

*Final Report on*  
***E-commerce Website (MAFB)***

*Submitted to,*  
SPL II Evaluation Committee 2020-2021  
Bachelor of Science in Software Engineering  
Institute of Information Technology  
Noakhali Science and Technology University

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Submission Date: 22 Sep 2022

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## Project Description

In this section, I am describing the whole project scenario and try to present all the functionalities of the system.

### ○ Introduction

E-commerce is an emerging and fast-growing technique which is used to buy and sell categorized product or services, chat, transact, generate report and track history of every customer. The software system being produced is E-Commerce System (MAFB). It is being produced for a customer interested in selling everything via the Internet. This system is designed to “provide automation support” for the process of placing products for sale on the Internet and facilitating the actual sale. The system will be run on a central server with each user having a remote user interface through a web browser to interact with it. The System will allow any user to create an account to become a customer. The customer, through the process of account creation, will have the option to become a member of the site. The system will allow customers to browse, search, select, and add products to a shopping cart. Then, provided they have products in their shopping cart, check out products in shopping cart and decrement the stock that the inventory the system maintains. The MAFB also allows an admin to manage the inventory with full create, retrieve, update and delete (CRUD) functionality with regards to Products in the system. It will also allow, on an inventory wide basis, customers and admin to interact with a promotion system that handles percentage-off promotions that can be applied to member’s orders. This interaction includes the creation (by admin) and the application to orders (by customers) of the promotions. The MAFB has full email capabilities; the automated email functionality will be used to send promotions to members of the system as well as provide the admin with low-stock notifications. The MAFB will have numerous constraints on what it can do. The system will not have full credit-card processing capabilities. It will not allow admins to be customers. The admin will be a hard-coded user and only a single admin will exist. The system will not allow multiple promotions to be added to a single shopping cart nor will it allow a customer to add more than one of items to their cart. The system also will not allow users to retrieve passwords or edit their user details.

E-commerce customer motivation boils down to a few key factors:

- Streamlined shopping experiences
- Faster buying/Selling procedure, as well as easy to find products
- More reach to customers, there is no theoretical geographic limitations
- Appropriate number of choices along the way
- Social proof to boost confidence
- The power of a compelling discount

- **Target Users**

Online shopping is mainly used by the busy persons in order to save their time or older people who will not be able to go to market physically.

Type of Stockholders:

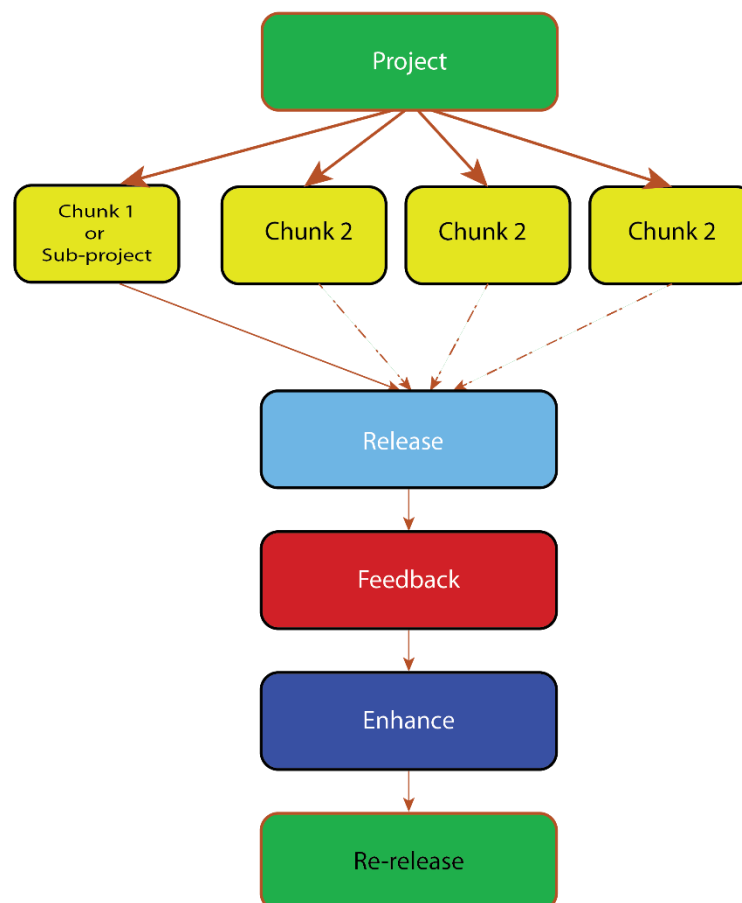
1: Visitors

2: Customers (Registered Member)

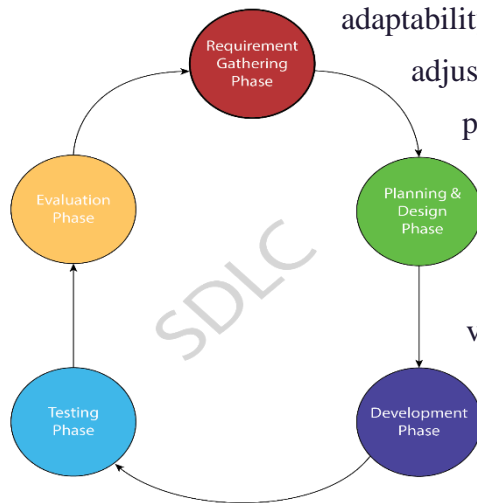
3: Admin

- **Models, Tools and Resources**

I am using the B2C model for my website and for coding purpose, using the agile and MVC model.



