

Online Grocery Shopping

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Abstract. This project entitled as “ONLINE GROCERY SHOPPING” is a website developed for a Cement Store. This has been developed using HTML, CSS, and JAVA SCRIPT as the front end and PHP, and SQL as the back end. The objective of the project is to provide customers with a company over the internet. If the new user wants to login into the website, the user must need to Register on the website to get the login id and Password. After getting the login id and Password the user can log in to the website. Once the user enters the web site, they can view the Products. The user can access the product details by clicking the product. The product details contain Name, Quality, Type, and Prize that can be viewed Product details by the User. The user can only view the Product and the Details on the website. If they want to Order the Product, they have to Contact the admin using the Contact Number. Delivery and payment is done in person.

Keywords: Grocery shop, shopping cart, online supermarket.

1. Introduction

This project is a web-based shopping system for an existing shop. The project objective is to deliver the online shopping application into android platform. Online shopping is the process whereby consumers directly buy goods or services from a seller in real-time, without an intermediary service, over the Internet. It is a form of electronic commerce. [5][6] This project is an attempt to provide the advantages of online shopping to customers of a real shop. It helps buying the products in the shop anywhere through internet by using an android device. Thus, the customer will get the service of online shopping and home delivery from his favorite shop. This side is for member who do not have enough time to purchase vegetable and fruits customers gets the freedom to buy organic and hygienic fruits and vegetables and other home products at their doorsteps as it becomes time saving for customers. [2][3] The paper proposes to organize the vegetable market and bring about a change in the way things work. Milk, one of the products that is highly dependent on the rural section of the country has developed into such an efficient system that ensures that every household in the country gets fresh milk early in the morning with all due remuneration to the producers. [8][7]

2. Objective

The purpose of this study was to examine what kind of factors that can influence consumers’ intention and how do Swedish consumers evaluate these factors to purchase grocery products through the Internet. E-commerce has been a widespread environment for consumers and online shopping also becomes more and more popular nowadays. However, in Sweden, although there is huge number of online users, online grocery shopping is still in an early stage. [1][4]

3. Existing System

It was a manual process in the existing system. In that system different organization could maintain their records manually and it leads a long-time process. It was very difficult to handle and to get the profit over the products. [9] [10]

Disadvantage

- The records were maintained through excel sheets.
- They can't use it in multiple systems.
- The Client can view the product in person.
- Customers don't know about the availability of the products before coming to the industries

4. Proposed System

This proposed system "Grocery shop website" solve all the problems that are faced by the existing system. In this system the Organization need not maintain their records manually. In this system all process is done on line.

Advantages

- From anywhere admin can know the different statement details.
- It takes less time
- It's very easy to maintain and display the Grocery items
- The admin can see all the orders to be process
- To display all the updated information
- Customers will choose their products
- Easy to maintain their records.

5. Module Description

There are the following modules given below

5.1 Admin Module

- **Login:** In this module, the Admin will have a username and password for maintaining their account. The purpose of username and password is for authentication process.
- **View User:** In this module, the admin will view the user details such as user name, contact, mail id, address etc.
- **Add Product:** The Android application for grocery store will consists of different kind of products. The products can be classified into different categories by name. Admin can add new products into the system with all its details including an image.
- **View customer:** The admin will have a list view of all the users registered in the system. Admin can view all the details of each user in the list except password.

- **View payment details:** The admin will view the customer or user order details and payment details. Description of a particular product with product name, products details, product image, and price can be viewed by users.

5.2 User Module

- **Register:** In this module, people will register their entire details such as name, address, mail id, contact etc.
- **Login:** A user must login with his user name and password to the system after registration.
- **View Products:** A user can view the list of products based on their names after successful login. A detailed
- **Search Product:** Users can search for a particular product in the list by name.
- **Add to cart:** The user can add the desired product into his cart by clicking add to cart option on the product.

6. Data Flow Diagram

A Data flow diagram (DFD) is a graphical representation of the “flow” of data through an information system. DFD can also be used for the visualization of data processing (structured design). On a DFD, data items flow from an external data source or an internal data store or an external data sinks, via an internal process.

LEVEL 0: Figure 1 represents DFD Level 0 is also called a Context Diagram. It’s a basic overview of the whole system or process being analyzed or modeled. It’s designed to be an at-a-glance view, showing the system as a single high-level process, with its relationship to external entities. It should be easily understood by a wide audience, including stakeholders, business analysts, and data analysts.

