**WEB DEVELOPMENT**

**(Assignment I)**

**eds Electronics**

**(YEAR II)**

**CSY1018: Web Programming**

Due for Issue

(week commencing):

**Last Date for**

**Submission:**

**23:59:59**

Std ID: 18413711

Rojen Tamang Module Tutor:

Mr. Ganesh Khatri

Aspect (&

weighting) Functionality (40%) Design (20%)

Evaluation (10%)

Testing (10%)

Code Quality and

Efficiency (15%)

Video Demonstration (5%)

Excellent

A

Good

B

Satisfactory

C

Needs some more work

D

Needs much more work

F

Specific aspects of the assignment that the marker likes:

Specific aspects of the assignment that need more work:

**Video Link :**

<https://youtu.be/UPEpBGHe28Q>

|  |  |  |
| --- | --- | --- |
|  | **Email** | **Password** |
| **Administrator** | rojen\_admin123@eds.com | admin123 |
| **Customer** | rojen.tmg123@gmail.com | rojen123 |

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**1. INTRODUCTION**

The assignment given was provided to deliver our web development skills (PHP). We were given compress document of PHP including HTML and CSS. In this project, we are told to build a ecommerce website for eds Electronics. Student's job is to make fully dynamic website for the administrator and customer. There are extra functionalities added according to needs.

For a bare pass students must create pages that could add product, add category, edit product, edit category, assign product to category, delete product, delete category, mark a product as featured. All these functionality should be on administration side. On the other hand, customer should be able to browse all the product, view the category in drop down menu, add a review and see reviews added on the particular product. For the additional functionality, student should fulfill the requirements provided on the assignment brief. Students are required to submit the entire code along with sql code and a technical report including video demonstration.

The submission date of this assignment is on 13th Jan, 2019.

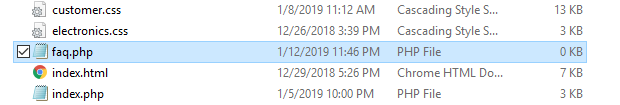
**2. CHECKLIST OF IMPLEMENTED FEATURES**

|  |  |  |  |
| --- | --- | --- | --- |
| **Functionality** | **Completed?** | **Relevant files containing** | **Any comments (e.g.** |
|  | **(Yes/No/**  **Partially)** | **code for this feature** | **usernames/passwords,** |
|  |  |  | **known bugs/issues) or** |
|  |  |  | **URL if different to** |
|  |  |  | **filename** |
|  |  |  |  |
| Administrator log in | Yes | admin/login.php | Username: rojen\_admin123@eds.com |
|  |  |  | password: admin123 |
|  |  |  |  |
| Add products | Yes | admin/add\_product.php | Has to fill in all the attributes of product |
|  |  |  |  |
| Add categories | Yes | admin/add\_category.php |  |
|  |  |  |  |
| Assign product to category | Yes | admin/add\_category.php | Assign to category via drop-down menu |
|  |  |  |  |
| Edit product | Yes | admin/edit\_product.php |  |
|  |  |  |  |
| Delete product | Yes | admin/product.php | Delete and display are done on same page |
|  |  |  |  |
| Edit category | Yes | admin/edit\_category.php |  |
|  |  |  |  |
| Delete category | Yes | admin/category.php | Delete and display are done on same page |
|  |  |  |  |
| Browse products (public) | Yes | index.php |  |
|  |  |  |  |
| View categories (public) | Yes | category.php |  |
|  |  |  |  |
| Filter products by category | Yes | category.php |  |
| (public) |  |  |  |
|  |  |  |  |
| Add review (public) | Yes | review.php | able to add review only when customer logs in |
|  |  |  |  |
| View product reviews | Yes | admin/review.php | Reviews are visible on the website once admin approves it. |
| (admin) |  |  |  |
|  |  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| Marking a product as "Featured" | Yes | admin/product.php | Should tick on "yes" and click on submit button |
| Moderation of reviews | Yes | admin/review.php |  |
| Uploading Images | Yes | admin/add\_product.php | Choose file form local computer |
| Social media buttons | Yes | product.php | Redirects to Facebook page but  Doesn’t work because website is not live yet |
| Searching products | Yes | search.php | Show all the product related to search name |
| Manage account by Admin. | Yes | admin/administrator.php |  |
| Keep track of which admin posted which product | Yes | admin/add\_product.php |  |
| Secure password | Yes | admin/add\_admin.php  add\_customer.php  register.php | Password is stored in hashed from into database |
| Prevent user from adding reviews until they create account | Yes | product.php | Redirects into login page. Once they login or create accoutn, they are able to add reviews |
| Allow users to be notified via email when new product is added | Yes | admin/add\_product.php | Code is written but doennt work because website is not live yet |
| Able to click on user and see any review they have posted | partial | admin/product.php |  |
| Add rating to reviews | Yes | admin/product.php | Hover over stars to add rating |
| Implement a shopping basket | Yes | admin/cart.php |  |
| Implement PayPal payment in shopping basket | Partial | admin/billing\_address.php | Redirects to PayPal website but ordered items are not displayed in PayPal website |

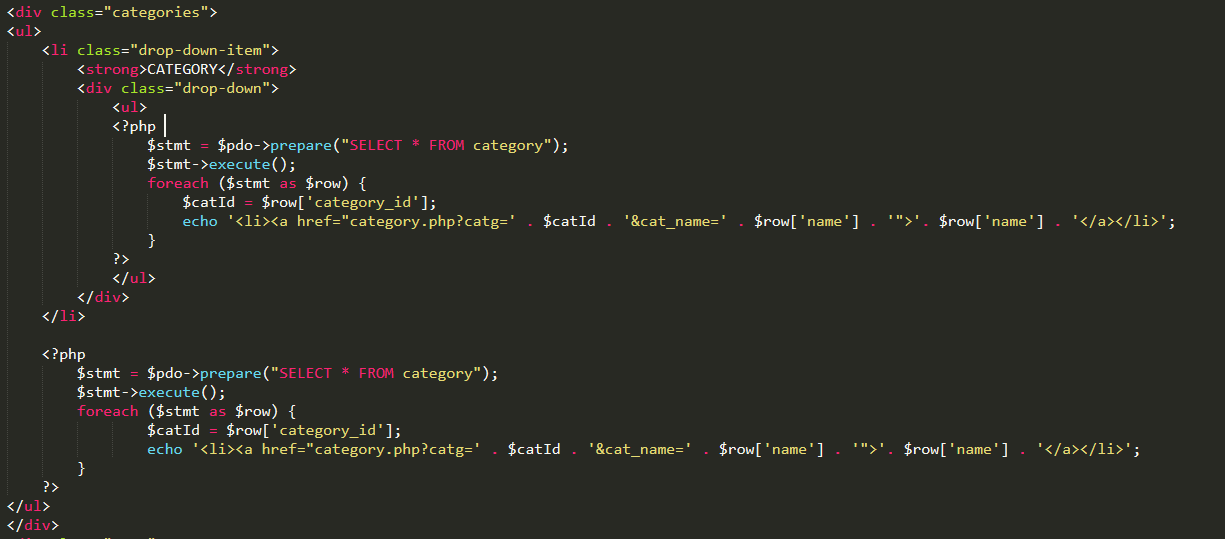
* 1. **Add a new page to the website (e.g. an FAQs page) and link it from the navigation**.

**Step 1:** create a new php file. For e.g. faq.php. in root folder "assignment"



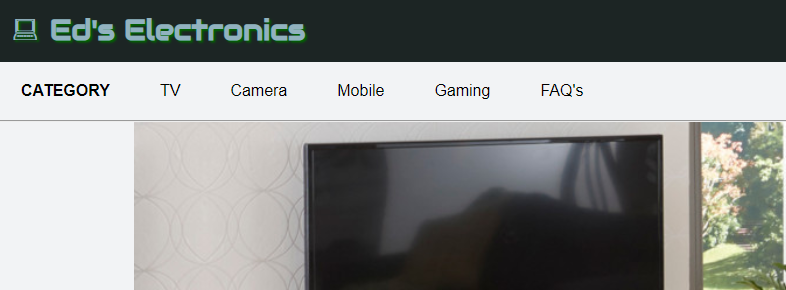
*Fig: new php file (faq.php)*

**Step 2:** add a new tag <li> FAQ </li>



*Fig: add new link to navigation*

**Step 3:** browse through newly created link



*Fig: new link FAQ's*

* 1. **Add a new form field to the “Add product” form**

**Step 1:** Add a new "label" tab. For e.g. Expire Date in "add\_product.php" file



*Fig: label tag*

**Step 2:** Add a new "input" tag.



*Fig: input tag*

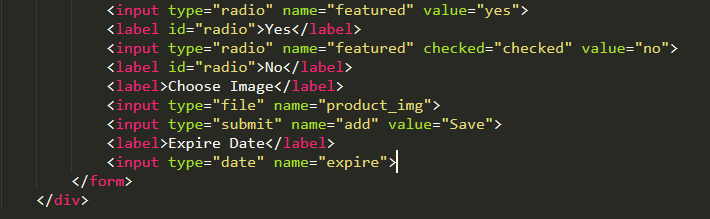


Fig: form

**Step 3:** Fill the form

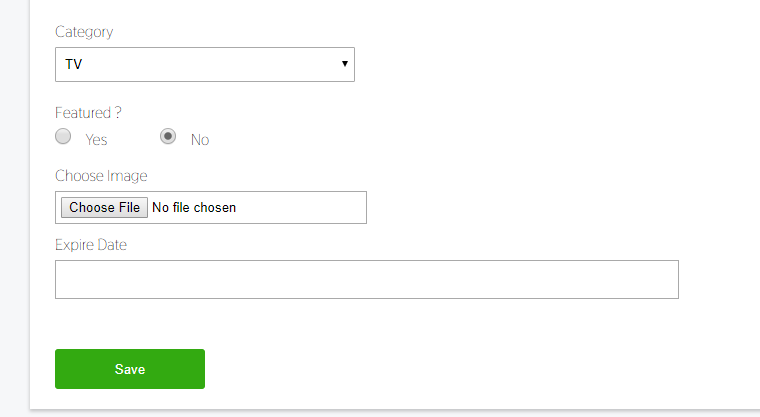
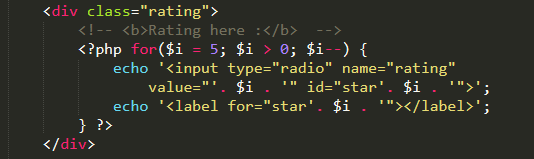


Fig: Fill form

* 1. **Add a new form field (e.g. rating) to the “Add review” form**

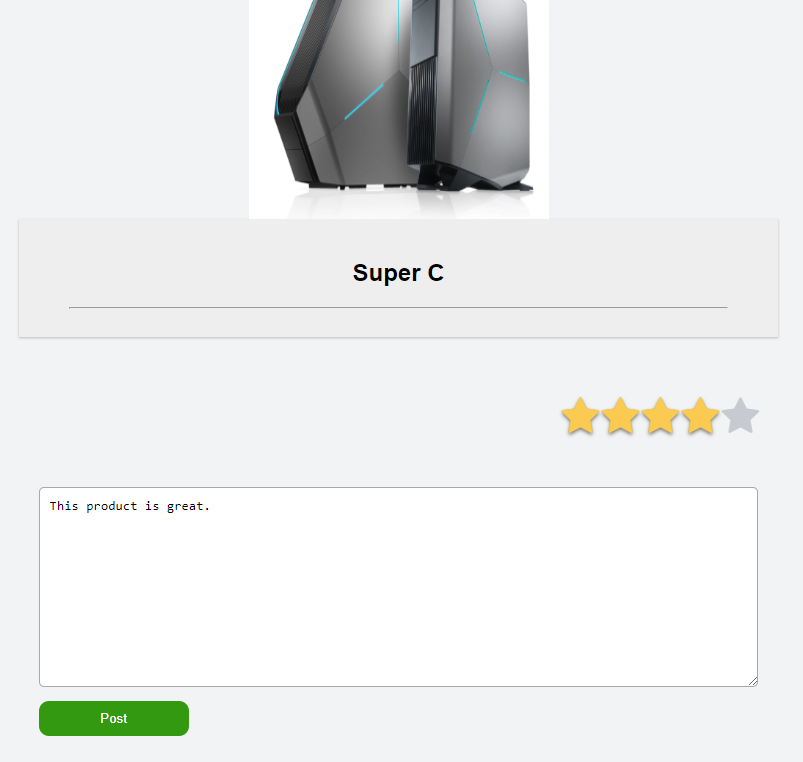
**Step 1:** Add a new "div" tag.In "review.php" file

