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EASY-SHOP WEBSITE

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ABSTRACT

This paper aims at describing the development of an online shopping site named “**EASY-SHOP**”. This site is made wholly based on “Django”, a best web-app development framework written in python language.

The paper describes the specifications required in developing this software and provides a detailed idea of the technologies which are used in developing this site to fulfil the requirements of the users.

Then the various components of this site are discussed in brief. The site is being hosted for 3 months. The current situations where everything is becoming available online, this site can act as a startup which has a lot of chances to develop in future.

This site is completely built by eliminating all types of bugs that are commonly observed in some other sites.

Basic knowledge of Django and its internal working is a must for understanding the code of the site. Hence this project is of utmost importance for many peoples who are busy with their daily works and cannot take time for visiting shops.

INTRODUCTION

An online shopping site is a website where nearly all the products like household items, equipments, and all daily needs are made available to the end-user, from where they can select what they want to purchase and then by making payments they can buy the products, which will later be delivered to their address by the respective seller of the product.

Apart from this it also includes the feature that a user can sell their product on this site which can be purchased by any other buyer living at a far distance from the seller.

There are a lot of benefits for this type of business system, since it gives the facility of home delivery to the user. So the user is not required to travel large distances to purchase the same items. Also it allows the user to compare the price of the item all over the places and choose the one which is cheaper to them. This reduced the chances of offline sellers to be involved in mal-practices like cheating the buyer.

Apart from all these pros there are disadvantages too for such a business system. Buyer will not be able to access the product online, just can see its image, So it will be difficult for them to make the right decision. Also delivery of products takes nearly 1 week time, so random access to such products requires buyers to visit offline shops.

Hence out of all these pros and cons, these sites are growing indiscriminately covering a large area of populations and are being seen as a future of shopping.

AIM & OBJECTIVES

The main aim of this project is to create a shopping website through which users can purchase and make payments for any things they want to buy.

The objectives to be achieved are:

- 1) To create a user friendly environment for purchasing products.
- 2) To design normalized models (databases) through which the data and information are kept secure.
- 3) To promote a service or product online.
- 4) To provide a secure mode of payment for the purchases made by the user.

SOFTWARE REQUIREMENTS SPECIFICATION

PRODUCT PERSPECTIVE:

This product is aimed toward a person who doesn't want to visit the shop as he might don't get time for that or might not be interested in visiting there and dealing with a lot of formalities.

NON-FUNCTIONAL REQUIREMENTS.

- 1) The load time for user interface should not take longer than 2 seconds.
- 2) Applications should be accessible from all the available devices like Windows , linux , macOS , Android , iOS etc.
- 3) System server should be available 24x7 .
- 4) Login verification should be within 2 seconds.
- 5) Fetching any information about a student from the database should not take more than 2seconds.
- 6) Write or update operation on database allowance must be given to administrator or database manager.
- 7) Amount of computing process and code required for the function should be less.
- 8) The server should not crash when a lot of users are overloading the network. It should work smoothly there also.
- 9) User Friendly Interface should be determined.

FUNCTIONAL REQUIREMENTS.

- 1) The description of each product should be clear along with correct images of items.
- 2) Customers should be delivered the product within the time frame guaranteed.
- 3) Data confidentiality should be maintained and fraud or illegal products should not be sold.
- 4) Secure mode of payments should be used and no user should felt like being cheated.
- 5) They should be able to logout and login as per their desired and can change the cart items as required.

OTHER REQUIREMENTS.

- 1) Concurrency should be maintained in data flow. Facility to place complaints or 24*7 call facilities should be available.

- 2) After ordering the system should send the copy of the bill to the customer's email.
- 3) Compatibility, reusability, Reliability, security, portability should be maintained.
- 4) The purpose for which this system is built should be served honestly and truly for each customer.

TECHNOLOGY USED

Web sites are mainly designed using various frameworks and technologies. The selection of framework for development purposes are done mainly using SRS documents and user requirements. For developing this project, mainly the following frameworks and tools are used.