Agile is an iterative approach to delivering a project throughout its life cycle. Iterative or agile life cycles are composed of Iterative several iterations or incremental steps towards the completion of a project. Iterative approaches are frequently used in software development projects to promote velocity and



adaptability since the benefit of iteration is that you can adjust as you go along rather than following a linear path. One of the aims of an agile or iterative approach is to release benefits throughout the process rather than only at the end. At the core, agile projects should exhibit central values and behaviours of trust, flexibility, empowerment and collaboration.

### Programming Language

We will use HTML, CSS, Bootstrap 5.2, JavaScript, PHP, Laravel languages to design and develop my website. For this purpose, we will use IDE likes Visual Studio Code, Notepad++ etc.

### Web Server

A Web server is a program that uses HTTP (Hypertext Transfer Protocol) to serve the files that form Web pages to users, in response to their requests, which are forwarded by their computers' HTTP clients. Dedicated computers and appliances may be referred to as Web servers as well. We will use the Apache HTTP server to implement this project.

### Database Server

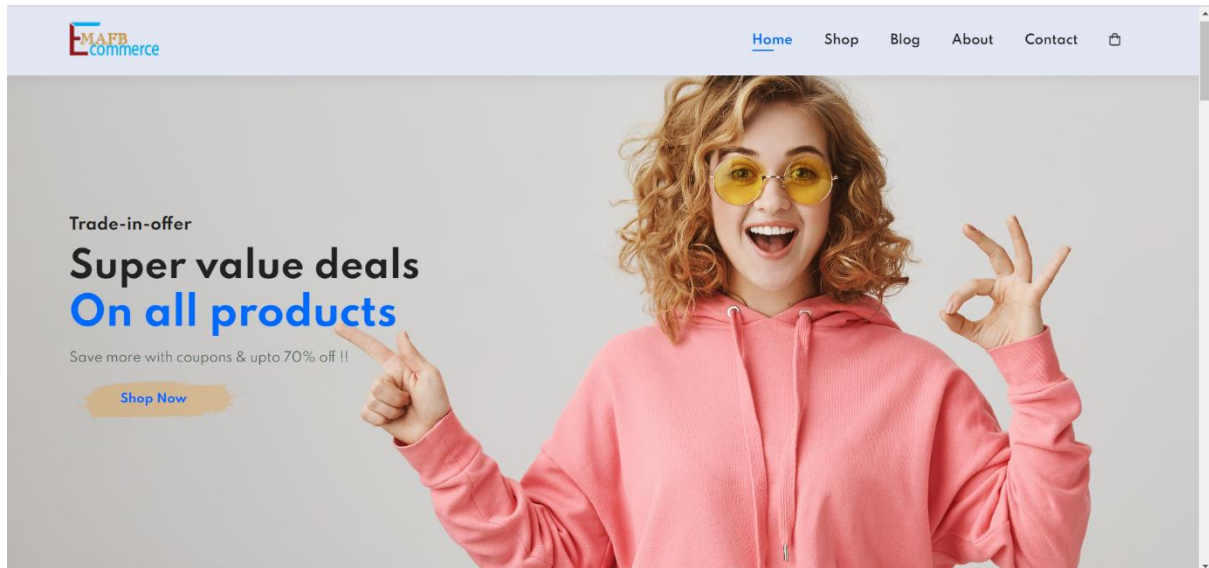
We will use MySQL database server to store all of the information of this system. The reason behind to choose the database server are given below:

- Security
- Reporting and Data Mining
- Replication
- Fault tolerance
- Performance diagnostics

