the users.	
Stakeholders	System analysts or software developers.	

### 2.9 Operational and Environmental Requirements

Operational and environmental requirement refers to the capabilities, performance measurements, process, measurements of effectiveness, measurements of performance, measures of sustainability, measurements of technical performances etc.

#### 2.9.1 Expected Physical Requirements

There are no expected physical requirements in our system.

#### 2.9.2 Requirements for Interfacing with Adjacent Systems

There are no requirements for interfacing with adjacent system for my project.

#### 2.9.3 Release Requirements

There are no specific release requirements in our system.

#### 2.10 Legal Requirements

Legal requirements normally refer to the terms and conditions or privacy policy of any organizations. The terms and condition of my application is that, no third party software or person are allowed to engage to use this system data for their business purpose.

#### 2.10.1 Compliance Requirements

There are no specific compliance requirements for our system.

#### 2.10.2 Standards Requirements

There are no specific standards requirements for our system.

Chapter: 03

**Requirement Analysis** 

### **3.1 Use Case Diagram**

I have use case diagram. And there are two actors. Each actor plays different role. And those are already indicated to this use case diagram. This diagram will clarify our system in brief.

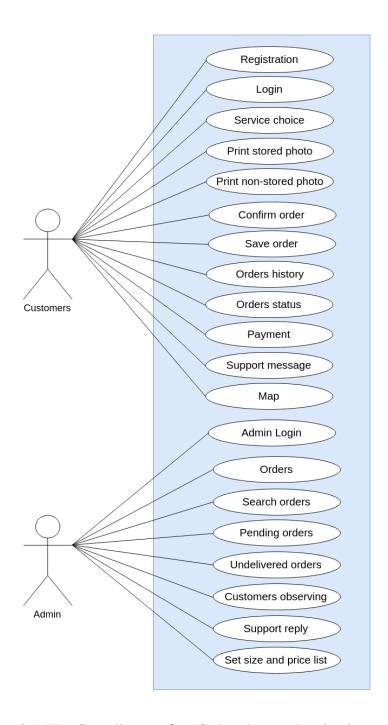


Figure 3.1: Use Case diagram for "Order place and maintain system"

# 3.1.1 Registration

Use Case Title	Customer will register
Goal	Customer save their information to the server
Preconditions	<ul><li>User can be anyone</li><li>User type must be customer</li></ul>
<b>Success End Condition</b>	Customer successfully insert related data
Failure End Condition	Customer cannot be able to save data
Primary Actors: Secondary Actors:	Customer N/A
Trigger	Customer data visible to admin
Description / Main Success Scenario	Customer will add his own information to the system for registration approval
Alternative Flows	N/A
Quality Requirements	N/A

# **3.1.2 Login**

# 3.1.3 Print stored photo

Use Case Title	Print stored photo
Goal	Customer can give order by photo id
Preconditions	<ul> <li>User have to be registered</li> <li>User must have a photo id</li> </ul>
Success End Condition	Customer give order successfully
Failure End Condition	Customer cannot be able to give order by photo id
Primary Actors: Secondary Actors:	Customer N/A
Trigger	Order data visible to admin
Description / Main Success Scenario	Customer will give a order by photo id which is provided by photo studio
Alternative Flows	N/A

# 3.1.4 Print non-stored photo

Use Case Title	Print non-stored photo
Goal	Customer will order for photo which is not-stored
Preconditions	<ul> <li>User have to be registered</li> <li>User must have to upload photo</li> </ul>
<b>Success End Condition</b>	Customer successfully give his/her order
Failure End Condition	Customer cannot be able to give order
Primary Actors: Secondary Actors:	Customer N/A
Trigger	Order data visible to admin
Description / Main Success Scenario	Customer will give order by their uploaded photo which is not stored in studios database
Alternative Flows	N/A
Quality Requirements	N/A

# **3.1.5 Payment**

Use Case Title	Payment
Goal	Customer will pay for order
Preconditions	<ul> <li>User have to be registered</li> <li>User must have to pay for order</li> </ul>
<b>Success End Condition</b>	Customer will pay successfully
Failure End Condition	Customer cannot be able to pay
Primary Actors: Secondary Actors:	Customer N/A
Trigger	Transaction data visible to admin
Description / Main Success Scenario	Customer will give payment which is estimated by photo studio
Alternative Flows	N/A
<b>Quality Requirements</b>	N/A

### 3.1.6 Search order

Use Case Title	Admin search order
Goal	Admin can search customer orders
Preconditions	<ul> <li>User have to be admin</li> <li>User must have to give photo id or trx id</li> </ul>
<b>Success End Condition</b>	Admin will found orders successfully
Failure End Condition	Data not found
Primary Actors: Secondary Actors:	Admin N/A
Trigger	Orders data visible to admin
Description / Main Success Scenario	Admin will input users photo id or transaction id by this process admin will find a orders information
Alternative Flows	N/A
Quality Requirements	N/A

# 3.1.7 Pending Task

Use Case Title	Pending task
Goal	Admin can see which orders are pending
Preconditions	User have to be admin
<b>Success End Condition</b>	Admin will found pending orders successfully
Failure End Condition	Data not found
Primary Actors: Secondary Actors:	Admin N/A
Trigger	Pending orders data visible to admin
Description / Main Success Scenario	Admin will see users pending orders by this process
Alternative Flows	N/A
Quality Requirements	N/A

### 3.1.8 Undelivered orders

Use Case Title	Undelivered orders
Goal	Admin can see which orders are ready
Preconditions	User have to be admin
<b>Success End Condition</b>	Admin will found undelivered orders successfully
Failure End Condition	Data not found
Primary Actors: Secondary Actors:	Admin N/A
Trigger	Undelivered orders data visible to admin
Description / Main Success Scenario	Admin will see users ready but not delivered orders by this process
<b>Alternative Flows</b>	N/A
<b>Quality Requirements</b>	N/A

# 3.1.9 Customer observing

Use Case Title	Customer observing
Goal	Admin will see customers information
Preconditions	User have to be admin
<b>Success End Condition</b>	Admin will found customer information successfully
Failure End Condition	Data not found
Primary Actors: Secondary Actors:	Admin N/A
Trigger	Customer data visible to admin
Description / Main Success Scenario	Admin will found customer information and can active/inactive a user
Alternative Flows	N/A
<b>Quality Requirements</b>	N/A

### 3.2 Activity Diagram

I have prepared some activity diagram according to my use case. These activity diagrams are properly referring the flow of the individual conditions of the project.