**Step 2:** Add a new "input" tag as type "radio".



*Fig: rating*

**Step 3:** Add rating to the review



*Fig: add rating to the form*

**3. EVIDENCE OF TESTING**

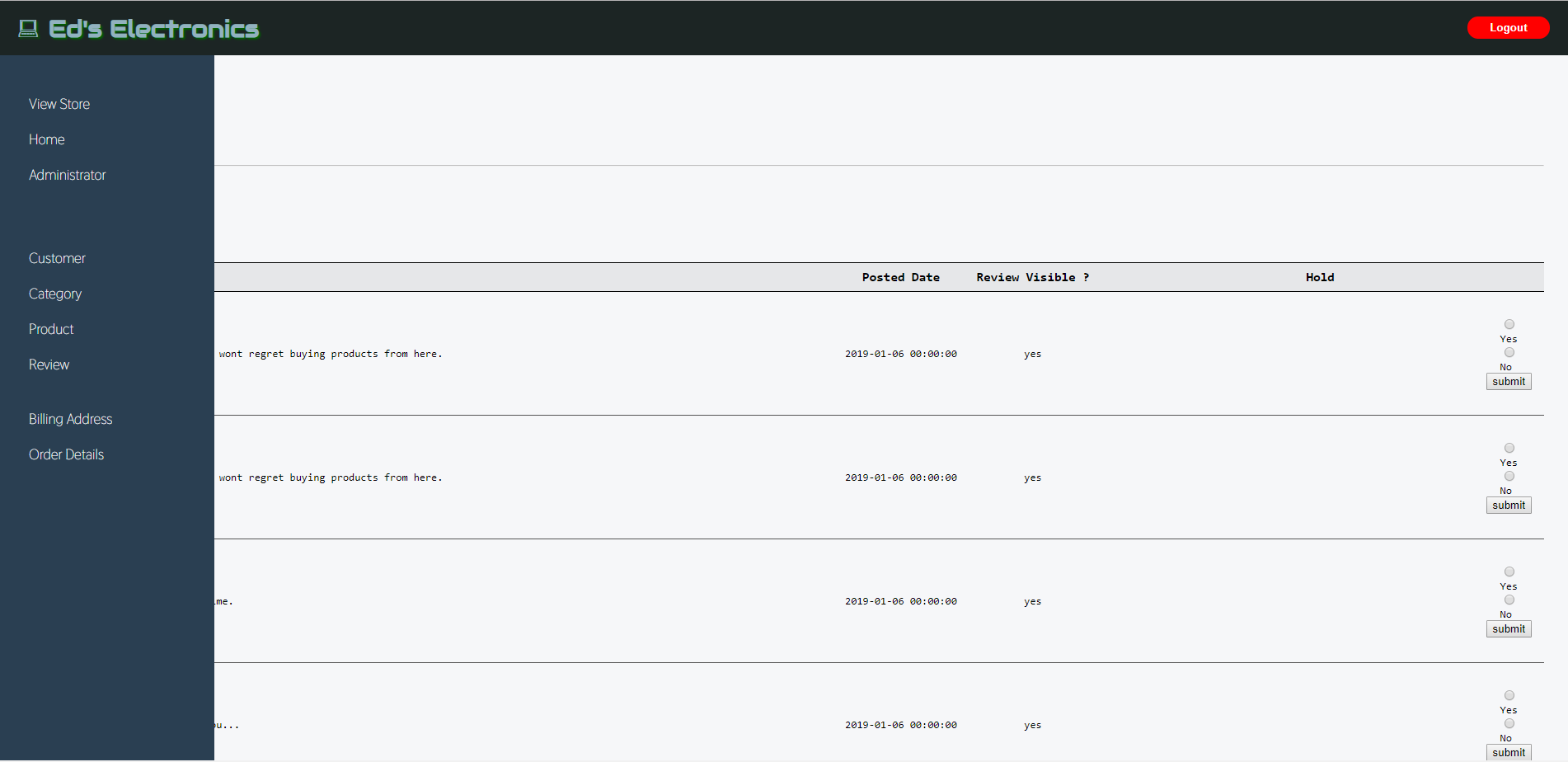
* 1. **Test logs providing information of all the tests carried out (including any failed tests for functionality not implemented).**

|  |  |  |  |
| --- | --- | --- | --- |
| **Functions** | **Input** | **Expected Outcome** | **Actual Outcome** |
| Add products | Input all the attributes (name, price, manufacturer\_id, brand, description, featured, product\_img) | A product should be added into database table (product) when all the field are completely filled. | A product is added into database table (product) successfully along with a notification. |
| Add categories | Input all the attributes (name, description, category\_img) | A category should be added into database table (category) when all the field are completely filled. | A category is added into database table (category) successfully along with a notification. |
| Assigning products to category | Select category from a drop-down menu. | A product should be assigned to a category via drop-down menu and added into database table (product). | A product is assigned to selected category into database table (product) successfully along with a notification. |
| Editing existing products | Edit the required field only. | Selected product should be edited along with pre-information that was stored in database table (product). | Selected product is edited and stored into database table (product) successfully along with a notification. |
| Deleting existing products | Click on delete button | Selected product should be deleted and be removed from the database table (product). | Selected product is deleted and removed from database table (product) successfully along with a notification. |
| Editing category names | Edit the required field only. | Selected category should be edited along with pre-information that was stored in database table (category). | Selected category is edited and stored into database table (category) successfully along with a notification. |
| Deleting categories | Click on delete button | Selected category should be deleted and be removed from the database table (category). | Selected category is deleted and removed from database table (category) successfully along with a notification. |
| Marking a product as "Featured" | Click on 'yes' or 'no' radio button. | 'Featured?' should be turned into yes as soon as submit button is pressed | 'Featured?' is turned into yes and product is displayed in the home page for customers |
| Browse all product displaying newest first |  | Latest products to be displayed first according to the date | Latest product are displayed first. |
| View list of product category in drop-down menu | Hover over the category menu | Should display the category items in drop-down menu | Displays category items in drop-down menu |
| Click on category to view products on that category | Click on any of the category | Display all the product on that category | Displays all the category on the clicked category |
| Add review to a product | Clicks on "Write a review" button | Should redirects to login page. If logged in, then redirects to review writing page | Redirects to login page. If logged in, then redirects to review writing page |
| See review added to that product | Click on particular product | Should display review along with ratings, their name, email, date and social media share button | Displays review along with ratings, their name, email, date and social media share button |
|  |  |  |  |
| Moderation of reviews | Click on 'yes' or 'no' radio button. | Visible?' should be turned into yes as soon as submit button is pressed | Visible?' is turned into yes and Review is displayed in the related product that review was posted to. |
| Uploading Images | Select images from local computer | Images file path should be stored in the database table (product) | Image file is stored in datable table (product) |
| Social media buttons | Clicks on share button | Should redirect to Facebook page along with review they have selected | Redirects to face book page but does not share the review because the url of our website is not Live yet |
| Searching products | Type interested product to search for | Should display all the product which contain similar name to that of product | Displays all the searched product along with numerical count of total item found |
| Manage account by Admin. | Click on edit, delete button accordingly | Should be able to edit or delete accordingly to admin. | Edit or delete admin account accordingly. |
| Keep track of which admin posted which product | Login with different account | 'admin\_id' from SESSION variable should keep track of current admin | Stores 'admin\_id' as 'which admin posted which product' into the database table (product) |
| Secure password | Input password (either admin or customer) | Password should be stored as hashed form into database | Password is stored as hashed from in database |
| Prevent user from adding reviews until they create account | Clicks on "Write a review" button | Should redirects to login page. If logged in, then redirects to review writing page. If no account, then click on "create account" to create eds account | Redirects to login page, if logged in. Then redirects to review writing page  If no account, customer creates account to write a review |
| Allow users to be notified via email when new product is added | Admin add a new product | Should be notified to users email as soon as admin adds a new product | Email is not sent because we do not have Live website yet |
| Able to click on user and see any review they have posted | Click on user | Should be able to view reviews users have posted | Displays all the reviews that the users have posted |
| Add rating to reviews | Hover over the rating to rate product from 1 – 5 star | Star should be highlighted according to the rate the customer provided and review should be inserted into database | Star is highlighted and rating is stored into database as numeric value |
| Implement a shopping basket | Click on cart button to view your shopping basket. | Should display all the items that you have added into cart. If no items selected, then no items are displayed | Items are displayed in shopping basket according to customers order.  Total number of items is also displayed beside "Cart" button. |
| Implement PayPal payment in shopping basket | Click on "PayPal Payment" | Should redirect to PayPal website and then login with your PayPal account | Redirects into PayPal website and logs in with PayPal account |

* 1. **Implemented Advanced Functionalities**

1. **Moderation of reviews**

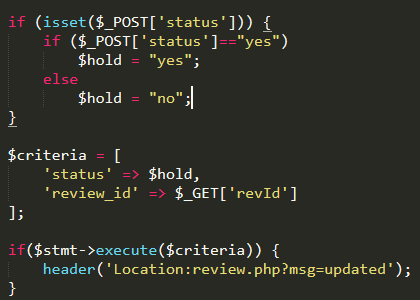
Front End Design:



*Fig: Moderattion of review*

Admin has to press on "yes" and then submit in order to set the visibility of review either to "yes" or "no".

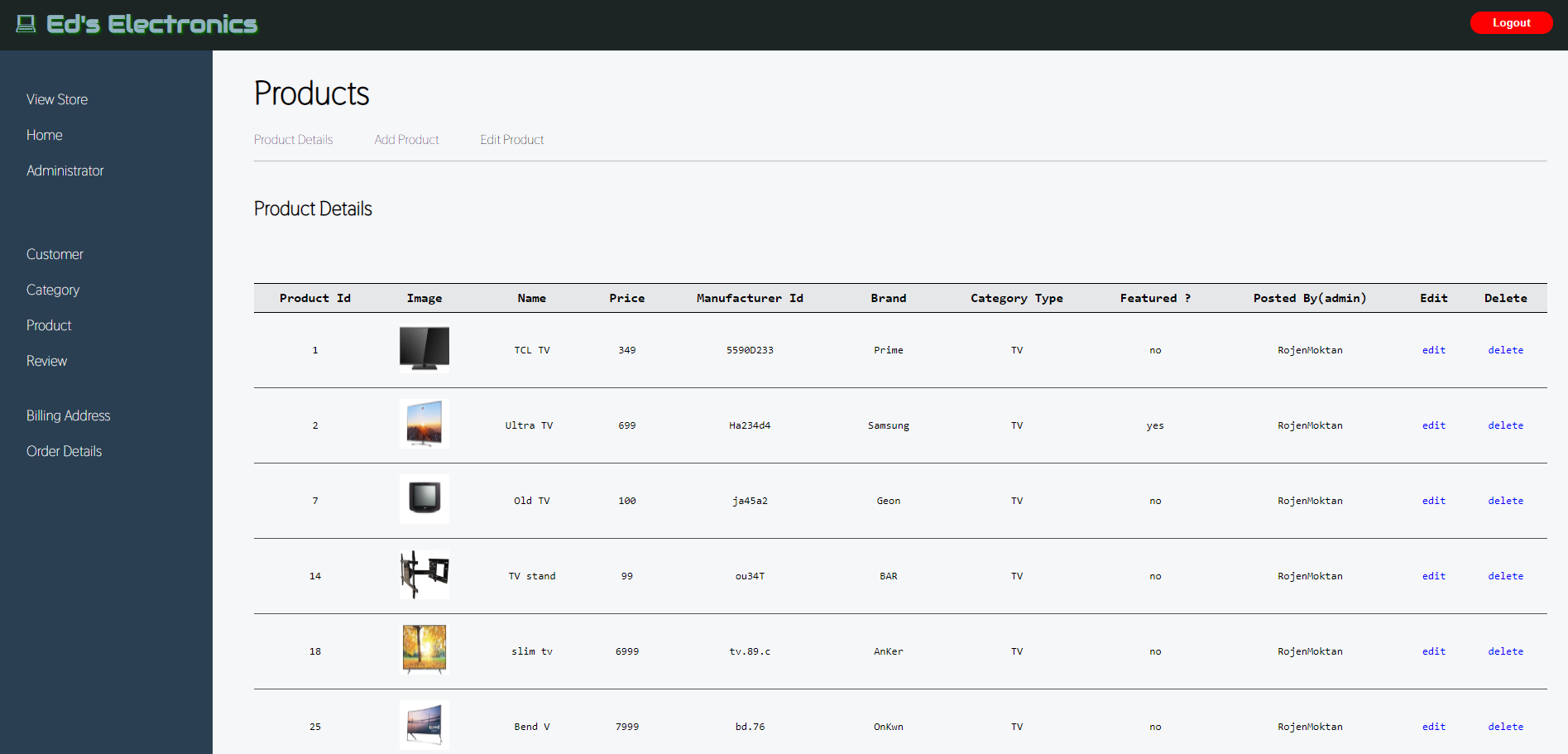
Back End Code:



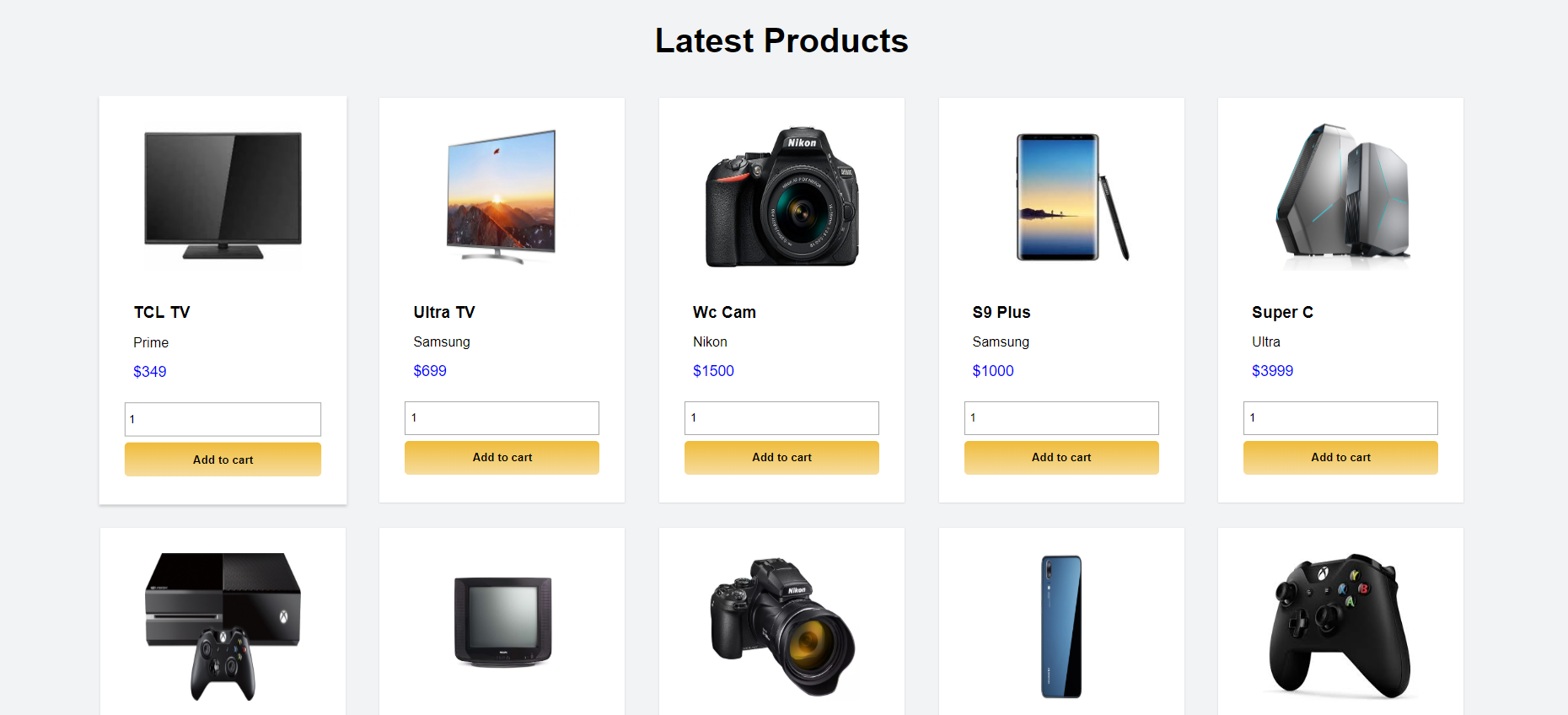
*Fig: Moderattion of review*

1. **Allow uploading an image with the products and have it appear on the page with the title and product text**

Front End Design:

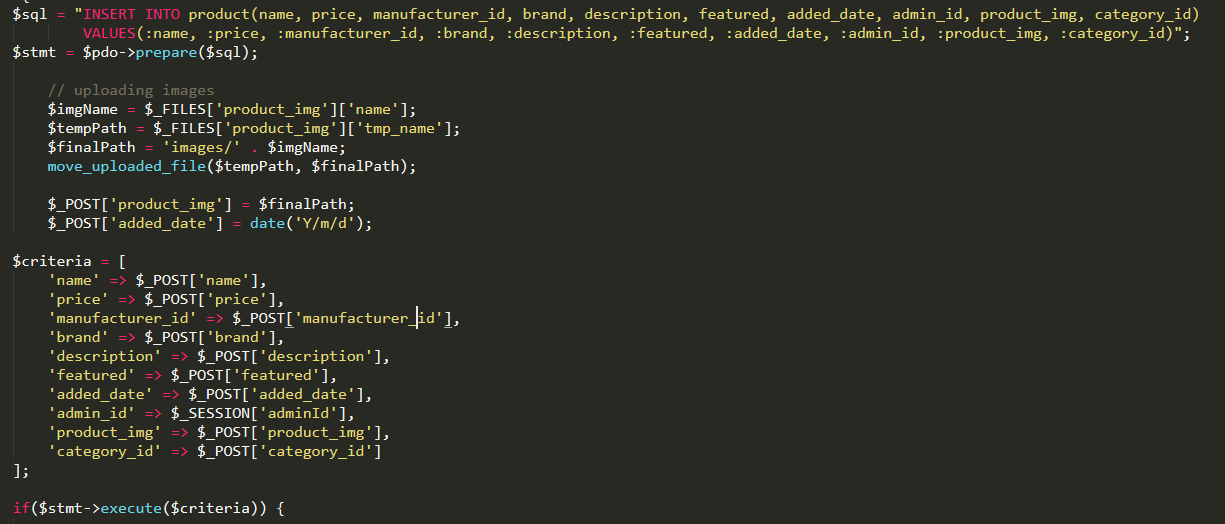


*Fig: Displaying image in Admin panel*



*Fig: Displaying image in User panel*

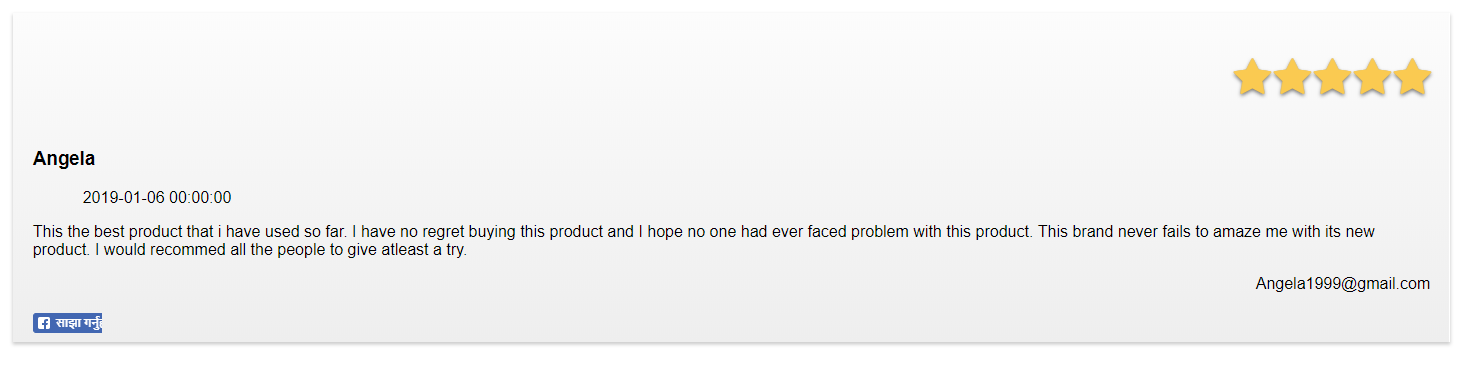
Back End Code:



*Fig: Displaying Image*

1. **Social media buttons allowing users to easily share reviews**

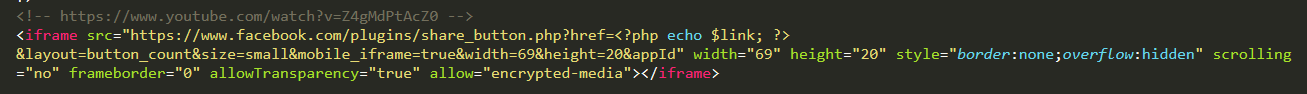
Front End Design:



*Fig: Social media share button*

Sorry, for the translation made by Google. Once you click the share button, the page redirects to face book page but the content is not shared because our website is live yet. Since sharing review needs live URL, the review is not shared.

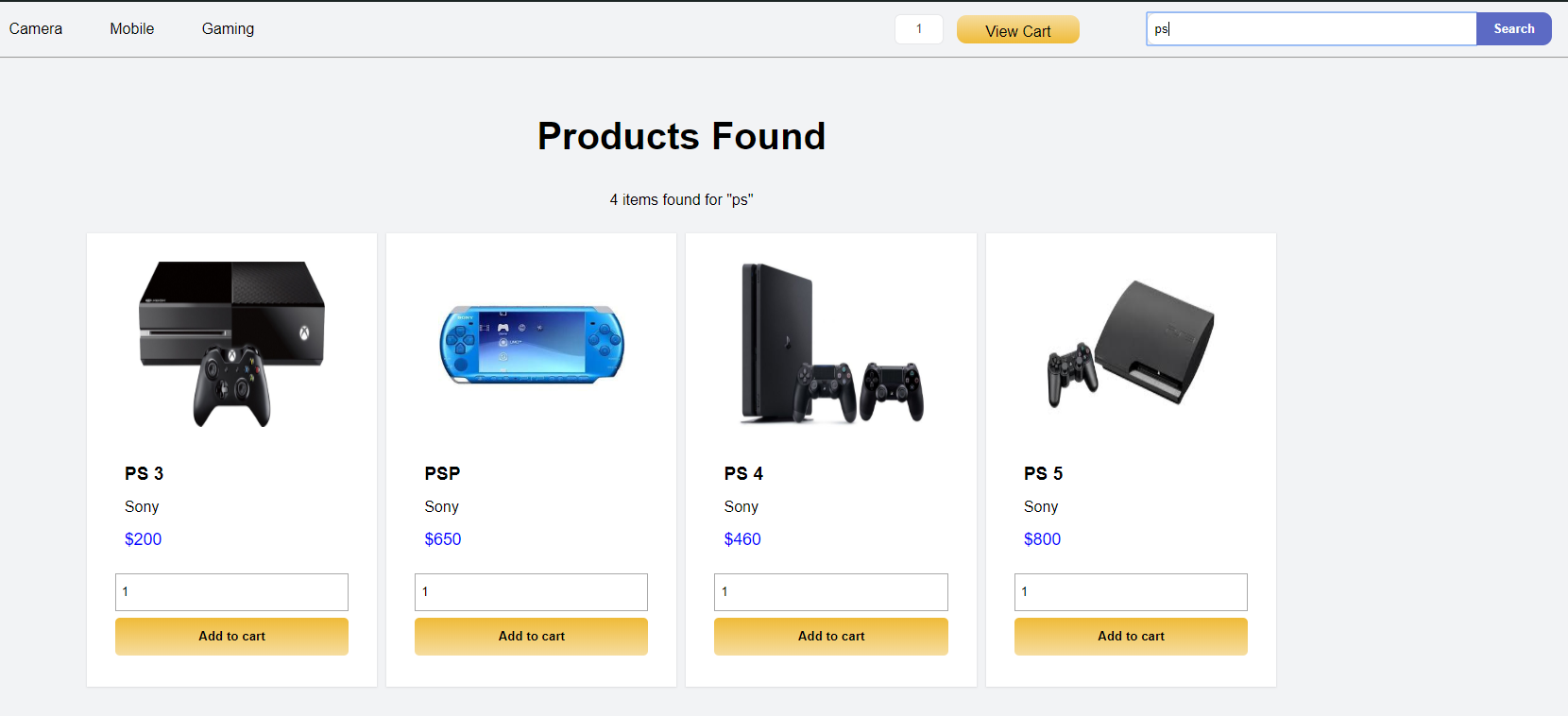
Back End Code:



*Fig: Social media share button*

1. **Allow searching for products by typing in a search term**

Front End Design:



*Fig: Search Term*

Once we click to search products on search bar, products are displayed in as in the picture above. Here, total product is also shown for products found on the store.

