

COSC360

UBCO

April 6, 2023

Gyumin Moon

Harshal

The Full Site Description

URL: <https://cosc360.ok.ubc.ca/gyumin/PROJECT-COSC360-1/page/>

[Test Account | email: tester@gmail.com, password: Tester1234]

[Test Admin Account | email:admin@gmail.com, password: Password1234]

Github: <https://github.com/COSC360/project-2020-byte>

Contents

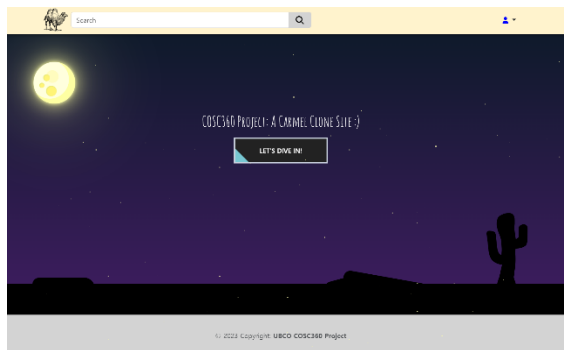
.....

- User guide
 - Detailed Description of Implementation
 - Unit Test Results
 - More Details of Feature and Its Description.
-

User guide (3 pages)

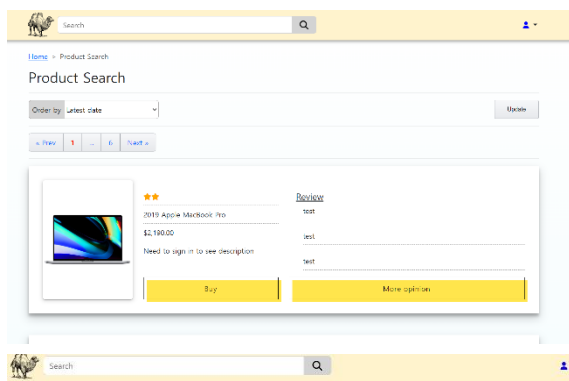
[Test Account | email: tester@gmail.com, password: Tester1234]

[Test Admin Account | email: admin@gmail.com, password: Password1234]



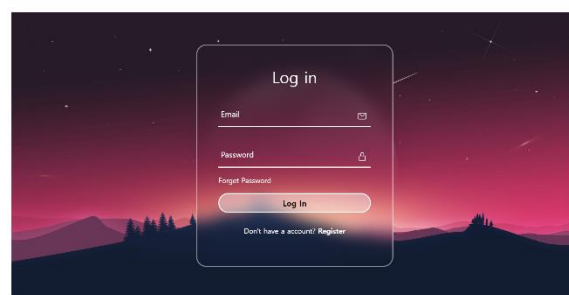
Home page

User can click search button or “Let’s Dive In” button to search and look around products without sign in.

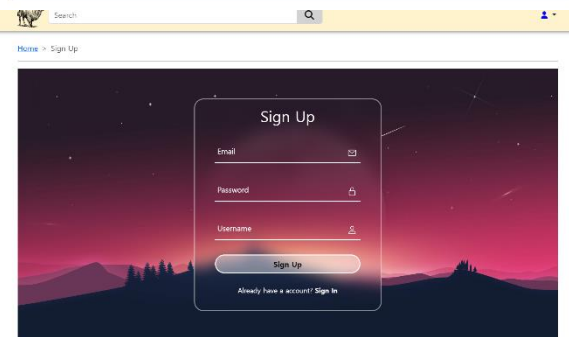


Product Search Page

To see description and more opinion, user need to click upper right button and choose sign in or creating account.



Login page



Sign up page

If users try to use already existing email or username will show error pop up.

If users try to use email or username that does not match with regular expression, it will show message that it should match with regular expression and what is regular expression here.

Now user can see details and can click more opinion button.

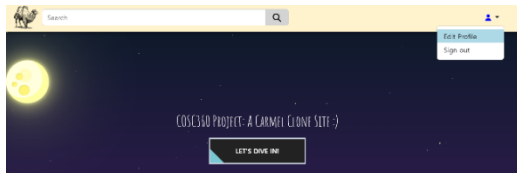
Current review in database is shown at first when user is brought to edit/delete page.

#	Username	Product
1	user11	2019 Apple MacBook Pro

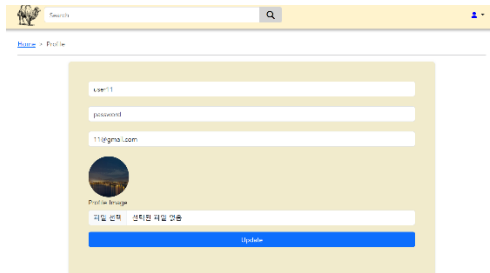
Rating

text by user11

[Edit](#)
[Delete](#)

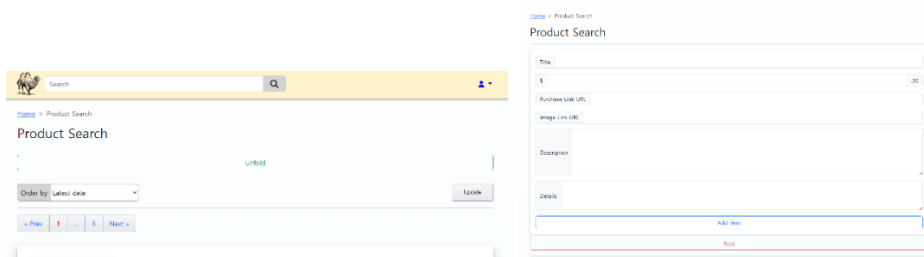


User can edit profile. Current profile data is shown at first except for password (for security)

