

CS 6314.002

WEB PROGRAMMING LANGUAGES

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PROJECT REPORT

ARPA Grocery Store

(Online grocery store)

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1. INTRODUCTION

Ever since the evolution of smart technology, it has been way easier to access data online through various devices, be it for work, or for entertainment. Advance in technology eases people from doing some mundane tasks. Online grocery store is one which helps people to get groceries to their door step on one click. It facilitates customers to view products available online, submit online orders for items and/or services from a store that serves both walk-in customers and online customers.

This web based application helps customers to choose their daily needs and add products to their shopping cart. Our project is to build one such online Grocery store named "ARPA GROCERY STORE".

2. PROJECT DESCRIPTION

This project has been divided in to two modules namely admin module and customer/user module.

- **Administrator**

When the web user sign in as an administrator, he/she acquires the access rights to add new brands, add new products, delete the existing product and can also update the existing product details. The administrator also can also view/edit the details regarding the quantity of grocery products in stock. The groceries added by the administrator will be visible both to the administrator and the regular website customers/visitors. Administrator can also filter the products based on categories and brands which enables admin to easily choose the product which he/she wants to update or delete.

- **User**

All users can view the homepage of the website, for a user to purchase any product he/she needs to be registered and have an online account. If the user had already

registered on the website and have an account, he/she needs to provide login credentials and login before making any purchases or adding a product to cart. All the products available would be listed on the homepage. All these products can be filtered using brand names and categories. Also, a search engine is provided which facilitates the user to search for a specific product as per his requirements. User can add product to cart, update the products in cart and can also delete the products from the cart. After making the necessary changes in cart, user has to checkout to place an order. When an order is placed, details of the products purchased will be stored in the database. Once an order has been placed, cart gets cleared and user can place next order. All the orders placed by a customer can be viewed in order history.

3. PROJECT FEATURES

This project facilitates many functionalities which user admin can perform. Detailed description of the functionalities is given below:

a. User functionalities:

- **Index page:** This is the first page we comes up when website is opened (i.e Home page). It displays all the products available with product image, title, price details with an add to cart option below. On this page, users can not add an item to cart or make any purchases until theyare logged in. For that purpose, user needs to sign in using his/her login credentials.This page will also have sign in and signup links.
- **Signup:** User needs to have an online account(registered user) to place the orders or add a product to cart. If the user doesn'thave an account, he needs to create an account online before making any purchases. For the registration purpose, a form is provided in which the userneedsto enter username, first name, last name, email address and password. The data provided in each of the above-mentioned fields is validated using jQuery. User availability and email availability will be checked when user clicks on submit button on registration form. If the username is already present

error message will be displayed indicating username already exists. Then user must provide a different username. Once all the validation of all the fields succeeds user will be registered successfully with the store.

- **Login:** User needs to enter username and password. If username and password provided are valid then user will be successfully logged into website. Otherwise, error message will be displayed.
- **Home Page:** This page displays all the available products along with its name, price, image and an add to cart button for each product. As this page can be viewed only after logging in, user can add products to cart, checkout and place orders.
- **Filters:** We can filter the grocery products based on their category (fruits, vegetables, etc) or brands (Great Value, Dannon, Vaseline, Organic etc)
- **Search:** Users can search through the products using search keywords. These keywords are provided along with the product details by admin when he adds the product to the store. Product search keywords include product name, brand and the product related keywords which can make the searching process much more efficient.
- **Cart:** Every product has an add to cart button below it. By clicking this button, the grocery product is added to the user's cart. The user can find the product added to cart by clicking on the cart link. We can also delete or update product quantity before checkout. After the user checks out, an order is placed and cart is cleared.
- **Order history:** A user can view the products he ordered/purchased before, along with order date in the order history.
- **Log out:** This option can be used to log out the user from the portal.

b. Administrator functionalities:

Admin sign's in using his/her login credentials. On successful login, he can view all the products available in the database. The functionalities being implemented by admin are

adding a product, updating product details, deleting a product. Admin can also add new brands.

