

Java Institute for Advanced Technology

Department of Examinations



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Acknowledgment

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I am extremely grateful to my parent for their love, care, and sacrifices they made to build a better future for me. And the encouragement they have given me to complete this project.

Finally, I want to express my gratitude to my friends, the management of Java Institute, and everyone who supports me to complete this project.

Abstract

This Project Document contains the problem I addressed to bring a small local camera item-selling shop to the island-wide market through a web application called NDCamera. And all web application requirements of the NDCamera, Development processes, User interfaces, Implementation Processes, Technologies that have been used to develop the application, Final result, Future Development Ideas, Conclusions, and What I learned from doing the project are also contained.

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1. Introduction:

1.1 About

This is an e-commerce web application developed for a small local store that sells camera items.

1.2 Problem Statement

Because of the economic crisis in Sri Lanka, customers have difficulty visiting the shops to get their needs. Then the local shops lose many customers. So I needed to open a local shop in the island-wide online customer base to increase sales and to give customers web applications to easily order products from the comfort of their homes and don't waste their fuel as well.

1.3 Solution

The solution was to build a web application as the ideal way to tackle this issue. The NDCamera web application was developed as a result of this.

2. Specifications:

2.1 Functional Requirements

- Sign Up
- Sign In
- Sign Out
- Profile
- Home
- Shop (Advanced Search)
- Product View
- Shopping Cart
- Wish List
- Checkout
- Payment Gateway
- Orders
- Blog
- Contact
- User Management (Admin)
- Brand Management (Admin)
- Product Management (Admin)
- Order Management (Admin)
- Business Settings (Admin)

2.2 Non-Functional Requirements

- User Friendly
- The application must work faster

2.3 Constraints

- Time limitation
- Budget limitation to make the google map direction API connect




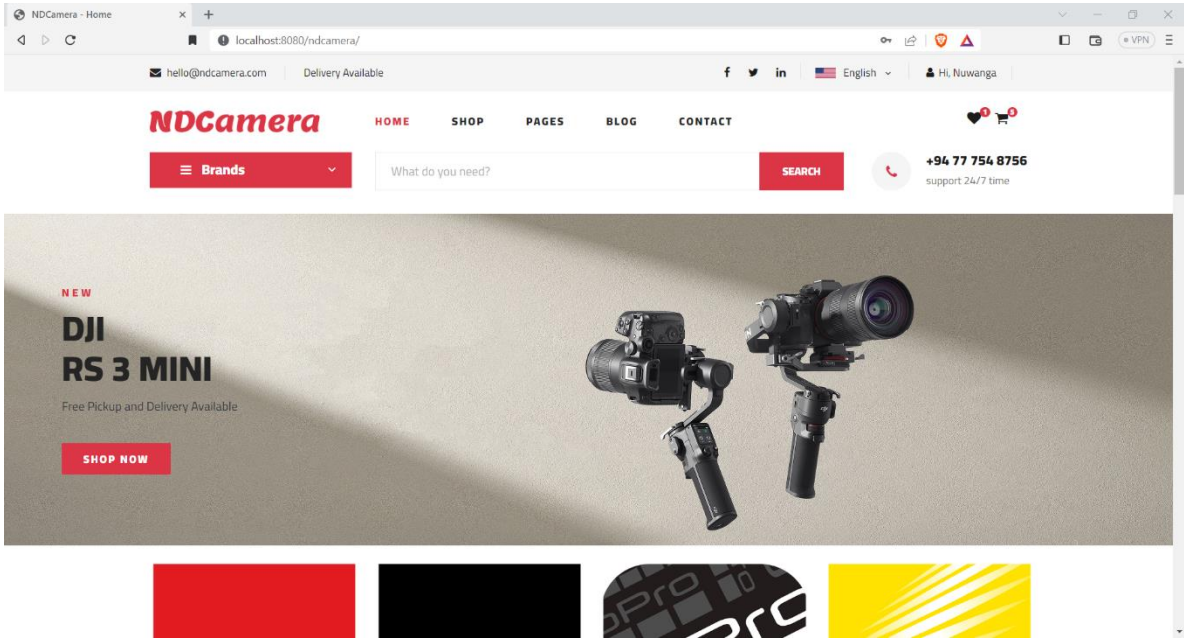
3. Design:

3.1 Architecture



4. Implementation:

4.1 GUIs

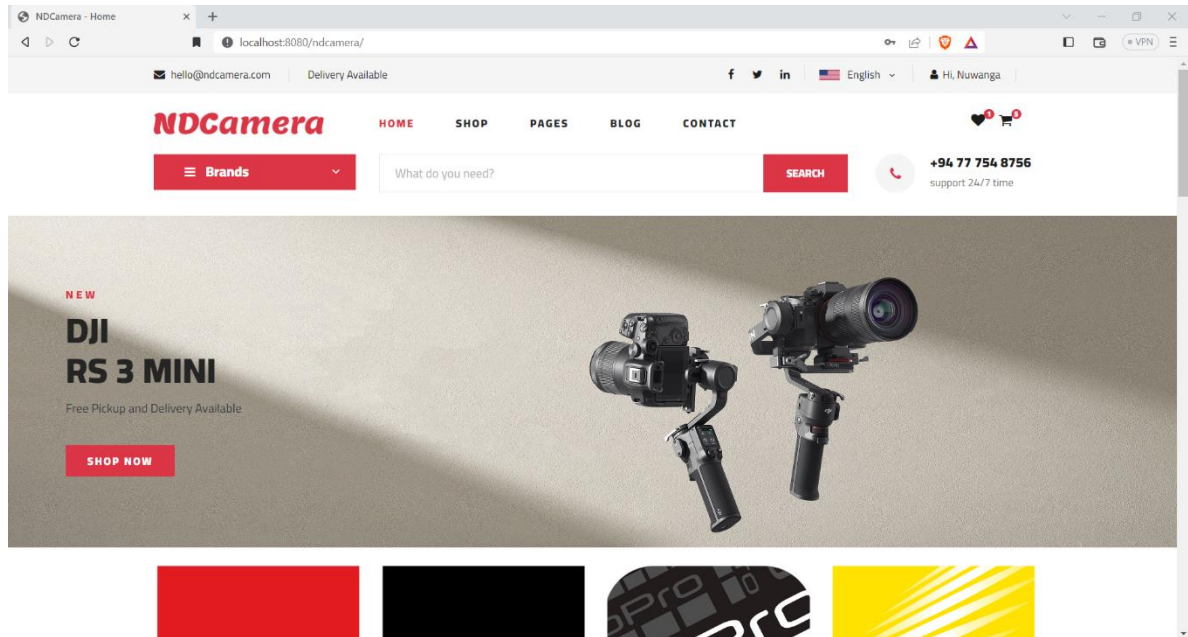
   <div>GRAPHICAL USER UIS HF2L 04/EX/01 FORM NO: HF2L 04/EX/01/FRM-01</div>	
1. Candidate Name : M.R.P.N.Tharuksha Rajapaksha	2. GUI No : 1
3. Name of relevant use case :	
4. Title of the GUI : Index	
	
01. Brief Description of the GUI: <p>This is the first UI visible to anyone who accesses this Web application. This UI is the main UI of this Web application. This UI provides access to other UIs.</p>	