1. DJANGO

Django is a Python-based free and open-source web framework that follows the model-template-views architectural pattern. It is maintained by the Django Software Foundation, an American independent organization established as a 501 non-profit.

It is selected for this project since it provides good inbuilt library support and also it combines python code with html code, giving an extra edge to functionality of the website. Also it provides good support to the programmer for creating backends and databases quickly. Provides an easy approach to URL directing and rendering pages along with an easy way to create form and submit their data to models.

The features provided by django are given below:

- 1) It enables the programmers to create a web app which is self sufficient to control the backend along with the frontend.
- 2) Provides full support for databases of any languages.
- 3) Easy to learn and use. It provides a lot of default forms (login) too.
- 4) Provides secure networking and URL's connections. Hence security is maintained completely to all user datas.

Hence it is able to control both backend and frontend from a single application. There is no requirement to install any other frameworks.

A basic knowledge of django about its views.py and urls.py and models.py along with knowledge of how to install and start apps in django is a must to understand the code.

2. PYTHON

Python is an interpreted, high-level and general-purpose programming language. Python's design philosophy emphasizes code readability with its notable use of significant indentation.

It is seen as the future of programming languages. A basic knowledge of its syntaxes and flow of data along with looping conditions are must to know its working. Since django is based on python, this language can be used to manipulate the HTML pages using for loops or if-else blocks.

3. HTML & CSS & JAVASCRIPT.



The HyperText Markup Language, or HTML is the standard markup language for documents designed to be displayed in a web browser. It can be assisted by technologies such as Cascading Style Sheets and scripting languages such as JavaScript.

CSS is used to format this document and apply styles to all the elements of the page to make the html page appear real and attract the end-user.

Javascript is used to apply dynamic scripts to the page which helps in displaying images and details of products.

4. SQLite3



This is the technology used to create databases in django. It is by default present in it. Django provides support for other databases too like postgresql etc. This is very easy to learn and querying all databases is very easy in it.

Django provides a default admin page where the superuser can check all the databases created by sqlite and can modify them.

5. AJAX



Ajax is a set of web development techniques using many web technologies on the client-side to create asynchronous web applications. With Ajax, web applications can send and retrieve data from a server asynchronously without interfering with the display and behaviour of the existing page.

This feature is used in this project since its users are always required to update their cart items in terms of quantity or replace the items. So reloading the page each time the user changes the cart items gives a bad experience to the user. So AJAX is present here which updates the part of the site without reloading the whole page again and again.

6. BOOTSTRAP



Bootstrap is a free and open-source CSS framework directed at responsive, mobile-first front-end web development. It contains CSS- and JavaScript-based design templates for forms, buttons, navigation, and other interface components.

7. PAYPAL API

This is an API of paypal payment services which is used to make payments for the purchases which the user makes through paypal payment gateway.

This API is being integrated in the project and tested for its working.

8. PYTHON ANYWHERE

For dealing with hosting related works, we will be mainly using python anywhere hosting services which provides easy to host services for all python related web frameworks like Django, Flask etc. It provides a free hosting facility for 6 months.

EASY-SHOP WEBSITE

This is an online shopping site created in this project using the above mentioned technologies. This site is hosted too using python anywhere hosting services.

The link to the site is :

