

Report on

Covid Protection Store

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Summary:

This project is an e-commerce website for selling COVID protective equipment like, mask, gloves, hand sanitizer, PPE etc. The aim of this project is to give customers a platform to buy products which will help them to stay safe from COVID. The products will be ordered by the customers via online so the chances of getting infected will also decrease. The customers will be able to create an account and see the product details through this website. They will also be able to add products to the cart and order these products. The admins will be able to add new product details and view information about the customers and orders.

The required resources for this project were available and the cost benefit analysis showed that it would be an economically feasible project. The other feasibility criteria were also met. Hence, this project has a high chance of success. The project schedule was followed thoroughly so that there is no delay in the development phase. To get a better idea of user experience and issues the users face, a survey and interviews were conducted. The information gathering process provided us some useful insights about the project. The activities and requirements were revised according to the collected information. After the website is made public, user feedback will be evaluated to further improve the features.

The 'Waterfall Process Model' is followed in this project. The user's interaction with the system is denoted by the use case diagram. The flow of data through the system is represented by the data flow diagrams. Each use case description is provided in the use case narrative. The sequence diagram shows the object interaction of our system arranged in time sequence. The relationships and interactions among the objects are illustrated in the collaboration diagram. The entity-relationship diagram describes the structure of the database used in this system.

This is a project that will have impact on its users on a large scale. The project is feasible in every manner. Also, it is cost effective and will bring profit in the future. A schedule was made for completing the project which was followed thoroughly. The project did not face any obstacle and its development went smoothly.

Project Goals and Platforms:

1. Users can see products in detail according to their category.
2. They can create an account and order the products they want.
3. Registered users can see special products that are available only from their profile. They can also update their profile anytime they want.
4. Users can also lodge a complaint or contact with us via this website.
5. The admins can add new products from the dashboard. They can also view information about the users, orders and all products. They can view the messages from the users as well.

Platforms:

HTML, CSS, Bootstrap, PHP, MySQL Database, Browsers (Chrome , Firefox), IDE/text editor (Visual Studio, Notepad++).

Requirements and Feasibility Analysis:

The merits of this project that have been assessed for determining the feasibility are:

- Technical
- Economic
- Operational

Technical Feasibility:

In this project the required technologies are:

- Browsers - Google Chrome, Firefox
- HTML, CSS & Bootstrap
- PHP, MySQL Database

The required resources aside from manpower are:

- Microsoft Visual Studio Code or Other IDEs
- Operating System
- Desktop or Laptop

Since there will not be much difficulty in getting required resources for the development and maintaining the system as well, it is technically feasible.

Economic Feasibility:

Development of this project is highly economically feasible. Because of,

- Availability of the hardware and software resources
- High possibility of maximum usability of the corresponding resources
- The calculated profit being greater than the expenses
- A good chance of not being in a condition to invest more after the development.

Operational Feasibility:

The current project is operationally feasible, because of,

- The current work practices and procedures being adequate to support the new system
- Flexible and expandable services
- Making the maximum use of available resources, including people and time
- Reduction in costs and increase in benefits because of economic feasibility

Data Flow Diagram (DFD):