1. Candidate Name : M.R.P.N.Tharuksha Rajapaksha

2. GUI No : 2

3. Name of relevant use case :

4. Title of the GUI : Header



01. Brief Description of the GUI:

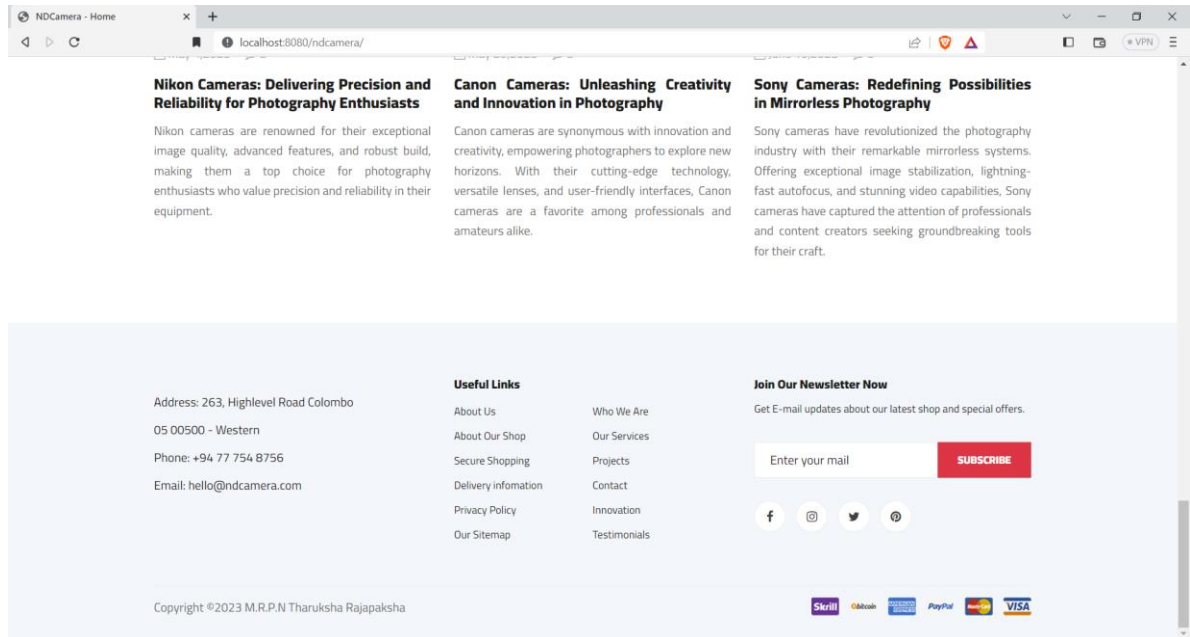
The header of this web application displays some of the details of this web application and provides some links to access some of the other UIs of this web application.

1. Candidate Name : M.R.P.N.Tharuksha Rajapaksha

2. GUI No : 2

3. Name of relevant use case :

4. Title of the GUI : Footer



01. Brief Description of the GUI:

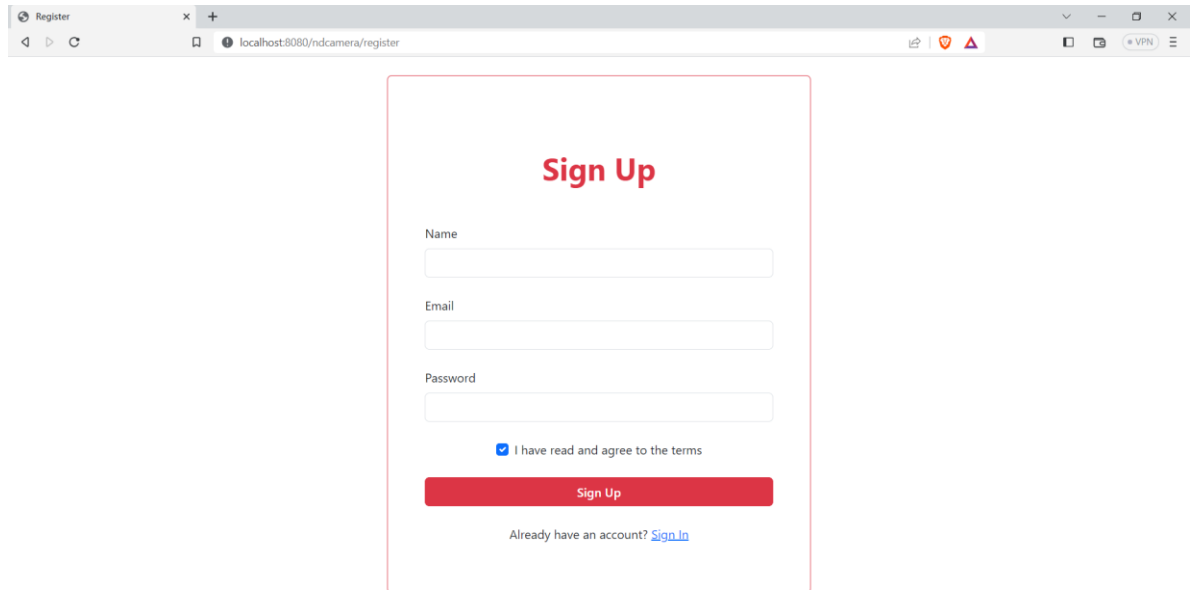
The footer of this web application displays some of the details of this web application and provide some links to access some of the other UIs of this web application.

1. Candidate Name : M.R.P.N.Tharuksha Rajapaksha

2. GUI No : 3

3. Name of relevant use case :

4. Title of the GUI : User Sign Up



Register

localhost:8080/ndcamera/register

Sign Up

Name

Email

Password

☒ I have read and agree to the terms

Sign Up

Already have an account? [Sign In](#)

01. Brief Description of the GUI:

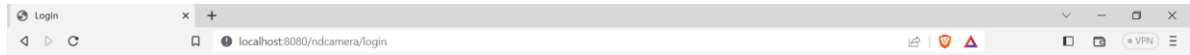
This UI is used to register a new user. The "Sign Up" button is used to verify and register the details entered by a user. The "Sign In" link is used to Sign In.

1. Candidate Name : M.R.P.N.Tharuksha Rajapaksha

2. GUI No : 4

3. Name of relevant use case :

4. Title of the GUI : User & Admin Sign In



01. Brief Description of the GUI:

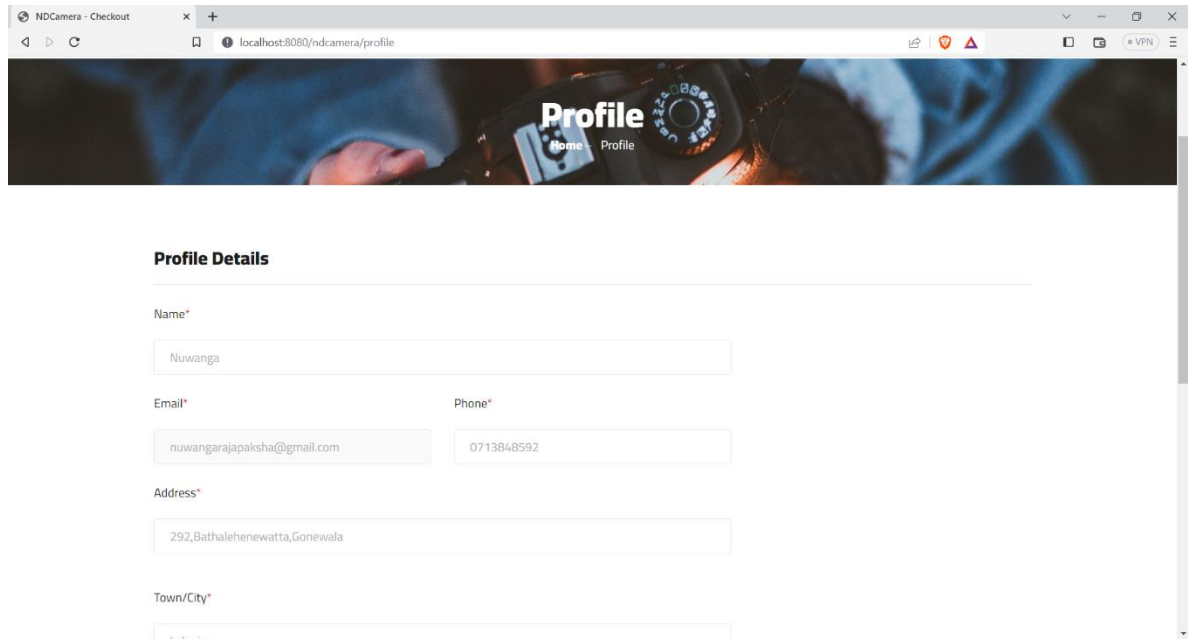
This UI is used users & admins to Sign In to the web application. The "Sign In" button is used to verify the email and the password entered by the user. The "Sign Up" link is used to register a new user.