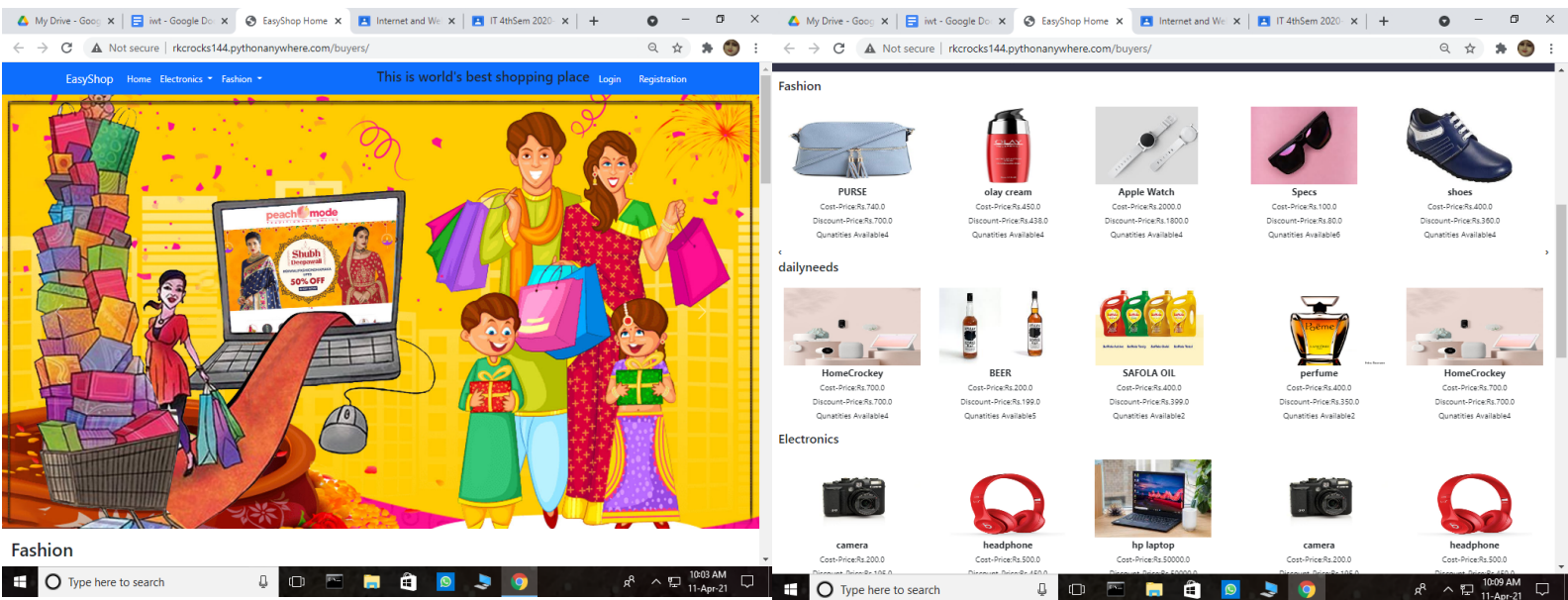
<http://rkcrocks144.pythonanywhere.com/>

The source code of this site is placed in a github repository whose link is given below:

<https://github.com/HarshKumarChoudary/EasyShop-Website.git>

The Features of this shopping site are as follows:

- 1) Friendly UI gives the end user a nice experience along with the sliding images of products to make it easier for the user to select through various items. The navbar allows users to navigate to their profile and also the orders they placed along with



cart details.

- 2) The facility of login and registration are also available in this site which are built using login and registration forms provided by Django. Being default it provides a lot of features like direct relation with database and also default form validation etc. Javascript and Django HTML are used to control the frontend UI. The images

and details of products to be displayed are directly picked using databases from the products table. Hence all the displayed items are available from databases.

EasyShop Login

Username:

Password:

[Forgot Password?](#)

Login

New to EasyShop? [Create an Account](#)

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Customer Registration

Username:

Email:

Password:

Confirm Password:

Submit

Existing User? [Login Now](#)

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- 3) The facility of Django to create Model Forms(form whose data can be saved to database models directly) is also used while making this app. Through this form it is easier for the user to input data and directly update the data stored in models. All the forms support the “POST” request method. The details of all the forms and models are written in models.py and forms.py files on github.
- 4) There are features which enable the users to update their data in databases as required. Also facilities to add and order by multiple addresses are provided to

Welcome Buyer_yash

Update Profile here (if not done):

Name:

Gen:

Email:

Phone number:

Submit

Profile

Address

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Welcome Buyer_yash

Address 1

Address:

State:

Pin code:

Submit

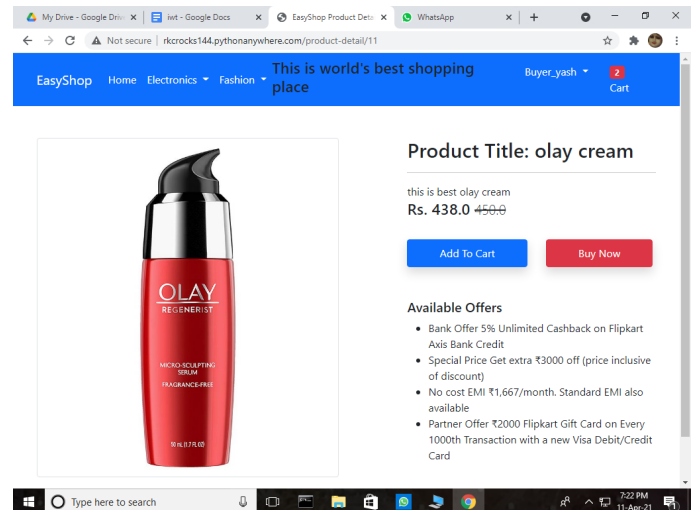
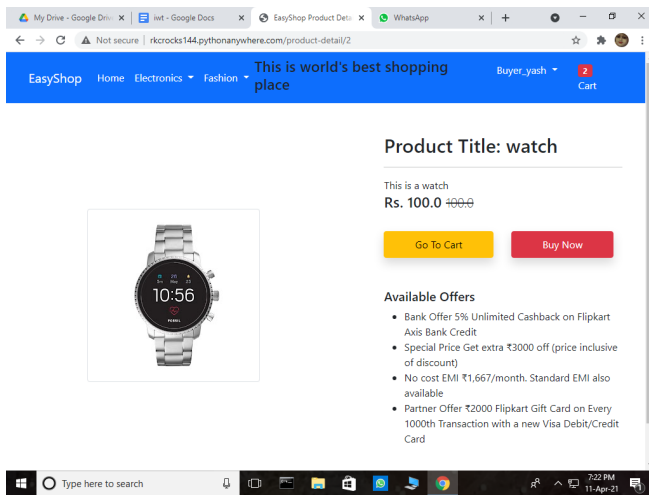
Profile

