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FlexFashion: E-Commerce with Advance Features

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Abstract: ***The aim of this website is to enhance the shopping experience for customers using an advance feature of recommending matching outfits using the colorgram module. Flex Fashion is an interactive e-commerce solution providing users with an excellent fashion platform. The e - commerce platform displays an order cut-off time and a delivery window for the products selected by the consumer. The e - commerce platform does not settle with the user's credit supplier until the item chosen by the consumer is picked from inventory but before it is delivered. As a result, the buyer can make adjustments to the purchase online. There are different categories on the home page available to filter the products based on your style and needs. In addition to the apparels for both men and women one will find flexible variety of accessories and daily essential products. The e - commerce platform does not settle with the user's credit supplier until the item chosen by the consumer is picked from inventory but before it is delivered. As a result, the buyer can make adjustments to the purchase online. Once the customer decides to submit a purchase order, there is a track us page where just by adding ordered and email the user can track there order. This is to facilitate all people who are busy with their work and have no time to get their desired apparels. We are here to provide user with all the best and suitable clothing for sale. If once register into our site, then anyone can avail the benefit with our latest updates of the sale.***

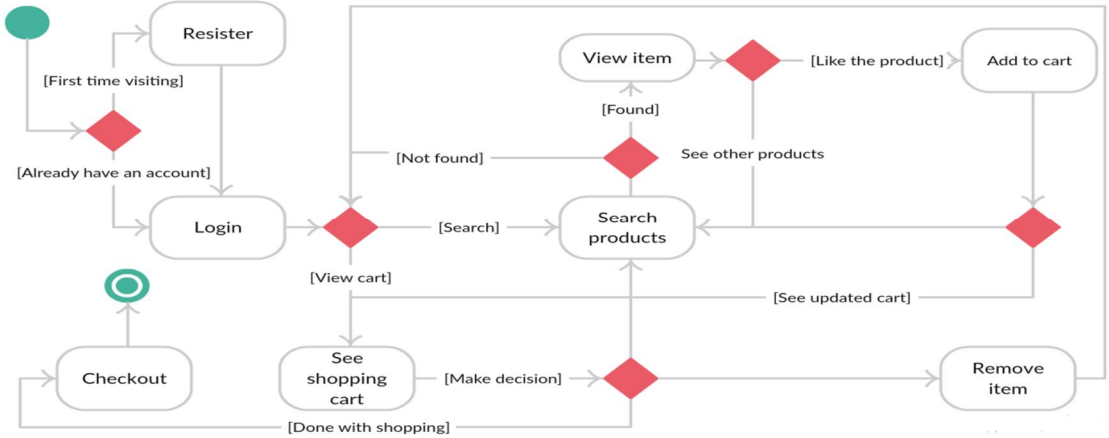
Keywords: Colorgram, Tracker

I. INTRODUCTION

Online purchasing is a type of electronic commerce in which the customer connects directly to the vendor's computer, typically over the internet. There is no such thing as an intermediate service. For new books, the sale and buy transaction is conducted digitally and dynamically in real-time, such as on Amazon and ebay. If a middleman is involved, the transaction is referred to as electronic commerce, like online shopping. The sales and purchases are carried out digitally and effectively in real time. The following tasks are included in the creation of this new system, which attempt to create an online application while keeping the entire process in mind of the database integration strategy. To access their account, the user is given an email address and a password. The Shopping Cart System Administrator offers several functionalities, including the ability to Add, Delete, and Update shopping items. The application's basic premise is to allow users to shop virtually via the Internet and to purchase the things and articles of their choice from the store. The product information is stored on an RDBMS on the server side (store).

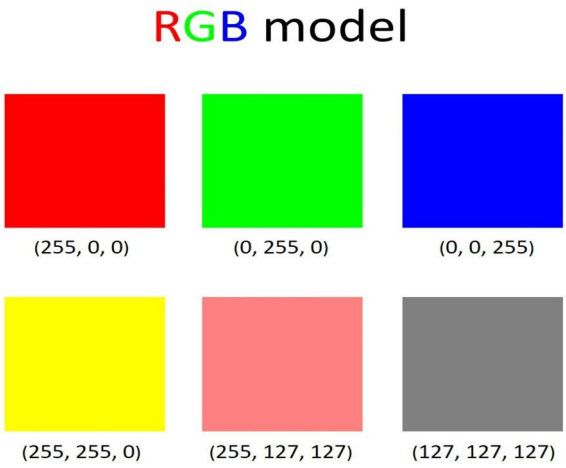
Colorgram library is used to provide the matching outfit suggestion to customers. This module was tried with different colors for extracting colour information from images.