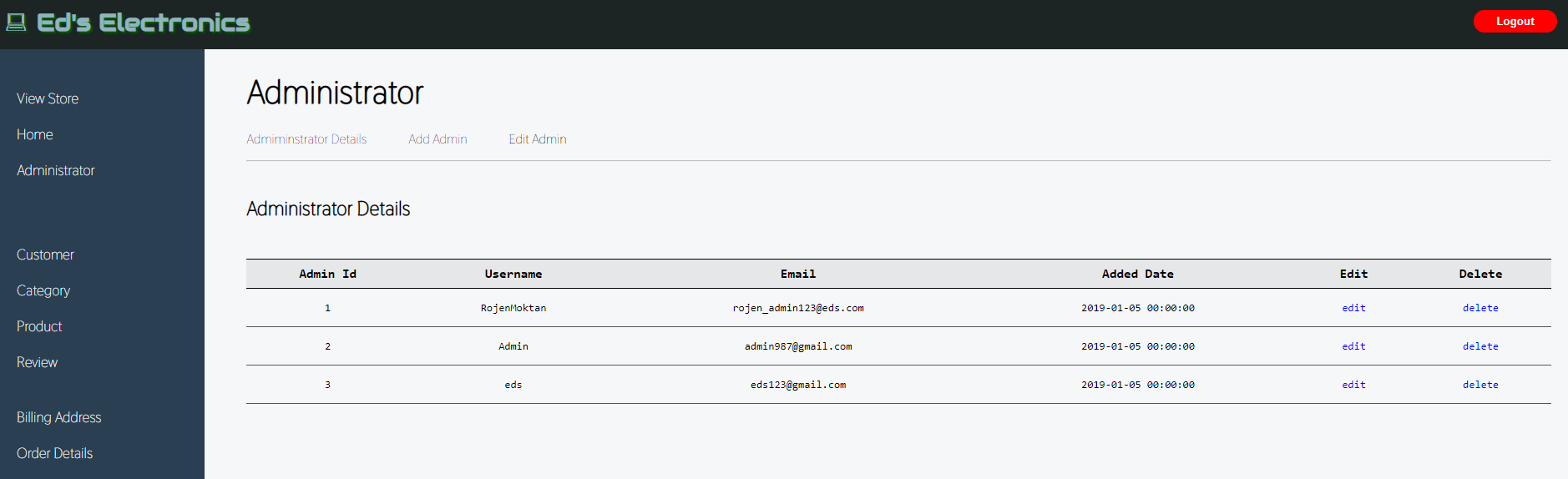
Back End Code:



*Fig: Search Term*

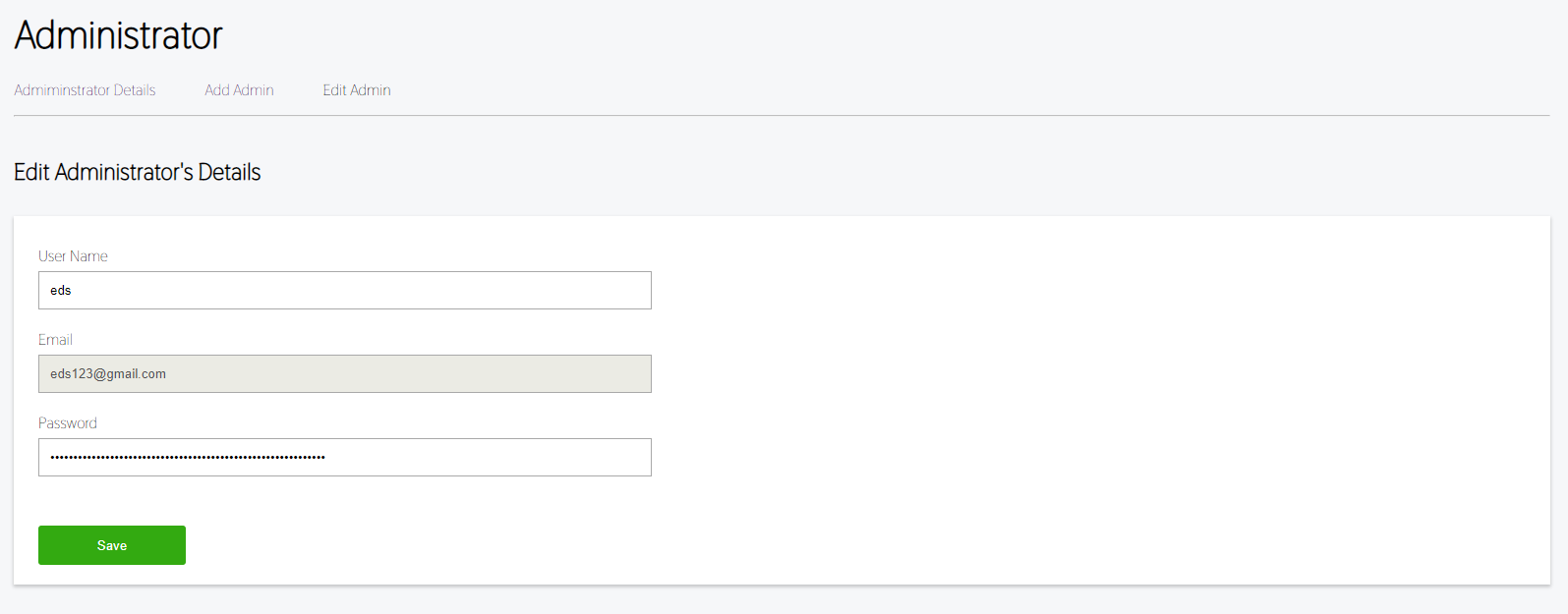
1. **Allow administrators to manage administrator accounts.**

Front End Design:



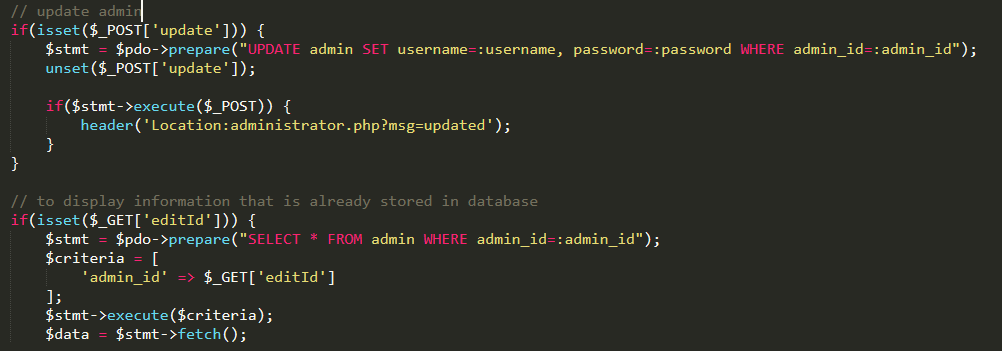
*Fig: Manage Administrator Account*

All the functionality to be performed to manage administrator account are displayed. For example: edit and delete. Once we click on delete, the account is deleted from database and when we click on edit, below page is displayed for editing administrator account.



*Fig: Manage Administrator Account*

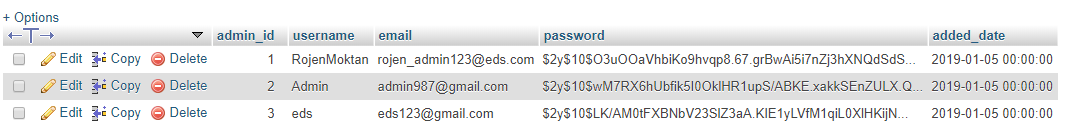
Back End Code:



*Fig: Manage Administrator Account*

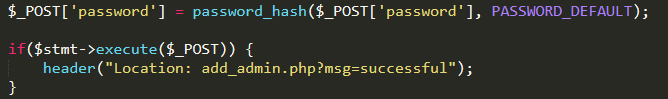
1. **Securely store passwords with an appropriate method**

Front End Design:



*Fig: secure password*

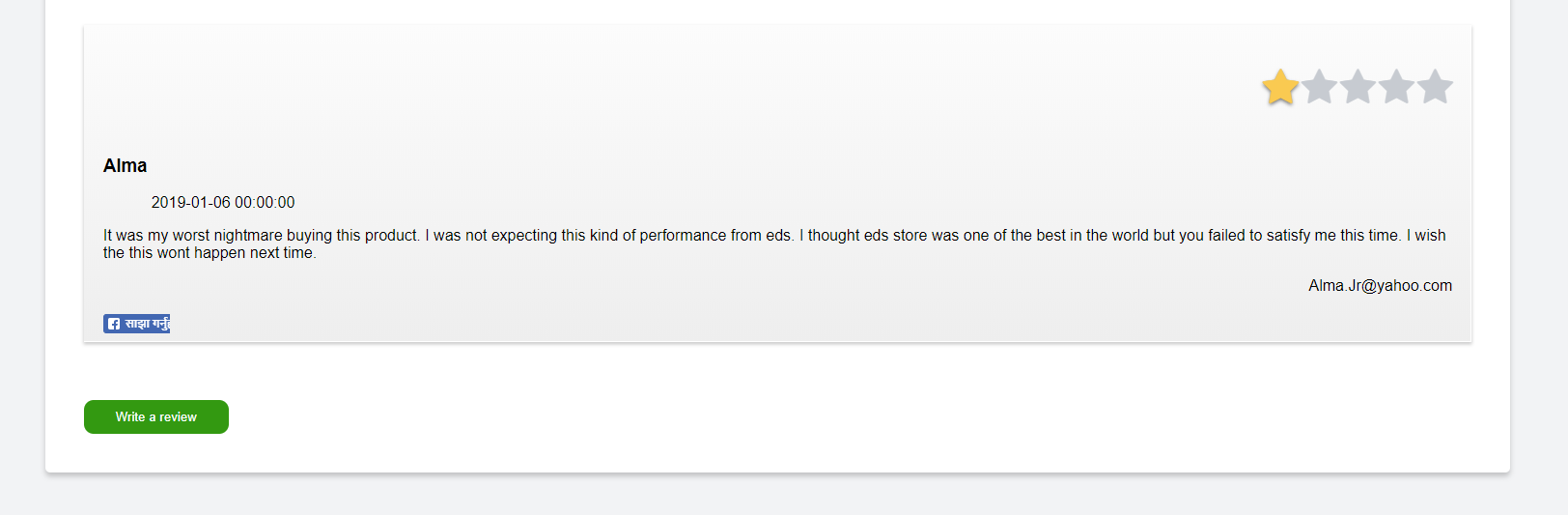
Back End Code:



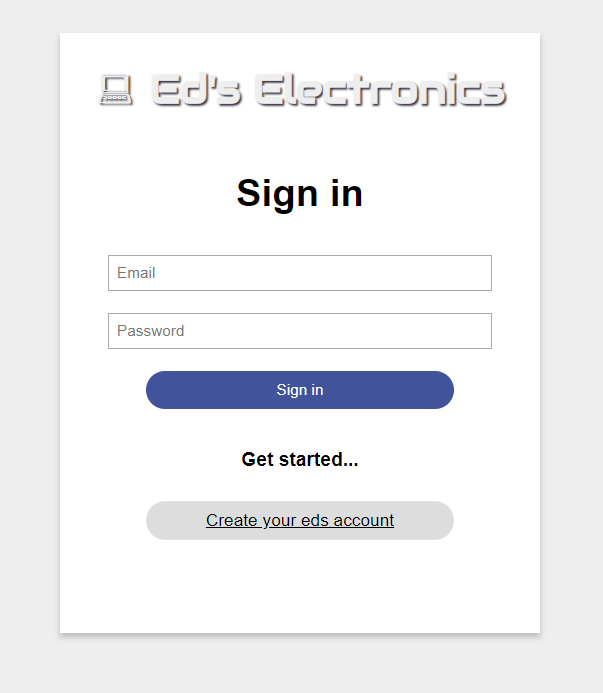
*Fig: secure password*

1. **Prevent users from adding reviews unless they create an account**

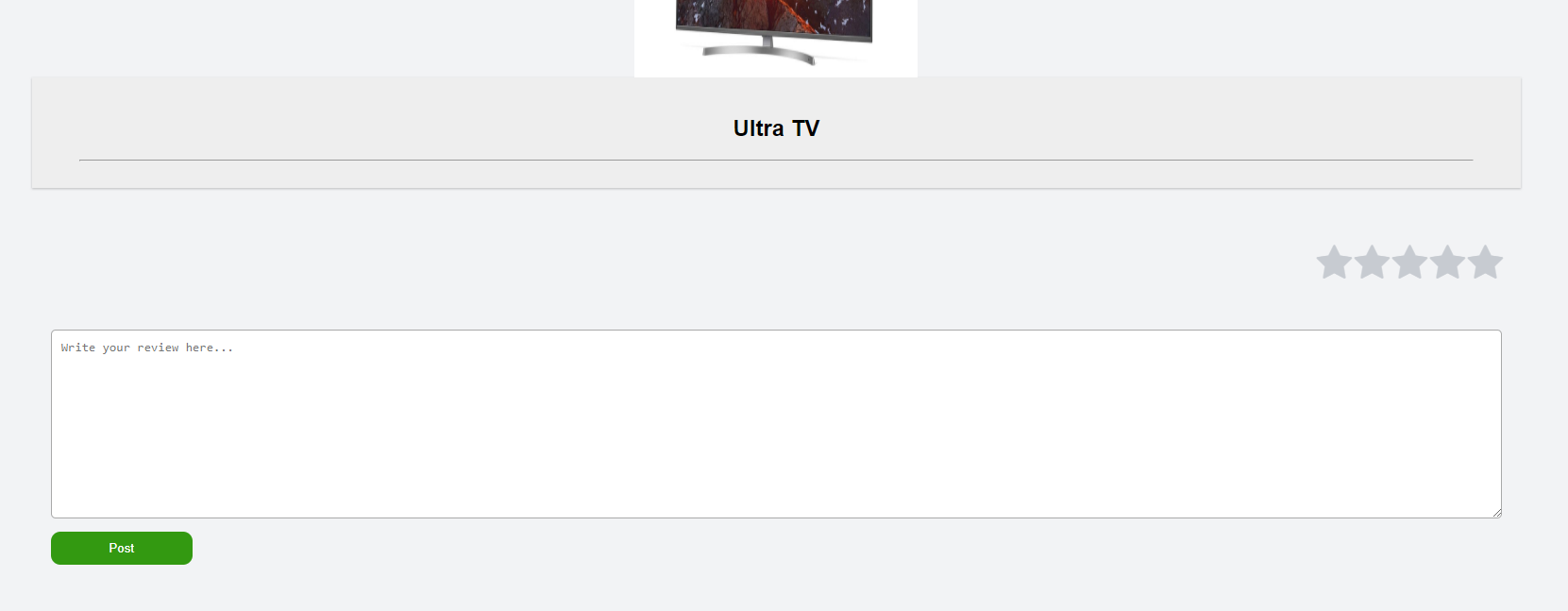
Front End Design:



*Fig: adding review*



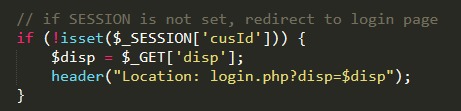
*Fig: login portal*



*Fig: adding review*

In order to add review on a product, user must login first. So, the user is redirected into login page. If user doesn’t have account he/she can register their account by clicking on "Create eds account". Once user is logged in, he/she can add their review on the product.

Back End Code:



*Fig: block user to add review*

1. **Allow users to sign up to be notified via email when new products are posted**

Back End Code:

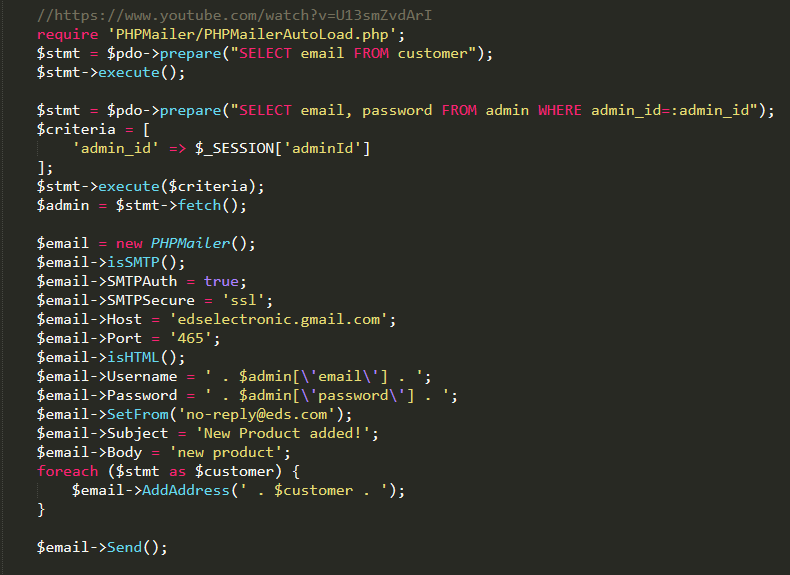
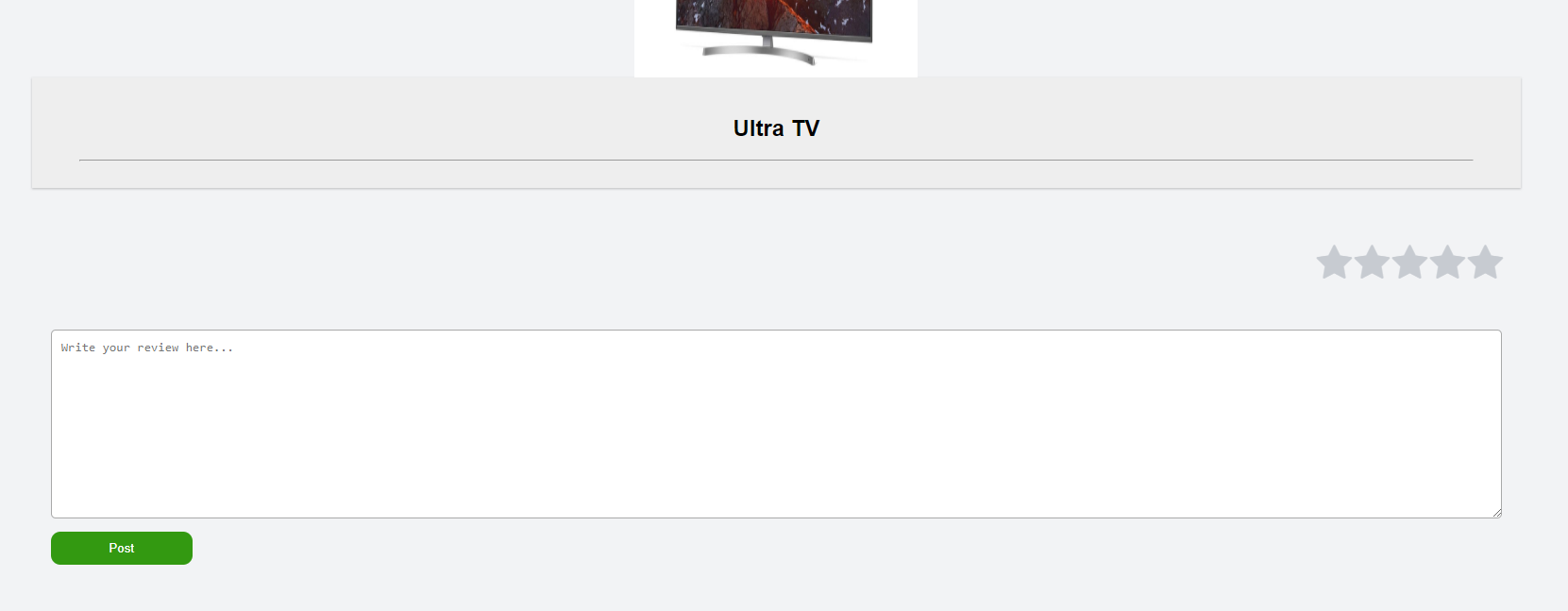


Fig: notification via email

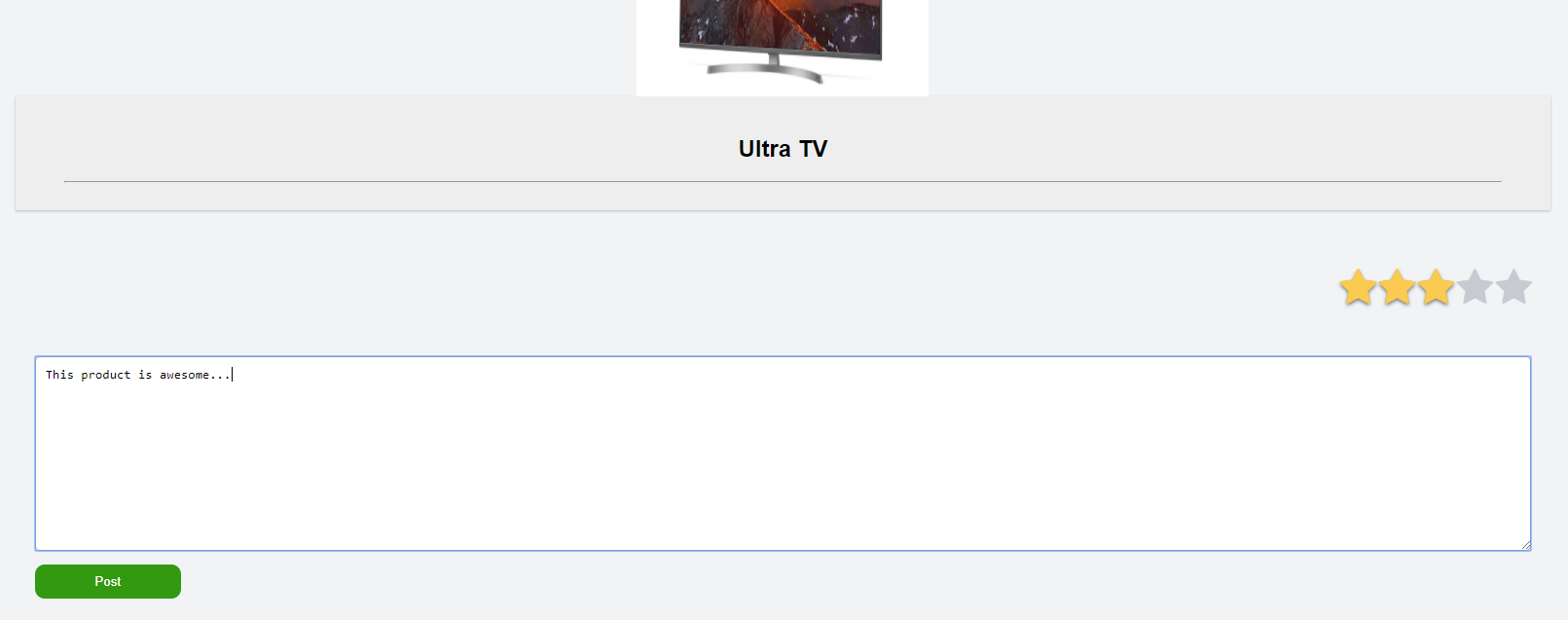
The code is implemented but has no function because in order to send message through the website, we need to have live and fully functional website.

1. **Add a rating to reviews and allow users to sort products in a category by highest rated first**

Front End Design:

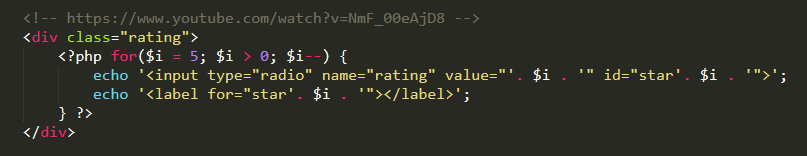


*Fig: adding rating*



*Fig: adding rating*

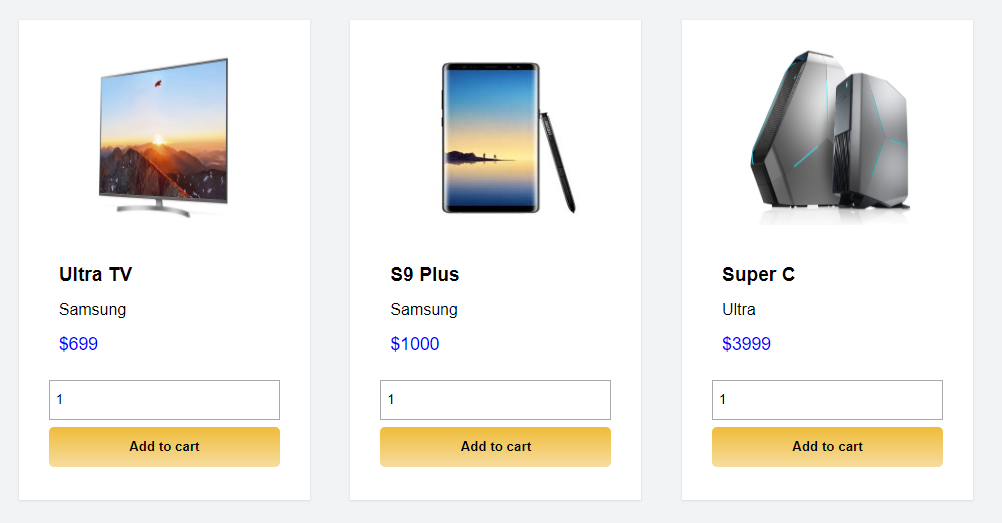
Back End Code:



*Fig: adding rating*

1. **Implement a shopping basket so users can place an order with one or more products**

Front End Design:



*Fig: adding to cart*

By clicking on "Add to cart" button, product are added into cart like in below image. From there customer can remove those products from their cart. When they finally buy their product, the cart becomes empty for another shopping.

