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1. Abstract

Electronic Commerce is process of doing business through computer networks. A person sitting on his chair in front of a computer can access all the facilities of the Internet to buy or sell the products.

Unlike traditional commerce that is carried out physically with effort of a person to go & get products, ecommerce has made it easier for human to reduce physical work and to save time. E-Commerce which was started in early 1990's has taken a great leap in the world of computers, but the fact that has hindered the growth of e-commerce is security. Security is the challenge facing e-commerce today & there is still a lot of advancement made in the field of security.

The main advantage of e-commerce over traditional commerce is the user can browse online shops, compare prices and order merchandise sitting at home on their PC.

For increasing the use of e-commerce in developing countries the B2B e-commerce is implemented for improving access to global markets for firms in developing countries. For a developing country advancement in the field of e-commerce is essential. The research strategy shows the importance of the e-commerce in developing countries for business applications.

Electronic commerce or ecommerce is a term for any type of business, or commercial transaction, that involves the transfer of information across the Internet. It covers a range of different types of businesses, from consumer based retail sites, through auction or music sites, to business exchanges trading goods and services between corporations. It is currently one of the most important aspects of the Internet to emerge.

2. Introduction

2.1 Brief Introduction

We all aware about of online shopping. It has been taking place of offline shopping but not at all .No one have enough time for offline shopping recently. So this system would be useful for online shopping for such things like mobile, TV, shoes, clothes etc. This system would be used for search different items whichever user wants to show also shows the details of every item and customer also can buy. E-commerce is a term for any type of business, or commercial transaction that involves the transfer of information across the internet.

2.2 Tools/Technologies Used

Technologies:

- 1) HTML 5
- 2) Cascading Style Sheets (CSS 4)
- 3) Bootstrap 4
- 4) Angular CLI
- 5) Typescript
- 6) Node Js
- 7) Express Js
- 8) Mongo Db
- 9) Mongo Db Atlas

Tools:

Visual Studio Code

Platform:

Localhost:4200 For Angular (ClientSide)

Localhost:8000 For NodeJs (ServerSide)

mongodb+srv://Raj:1234@cluster0-ild9g.mongodb.net/Ecommerce

3. Software Requirement Specifications

3.1 Product Scope

E-commerce is a term for any type of business, or commercial transaction that involves the transfer of information across the internet. This system is designed for enable to customers to get information about different product which is available for on our website and also can purchase and get by sitting at home.

3.2 Types of User

1. Admin
2. End-User

3.3 System Function Requirement

R.1 Admin

R.1.1 Add Product

Description : Using this functionality admin is able to add product and all the product details.

Input : Product Details.

Output : Display Confirmation message .

R.1.2 Update Product

Description: To edit and update the details of the product, admin use update product function .

Input : Update Details.

Output : Display Confirmation message.

R.1.3 Delete Product

Description: Delete any product from the website.

Input : Select Product.

Output : Display Deleted message.

R.1.4 Add Category

Description: To add the category of the product.

Input : Category.

Output : Display Confirmation message

R.1.5 Add Subcategory

Description : To add the sub category of the product.

Input : Subcategory.

Output : Display Status message.

R.1.6 Add Child category

Description : To add the child category of the product.

Input : Child Category.

Output : Display Status message.

R.1.7 Manage Add-Slider

Description : To add/delete banner slider which would appearing on the home page of the website.

Input : Slider Details .

Output : Display Status message .

R.2 End-User

R.2.1 Login

Description : Login to website.

Input : Credentials.

Output : Display Status message.

Process : Check the User_Id and Password whether it is true or not if it is right then success message otherwise incorrect details.

R.2.2 Sign up

Description : If user is the first time visitor of website then he needs to create its own account.

Input : User Details.

Output : Display Successful/Error message.

Process : Check the details which is entered by user during sign up and if it is validate then user would create its own account.

R.2.3 Change Password

Description : User would able to change the password.

Input : New Password.

Output : Display Successful/Error message.

R.2.4 Show Profile

Description : Display details of specify user.

Input : User Selection.

Output : Display User Details .

R.2.5 Add to Cart

Description : if user want to to buy multiple product at one time then he or she can use this function.

Input : Select Product .

R.2.6 Payment

Description : For purchase the product user can pay help of card or cash on delivery.

Input : card details and credentials.

Output : tracker ID of the product and successful message of payment.

Process : If the All details of card is correct then bank will send OTP on registered mobile number then user needs to enter this OTP if it is correct then user would get successful payment message.

R.2.7 View Product-info

Description : To view the more details of the product in details and reviews of the product.

Input : User Selection.

Output : Display Product Details.

R.2.8 Submit Review

Description : Submit the review by the customer for product and website.

Input : User message.

Output : Display Successful message.

R.2.9 About Us

Description : To know more details of website and contact information.

Input : User Selection.

Output : Display Website Details.

R.2.10 View Review

Description: User can see the review from the website about product or website.

Input : User Selection.

Output : Display review.

R.2.11 Place Order

Description : User can finally purchase product from cart.

Input : User Selection.

R.2.12 Cancel Order

Description : User can cancel his/her order.

Input : User selection.

Output : Confirmation message.

R.2.13 Contact Us

Description : User can contact our website via submitting form.

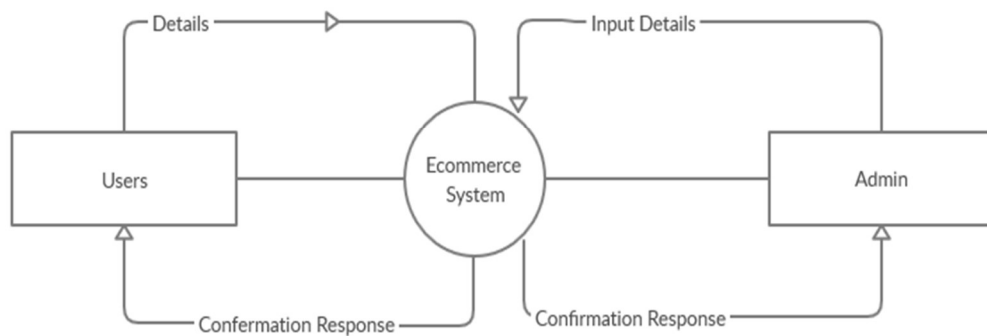
Input : Details.