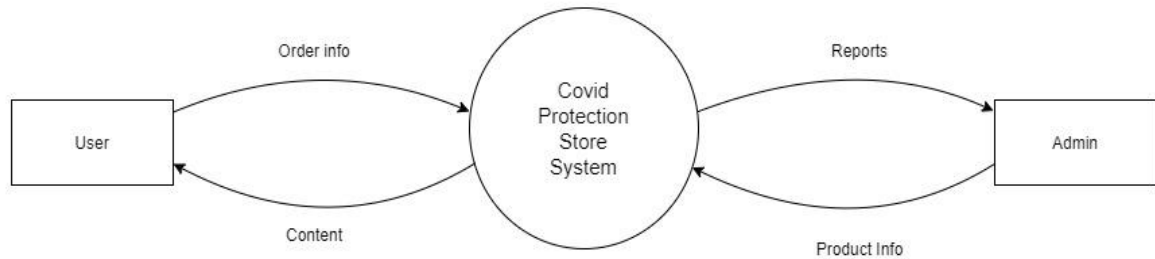


Fig: Level 0 Data Flow Diagram

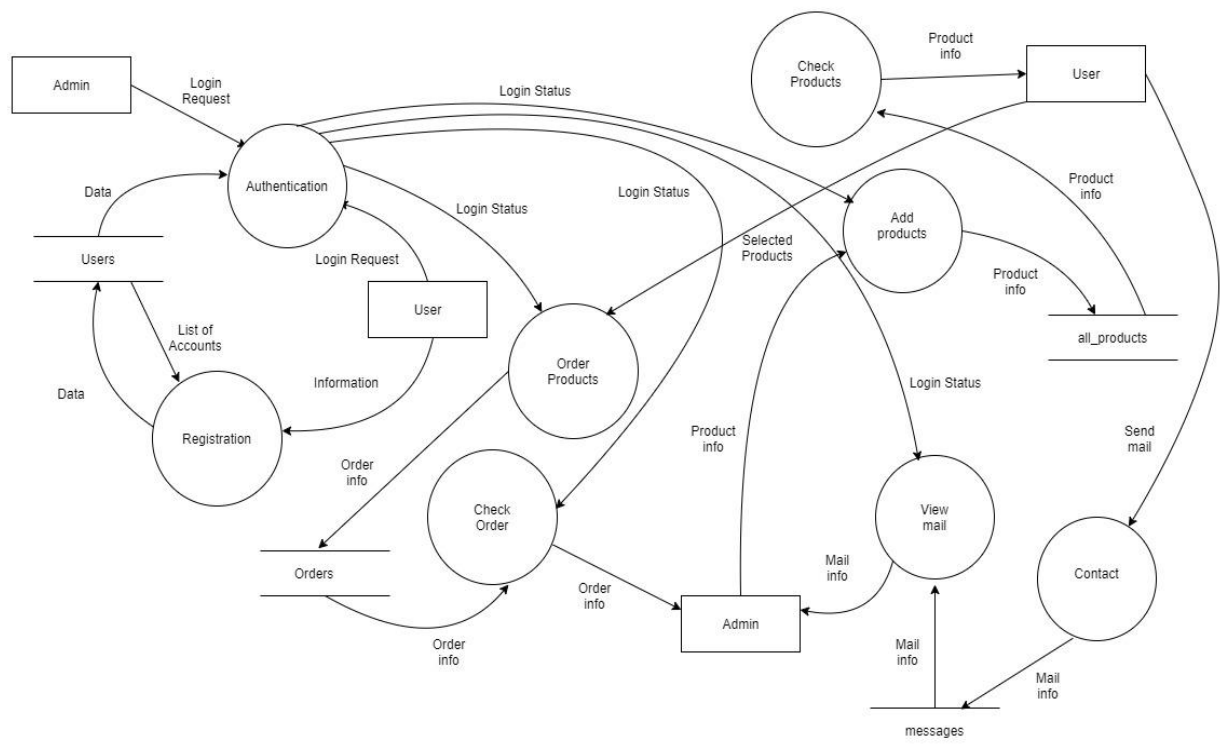


Fig: Level 1 Data Flow Diagram

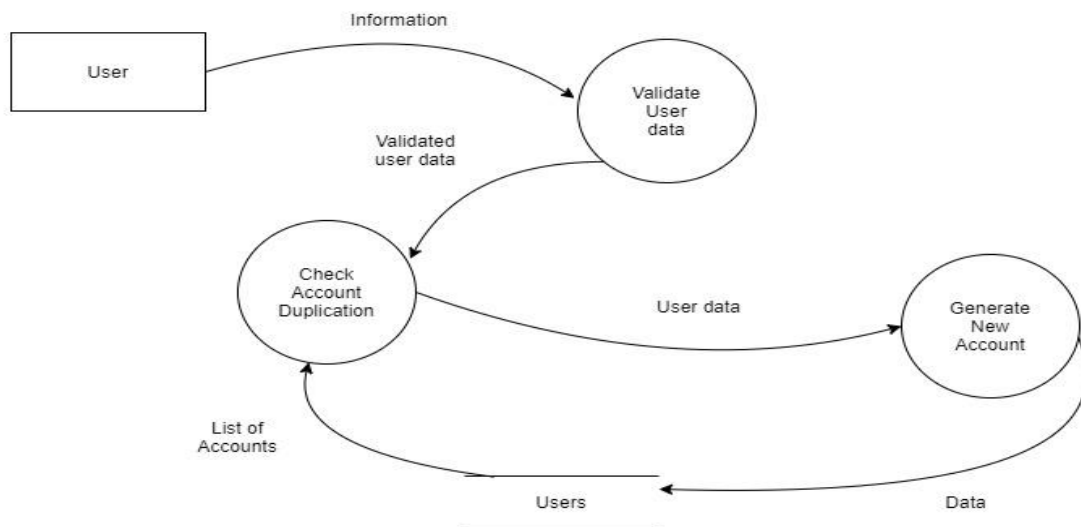


Fig: Level 2 Data Flow Diagram (For registration process)

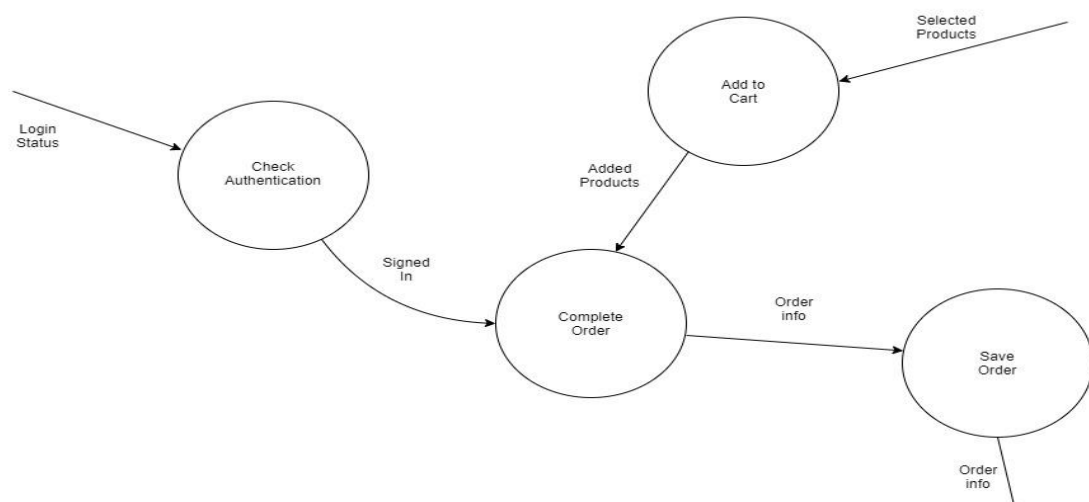


Fig: Level 2 Data Flow Diagram (For order products process)

