CHAPTER 1

INTRODUCTION

1.1 Overview

Web Technology is a general term referring to many languages and multimedia packages that are used in conjunction with one another, to produce dynamic websites. The website has two modules namely, server side and the client side. Growth of Internet community carrying out businesses on the Internet has been very rapid since last few years following a per-defined path or strategy to earn revenue from the net. One such strategy is to create, market and manage a website which attracts huge masses of people.

This project aims to develop an online shopping for customers with the goal so that it is very easy to shop from an extensive number of online shopping sites available on the web. With the help of this, online shopping can be carried from your home. To get to this online shopping system the users will need to have an email and password to log in and proceed with their shopping. Upon successful login, the user can purchase a wide range of things such as mobiles, books, apparel, jewellery, infant care, gifts, tools, etc. can be dispatched using an online shopping system. And of course, requested ordered items at doorstep. It is simple. It has payment making options like net banking, credit card, debit card, or UPI.

Almost a wide range of things can be brought through an online shopping system. The user can purchase goods from anywhere and goods will be delivered to their houses. It is extremely secure. Customer service is accessible. This application is implemented using popular web technologies: HTML, CSS and JavaScript, Django for client and server-side scripting respectively.

1.2 Problem Statement

This project is an attempt to provide the advantages of online shopping to customers of a real shop. It helps buying the products in the shop anywhere through internet by using an android device. Thus, the customer will get the service of online shopping and home delivery from their favourite shop. This system can be implemented to any shop in the locality or to multinational branded shops having retail outlet chains.

1.3 Motivation

Internet has seen a tremendous growth in terms of coverage and awareness. So, giving the business online presence has become very crucial and important. Consumers of today are attracted to placing an order online and make purchases because it is very convenient and extremely simplified. The main objective is to develop an interface that is user friendly and target a particular audience that is in need for such an application. This has been a key factor of motivation behind this venture. There are several languages in Web Technology which helps in designing user friendly and interactive websites. Each language has its own strengths, which help in styling and designing the client side. The server side includes the connectivity to the database and passing of relevant data to the client side.

1.4 Web technologies

In the IT world, the internet is an essential platform, whether it’s for developing or for consumer use. When developing a website, in order to make the websites look and function a certain way, web developers utilize different languages. The Online Green Mart is developed using the following web technologies.

Hypertext Markup Language (HTML)

HTML is the standard Markup language for creating web pages and web applications. Web browsers receive HTML documents from a web server or from local storage and render them into multimedia web pages. HTML describes the structure of a web page semantically.HTML elements are the building blocks of HTML pages. With HTML constructs, images and other objects, such as interactive forms, may be embedded into the rendered page.

HTML provides a means to create structured documents by denoting structural semantics for text such as headings, paragraphs, lists, links, quotes and other items. HTML elements are delineated by *tags,* written using angle brackets. HTML can embed programs written in a scripting language such as JavaScript which affect the behaviour and content of web pages. With Cascading Style Sheets (CSS) and JavaScript it forms a triad of cornerstone technologies for the World Wide Web. Technology used by most websites to create visually engaging webpages, user interfaces for web applications, and user interfaces for many mobile applications.

Cascading Style Sheets (CSS)

CSS is a style sheet language used for describing the presentation of a document written in a Markup language. CSS defines the look and layout of content. Although most often used to set the visual style of web pages and user interfaces written in HTML and XHTML, the language can be applied to any XML document.

CSS is designed primarily to enable the separation of presentation and content, including aspects such as the layout, colours, and fonts. This separation can improve content accessibility, provide more flexibility and control in the specification of presentation characteristics, enabling multiple HTML pages to share formatting by specifying the relevant CSS in a separate .css file, and reduce complexity and repetition in the structural content.

Changes to the graphic design of a single document or many can be applied quickly and easily, by editing a few lines in the CSS file they use, rather than by changing Markup in the documents.

JavaScript (JS)

JS is a dynamic computer programming language. It is lightweight and most commonly used as a part of web pages, whose implementations allow client-side script to interact with the user and make dynamic pages. It is an interpreted programming language with object-oriented capabilities.

JavaScript is designed for creating network-centric applications and is complementary to and integrated with Java and HTML. Client-side JavaScript is the most common form of the language.

The script should be included in or referenced by an HTML document for the code to be interpreted by the browser. It means that a web page need not be a static HTML, but can include programs that interact with the user, control the browser, and dynamically create HTML content.

It has a lot of advantages. It is platform independent. Coding using Java makes it an object-oriented scripting language.

Django Rest Frameworks

Django REST framework is a powerful and flexible toolkit for building REST Full APIs which can be used in both Web and Other Platforms. The main advantages of Django Rest frameworks are:

- ✓ The Web browsable API is a huge usability win for your developers.
- ✓ Authentication policies including packages for OAuth1a and OAuth2.
- ✓ Serialization that supports both ORM and non-ORM data sources.
- ✓ Customizable all the way.
- ✓ Extensive documentation, and great community support.
- ✓ Used and trusted by internationally recognised companies including Mozilla, Red Hat, Heroku, and Eventbrite.

1.5 Applications of web technologies

Real time web technologies have been around for over 10 years, but it's only relatively recently that people have started seeing them used in the sorts of applications used on a daily basis. Real time web technologies have a number of common use cases, and newer, innovative uses are constantly being discovered.

Simple use cases are things like displaying data, statistics, notifications and news as soon as it becomes available. But the technology shows its real value when interactive experiences are created - when multiple users and systems are instantly communicating with each other. Industries which are benefitting from the technology include social, broadcasting, sports, finance, e-commerce, energy, education, healthcare and gaming.

Applications of real time web technologies are:

Real time web analytics

Google has started pushing into this market with Google Analytics. There is a ton of opportunity here, as there is the ability to capture and transmit interactive user data like never before. From tracking where the mouse floats across the screen, the orientation of a mobile device, and any number of other user interactions. Not only track them, but actually watch them as they happen.

Digital Advertising

The digital advertising world has long been a solid revenue generator for web-based businesses. With real-time web technologies, advertisers can move towards more interesting advertising paradigms, such as charging for ads based on the amount of time the ad is visible on a user's screen or other real time interaction metrics versus the CPM and CPC metrics that have long been the standard

E-Commerce

E-commerce has always been a hotbed for engaging customers and customer interactions. Showing shoppers what other shoppers are looking at online, or pushing out online deals directly to all connected browsers are the types of real time features that e-commerce platforms are adopting.

Publishing

Keeping eyeballs on the screen is the primary goal on any online publisher, and one way to keep visitors on the site is to keep them engaged.

Realtime data can lead to some very interesting info graphics, and it can also help connect viewers like never before. A great example is some of the real time comments like Disqus.

Backend Services and Messaging

The backend systems have grown in scale and complexity over the last decade, and it is becoming increasingly important to propagate messages across very large systems effectively and efficiently. The real time web is going to be great for these types of functions, Project Management & Collaboration. Google docs and other platforms have already demonstrated the value (and potential complexity) in implementing real time collaborative environments on the Web.

The new era of real time web technologies will make the development of these types of applications simpler and easier to build which is great because most web applications are not built in a vacuum, so having the ability to connect all those users together in constructive and insightful ways should be able to add value in their workflows.

Real time Monitoring Services

The bi-directional communication channel is great for remote devices or servers to stay connected to a central monitoring service. This gives techs and admins the ability to watch what their endpoints are doing in real time without logging into the machine, and also gives the ability to send real time alerts.

Live Charting and Graphing

Charts and graphs have always been a great way to visualize data. Now those graphs and charts can be connected to real time data flows. The possibilities are literally endless, from displaying temperature data measured from a connected home device to streaming stock prices to real-time chart.

Group and Private Chat

Chat has long been the de-facto example for real-time since by its very nature it requires real-time bi-directional communication. Chat is a great use for real-time web technologies, and variations on group chats and private chats leads to more innovation in this area.

CHAPTER 2

SYSTEM AND SOFTWARE REQUIREMENTS AND SPECIFICATIONS

The program works on Desktop PC and is executed using a Django Rest Frameworks interface which interacts with a PostgreSQL database running on localhost.