Output : Confirmation message.

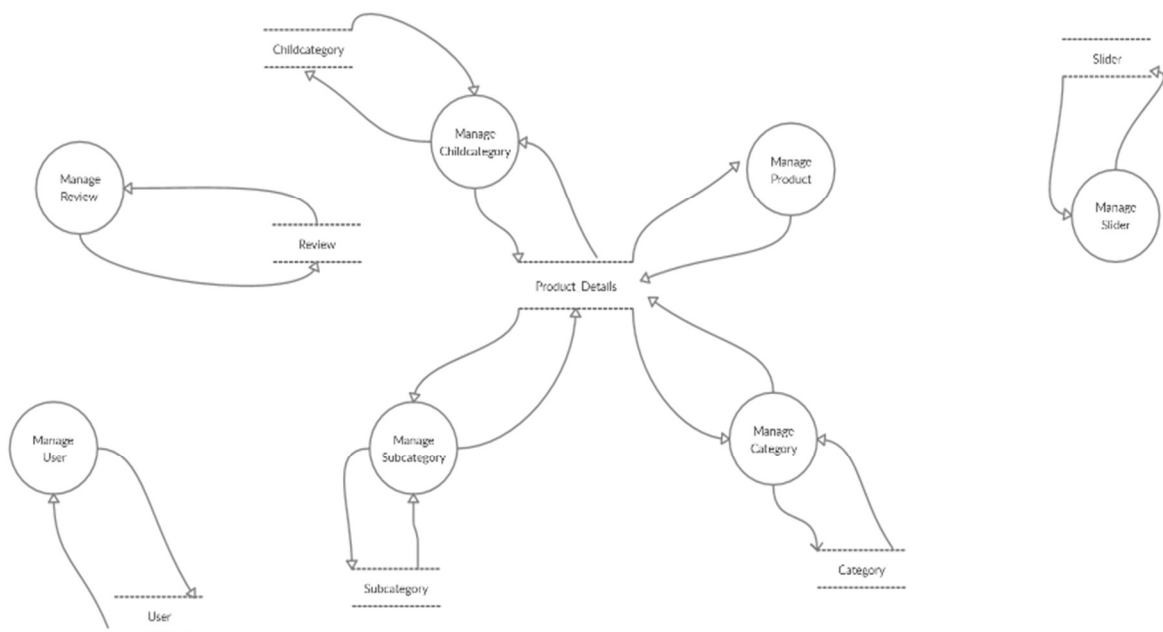
4. Design

DFD Diagram

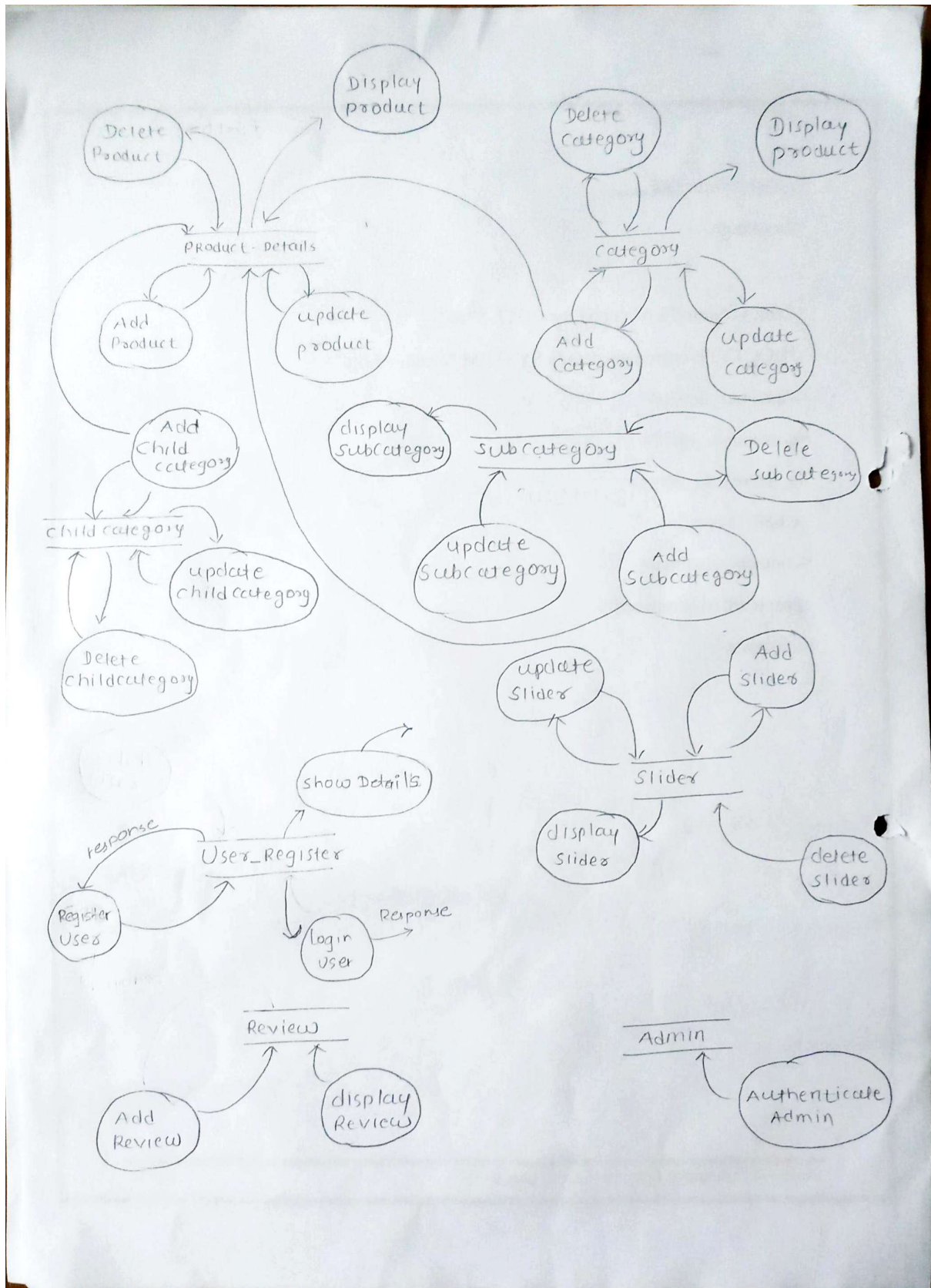
Level-0:



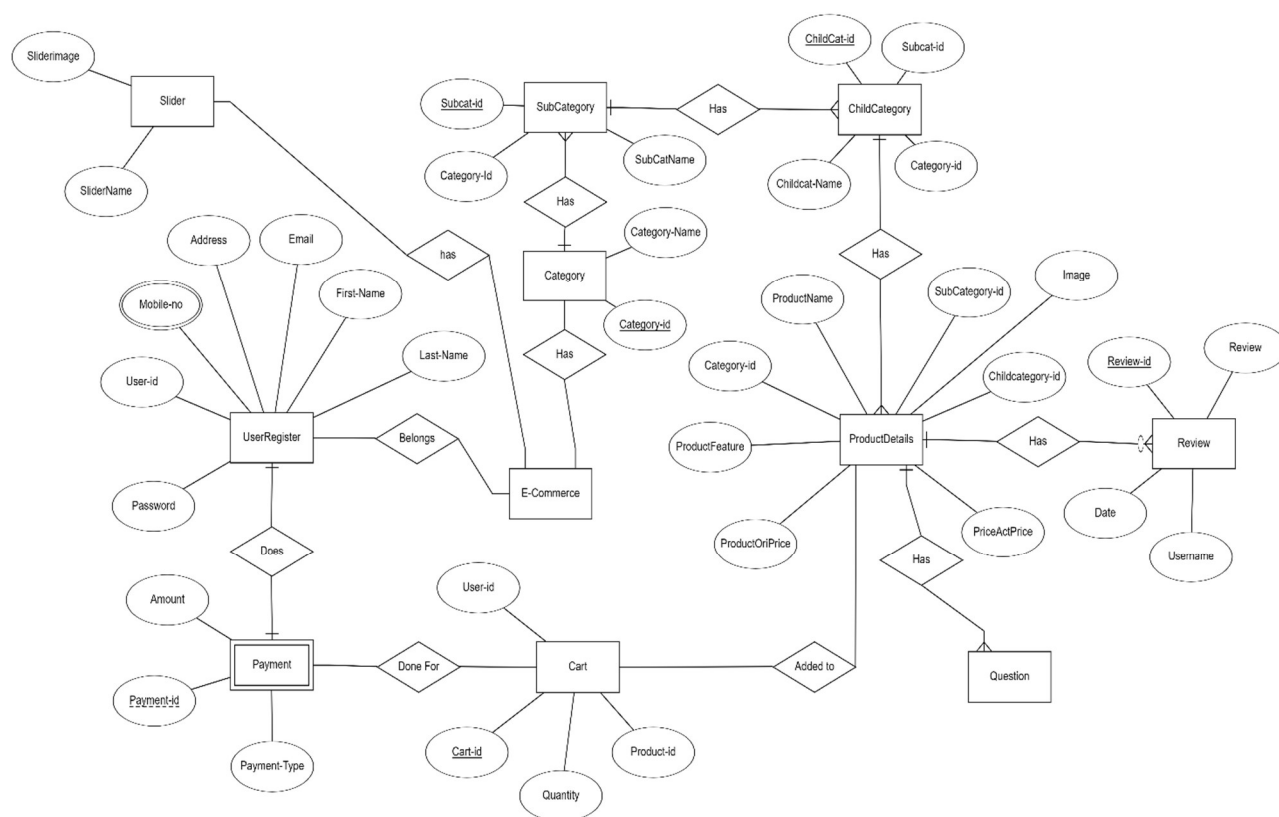
Level-1:



Level-2:



E-R Diagram



Data Dictionary

1.User Register								
Sr. No.	Field Name	Data Type	Width	Required	Unique	PK/FK	Referenced table	Description
1.	FirstName	Varchar	10	Yes	Yes	PK		Auto increment key generated by database itself
2.	LastName	Varchar	10	Yes	Yes			Unique id defined by user to login
3.	Password	Varchar	8	Yes	Yes			
4.	Emai	Varchar	50	Yes	Yes			
5.	PhoneNo	Number	30	Yes	Yes			

2. Category								
Sr. No.	Field Name	Data type	Width	Required	Unique	PK/FK	Referenced table	Description
1	Category_Name	Varchar2	15	Yes	Yes			
2	Category_id	Number	10	Yes	Yes	PK		

3. SubCategory								
Sr. No.	Field Name	Data type	Width	Required	Unique	PK/FK	Referenced table	Description
1	Subcategory_Name	Varchar2	15	Yes	Yes			
2	Subcategory_id	Number	10	Yes	Yes	PK		
3	Category_id	Varchar2	15	Yes	Yes	FK	Category	

4. Child_Category								
Sr. No.	Field Name	Data type	Width	Required	Unique	PK/FK	Referenced table	Description
1	Childcategory_Name	Varchar2	15	Yes	Yes			
2	Childcategory_id	Number	10	Yes	Yes	PK		
3	Category_id	Varchar2	15	Yes	Yes	FK	Category	
4	Subcategory_id	Varchar2	15	Yes	Yes	FK	Subcategory	

5. Product_Details								
Sr. No.	Field Name	Data type	Width	Required	Unique	PK/FK	Referenced table	Description
1	Category_Id	Number	15	Yes	Yes	FK	Category	
2	SubCategory_Id	Number	10	Yes	No	FK	SubCategory	
3	ChildCategory_id	Number	10	Yes	No	FK	ChildCategory	
4	ProductName	Varchar2	30	Yes	Yes			
5	ProductOriPrice	Varchar2	30	Yes	Yes			
6	ProductActPrice	Varchar2	12	Yes	Yes			
7	imgPath	Varchar2	100	Yes	No			

8	ProductFeature	Varchar2	10	Yes	Yes			
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6.Slider

Sr. No.	Field Name	Data type	Width	Required	Unique	PK/FK	Referenced table	Description
1	Slider_id	Varchar2	15	Yes	Yes	PK		
2	Slider_Name	Varchar2	10	Yes	Yes	PK		
3	Slider_image	image	200	Yes	Yes			

