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RESEARCH ARTICLE

WEB BASED E-COMMERCE SYSTEM DEVELOPMENT ON XYZ STORE

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Abstract

This study aims to design a web based e-commerce system development on xyz store. This type of research is action research.Technological developments in the information sector encourage every agency or company to keep abreast of developments, especially with regard to developments in information technology that are related to the company's activities. In this research, an E-Commerce system at Store XYZ was successfully designed to solve the problem of inaccurate transactions and as an alternative promotional media. In the future, XYZ Store E-commerce development is expected to be able to accept payments by credit card.

Introduction:-

Technological developments in the information sector encourage every agency or company to keep abreast of developments, especially with regard to developments in information technology that are related to the company's activities. XYZ store is a company that initially sell clothing for skateboarding and youth culture. In the following years the company has been grown of sales and produce fashion such as tshirts, short pants, long pants, sweaters and accessories. The increasing amount of clothing sales and production makes company managers need a system. The disappearance of world boundaries makes it possible for both consumers and producers. With its flexibility, E-commerce can make it more effective for consumers to obtain information about the goods they need, cut marketing costs and company operational costs, expand business partners, improve services and also increase the company's ability to compete with other organizations. Based on observations through interviews and documentation, XYZ Store still uses conventional shopping concepts in running its business. Consumers must come directly to make purchases or just see the goods in the showroom. This is of course not effective, making it difficult for potential consumers from inside and outside the city, besides that buyers do not get enough information about the product.

Based on the problems above, it is necessary to design an E-commerce system that will be an alternative solution in carrying out the transaction process. Consumers can access existing information easily and anywhere as long as they are connected to the internet, while producers can expand their business marketing by displaying all existing products through the catalog provided in the system. With E-commerce, it makes it easier for companies to sell their products, so that they can support the company's performance even better.

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Problem Identification

Based on observations made at the XYZ store regarding the design of the goods sales information system, problems formulate as follow :

There are still weaknesses found in conveying information about goods in this distro. Goods sales transactions are still manual, meaning that two systems have to go to that place to buy something. Following the global information system so that it is not only a means of transactions but more emphasis is placed on promotional means which are felt to be still incomplete.

So how to develop a web-based e-commerce application that can answer the above needs.

Research Purpose

Based on problem identification above the aim of this research is to Design an E-Commerce System for Web-Based XYZ Stores.

Research Methodology:-

E-Commerce

Currently there is no definite definition of E-Commerce that has been standardized and agreed upon, but in general it can be interpreted as E-Commerce, including :

1. E-Commerce is a dynamic set of technologies, applications, and business processes that connect companies, consumers, and certain communities through electronic transactions and electronic trade in goods, services, and information.
2. Electronic commerce is a trading process (sales and purchases) and services carried out by 2 parties via electronic media such as fax, telephone, email and the internet.
3. E-Commerce can also mean advertising, sales, support and the best service using the web 24 hours a day for all customers.
4. The internet's ability to reach new customers and significant cost savings for distribution and customer service are advantages that companies can gain by moving the wheel of commerce value to the internet.

Benefits that can be taken from E-Commerce :

1. New, possibly more promising revenue streams that cannot be found in traditional transactions.
2. Can increase market share.
3. Reduce operational costs.
4. Expand product marketing reach.
5. Improve supplier managers.
6. Increasing the value chain (income chain).

Unified Modeling Language Diagram

A diagram is a graphic that shows model element symbols arranged to illustrate certain parts or aspects of the system. A diagram is part of a particular view and when drawn is usually allocated to a particular view. he types of diagrams include :

Use Case Diagram

A use-case diagram is a graphical depiction of some or all of the actors, use-cases and interactions between these components that introduce a system to be built. Use-case diagrams explain the benefits of a system when viewed from the perspective of people outside the system. This diagram shows the functionality of a system or class and how the system interacts with the outside world.

Sequence Diagram

A sequence diagram is a diagram that shows or displays interactions between objects in a system that are arranged in a sequence or time series. Interactions between these objects include users, displays, and so on in the form of messages.

Acitivity Diagram

Activity Diagram is a diagram that describes the work flow or activities of a system or business process. What is important to note is that activity diagrams describe system activities, not what actors do, so activities that can be carried out by the system.

Class Diagram
A Class Diagram is a diagram that shows or displays the structure of a system. The system will display the class system, attributes and relationships between classes when a system has finished creating a diagram.

System Development Life Cycle
The system development life cycle is the activity steps carried out by application developers to create applications that can be used by organizations.