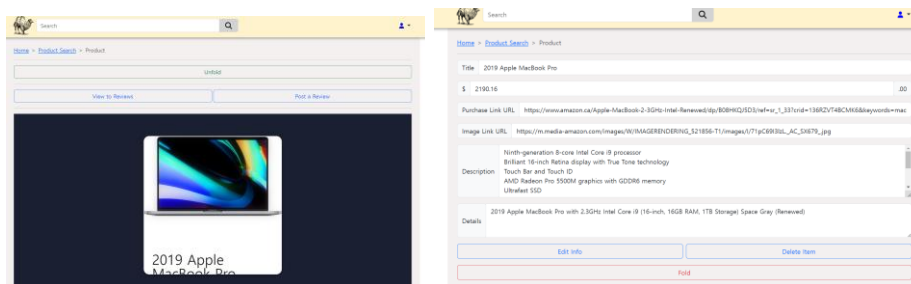


If users try to change email or username already existing then will not be changed.

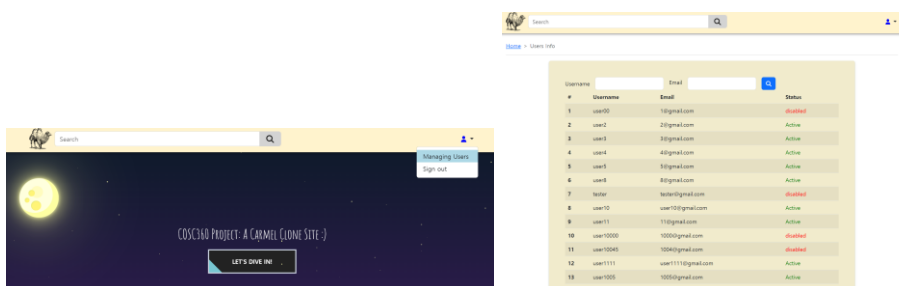
If signed in with admin account, admin can see unfold button on product search page and can add item with a form after unfolding that form.



Admin can do edit and delete item in same way on product page.



If admin click manage user button then it brings admin to page that can manage user status. And user status can be changed by clicking from active to disable and vice versa.



Detailed Description of Implementation (2 pages)

The file is separated by category. All the page code is in page folder and all the component code is in component folder. Reason of doing this is to avoid duplicating same code for same components on different page. Database folder has php files making website associate with database for ajax functions or some of form elements.

Auth	server side	3 weeks ago
PHPMailer	server	3 weeks ago
component	fine tune	yesterday
css	fine tune	3 weeks ago
database	fine tune	yesterday
ddl	fine tune	yesterday
document	fine tune	yesterday
img	auth function	2 months ago
page	fine tune	yesterday
.gitignore	server side	3 weeks ago
README.md	fine tune	yesterday
config.js	server side	3 weeks ago

This website is basically server-side rendering website.

..	
index.html	home.html
index.php	server side
login.html	title for input
login.php	fine tune
login2.html	auth function
lost.html	home.html
lost.php	fine tune
opinion.html	home.html
opinion.php	fine tune
product.html	home.html
product.php	wave
productSearch.html	home.html
productSearch.php	wave
profile.html	home.html
profile.php	fine tune
signup.html	title for input
signup.php	fine tune
signup2.html	home.html
users.html	home.html
users.php	fine tune

/page

All page is made as php file (html file was made for client demo so none of html file is used for current website.)

..		
folder	home.html	2 months ago
homeBackground	home.html	2 months ago
opinions	fine tune	yesterday
productCard	users page, product page, opinion page	2 months ago
productInfo	wave	2 weeks ago
productItem	wave	2 weeks ago
scrollTop	wave	2 weeks ago
searchBar	wave	2 weeks ago
signInForm	lost.html	2 months ago
welcome	home.html	2 months ago

/component

(Each folder in component folder has its own js and css file and it is imported to page files)

..		
addItem.php	delploy version	
changeStatus.php	delploy version	
dbconnect.php	wave	
edit.php	fine tune	
editProfile.php	fine tune	
email.php	server	
find.php	server side	
item.php	delploy version	
items.php	wave	
lost.php	delploy version	
manageUsers.php	fine tune	
opinions.php	delploy version	
review.php	delploy version	
userImg.php	fine tune	
users.php	fine tune	

/database

database folder's file helps ajax or form elements interact with database.

Unit Test Result

session_handler.php

```
<?php
function isLoggedIn() {
    return isset($_SESSION['user_id']) && $_SESSION['status'] != 0;
}
?>
```

The function that checks if user signed in and has active status to restrict to give permission to post/edit/delete review when user didn't sign in or has disabled status.

HandlerTest.php

```
<?php
use PHPUnit\Framework\TestCase;
require_once 'session_handler.php';

class ReviewHandlerTest extends TestCase {

    protected function setUp(): void {
        // Start the session before each test
        session_start();
    }

    public function testIsLoggedIn() {
        // Test the isLoggedIn() function when user is logged in
        $_SESSION['user_id'] = 1;
        $_SESSION['status'] = 1;
        $this->assertTrue(isLoggedIn());

        // Test the isLoggedIn() function when user is not logged in
        unset($_SESSION['user_id']);
        $this->assertFalse(isLoggedIn());

        // Test the isLoggedIn() function when user status is 0
        $_SESSION['user_id'] = 1;
        $_SESSION['status'] = 0;
        $this->assertFalse(isLoggedIn());
    }

    protected function tearDown(): void {
        // Unset all session variables
        session_unset();
    }
}
```

```

        // Destroy the session
        session_destroy();
    }
}
?>

```

This tests each case when 1) user signed in and has active status, 2) user did not signed in yet and 3) user signed in but has disabled status.