2.1 FUNCTIONAL REQUIREMENTS

A description of the facility or feature required. Functional requirements deal with what the system should do or provide for users. They include description of the required functions, outlines of associated reports or online queries, and details of data to be held in the system.

2.1.1 **Interface Requirements:**

- The system shall provide an option to add/delete products to their cart.
- The system should give option for login.
- The system shall provide option to add/delete suppliers.
- The system shall provide option Search a product.
- The system shall provide option to sell a product.

2.2 NON-FUNCTIONAL REQUIREMENTS:

Non-functional requirements define the overall qualities or attributes of the resulting system.

2.2.1 **Usability**

Usability is the ease with which a user can learn to operate the Online Shopping Website system and get results.

2.2.2 **Security**

Security requirements are included in a system to ensure:

- All inventory and supplier information are well secured
- SQL injection is prevented

2.2.3.Reliability

Reliability is the ability of a system to perform its required functions under stated conditions for a specific period of time. Constraints on the run-time behavior of the system can be considered under two separate headings:

- Availability: is the system available for service when requested by end-users.
- Failure rate: how often does the system fail to deliver the service as expected by end- users.

2.2.4. Efficiency

The comparison of what is actually produced or performed with what can be achieved with the same consumption of Clouds (money, time, labor, etc.). It is an important Factor in Determination of Productivity.

2.2 SOFTWARE REQUIREMENTS

Programming language	:	Python
Operating system	:	ANY OS (Recommended**:** Windows 10, Windows Vista, Windows XP)
Application required	:	Web Application
Coding language	:	Core Python OOPS

2.3 HARDWARE REQUIREMENTS

CPU	:	Pentium IV 2.4 GHz
Memory (Primary)	:	512 MB, 1 GB or above
Hard Disk	:	40 GB, 80GB, 160GB or above
Monitor	:	15 VGA color

CHAPTER 3

SYSTEM DESIGN

System design is the process of defining the elements of a system such as the architecture, modules and components, the different interfaces of those components and the data that goes through that system. It is meant to satisfy specific needs and requirements of a business or organization through the engineering of a coherent and well-running system.

3.1 Proposed System

This *ONLINE SHOPPING WEBSITE* is a web-based shopping system for an existing shop. This project aims to develop an online shopping for customers with the goal so that it is very easy to shop from an extensive number of online shopping sites available on the web. With the help of this, online shopping can be carried from your home. To get to this online shopping system the users will need to have an email and password to log in and proceed with their shopping. Upon successful login, the user can purchase a wide range of things such as mobiles, books, apparel, jewellery, infant care, gifts, tools, etc. can be dispatched using an online shopping system. And of course, requested ordered items at doorstep. It is simple. It has payment making options like net banking, credit card, debit card, or UPI. Almost a wide range of things can be brought through an online shopping system. The user can purchase goods from anywhere and goods will be delivered to their houses. It is extremely secure. Customer service is accessible.

The *ONLINE SHOPPING WEBSITE* objective is to deliver the online shopping application into an android platform. This project is an attempt to provide the advantages of online shopping to customers of a real shop. It helps to buy the products in the shop anywhere through the internet by using an android device. Thus, the customer will get the service of online shopping and home delivery from his favourite shop. This system can be implemented for any shop in the locality or to multinational branded shops having retail outlet chains. If shops are providing an online portal where their customers can enjoy easy shopping from anywhere, the shops won’t be losing any more customers to the trending online shops such as Flipkart or amazon. Since the application is available on the Smartphone it is easily accessible and always available.

3.2 Flow of web pages

A flowchart is a formalized graphic representation of a logic sequence, work or manufacturing process, organization chart, or similar formalized structure. A website flowchart shows the structure and makeup of any existing or planned website. They are useful for giving a broad overview of a website's content as well.

Flow charts of the webpages are a useful tool in these situations, as they make a process easy to understand at a glance. Using just a few words and some simple symbols, they show clearly what happens at each stage and how this affects other decisions and actions.

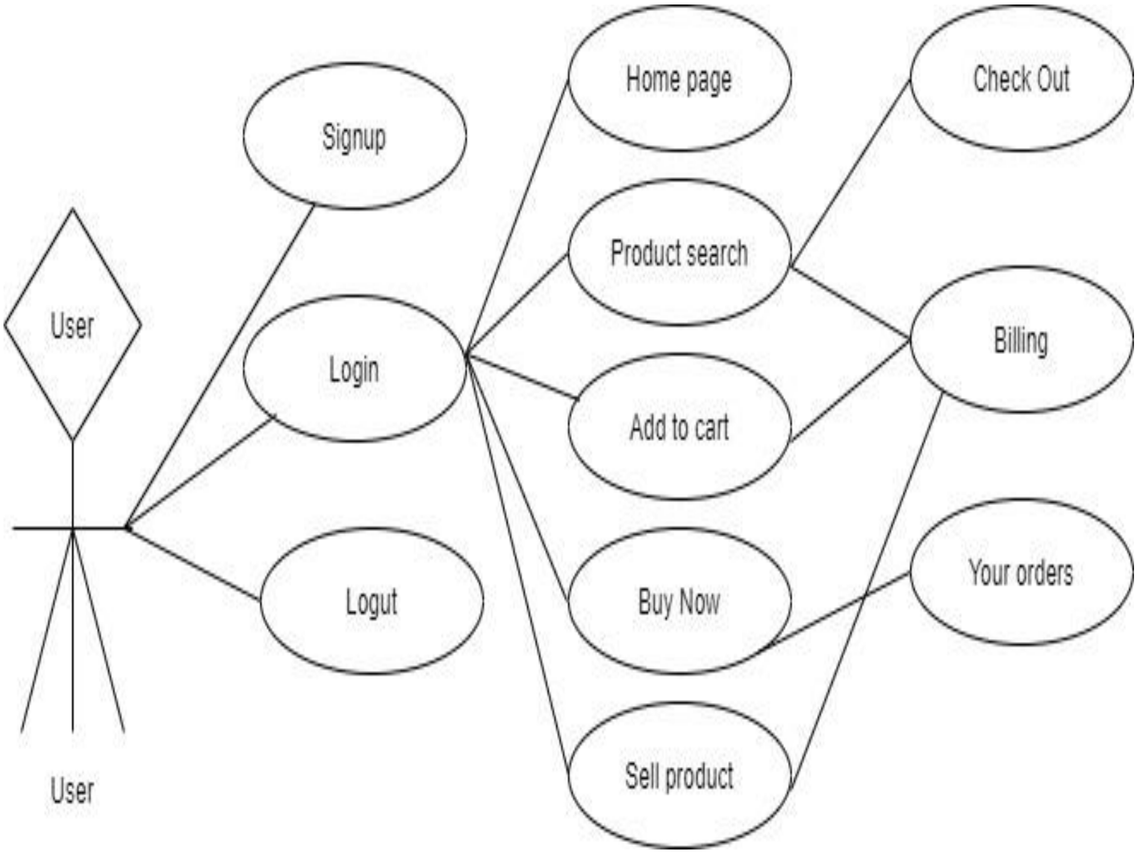

Fig 3.2 Flow of web pages – User

3.3 ER Diagram

The ER diagram below shows the relationship between the many tables that exist in the database for the functioning of Online Shopping Website.