It is very important to train the system with RGB so that it gets familiar with the colors and provides us the correct prediction. It evaluates the prediction and then gives us the recommended outfit which has a match with the color predicted, the final attire looks perfect since the colour combination made is so soothing and it is according to the customer choice.



(Fig.1) State Diagram for Online Shopping

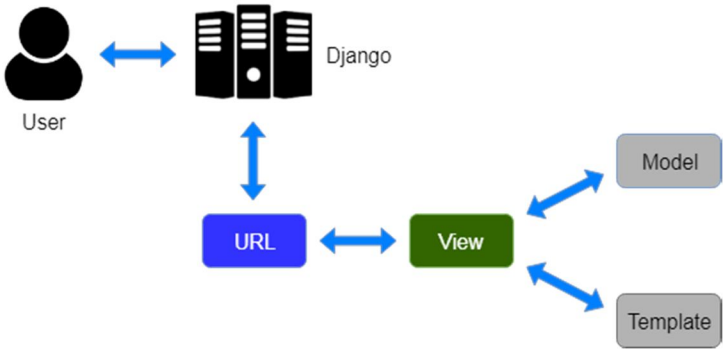
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II. LITERATURE REVIEW

According to Pan's (2007, p.5) study, purchasing intention is defined as a psychological decision-making procedure by Engel, Blackwell, and Miniard (1990). According to Pan (2007), the "buying decision process" is when consumers are inspired by the accomplishment of demands based on anecdotal evidence and the physical factors; after gathering a certain amount of data, they try to examine and take into account; and finally, after contrast and decision, they reach a choice on specific products. The pricing aspect will also add to the ease of purchasing. Similar to Jayawardhena and Wright (2009), shoppers who value convenience can obtain the benefits of products and services for less money, which has a good association with customers' excitement; rising search effectiveness by removing travel expenses and mental anguish brings convenience to e-shopping. This project adheres to the MVT design. The MVT (Model View Template) system design is a form of software pattern. It is comprised of three major components: Model, View, and Template. The Model aids in database management. The data is handled by a data access layer.

The Template is a presentation layer that totally manages the User Interface. The View is responsible for executing business logic, interacting with a model to convey data, and rendering a template.



III. TESTING AND IMPLEMENTATION

A good E-commerce/Retail site is key to its success. It must be a good match for the storefront. Because when you go purchasing in a real location, the consumer has already committed to visiting and may offer the brand an opportunity. E-commerce applications/sites are also online or mobile applications. As a result, they are subjected to all of the standard sorts of tests.

Functional Testing
Usability Testing
Security Testing
Performance Testing
Database Testing
Mobile Application Testing
A/B testing.

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To stay on the cutting edge and offer the required outcomes to your clients, you must move your attention to the quality and functionality of your E-commerce website while shortening the schedule as much as feasible. In general, automation testing begins with the selection of the appropriate automated testing platform, which has a direct influence on the outcome of the test automation project. The framework must contain test scripts as well as scenarios for various automated procedures. Testers may quickly perform tests and acquire appropriate results by creating test reports using the framework. However, choosing the correct solution to automate an e-commerce website is dependent on a number of critical factors. It is usually necessary to assess available tools based on essential characteristics such as functionality, speed, extensibility, licence cost, cost of maintenance, and services and skills. A website should function not just on PCs, but also on mobile devices. It must be both responsive and secure. The system should be optimised, and the ETL operations should assist in the maintenance of a Data Warehouse that can be used for OLAP and BI. All of this should be addressed in e-commerce testing. The most crucial aspect of E-Commerce Testing, however, is whether or not visitors turn into paying clients. The number of visits that result in a client is referred to as the "Conversion Rate."