Case 1) should results in true.

```

// Test the isLoggedIn() function when user is logged in
$_SESSION['user_id'] = 1;
$_SESSION['status'] = 1;
$this->assertTrue(isLoggedIn());

```

Case 2) should results in false.

```

// Test the isLoggedIn() function when user is not logged in
unset($_SESSION['user_id']);
$this->assertFalse(isLoggedIn());

```

Case 3) should results in false.

```

// Test the isLoggedIn() function when user status is 0
$_SESSION['user_id'] = 1;
$_SESSION['status'] = 0;
$this->assertFalse(isLoggedIn());

```

If session_handler.php works properly, unit test should result in 1 test, 3 assertions without any Failures.

The result of above test. This proves that code works properly.

```

PHPUnit 10.0.19 by Sebastian Bergmann and contributors.

Runtime:       PHP 8.2.4

.                                                       1 / 1 (100%)

Time: 00:00.023, Memory: 24.00 MB

OK (1 test, 3 assertions)

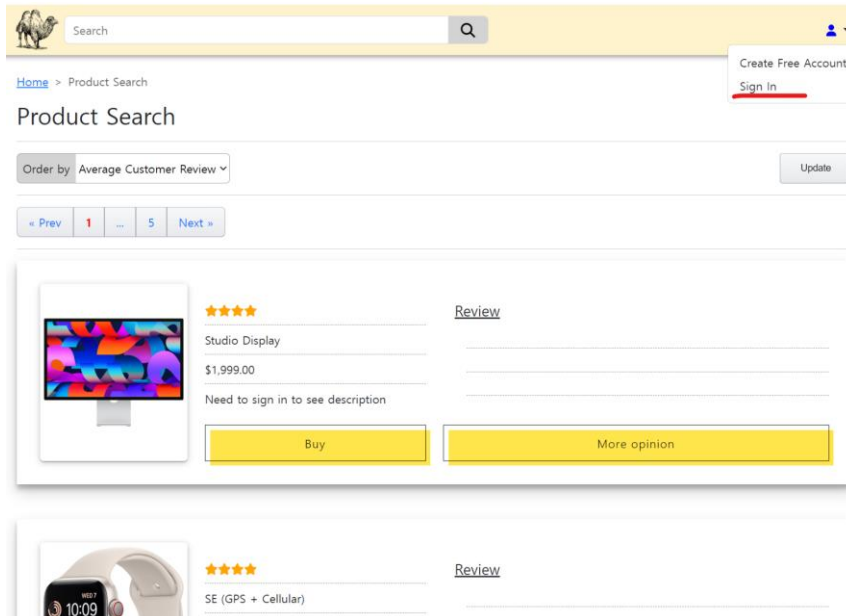
```


More Details of Feature and Its Description.

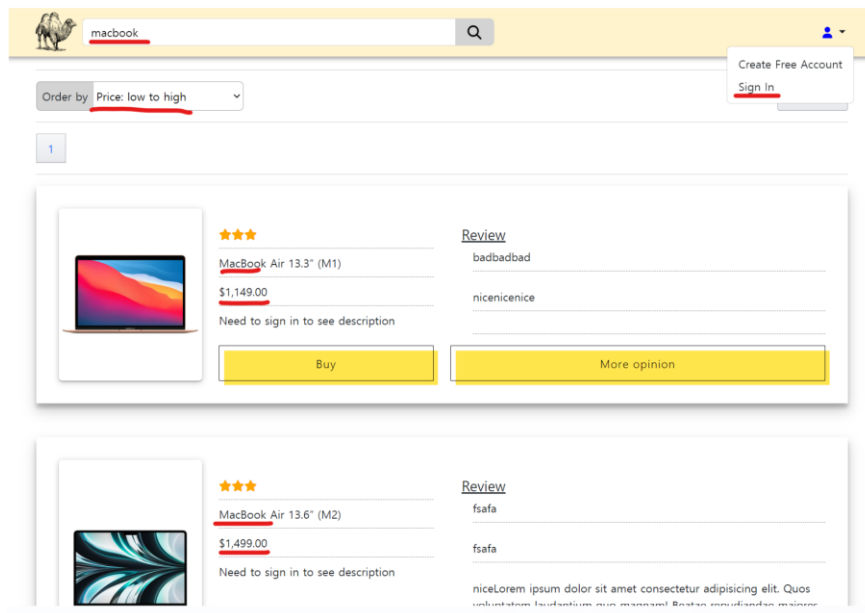
Website user's objectives:

Browse discussions without registering.