LEVEL 1: Figure 2 represents DFD Level 1 which provides a more detailed breakout of pieces of the Context Level Diagram. You will highlight the main functions carried out by the system, as you break down the high-level process of the Context Diagram into its sub – processes.



Figure 1: Level 0 – DFD.

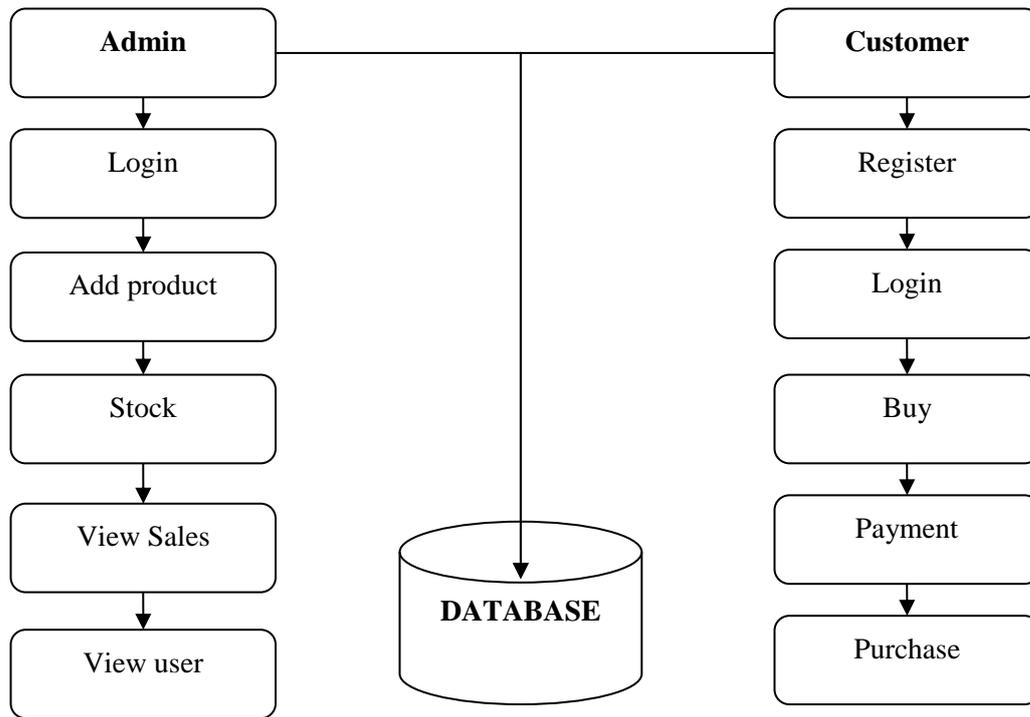


Figure 2: Level 1 - DFD

ER Diagram

In software engineering, an entity–relationship model (ER model) is a data model for describing the data or information aspects of a business domain or its process requirements, in an abstract way that lends itself to ultimately being implemented in a database such as a relational database. The main components of ER models are entities (things) and the relationships that can exist among them. Figure 3 represents the ER diagram of order form.

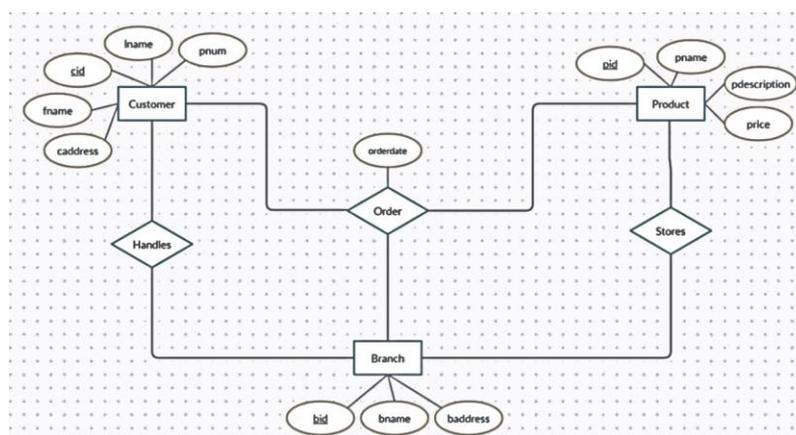


Figure 3: ER Diagram.

7. Input Design

Input design is the process of converting a user-oriented description to the system understandable formats. Here both mobile phone and PC involved in the input design.