### ○ Project Members

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## User Guide

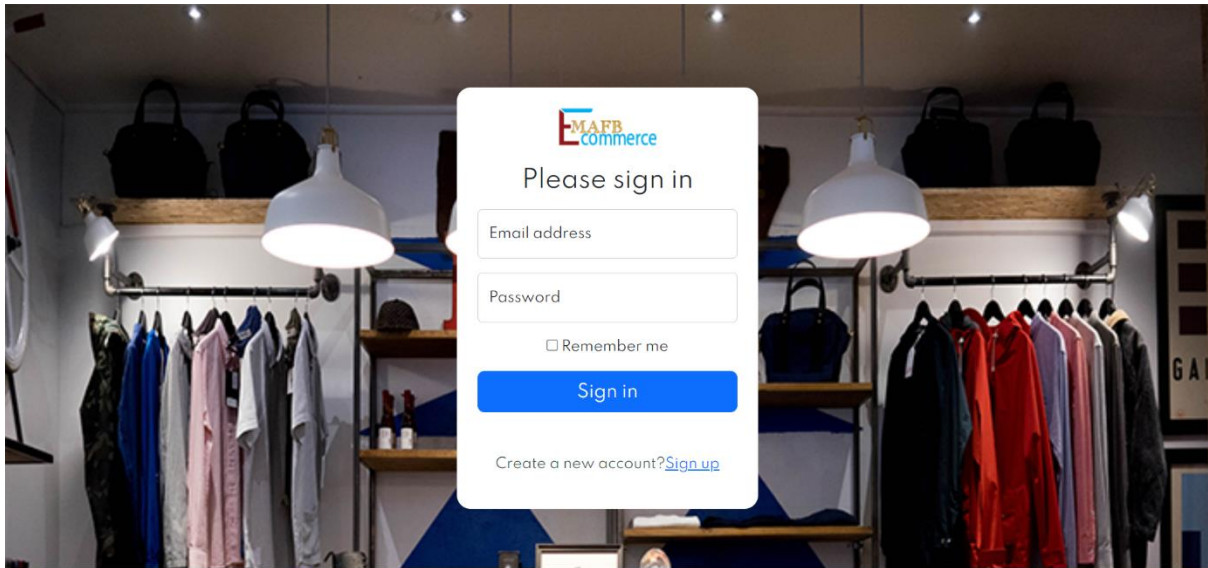


This is my website homepage. I can try to make the site user-friendly. Upper site of the page, appear the navigation bar and here are some options such as 'Home', 'Shop', 'Blog', 'About', 'Contact' and 'Cart'. When anyone enter the site "E-commerce Website (MAFB)" then he/she can show newly added product but can't purchase.

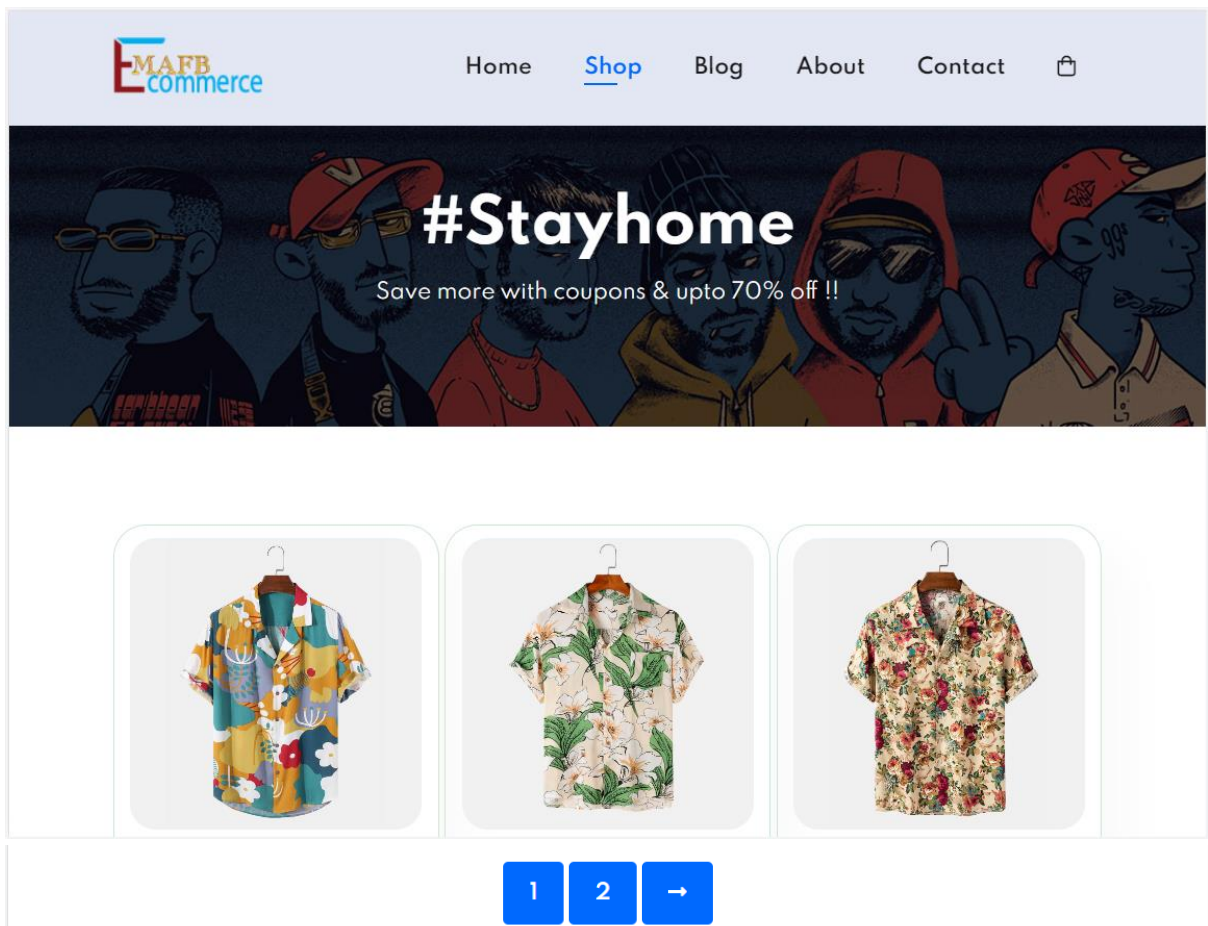
A 'Sign Up' form set against a background of colorful, irregular tiles. The form includes input fields for 'First Name', 'Last Name', 'Email', 'Password', 'Address' (with the placeholder '1234 Main St'), 'City', 'State' (a dropdown menu with 'Choose...' selected), and 'Zip'. There is a checkbox labeled 'Check me out' and a blue 'Create Account' button at the bottom.