7. Question

Sr. No.	Field Name	Data type	Width	Required	Unique	PK/FK	Referenced table	Description
1	Category_id	Number	15	Yes	Yes	FK	Category	
2	SubCategory_id	Number	10	Yes	Yes	FK	SubCategory	
3	ChildCategory_id	Number	10	Yes	Yes	FK	ChildCategory	
4	ProductName	Varchar2	20	Yes	Yes			
5	Question	Varchar2	150	Yes	No			
6	Answer	Varchar2	300	Yes	No			

8. Review

Sr. No.	Field Name	Data type	Width	Required	Unique	PK/FK	Referenced table	Description
1	Category_id	Number	15	Yes	Yes	FK	Category	
2	SubCategory_id	Number	10	Yes	Yes	FK	SubCategory	
3	ChildCategory_id	Number	200	Yes	Yes	FK	ChildCategory	
4	ProductName	Varchar2	20	Yes	Yes			
5	Review	Varchar2	300	No	No			
6	Date	Date		Yes	No			

5. Implementation Detail

5.1 Modules

➤ Main End-User Module :

This module contains the main homepage of the system which provides basic information about the website. It contains inline navigation to go to different parts of the pages. This module does not need authentication. It contains buttons for sign in and login.

➤ Login Module :

This module takes users' credentials and then verifies it with registered users. If a user has entered incorrect credentials, then an alert with "Incorrect credentials. Try Again later", otherwise the user will be redirected to the home page with a welcome message.

➤ Registration Module :

This module is used to create an account on the website. All fields contain some types of validations. Then the user can login to our website using his/her credentials.

➤ User Home Module :

This module is accessed by only logged-in users. Users can search different items according to their requirements, place orders, see their personal information, and can also logout if they want, so they will be redirected to the main home page of the website.

➤ Admin Home Module :

This module is accessed by only admin users. Admins can manage different categories, subcategories, and categories of different products, manage products like add product, delete product, update product etc. Admins can see reviews of products.

5.2 Function prototypes

User Function:

- User Register
- User Login
- View Products subcategorieswise/childcategorieswise
- View User Details
- Review Product
- See Reviews of Item
- See Question-Answer

Admin Function:

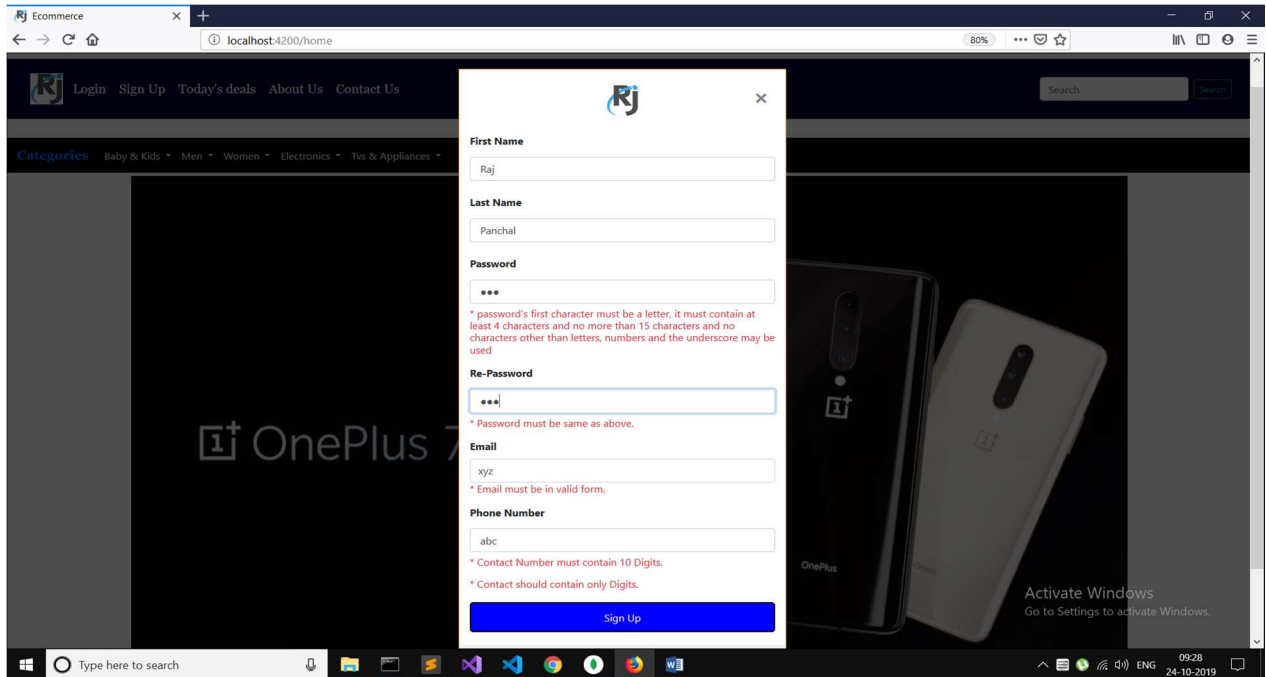
- Admin Login
- Manage Product
- Manage Add-Slider

6. Testing

Blackbox Testing

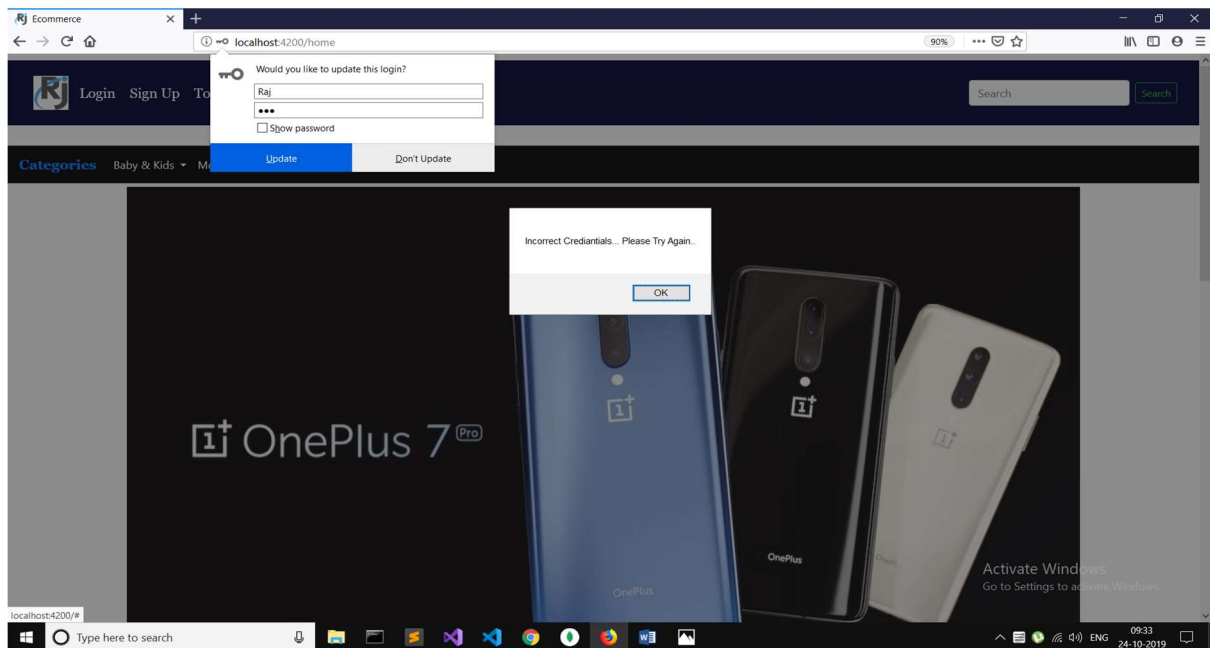
For Register :