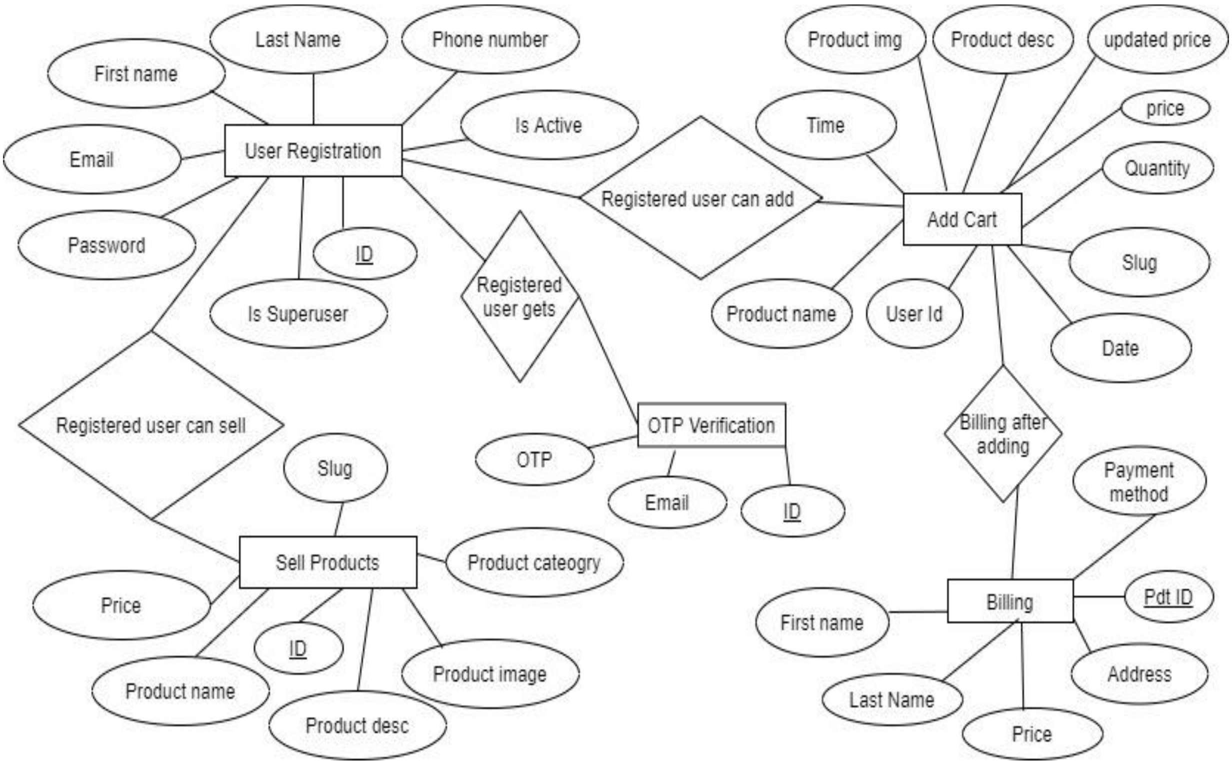

Fig. 3.3 ER Diagram

CHAPTER 4

IMPLEMENTATION

4.1 Module description

4.1.1 User Registration:

This module is used for user registration. The users have to enter the required details and can register to the portal through their email or mobile phone.

4.1.2 OTP:

This module is used for the registered user email verification via OTP that is sent to their respective email ids that were used while registering.

4.1.3 Sell Product:

The register users can sell the products through this module. The user has to enter the required details of the product like name, description and price here and can sell their products.

4.1.4 Add to Cart:

The register users can search for the products and add them to their cart for buying the product later through this module.

4.1.5 Billing Details:

The register user can buy the products which are there on the website. Before proceeding to the checkout the billing details are saved using this module.

4.1.6 Orders :

The register user can view their orders if they have made any orders in the past and can track their delivery status through this module.

4.2 Source Code

4.2.1 Sell Product Model

```
class SellProduct(models.Model):

    slug = models.SlugField(unique = True, max_length=250, null=True,
blank=True, editable = False)
    price = models.FloatField(max_length = 10)
    product_name = models.CharField(max_length = 50)
    product_image = models.CharField(max_length = 100, null = True)
    product_des = models.TextField(max_length = 1000, blank = True)
    product_category = models.CharField(max_length = 50, blank = True)
    date = models.CharField(max_length = 20)
    time = models.CharField(max_length = 20)

    def __str__(self):
        return self.product_name

def rl_pre_save_receiver(sender, instance, *args, **kwargs):
    if not instance.slug:
        instance.slug = unique_slug_generator(instance)

pre_save.connect(rl_pre_save_receiver, sender = SellProduct)
```

4.2.2 Add to Cart Rest API

```
class CartAPIView(APIView):

    def get_object(self, user):
        try:
            details = AddCart.objects.all().filter(user = user).values()
            return details
        except AddCart.DoesNotExist:
            return HttpResponse(status = status.HTTP_404_NOT_FOUND)

    def get(self, request, user):

        details = self.get_object(user)
        serializer = CartSerializer(details,  many = True)
        return Response(serializer.data)

    def post(self, request, user):

        serializer = CartSerializer(data = request.data)

        if serializer.is_valid():
            slug = serializer.validated_data['slug']
            price = serializer.validated_data['price']
            print(slug, price)

            if AddCart.objects.filter(user = user).exists():
                if AddCart.objects.filter(slug = slug).exists():
                    quantity = AddCart.objects.filter(user = user, slug =
slug).values('quantity')[0]['quantity']
                    print(quantity)
                    quantity = quantity + 1
                    updated_price = quantity * price
                    AddCart.objects.filter(user = user, slug =
slug).update(quantity = quantity, updated_price = updated_price)
                    print("Updated Successfully")
                    return Response(serializer.data,
status=status.HTTP_201_CREATED)
                else:
                    serializer.save()
                    print("Added Successfully")
                    return Response(serializer.data,
status=status.HTTP_201_CREATED)
            else:
                serializer.save()
                print("Added Successfully")
                return Response(serializer.data,
status=status.HTTP_201_CREATED)
        return JsonResponse(serializer.errors,
status=status.HTTP_400_BAD_REQUEST)

    def delete(self, request, slug):
        user = request.user
        slug = self.slug
        if AddCart.objects.filter(user = user, slug = slug).exist():
            AddCart.objects.filter(user = user, slug=slug).delete()
            print("Successfully Deleted!")
            return Response(status=status.HTTP_204_NO_CONTENT)
        return JsonResponse(status=status.HTTP_400_BAD_REQUEST)
```

4.2.3 Consuming Rest API in Django Rest Frameworks

```
def cart(request, user):

    if user == 'AnonymousUser':
        return HttpResponse("Please Login to View the Cart.")
    else:
        url = 'http://127.0.0.1:8000/add-to-cart/'+user
        response = requests.get(url = url)
        results = response.json()
        print("obtained Result is",results)
        total = 0
        for result in results:
            total += result['updated_price']

        subtotal = total
        if total <1000 and total > 0:
            shipping = 100
            total = total + shipping
        else:
            shipping = 0
        return render(request, "cart.html", {"results": results, "total":
total,"subtotal": subtotal, "shipping": shipping}
```

CHAPTER 5

TESTING AND RESULTS

After all phase have been perfectly done, the system will be implemented to the server and the system can be used.

5.1 SYSTEM TESTING

The goal of the system testing process was to determine all faults in the project. The program was subjected to a set of test inputs and many explanations were made and based on these explanations it will be decided whether the program behaves as expected or not. Our project went through three levels of testing.

1. Unit testing
2. Integration testing
3. Validation testing

5.1.1 UNIT TESTING

Unit testing is commenced when a unit has been created and effectively reviewed. In order to test a single module, we need to provide a complete environment i.e., besides the section we would require

- ✓ The procedures belonging to other units that is the unit under test calls.
- ✓ Non local data structures that module accesses.
- ✓ A procedure to call the functions of the unit under test with appropriate parameters.

Test for the admin module

Testing admin login form: This form is used for log in of administrator of the system. In this form we enter the username and password if both are correct administration page will open otherwise if any of data is wrong it will get redirected back to the login page and again ask the details.

5.1.2 INTEGRATION TESTING

In the Integration testing we test various combination of the project module by providing the input. The primary objective is to test the module interfaces in order to confirm that no errors are occurring when one module invokes the other module.

5.1.3 VALIDATION TESTING

The whole of validation testing is to expose latent defects in a software system before the system is delivered. This contrasts with validation which is intended to demonstrate that a system meets its specification. Validation testing requires the system to perform correctly using given acceptance test cases.

CHAPTER 6

CONCLUSION

The development of Shopping website application involved many phases. The approach used is a top-down, concentrating on what first, then how and moving to successive levels of details. The first activity serves as a basis of giving the functional specifications and then successful design of the proposed system. With the growth of internet, netizens prefer to view and purchase items on their fingertips.