/page/productSearch.php

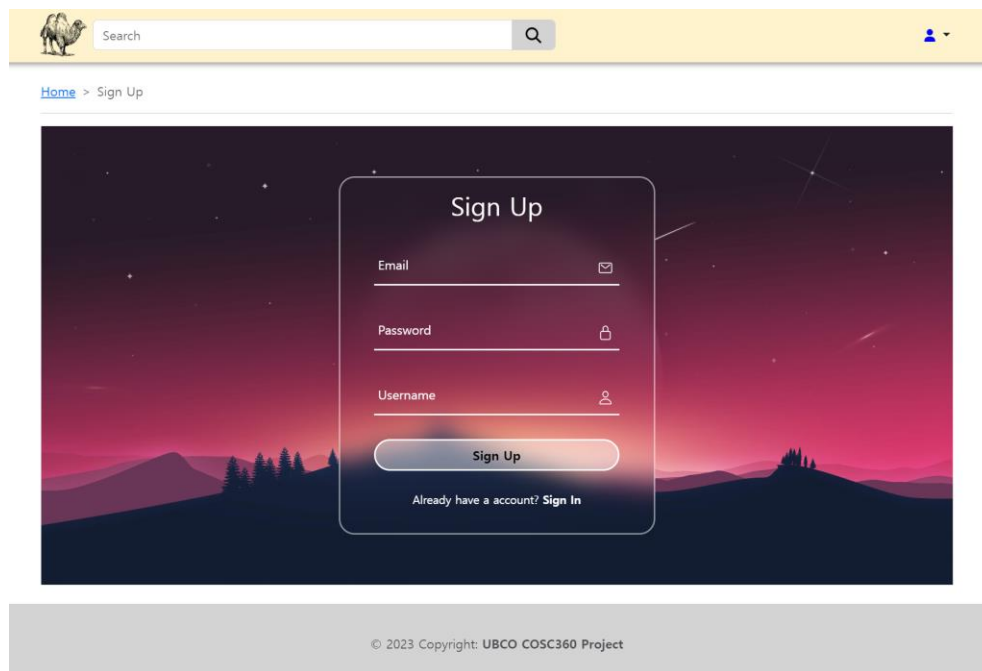


Search for items/posts by keyword without registering.



Register at the site by providing their name, e-mail and image.

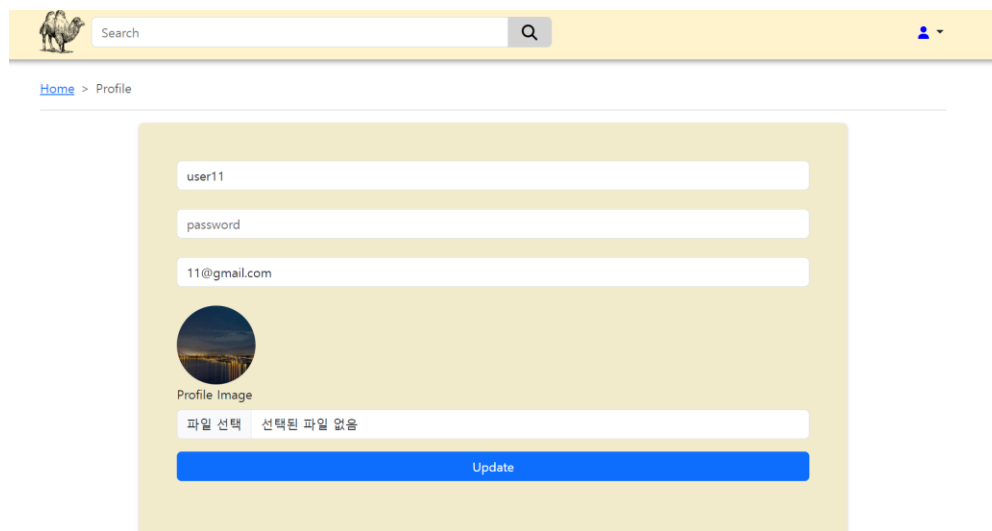
/page/signup.php



The screenshot shows a web application interface. At the top, there is a yellow header bar containing a search bar with a magnifying glass icon and a user profile icon. Below the header, a breadcrumb trail reads "Home > Sign Up". The main content area features a dark, scenic background with a central "Sign Up" form. The form includes input fields for "Email" (with an envelope icon), "Password" (with a lock icon), and "Username" (with a person icon). A "Sign Up" button is positioned below these fields, and a link "Already have an account? Sign In" is located at the bottom of the form. The footer of the page is a grey bar with the text "© 2023 Copyright: UBCO COSC360 Project".

Once signed up, then can set profile image at profile.php page.

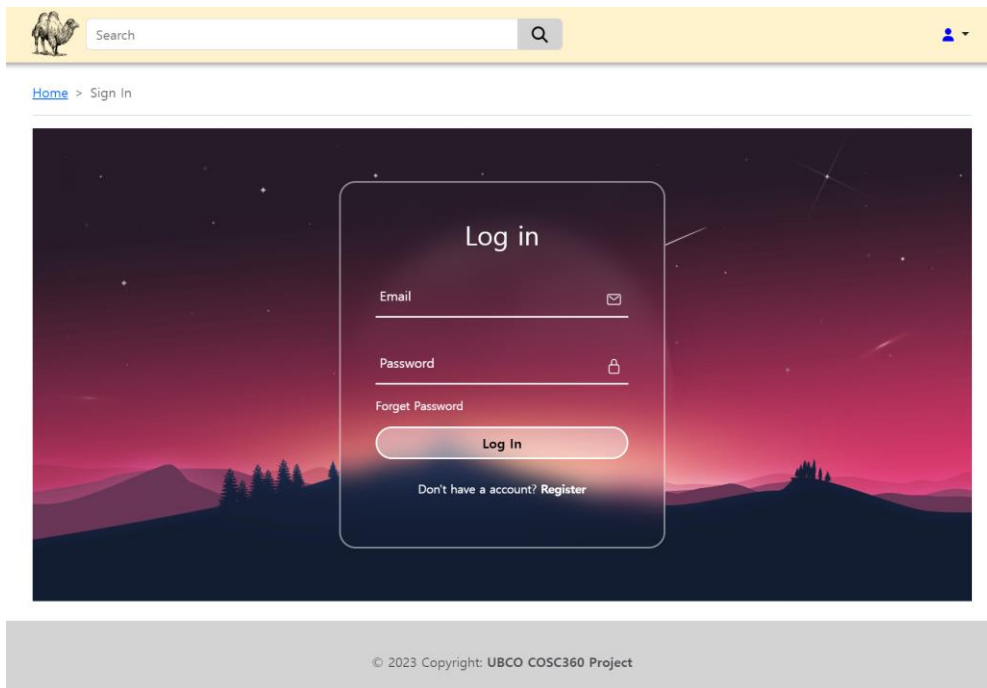
/page/profile.php



The screenshot displays the "Profile" page of the web application. The header is identical to the previous page. The breadcrumb trail now reads "Home > Profile". The main content area is a light yellow box containing a form for profile management. It includes input fields for "user11", "password", and "11@gmail.com". Below these is a circular "Profile Image" placeholder showing a landscape. Underneath the image is a file selection interface with the text "파일 선택" (File Select) and "선택된 파일 없음" (No file selected). A blue "Update" button is at the bottom of the form.