Please fill-up all the authentic information and create a account.



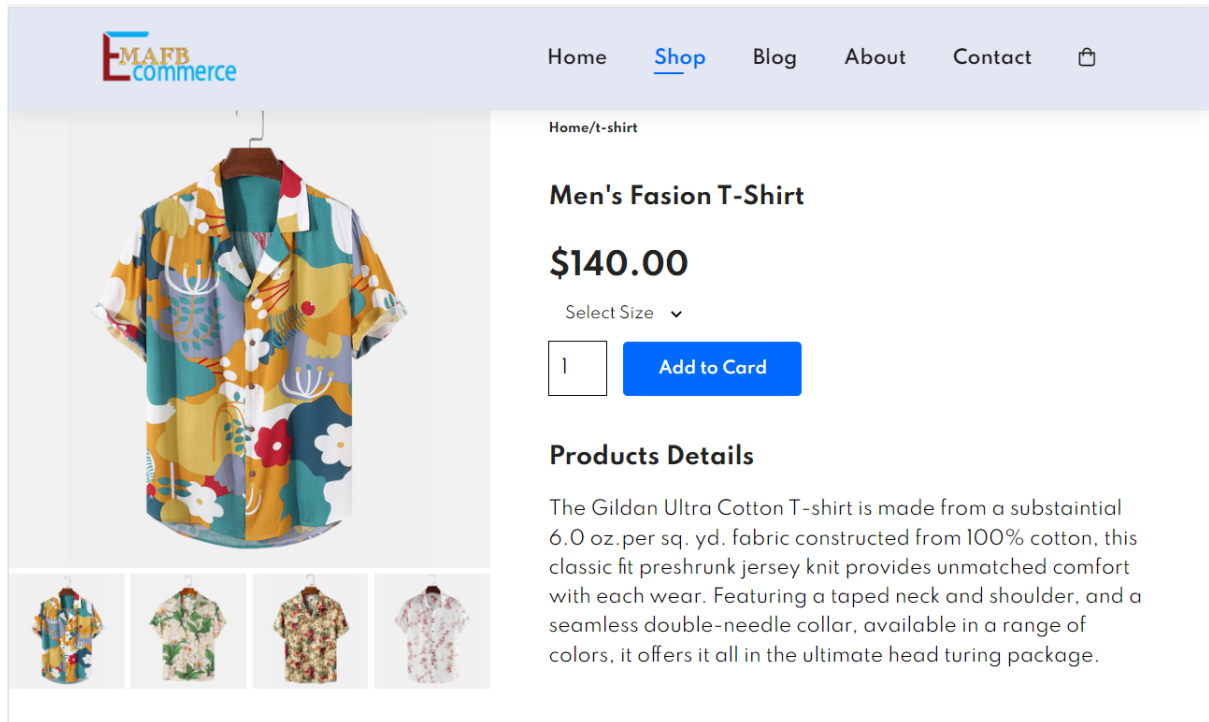


Enter your registered email and password for logging into the System.

