

# Void Mark E-Commerce Application

Mayank Pithwa, Akshay Ghugal, Moni Gupta, Rasika Patil<sup>4</sup>, Ajay Karare  
Computer Science & Engineering,

Jhulelal Institute of Technology, Rashtrasant Tukadoji Maharaj Nagpur University

## Abstract:

Void Mark E-commerce Application simply means a white label ecommerce application. A white label product is a product or service provided by one company that other companies rebrand to make it appear as if they had made it. The concept of white label enables a successful brand to offer a service without having to invest in creating the technology and infrastructure itself. The manufacturers can increase the sales by allowing another company to sell a white label version of their product or service. Electronic commerce (ecommerce) is a type of business model that enables a firm or individual to conduct business over an electronic network, typically the internet [4]. In this paper the integration of white label concept and ecommerce web application is studied.

**Keywords:** Business model, ecommerce, electronic network, web application, white label product.

## I. INTRODUCTION

Electronic commerce (ecommerce) is a type of business model, or segment of a larger business model, that enables a firm or individual to conduct business, sell products and services over an electronic network, typically the internet. [4]

Some advantages of ecommerce for consumers are given below:

- Ecommerce works 24 hours a day, seven days a week.
- Many stores offer a wider variety of products online than they do in their brick-and-mortar counterparts and stores that exist only online offer customers a selection of products that they otherwise could not access.
- There is no limitation on geographic reach for the customers.

The major types of ecommerce are classified based on the nature of transaction:

- Business-to-Consumer ecommerce (B2C) - In B2C ecommerce the manufacturers sell their products and services to customers over an electronic network.

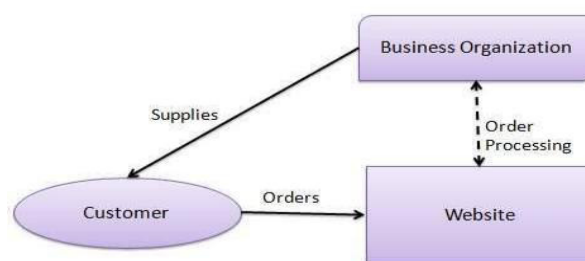


Fig. 1 Business-to-Consumer flowchart

In this Model, the customer access the website, selects a catalogue, orders the product and an email is sent to the business organization. After receiving order, the products are dispatched to the customer.

- Business-to-Business ecommerce (B2B) - A B2B describes companies conducting business with each other such as between wholesalers and retailers or manufacturers and distributors.

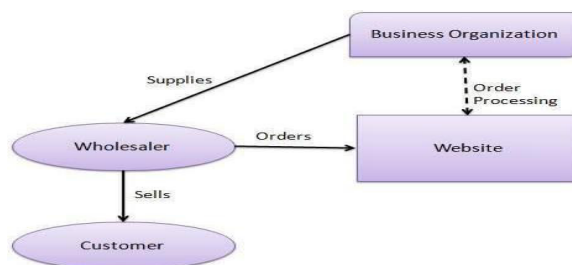


Fig. 2 Business-to-Business flowchart

B2B implies that seller as well as buyer is business entity. B2B covers large number of applications which enables business to form relationships with their distributors, resellers, suppliers etc.

- Consumer-to-Consumer ecommerce (C2C) - Using C2C e-commerce, customers sell their products directly to other customers over the internet.

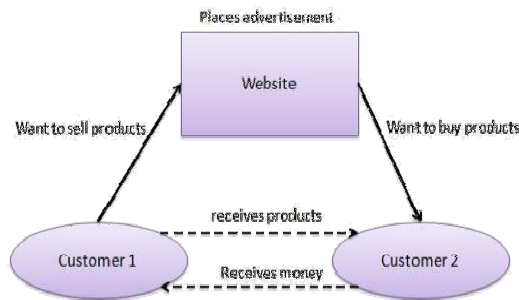


Fig. 3 Consumer-to-Consumer flowchart

Customer 1 places an advertisement on the website about the products he wants to sell and customer 2 visits the website to search for the products he wants to buy. The transaction between the two customers goes on until payment and delivery of product is done. [5]