Allow user login by providing user id and password.

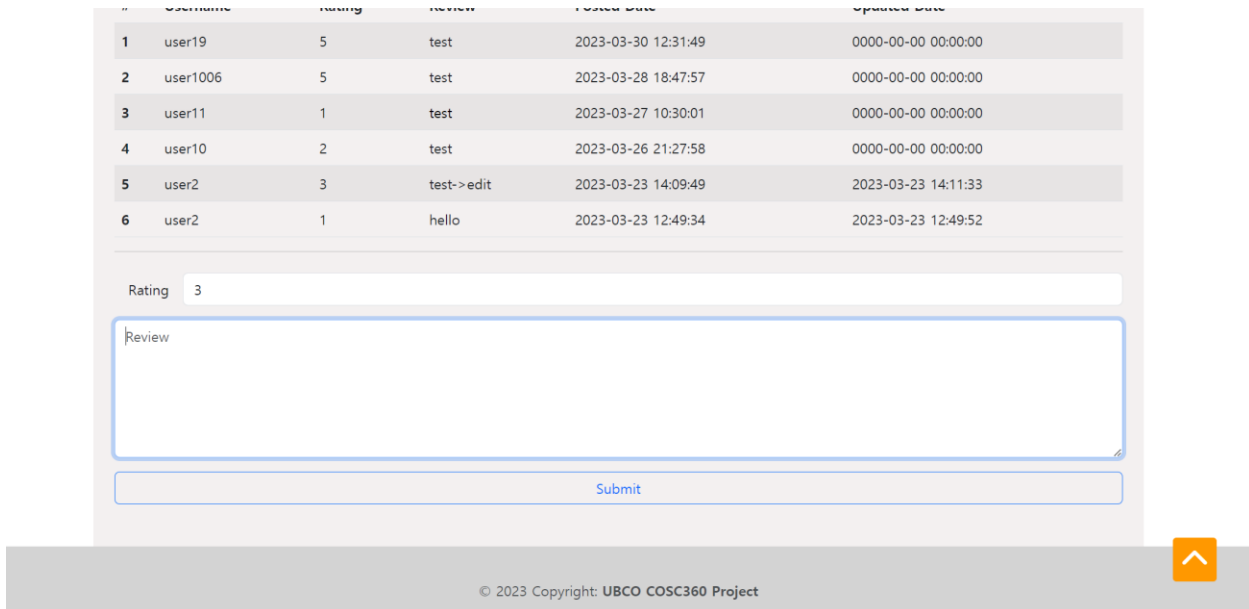
/page/login.php



The screenshot shows a web application's login page. At the top, there is a yellow header bar containing a search bar with a magnifying glass icon and a user profile icon. Below the header, a navigation bar shows 'Home' and 'Sign In' links. The main content area features a dark, scenic background with a central white login form. The form is titled 'Log in' and includes fields for 'Email' (with an envelope icon) and 'Password' (with a lock icon). Below these fields are links for 'Forgot Password' and a 'Log In' button. At the bottom of the form, there is a link that says 'Don't have an account? Register'. The footer of the page is a grey bar with the text '© 2023 Copyright: UBCO COSC360 Project'.

Create posts when logged into the site

/page/product.php

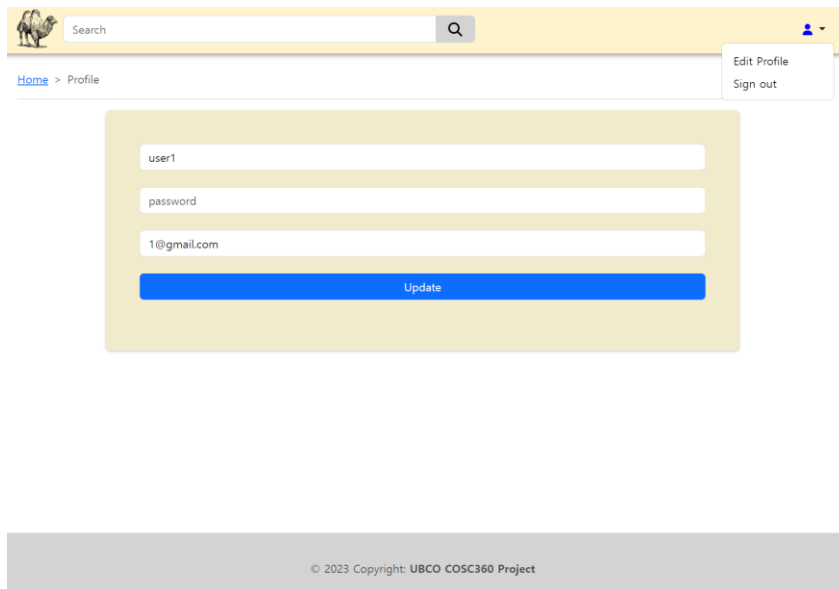


The screenshot displays a product page with a table of reviews. The table has six columns: 'id', 'username', 'rating', 'review', 'posted date', and 'updated date'. It contains six rows of review data. Below the table, there is a form for adding a new review. This form includes a 'Rating' dropdown menu set to '3', a large text area for the 'Review', and a 'Submit' button. The footer of the page is a grey bar with the text '© 2023 Copyright: UBCO COSC360 Project' and an orange upward-pointing arrow button on the right side.