1) *Purchase Intention:* The price element will also add to the online shopping. Price perception is favourably and substantially connected to shopping (Jiang and Rosenbloom, 2005). According to Jayawardhena and Wright (2009), buyers who value comfort can gain the benefits of products and services for less money, which has a good association with customers' excitement; rising search effectiveness by removing travel expenses and psychological costs brings comfort in e-shopping.
2) *Time Saving:* In a retail scenario, time is also viewed as a component that correlates with buy intention. It is thought that customers have their own notion of time while deciding whether or not to purchase on the internet. Online buying improves search efficiency by reducing travel expenses and psychological costs, resulting in more ease in e-commerce (Jayawardhena et. al., 2009). When Alreck and Settle (2002) compared online and conventional buying, they discovered that internet shopping saved more time.
3) *Tangibility:* Tangibility is predicted to be a criterion that buyers assess during the purchase process, whether online or offline. Tangibility items include shoes and clothing; despite the fact that they are considered standardised products, buyers need to feel and touch them in order to make purchase selections (Rajamma, Paswan and Ganesh, 2007). Consumers are sensitive about the tangibility of a product because they want security and confidence that the goods purchased is in excellent shape, as well as assurance that they are acquiring the correct item.

IV. IMPLEMENTATION AND ANALYSIS

A. *Hyper Text Markup Language*

HTML, a simple programming language, is used to create web pages. HTML is an abbreviation for HyperText Markup Language. Hypertext is merely text that serves as a connection. Markup Language is a method of incorporating layout information into publications. An HTML document is essentially a plain text file that just includes text. When a browser reads an HTML file, it searches the content for HTML codes and uses them to modify the layout, insert graphics, or make links to other pages. Because HTML pages are simply text files, they can be created using any text editor. A more popular option is to utilise a customised HTML editor, maybe one that focuses on the visual outcome rather than the coding, known as a WYSIWYG editor. Many of the most popular HTML editors, such as FrontPage or Dreamweaver, will allow you to construct pages as you compose articles in Word or another text editor. Nevertheless, there are a few compelling reasons to hand-code your own pages - or portions of them.

B. *Cascading Style Sheets*

CSS, or Cascading Style Sheets, is a basic design language designed to make the process of creating web sites presentable easier. CSS is in charge of a web page's appearance and feel. CSS allows you to determine the colour of the text, font style, sentence spacing, how columns are scaled and put out, what visual elements or colours are used, and a range of other effects. CSS is simple to learn and comprehend, but it gives you a lot of power over how a Html page looks. CSS is most typically used in conjunction with the markup languages HTML or XHTML. CSS saves a lot of time since it can be written once and then reused in various HTML pages. CSS makes pages load quicker because it eliminates the need to create HTML tag characteristics every time. Simply create one CSS rule for a tag and apply it to all instances of that tag. As a result, fewer code implies quicker download times. Simple upkeep - To make a worldwide modification, simply modify the style, and all components in all web pages will be instantly updated. Superior designs to HTML - Because CSS has a far larger set of characteristics than HTML, it may provide a considerably nicer look to your HTML page when compared to HTML attributes. Multiple Device Compatibility - Style sheets enable content to be tailored for more than one specific device.

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Multiple variations of a website can be displayed for portable devices such as PDAs and mobile phones, as well as for printing, by utilising the same HTML content. International web standards - HTML properties are now deprecated, and CSS is suggested instead. As a result, it is a good idea to start implementing CSS in all HTML sites in order to make them compatible with future computers. Versions of CSS: CSS1 (Cascading Style Sheets) was released as a recommendation by the W3C in December 1996. This version introduces the CSS language as well as a basic visual formatting scheme for all HTML tags. CSS2 was approved as a W3C recommendation in May 1998, and it expands on CSS1. This version includes media-specific css style support.

C. JavaScript

In the strictest sense, JavaScript is not a software program. Because it utilises the internet to do the dirty deeds, it is a scripting language. When you tell JavaScript to substitute one image with another, it instructs the browser to do so. Because the browser handles all of the work, you simply need to pull certain strings by writing a few lines of code. That is why JavaScript is a simple language to learn. But don't be deceived by a beginner's luck: JavaScript may also be rather challenging. First and foremost, despite its unassuming look, JavaScript is a full-fledged software program: it is possible to construct extremely complicated algorithms with JavaScript. When working with online sites, this is rarely essential, although it is feasible. This implies that there will be certain sophisticated programming constructs that you will only comprehend after much research. Second, and maybe more critically, there are browser differences. Although all current web browsers enable JavaScript, there is no rule that says they must all support the same JavaScript. A substantial portion of this website is dedicated to investigating and discussing these browser variations, as well as figuring out how to work around them. So while fundamental JavaScript is simple to understand, when it comes to building complex scripts, browser variations (and possibly syntax issues) can arise.