### 3.2.1 Registration

User can register in this system by providing required information.

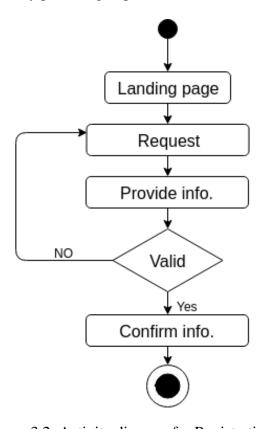


Figure 3.2: Activity diagram for Registration

# **3.2.2 Login**

Registered user can login into the system so that they can access all the services.

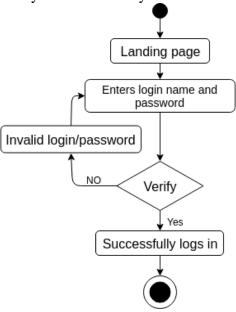


Figure 3.3: Activity diagram for Login

#### 3.2.3 Print Stored Photo

Registered user can give order by photo id. Which is provided by studio owner.

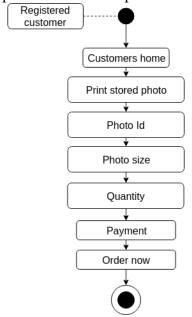


Figure 3.4: Activity diagram for Print Stored Photo

## 3.2.4 Print Non-Stored Photo

Registered user can give order by uploading photo to the system

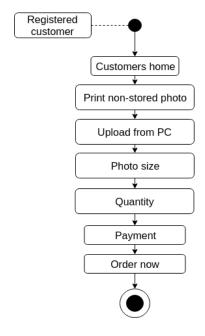


Figure 3.5: Activity diagram for Print Non-Stored Photo

## 3.2.5 Save Order

Registered user can save their order so that they can pay later to give a complete order.

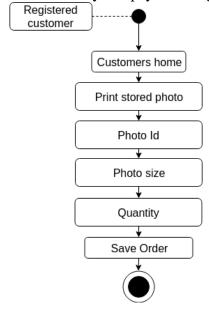


Figure 3.6: Activity diagram for Save order

# **3.2.6 Payment**

When a customer will give a order they have to pay for it. This is the way how payment will work

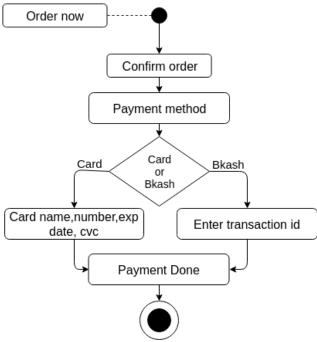


Figure 3.7: Activity diagram for Payment

## **3.2.7 Exact Map**

Exact map/location of that studio

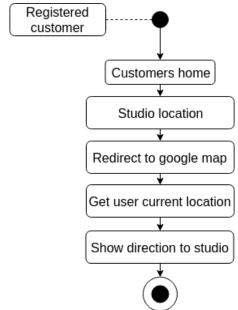


Figure 3.8: Activity diagram for Exact Map

#### 3.2.8 Search Order

This function is for admin by this admin can search for a order by Photo id or transaction id

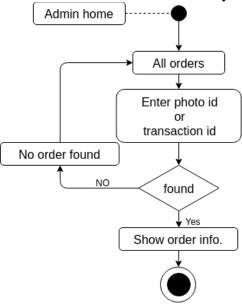
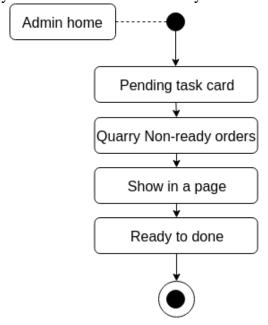


Figure 3.9: Activity diagram for Search Order

# 3.2.9 Pending Task

This function is for admin by this admin can see how many orders are pending to develop



#### 3.2.10 Undelivered Orders

This function is for admin by this admin can see how many orders are ready but not delivered yet

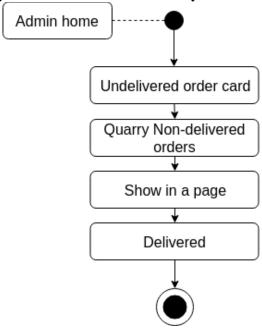


Figure 3.11: Activity diagram for Undelivered Orders

# 3.2.11 Customer Observing

This function is for admin by this admin can see Customers information and active/Deactive a customer

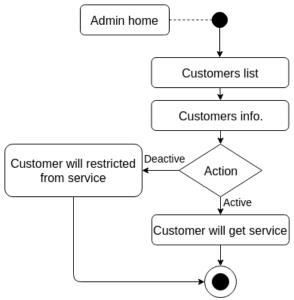


Figure 3.12: Activity diagram for Customer Observing

# 3.3 Sequence Diagrams

Mainly sequence diagrams understand us how the data will be followed in any application. Now I am going to show some sequence diagrams.