1. Candidate Name : M.R.P.N.Tharuksha Rajapaksha

2. GUI No : 6

3. Name of relevant use case :

4. Title of the GUI : User Profile



Profile
Home Profile

Profile Details

Name*

Nuwanga

Email* Phone*

nuwanganarajapaksha@gmail.com 0713848592

Address*

292,Bathalehenewatta,Gonewala

Town/City*

01. Brief Description of the GUI:

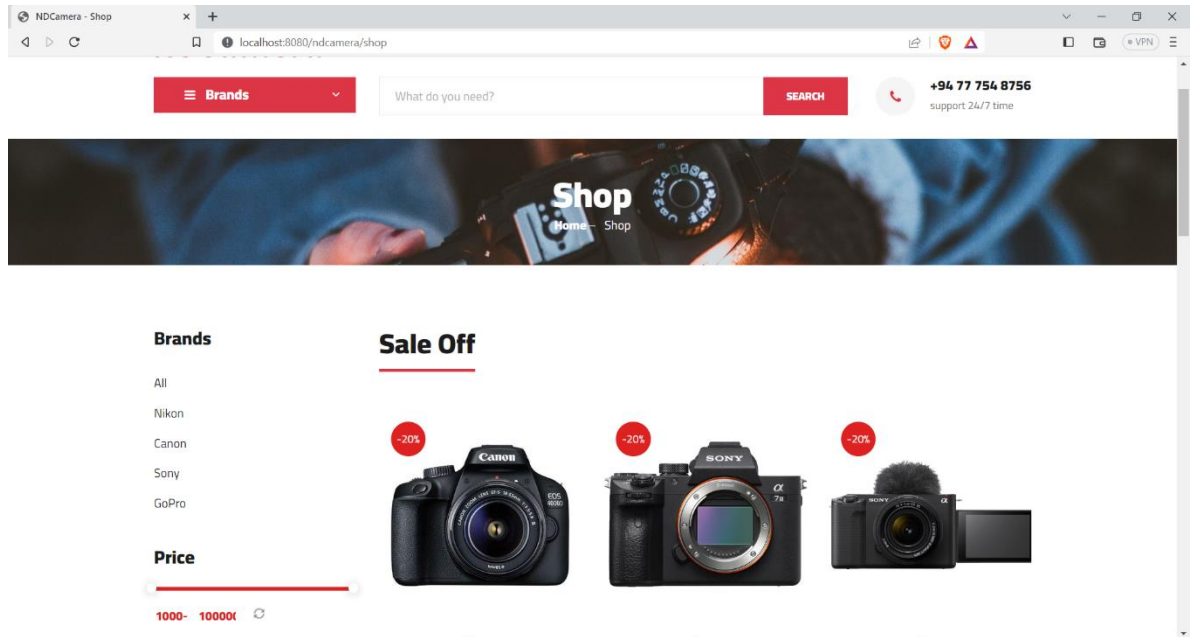
This UI is used to display and update the profile details of a user. The "UPDATE" button is used to verify and update the profile details. The "CHANGE PASSWORD" button is used to verify and update the password. And Deactivate link is used to deactivate the account.

1. Candidate Name : M.R.P.N.Tharuksha Rajapaksha

2. GUI No : 7

3. Name of relevant use case :

4. Title of the GUI : Shop



01. Brief Description of the GUI:

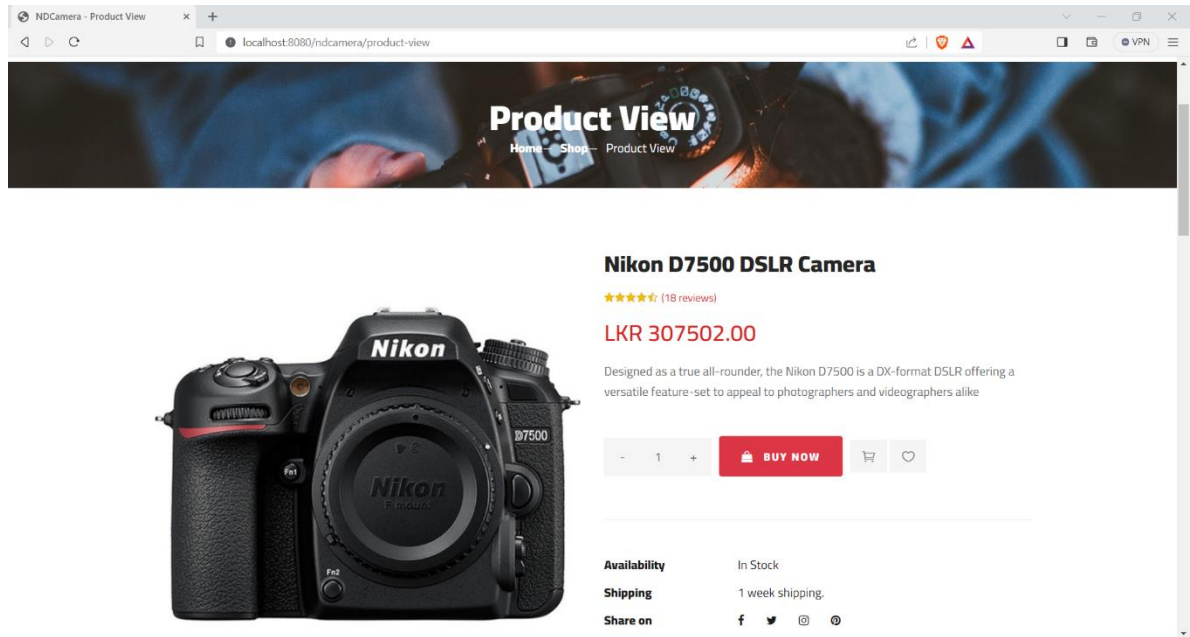
This UI is used to search/select products. And users can buy, add to cart, and add to wish list products here.

1. Candidate Name : M.R.P.N.Tharuksha Rajapaksha

2. GUI No : 10

3. Name of relevant use case :

4. Title of the GUI : Product View



01. Brief Description of the GUI:

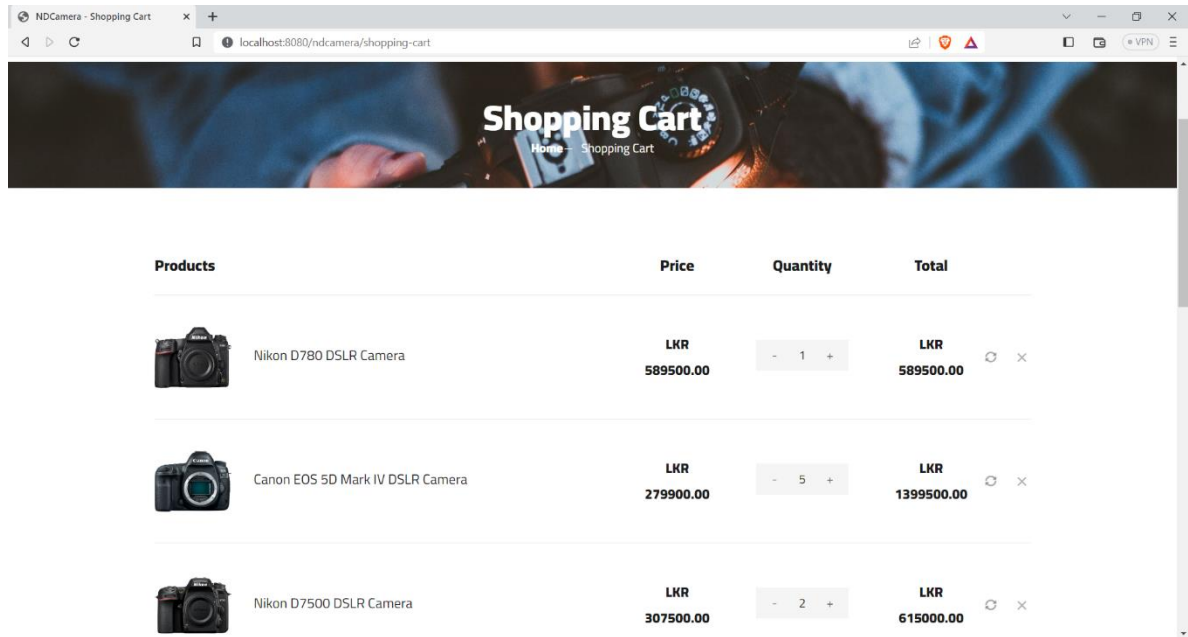
This UI is used to show the details of a product. And users can buy, add to cart, and add to wish list products here.