If User is not entered valid information then not allow for submitting form.



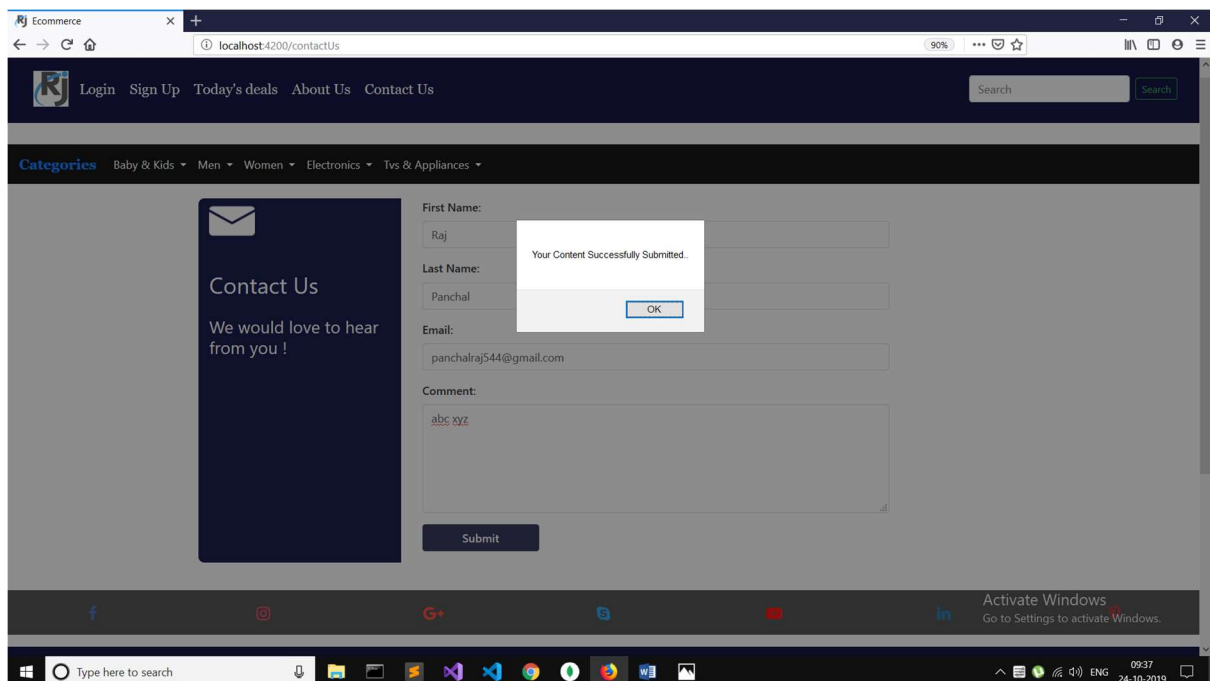
For Login:

If User would entered invalid credentials then get alert message.



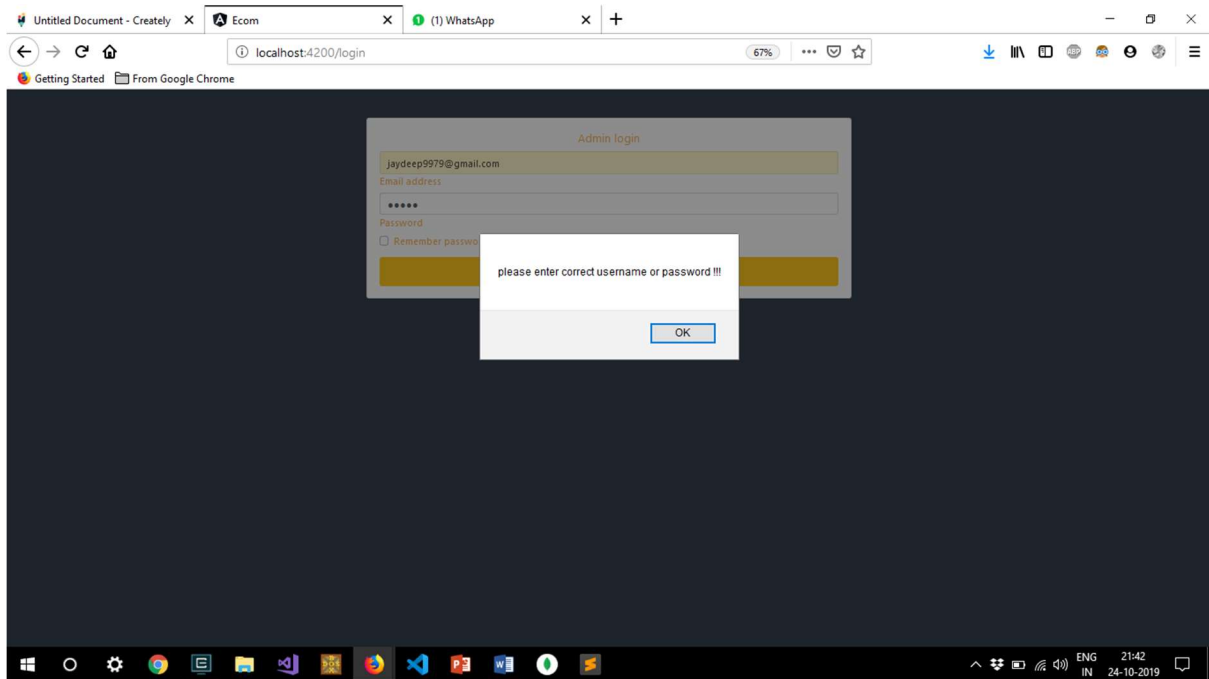
For Contact Us:

If User fill contactus form then he/she would receive e-mail and confirmation message.