id	username	rating	review	posted date	updated date
1	user19	5	test	2023-03-30 12:31:49	0000-00-00 00:00:00
2	user1006	5	test	2023-03-28 18:47:57	0000-00-00 00:00:00
3	user11	1	test	2023-03-27 10:30:01	0000-00-00 00:00:00
4	user10	2	test	2023-03-26 21:27:58	0000-00-00 00:00:00
5	user2	3	test->edit	2023-03-23 14:09:49	2023-03-23 14:11:33
6	user2	1	hello	2023-03-23 12:49:34	2023-03-23 12:49:52

Users are required to be able to view/edit their profile.

/page/profile.php



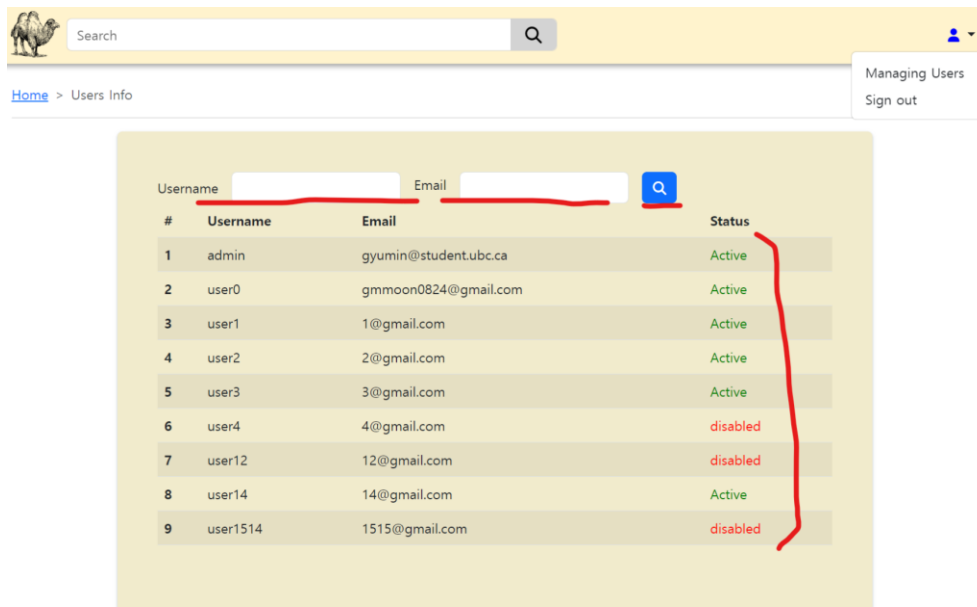
The screenshot shows the user profile page. At the top, there is a search bar with a camel icon and a search button. Below the search bar, there is a navigation bar with a link to "Home" and a link to "Profile". On the right side of the navigation bar, there is a user profile icon with a dropdown menu containing "Edit Profile" and "Sign out". The main content area contains a form with three input fields: "user1", "password", and "1@gmail.com". Below the input fields is a blue "Update" button. At the bottom of the page, there is a footer with the text "© 2023 Copyright: UBCO COSC360 Project".

Website administrator's objectives:

Search for user by name, email.

Enable/disable users. (Status is changed by clicking it like toggle)

/page/users.php



The screenshot shows the user management page. At the top, there is a search bar with a camel icon and a search button. Below the search bar, there is a navigation bar with a link to "Home" and a link to "Users Info". On the right side of the navigation bar, there is a user profile icon with a dropdown menu containing "Managing Users" and "Sign out". The main content area contains a table with the following columns: "#", "Username", "Email", and "Status". The table contains 9 rows of user data. A red line is drawn across the "Username" and "Email" columns, and a red bracket is drawn around the "Status" column.




#	Username	Email	Status
1	admin	gyumin@student.ubc.ca	Active
2	user0	gmmoon0824@gmail.com	Active
3	user1	1@gmail.com	Active
4	user2	2@gmail.com	Active
5	user3	3@gmail.com	Active
6	user4	4@gmail.com	disabled
7	user12	12@gmail.com	disabled
8	user14	14@gmail.com	Active
9	user1514	1515@gmail.com	disabled

Edit/remove posts items or complete posts.

(Administrator account can click any review and move to its review page)

#	Username	Rating	Review	Posted Date	Updated Date
1	user0	5	fsafa	2023-03-14 18:08:04	2023-03-18 15:15:14
2	user0	5	fsafa	2023-03-14 18:07:40	2023-03-18 15:15:14
3	user0	4	niceLorem ipsum dolor sit amet consectetur adipisicing elit. Quos voluptatem laudantium quo magnam! Beatae repudiandae maiores, debitis, expedita aliquam magni, aut doloremque error veritatis a impedit seqniceLorem ipsum dolor sit amet consectetur adipisicing elit. Quos voluptatem laudantium quo magnam! Beatae repudiandae maiores, debitis, expedita aliquam magni, aut doloremque error veritatis a impedit seqniceLorem ipsum dolor sit amet consectetur adipisicing elit. Quos voluptatem laudantium quo magnam! Beatae repudiandae maiores, debitis, expedita aliquam magni, aut doloremque error veritatis a impedit seq	2023-03-14 14:45:24	2023-03-18 15:15:14
4	user1	3	not bad	2023-03-14 14:45:24	2023-03-18 15:15:14
5	user2	2	not good	2023-03-14 14:45:24	2023-03-18 15:15:14
6	user3	1	bad	2023-03-14	2023-03-18

Once moved to certain review page, administrator can edit and delete posts like its own user.