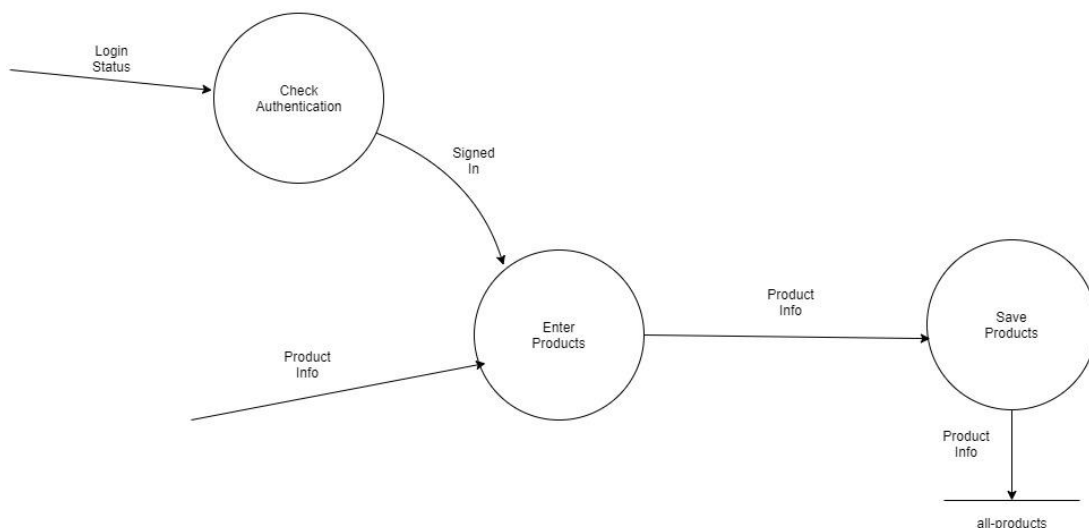


Fig: Level 2 Data Flow Diagram (For add products process)

Use Case Diagram:

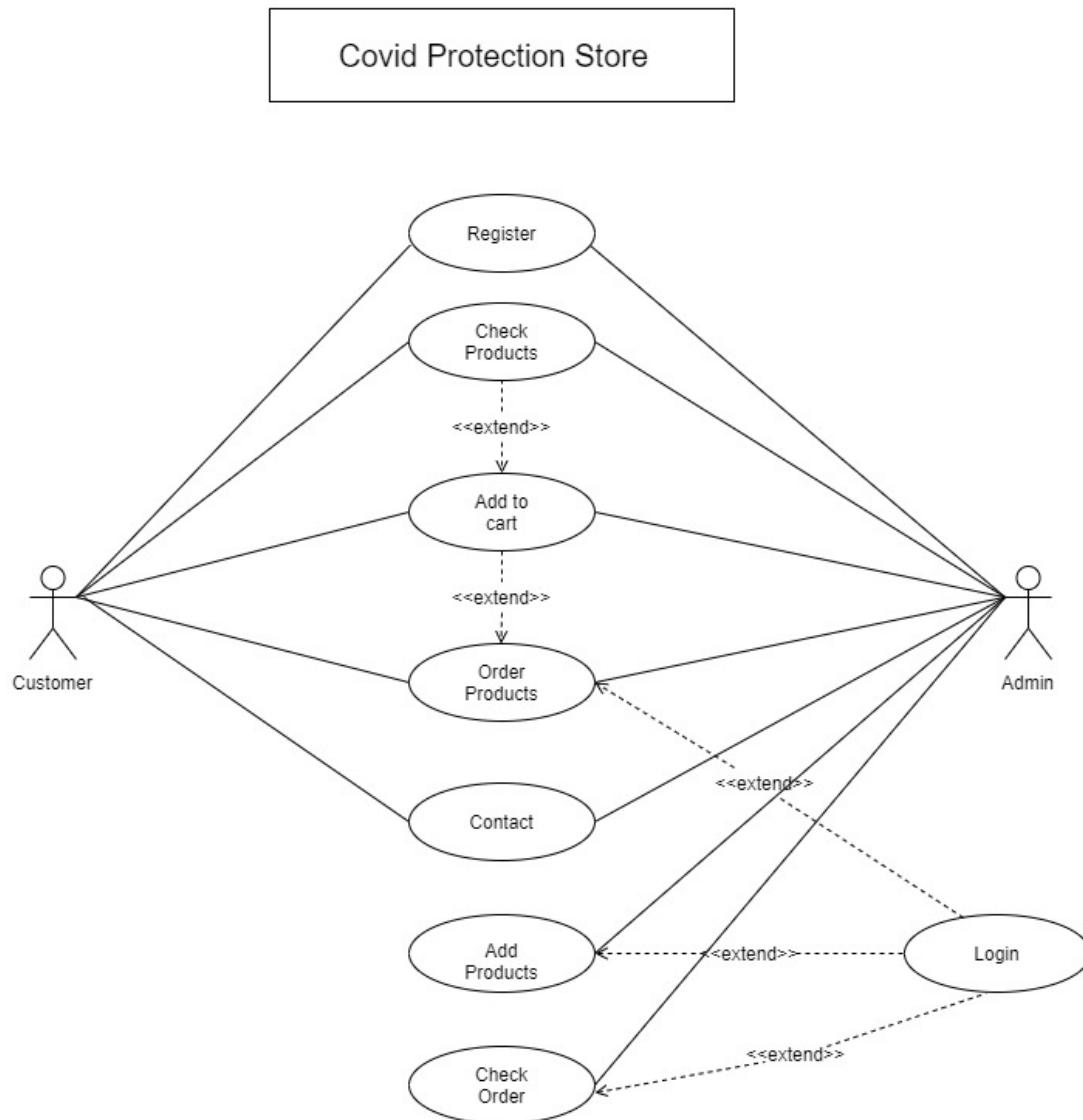


Fig : Use Case Diagram

Use Case Narrative:

Use Case Title:	Registration
Iteration:	1
Primary Actor:	Customers
Goal in context:	To register as our customer and to access our website.
Precondition:	Customers must have a valid email and a phone number.
Trigger:	When customers need to order products and use their email and password to access our website.
Scenario:	<ol style="list-style-type: none">1. Customers go to our website.2. The system displays main page of website.3. Customers select login button.4. The system displays login page and register button.5. The customers select register button and the system displays the register form.6. Customers enter their email, telephone number, address and password into register form.7. Customers confirm the password to confirm their registration.8. The system displays the login page and the customer can login from there on.
Exception:	<ol style="list-style-type: none">1. If the registration is successful, the system displays the login page and the customer can login from there on.2. If the registration is not successful, the system will display the error message to allow customers to re-enter their information again.
Priority:	High Priority
When available:	First Increment
Frequency of use:	Every Day
Channel to actor:	Browser in PC and mobile
Secondary actors:	Admin
Channels to secondary actors:	Browser in PC and mobile
Open issues:	The security system from other members.

Use Case Title:	Login
Primary Actor:	Customers
Goal in context:	To order products.
Precondition:	Customers must have an account.
Trigger:	When customers need to make an order.
Scenario:	<ol style="list-style-type: none"> 1. Customers go to our website. 2. The system displays main page of website. 3. Customers select login button. 4. The system displays the login page and the customers enter their email and password into the login form. 5. The system displays the profile of the customers.
Exception:	<ol style="list-style-type: none"> 1. If the login is successful, the system displays the profile of the customers. 2. If the login is not successful, the system will display the error message to allow customers to re-enter their information again.
Priority:	High Priority
When available:	First Increment
Frequency of use:	Every Day
Channel to actor:	Browser in PC and mobile
Secondary actors:	Admin
Channels to secondary actors:	Browser in PC and mobile
Open issues:	The customers can order products and update their profile.

Use Case Title:	Check Products
Primary Actor:	Customers
Goal in context:	To see available products in details.
Precondition:	Some products must be available
Trigger:	When customers need to see products.
Scenario:	<ol style="list-style-type: none"> 1. Customers go to our website. 2. The system displays main page of website. 3. Customers select the products button from menu and the system displays the products page and its categories. The customers can click on a category to see those products. Moreover, they can click on a product to see it in detail. 4. The customers can also go to the products page by clicking on any product category from the home page.
Exception:	<ol style="list-style-type: none"> 1. If the customers select the products button from the menu, they can go to the products page. 2. If the customers select any product category from the home page, they can go to that certain category section of the products page.
Priority:	High Priority
When available:	First Increment
Frequency of use:	Every Day
Channel to actor:	Browser in PC and mobile
Secondary actors:	Admin
Channels to secondary actors:	Browser in PC and mobile
Open issues:	The customers can see products according to different categories and price ranges.

Use Case Title:	Add to Cart
Primary Actor:	Customers
Goal in context:	To add products in order to make an order.
Precondition:	The customers have to be in the products page or the product details page.
Trigger:	When customers need to order products and add items one by one.
Scenario:	1. From the products page, the customers click on any item and that item is added into the cart.
Exception:	<ol style="list-style-type: none"> 1. If the customers click on a product from the product page, that product gets added into the cart. 2. If the customers view a certain product in details and click on it from the product details page, that product also gets added into the cart.
Priority:	High Priority
When available:	First Increment
Frequency of use:	Every Day
Channel to actor:	Browser in PC and mobile
Secondary actors:	Admin
Channels to secondary actors:	Browser in PC and mobile
Open issues:	The customers can add any amount of any product to their order before finalizing the order.