#### 3.3.1 Print Stored Photo

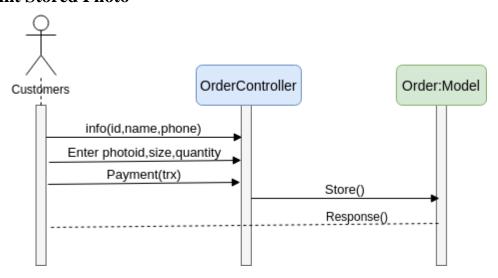


Figure 3.13: Sequence Diagram for Print Stored Photo

## 3.3.2 Print Non-Stored Photo

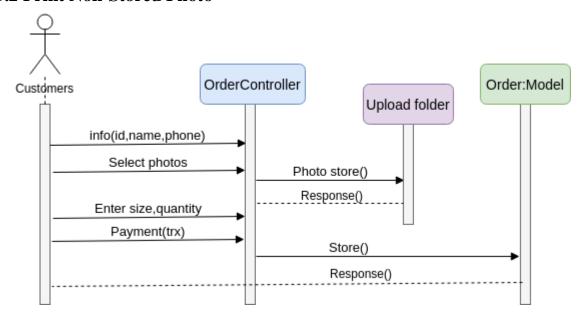


Figure 3.14: Sequence Diagram for Print Non-Stored Photo

## 3.3.3 Save Order

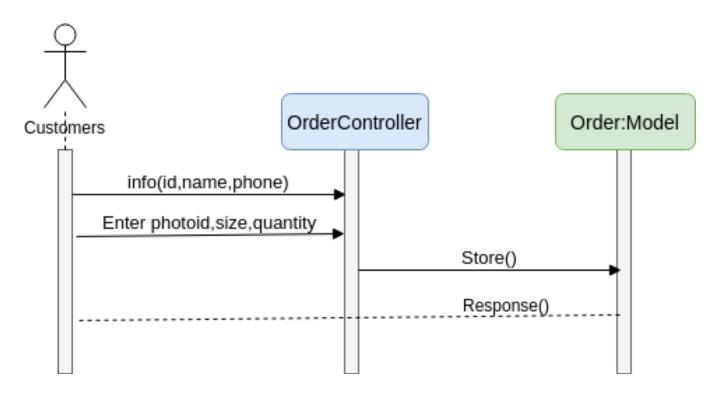


Figure 3.15: Sequence Diagram for Save order

# **3.3.4 Payment**

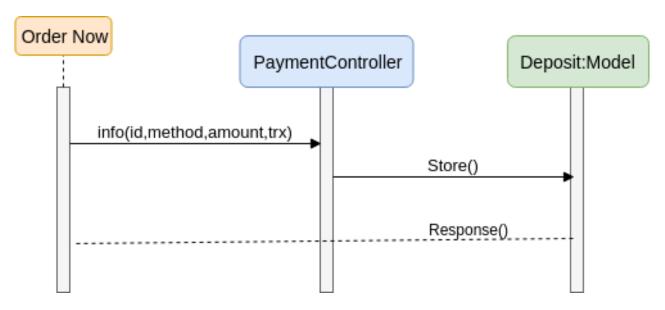


Figure 3.16: Sequence Diagram for Payment

# **3.3.5 Exact Map**

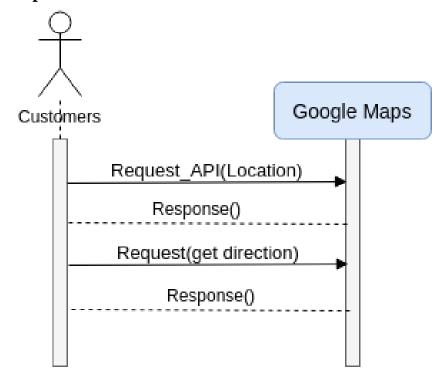


Figure 3.17: Sequence Diagram for Exact Map

# 3.3.6 Pending Task

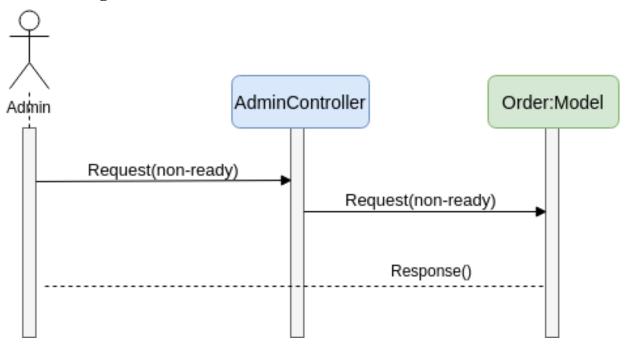


Figure 3.18: Sequence Diagram for Pending Task

## 3.3.7 Undelivered Orders

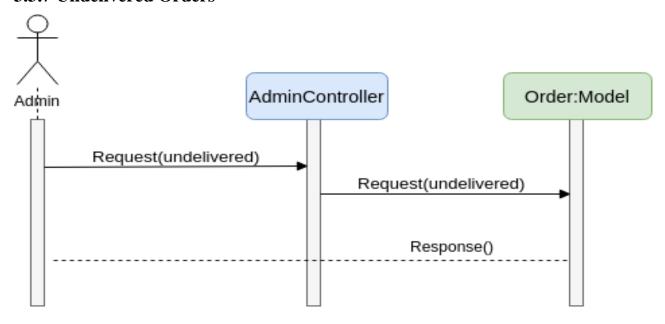


Figure 3.19: Sequence Diagram for Undelivered Orders

# 3.3.8 Customer Serving

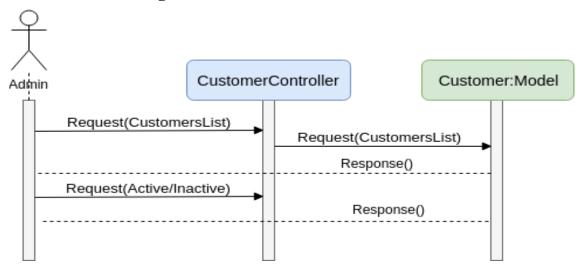


Figure 3.20: Sequence Diagram for Customer Serving

# Chapter: 04

# **System Design Specification**

## 4.1 Development tools and technology

Software development tools are used to develop software. There are different kinds of tools for software developers to make the process of software development very smooth. But now I will mention some of tools that I am using to develop my project.

# **4.1.1** User Interface Technology

First of all, after landing any application, interface of that software is appeared to the user. So, the importance of user interface is very high. For success of any software application, a good looking user interface plays a vital role. User interface includes using good image, graphics, typography, stylesheets, scripting etc.

## 4.1.1.1 CSS framework or Twitter Bootstrap

After completing markup, cascading style sheets are designed. It generally explains how HTML elements will display. There are three ways to write stylesheet. One internal CSS, another is external CSS. And last one is inline CSS. But most of time external CSS is used. Because, by using external CSS, all CSS data can be kept in different files. But nowadays CSS framework seems to be very popular. In our application, I have used Twitter Bootstrap framework. This framework is developed mainly for CSS and JavaScript. It is a free and open source front-end framework. This framework is highly used for designing website and web application also. This framework supports almost every browser. Like Google Chrome, Mozilla Firefox, Opera, Safari, Internet Explorer etc. Bootstrap also provides media query which features responsive layout for different devices with different screen size. Bootstrap provides a set of some files which contains stylesheets which gives basic definition.