The design phase was concerned primarily with the specification of the system elements in manner that best meet the needs. The main objective was to create an interface that best meet the user requirements by providing an easy navigation with user interactions. To implement this design, a computer program was written in HTML, JS and Django. The styling was implemented in CSS.

It is hoped that effective implementation of this software application would eliminate the many problems of the existing system. It is convenient for users as this system provides accurate cost and description of the system. The website is flexible for use. There is human interaction also when some help needed. There can be no fraud and security problems.

CHAPTER 7

FUTURE ENHANCEMENT

Here are the future Enhancements for the Online Shopping Website

1. Make our website mobile friendly.
2. Provide customer reviews.
3. Give a live chat option.
4. Proofread our content.
5. Offer free shipping.
6. Make our site easy to navigate.
7. Use good photos

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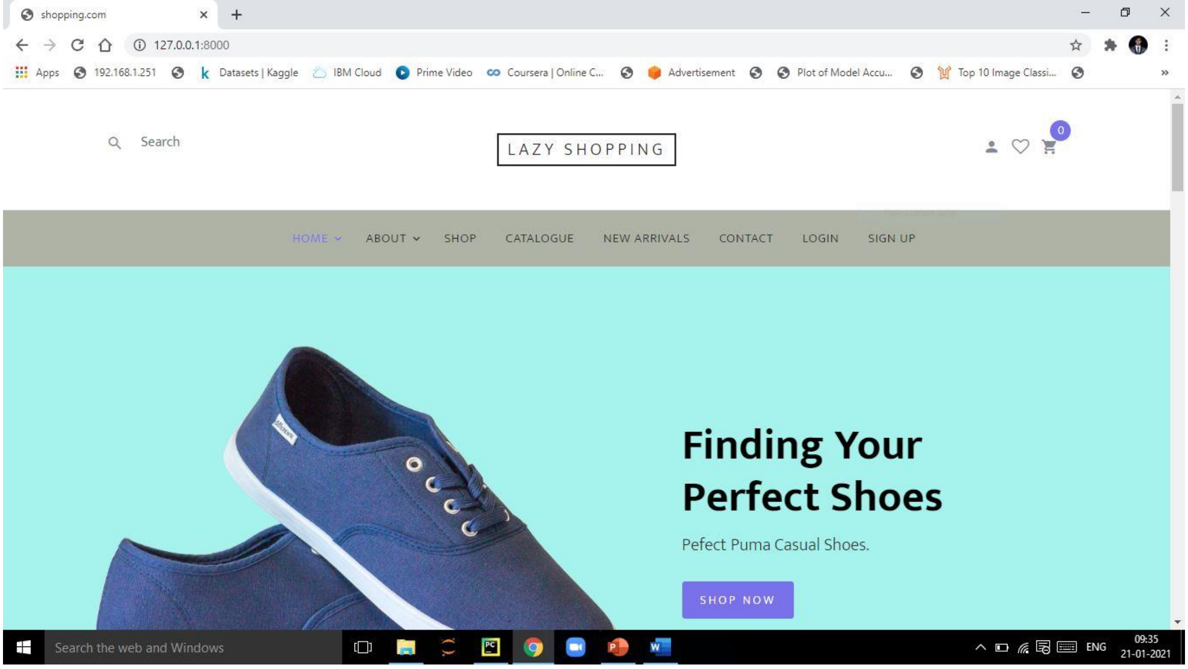
APPENDIX A

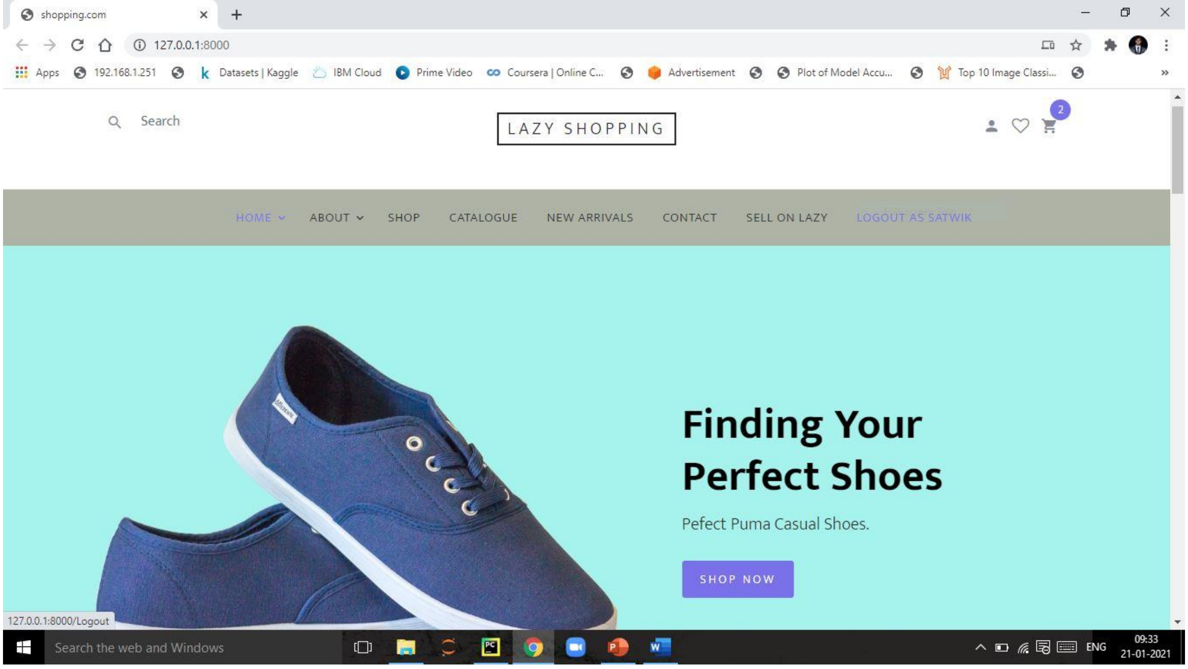
SNAPSHOTS



Finding Your Perfect Shoes

Pefect Puma Casual Shoes.

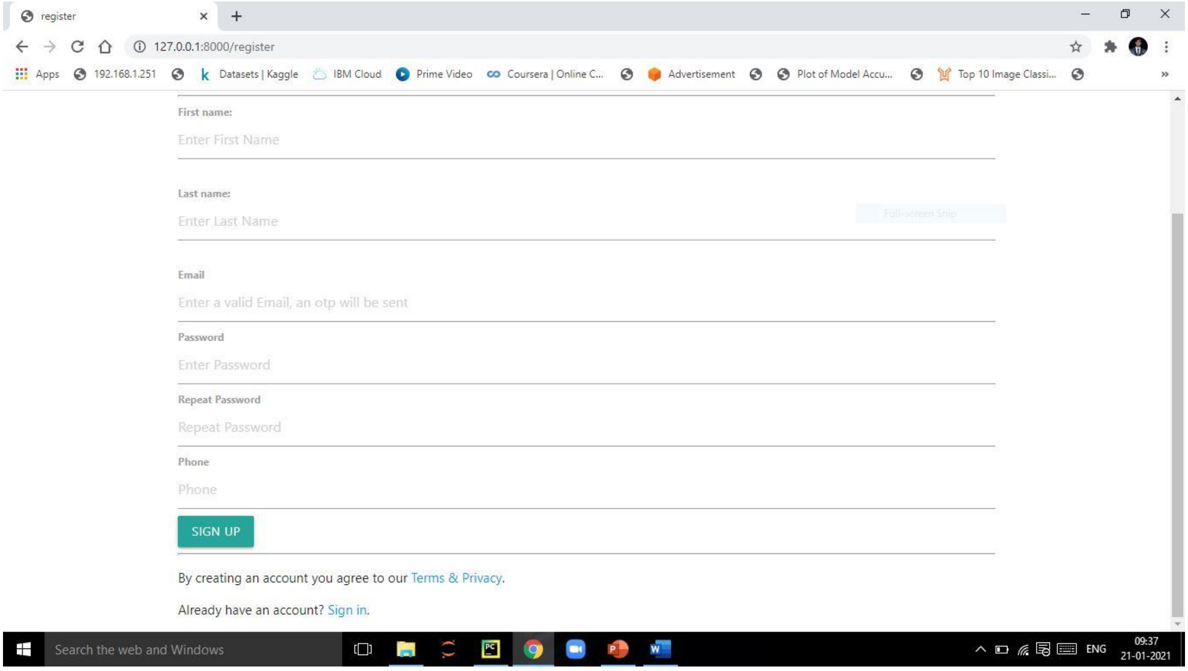
Snapshots 1 Home Page before login



Finding Your Perfect Shoes

Pefect Puma Casual Shoes.