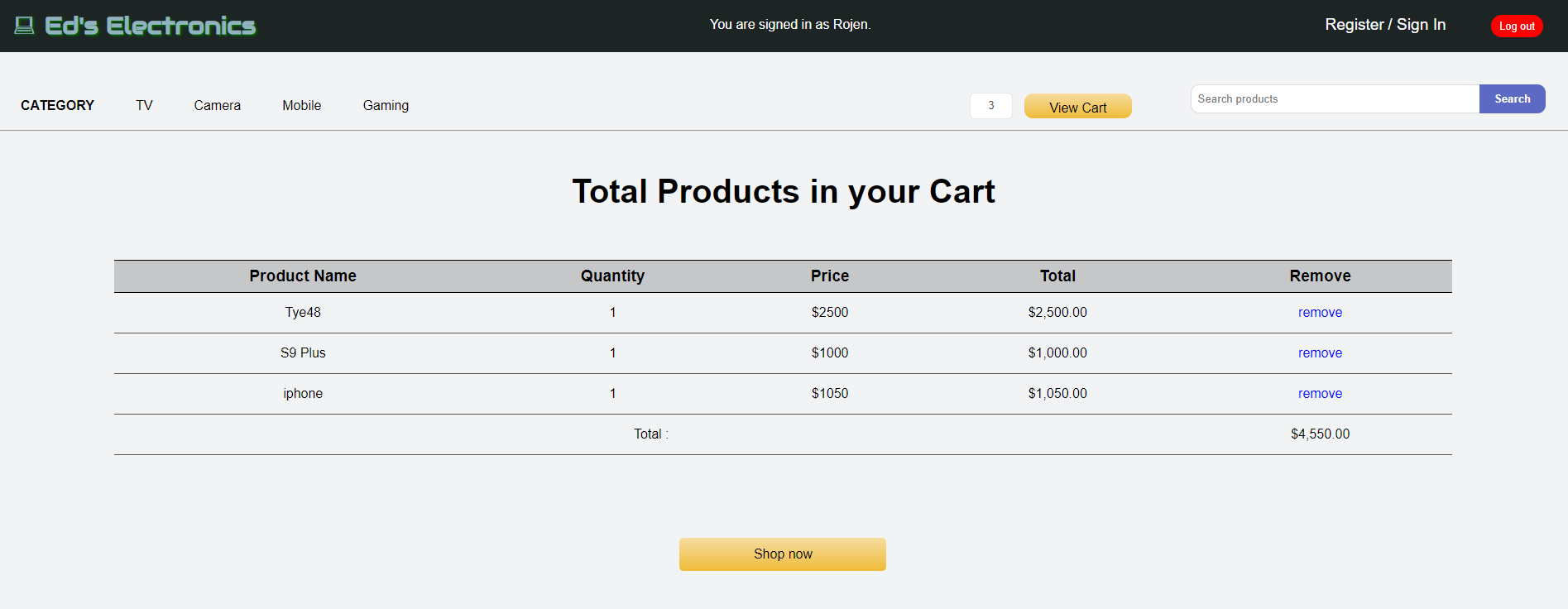


Fig: total items in cart

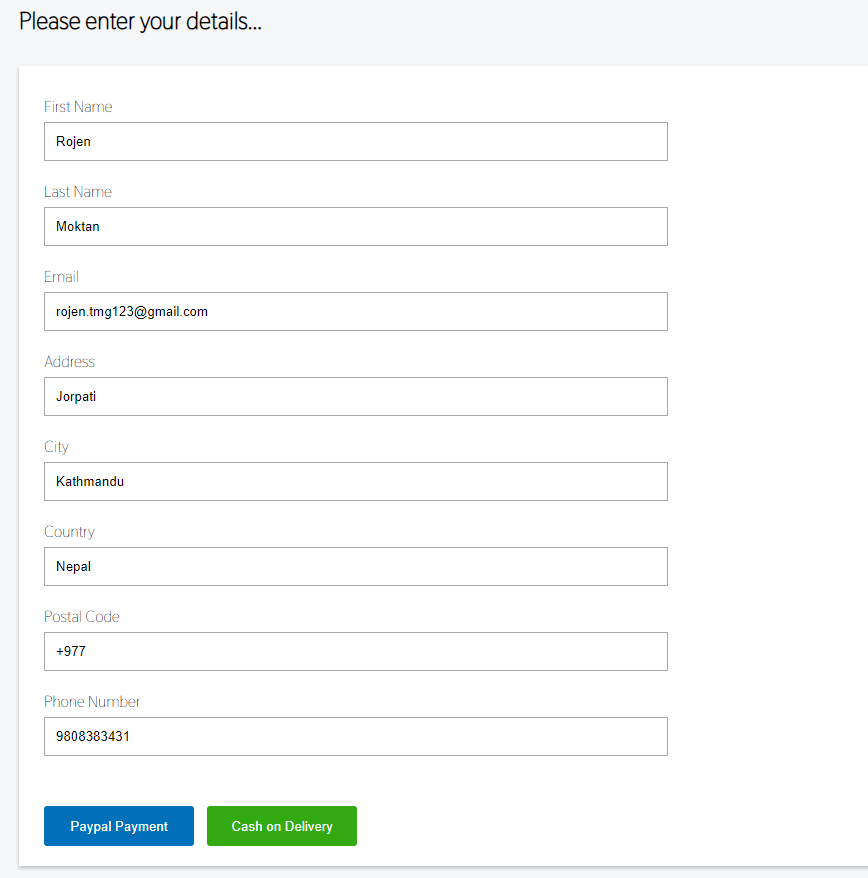
Back End Code:



*Fig: adding to cart*

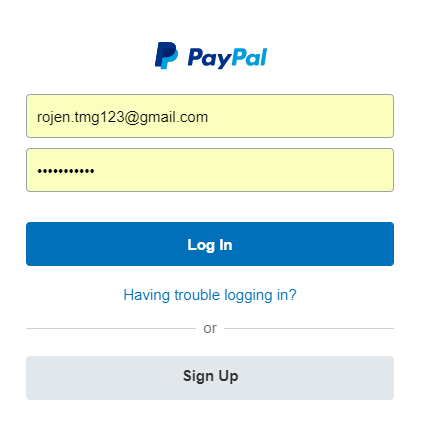
1. **Implement PayPal payments in the shopping basket. Make sure you use PayPal’s developer mode**

Front End Design:

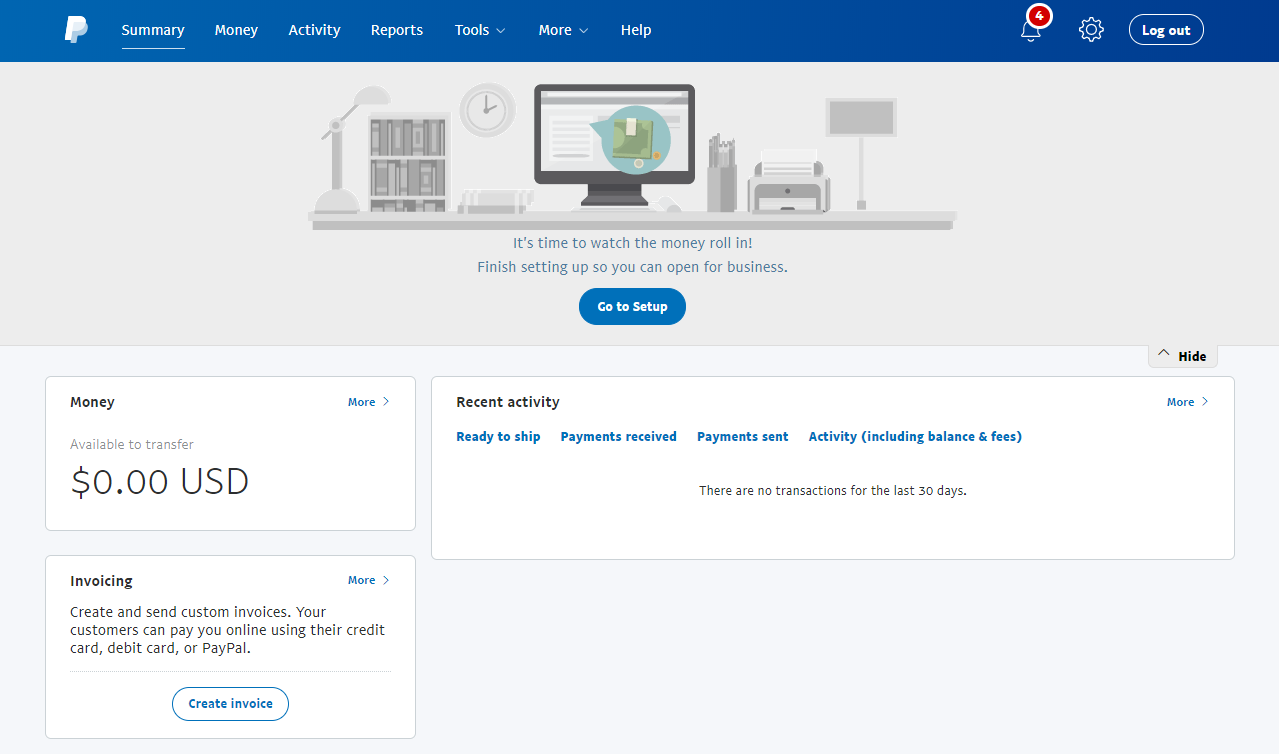


*Fig: implementation of PayPal*

When user adds their billing address into the system, they can finally proceed to pay either through "PayPal" or "Cash on Delivery". If user proceed with PayPal, they are redirected into paypal login portal.



*Fig: PayPal login portal*



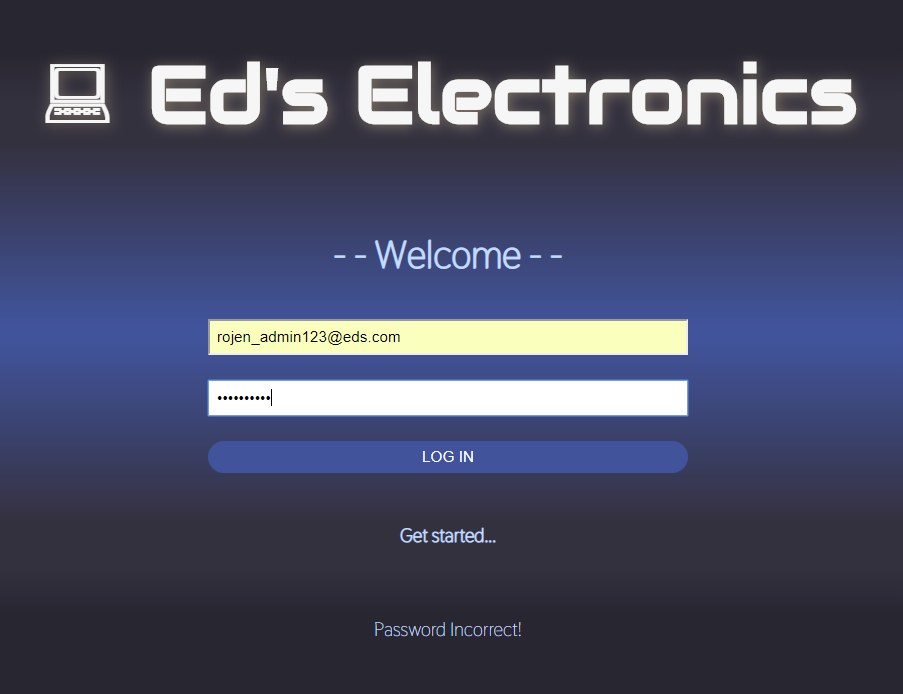
*Fig: Transaction through PayPal*

**3.3 How you fixed any bugs/weaknesses you discovered, or what you would do to fix them given enough time.**

During the creating of the website, the author implemented most of the requirement of the project but when the time came to test the code, author came across few bugs and weakness which is going to be listed out along with possible solution made to solve those bugs. The different bugs found were:

1. Password Validation
2. Always choose image when editing product
3. Total items shown in the cart
4. Rating Products
5. PayPal Payment
6. **Password Validation**

During the creation of database table 'admin', the author set length for password attribute as '50' because he thought any user won't keep their password length longer than 50 characters. But, when admin tried to login to his account, the system always showed "Incorrect Password!" .



