Preserves roadway of verdict high-quality gears E-commerce growth using Angular framework

Mrs.P.Swathika [1] Dr.B.Vinothkumar [2]

1 Assistant Professor (Senior Grade), Department of Artificial Intelligence and Data Science,

Mepco Schlenk Engineering College Sivakasi,Tamilnadu, India 626 005.

2 Assistant Professor, Department of Computer Applications, Ayya Nadar Janaki Ammal College, Sivakasi, Tamilnadu, India 626 005.

Abstract:

A HOUSE TO THE HOME" used Angular for the front end and Firebase for the back end. The major goal of the website is for customers to be able to purchase things online. This makes it easier to identify products and allows you to buy and sell physical and digital goods and services online. It keeps track of the things that need to be sold. The goal of this website is to keep all types of materials in order by assisting both the administrator and the user. This website has a list of building supplies available for purchase by customers. This website may be able to save consumers time and money by aiding them in finding high-quality things when they are in need.

Keywords: Angular,Firebase,E-commerce

1. Introduction:

"A HOUSE TO THE House" is a website where customers may purchase building supplies for home improvements. This website allows customers to order products from the comfort of their own homes, and it also houses the materials that the consumer need. The major goal of the website is for customers to be able to purchase things online. It keeps track of the things that need to be sold. This website has a list of building supplies available for purchase by customers. The primary advantages of this website are that it is user-friendly and that it may be updated in the future, which is also feasible when utilizing it. It ensures that all goods that have been enabled and ordered are in good working condition.Today's most common promotion medium is the website. Websites may aid businesses in reaching out to a bigger number of customers over a longer period of time and at a lower cost.The AngularJS framework was chosen because it allows for the creation of a Single Page Application (SPA) website.

2. Literature Review:

The use of the internet, online, and applications to conduct commercial transactions is known as e-commerceA digital exchange between organisations and individuals is used to formalise the transaction. The six categories of e-commerce are Business-to-Consumer (B2C) e-commerce, Business-to-Business (B2B) e-commerce, Consumer-to-Consumer (C2C) e-commerce, Social E-commerce, Mobile E-commerce, and Local E-commerce. Because online transactions are made from online enterprises to individual consumers, the initiative is a B2C e-commerce.

A single-page application (SPA) is made up of individual components that may be changed or amended without having to reload the entire page, saving bandwidth and preventing the

loading of external resources, such as photos or CSS files, every time the page is loaded. The goal is to have the next page load very quickly compared to the usual Request-Response cycle.

AngularJS is a popular framework for developing modern single-page web apps . It is meant to handle dynamic views in the applications. AngularJS is a frontend JavaScript Framework that used to build a Single Page Application uses the Model View Controller (MVC) architecture. The approach used by AngularJS is to extend the functionality of HTML using JavaScript custom attributes tied to the HTML tag. AngularJS ability to expand HTML functionality, enables DOM manipulation becomes easier. It's done through the client-side and two way data binding, when it's synchronizing the model and the view. AngularJS using MVC and dependency injection to facilitate the code structure organizing and testing process. AngularJS has several advantages, that are:

- Provides the ability to develop a clean and maintainable Single Page Application.
- Provides HTML with data binding capabilitiesThe user receives a rich and responsive experience as a consequence. It's also possible to unit test the code.
- Separation of concerns and dependency injection are employed.
- Provides components that may be reused.
- Short code can help developers get more functionality out of AngularJS.
- The business processing is done using controllers written in JavaScript, which are simply HTML pages.

A web service is software that allows two or more programmes to communicate and interact in a program-to-program manner. Simple Object Access Protocol (SOAP) and Representational State Transfer (REST) are the two forms of web services (REST is a sort of API that uses the HTTP protocol to convey data.RESTful web technologies include HTTP, HTML, XML, JSON, URI, and MIME. RESTful Web Services evolved from REST web service architecture.