Snapshots 2 Home Page after login



First name:

Enter First Name

Last name:

Enter Last Name

Email

Enter a valid Email, an otp will be sent

Password

Enter Password

Repeat Password

Repeat Password

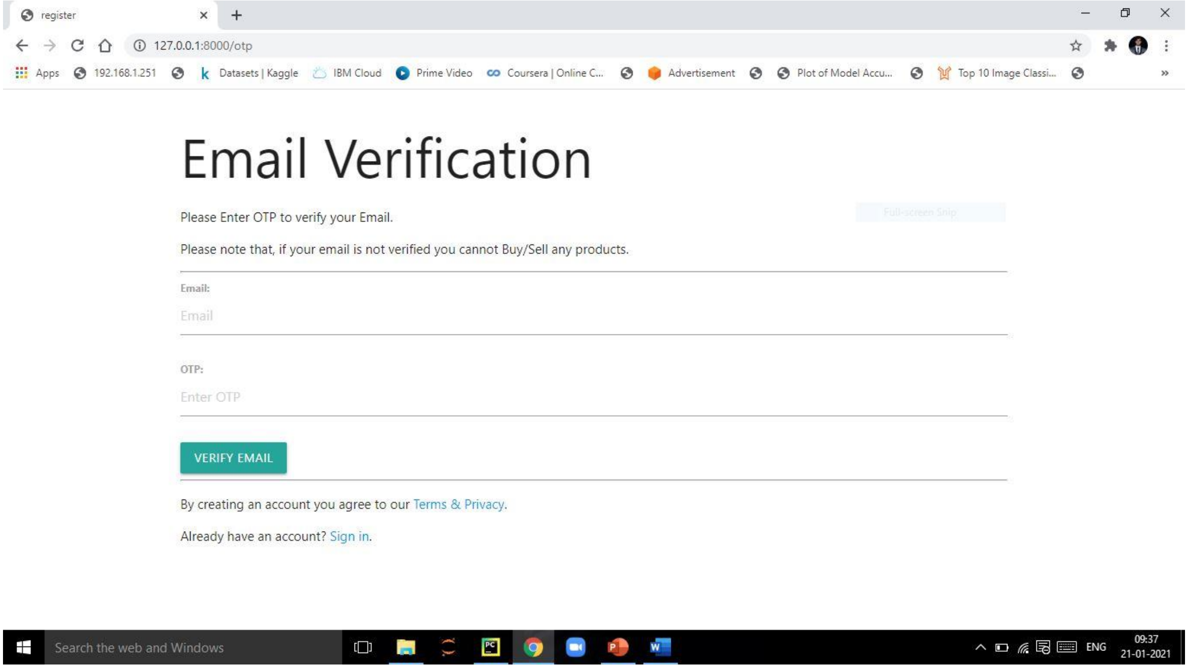
Phone

Phone

By creating an account you agree to our Terms & Privacy.

Already have an account? Sign in.

Snapshots 3 Sign Up Page



Email Verification

Please Enter OTP to verify your Email.

Please note that, if your email is not verified you cannot Buy/Sell any products.

Email:

Email

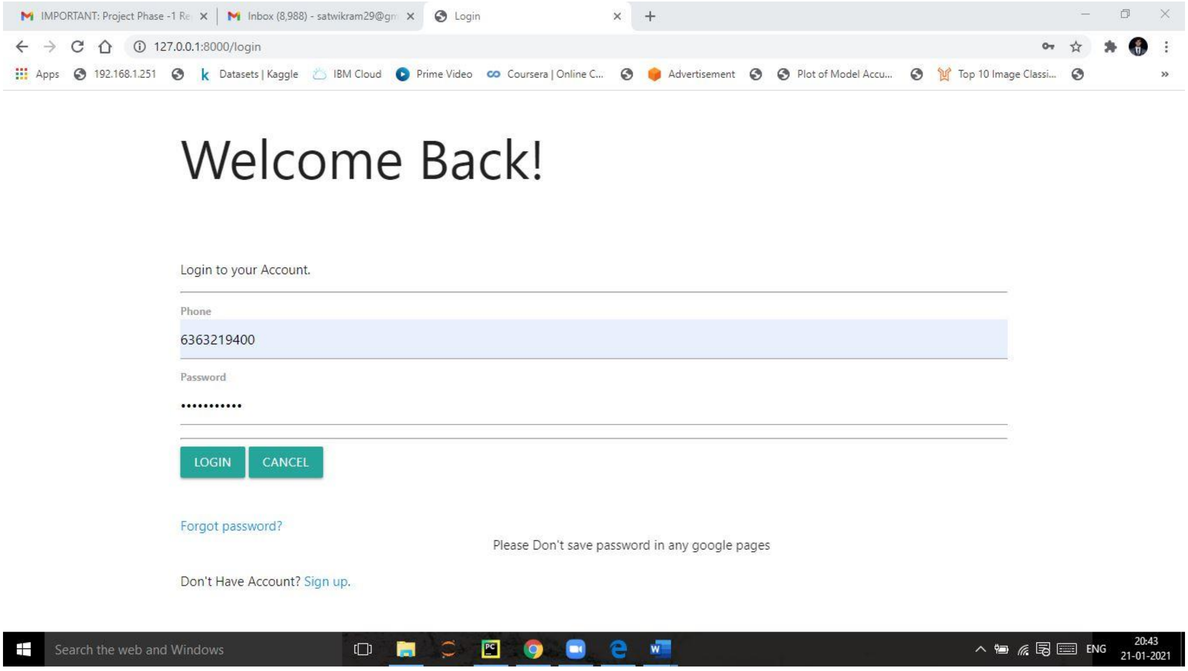
OTP:

Enter OTP

By creating an account you agree to our Terms & Privacy.

Already have an account? Sign in.

Snapshots 4 Email OTP Verification Page



Welcome Back!

Login to your Account.

Phone

6363219400

Password

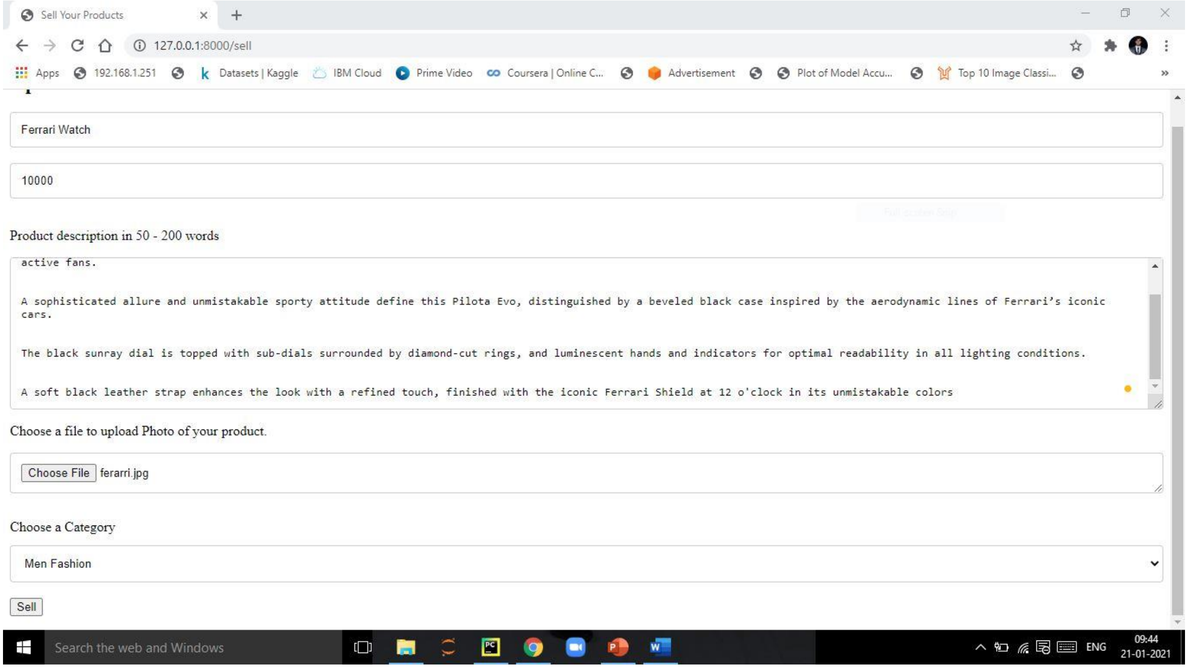
•••••••••••

Forgot password?