- **View products:** Admin can view all the products stored in the database.
- **Add products:** To add a new product, admin provides details like product title, product price, available product quantity, product image, product brand, product category and product search key words.
- **Update Product:** Administrator has the access to update all the product details. This functionality helps administrator to update the price of a product from time to time so store product price matches with the market price. Also, it enables to provide discounted price for special occasions. It also enables to update other details like product title, quantity, image, brand and category. Product quantity updation will be useful when the inventory is empty and more stock arrives. In these scenarios admin can update the inventory when new stock arrives.
- **Delete Product:** Administrator is given all the rights and privileges to delete any product from the database. The deleted product is not showed on the user interface anymore. This functionality will be useful when the production of product is stopped or banned due to certain reasons. In these scenarios admin can delete it so that will not be able to purchase it.
- **Logout:** When admin logs out, page will be redirected to index page where the home page/index page will be displayed.

C. Other Functionalities:

- **Inventory Management:** As soon as the user places an order for a product, we update the total quantity of the ordered product in the database.
- **Soft delete:** When a product ordered by the user is deleted by the admin in the later stages, user can still view the product in his order history. But a message that the *item is not available* is displayed beside the product details.
- **Pagination :** If the number of products displayed is greater than 10 then they will be displayed in multiple pages.

4. DATABASE DESIGN

The below tables have been created to store the grocery store data.

Relational schema:

USERS(USERNAME, FIRST_NAME, LAST_NAME, EMAIL, PASSWORD)

BRANDS(BRAND_ID, BRAND_TITLE, BRAND_DESCRIPTION)

CATEGORIES(CAT_ID, CAT_TITLE, CATEGORY_DESCRIPTION)

PRODUCTS(PRODUCT_ID, PRODUCT_CAT, PRODUCT_PRICE, PRODUCT_TITLE ,
PRODUCT_IMG, PRODUCT_BRAND , PRODUCT_KEYWORDS, PRODUCT_QUANTITY ,
PRODUCT_FLAG)

CART(ID, USERNAME, PRODUCT_ID ,QUANTITY_IN CART ,TOTAL_AMOUNT)

ORDERS(ORDER_ID, USERNAME, ORDER_DATE , TOTAL_AMOUNT)

ORDER_ITEMS(ORDER_ID, PRODUCT_ID , QUANTITY_ORDERED ,PRICE,ORDER_FLAG)

TABLES:

USERS TABLE:

```
CREATE TABLE USERS(  
    USERNAME VARCHAR(50) NOT NULL,  
    FIRST_NAME VARCHAR(200),  
    LAST_NAME VARCHAR(200),  
    EMAIL VARCHAR(200),  
    PASSWORD VARCHAR(200),  
    PRIMARY KEY(USERNAME));
```

BRANDS TABLE:

```
CREATE TABLE BRANDS(  
    BRAND_ID INT NOT NULL,
```

BRAND_TITLE VARCHAR(200) NOT NULL,
BRAND_DESCRIPTION VARCHAR(200),
PRIMARY KEY(BRAND_ID));

CATEGORIES TABLE:

CREATE TABLE CATEGORIES(
CAT_ID INT NOT NULL,
CAT_TITLE VARCHAR(200) NOT NULL,
CATEGORY_DESCRIPTION VARCHAR(200),
PRIMARY KEY(CAT_ID));

PRODUCT TABLE:

CREATE TABLE PRODUCTS(
PRODUCT_ID INT NOT NULL,
PRODUCT_CAT INT NOT NULL,
PRODUCT_PRICE NUMBER(9,2),
PRODUCT_TITLE VARCHAR(200),
PRODUCT_IMG VARCHAR(200),
PRODUCT_BRAND INT NOT NULL,
PRODUCT_KEYWORDS VARCHAR(200),
PRODUCT_QUANTITY VARCHAR(200),
PRODUCT_FLAG VARCHAR(10),
PRIMARY KEY(PRODUCT_ID),
CONSTRAINT BRAND_FK FOREIGN KEY(PRODUCT_BRAND) REFERENCES
BRANDS(BRAND_ID)
ON DELETE CASCADE,
CONSTRAINT CATEGORY_FK FOREIGN KEY(PRODUCT_CAT) REFERENCES
CATEGORIES(CAT_ID)

ON DELETE CASCADE);

CART TABLE:

```
CREATE TABLE CART(  
    ID INT NOT NULL,  
    USERNAME VARCHAR(200) NOT NULL,  
    PRODUCT_ID INT NOT NULL,  
    QUANTITY_PURCHASED INT,  
    TOTAL_AMOUNT NUMBER(9,2),  
    PRIMARY KEY(ID),  
    CONSTRAINT USER_FK FOREIGN KEY(USERNAME) REFERENCES  
    USERS(USERNAME)  
    ON DELETE CASCADE,  
    CONSTRAINT PRODUCT_FK FOREIGN KEY(PRODUCT_ID) REFERENCES  
    PRODUCTS(PRODUCT_ID)  
    ON DELETE CASCADE);
```

ORDERS TABLE:

```
CREATE TABLE ORDERS(  
    ORDER_ID INT NOT NULL,  
    USERNAME VARCHAR(200) NOT NULL,  
    ORDER_DATE DATE,  
    TOTAL_AMOUNT NUMBER(9,2),  
    PRIMARY KEY(ORDER_ID),  
    CONSTRAINT USERS_FK FOREIGN KEY(USERNAME) REFERENCES  
    USERS(USERNAME)  
    ON DELETE CASCADE);
```

ORDER ITEMS TABLE:

```
CREATE TABLE ORDER_ITEMS(  
    ORDER_ID INT NOT NULL,  
    PRODUCT_ID INT NOT NULL,  
    QUANTITY_ORDERED INT,  
    PRICE NUMBER(9,2),  
    FLAG VARCHAR(10),  
    PRIMARY KEY(ORDER_ID,PRODUCT_ID),  
    CONSTRAINT PRODUCT_FK FOREIGN KEY(PRODUCT_ID)  
    REFERENCES PRODUCTS(PRODUCT_ID)  
    ON DELETE CASCADE);
```

5. TECHNOLOGIES USED

HTML, CSS and Bootstrap have been used to develop html pages on front end. Client side form validation is done using **jQuery**. **AJAX** has been used to make server side calls from client side. **MYSQL** has been used for database. **MAMP** server has been used for PHP and MySQL.

