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MULTI DESIGN - PATTERN REACT APPLICATION WITH DJANGO BACKEND

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Abstract - *India is a developing country. Information and Technology are playing an important role in the development of the country. E-Commerce is basically the electronic buying and selling of goods online. E-Commerce is made to overcome the geographical limitations that the people face during in-person or local shopping. If you own a small business, an e-commerce website is a good way to create an online presence. It can be of great help to boost your business. Also, online payment of products is blooming due to some mobile payment and commerce platforms such as Paytm, PayPal, Freecharge, etc. Our E-Commerce website provides availability for online as well as offline payment. Offline outlay of goods refers to paying when the product has been delivered to the concerned person. Many E-Commerce websites being multi-vendor websites, we prefer to keep it simple by designing a single-vendor website. So the shop owner can sell his goods through local as well as cybershopping. Our website is a general-purpose e-commerce store that has its base standing on Python Django Web Framework.*

Key Words: Web Framework, Python, React, E-Commerce, Django.

1. INTRODUCTION

Python is a dynamic, high level, free open source and interpreted programming language. It supports object-oriented programming as well as procedural oriented programming. Hence building a website using Python is very common these days.

There are tens of thousands of python websites on the internet. Many of today's most successful tech companies are choosing Python for the back-end of their website. Instagram, the world's biggest online photo-sharing app, uses Python on its backend. Also, Google, Spotify, Netflix, Uber, Pinterest, Reddit use Python.

Django being fast, secure, scalable and simple is a perfect choice for building online stores with Python.

API (Application Programming Interface) used is Rest API. REST APIs provide easy access to numerous web-based services. Rest APIs are usually required to set conventions for connecting to a service via HTTPS request.

This development of technology has allowed one to earn their living by simply managing a website. There has been a tremendous amount of growth in the online sector. The E-Commerce proposed in this paper states a smart way to manage online trading. Considering all aspects such as time and user-friendliness of the website, this system has been designed.

2. DETAILED PROBLEM DEFINITION

Online Shopping, being a fuss free process, has bloomed in the last few years. It targets on customers choosing and buying their products online. The entire process is done virtually. Also, there is no need of a third-party person to get involved in the shopping process. But, the quality of the product which we see online and the product we receive is often different. This creates a bad impression for the consumer. But our website which is focused on a single-vendor, would overcome this problem as the quality of products that are being sold locally in the shop would also be sold online.

Fig -1: Working of an E-commerce

As shown in the above diagram, for an e-commerce to work as required, product quality along with marketing and search engine optimization are the key parameters to look upon.

3. EXISTING SYSTEM

One of the best ways to earn money online is through cyber shopping. E-Commerce is a business model that involves transactions taking place on the internet. Many popular websites such as Amazon, Myntra, Shopify, Flipkart are available in the market. But all of them being multi-vendor websites fall into a different category. So far, there are almost negligible websites that promote a single vendor system. But, these already existing systems don't use technologies such as singleton class, saga, injectors, redux, etc. Which is used in our capstone project hence increasing the probability of succeeding in the online trade world.

4. MARKET SURVEY

E-Commerce has become an emerging trend in the market from the past few years. Amazon India is currently worth $16 billion and has same 30% market share as local competitor Flipkart. According to the survey, it is quite evident that the market for ecommerce is demanding and has a great opportunity even though the economy is facing a slowdown now-a-day.

5. ARCHITECTURE

The proposed system is implemented using request-response model. The system architecture is shown below:

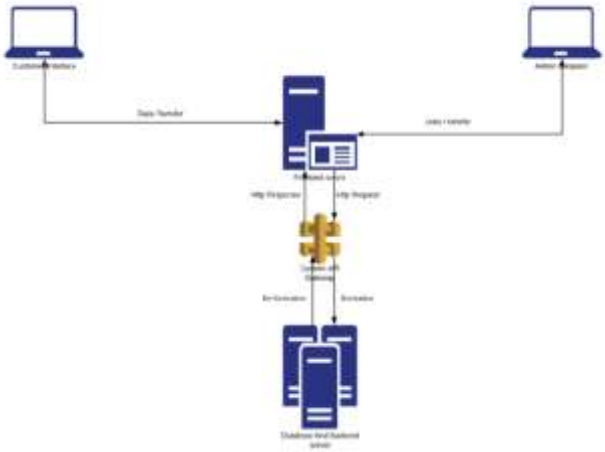

Fig -2: E-Commerce Architecture

As shown above the system is divided into three Modules,

1. Frontend Server: The frontend server handles the interaction of the website components with the user. It takes requests from the customer, sends it to the backend database via. API and responds to the request.