Please Don't save password in any google pages

Don't Have Account? Sign up.

Snapshots 5 Login Page



Ferrari Watch

10000

Product description in 50 - 200 words

active fans.

A sophisticated allure and unmistakable sporty attitude define this Pilota Evo, distinguished by a beveled black case inspired by the aerodynamic lines of Ferrari's iconic cars.

The black sunray dial is topped with sub-dials surrounded by diamond-cut rings, and luminescent hands and indicators for optimal readability in all lighting conditions.

A soft black leather strap enhances the look with a refined touch, finished with the iconic Ferrari Shield at 12 o'clock in its unmistakable colors

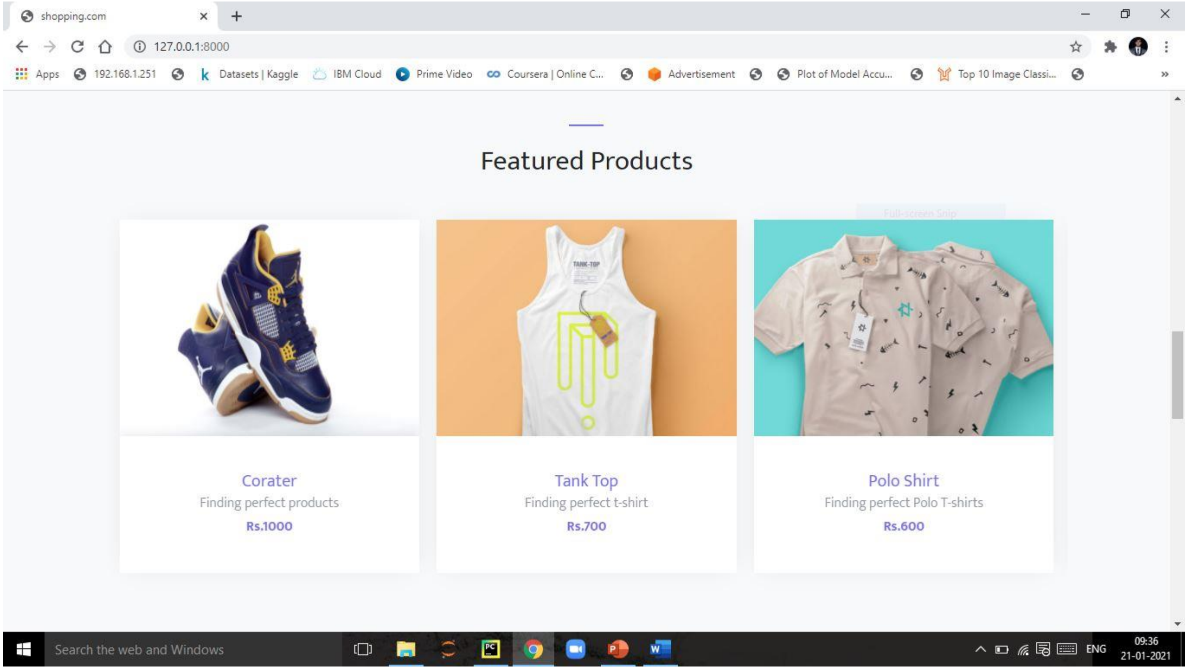
Choose a file to upload Photo of your product.