1. Candidate Name : M.R.P.N.Tharuksha Rajapaksha

2. GUI No : 8

3. Name of relevant use case :

4. Title of the GUI : Shopping Cart



01. Brief Description of the GUI:

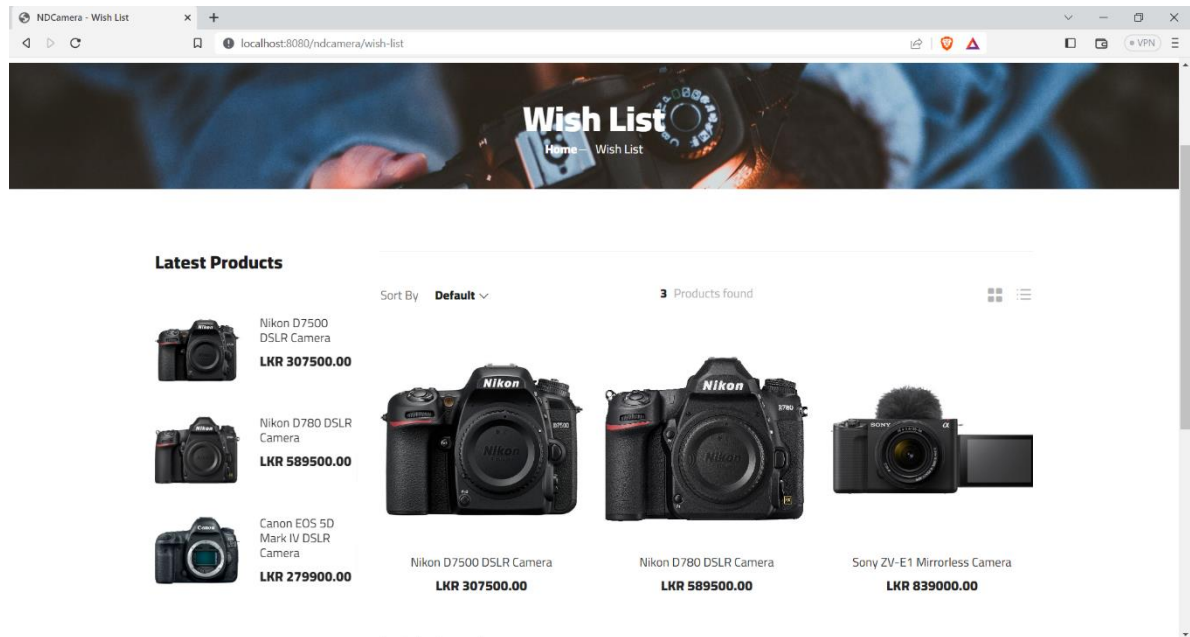
This UI is the shopping cart of this web application. Users can update products quantity and remove cart items here. The "CONTINUE SHOPPING" button is used to redirect to shop. The "PROCEED TO CHECKOUT" button is used to checkout all products in the cart.

1. Candidate Name : M.R.P.N.Tharuksha Rajapaksha

2. GUI No : 9

3. Name of relevant use case :

4. Title of the GUI : Wish List



01. Brief Description of the GUI:

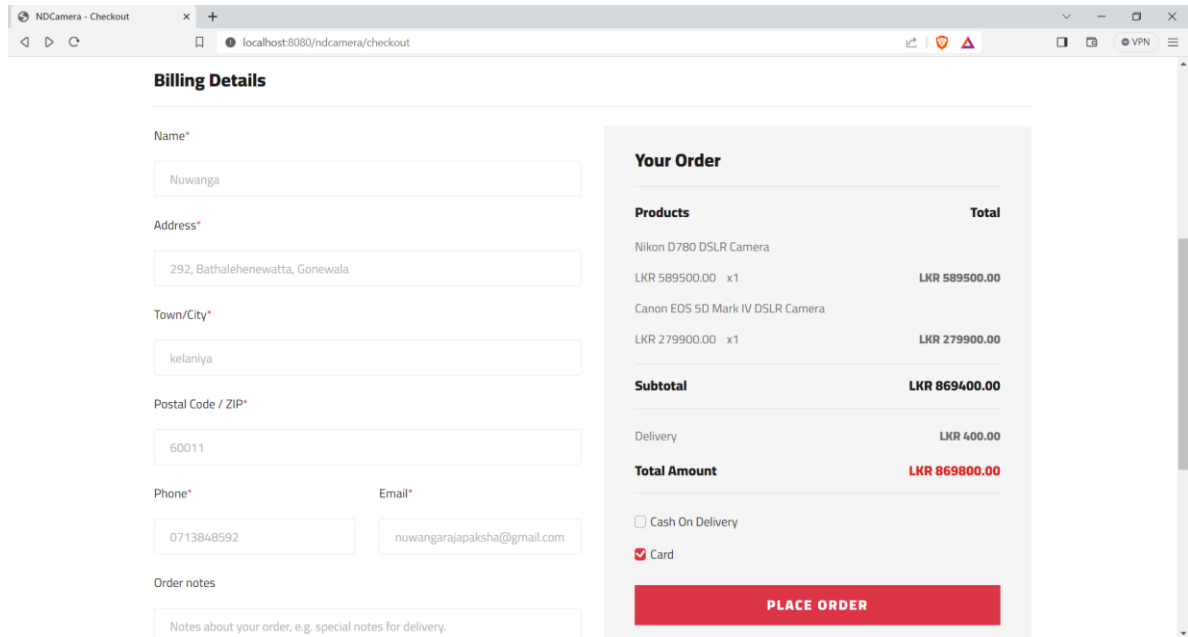
This UI is the wish list of this web application. Users can buy, add to cart, and remove from wish list products here.

1. Candidate Name : M.R.P.N.Tharuksha Rajapaksha

2. GUI No : 11

3. Name of relevant use case :

4. Title of the GUI : Checkout



The screenshot shows a web browser window titled "ND Camera - Checkout" with the URL "localhost:8080/ndcamera/checkout". The page is divided into two main sections: "Billing Details" and "Your Order".

Billing Details

Name*
Nuwanga

Address*
292, Bathalehenewatta, Gnewala

Town/City*
kelaniya

Postal Code / ZIP*
60011

Phone*
0713848592

Email*
nuwanarajapaksha@gmail.com

Order notes
Notes about your order, e.g. special notes for delivery.

Your Order

Products	Total
Nikon D780 DSLR Camera	
LKR 589500.00 x1	LKR 589500.00
Canon EOS 5D Mark IV DSLR Camera	
LKR 279900.00 x1	LKR 279900.00
Subtotal	LKR 869400.00
Delivery	LKR 400.00
Total Amount	LKR 869800.00