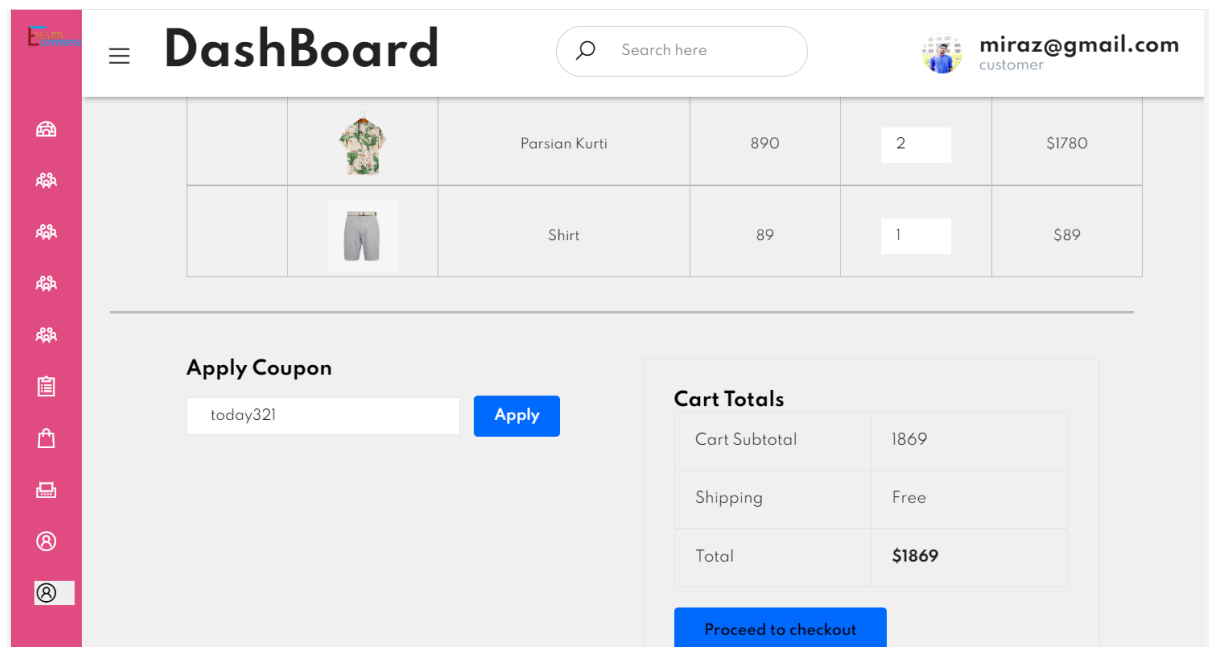


In this section, all the products are shown. Bottom part of the page, more page's option appears. If click any product then single product page is opened. Here are some variant of colour and size in the same quality products.