**White label product-** A white label product is a product or service produced by one company (the producer) that the other companies (the marketers) rebrand to make it look as if they had created it. Some websites use the concept of white labels to enable a successful brand to offer a service without having to invest in creating the technology and infrastructure itself. Some companies offer a particular service without any investment in the technology or infrastructure. The manufacturers can increase the sales by allowing another company to sell a white label version of their product or service. The company paying to put out a white label product gains by adding another service or product to its brand without having to put the resources into developing it. For example, majority of Dell computer displays are manufactured by other companies, but have the Dell brand along with its model number. White label manufacturing is commonly used in electronic products produced in higher quantities, such as TVs and DVD players. Several organizations also have a sub-brand for their products. For example, the exact same DVD player model is distributed by Dixons under the brand name Saisho and by Currys under the brand name Matsui, which are brand names solely used by those particular companies.

**Web data mining in ecommerce-** Competition for customers is the key factor for ecommerce business in the increasingly fierce competition. If we can grasp customer needs, develop targeted business activities, it will not only provide convenient trading mode and a wide choice for customers, but also make the ecommerce business efficient to retain the customers better. One of the solutions is Web data mining technology. We can get the user behaviour from the browsing behaviour of customers on web and further analysis. This will allow sellers to know more about their customers' needs, and provide personalized results according to customer's preferences. During ecommerce activities, it will leave the data on web when customers browse information, these data will be ecommerce web data mining data source. The first one is the customer information, it includes not only the customer's registered personal data, but also includes customer's order information, individual requirements and problems, as well as browsing merchandise records and visited pages and so on behavioural information. Such information can help to analyse customer preferences and their background, then forecast the future purchase behaviour of customers. The second one is the commodity information on e-commerce website, each commodity has its own information, such as price and parameters, and it is to be presented to customers through web forms. The last one is the server information, server data will be generated on the server side when client access the server, the data can be categorized into server logs, error logs, cookie logs, through the analysis of these log files, we can optimize server system, improve the operation efficiency, enabling customers to have a better user experience. [1]

**E-Commerce security issues-** The internet technology is creating huge opportunities to expand existing businesses and forming New Economy, Global Economy, or Electronic-Commerce (E-Commerce). E-commerce describes business transactions, customer services, ordering, delivery and payment, and intra-business tasks that make use of public internet and the digital networked computing environment that links organizations and individuals in business, industry, government, and the home. However, many organizations are intimidated by the new technologies, they are unsure of how to take advantage of them, and wondering how these technologies will support existing investments in skills and infrastructures. In addition, this new type of economy comes with a lot of challenges especially those related to trust and security issues. [2]

**Research on Distributed E-commerce System Architecture-** E-Commerce has been developing rapidly since it was born, for the network and computer technologies lead more

and more people to accept the concept of shopping on the Internet, which urges E-Commerce websites to develop dramatically towards internationalization. Apart from the increasing categories of commodities, the amount of the online access has also been increasing so that the traditional central web servers can't bear the burden. Large commerce opportunities and capital repay are calling for a new kind of distributed solution. As to the development, the distributed module of business and strategic deposition of enterprises have a close relationship with the internationalization of larger enterprises. [4]

dust. In many cases, brick-and-mortar businesses are resorting to having a counterpart which is internet or e-commerce driven. This paper outlines different aspects of developing an ecommerce website and the optimum solution to the challenges involved in developing one. It consists of the planning process, which starts with determining the use case, domain modelling and architectural pattern of the web application. The entire development process is primarily divided into two parts: the front-end development and the back end development. [3]