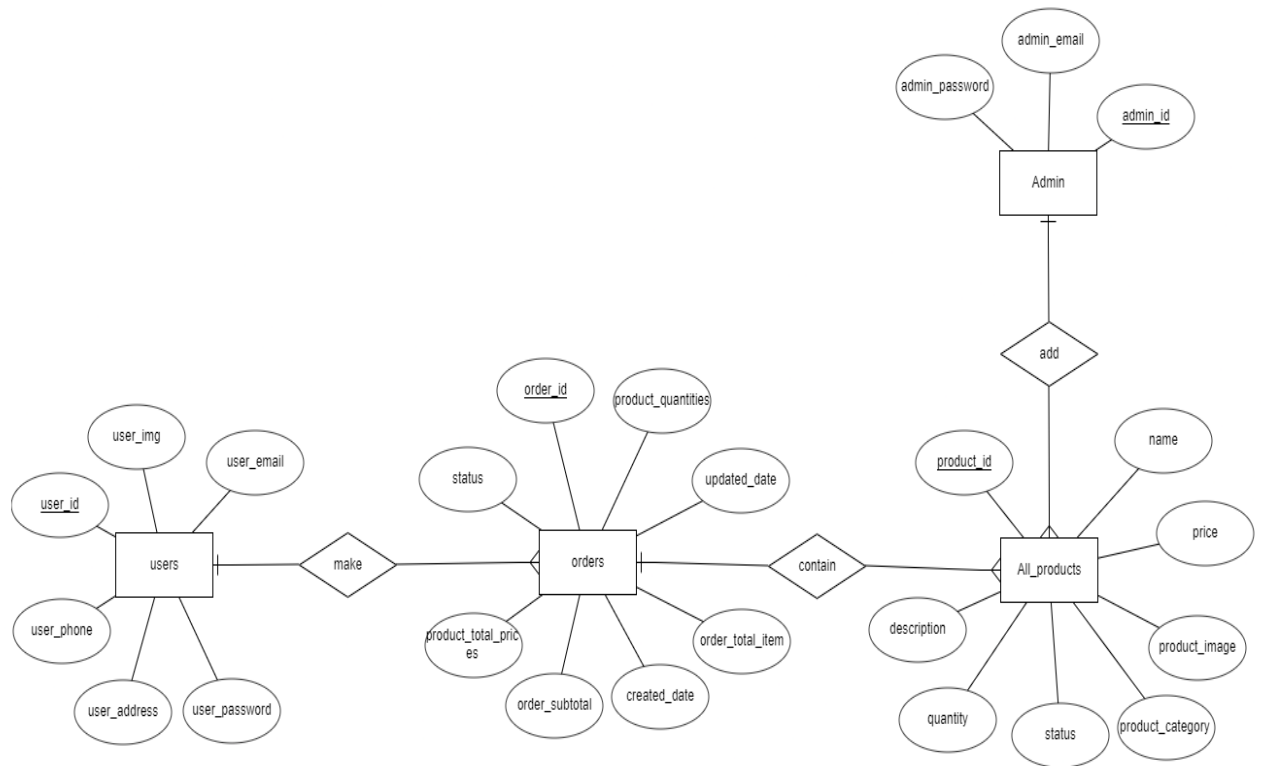
Use Case Title:	Order products
Primary Actor:	Customers
Goal in context:	To buy products from our website as our customer.
Precondition:	Customers must be logged in to their account.
Trigger:	When customers need to order their selected products from our website.
Scenario:	<ol style="list-style-type: none"> 1. Customers log in to our website. 2. The customers select products button and the system displays the available products. 3. The Customers select Add to Cart button to add product to the cart. 4. The customers select Cart button and the system displays the product details in the cart. 5. Customers select Confirm Order button to confirm ordering products.
Exception:	<ol style="list-style-type: none"> 1. If the customers are not logged in to their account, they will be asked to log in first to order products.
Priority:	High Priority
When available:	First Increment
Frequency of use:	Every Day
Channel to actor:	Browser in PC and mobile
Secondary actors:	Admin
Channels to secondary actors:	Browser in PC and mobile
Open issues:	The customer can order multiple products.

Use Case Title:	Add products
Primary Actor:	Admin
Goal in context:	To add more products to sell through our website.
Precondition:	Admin must be logged in to his account
Trigger:	When new types of products are available in the store.
Scenario:	<ol style="list-style-type: none"> 1. The admin provides their email and password in the login form to log in to the system 2. Admin select Add products button to add more products to the website. 3. Admin enters new product name, price, quantity, description, picture to add the product 4. After the product is added, it is showed to the customers through the products page
Exception:	<ol style="list-style-type: none"> 1. If the admin is not logged in, he will not be able to add products. 2. The admin cannot update or delete products.
Priority:	High Priority
When available:	First Increment
Frequency of use:	Every Day
Channel to actor:	Browser in PC and mobile
Secondary actors:	Customers
Channels to secondary actors:	Browser in PC and mobile
Open issues:	Showing all the existing product details

Use Case Title:	Check orders
Primary Actor:	Admin
Goal in context:	To check the details of the orders made by the customers
Precondition:	Admin must be logged in to his account
Trigger:	When admin wants to check all the order details of the customers.
Scenario:	<ol style="list-style-type: none"> 1. The admin provides their email and password in the login form to log in to the system 2. Admin select all orders button to check all the order details. 3. All the order information of the customers is shown to the admin through the All orders page
Exception:	<ol style="list-style-type: none"> 1. If the admin is not logged in, he will not be able to check orders.
Priority:	High Priority
When available:	First Increment
Frequency of use:	Every Day
Channel to actor:	Browser in PC and mobile
Secondary actors:	Customers
Channels to secondary actors:	Browser in PC and mobile
Open issues:	Showing all order details