Bootstrap also provides some JavaScript components also. There are some built in components like JQuery UI. By using Bootstrap framework, we get both CSS and JavaScript facilities with a single platform. But before start designing an application interface with Bootstrap, one may have some basic knowledge about this framework. It will increase the efficiency.

## **4.1.1.2 JQuery UI**

JQuery UI is a name of library which uses JavaScript as core programming language. It simplifies codes of a programming language named JavaScript. Generally, it interacts with Graphical User Interface (GUI). It also provides visual effects with animation. It can also override cascading style sheets. It also provides AJAX functionality which stands for Asynchronous JavaScript and XML. It is also a subset of JavaScript. By using AJAX no page reloading is required. It is also compatible with any browser like Google Chrome, Mozilla Firefox, Opera, Safari, Internet Explorer etc.

# 4.1.1.3 Programming Language

For developing any application system minimum one programming language is essential. In my application, there are two different programming language is used. One is for front-end side. And another is for server side. The front-end language that I have used to my application is JavaScript. And the server side programming language name is PHP which stands for Hypertext Preprocessor. Both of them are open source general purpose scripting language.

## 4.1.2 Implemented tools and platform

As I have said before, there are some tools and technologies that need to be used for developing software. It is very important to determine which tools and platforms are the best match of my requirements. After making a proper decision, one need to start using them.

## **4.1.2.1 Integrated Development Environment**

IDE stands for Integrated Development Environment. Programmers write code on IDE. After that IDE provide the feature to execute the source code. For developing my web application, I have used two IDE. Because my project has two versions. One is for web version, and anotheris for mobile users. To develop my web version, I have used phpStromes which is powered by JetBrainscompany. It is a commercial IDE for cross platform environment. It is able to suggest code to the programmers also.

#### **4.1.2.2** Web Server

We have used apache server. It is a free and open source software to use. It can be used on cross platform. It supports a wide range of features and most of them are already implemented as compiled modules. This module can extend the main features or core functionality.

#### 4.1.2.3 Database Server

For developing our whole project, we have followed Relational Database Management System or RDBMS. And we find that MySql provides the feature of RDBMS. So we should not have any issue to use MySql database. It is also very easy to use. It can also ensure the security, scalability, high performance and many things.

## 4.2 Class Diagram

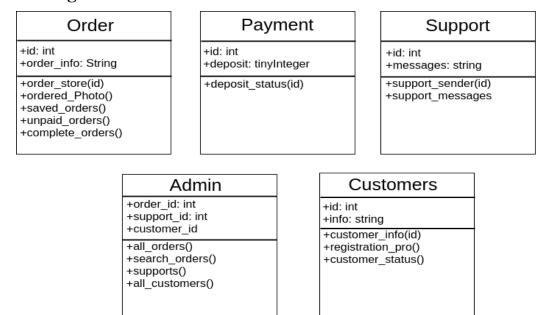


Figure 4.0: Class Diagram

## 4.3 Database Design Diagram

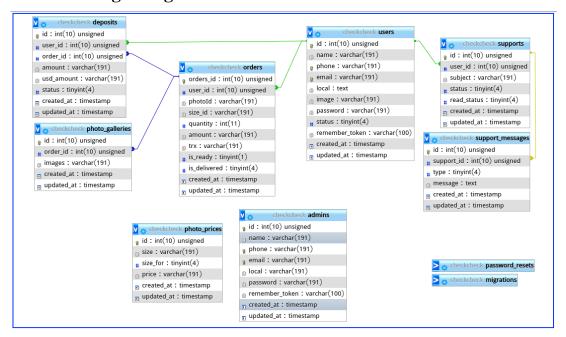


Figure 4.1: Database Diagram

Chapter: 05

**System Test** 

## **5.1 Testing Features**

Feature testing can be considered as making change to add or modify the new functionality to the existing project. To test the features and functionality, a new test set is to be written for testing purpose. Almost every feature and functionality have different characteristics. Those are designed to make the application more useful, intuitive, reliable, secured, scalable, effective and efficient.

#### **5.1.1** Features to be tested

Features	Priority	Description	
Registration	1	To become a customer they need to be registered first.	
Login	1	User must be authenticated by login	
Logout	1	Session must be destroyed after logout	
Giving photo order by photo id	3	Order data must be inserted properly with photo id	
Giving order by uploading photo	3	Photo upload must have to be uploaded properly	
Saving a order	2	Order data must be inserted properly	
Order history	2	Retrieve a users orders history properly	
Searching a order by admin	3	Admin should found the orders data properly	
Watching pending orders	3	Admin should found which orders are pending	
Watching undelivered orders	2	Admin should found which orders are not delivered yet	
Customer observing	1	Admin should watch customers information perfectly	
Technological Features			
Database	1	Database will be used at almost every operation.	
		So this is why, this part must be controlled	
		tightly.	

#### Here,

1 = Low Priority,

2 = Medium Priority,

3 = High Priority

# **5.2 Testing Strategy**

Testing strategy is to be considered as a general purpose of testing process. Testing object, testing function methods, total available resources are included to the testing strategy. It is also the indicator of test levels that are to be performed on the whole software development life cycle. Those strategies that are prepared by the quality assurance team should be reviewed by the developers of the application. After that it should be reviewed by the test team leads.

Different kinds of testing strategies can be performed according to the type of application system that need to be tested.

## **5.2.1 Test approach**

To complete the test process, testers must take some approach. There are mainly two test approach.

- ➤ Automation testing: Automation testing is a name of testing technique by which test engineers prepare some scripts according to test plan and after that they use suitable tools to perform testing of the software. Nowadays, almost every software company follow the approach of automation testing.
- ➤ Manual testing: Manual testing is also a name of technique of testing by searching out the bugs or vulnerability in an application. In this process, test engineers manually test and execute the test cases without having any automation tools.

## 5.2.1.1 Black Box Testing

Black box testing is a software testing method by which test engineers test the software without having knowledge of the internal architecture of the application that need to be tested. It is also known as behavioral testing. Black box testing can be both functional or non-functional. It ignores the internal mechanism of a system. We have decided to perform the equivalent class partitioning and Boundary value analysis techniques to implement.