## II. LITERATURE SURVEY

- Title- Web data mining applications in e-commerce  
Author- Yonghua Zhao, Hong Lin  
Year- 2014  
Abstract- Web data mining is a new technology that can find valuable model and information in agriculture, finance and manufacturing industry. With the development of the internet, ecommerce has very strong trends, application of web-based data mining in ecommerce has become a hot topic. [1]
- Title- E-Commerce Security Issues  
Author- Mohamad Ibrahim Ladan  
Abstract- The internet technology is creating huge opportunities to expand existing businesses and forming what is called New Economy, Global Economy, or Electronic-Commerce (E-Commerce). However, many organizations are intimidated by the new technologies, they are unsure of how to take the advantage of them, and wondering how these technologies will support existing investments in skills and infrastructures. This new type of commerce comes with lot of challenges related to trust and security issues. [2]
- Title- Developing an E-Commerce Website  
Author- Syed Emdad Ullah, Tania Alauddin and Hasan U. Zaman  
Year- 2016  
Abstract- In this era of internet, e-commerce is growing by leaps and bounds keeping the growth of brick-and-mortar businesses in the

- Title- Research on distributed E-Commerce System Architecture

Author- Xia Yang, Zhang Qiang, Xu Zhao,  
Zhang Ling  
Year- 2007

**Abstract-** A new distributed E-commerce architecture is put forward in this paper on the careful analysis of the existing shortcomings of the architecture of the present E-commerce system. Different from the traditional E-commerce system, the architecture makes a full use of the advantages of the new computer technology to distribute the E-commerce events on several servers so as to raise systematic reliability, expansibility, stability, and maintenance. Based on the existing commercial systematic facility and technical platform, the system integrates multi-commercial activities of E-commerce under the loose-coupled service programs so that the architecture of large scale distributed E-commerce system is formed. [4]

### III. PROPOSED SYSTEM

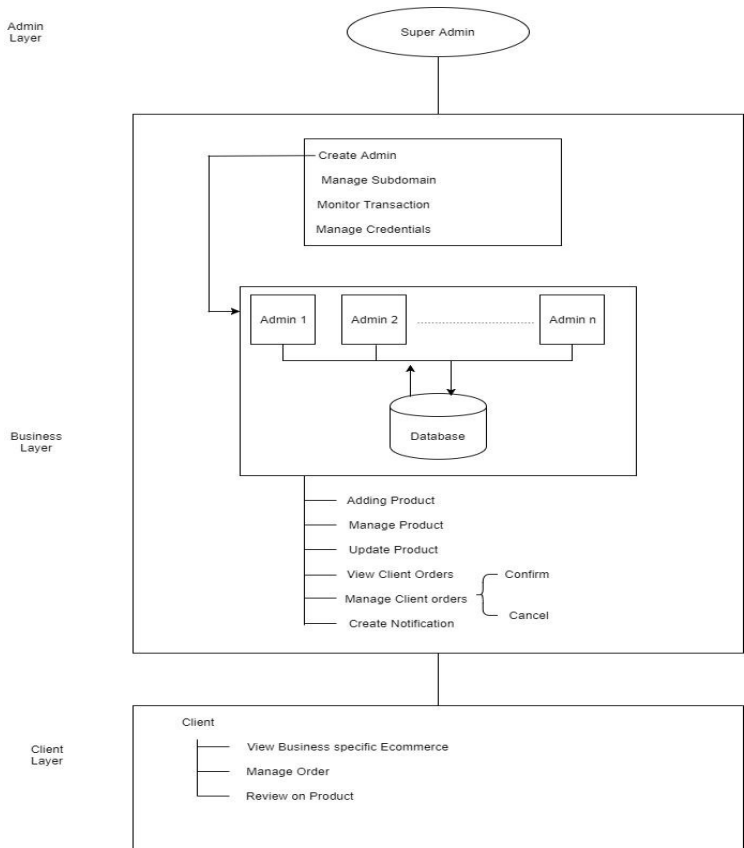


Fig. 4 Three layer architecture

The entire planning process is divided into the following layers that performs its independent tasks as follows:

- The Admin Layer mainly consists of Super Admin working. The Super Admin has some operations to perform like, he creates business user accounts, manages subdomains, manages the transactions, as well as manages the credentials. Here, Admins are the people who have their individual businesses and now join the e-commerce website for a wide range of online business activities for their products and services.
- To the Admin Layer follows the Business Layer. As soon as the business user accounts are created by the Super Admin, they are able to add products into their business domains, they can manage the products, update the products, view the orders that the client wishes to buy, manage the products of the clients i.e. the order confirmation or deletion. Also the admin creates notifications for the clients about the products they wish to buy. Also they have the authority to view the database.
- Followed by the Business Layer, next comes the Client Layer. The clients are the end-users, who visit the website if they wish to buy some products of their ease, like the Super admins and Admins even the clients are able to perform some operations in order to buy a product. They can view business specific E-commerce website, manage their own orders, also they can review a product that they have already bought from the website.

- The Super Admin starts the whole process by entering its user id and password and clicking on the submit button. The page sends the message to the server to confirm the information from the database. After successful confirmation, the logged in page is returned with options for the super admin to look over the number of sellers in his shopping portals who conduct their businesses, the super admin can block/ allow the number of sellers to conduct business. Also the super admin can view the seller's particular number of orders that the seller is selling in his portal.
- Admin logs in- The admin starts the whole process by entering the username and password and clicking on the submit button. The page sends the message to the server to confirm the information from the database.

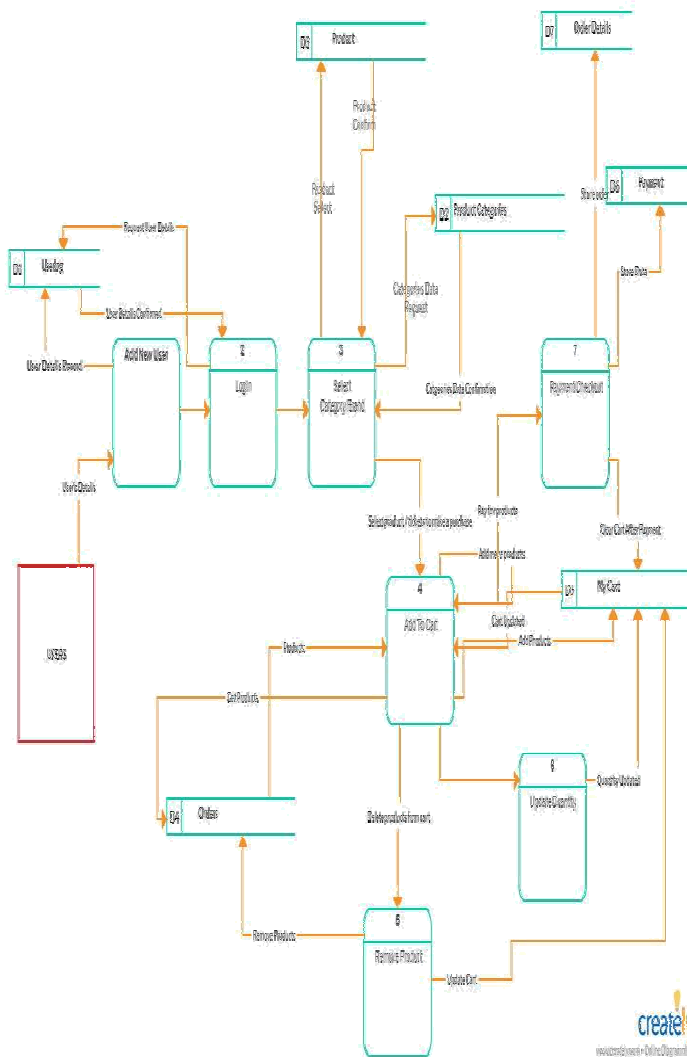
□ After successful confirmation, the logged in page is returned with options for the admin to look over the Order Management status, Manage Users, creating a new category of products with their sub-categories, adding a new product, managing the existing products (updating or deleting), user logs, also with a log out option.