2. Custom API Gateway: The custom API Gateway is used to help the Frontend Server and the Backend Server interact with each other.

3. Database and Backend Server: The Database contains information about the users, records of the orders and the location of delivery, etc. The data is serialized and desterilized while storing it or retrieving it from the backend server.

6. WORKING

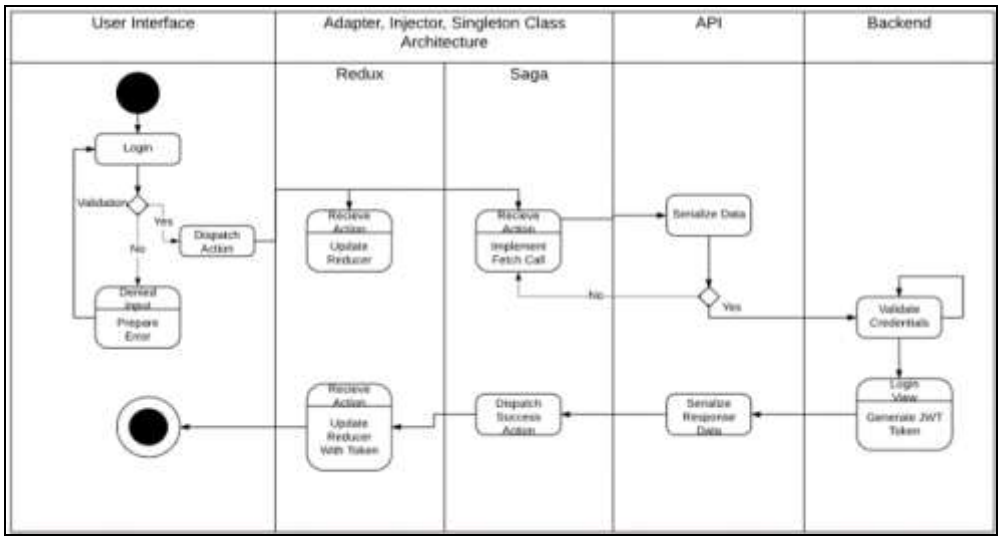

Fig -3: Working

The Customer logs in or registers into the website and may use services such as viewing the products, ordering a product, cancelling the order or even returning the product if not satisfied. Also, the admin can add products, remove products, product variants are also available. The admin can access all recent orders, their invoices and many more. Our E-Commerce being a single vendor website, can be trusted on the quality of the product. It wouldn't vary as it being sold from a single vendor. The website being made in react and python is a light-weight, responsive and user-friendly website. Working part of our project consist of

Injector – is a dependency injection micro framework, used to implement dependency injection design pattern in formal and pretty way also in a pythonic style.

Adapter - builds structure for the code

Singleton class (only one object of the class can be made) - helps to save memory

Saga - used to handle fetch calls

Redux - global access of the data for multiple component and can be used to avoid useless calls to the API intern increasing speed

7. CONCLUSION

E-Commerce is not just about conducting business transactions via the Internet. Its impact is far-reaching, and more prominent than we know currently. This is because of the ratio in demand and supply of goods. The more the population is increasing day by day, the more the demand is rising. Due to this the companies are gaining high profits, more and more other companies are developing their websites to increase their profits. Since more businesses are being held online resulting in high economy development and emergence of a more innovative and advanced technology.

8. REFERNCES

[1]https://www.geeksforgeeks.org/python-features/

[2]https://webocreation.com/blog/introduction-of-final-year-project-on-ecommerce-or-eshopping/

[3]https://searchstorage.techtarget.com/tip/How-to-use-REST-APIs-in-Python

[4]https://brainly.in/question/2009522

[5]https://blog.markgrowth.com/5-reasons-why-your-ecommerce-business-needs-to-invest-in-seo-746833f1dd9a

[6]https://www.forbes.com/sites/johnkoetsier/2018/18/report-amazon-india-worth-16b-with-30-market-share-will-hit-70b-gmv-in-2027/

[7]https://augustafreepress.com/why-python-is-great-for-ccommerce/