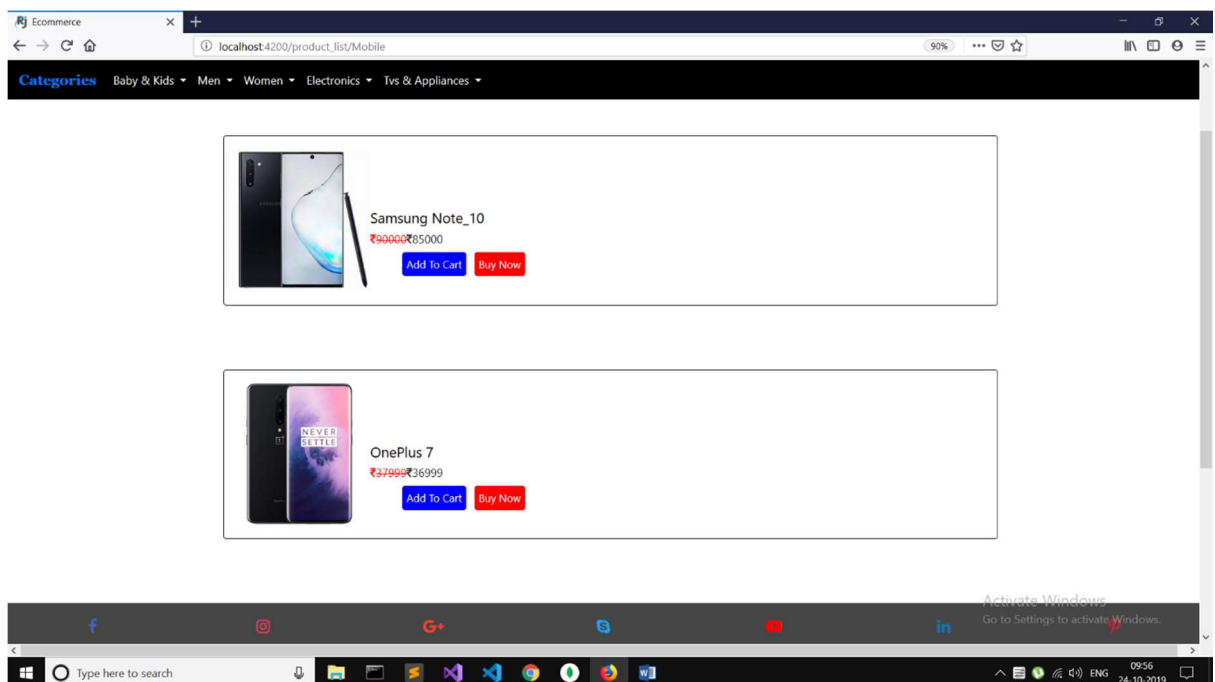
For Admin Login:

If Admin would entered incorrect credentials then get alert message.




7. Screen Shots

End-User View:



Ecommerce
localhost:4200/product_info/Note_10
90%



Samsung Note 10

₹90000 ~~₹85000~~

QTY:

Payment Availability:

☒ COD ☒ VISA ☒ EMI

[Add To Cart](#) [Wishlist](#) [Buy Now](#)

DESCRIPTION

Product-feature	Product-description
Display	5-8-inch Super Retina HD Display with HDR And True Tone
Capacity	64GB,256GB
Camera & Video	Dual 12MP cameras with Portrait mode,Auto HDR,and 4K video up to 60 fps
Power and Battery	Talk Time:Up to 21 hours Internet use:up to 13 hours Video playback:up to 13 hours

Customer Questions







1. **This Product is good or not?**
Yes, its good product.

Activate Windows
Go to Settings to activate Windows.