☐ Cash On Delivery
☒ Card

PLACE ORDER

01. Brief Description of the GUI:

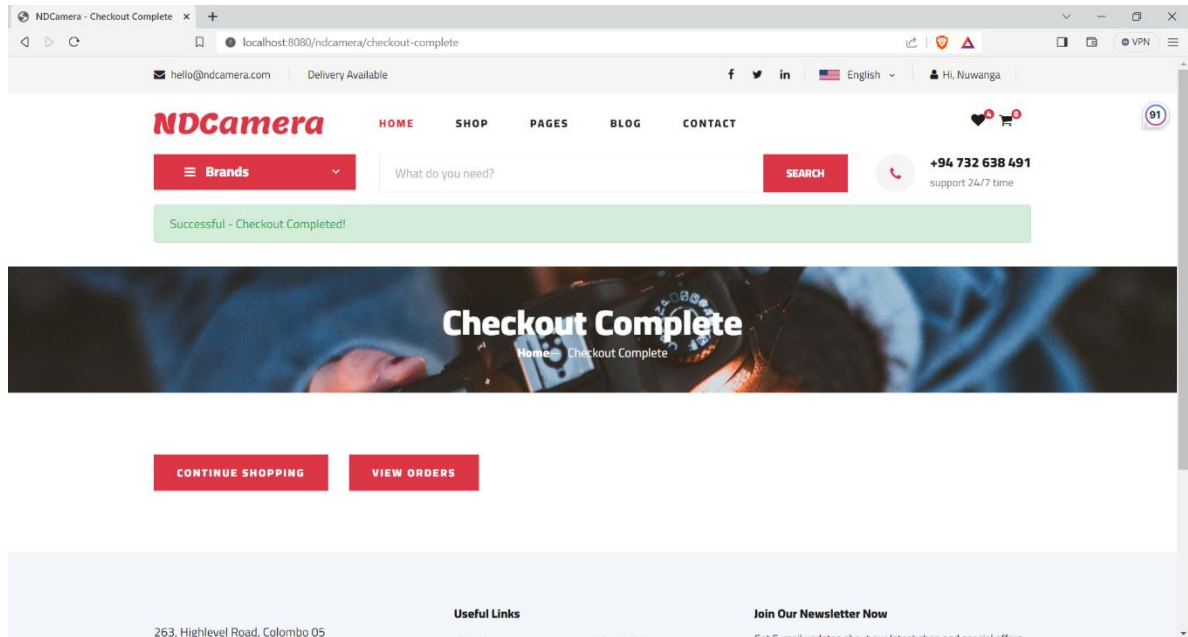
This UI is used to place order products. The "PLACE ORDER" button is used to verify and place order.

1. Candidate Name : M.R.P.N.Tharuksha Rajapaksha

2. GUI No : 11

3. Name of relevant use case :

4. Title of the GUI : Checkout Complete



01. Brief Description of the GUI:

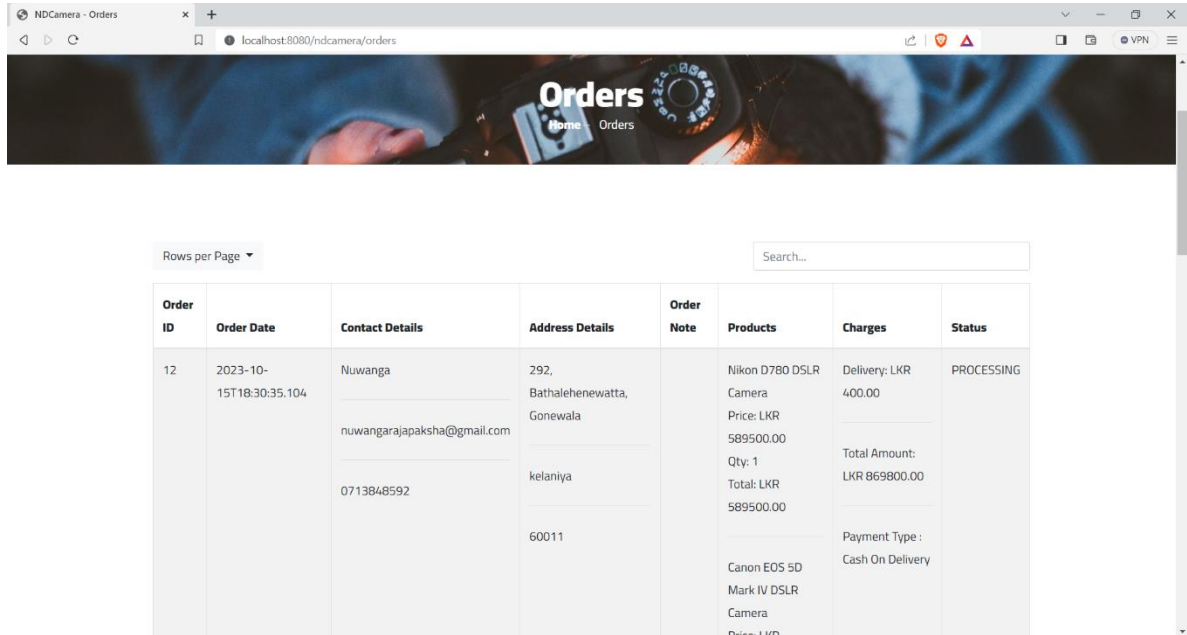
When the placer order is completed redirect to this UI. The "CONTINUE SHOPPING" button is used to redirect to shop. The "VIEW ORDERS" button is used to redirect to orders.

1. Candidate Name : M.R.P.N.Tharuksha Rajapaksha

2. GUI No : 12

3. Name of relevant use case :

4. Title of the GUI : Orders



01. Brief Description of the GUI:

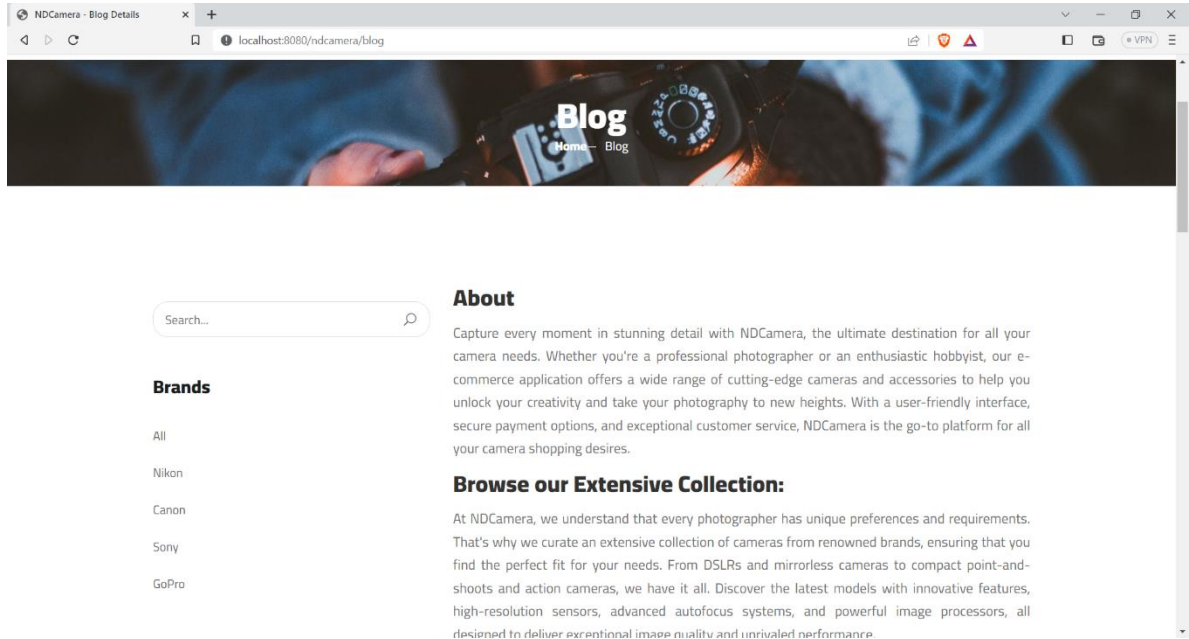
This UI is used to show the user orders.