## **5.2.1.2** Equivalent Class Partitioning

Equivalent class partitioning is also known as equivalent partitioning. In this technique input data is to be divided into groups. Those group of data are expected to perform as similar behavior. Each groups works as same as other groups also.

The main advantage of following the approach of equivalent class partitioning is to reduce the total number of test cases from infinite to finite. Another advantage is that it can be applied to all testing levels also.

For legal input value output will produce a meaning data. But for illegal input value, output will not produce meaningful data.

# **5.2.1.3 Boundary Value Analysis**

Boundary value analysis is a name of software testing by which input data can be included within a boundary range. Following this strategy, test engineers firstly define the boundary value. After that they take a specific boundary and then write the test cases that will be go through the application for testing purpose. After completing those tasks, testers use test cases to test applications software.

## 5.2.1.4 White Box Testing

White box testing is also a name of testing approach which is also known as clear box testing, glass box testing, open box testing, transparent box testing, code based testing or structural testing. It is opposite to the black box testing. In black box testing, the internal architecture or algorithms is not known to the testers whether the whole software architecture is known to the testers while white box testing.

Testers can also predict the output of every test cases for white box testing. White box testing can be classified into some levels. Such as:

- ➤ Unit Testing
- > Integration Testing
- > System Testing

The main advantage of white box testing is that testing is more throughout and the testing can be started from the very beginning stage.

#### 5.2.2 Pass / Fail Criteria

Pass or fail criteria will be set by the test engineers. They will prepare the pass / fail criteria on the basis of which input data are worked and which are not works well. Those data that are worked well will considered as pass criteria. And rest of input data will be considered as fail criteria.

Now I will give the pass / fail criteria below.

- > System crash will not be considered as pass case.
- > If any criteria pass 100% times, then it will be considered as pass criteria only.
- ➤ If data can't be displayed to the application properly, then it is also to be considered as fail criteria.

## **5.3 Testing Schedule**

Test Phase	Time
Testing plan create	1 week
Test specification	2 week
Unit testing	During development time
Component test	1 week
Test Phase	Time
Integration testing	1 week
Validating use cases	1 week
Testing user interfaces	1 week
Load testing	1 week

Performance testing	1 week
Release to production	1 week

## **5.4 Testing Environment**

Testing environment means to prepare the environment with hardware and software so that test engineers can be able to execute test cases as required. Besides hardware and software usage, network configuration might be needed to execute test plans.

For making the environment for testing, some key area need to set up. Those are:

- ➤ Test data
- ➤ Database server
- ➤ Client's operating system
- > Front end running environment
- > Browser
- > System and application
- > Network
- ➤ Hardware with server operating system
- ➤ Documentation is also required. Like: user manuals, installation guides, configuration guides, documents etc.

#### 5.6 Test Cases

A test case refers to some rules and regulations or conditions by which it can be determined whether a system can be able to meet the works or requirements under test cases properly. We know, there is a chance to have some fault or break holes in any application. This is very common scenario. And those issues are solved usually by software testing approaches. But if we don't care of those issues, then the full application development might be ruined. So proper testing must be needed. For testing my application, I have prepared some test cases. Now, I am going to provide them.

## 5.5.1 Log In

Test case #1	Test case name: Log in
System: Automatic order place	Subsystem: N/A
<b>Designed by:</b> Ahmed Musa	Designed date: 10-April-2019
Executed by:	Executed date:

**Short description:** The registered users need to login to the application, and before that my application will check the authentication and authorization.

#### **Pre-conditions:**

- Users are always redirected to the login page whether they have not authenticated by application while entering into the landingpage.
- Assume that, the Email is 'ahmusa@live.com' and password is 'bangladesh'

Step	Email	Password	Expected result	Pass/Fail	Comment
1	Ahmu	dsgs	Invalid		
2	ahmusa@live.com		Password can't be blank		
3		Bangla	Email can't be blank		
4	ahmusa@live.com	bangladesh	Successfully login to the application and redirected to the landingpage		

**Post-conditions:** Users including Customer and Admin will successfully login to the application.

# **5.5.2** Input field is required

Test case #2 Test case name: Input field is required in all	
	pages
System: Automatic order place and	Subsystem: N/A
Designed by: Ahmed Musa	Designed date: 10-April-2019
Executed by:	Executed date:

**Short description:** Users customers and admin need to fill up all that fields which as marked as required.

#### **Pre-conditions:**

- Users need to login first to be authenticated by the application program.
- Every required field must be filled up by that user.

Step	Action	Response	Pass/Fail	Comment
1	All required fields are not filled yet.	Fields must not be empty.		

2	1 1	Application will save those information.		
Post-cond	litions: Every information is saved to the da	tabase of the application progr	ram	
properly.				

# 5.5.3 Making an order

Test case #3	Test case name: Making a order
System: Automatic order place and	Subsystem: N/A
<b>Designed by:</b> Ahmed Musa	Designed date: 10-April-2019
Executed by:	Executed date:

**Short description:** A registered customer will give a order by a photo id which is provided by studio.

## **Pre-conditions:**

- User must be authenticated by application.
- User type must be Customer.
- User must have a photo Id

Step	Action	Response	Pass/Fail	Comment
1	All data is not provided	Application push customer to provide all required data to the application.		
2	Data provided properly	Data saved successfully for completing a order		
Post-cond	litions: After providing order data to t	he application, it will be pending for	develop.	•

Chapter: 06

**User Manual** 

## 6.1 Website

First of all a user will get a website to explore studios information and services then here they will get a customer panel named "Login As Customer"

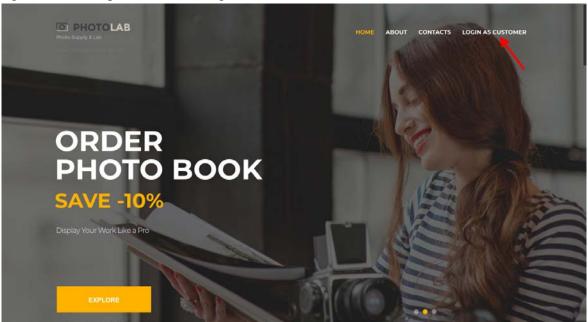


Figure 6.1: Website

# **6.2** Customer login page

Customers need to login in the application to get service from the studio.

