

Project Detail Document

E-commerce Platform Development

(Version - 1)

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Group No. - 42

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Start Date: 25/03/2022

End Date: 13/05/2022

Objectives of the Project:

What is ecommerce?

Ecommerce can be defined as the buying and selling of goods electronically online. Its popular because of the many benefits of e-business -internet marketing, electronic funds transfer, mobile commerce – this is broken up into two parts.

Online retail shopping that goes directly to consumers through mobile apps, websites and even voice assistants, chats, chatbots etc.

Sellers being a part of online marketplaces where many third-party sales take place. The online marketplace is a good platform for you to expand business.

Brief Advantages of Ecommerce Platform,

1. Faster buying process
2. Store and product listing creation
3. Cost reduction
4. Affordable advertising and marketing

5. Flexibility for customers
6. No reach limitations
7. Product and price comparison
8. Faster response to buyer/market demands
9. Several payment modes

User Roles:

1. Sellers
2. Customers
3. Delivery Agent/person
4. Admin

Functionalities:

There will be 5 types of functionalities according to use cases as follows:

1. Item Webpage Functionalities:

When an item is selected by the user, a responsive webpage should be displayed to the user with following features:

- Accurate images and videos of high resolution of the item should be displayed to the user.
- Accurate price and availability of the item (general or for a particular region) should be displayed to the user.
- Max quantity of item that a user can buy should also be displayed.
- Eligibility and period of return policy for the product should be mentioned clearly.
- Detailed description of the item should be displayed to the user. Technical details of the product should be displayed.
- Additional item related or recommended products and frequently bought together products should be displayed to the user. Sponsored products from the provider should be displayed alongside.
- Offers (item specific or general sale offer) for the item should be displayed to the user.
- Variants of the item should be displayed to the user.
- Three options should be available to the user for each product on the product webpage: (1) Buy Now (2) Add to cart (3) Add to buy later.
- Reviews and ratings (out of 5) should be displayed to the user. Reviews having product experience, delivery experience, photos or videos of the product should be displayed according to the upvotes. Average ratings of the overall product or for particular aspects of the product should be displayed to the user.
- Users should be able to filter the reviews and ratings for the products as per value and upvotes.

2. User Functionalities:

Each user will have various functionality when using the ecommerce platform like:

- Users can login or register if new in the portal.
- Items will be listed with a relevant image, short but important description and price (according to current MRP and sale). Users can select the item for more information about the product and buying options.
- Users can search for a particular item or list in the provided search-box with parameters like category, item id or other relevant information of the list of products.
- Users can filter the item list to fall under a particular range of price, category, or ratings.
- Users can add an item to cart, proceed directly to buy, or add item to buy later. In the cart, the total will be displayed to the user along with delivery included (if applicable).
- Users can manage the items in cart, (add, remove, update quantity), manage the items in buy later list (add, remove).
- Users can finalize the cart and proceed to buy.
- Users can then set the address to deliver and continue to pay.
- Various payment methods will be provided to the user for ease. Users can select a payment method and continue to checkout.
- After the payment is confirmed, the user will get notified via email and SMS. Users will be provided with estimated delivery date, order id and details.
- Users can then check the status of their orders.
- When the products from the orders are delivered, users can write a review and give ratings about the product or specific aspects of the product and service (packaging, delivery, etc.).
- Users can retrieve their order history where each past order is listed in order.
- If a user is not satisfied with an ordered product, and if the product is eligible for return, the user can request a return.

3. Seller Functionalities:

Sellers on the Ecommerce platform will have various functionalities like:

- Register or login to the platform.
- Sellers can request a list of products they intend to sell on the platform for verification. If the products are valid, the products will be listed on the platform and the seller will be notified about it.
- Sellers will be notified when their product is sold. Delivery agent will pick the product from the seller's stock location and deliver it to the customer.
- Sellers can check the reviews and ratings of their products helping them to improve the user experience in the future.

- Moreover, sellers will have an option to sponsor certain products to prioritize their advertisement on the platform. Thus, these will get more exposure at the cost of extra price.

4. Delivery person / agent

- Delivery person will have an interface containing all the items to be delivered , from where to pick them and whom to deliver.
- What order type it is in terms of payment method e.g. cash on delivery or already paid via online transaction . If it is cash on delivery then amount to be collected , and if online payment then otp or payment details for confirmation will be visible to the delivery person.
- Each time when a new job is assigned to a delivery person , he/she will have the option to either accept or reject the job based on the description given above .
- Delivery person will have to take confirmation from the customer about completion of delivery in the form of a signature.
- After completing a delivery job , that item will be removed from the list and will be stored in the delivered item list.
- Total collection from the orders will be stored and have to deposit that money to the seller.

5. Admin

- Admin will be the super user of the system and will have all the server side authorities related to the system.
- Before adding any items to the platform , permission or verification of the admin side is necessary.
- Will provide necessary customer service , like solving queries regarding past orders of the users .
- Will have access and control over whole database

Milestone:

1st, 2nd and weeks: 60 hrs

- Requirement analysis
- In this week we mainly Focus on design
- Will Design Use Case diagrams, sequence diagrams, class diagram etc
- Will design system structure and design a database. And also think about the business logic and data access layers at each user roles.

3rd week : 30 hrs

- Will discover the suitable technology for our project
- And explore briefly this technologies
- And prioritize the requirement to be implemented in next 2 weeks

4th and 5th week: 70 hrs

- Will implement the prioritize requirements

6th week: 30hrs

- This week is for testing and debugging.
- Final Documentations
- Work on improvements/ enhancements.

Estimated Total Time:

- Requirement analysis - 15 hrs
- Will Design Use Case diagrams, sequence diagrams, class diagram etc - 30 hrs
- Will design system structure and design a database. And also think about the business logic and data access layers at each user roles - 15 hrs
- Explore briefly this technologies - 25 hrs
- Prioritize the requirement to be implemented in next 2 weeks - 5 hrs
- Will implement the prioritize requirements - 70 hrs
- Testing and debugging - 15 hrs
- Final Documentations - 10 hrs
- Work on improvements/ enhancements - 5 hrs

HardWare Requirements:

- Private or Cloud based server to host the backend of ecommerce platform.

SoftWare Requirements:

- Various frameworks and technologies required to run the website.
- Users require a web browser and internet connection to access the website.

Technology/Architecture:

We intend to use MERN stack technology for ecommerce website development and its MVC architecture. Advantages by using these are as given in the link below.

<https://www.simform.com/blog/software-architecture-patterns/>

Standard to be followed throughout the Project :

We intend to follow Agile Methodology throughout the Project for better feedback and collaboration from the client. More emphasis should be given to requirement analysis, better design and client feedback. The development and implementation of functionalities should be done step-by-step based on the complexity and priority of the functionalities. The code should be clear and concise. The priority of Code is that it should be easily understandable, reusable and scalable. The user interface for users of this platform should be user friendly on all major platforms. Bug testing for different platforms and scenarios should be done and problems should be resolved.