1. Candidate Name : M.R.P.N.Tharuksha Rajapaksha

2. GUI No : 13

3. Name of relevant use case :

4. Title of the GUI : Blog



01. Brief Description of the GUI:

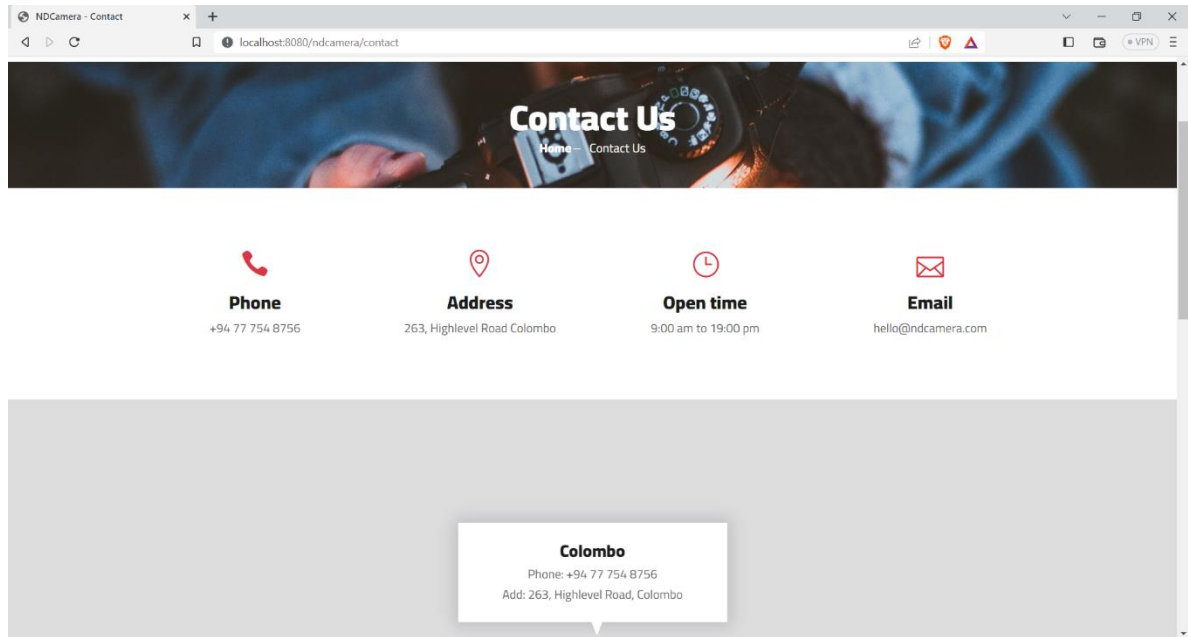
This UI is used to show some details of the web application.

1. Candidate Name : M.R.P.N.Tharuksha Rajapaksha

2. GUI No : 14

3. Name of relevant use case :

4. Title of the GUI : Contact



01. Brief Description of the GUI:

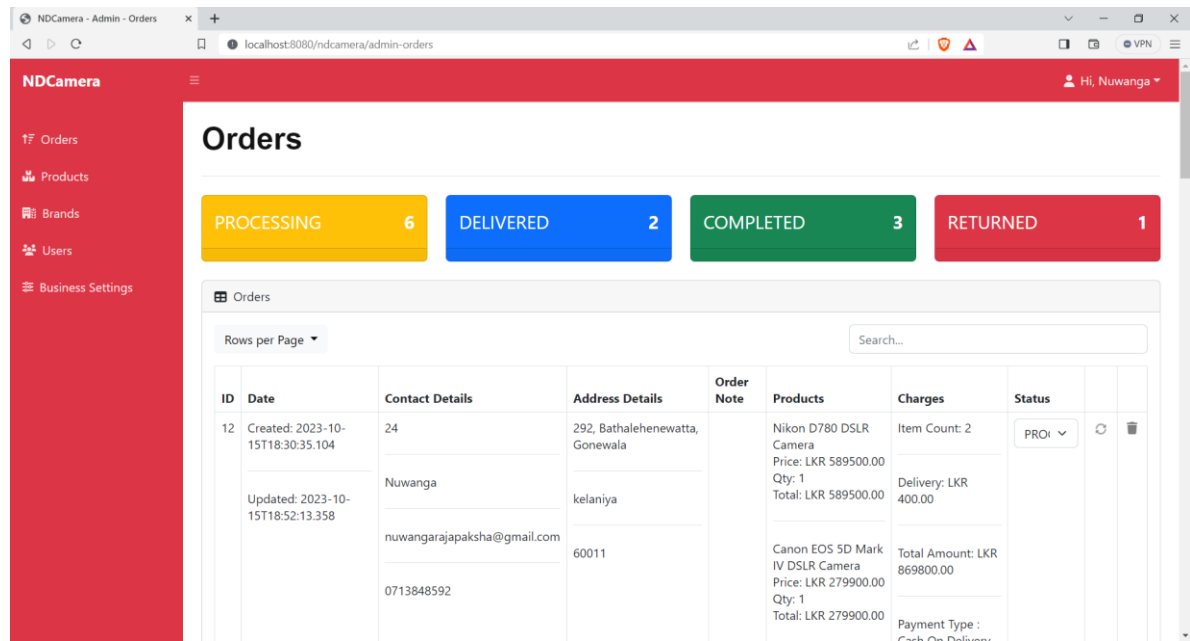
This UI is used to show contact details of the company.

1. Candidate Name : M.R.P.N.Tharuksha Rajapaksha

2. GUI No : 16

3. Name of relevant use case :

4. Title of the GUI : Admin Panel



01. Brief Description of the GUI:

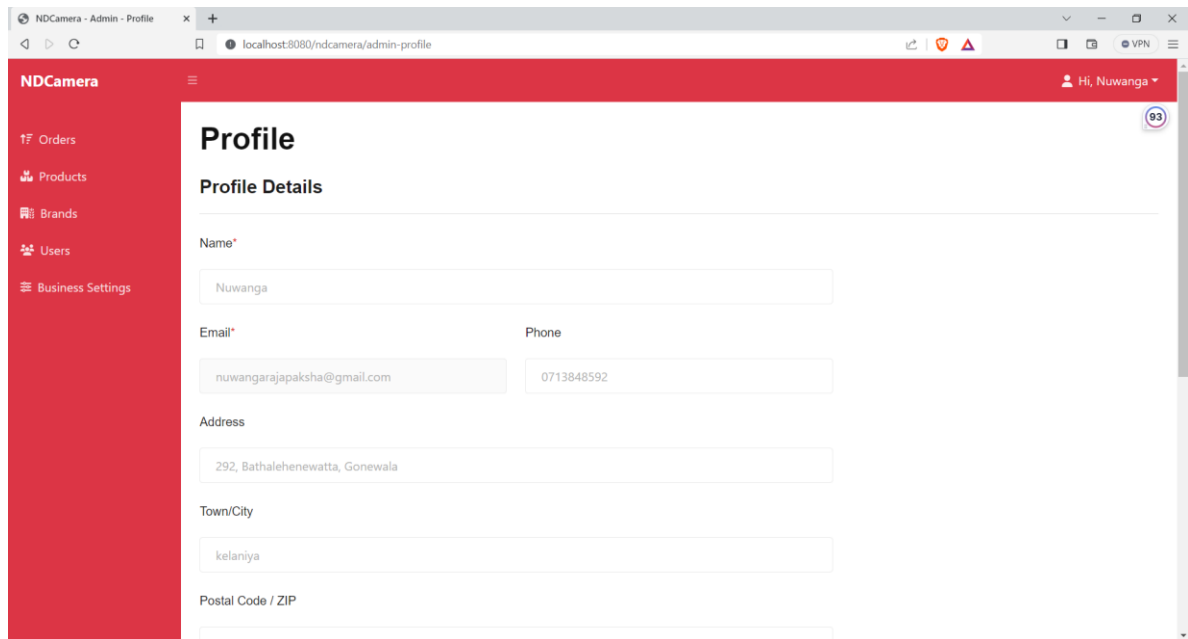
This UI is used to control all the activities of this web application. Only the admins of this web application can access this UI using their username and a password.

1. Candidate Name : M.R.P.N.Tharuksha Rajapaksha

2. GUI No : 17

3. Name of relevant use case :

4. Title of the GUI : Admin Profile



The screenshot shows a web browser window displaying the 'ND Camera - Admin - Profile' page. The page has a red header with the 'ND Camera' logo and a user profile dropdown showing 'Hi, Nuwanga'. A left sidebar contains navigation links: Orders, Products, Brands, Users, and Business Settings. The main content area is titled 'Profile' and 'Profile Details'. It contains several input fields for user information: Name (filled with 'Nuwanga'), Email (filled with 'nuwangerajapaksha@gmail.com'), Phone (filled with '0713848592'), Address (filled with '292, Bathalehenewatta, Gonewala'), Town/City (filled with 'kelaniya'), and Postal Code / ZIP (empty). A red 'UPDATE' button is located at the bottom right of the form.