The system development life cycle consists of several steps, namely :

Planning
At this stage the company will plan business processes to build the required application improvement designs. This action accommodates developers to determine the problems and areas of the existing system, apart from that it also determines the direction of the new system that will be created. In general, the business scheduling process in question includes planning the project implementation schedule, financing, facility requirements, determining the advantages of the application, as well as the application distribution schedule to users.

System Analyze
At this stage, an analyst carries out an analysis and then marks all the details of the effort required to improve the application or prototype or initial model. Also at this stage, an analyst will help the developer to: Determine all the requirements and needs of the prototype system, recognize risks that could occur during development, estimate solutions or options for other prototypes, carry out further solutions with the data obtained to determine what will become end user needs.

System Design
At this stage, the developer, assisted by an application designer, will carry out the design stage. The design stage certainly looks at the results of the analysis and prototype from the previous stage and also the process of explaining the details of the entire software, and certain other perspectives, the design includes: user connections or user interface (UI) System connections, detailed network requirements, database, data flow design, and others.

System Development
The development stage is the determining stage for the overall SDLC implementation. Based on the data collected from design to archiving specifications, problem understanding and application design, developers create program code to start creating software. In this process, the developer is fully focused on the coding stage by following the instructions and programming application language that comply with the design requirements.

System Testing
After the developer has completed the coding stage, the software is not immediately sent to the end user. All stakeholders will first test the software to ensure there are no errors (bugs) in the application code. This testing stage is also carried out by verifying each usefulness of the properties in the application in detail. It is best for each reviewer to record the defects found so that the developer can immediately fix the defects (bugs) found. After the developer fixes any errors or revisions to the UI, stakeholders can test the application again to double check if there are still errors or defects that will affect the software's function. This is done continuously until all requirements are met and there are no errors in the coding.

System Maintenance
The final stage in SDLC is maintenance. This is important because SDLC is a life cycle, because software development does not end when the software is successfully built and delivered to end users or to the market. The developer is obliged to maintain or maintain the usability of the application and test any activities to address problems reported by users. This process can include resolving missed errors before launch or addressing new issues that arise due to user comments. As well as development plans in line with company growth.

Result and Discussion:-

System Development Method
The system design method used to design this application uses the waterfall method. The waterfall process model is a structured system creation process model where the work must be done one by one, in this case only up to the

system design stage. The waterfall method is a method that is often used by system analysts in general. The essence of the waterfall method is work from one stage to the next which is carried out sequentially or linearly. So if step 1 has not been done, then step 2 cannot be done. If step 2 has not been done then step 3 cannot be done, and so on. Step 3 will automatically be done if steps 1 and 2 have been carried out.

System Implementation

When the researcher made observations at Store XYZ, the researcher saw that the sales and marketing process at Store XYZ still used manual methods. Sales and marketing with this application have weaknesses such as a lack of marketing of XYZ Store products to customers and customers who still come directly to buy XYZ Store products which requires quite a lot of time and money, therefore the researcher created an E System Design -Web-based commerce to facilitate the sale and marketing of its products, the use of this application is expected to speed up the work process and make it easier to purchase and market XYZ Stores to customers.

System Design Overview

An overview of the E-Commerce system design at XYZ Store is as follows :

1. Admin Menu :
    1. Dashboard
       On this page the admin can see the number of consumers who come, visit graphs, categories, products and transactions.
    2. Main Menu
       On the main admin menu page there is a website identity menu, website menu, new page, images slider and admin can change and update data.
    3. System Module
       On the System module page there is a menu to view categories, products, account numbers, consumers, suppliers, basket info, orders, payment confirmations, and purchases (stock) such as adding, updating and deleting data.
    4. News Module
       On this page the admin can update news, delete and edit news.
    5. Ads Module
       On this page the admin can edit and delete existing data.

2. User Menu
    1. Home Page
       On this page there are categories presented in this System Design, see all existing products and can see existing information.
    2. Information
       On this page there are two menus, namely the about us menu and how to shop.
    3. Collection
       On this page all products are combined together.
    4. Tracking Order
       On this page, users can view their orders using the invoice code provided by the admin.
    5. Payment Confirmation
       On this page, users can confirm their payment by sending proof of payment through the application.
    6. Cart
       On this page users can view and save products.
    7. Menu
       On this user page there is a menu consisting of user profile, shopping history and logout.