Address

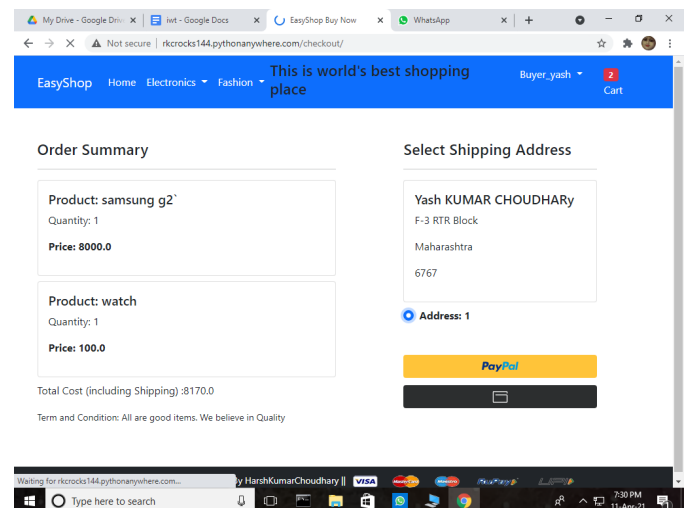
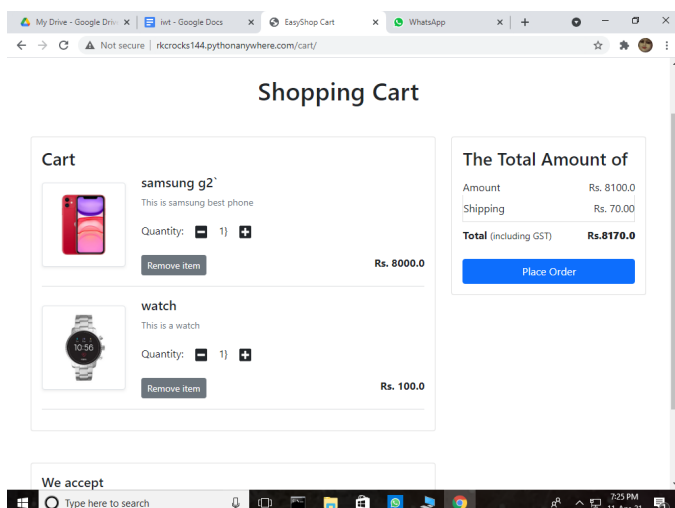
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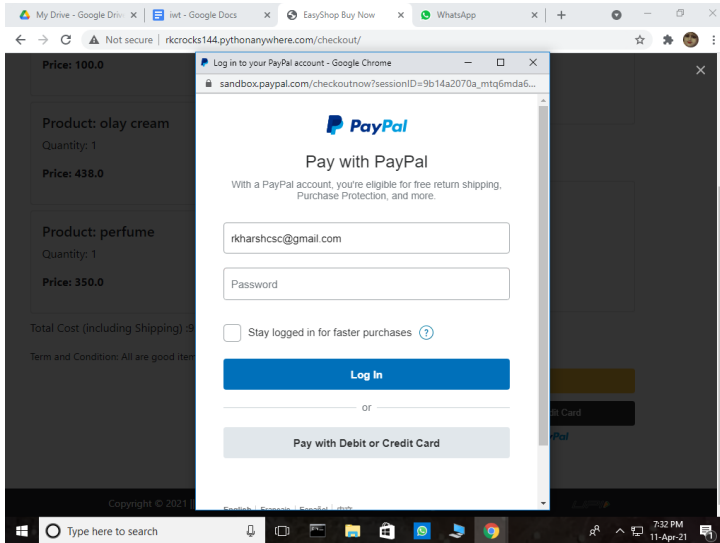
users.

- 5) When the user clicks on the item then they are redirected to the detail page of the item form where two options are there either to Add it to cart or if item is already added then move to cart. All these are done internally by checking for that item in the user cart and if present in the cart than displaying the Go To Cart button else Add To Cart button as shown below. The logic is present in views.py file.



- 6) The cart is fully controlled using javascript and Ajax logics. All the items added by the user can be accessed in cart. All these records are derived from the databases and calculations have been made using Quantity and discount price data and the total sum is displayed to the end user in cart. The Ajax control is present in increment and decrement buttons along with remove buttons. When the place order button is clicked the user is redirected to the order summary where they have to select the address where order is to be delivered and then the user can make payments to purchase the items.