Type here to search
09:56 24-10-2019

Ecommerce
localhost:4200/cart_list
90%

Categories Baby & Kids Men Women Electronics Tvs & Appliances

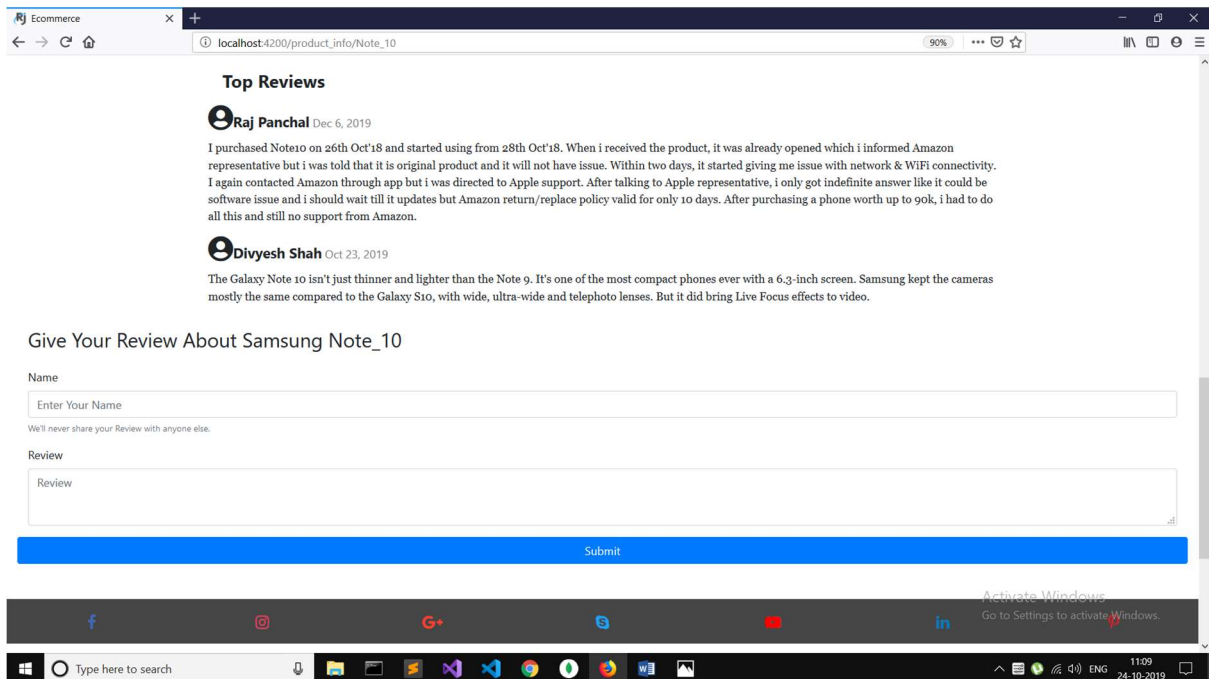
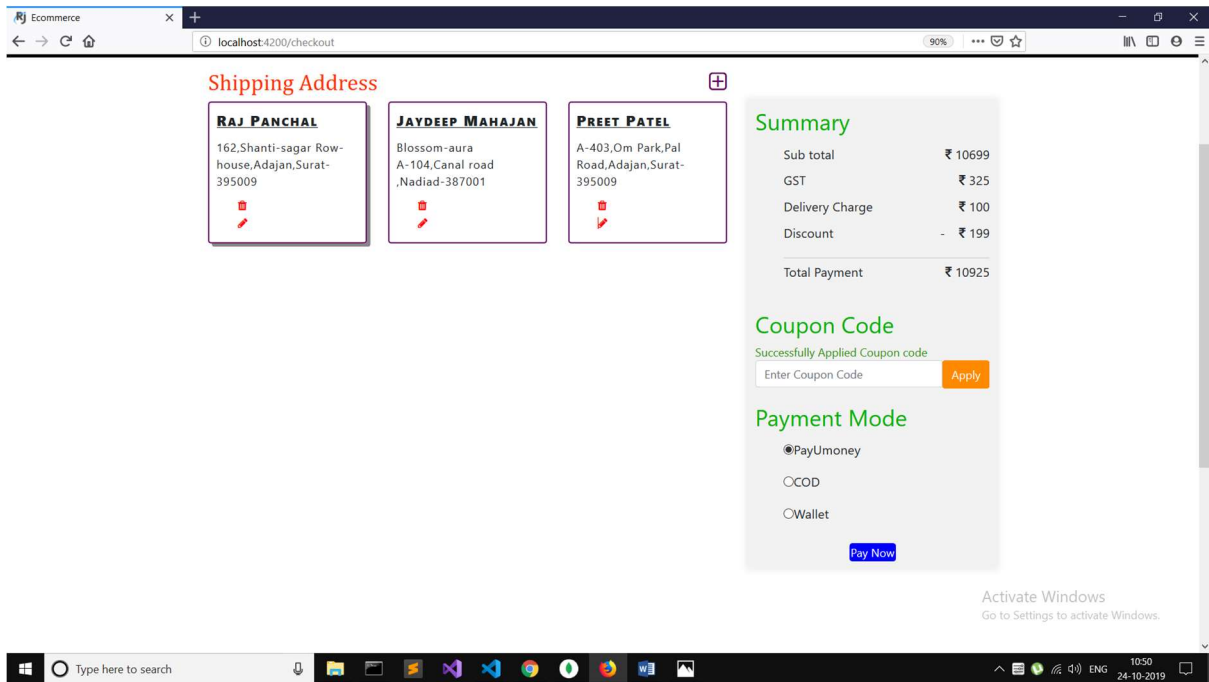
Image	Description	Price	Quantity	Total Price
	IPHONE X Color:White	₹85000	<input type="text" value="0"/>	₹85000 
	ONE PLUS 6 Color:Thunder Purple	₹32000	<input type="text" value="0"/>	₹32000 
	SAMSUNG S10 PLUS Color:metallic white	₹55000	<input type="text" value="0"/>	₹55000 

[Check Out](#)

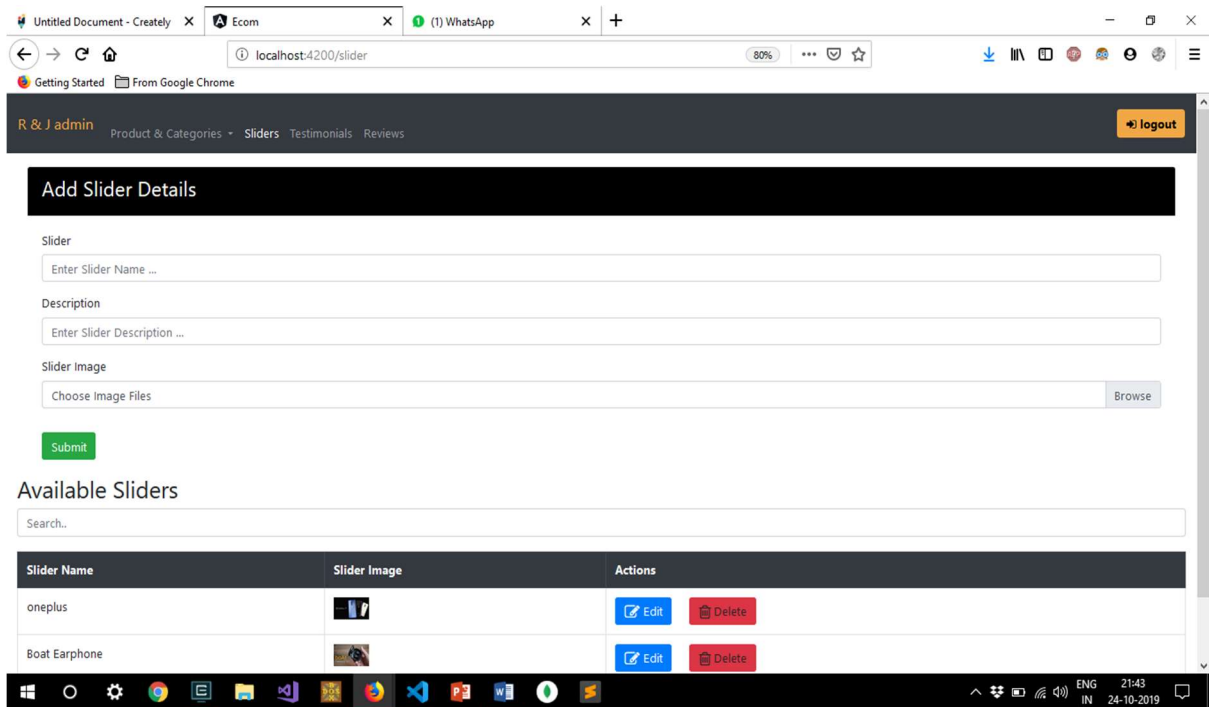
Sub Total: ₹100000

Activate Windows
Go to Settings to activate Windows.