*Fig: Incorrect Password*

Remedy to fix the bug**:**

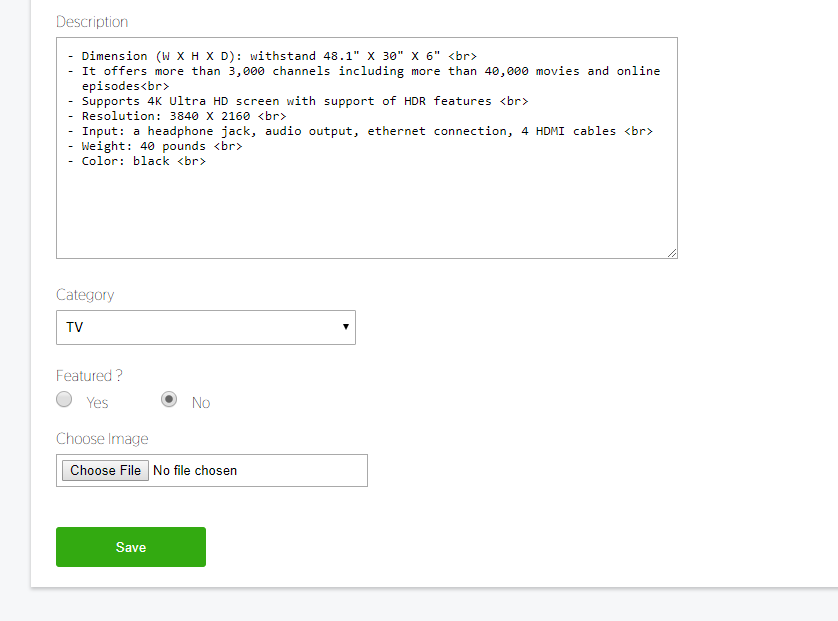
By going through the slides once again, author found out that the length of hashed password is always greater than 50 characters. So, by altering the length of attribute "password" to length 250 characters, admin was successfully able to login to his account.



*Fig : Password length (255)*

1. **Always choose image when editing product**

When editing the product, admin always has to choose image while other fields are already pre-defined. As the image path is stored as data in "product\_img" attribute in database, the problem arises when querying information from the database. That is why all the data's are shown whereas image has to be selected once again while editing the product.

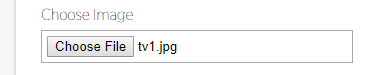


*Fig: Edit Product*

As shown in the figure, all field are pre-defined in its position whereas image has to be chosen once again.

Remedy to fix the bug**:**

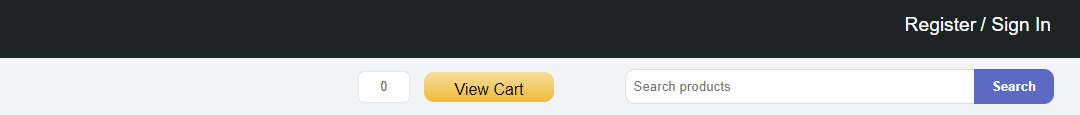
The possible remedy to solve this bug is to choose the image once again in order to edit product.



*Fig: Choose Image*

1. **Total Items shown in cart**

To view the total items in the cart, "view cart" button has to be pressed. As the customer adds product in his/her cart, the total item is being tracked in the system. In order to view those product, customer has to press that button.



*Fig: Total items in cart*

Here, we can see that the present item in cart is 0. As the customer adds a product in the cart the number still becomes 0. But when customer add product once again, the total number in cart becomes 1 whereas the number should have been 2.

Remedy to fix the bug**:**

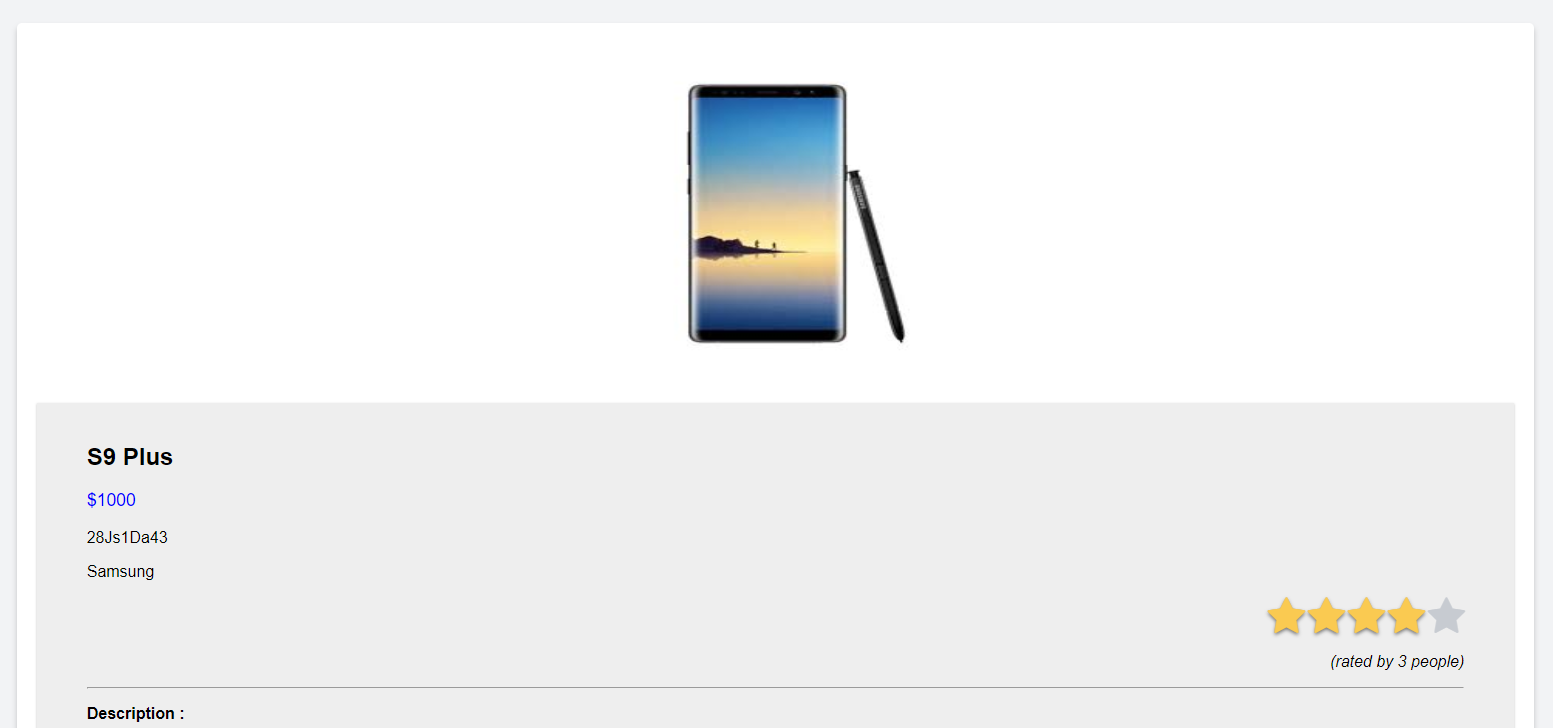
The possible remedy to solve this bug is to press the "View Cart" button to view the current items in the shopping cart. If given enough time, author would make the page refresh itself in certain amount of time so that customer should not have to refresh the page by them self.



*Fig: present Items in Cart*

1. **Rating Product**

User can rate the product from 1 – 5 as their wish. From the total rating given by all the users, the aggregate number is calculated and result is shown as final rating. The bug is this section is that the aggregate rating is rounded up in order to show the rating in complete stars.



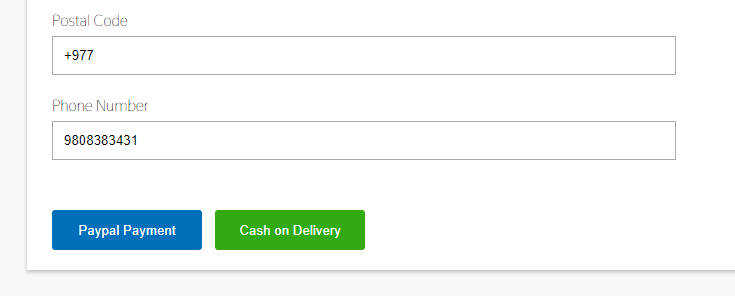
*Fig: Rating*

Remedy to fix the bug**:**

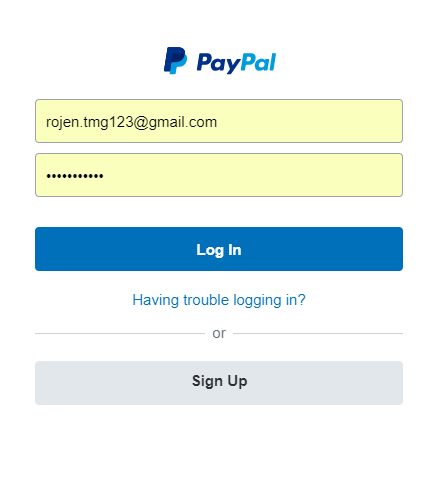
If given enough time, author would make the stars generate the exact rate (even the decimal part) by editing CSS accordingly.

1. **PayPal Payment**

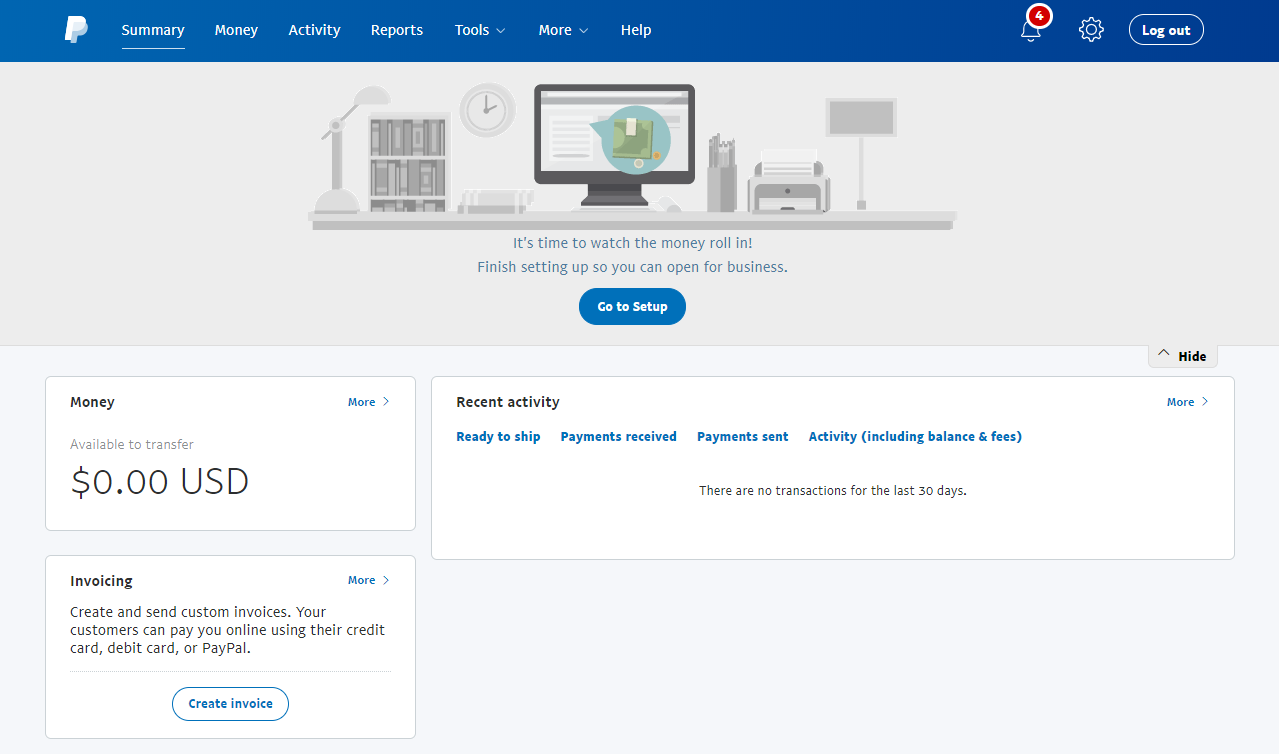
PayPal Payment partially supported in the system. When customer finally decides to proceed to check out, they have two options, whether to pay though "PayPal" or "Cash on Delivery". If the customer decides to proceed with PayPal page is redirected to PayPal login portal where customer has to login to their account. As they login, the product they ordered and the total amount is not provided in the PayPal website.