System Function

The functions of designing an E-Commerce application system are as follows :

1. Data Information
   Can provide information about products that have been entered previously.
2. Database
   As a place to store product data.
3. Makes it easier for admins to input product data in product marketing and sales.
4. Make it easier for customers to buy products.

Use Case Diagram

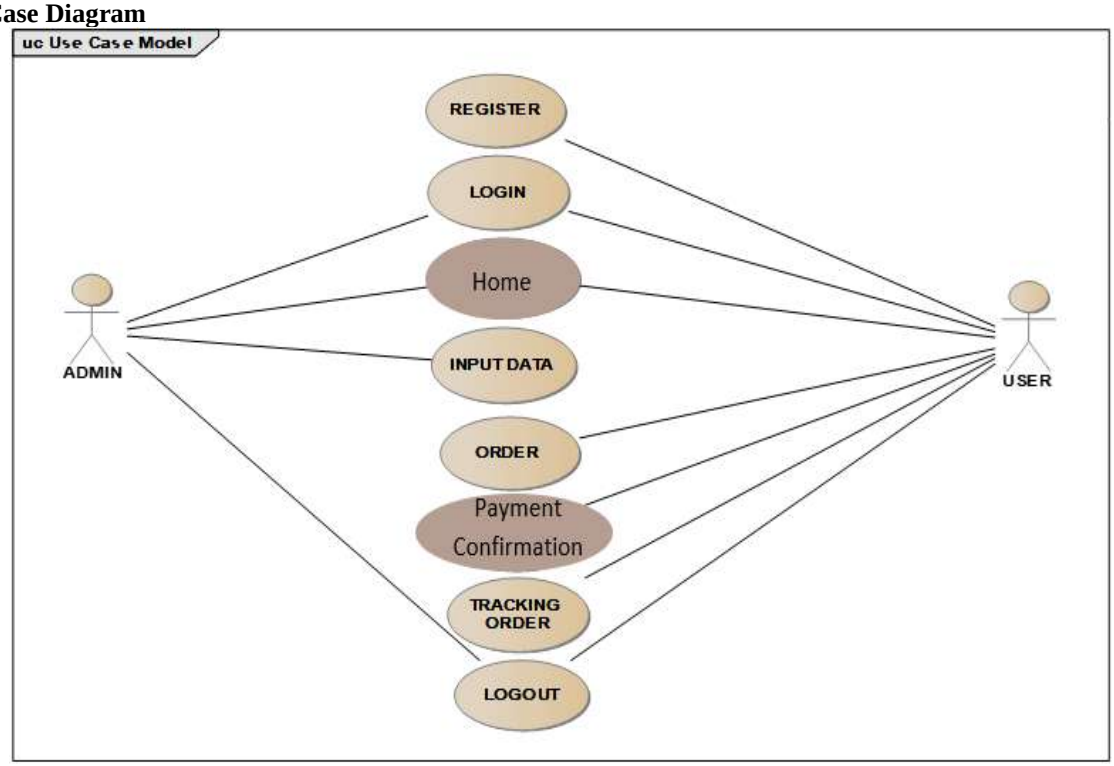

Figure 1:- Use Case Diagram.

Figure 1 displays a use case diagram for Admin and User actors where users can log in, go to the main page, order, confirm payment, track orders, and log out..