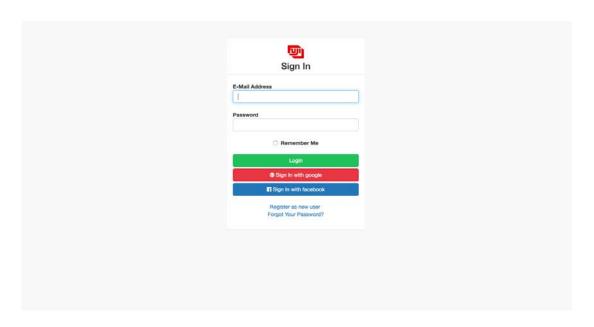


Figure 6.2: Customer login page

# 6.3 Customers landing page

Customer will be able see this page when they authorised by the system authentication

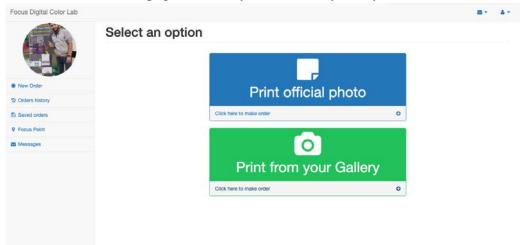


Figure 6.3: Customers landing page

# 6.4 Making order by photo ID

Customers will make order clicking by "Print official photo" by their photo id, which is provided by photo studio.

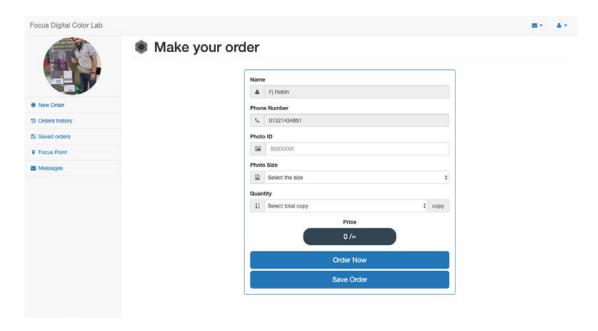


Figure 6.4: Making new order by photo id

# 6.5 Making new order by uploading photo

Customers will make order clicking by "Print from gallery" by uploading their photo, Clicking "+" icon customers will be able to upload maximum ten photos.

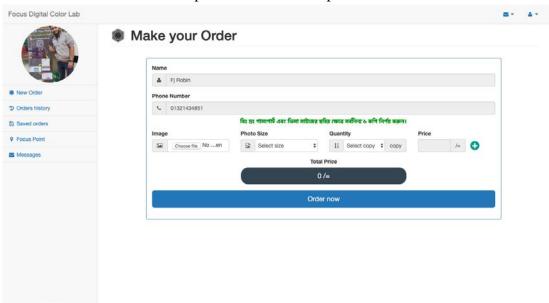


Figure 6.5: Making new order by uploading photo

### 6.6 Order confirmation

Customers will be able to confirm his/her orders before payment.

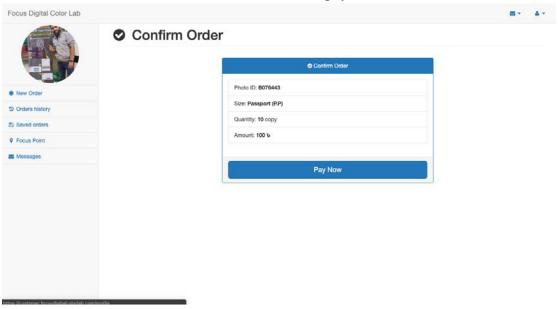


Figure 6.6: Confirm order

# 6.7 Selecting payment gateway

After confirmation by clicking one of them, customer will be able to pay by that payment method

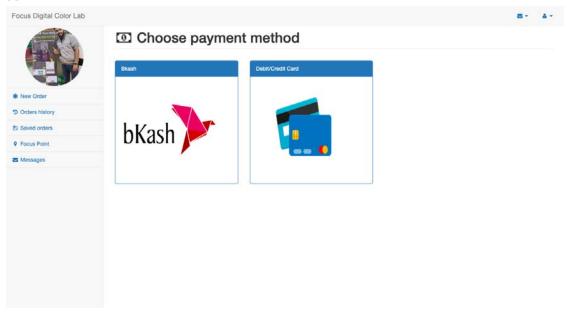


Figure 6.7: Selecting payment method

## 6.8 Paying by bKash

After selecting bkash as payment method, customer will be able to complete their order by putting transaction id here

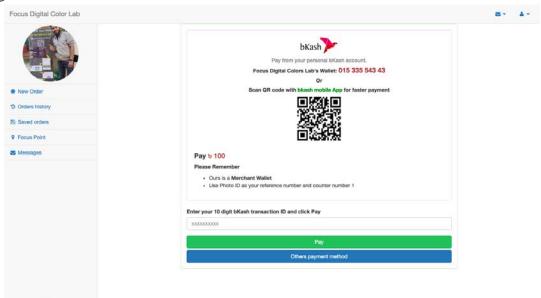


Figure 6.8: Paying by bKash

## 6.9 Paying by Card

After selecting card as payment method, customer will be able to complete their order by putting cards information here

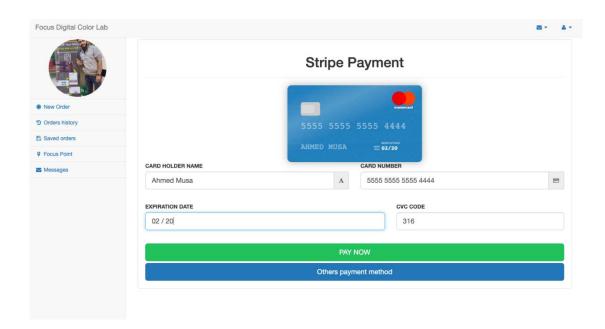


Figure 6.9: Paying by card

## **6.10 Customer orders history**

By clicking "Orders history" from side menu customer will be able to see their order history and orders status as well