[Home](#) > [Product Search](#) > [MacBook Air 13.6" \(M2\)](#) > Review

#	Username	Product
1	admin	MacBook Air 13.6" (M2)

Rating

niceLorem ipsum dolor sit amet consectetur adipisicing elit. Quos voluptatem laudantium quo magnam! Beatae repudiandae maiores, debitis, expedita aliquam magni, aut doloremque error veritatis a impedit seqniceLorem ipsum dolor sit amet consectetur adipisicing elit. Quos voluptatem laudantium quo magnam! Beatae repudiandae maiores, debitis, expedita aliquam magni, aut doloremque error veritatis a impedit seqniceLorem ipsum dolor sit amet consectetur adipisicing elit. Quos voluptatem laudantium quo magnam! Beatae repudiandae maiores, debitis, expedita aliquam magni, aut doloremque error veritatis a impedit seq

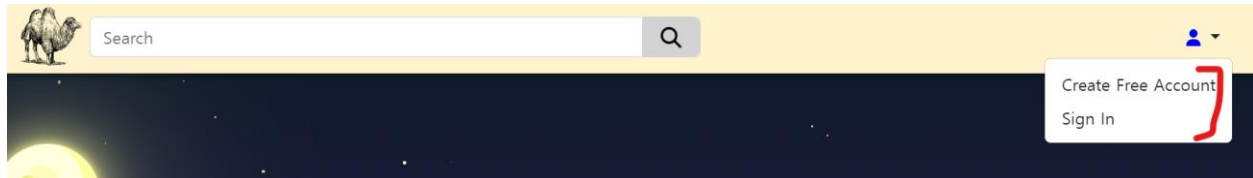
Edit

Delete

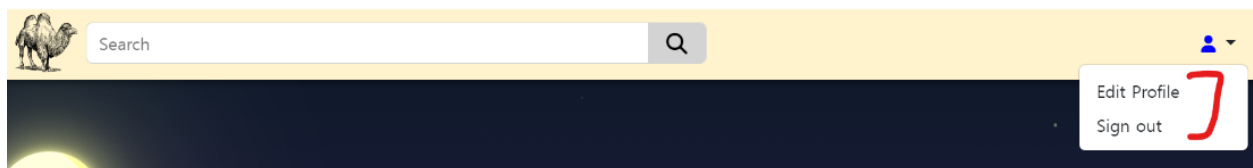
Minimum Functional Requirements:

Hand-styled layout with contextual menus (i.e. when user has logged on to site, menus reflect change).