6. SCREENSHOTS

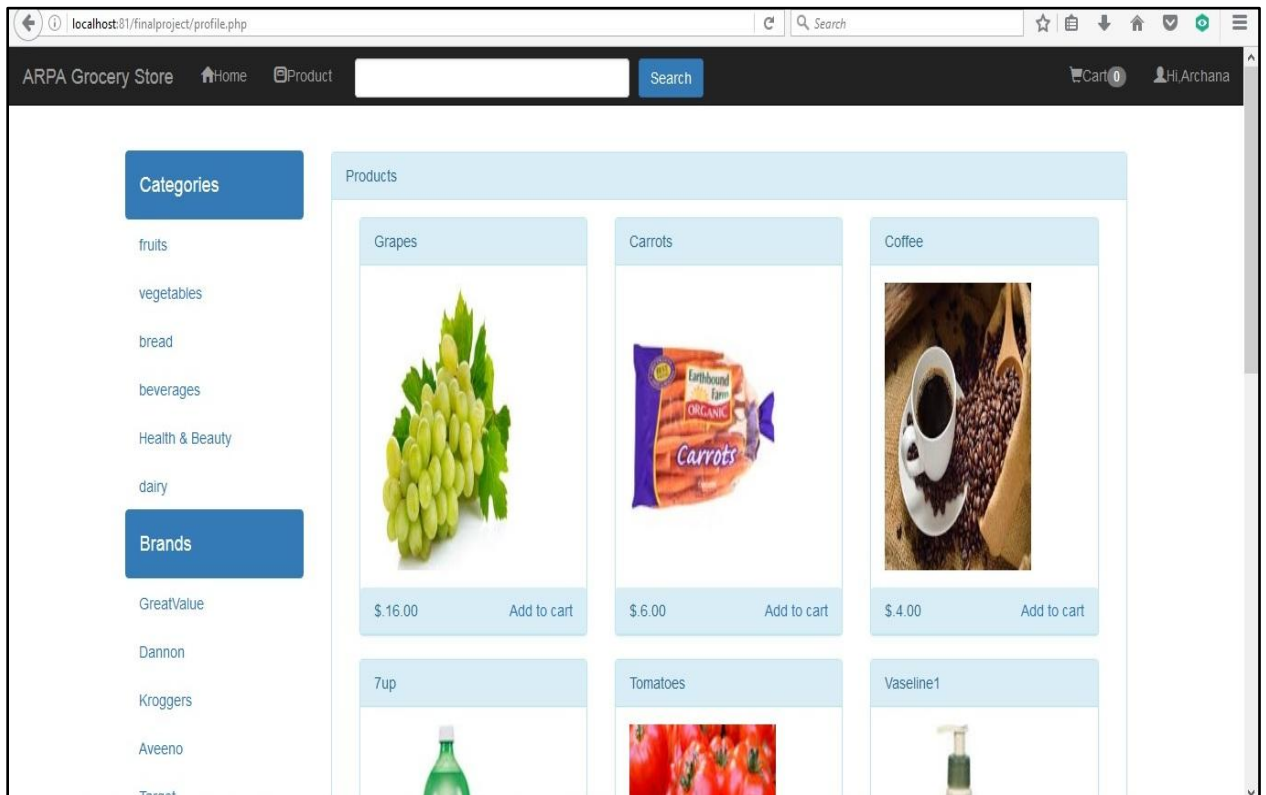
Registration Page:

The screenshot shows a web browser window with the URL `localhost:81/finalproject/reg.html`. The page has a dark header with the text "ARPA Grocery Store" and navigation links for "Home" and "Product". Below the header, the main content area is titled "Sign in". It contains a registration form with the following fields: "Username:" (placeholder: "Enter username"), "firstname:" (placeholder: "Enter firstname"), "Lastname:" (placeholder: "Enter lastname"), "email:" (placeholder: "Enter email"), "Password:" (placeholder: "Enter password"), and "Confirm Password:" (placeholder: "Confirm password"). A "Submit" button is located at the bottom of the form.