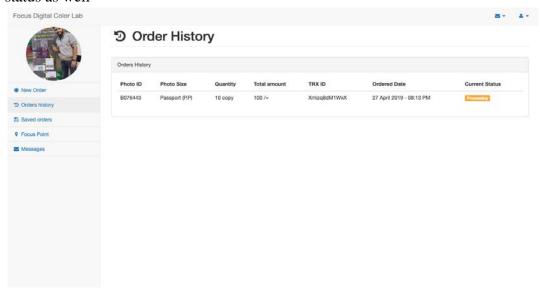


Figure 6.10: Orders history and status

#### 6.11 Customer saved order

By clicking "Saved orders" from side menu customer will be able to see their saved orders and able to pay from here or can delete that order

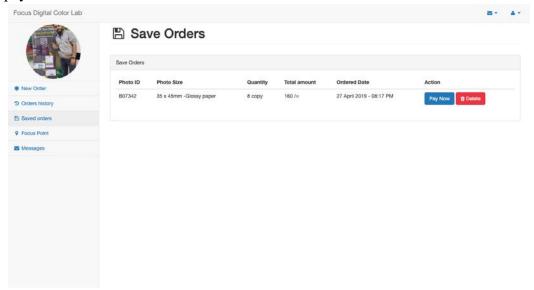


Figure 6.11: Saved order

# 6.12 Focus point/Studio location

By clicking "Focus point" from side menu customer will be able to see the studio location over the google map

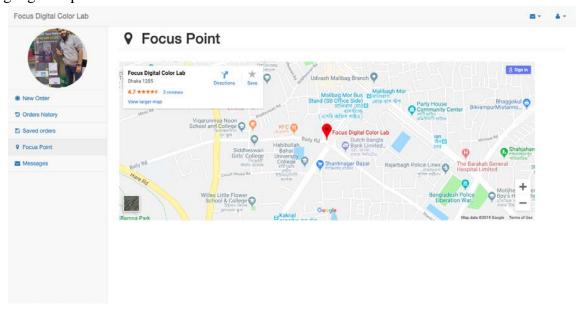


Figure 6.12: Focus Point

## 6.13 Sending message to admin

Here customer will be able to send any message/complain/feedback to admin, just have to give a message subject then full content

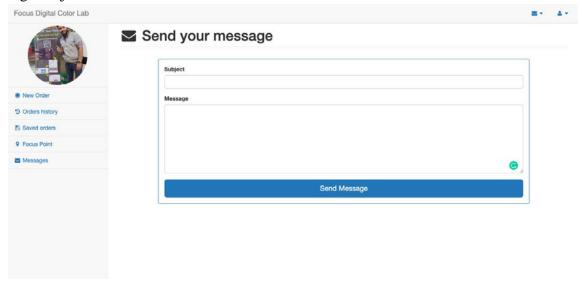


Figure 6.13: Sending message to admin

## 6.14 Customers profile

By clicking profile photo from side menu customer will be able to edit his/her profile photo, phone number, address

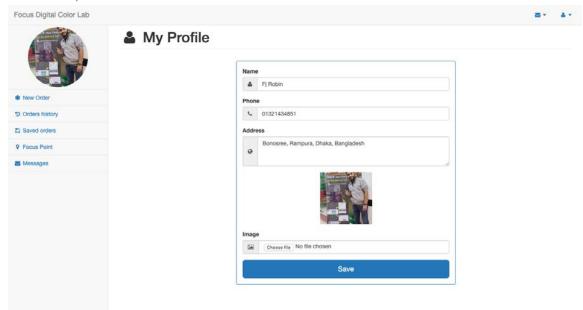


Figure 6.14: Customers profile

# **6.15 Customers logout**

Here, customers will be able to logout from system by clicking "Logout" from top menu

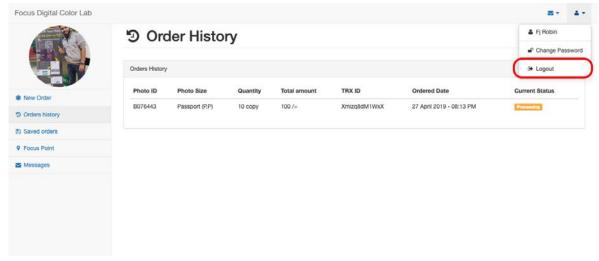


Figure 6.15: Customers logout

# 6.16 Admin login

Admin have to login into system to maintain orders, website/admin by this url admin will get login page

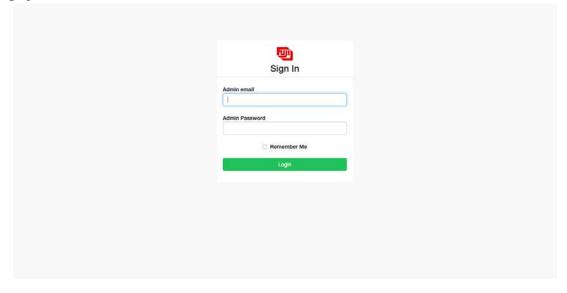


Figure 6.16: Admin login page

#### 6.17 Admins Dashboard

When admin successfully login into system he/she will be able see a complete view of full maintaining system



Figure 6.17: Admins dashboard

#### 6.18 All orders

By clicking "Orders" from side menu bar admin will be able see all orders condition

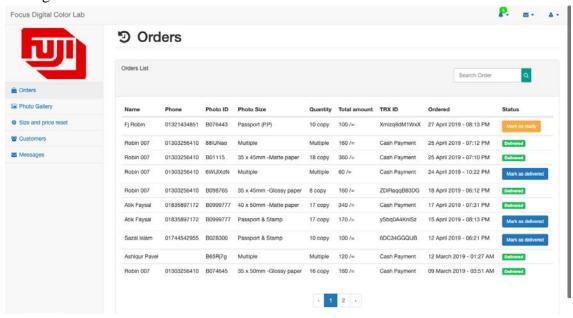


Figure 6.18: All orders

## 6.19 Photo gallery

By clicking "Photo Gallery" from side menu bar admin will be able see all orders which is non-stored photo/Uploaded photo