Class Diagram

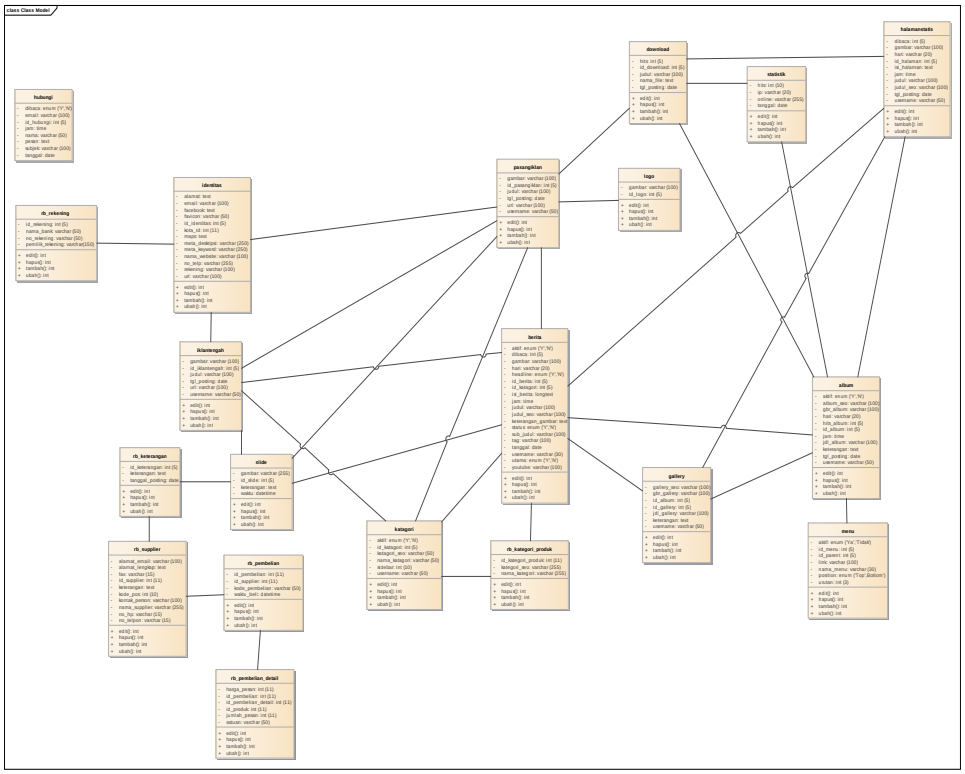

Figure 2:- Class Diagram.

Figure 2 shows the Class Diagram of the E-Commerce System Design for the Web-based XYZ Store.

User Interface Design

Interface design is used to describe the interface of the system that will be created. The following is the design made:

User Login Design Form

Figure 3:-User Login Design Form.

Figure 3 shows the login form which explains the user login design that will be created in the application.

Main Page Design Form

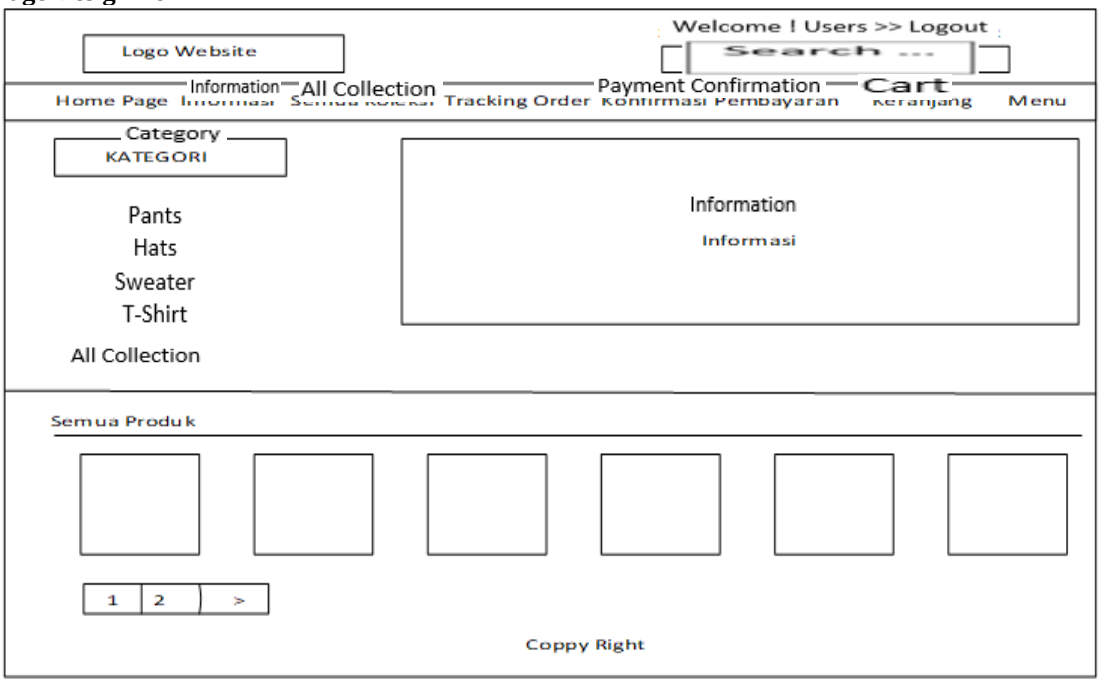

Figure 4:-User Main Page Design Form.

Figure 4 shows the user's main page design form which contains category menus, information, all collections, order tracking, payment confirmation, menus, and all products that will be created in the program..