ferarri.jpg

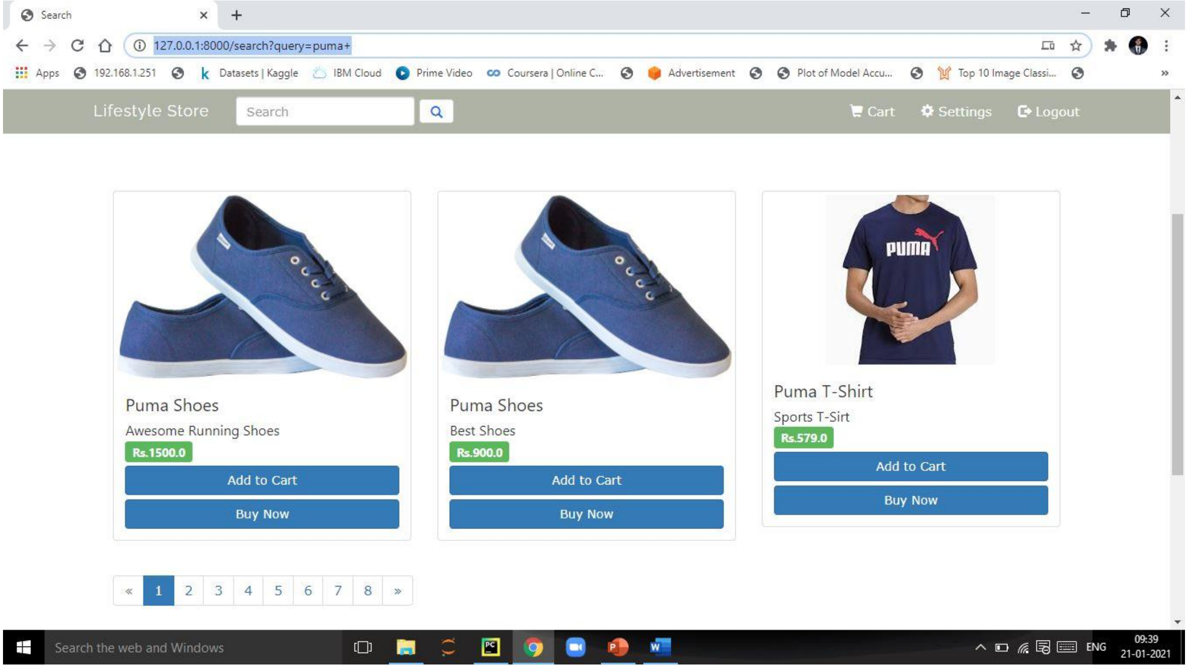
Choose a Category

Men Fashion

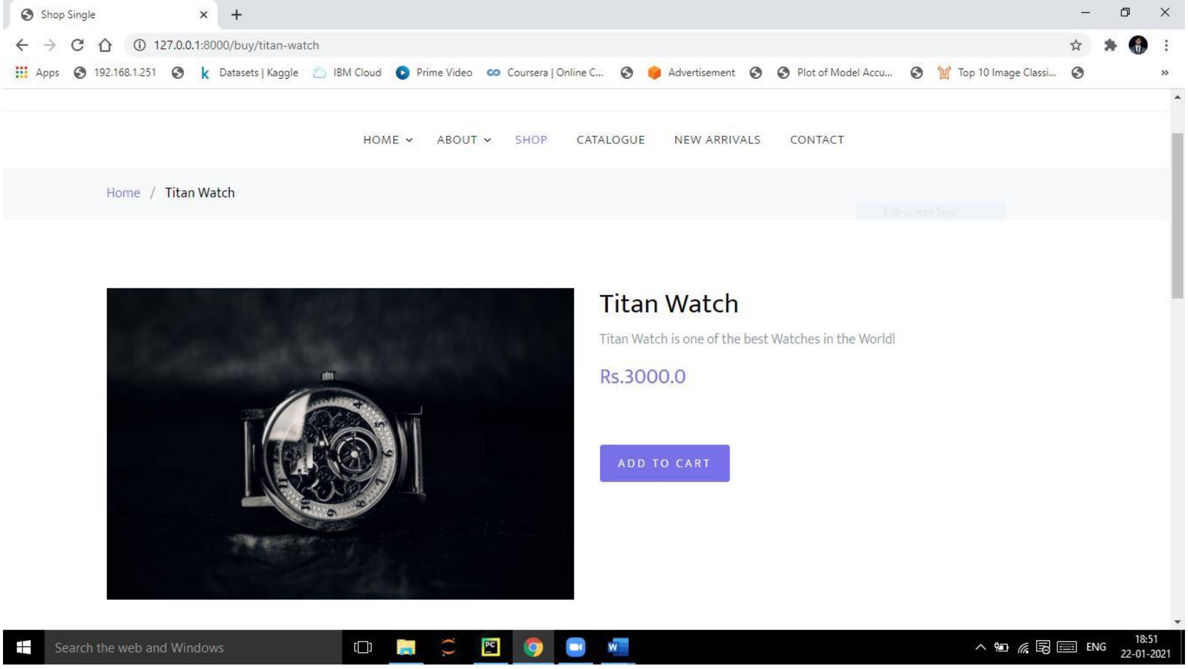
Snapshots 6 Sell Products Page



Snapshots 7 Features Page



Snapshots 8 Search Results Page



Titan Watch

Titan Watch is one of the best Watches in the World!

Rs.3000.0

Snapshots 9 Buy Now Page

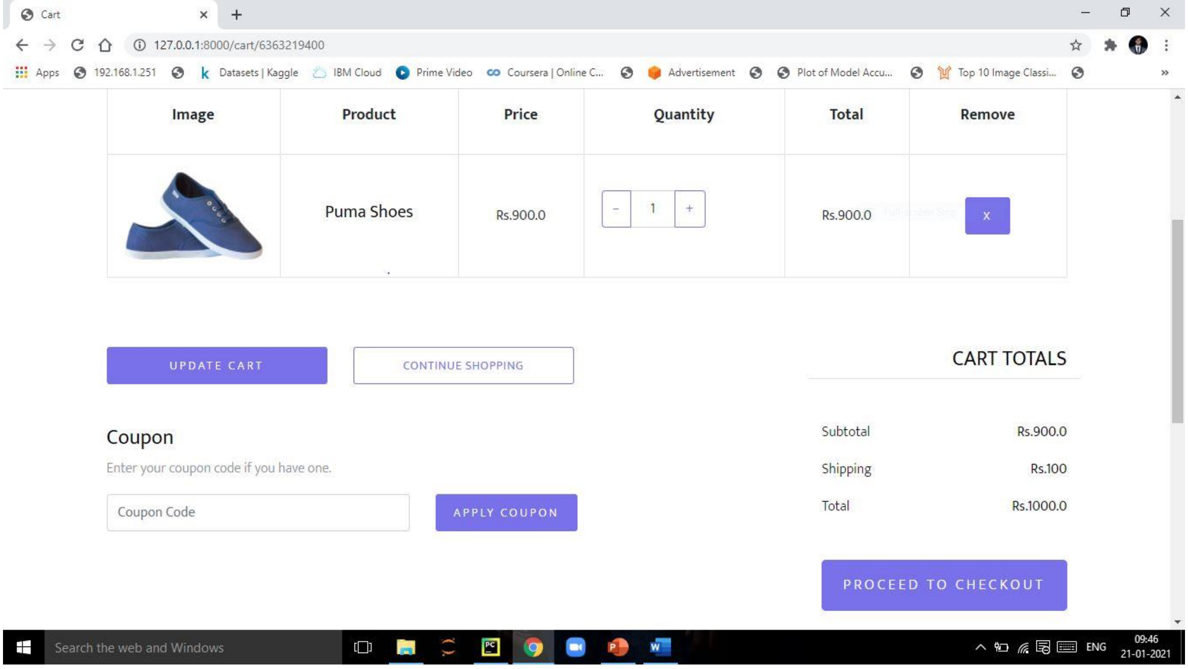


Image	Product	Price	Quantity	Total	Remove
	Puma Shoes	Rs.900.0	- 1 +	Rs.900.0	X

Coupon

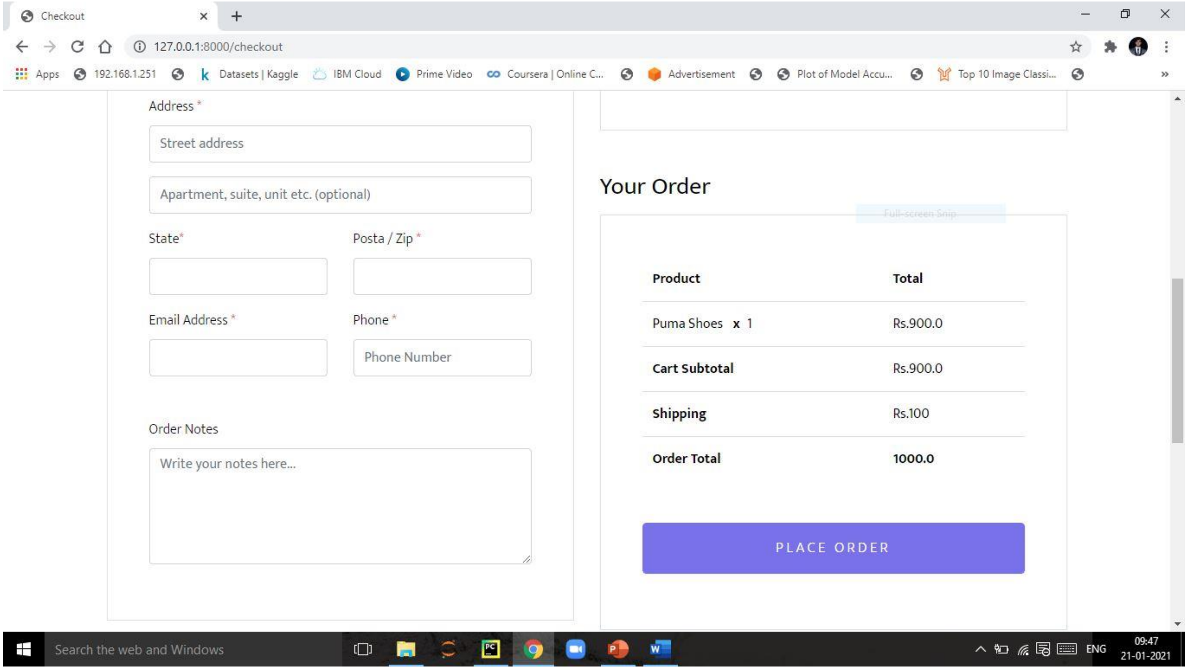
Enter your coupon code if you have one.

Coupon Code

CART TOTALS

Subtotal	Rs.900.0
Shipping	Rs.100
Total	Rs.1000.0

Snapshots 10 Cart Page



Address *

Street address

Apartment, suite, unit etc. (optional)