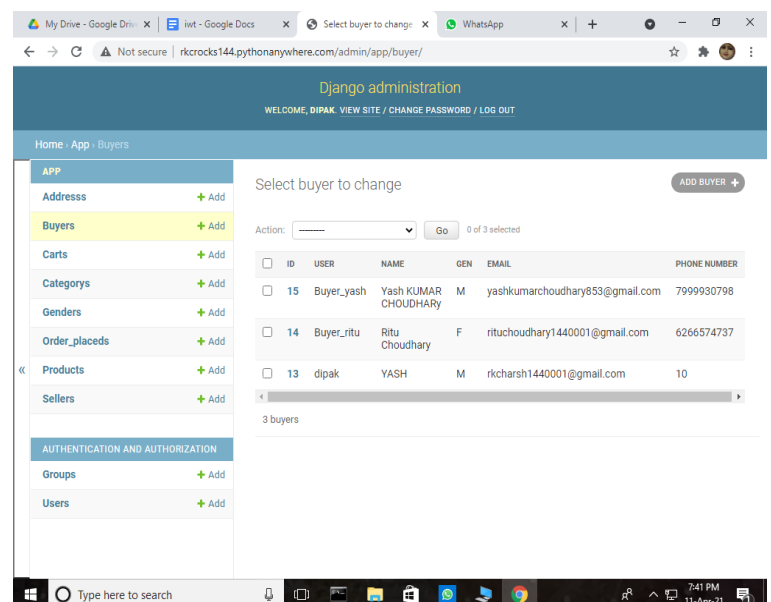
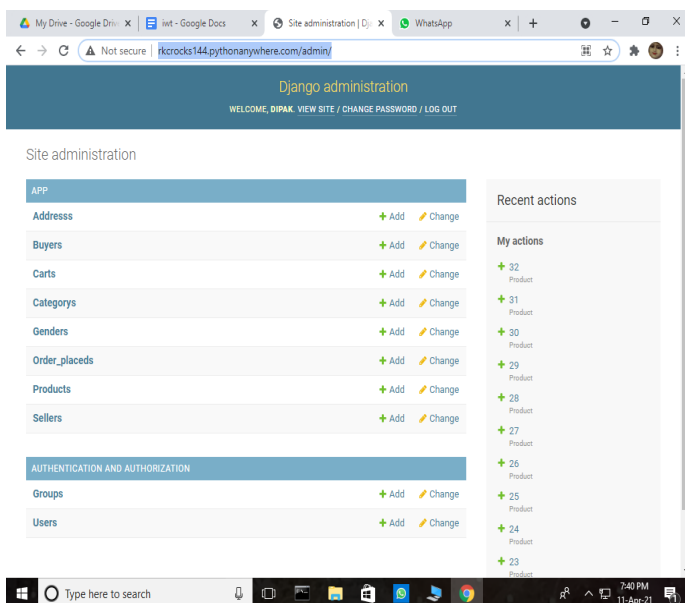
This is how the API of paypal works which can be used to make payments. Never try to use a real id password otherwise money will be wasted and no orders will be delivered. The idea is to make a tester account in paypal sandbox and add fake money to it and then make payments.

Some small care are taken while building this app, such as no user will be displayed his or her cart unless they are logged.

Also if some user tries to click the Add to Cart button without logging in then they will automatically be redirected to the login page. Hence security is wholly available throughout the App.

7) At last having a view to models, we will be opening the default django admin page through the link <http://rkcrocks144.pythonanywhere.com/admin/>. Here we can see the models (tables) present throughout the app.

All these tables are normalized and have good ER relationships. There is very less redundancy possible in these tables and since they are default ones so they are highly secure. To access admin page superuser along with password is required.



- 8) Hence due to all these features this shopping app is nearly able to face the leading shopping sites in traffic.

FUTURE SCOPES

There are a lot of scopes for this type of site since all things are becoming available digitally now-a-days at a very low cost so many users are preferring online shopping more. Also laziness of peoples is also responsible for robustness of these types of platforms.

Including other facilities like online payments along with other business ideas like webseries can also give an extra edge in growth of this site. This site can also includes selling of food items and delivery services.

CONCLUSION

Hence it can be concluded that the shopping site is correctly designed to the specifications and the technologies are well integrated among themselves to make the site functional. We are able to learn various web technologies and internet protocols methods.

The users are able to register on site and upon logging in they are able to make purchases and make payments for their desired items. The billing and database systems are working as desired.

REFERENCES

The resources used to learn the above technologies and use them in the project are given below:

- 1) Django : Official Django documentation : <https://docs.djangoproject.com/en/3.2/>
- 2) Python : Official Python Documentation: <https://www.python.org/doc/>
- 3) Ajax:W3schools for XML AJAX : https://www.w3schools.com/xml/ajax_intro.asp
- 4) Bootstrap:<https://getbootstrap.com/docs/5.0/getting-started/introduction/>
- 5) HTML, CSS, JAVASCRIPT: <https://www.w3schools.com/html>