Type here to search
09:56 24-10-2019





Admin-View:



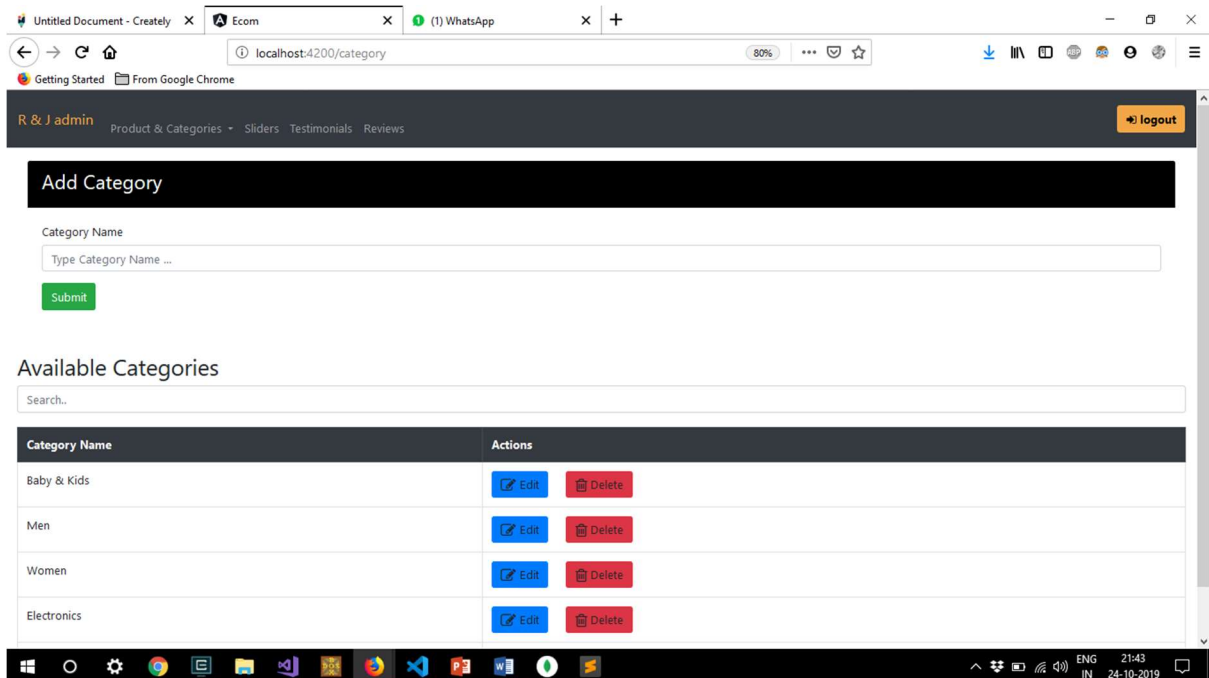
The screenshot shows a web browser window with the URL `localhost:4200/slider`. The page is titled "Add Slider Details" and contains a form with the following fields:

- Slider: Enter Slider Name ...
- Description: Enter Slider Description ...
- Slider Image: Choose Image Files (with a "Browse" button)

A green "Submit" button is located below the form. Below the form, there is a section titled "Available Sliders" with a search bar. A table displays the available sliders:

Slider Name	Slider Image	Actions
oneplus		Edit Delete
Boat Earphone		Edit Delete

The browser's taskbar at the bottom shows various application icons and system information: ENG IN, 21:43, 24-10-2019.



The screenshot shows a web browser window with the URL `localhost:4200/category`. The page is titled "Add Category" and contains a form with the following field:

- Category Name: Type Category Name ...

A green "Submit" button is located below the form. Below the form, there is a section titled "Available Categories" with a search bar. A table displays the available categories:

Category Name	Actions
Baby & Kids	Edit Delete
Men	Edit Delete
Women	Edit Delete
Electronics	Edit Delete

The browser's taskbar at the bottom shows various application icons and system information: ENG IN, 21:43, 24-10-2019.

8. Conclusion

Functionality that are successfully implemented by us is following:

End-User Functionality:

- User registration with validation
- User login & logout with session
- Show logged in user details
- Display navigation bar with all categories,subcategories,childcategories
- Listout of product subcategorywise and childcategorywise
- Display information and review&query about each product
- Submitting review for each product
- Search product by subcategorywise
- Display advertisement slider
- Submitting Feedback via ContactUs Form
- Sending Mail to user

Admin Functionality:

- Admin authenticate with Session management
- Add category,subcategories,childcategories
- Edit category,subcategories,childcategories
- Delete category,subcategories,childcategories
- Manage advertisement slider

9. Limitation and Future Extension

This system has some limitation that we didn't able to complete like it only search product by subcategorywise like mobile,laptops but not able to search by childcategorywise and product name.This system does not able to display information about daily offeres.We also have not specify about ask query.This system does not able to perform online money transaction.

Also some component is not able to fit in mobile view.

This system is not contain any kind of data security, system security and also problem with page synchronization during page loading.

We have not able to complete add to cart, buy product, payment functionality successfully.

In future I will try to complete remaining functionality, increase performance and try to create more userfriendly.

10. Reference / Bibliography

Following links and websites were referred during the development of this project.

<https://www.google.co.in>

<https://www.amazon.in>

<https://www.flipkart.com>

<http://www.getbootstrap.com>

<http://www.angular.io>

<http://www.stackoverflow.com>

https://www.youtube.com/channel/UC80PWRj_ZU8Zu0HSMNVwKWw