My Structured Query Language (MySQL) is a database management system (DBMS) that is open source. MySQL is a database application that can be accessed through the internet, allowing it to be utilised by several people. MySQL also has the advantage of adhering to the SQL standard. SQL stands for Structured Query Language, and it has been standardised for all database management systems.

Rapid application development (RAD) is an object-oriented system development technique that involves both a development method and software tools. The goal of RAD is to reduce the time it takes to design a system. RAD is easily adaptable to changing user requirements. The step in the RAD cycles

- Users and analysts meet during the requirements planning phase to determine the application or system's objectives, as well as the information needs that arise from those objectives.
- RAD Design Workshop is a design-and-refine phase that is best described as a workshop. During the RAD design workshop, users respond to actual working prototypes, and analysts refine generated modules in response to user feedback.
- The new systems, or parts of systems, are tested and then brought to the organisation once the previous stage has been decided upon and the systems have been constructed and improved.

User Acceptance Test (UAT) is a type of information system testing that focuses on the end-user or system owner's perspective. The goal of user acceptance testing (UAT) is to create systems that can deliver the desired business advantages when operated by users. UAT is broken down into two stages: alpha and beta testing. Alpha testing is a series of tests performed by the developer to guarantee that the programme is free of errors. End-users do beta testing by entering actual data and detecting visible mistakes.

Black box testing, often known as behavioural testing, is one form of testing approach. Software functional testing is the emphasis of black box testing. Black box testing, as the name implies, allows programmers to define input circumstances that will be tested on the programme function. The four testing design approaches utilised in black box testing are equivalence classes, boundary value analysis, intended outcome coverage, and intuition & experience In this study, the expected outcomes coverage design technique is applied a strategy that focuses on the expected output results of the different input types.

3. Result and Analysis:

3.1 Requirements Planning Phase

This research seeks to create e-commercewebsite.com, which is available on a variety of platforms and simplifies the process of product promotion and ordering.

Figure 1: The proposed business process

The suggested business process is depicted in Figure 1. It begins when a product is uploaded by an administrator, and customers explore and order items through the internet. The buyer must make a payment at an ATM and submit a payment confirmation over the internet. When the order is delivered, the admin will update the order status and provide a receipt number. The buyer may follow the shipment on the shipping company's website. We need minimum prerequisites to achieve the aim,Actors include admin, member, and guest, according to business process analysi**s.**

Database Design Data from the new management menu is stored in the news table.. Other tables are utilised in the ecommerce transaction process.

Backend design. Backend systems are built from various classes. Data is stored using Firebase database.

Frontend design. Frontend design is represented by Unified Modelling Language (UML). UML used is use case and activity diagram.

The buyer may purchase the merchandise online, which is how the project worksDuring the course of the project, the user must sign in. There are two methods to sign in: one is to enter your email address and password, and the other is to use Google. Then there's the home page,