01. Brief Description of the GUI:

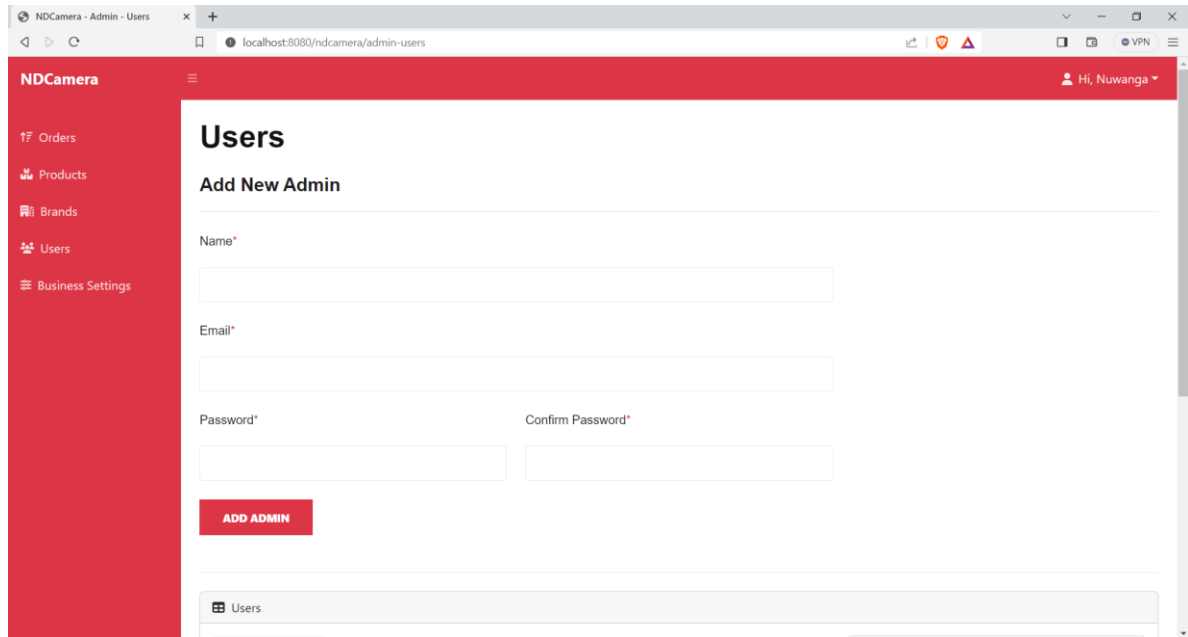
This UI is used to display and update the profile details of an admin. The "UPDATE" button is used to verify and update the profile details. The "CHANGE PASSWORD" button is used to verify and update the password. And Deactivate link is used to deactivate the account.

1. Candidate Name : M.R.P.N.Tharuksha Rajapaksha

2. GUI No : 19

3. Name of relevant use case :

4. Title of the GUI : Users



01. Brief Description of the GUI:

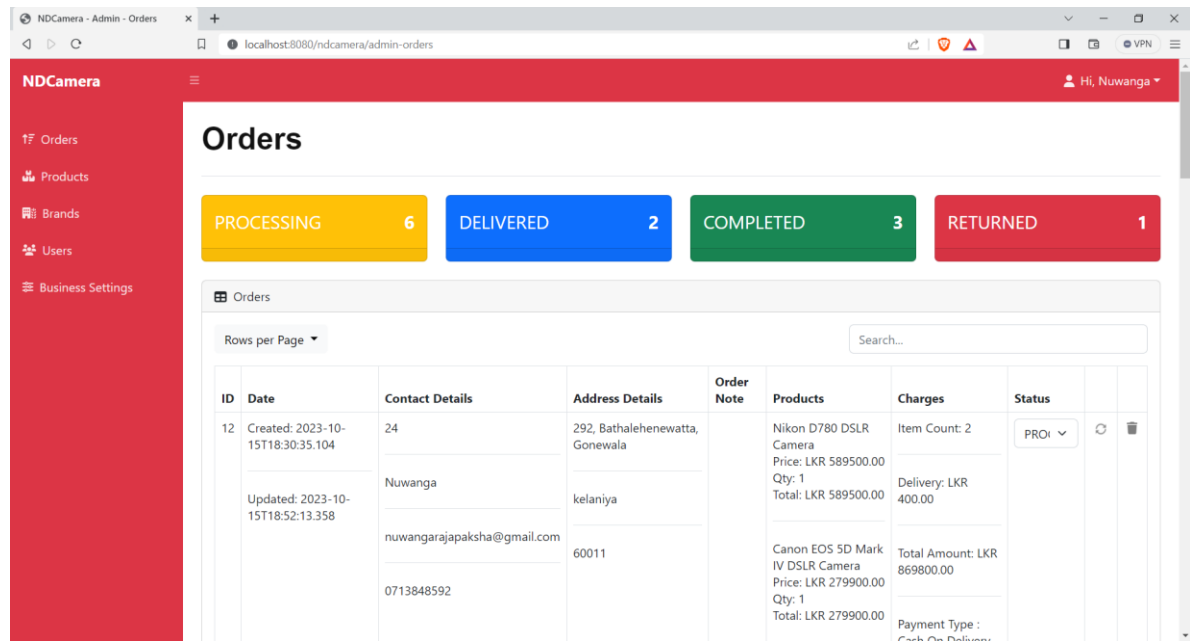
This UI is used to add new admins and manage the users of the web application. The "ADD ADMIN" button is used to verify and add a new admin. And the Users table can use to update and remove the users.

1. Candidate Name : M.R.P.N.Tharuksha Rajapaksha

2. GUI No : 21

3. Name of relevant use case :

4. Title of the GUI : Orders



01. Brief Description of the GUI:

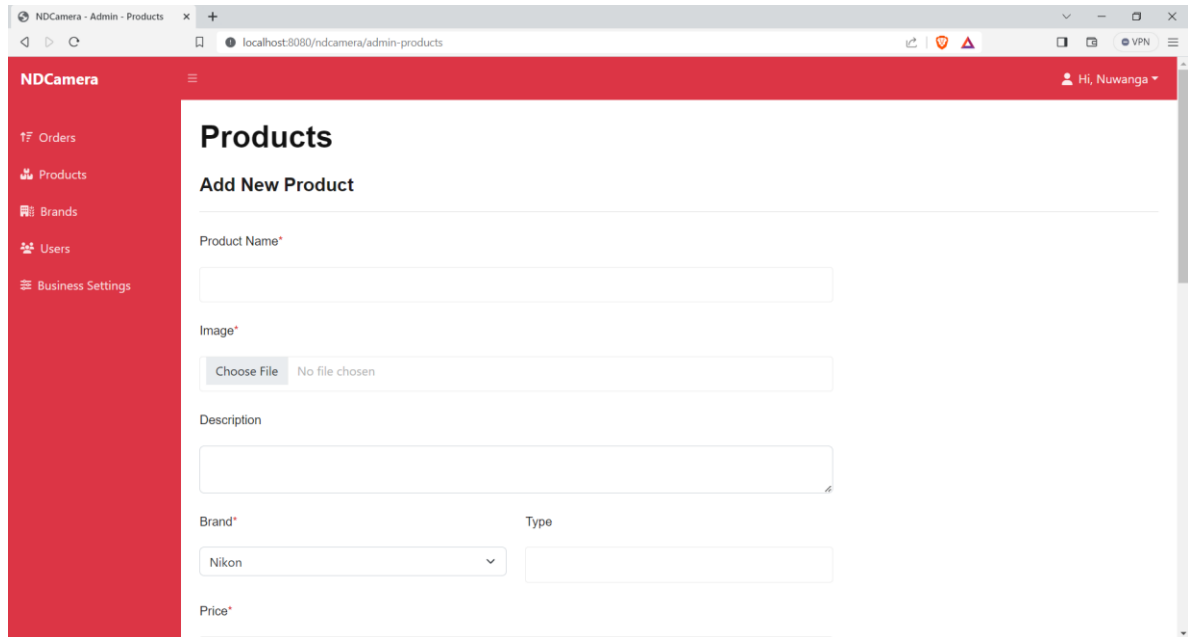
This UI is used to manage the orders. The Orders table can use to update and remove the orders.