- Admin inserts item- The admin starts this process by clicking on the Input Items button from the logged in page. The page is displayed on the screen with a form for the admin to insert items information and its details. Once insert button is clicked, the web page sends this information to the server, which is stored in the database.
- Admin removes item- The admin starts this process by clicking on the Remove Items button. The web page is displayed with a drop down menu for the item he/she wants to delete. Once, delete button is clicked, the page sends a message to the server which in turn tells the database to remove the item.
- Admin modifies item- The admin starts this process by clicking on the Modify Items button. The web page displays a list of available products from the database. The admin then chooses the item he/she wants to modify by clicking on particular item. A page is displayed letting the admin to modify all the item information. Once, the Modify button is clicked, the web page sends a message to the

server, which updates the information from the database.

- Admin queries information- The admin starts this process by clicking on the Query Sales button. The web page is displayed, allowing the admin query by period model, or order ID for the sales information. Once, Query button is clicked, the page sends a message to the server which in turn requests all sales that match the query from the database.





- To Start-up with, a Customer/User who wishes to shop through our E-commerce Website opens the Shopping Portal Home Page, if a user is a new user he has to sign up/ register. The new user log is now stored into the database.
- While registering as a new user, he has to fill in some of their personal details and sign up, the details thus filled by the user are authenticated, and as soon as the user authentication is done the user is now all set with his login credentials and can now shop through this shopping portal.
- If a customer is already registered, he can directly login with his login credentials.
- As soon as a customer logs in, the page is redirected to the shopping portals home page and now the customer can shop with ease by selecting any product

- Customer shops for a product- The customer initiates this action by clicking on the desired category for item to be displayed. The page sends a message to the server requesting a listing of all products from the particular category from the database. The action is complete when a page is returned for the customer to view, which contains available products with product names along with their picture, price, capacity, and an option to add the product to the shopping cart.
- Customer searches for item- The customer starts this process by typing a product description to search for description of a product. The page sends a message to the server asking for a listing of products, whose names matches with the description of the product from the database. The action is complete when a page is returned for the customer to view, which contains a list of the resulting products along with their picture, price, and an option to add the product to the shopping cart. If a given description doesn't match with any descriptions in the database, a message indicating such is displayed instead of the option to add the product to the cart.
- Customer adds an item- The customer initiates this process by clicking on the buy button on the right side of a product's listing. An item is added to the cart including the price and displayed with the total price and the offer applicable to that product. If the product already exists in the customer's cart, its quantity is increased by 1. There is a continue shopping button for the customer to continuing shopping for other products.
- Customer views cart- The customer initiates this action by clicking on the view cart button, available on any webpage. The page sends message to the server and shows a list of all products in the customer's cart, along with their quantity and total price. If the customer wants to remove any item from the cart he can remove it or can proceed to purchase the product. The customer starts this process by clicking on the Remove or Buy button on the view cart page. The web page sends a message to the server, which removes or buys the product from the customer's shopping cart.

- Customer changes quantity from cart- The customer starts this action by changing the quantity of the item and clicking on the Change button on the view cart page. The web page sends a message to the server, which updates the product from the customer's shopping cart.
- Customer checks out- The customer starts this process by clicking on checkout button on the view cart page. A check out page is displayed letting the customer to create a new account or sign in depending on the customer status. An existing customer would sign in his/her email address and password and click sign in button. The web page sends the message to the server. Then, the server validates the email address and password from the database. If they are both correct, then a shipping and payment information page is displayed letting the customer to fill out the information. After selecting the payment and shipping information, a confirmation page is displayed showing items in the customer's cart, payment and shipping information.
- Customer sends order- The customer starts this process by clicking on the send order button from the confirm Information page. Once send order button is clicked, the page sends the message to the server, which sends an email or message to the customer and the sales person. It also stores the customer's cart, payment and shipping information into the database.
- Customer can track the order- The product which a customer has shopped for can be tracked by the user, so as to check when the product is expected to be delivered.

#### IV. IMPLEMENTATION

Our application comprises of dynamic web pages which has been created both client and server side scripts. A dynamic web page is a web page that is generated by a server-side program or script. For the testing purpose we have hosted it on our local hosts i.e. our personal computers later we hosted it on hosting sites to use it professionally. So when we run the program on our local computer the web server is the local web server.