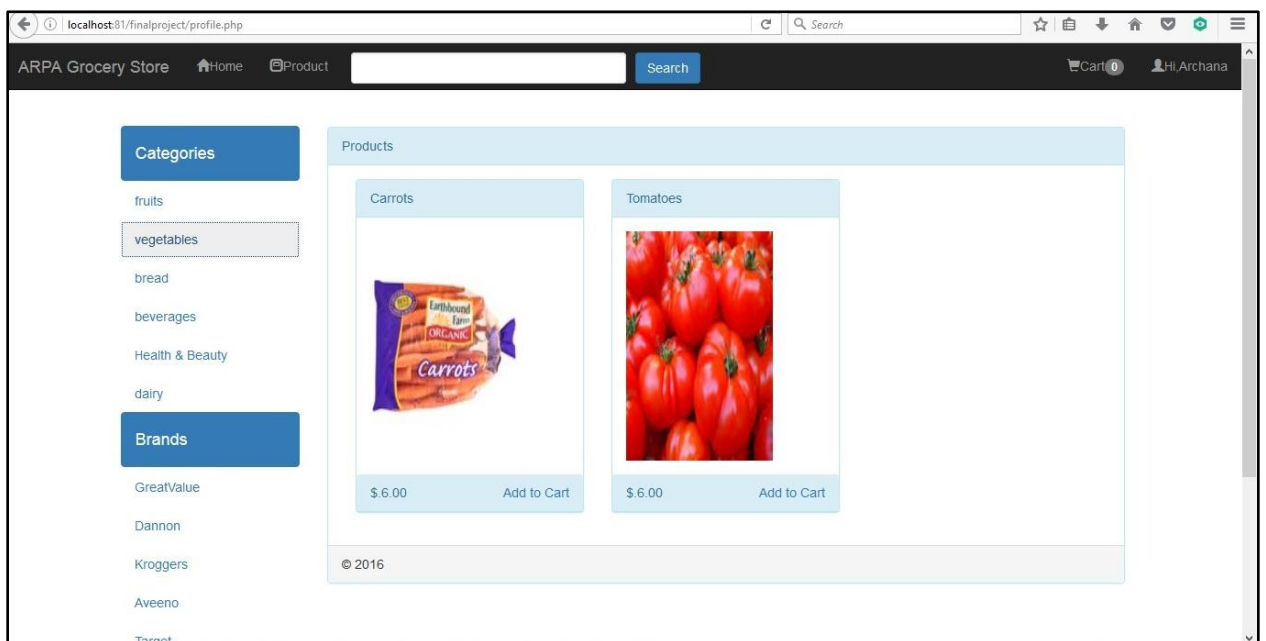
Login Page:

The screenshot shows a web browser window with the URL `localhost:81/finalproject/index.php`. The page has a dark header with the text "ARPA Grocery Store" and navigation links for "Home" and "Product". A search bar is located in the header. On the right side of the header, there are links for "Cart", "Signin", and "SignUp". The main content area is divided into three sections: "Categories", "Brands", and "Products". The "Categories" section lists: fruits, vegetables, bread, beverages, Health & Beauty, and dairy. The "Brands" section lists: GreatValue, Dannon, Krogers, and Aveeno. The "Products" section displays a grid of products with their prices and "Add to cart" buttons. The products shown are: Grapes (\$16.00), Carrots (\$6.00), 7up (\$4.00), Tomatoes, and Vaseline1. A blue "Login" modal is overlaid on the right side of the page, containing fields for "Username:" and "Password:", and a "Submit" button.