D. Django

Django is a high-level Python Web application framework that promotes speedy development as well as clean, pragmatic design. Built by experienced developers, it eliminates most of the tedium of Web programming, allowing app development to proceed with no need to recreate the wheel. It is freely available. Django can (and has been) used to create nearly every form of website, from content management systems and wikis to social networks and news sites. It is compatible with any client-side framework and can send material in nearly any format (including HTML, RSS feeds, JSON, XML, etc).

Security

Django assists developers in avoiding many typical security blunders by offering a framework that has been built to "do the right things" to automatically defend the website. Django, for instance, provides a safe approach to manage user username and password, avoiding typical pitfalls such as keeping session information in cookies (alternative, cookies just carry a key, and the real data is saved in the database) or simply keeping passwords rather than a password hash.

Scalability

Django utilises a component-based “shared-nothing” architecture (each part of the architecture is self - reliant of the others and can hence be replaced or changed if needed). Because the different elements are clearly separated, it can grow for increasing traffic by introducing hardware at any level: cache server, database systems, or server software. Django has successfully grown to meet the demands of a few of the busiest sites (e.g., Instagram and Disqus, to name just two).

Portability

Django is developed in Python and operates on a variety of platforms. This means you are not restricted to a single server platform and may execute your apps on a variety of Linux, Windows, and Mac OS X flavours. Furthermore, Django is well-supported by a large number of web hosting companies, who frequently provide specialised infrastructure and instructions for hosting Django sites.

E. Colorgram

Colorgram.py is a Python package that extracts colour data from photos. When compared to other libraries, the colorgram method gives more intense results. It has the following properties: Color. proportion - The percentage of the image that is in the extracted colour, ranging from 0 to 1, for example, 0.34. It has a short size, 1kB (minified + gzipped) quite quick, 512512 pixels in 50ms, 340340 pixels in 15ms (six times slower on mobile) scans every pixel similar output for rotated pictures sampled by top two bits of three groups: H, L, and luminance calculates average per group fixed memory footprint, samples using 2 (bits) ^ 3 (groups) 4 (RGB + count) 4 (Uint32) = 1024 bytes usually generates small (~16 colors) palette of main colors supports RGB and RGBA input pixel array (compatible with ImageData.data) using TypedArray no native dependencies.

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V. CONCLUSION AND FUTURE WORK

As a consequence of successfully deploying the website on the PYTHONANYWHERE platform, it delivers appropriate and fashionable ideas to the consumer in order to create the perfect outfit and eye-catching style. When a buyer is unsure about what to match with a specific piece of clothing, this website uses the colorgram library to recommend the optimal colour combination. It may also be developed further as a start-up to fulfil the criteria of e-malls and to suit public needs based on current trends and designs. Because the fashion industry is so lucrative, there is a lot of room for growth in this enterprise.