which lists all of the things available. The user may locate things using the search tool and then add them to their shopping cart. In addition, the user may create a wrist list from them. After that, the customer went to the Add to Cart part and purchased the products in the Cart section. This website adds items, and we can download the receipt as a pdf once the customer pays. As a backend, Firebase is useful.
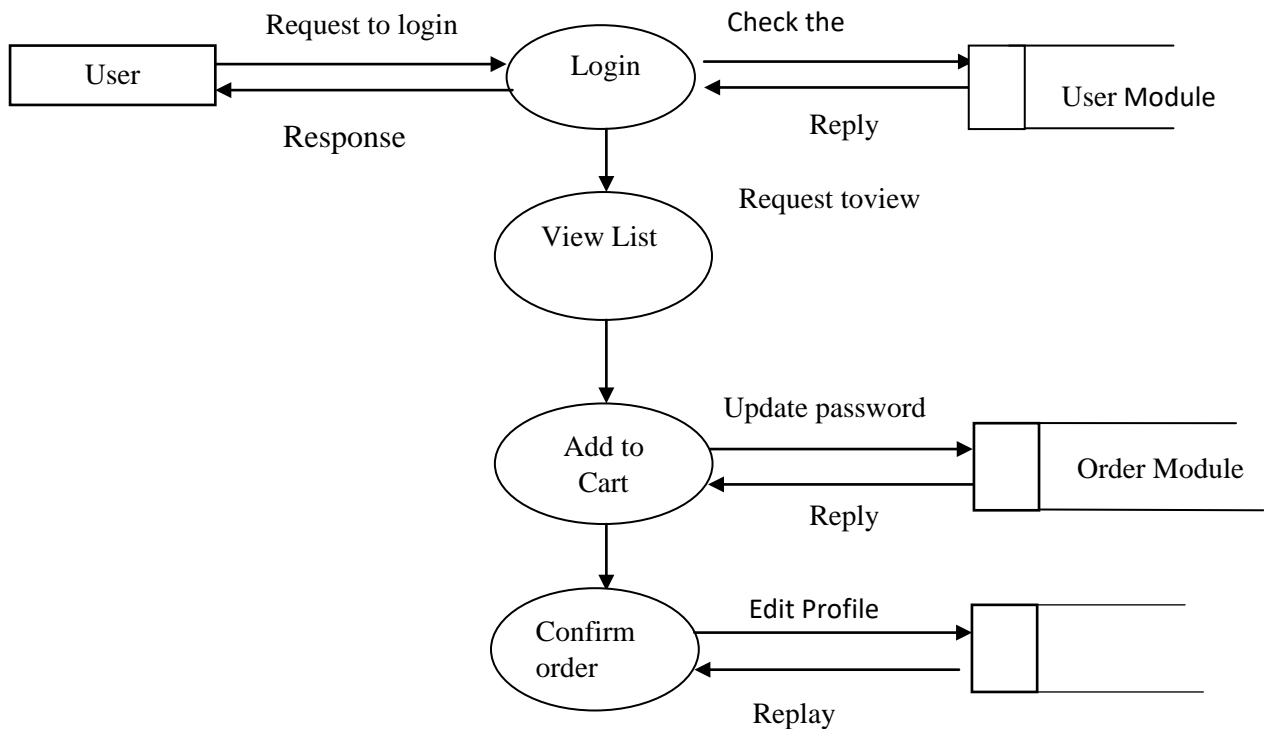

Figure 2: User Module

The activity diagram is representing of activity flow in the system, about how the flow is started until ended. The website may examine the user's cart list after they have logged in. The administrator can inspect and analyze items, as well as add and update products that are required by customers. The administrator is the person who receives the orders placed by customers and checks the customer's information for delivery purposes. The administrator can keep track of the things that the consumer need and organize them for easy shopping. A person who has the capacity to make another user an admin is known as an admin.

Interface Design: This is the most crucial step in the buying process. Users may search for products by name or category on the product page. Users select a product by tapping the buy button, and it is subsequently added to their shopping cart. To increase or decrease the quantity of commodities, use the plus (+) or minus (-) buttons. The user can empty all of the contents of the baskets by pressing the clear button. When the user is through shopping, he or she can go to the checkout page.