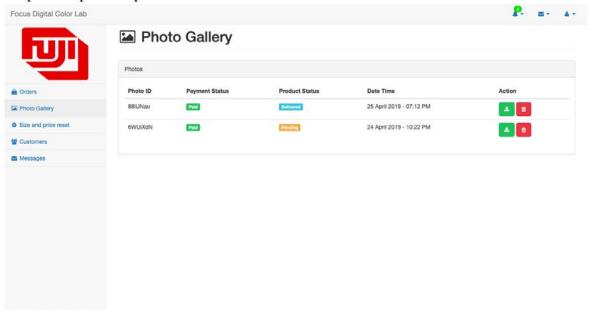


Figure 6.19: Photo gallery

## 6.20 Pending task

By clicking "Pending Task" from dashboard card admin will be able see all orders which is incomplete or undeveloped orders

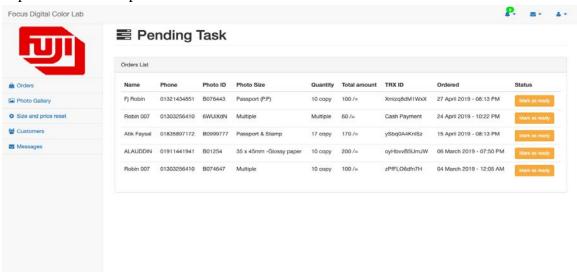


Figure 6.20: Pending task

#### **6.21 Undelivered orders**

By clicking "Undelivered orders" from dashboard card admin will be able see all orders which is completed but customer didn't collect it yet

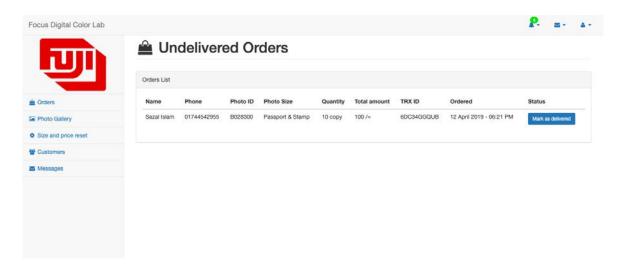


Figure 6.21: Undelivered Orders

## **6.22** Photo size and price settings

By clicking "Size and price reset" from side menu bar admin will be able reset different type of sizes and prices for them

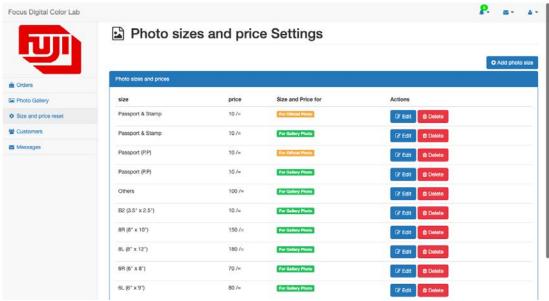


Figure 6.22: Photo size and price settings

## 6.23 Customers observing

By clicking "Customers" from side menu bar admin will be able see all of users and can active/deactived them

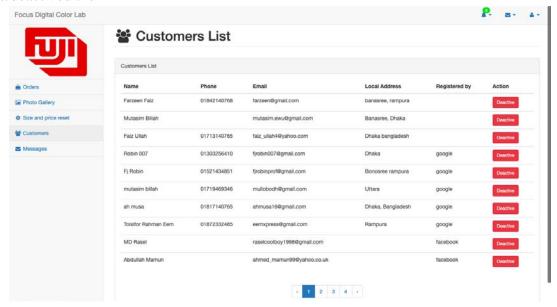


Figure 6.23: Customer observing

## **6.24 Messages**

By clicking "Messages" from side menu bar admin will be able see all messages from customers

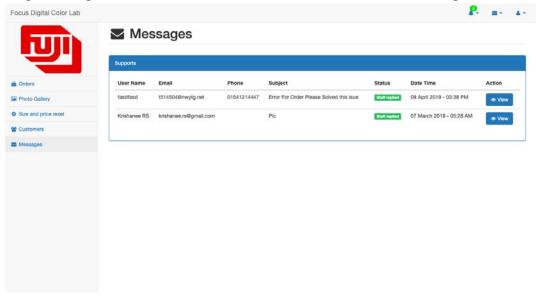


Figure 6.24: Messages from customers

Chapter: 07

Conclusion

#### 7.1 GitHub Link

https://github.com/FjRobin/pFDLC

## 7.2 Project Summary

I have started to develop this project from August. From the very starting of development of this project, it demands hard working, patients, persistency to meet the requirements of stakeholders. After that I have proposed the design. And then started to work.

Database plays a vital role for any application software. And so this is why, I have designed the database diagram having tables with proper relationship. After that, I have prepared the user interface and take their approval to continue to the next part. It is to be said that, the interface of my application is very simple and easy to understand. After completing that, I have started to write the core functionality of the project.

Developing project is not end of all tasks actually. There are some other important tasks to perform. And that is testing. It is also known as quality assurance also. Almost at every software company there are a quality assurance team. Their main responsibility is to find the loopholes or vulnerability of software. If there any bug remains before handover to the stakeholders, there is a change to ruin the whole project. So testing plan is very important. And after developing the project, I have assured the quality of this project.

#### 7.3 Limitations

For developing this project, I have faced some limitations. Now I will describe those in brief.

- **Limited photo uploading:** In my application there is a option where customers can upload their photo to print but that is have a limitation that customer will be able to upload only less than ten photos
- **Execution time:** So that this system will upload photos the system to more time than regular execution time.

#### 7.4 Obstacles and Achievements

I believe that if there are not any obstacles to develop a project, then there doesn't have any challenges. Because we know, challenge give us the opportunity to prove ourselves. Obstacles, challenges and achievements are like a path to the success.

Before starting this project, I didn't know the actual flow of software development life cycle. By developing this project, I have learnt to know how to have a row requirement from clients. After that I have learnt system analysis, database design and many things. My supervisor helps me a lot from the very beginning of the development of this project.

#### 7.5 References

I have gained some knowledge from some platforms. Obviously I will mention those references. For making my project successful those resources help me a lot. Not I will mention the names below.

- www.google.com
- www.youtube.com
- www.github.com
- www.wikipedia.com
- www.php.net
- www.mysql.com
- www.mysql.com/products/workbench
- www.themeforest.net
- www.getbootstrap.com
- www.w3schools.com
- www.jquery.com
- www.sublimetext.com/3
- www.apachefriends.org
- www.stakeoverflow.com
- <a href="https://www.jetbrains.com/">https://www.jetbrains.com/</a>