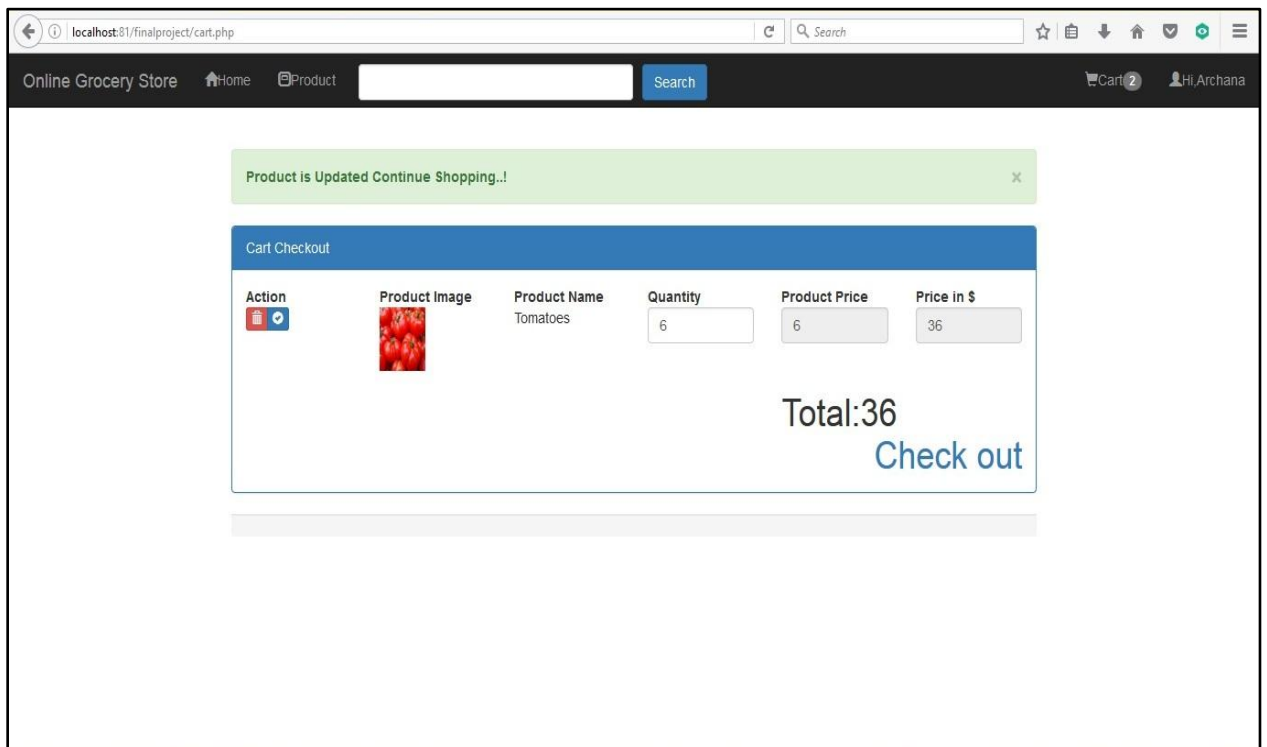
Home Page:



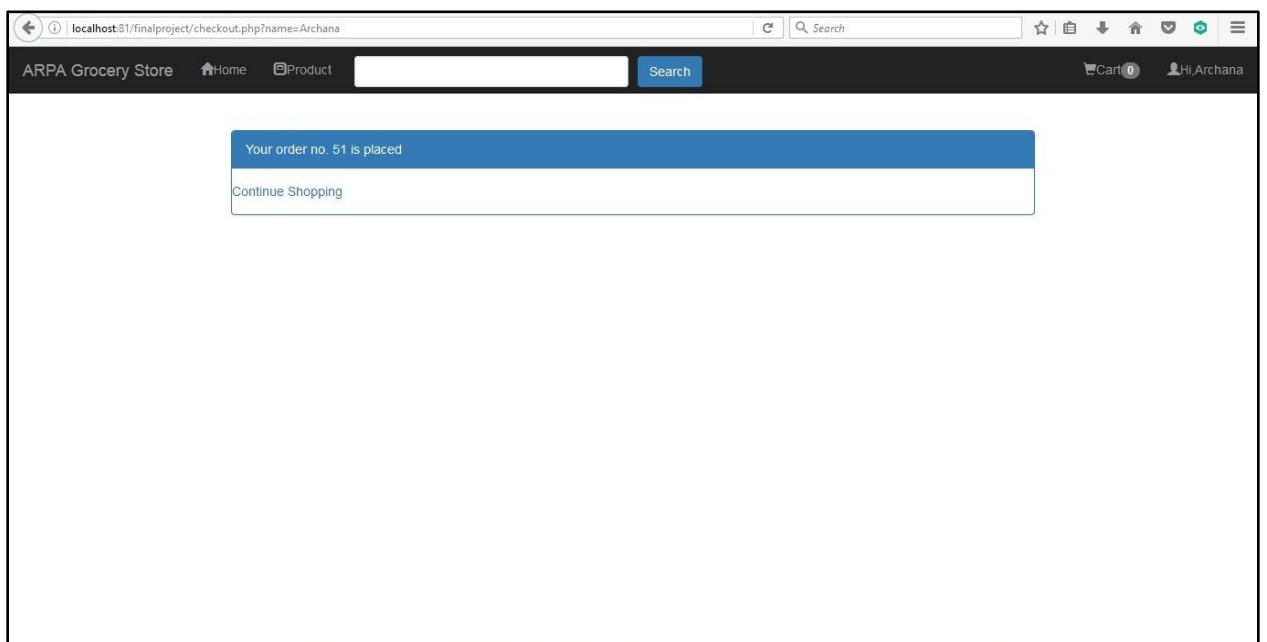
Filtering Products:



Cart Page:



Order Page:



Order History:

localhost:81/finalproject/orderhistory.php?name=Archana

ARPA Grocery Store Home Product Search Cart 0 Hi, Archana

Order_id	order_date	Product Name	Quantity	Product Price	Total_Price
37	2016-12-05	Apple	1	10	10
37	2016-12-05	Beans----(Item Not available)----	1	5	5
41	2016-12-05	tortillos----(Item Not available)----	1	11	11
42	2016-12-05	tortillos----(Item Not available)----	1	11	11
43	2016-12-06	Grapes	1	16	16
44	2016-12-06	Grapes	5	16	80
46	2016-12-06	7up	5	6	30
47	2016-12-06	Grapes	5	16	80
47	2016-12-06	Carrots	1	6	6
47	2016-12-06	tortillos----(Item Not available)----	1	11	11
48	2016-12-06	Grapes	1	16	16
49	2016-12-07	Coffee	7	4	28
50	2016-12-07	Tomatoes	1	6	6
51	2016-12-07	Tomatoes	6	6	36

Admin Home Page:

ARPA Grocery Store Home Product Search Hi, admin

Categories


- fruits
- vegetables
- bread
- beverages
- Health & Beauty
- dairy

Brands


- GreatValue
- Dannon
- Krogers
- Aveeno
- Target

Products


Add Brands Add Products




\$ 16.00 Edit Delete





\$ 6.00 Edit Delete



\$ 4.00 Edit Delete







Add Product Page:

ARPA GROCERY STORE

HOME

Product

admin

Add Product

Product Title:

Enter title

Product Price:

Enter price

Product Category:

category

Product Brand:

brands

Product search keywords:

Enter keywords

Product quantity:

Enter quantity

Product image:

Browse...

No file selected.

Submit

Update Product Page:

localhost:81/finalproject/edit.php?id=103

Search

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ARPA GROCERY STORE

HOME

Product

admin

Update Product Details

Product Id:

103

Product Title:

Grapes

Product Price:

16

Product Category:

201

Product Brand:

402

Product quantity:

93

Product image:

Browse...

No file selected.

Submit

7. WORK DIVISION

Project consisted of database part, user interface, scripting and reporting. We worked as a team to complete this project. Given below is the details of modules on which each team member worked:

Arpita Mothukuri

- Worked on admin functionalities, main layout of admin page
- Add, edit and delete products functionalities
- Worked on login page for users
- Styling of different pages
- Project Report

Archana Gummadavelly

- Search and filter functionalities for the existing Products
- Logic for showing different pages for different types of users
- For users, adding item to cart and removing from cart
- worked on Database Design
- Styling of different pages
- Project Report

Lakshmi Priyanka Parimi

- Worked on registration page for new users
- For users, listing all available products, cart checkout, order History
- Worked on Database design
- Styling of different pages
- Project Report

8. CONCLUSION

In recent days, we can see every store has online website. This is currently in high demand because it caters to all basic needs of people. This project consists of all the basic functionalities like login, signup, purchasing items, viewing functionality and admin functionalities. These functionalities can be further extended to implement multiple filtering options simultaneously. ARPA grocery store helps users to order items from anywhere to any location. Hence, it can be proved that it will be very useful.

9. REFERENCES

<http://www.w3schools.com/>

<https://www.tutorialspoint.com/php/>

<https://www.amazon.com/>