Customer Registration: The customer registration form is used to register the Customer for this website, it contains the values such as full name, address, contact, email id, username, password.

Login Details: Login form will allow the admin and the customer to give input values such as username and password. If the user login the website it shows the home page of the website, the admin login the website it will show the admin panel of the website.

Product Details: Item details form will ask the admin to give input values such as item name, item price, item description, item image etc. it will show the home page for the customers.

8. Output Design

The output design is GUI based activity; almost from the beginning of the project this project provided a best user interface model. Effects and well define an output design improve the relationship of system and the user, thus facilitating decision making for both seeker and provider.

Product Details: Product details means it contains the details for the products purchased by the customer, it contains the following details such as product name, price, quantity, image will be displayed for the Admin and the User.

9. Database Design

The relationships between these entities can be represented using a relational database model

Table 1 details: Table Name: User account

Table 1: User account.

Column Name	Datatype
Name	Varchar(50)
Email	Varchar(50)
Password	Varchar(50)
Confirm Password	Varchar(50)

Table 2 details: Table Name Admin account

Table 2: Admin_account

Column Name	Datatype
Email	Varchar(50)
Password	Varchar(50)

10. Test Case

Testing is a series of different tests that whose primary purpose is to fully exercise the computer-based system. Although each test has a different purpose, all work should verify that all system element has been properly integrated and performed allocated function. Testing is the process of checking whether the developed system works according to the actual requirement and objectives of the system.

The philosophy behind testing is to find the errors. A good test is one that has a high probability of finding an undiscovered error. A successful test is one that uncovers the undiscovered error. Test cases are devised with this purpose in mind. A test case is a set of data that the system will process as an input. However, the data are created with the intent of determining whether the system will process them correctly without any errors to produce the required output.

Types of Testing:

- Unit testing
- Integration testing
- Validation testing
- Output testing
- User acceptance testing

Unit Testing

All modules were tested and individually as soon as they were completed and were checked for their correct functionality.

Integration Testing

The entire project was split into small program; each of these single programs gives a frame as an output. These programs were tested individually; at last all these programs where combined together by creating another program where all these constructors were used. It gives a lot of problem by not functioning in an integrated manner.

The user interface testing is important since the user has to declare that the arrangements made in frames are convenient and it is satisfied. When the frames where given for the test, the end user gave suggestion. Based on their suggestions the frames where modified and put into practice.

Validation Testing

At the culmination of the black box testing software is completely assembled as a package. Interfacing errors have been uncovered and corrected and a final series of test i.e., Validation succeeds when the software function in a manner that can be reasonably accepted by the customer.

Output Testing

After performing the validation testing the next step is output testing of the proposed system. Since the system cannot be useful if it does not produce the required output. Asking the user about the format in which the system is required tests the output displayed or generated by the system under consideration. Here the output format is considered in two ways. One is on screen and another one is printed format. The output format on the screen is found to be corrected as the format was designed in the system phase according to the user needs. And for the hardcopy the output comes according to the specifications requested by the user.

User Acceptance System

An acceptance test as the objective of selling the user on validity and reliability of the system. It verifies that the procedures operate to system specification and mat the integrity of vital is maintained.

11. Conclusion

The “Grocery shop website” was successfully completed and then tested. Almost all the objectives of the project were met and thereby a trial run of the project giving sample data gives good result. This system has been developed to reduce the manual work and to reduce the waste of time. This system can adopt any changes in the future also. Thus, this software is developed successfully to fulfill the objectives and satisfies the requirements of the user. In addition, this is efficient, reliable and secure to use and work with.

12. Future Enhancement

The preventive situation due to Covid-19 imposed a ban on movement and the need to distance. Here appears the importance of having a mobile app for sale via the Internet that provides an easy and safe way to shop and reduce the trouble of moving between markets. You can have different brands' products in various components of a country, or possibly globally instead of being restricted by geography. The current application lets you shopping while you are at your home and a convenient way to shop at any time in the morning or evening and from anywhere, quickly and safely. It also saves the hassle of moving between stores and browsing various goods in one place and at competitive prices lower than the price in the supermarket with the constant offers of cheap deals. Future directions for the development of the application are to link the tab with the most significant number of international stores to provide various goods of number, type, and classification. The application also connects with delivery companies globally and locally for faster delivery. Marketing the application locally and globally will increase the number of users, leading to an increase in demand, supply, and exchange of ideas to improve services.

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