The browser like Google Chrome, Mozilla Firefox executes this program. The browser makes a Hypertext Transfer Protocol (HTTP) request to the web server for a specific dynamic web page, the web server then looks up the extension of the requested file to find out which application server should process the request. When the application server receives a request, it runs the specified script. Often, this

script uses the data that it gets from the web browser to get the appropriate data from a database server. This script can also store the data that it receives in the database. When the application server finishes processing the data, it generates the HTML for a web page and returns to the web server. Then, the web server returns the HTML to the web browser as part of an HTTP response.

Our Application is built on the concept of White Labelling, and while building we overcame several server limitations: MySQL only permits 105 number of open connections which is just not enough for huge number of users to work over it. Also if the number of users and their databases are added into the same server the number of open connections will be further sub-divided out of 105.

Henceforth, we built a model and any number of users getting added into the model will be separately provided by a different server and each user gets its own 105 number of open connections which are enough for a single user. Basically a single server consisting of number of database tables built, is cloned.

#### Working:

##### User Working

- As soon as a particular user registers himself he is redirected to the login page where he logs in using his credentials.
- After logging in the user is redirected to the shopping portal where he can see all the shopping panels according to their categories for easier accessing.
- In order to shop, a user clicks on the category of the product he wishes to shop for. After following the category there comes the sub-category for all the more easier accessing.
- After which a list of products that have been selected appears on the screen, the user is able to access each product with its pictures and description.
- The user can therefore add the product to the wish list or can add to cart for purchasing.
- For the order to be purchased, the user must enter the billing address as well as the shipping address from his update profile panel.
- As soon as the address is updated the product thus been ordered is ready to checkout and payment is to be made.
- A customer after purchasing a product can track his order in order so as to get an idea of the delivery expectation of the product.
- This is how a customer can shop onto the portal at an ease.

##### Admin Working

- The User register's himself to run a business portal, after his authentication he is provided by his own

different server. This server which is thus provided to run a business, is actually a cloned version of a basic shopping portal containing number of databases and files.

- The seller logs in using his credentials and then is redirected to the admin panel.
- The seller can now rename the portal according to his choice, he can add the number of products he wishes to sell on his portal according to its category and sub-category. Basically the seller gets a flexibility to manipulate the portal according to his business needs.
- This portal basically provides the freedom to design the admin's portal and have a distinct appearance and navigation structure according to the business needs.
- The admin is able to manage the products which he wishes to sell in his business portal. Managing of products simply means he is able to see the number of orders that have been placed and the status of the orders that have been pending or delivered.
- Other than this the admin is also able to see the number of users that visit their business shopping cart, along with their details.

### **Super Admin Working**

- The Super Admin handling this entire shopping portal has all the major powers of adding the number of users that wish to run a business using this shopping portal.
- The Super Admin logs into the portal using his Super Admin credentials.
- He is then redirected to his respective portal, where he can see the requests of the users to join their portal for business purpose.
- He has the rights to add or remove the business clients.
- He has a view of the shopping portals that are being run by their added business clients, the number of products being sold on their website.
- The Super Admin Panel has the authority to block the users from running their business.

### **V. CONCLUSION**

E-commerce is continuously progressing and is becoming more and more important to businesses as technology continues to advance and is something that should be taken advantage of and implemented. However, the manufacturers faced difficulty in selling their products online because they were not having any platform to conduct their own ecommerce business. The only solution was to invest time and money unnecessarily for developing their own platform.

To overcome these difficulties we developed a white label ecommerce web application. In this application we are using the concept of white label which refers to a product or service that is produced by one

company (the producer) that the other companies (the marketers) rebrand to make it look as if they had created it. Some websites use the concept of white labels to enable a successful brand to offer a service without having to invest in creating the technology and infrastructure itself. Thus, it creates a large number of opportunities for the manufacturers to perform their own ecommerce business and compete worldwide.

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