1. Candidate Name : M.R.P.N.Tharuksha Rajapaksha

2. GUI No : 22

3. Name of relevant use case :

4. Title of the GUI : Products



The screenshot shows a web browser window with the URL 'localhost:8080/ndcamera/admin-products'. The page has a red header with 'NDCamera' and a user profile 'Hi, Nuwanga'. A red sidebar on the left contains navigation links: Orders, Products, Brands, Users, and Business Settings. The main content area is titled 'Products' and 'Add New Product'. It contains a form with the following fields: 'Product Name*' (text input), 'Image*' (file upload with 'Choose File' button and 'No file chosen' text), 'Description' (text area), 'Brand*' (dropdown menu with 'Nikon' selected), 'Type' (text input), and 'Price*' (text input).

01. Brief Description of the GUI:

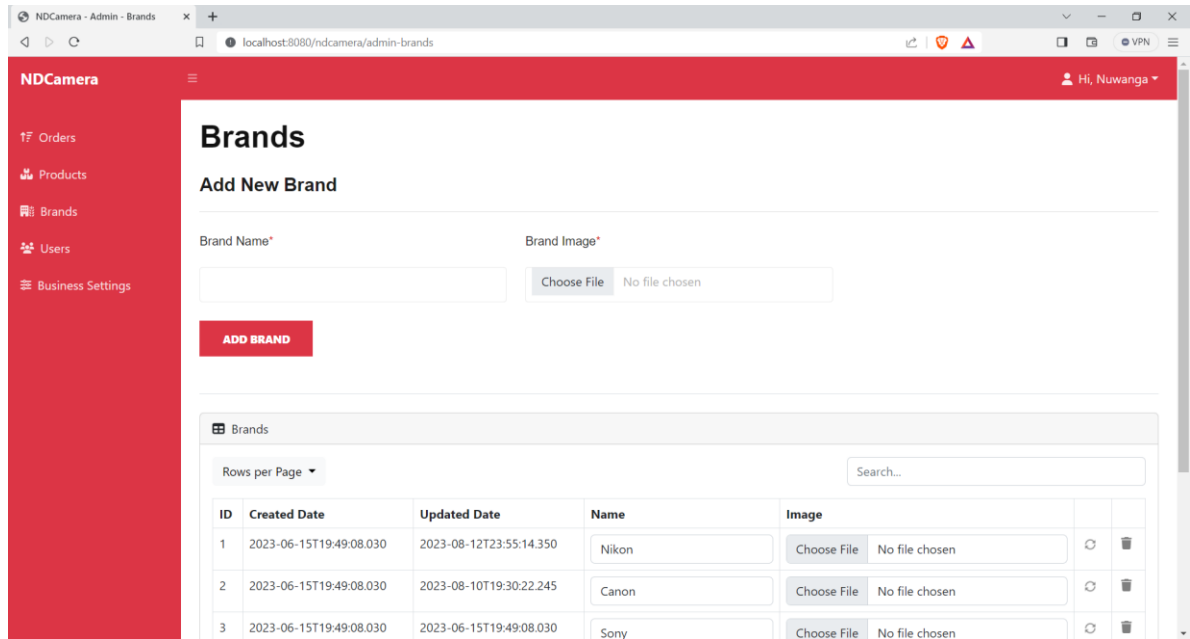
This UI is used to manage the products. The "ADD PRODUCT" button is used to verify and add a new product. And the Products table can use to update and remove the products.

1. Candidate Name : M.R.P.N.Tharuksha Rajapaksha

2. GUI No : 23

3. Name of relevant use case :

4. Title of the GUI : Brands



ND Camera

Hi, Nuwanga

Brands

Add New Brand

Brand Name* Brand Image*

Choose File No file chosen

ADD BRAND

Brands

Rows per Page Search...

ID	Created Date	Updated Date	Name	Image
1	2023-06-15T19:49:08.030	2023-08-12T23:55:14.350	Nikon	Choose File No file chosen
2	2023-06-15T19:49:08.030	2023-08-10T19:30:22.245	Canon	Choose File No file chosen
3	2023-06-15T19:49:08.030	2023-06-15T19:49:08.030	Sony	Choose File No file chosen

01. Brief Description of the GUI:

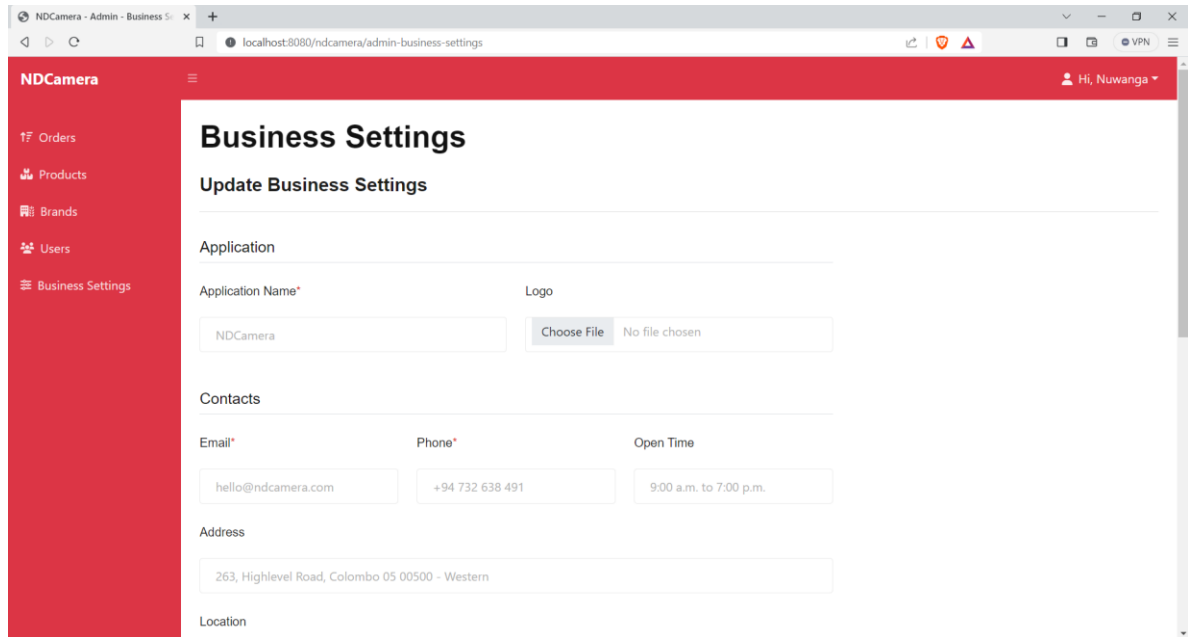
This UI is used to manage the brands. The "ADD BRAND" button is used to verify and add a new brand. And the Products table can use to update and remove the brands.

1. Candidate Name : M.R.P.N.Tharuksha Rajapaksha

2. GUI No : 24

3. Name of relevant use case :

4. Title of the GUI : Business Settings



01. Brief Description of the GUI:

This UI is used to change the business settings of the web application. The "UPDATE" button is used to verify and change the business settings.

5. Results:

Customers can sign in to the app with an email, customers can find products and add them to their cart or wish list and checkout. Users can check their profile details and update them. And admins can manage the users, brands, products, orders, and business settings.

6. Future Works:

- Using google maps API for tracking orders.
- Product Reviews
- Notifications
- FAQ Section
- Chat Bot
- AdSense

7. Conclusions:

I can come to the conclusion that my application succeeded in resolving the problem of bringing local shops into the island-wide market and helping customers to save fuel by ordering camera items from home.

8. Reflection on Learning:

Learned concepts of web development, how to use object-oriented programming concepts with web applications, and how to use Java EE with web applications.

9. References:

1. Nguyen, S. (2019). *How To Build An E-commerce Web Application*. [online] Manifera. Available at: <https://www.manifera.com/build-e-commerce-web-application> / [Accessed 14 Aug. 2023].
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