Order Tracking Design Form

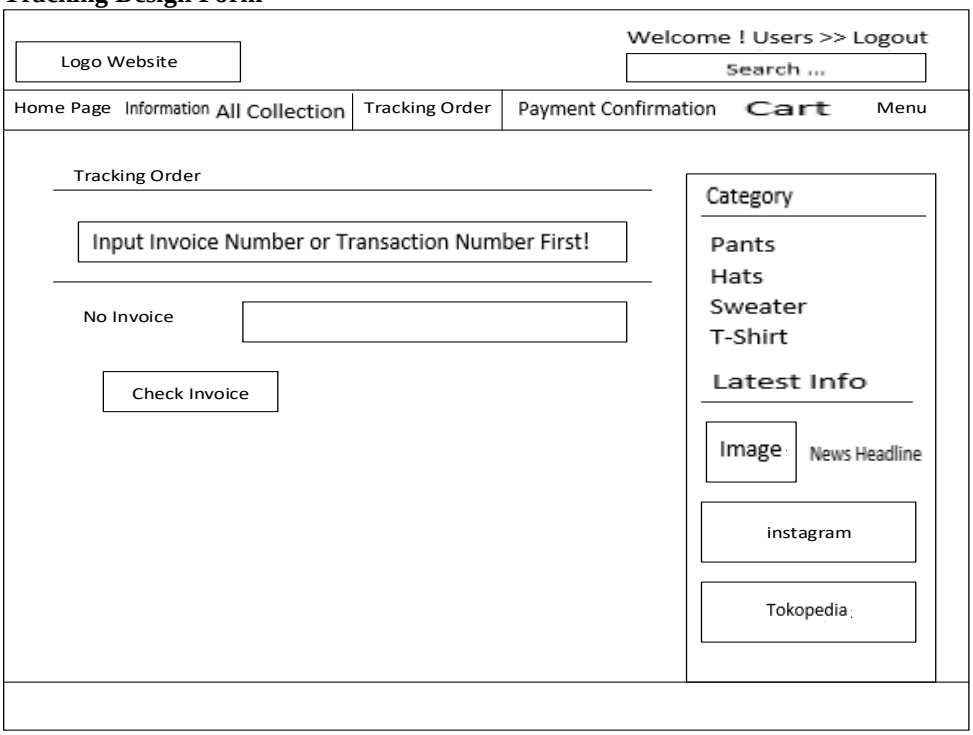

Figure 5:-User Tracking Order Design Form.

Figure 5 shows the Tracking Order user form that will be created in the application.

Payment Confirmation Design Form

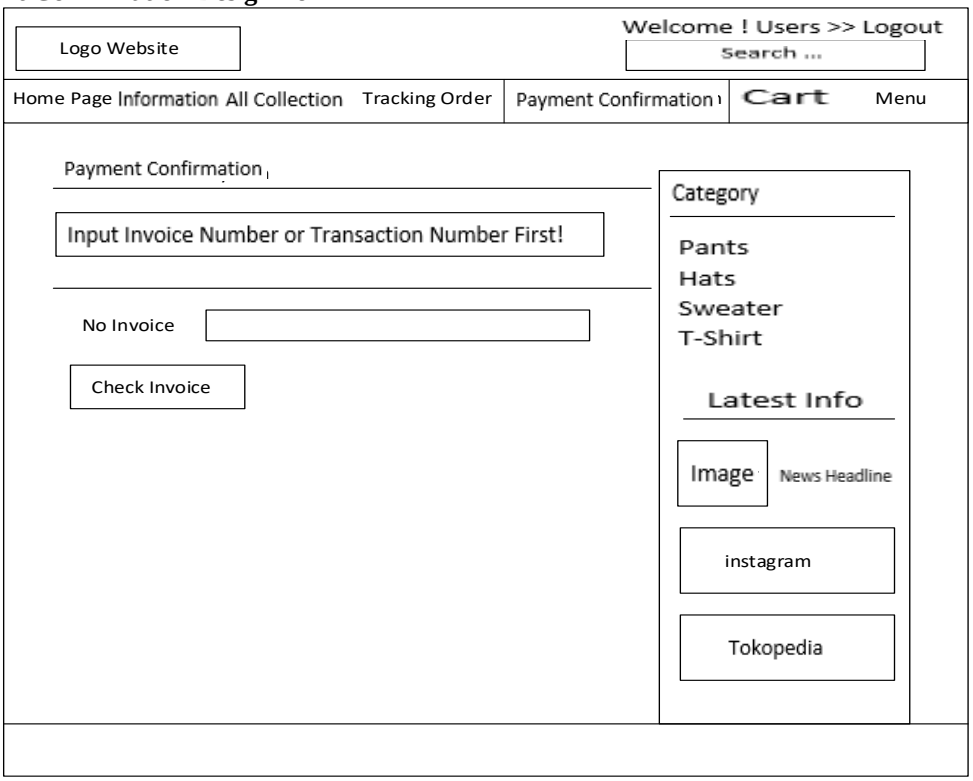

Figure 6:-User Payment Confirmation Design Form.