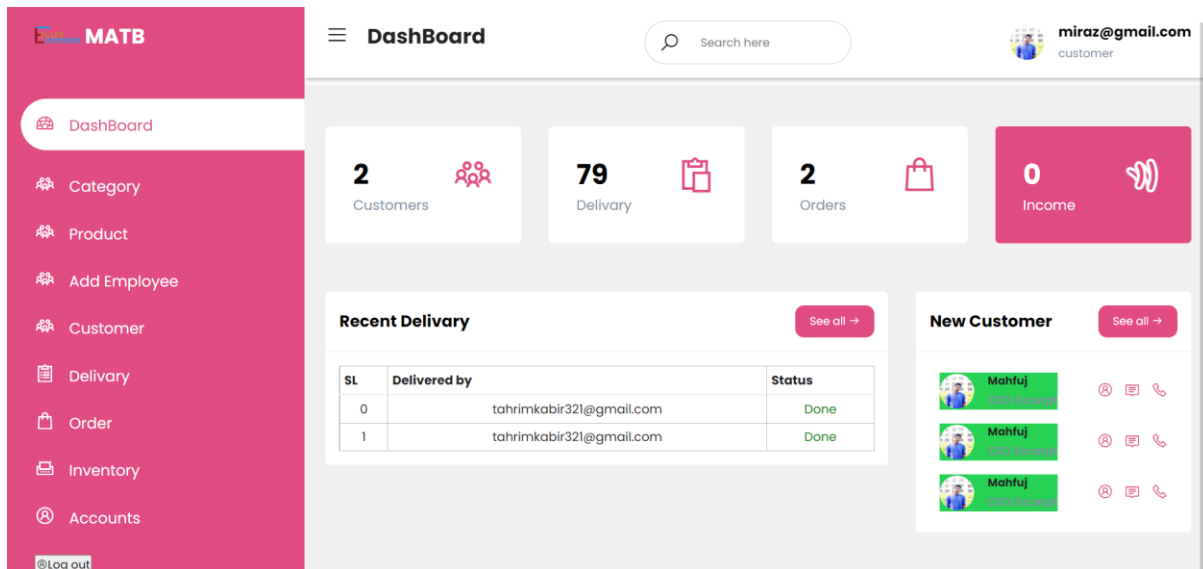




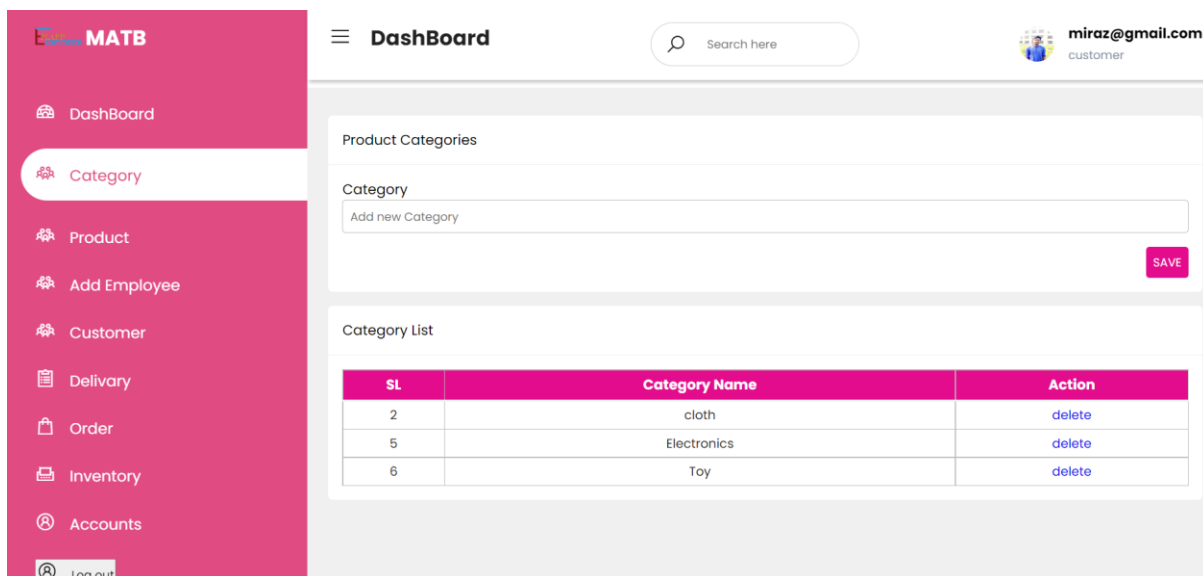
After choosing products, click 'Add to Card' button. Then the product adds to the cart of the customer.



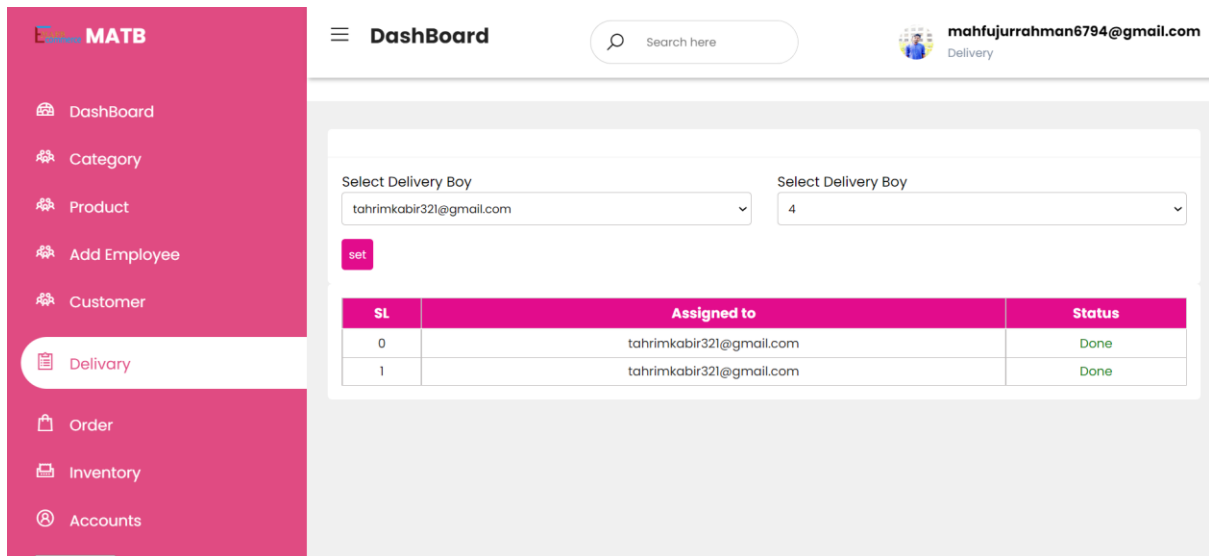
Customers can apply Coupon and get a great offer. At last they click on 'Procced to checkout' button and purchase successfully done.