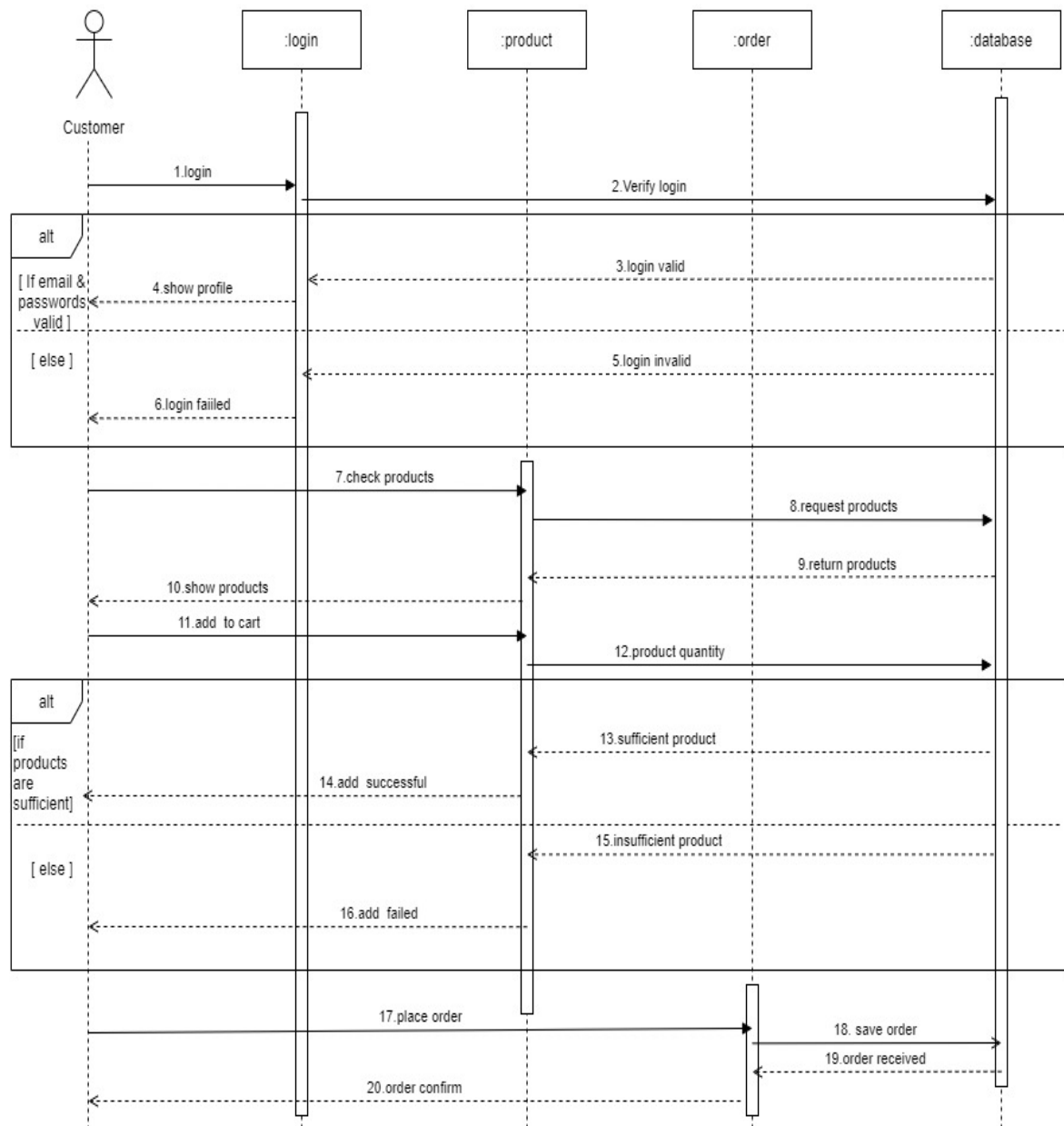
Use Case Title:	Contact
Primary Actor:	Customers
Goal in context:	To contact us or give us a message through our website.
Precondition:	Customers must provide their email while sending us a message.
Trigger:	When customers contact our store for some information.
Scenario:	<ol style="list-style-type: none"> 1. The customers select Contact Us button and the system displays a form. 2. The Customers provide their name, phone number, email and types a message in the form 3. Customers select Send button to send the message to us.
Exception:	<ol style="list-style-type: none"> 1. If the customers don't provide the phone number, they will still be able to send message. 2. If the customers don't provide the name or email, they will not be able to send message.
Priority:	High Priority
When available:	First Increment
Frequency of use:	Every Day
Channel to actor:	Browser in PC and mobile
Secondary actors:	Admin
Channels to secondary actors:	Browser in PC and mobile
Open issues:	The system can check for messages.

Entity Relationship Diagram:

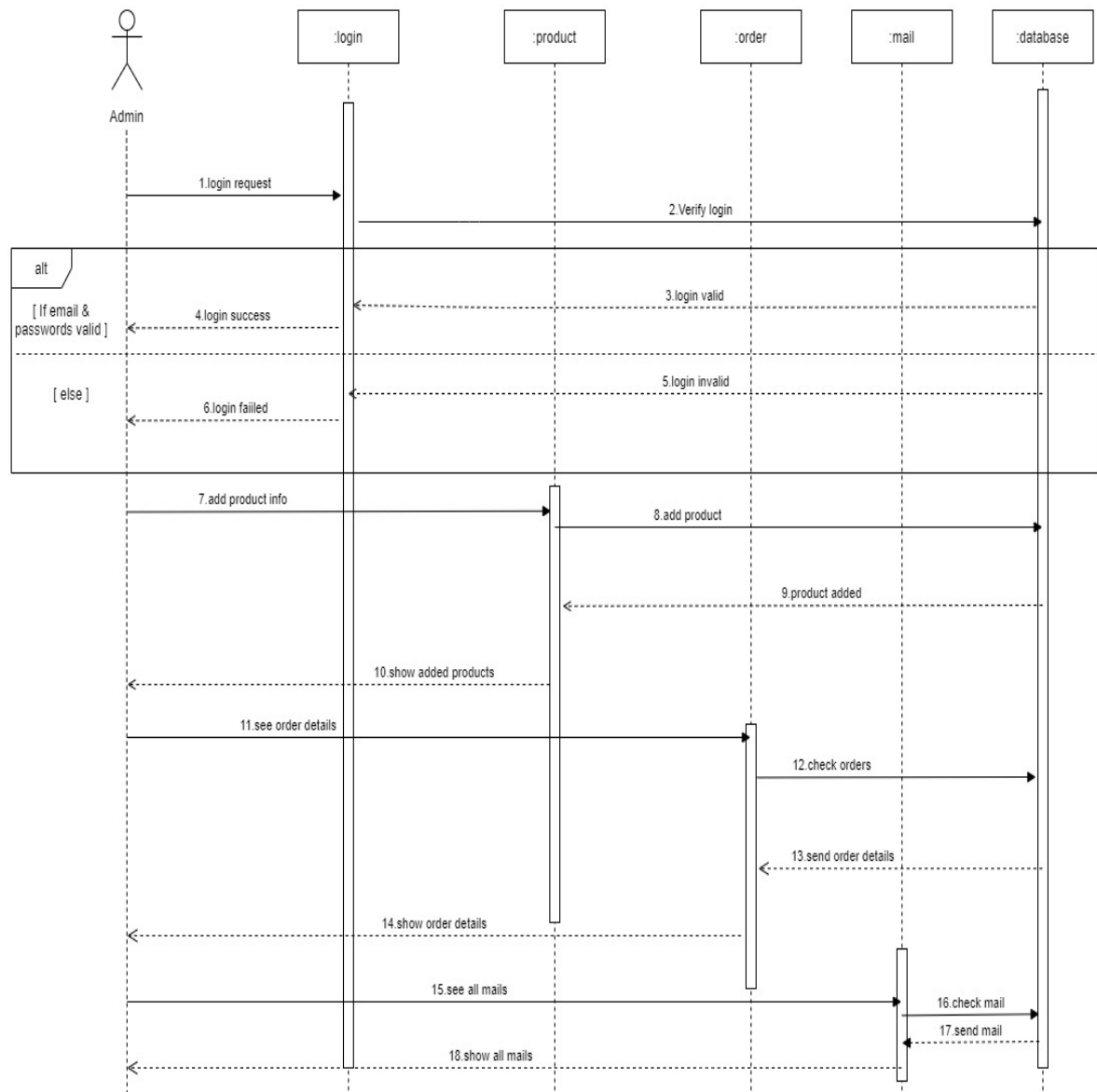


Sequence Diagram:

Sequence Diagram (Customer):