State*

Posta / Zip *

Email Address *

Phone *

Phone Number

Order Notes

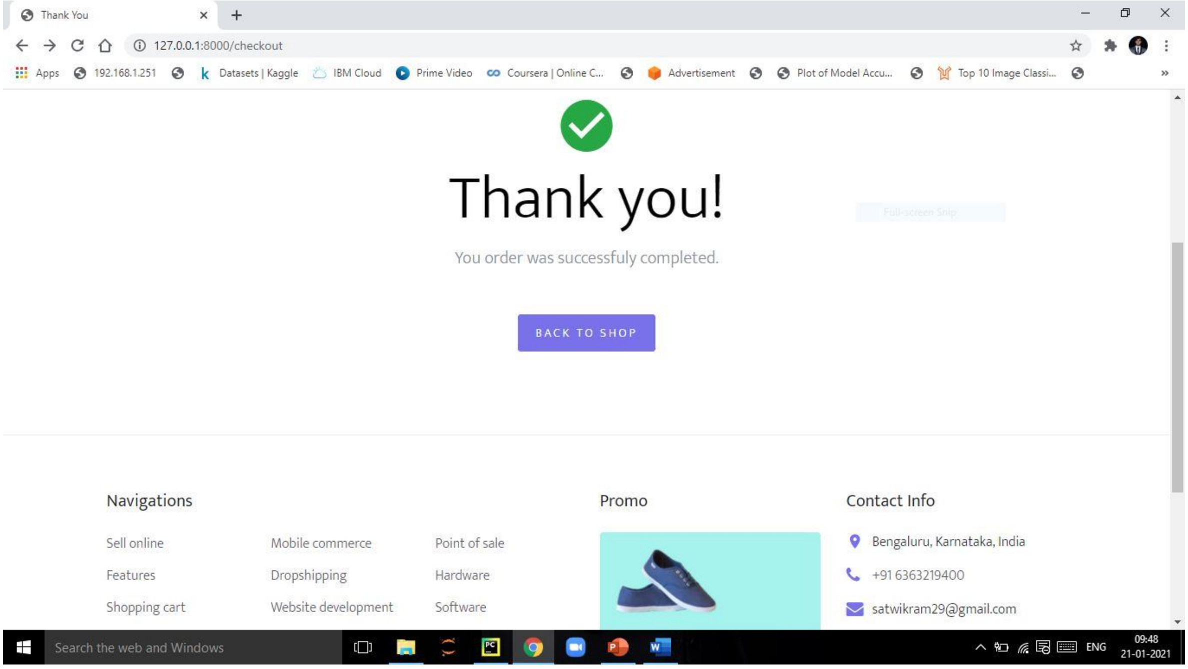
Write your notes here...

Your Order

Product	Total
Puma Shoes **x** 1	Rs.900.0
Cart Subtotal	Rs.900.0
Shipping	Rs.100
Order Total	**1000.0**

PLACE ORDER

Snapshots 11 Checkout Page



Thank you!

You order was successfuly completed.

BACK TO SHOP

Navigations

Sell online
Features
Shopping cart

Mobile commerce
Dropshipping
Website development

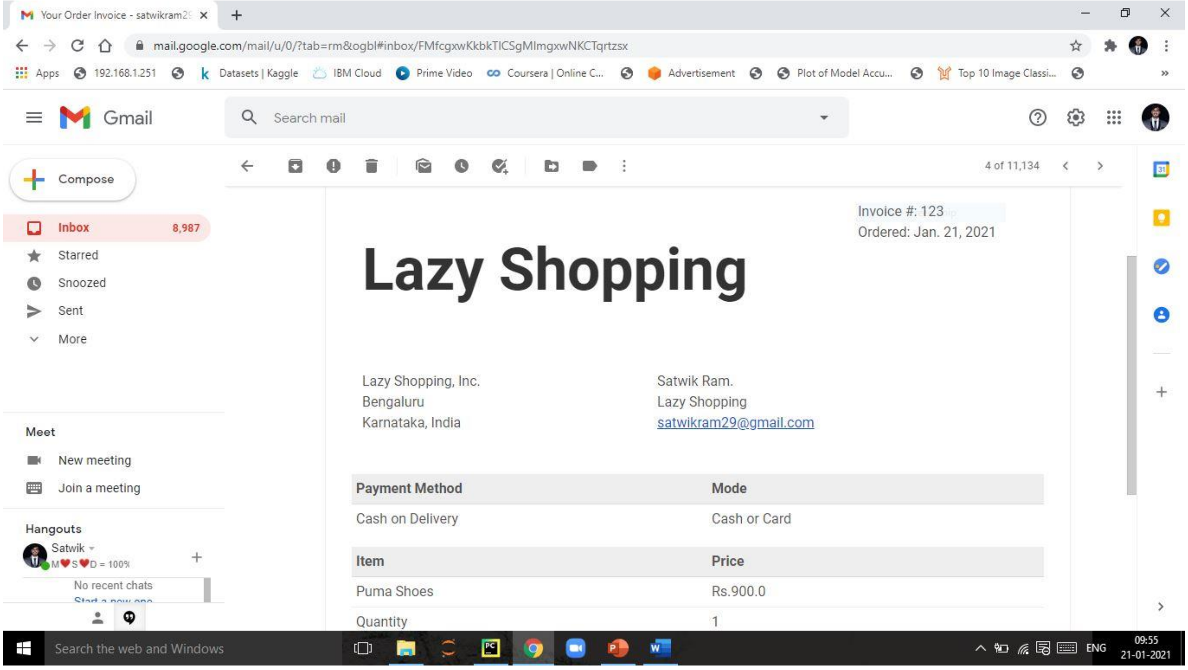
Point of sale
Hardware
Software

Promo

Contact Info

Bengaluru, Karnataka, India
+91 6363219400
satwikram29@gmail.com

Snapshots 12 Thank You Page after buying Products



Invoice #: 123
Ordered: Jan. 21, 2021

Lazy Shopping

Lazy Shopping, Inc.
Bengaluru
Karnataka, India

Satwik Ram.
Lazy Shopping
satwikram29@gmail.com

Payment Method	Mode
Cash on Delivery	Cash or Card

Item	Price
Puma Shoes	Rs.900.0
Quantity	1

Snapshots 13 Invoice to Email

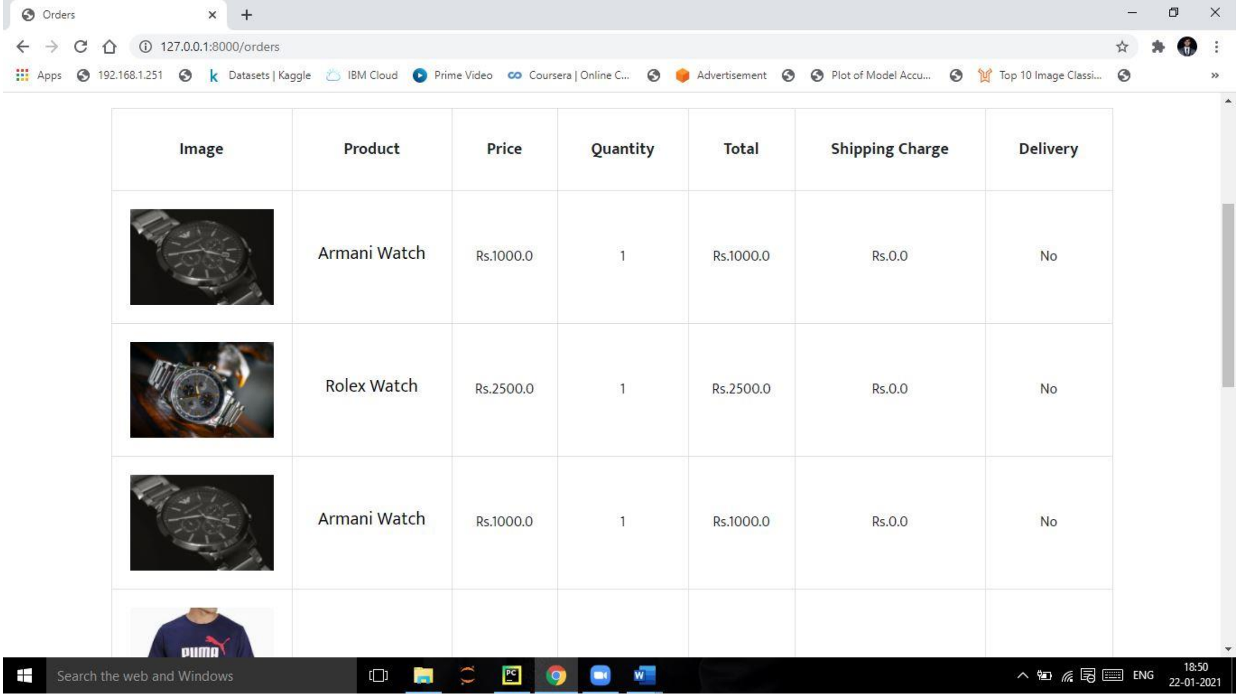


Image	Product	Price	Quantity	Total	Shipping Charge	Delivery
	Armani Watch	Rs.1000.0	1	Rs.1000.0	Rs.0.0	No
	Rolex Watch	Rs.2500.0	1	Rs.2500.0	Rs.0.0	No
	Armani Watch	Rs.1000.0	1	Rs.1000.0	Rs.0.0	No

Snapshots 14 Orders Page