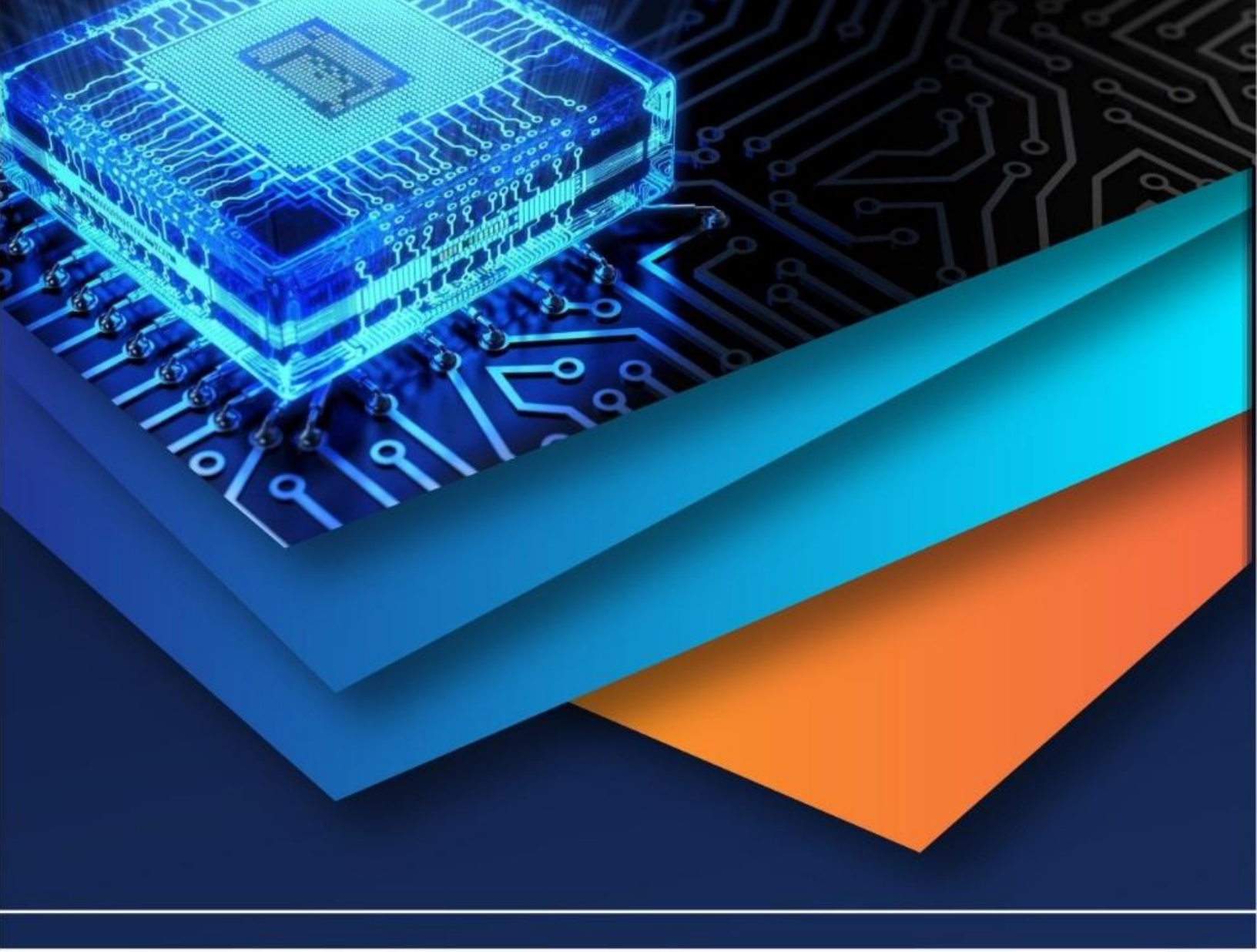
E-Commerce is more than just transacting business over the Internet. Its influence will be far-reaching and far-reaching than we presently realise. This is due to the fact that the information technology revolution is occurring concurrently with other trends, particularly the globalisation of business. The new era of global e-commerce is spawning an altogether new economy, which will profoundly affect our lives, redefine competition in numerous industries, and alter the global economy. As corporations make large profits, an increasing number of other businesses establish their websites in order to boost their revenues. Because more enterprises are being conducted online, the economy is growing, and a more inventive and advanced technology is emerging.

Online stores are being used by more individuals than ever before to make fashion purchases. The quantity of income generated by those individuals has allowed companies to expand and is now critical to their success. According to statistics, e-commerce is becoming a necessary instrument for the fashion business. In 2018, the sector earned $481 billion in global revenue. That figure increased to $545 billion in 2019 and is expected to grow to $713 billion by 2022. Growth in various garment categories aids fashion ecommerce. And, while growth is decreasing in many of them, expectations remain optimistic. The world of eCommerce is evolving at a breakneck pace and staying informed has never been more crucial. It is obvious that data is the greatest approach to learn about what customers desire. However, it is as crucial to use it to retain current loyal clients. As eCommerce evolves, competition among merchants will intensify. Those that prosper will be those who manage information most effectively.

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