4. Implementation phase

4.1 web realization

Product page, shopping cart page, and checkout page are the three pages that make up the shopping area.Users can change the number of things to be purchased on the Shopping Cart page. Data from purchased products will be saved in the local storage browser and loaded by another website. Login, shipping form, and bill are the three components of the checkout page.
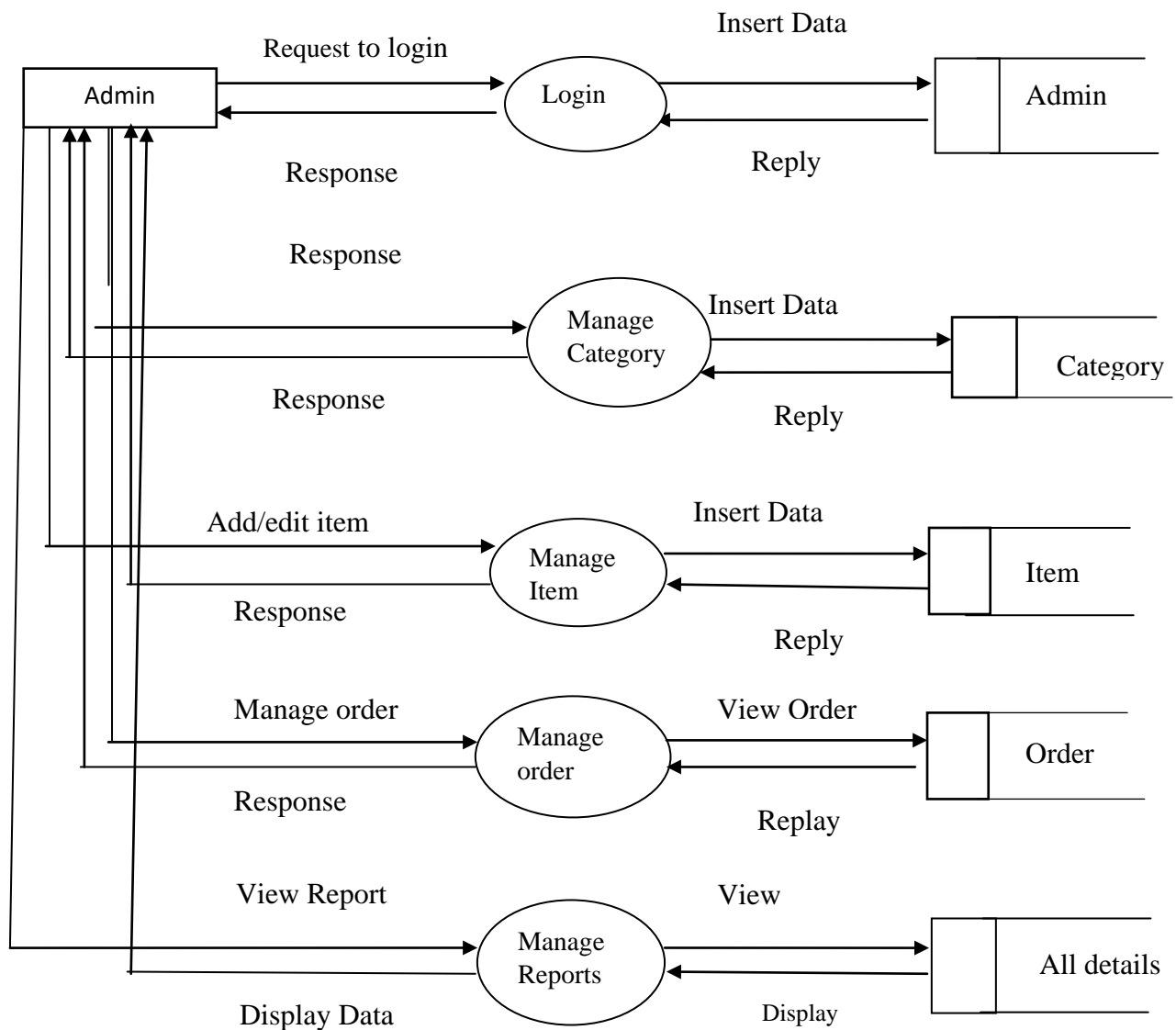

Figure 3: Admin Module

Conclusion:

This project, dubbed "A HOUSE TO THE HOME," was successfully completed. It assists me with gaining useful information and practical expertise on a variety of topics, including web page creation using HTML, CSS, and BOOTSTRAP, and database management using FIREBASE.This website is simple to use and adaptable. By utilizing this website, users will

be able to purchase things more easily, and administrators will find it simpler to maintain the website, add products, and add users as administrators. The key benefit of the product is that it allows users to obtain payment receipts in pdf format. This website is adaptable to any future changes. This webpage is easily adaptable to that capability. This system has been meticulously examined, created, and built, and it can be implemented without any flaws or problems.

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