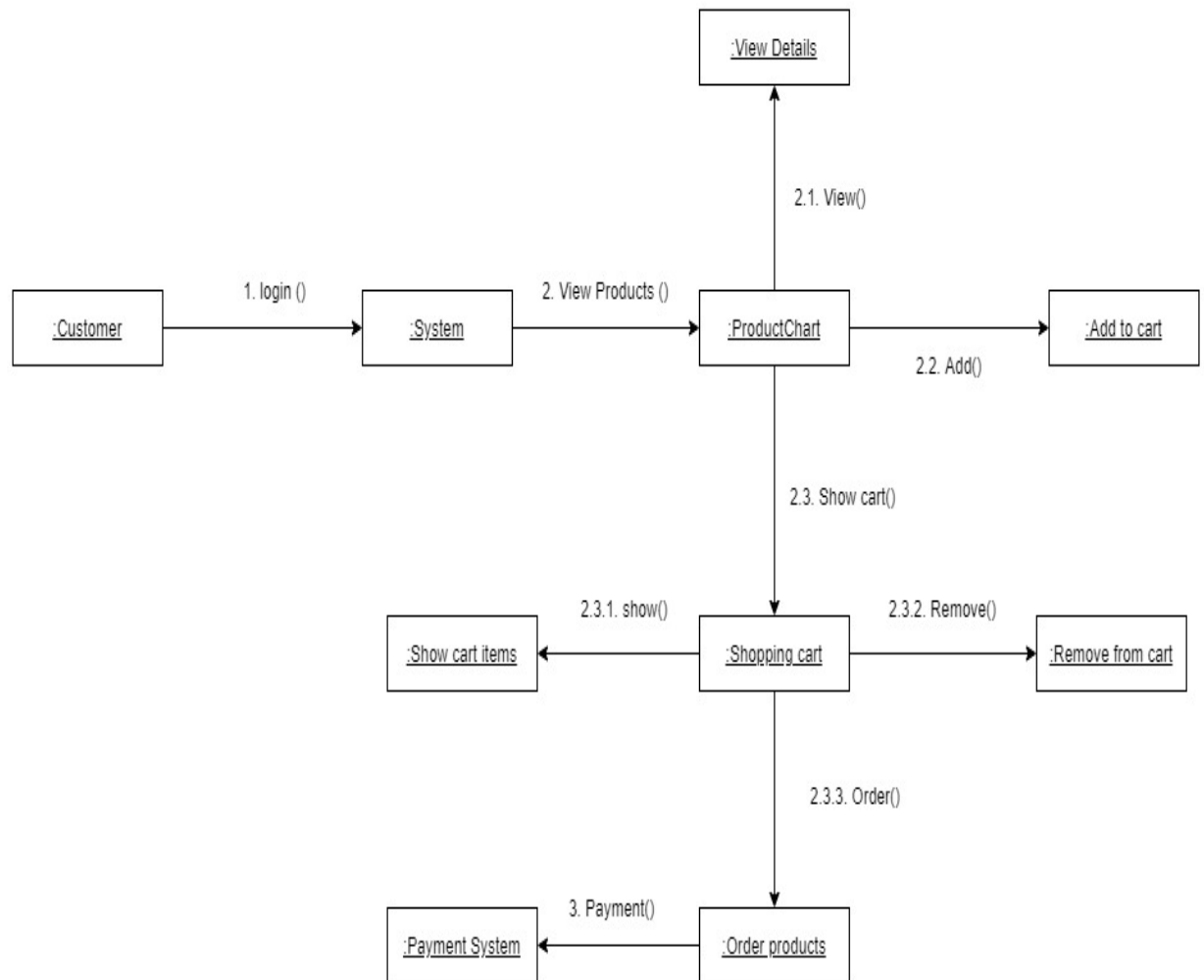


Sequence Diagram (Admin):

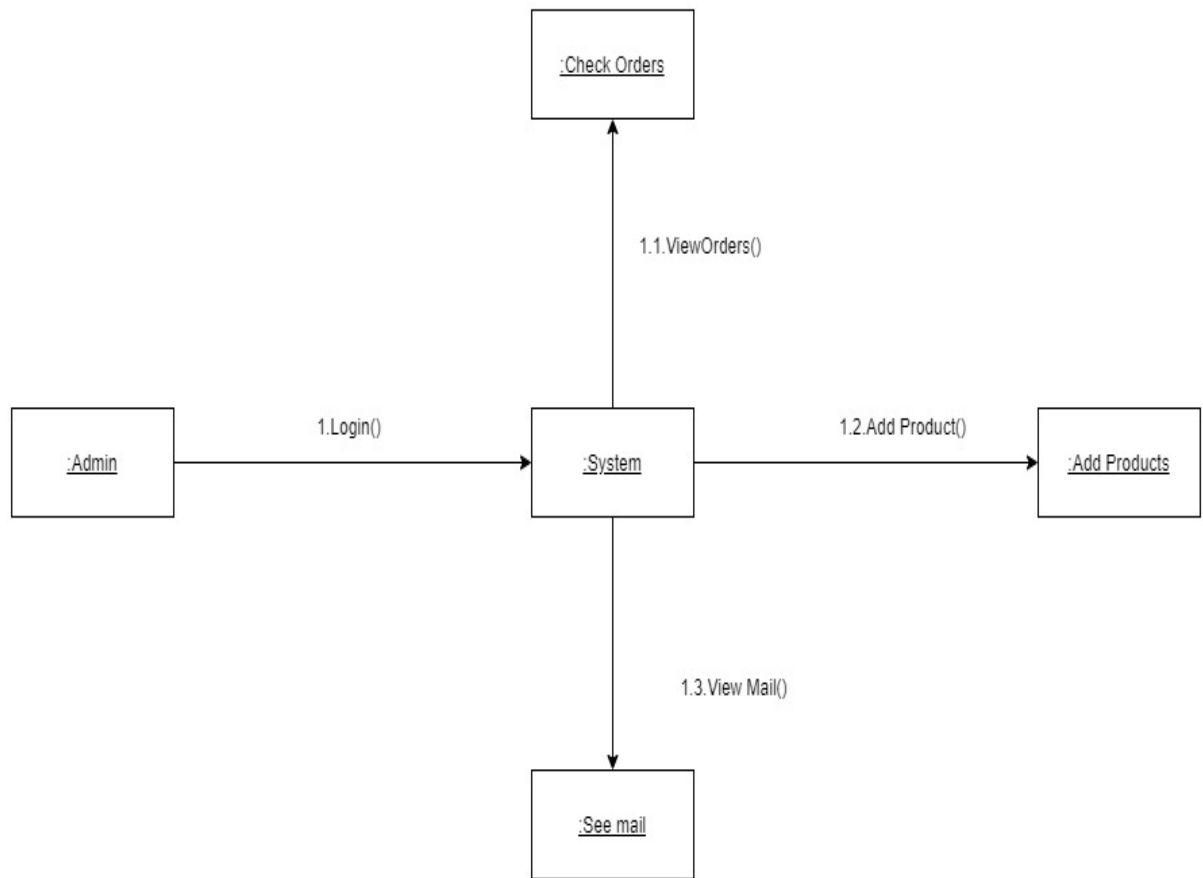


Collaboration Diagram:

Collaboration Diagram (Customer):



Collaboration Diagram (Admin):



Opportunities of Developments:

1. We want to implement a chat system where the admin will be able to reply to the messages sent by the users.
2. We wish to have a review section for each product.
3. We also want to implement a rating system for the products.

Benchmarking:

Group Member's Name	Contribution
Monjure Mowla	<ul style="list-style-type: none">• Home page• Show Products category wise• Show Product Details• Change About Us Page• Admin Login & Signout• Add Products• Show Private Products• Show Previous Orders• Show Messages Total – 33.33%
Kazi Fuad Bin Akhter	<ul style="list-style-type: none">• User Registration• User Login• Forgot Password• Show user info in admin panel• Show user profile• Update user profile• Sort products based on price Total – 33.33%
Nawrin Tabassum	<ul style="list-style-type: none">• Add products to cart• Order products• Contact page• Send email to admin• Show orders in admin panel• Show products in admin panel• Team page Total – 33.33%

References:

Roger S. Pressman, Software Engineering A Practitioner's Approach, 7th Edition.

Ian Somerville, Software Engineering, 10th Edition.