*Fig: Payment Method*



*Fig: PayPal login portal*



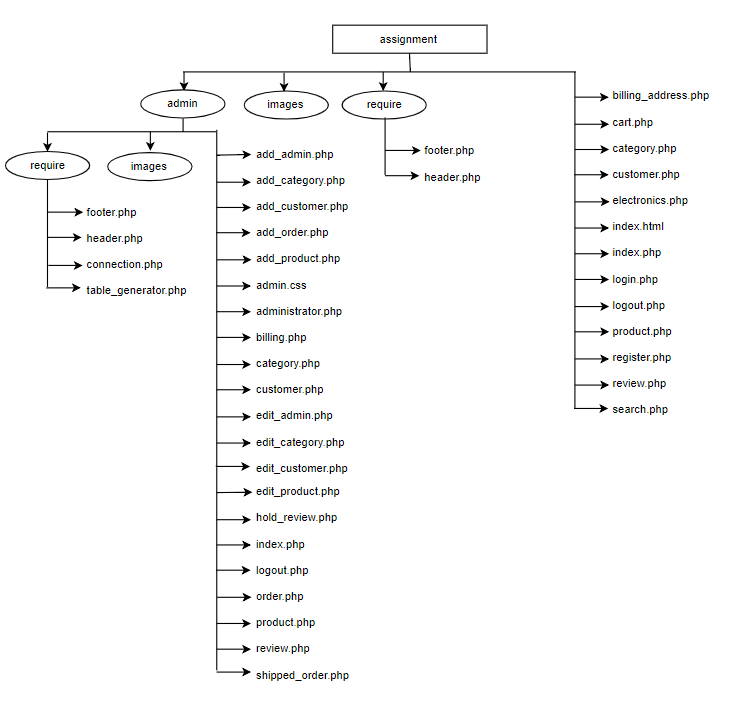
*Fig: Transaction through PayPal*

Remedy to fix the bug**:**

Since, there is empty fields, transaction would not happen. If given enough time, author would make the products visible in the PayPal website too in order for transaction to happen.

**4. TECHNICAL DOCUMENTATION**

**4.1 Files and Structure**



*Fig: File and Folder structure*

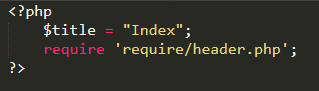
As the assignment is mainly focused on administrator and customer section, the file and folders are managed accordingly. The author has created a folder named "assignment" where all the files and folders are included. Inside assignment folder, there are 3 folders and 13 files where 1 folder named "admin" is completely based on administration part for managing the product, category, reviews, orders, etc. whereas other 3 folder and 13 file are completely based on customers. Within the "admin" folder, there consists 2 folder and 22 files.

Here, every common parts such as header, footer, database connectivity, table generator, etc. are included in "require" folder whereas all images are stored within "images" folder. Those file stored out are the core files of the website. As we can see, there are two "index.php" pages. They are the default page for admin and customer. They display the home page for both customer and admin, separately. They both have separate login and logout pages because once they login, they redirect to separate home page. Another important file is CSS file. They both have different CSS, "admin.css" and "customer.css" because their web layout is not similar. Other files has functionality according to their names such as "add\_product.php" file has function to add product, "edit\_category.php" has function to edit category, and so on.

We ever we want to add any new functionality in the website, we add those pages on "admin" folder whereas if we want to add a new page such as FAQ, we add page on out root folder i.e. "assignment" folder.

**4.2 Code Structure**

Talking about the code structure, author has applied various techniques to reduce the code. For example: by using table generator class, using a single file to display every product in selected category, using loops to generate categories, etc. each and every page has to have same header and footer. So, each page has included same "header.php" and "footer.php" file.

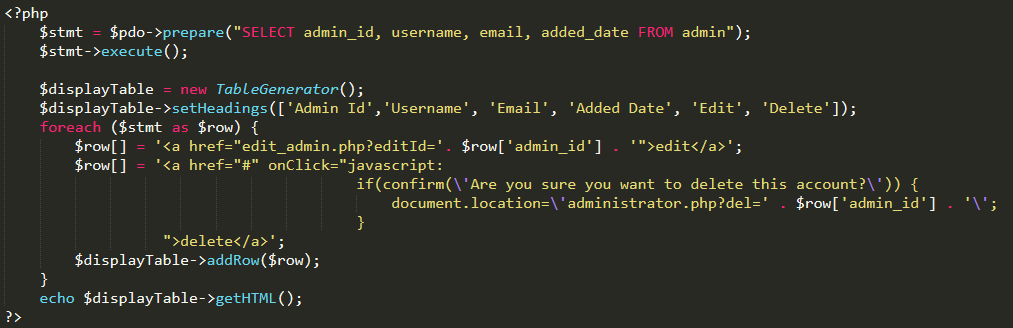


*Fig: require header*



*Fig: require footer*

Within these two lines of statements, different code is implemented in order or make fully dynamic website. Less code more function is what everybody needs. So, in order to reduce code structure, author has used table generator class. This code has been implemented to display the administrator details, category details, product details, etc. in tabular form.



*Fig: implementation of Table Generator Class*

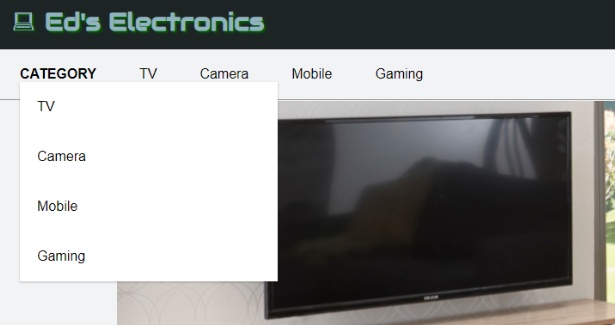


*Fig: implementation of Table Generator Class*

Whenever admin adds a new category, a new page or new drop-down list is not necessary to be added because author has used foreach loop to generate all the product either new or old to be displayed in drop-down menu.

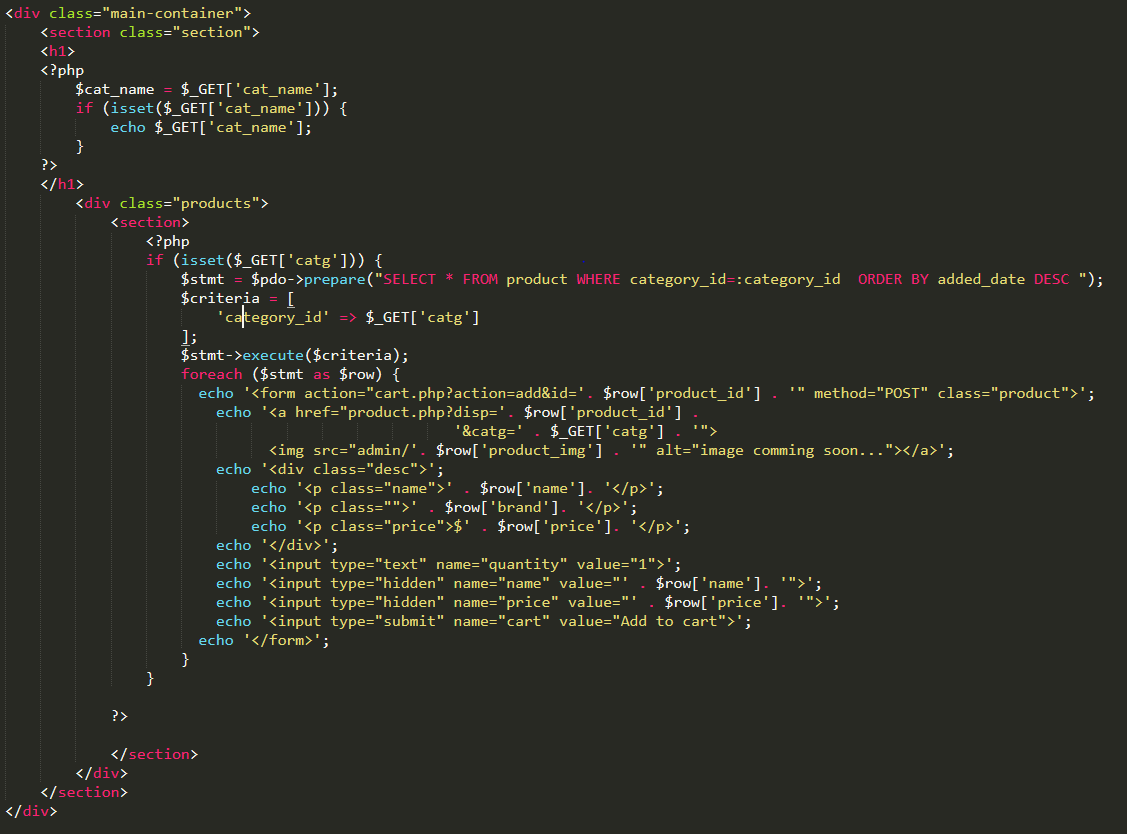


*Fig: display category*



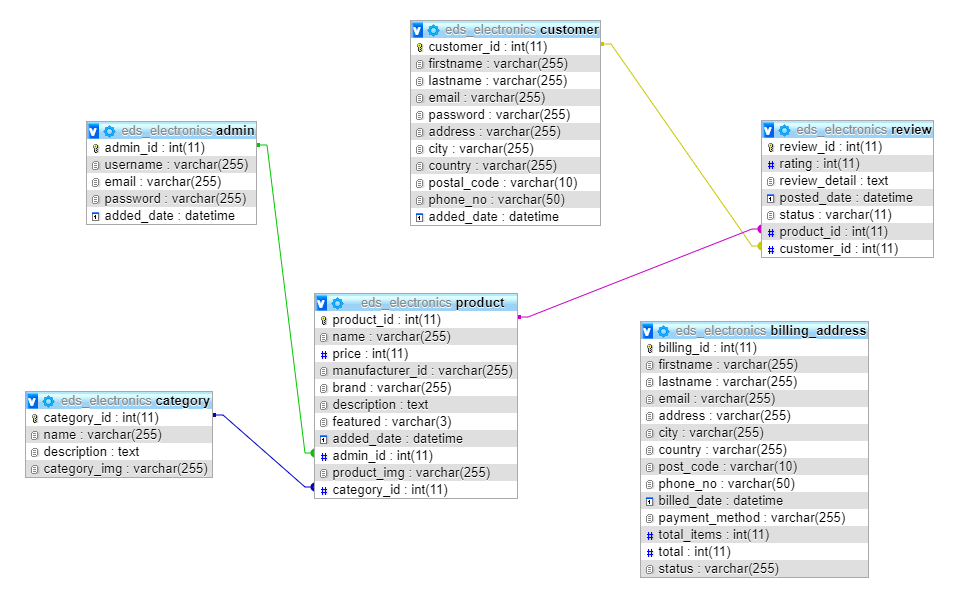
*Fig: drop-down menu (category)*

In order to reduce code make webpage more dynamic, author has used for loop to display every product in the category that customer selected. For e.g. if customer selects "mobile" category, all the product related to mobile is displayed, if customer selects "camera" category, all the product related to camera is displayed with this lines of code.



*Fig: display product related to category*

**4.3 SQL Table Structure**



*Fig: SQL Table Structure*

Here, the author has created total of 6 tables. They are admin, customer, category, product, review, billing\_address. In this picture we can also view how the tables are related with each other except for 'billing\_address' because 'billing\_address' table stored information of customer who ordered the items. In this way, SQL database is managed for eds electronics by the author.

**4.4 Reason behind file / code structure**

The reason behind creating such file and folder structure is because it becomes easy for us to manage url to redirect the page from one page to another. Another reason is because simple file and folder structure is easy to navigate and to manage it later on in future so that if any programmer tries to make some modification in those files then he/she can feel easy to browse through. When observing through authors file, we can see that file names gives full information about what's inside that file.

**VIDEO DEMONSTRATION**

<https://youtu.be/UPEpBGHe28Q>

**5. CONCLUSION**

Taking things into consideration, the author has been able to complete the project given by eds electronics fulfilling most of the requirements. All the features/requirement that has been implemented in the project is listed in checklist table along with step by step instruction to add new page to the website, add new form field to product and review. Requirement such as adding product, editing categories, managing accounts, etc. has been discussed in testing part where few failed test were carried out and expected output, actual output were shown. During the testing phase, author found out few bugs such as Password Validation, Total items shown in the cart, PayPal Payment, etc. were taken into consideration and possible remedy were carried out to solve those problems. Author has also managed file and folder structure in a proper way so that the next developer could easily browse through all the file. Along with functionality of the website, this report also provides useful information for another developer to make changes in the code. Because the overall code managed using table generator, loops, arrays, etc. one should only edit certain portion of the code in order to modify (add, edit, delete) items, page, etc. He/she does not need to make same changes in multiple files.

Besides all these requirement carried out, author has also tested the functionalities using a video demonstration where all the implemented feature are covered, all bugs were pointed out and validation was done by entering the values. The video link is given in the testing portion and table content at page no.2.

By going through each and every requirement thoroughly, testing the functionality and fixing the known bugs, author finally completed eds electronics project.

**6. REFERENCE**

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