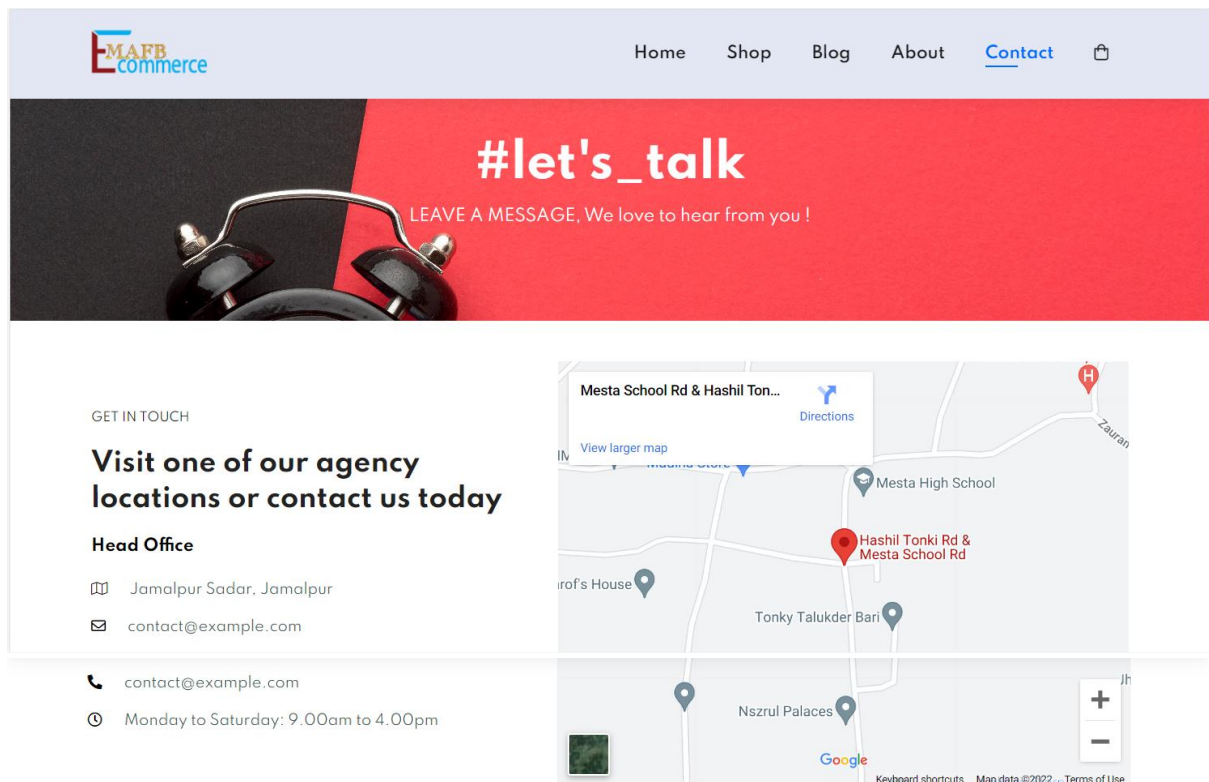
Its my beautiful dashboard portion. Upper part of this page, have some div that contains the number of customers, delivery and orders. Lower part has two portions. One is recent delivery and another is new customer list.



In this section, we can add category type and also opportunity for deleting a type. When you delete a category then all the product under this category are deleted.



From the select delivery dropdown bar, select a delivery boy and delivery boy id. When he/she successfully delivered a product then change the status 'done'.



All the contact details here. If you feel any problem then can easily contact with us.

# Source Code Documentation

## Code Size:

Definition: Lines of code are the "source code" of the program, and one line may generate one machine instruction or several depending on the programming language. Almost every compiler shows total lines of code without specifying how many blank lines, comment lines, data declarations or headings