Figure 6 above shows the payment confirmation design in the application design that will be created.

Admin Design Form

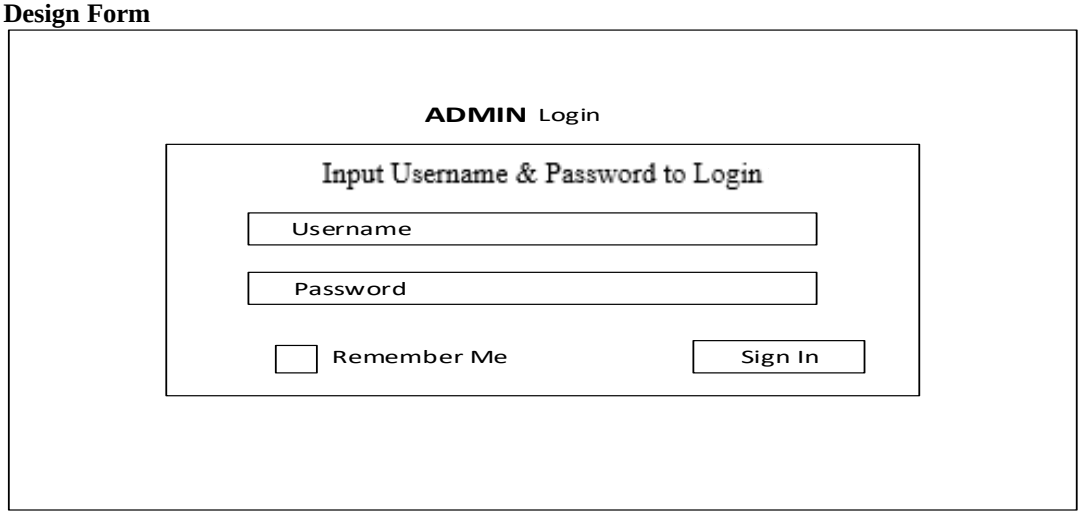

Figure 7:-Admin Login Design Form.

Figure 7 shows the admin login design which consists of entering a username and password that will be created in the application.

Admin Main Page Design Form

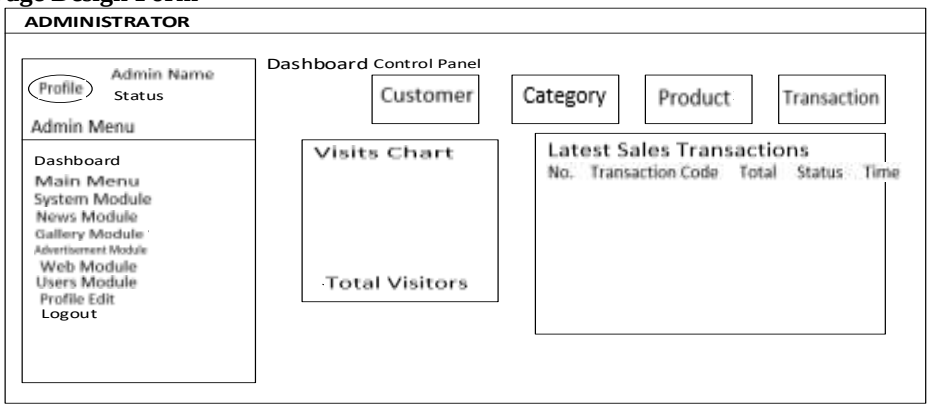

Figure 8:-Admin Main Page Design Form.

Figure 8 shows the design of the main admin page where the name of the admin and the admin status that will be created in the application are displayed.

Conclusion:-

Has succeeded in designing the E-Commerce system for the Web-Based XYZ Store that works well.

Suggestion:-

1. Added a feature that can convey information to all members via WhatsApp, email if there is a special promotional event, product discount or similar event.
2. Completes a credit card or PayPal payment system, making it easier for customers to choose payment options.
3. Adding responsive web design features to make it easier for customers to access the website via mobile phone.

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