Total size,

$$LOC = NCLOC + CLOC$$

Density of program,

$$DoP = CLOC / LOC$$

Halstead Approach. Volume of Program,

$$V = N \times \log_2 \mu \quad N = N1 + N2 \quad \mu = \mu1 + \mu2$$

Here,

NCLOC = Non-commented line of code

CLOC = Commented line of code

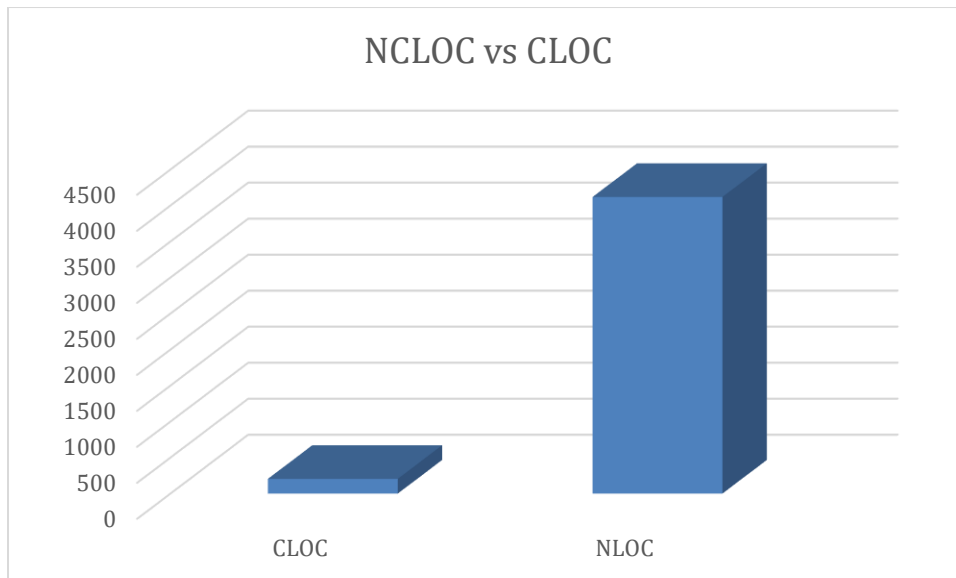
$\mu1$  = Number of unique operators

$\mu2$  = Number of unique operands

N1 = Total occurrences of operators

N2 = Total occurrences of operands

LOC	5166
Blank-Line	844
CLOC	204
NLOC	4118
SLOC	4322



## Function Point

FPs are intended to measure the amount of functionality in a system as described by a Software Requirement Specification. Computing FPs we first compute an unadjusted function point count (UFC).

UFC depends on five factors.

1. External inputs
2. External outputs
3. External inquiries
4. External files
5. Internal files

$$UCF = \sum (\text{Number of items of variety } i) * (\text{weight } i)$$

External inputs (A)	External outputs (B)	External inquiries (C)	External files (D)	Internal files (E)
------------------------	----------------------------	---------------------------	-----------------------	--------------------

Guest find out the Website	Guest create profile	System manage	Provide authenticate information	User file
Customer search a product	List of products shown	Admin confirmation payment by website	Product fee	Payment file
User gives the registration information	Show product list	Manage most visited product		System report
Customer provides feedback to product	Customer profile update			
Customer search for a specific product	Admin profile update	Calculate cost of product		
Change Customer profile	Guide confirms successfully			Update information of customer
Change admin profile				Update information of admin
Customer make an order	Show cart details			

Let each item weight is assigned as average

External inputs = 4	External outputs = 5
External inquiries = 4	External files = 10
Internal files = 7	

Therefore, the complexity for each item is average, then the UFC is

$$\begin{aligned}
 UFC &= 4A + 5B + 10C + 4D + 7E \\
 &= 4*8 + 5*7 + 10*4 + 4*2 + 7*5 \\
 &= 150
 \end{aligned}$$

Let Technical complexity Factors F9, F7, F14 are 0. F1 to F6, and F8 are 3. F10 to F13 are 5.

$$\begin{aligned}
 TCF &= 0.65 + 0.01 \sum Fi \\
 &= 0.65 + 0.01 (41) \\
 &= 1.06
 \end{aligned}$$

We know that,  $FP = UFC * T$

$$\begin{aligned}
 &= 150 * 1.06 \\
 &= 159
 \end{aligned}$$

## SRS & Development Mapping

SL No	Use Case	File and Class
01	Login into System	Login.blade.php, loginController, mafb
02	Logout from the System	loginController, Partial.Sidebar.blade.php
03	View Items	Index.blade.php, HomeController, Product
04	Client Register	Signup.blade.php, Cart, mafb, Order
05	View Recommended Items	Product Index.blade.php, productController
06	Browse Inventory	Shop.blade.php
07	Add Items to Cart	Cart.blade.php, cartController,



		Add-cart, singleProduct.blade.php Cart, productController
08	Add Item	Dashboard.blade.php, Product, ProductController,
09	Edit Item	Dashboard.blade.php, Product, ProductController, dashboardController
10	Checkout	Cart.blade.php, Order, Coupon orderController
11	Purchase Item	Cart.blade.php, Product.blade.php Amount, Coupon, Order
12	Check Stock	ProductController, orderController, dashboard.blade.php
13	Payment	Cart.blade.php, Product.blade.php Amount, Coupon, Order

## Challenges and Future Work

### Challenges:

In the implementation times, I faced some challenges. Such as-

- A Simple UI/UX Design Layout
- Responsive website design
- Database design
- Data Imports
- System integrations
- Ensuring Smooth Shipping Experience

## **Future Work:**

I am thinking of some modifications and adding some advance new features in my system. Some of them are –

- GUI modification (more user friendly)
- Add payment Gateway
- User can signup/ login using their social media account such as Facebook, Google+ etc.

## **References:**

### 1. Diagrams

Adobe Illustrator 2020  
draw.io

### 2. Online Communication

<https://www.messenger.com/>  
<https://meet.google.com/>

### 3. Coding problem solutions

[www.stackoverflow.com](http://www.stackoverflow.com)

### 4. Conceptual Learning

Learn with Sumit (JavaScript)  
Training with Live Project (Php)  
W3Schools  
Tech2 etc  
MND web docs  
Learn Hunter  
Laravel documentation

### 5. Image

<https://www.pngwing.com/>  
<https://www.freepik.com/>  
<https://unsplash.com/>