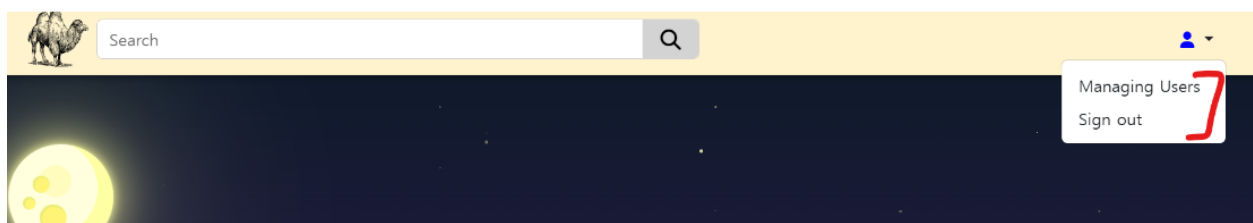
1. Unsigned user view



2. Signed user view

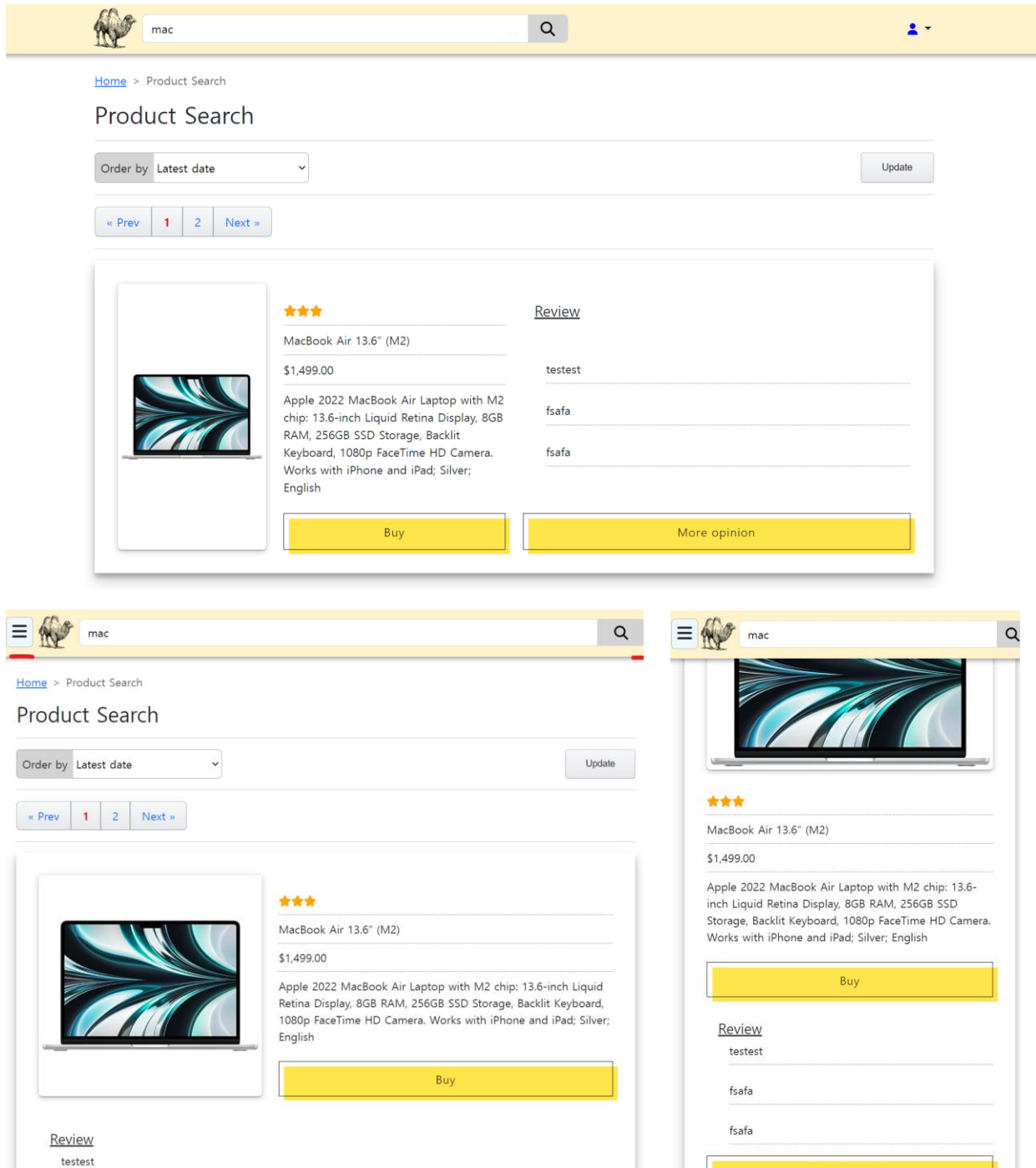


3. Administrator view



2 or 3 column layout using appropriate design principles (i.e. highlighting nav links when hovered over, etc) responsive design.

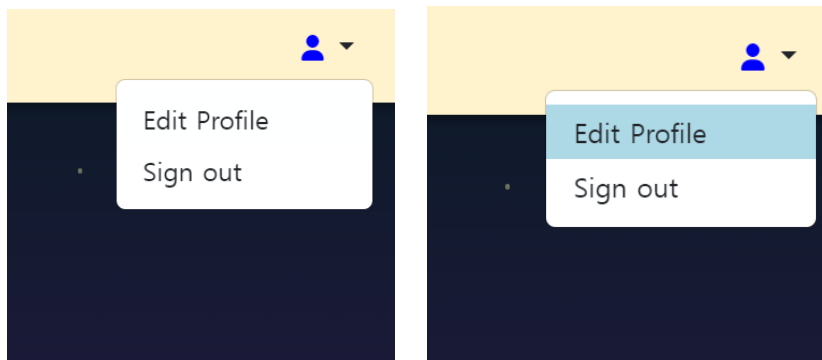
Responsive design



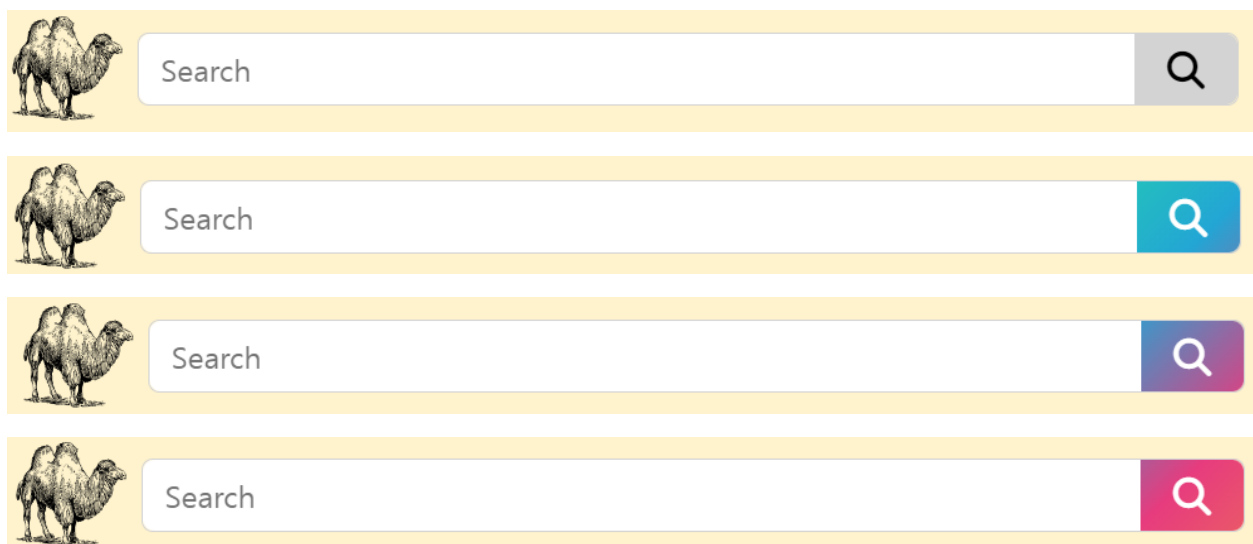
When hover “LET’S DIVE IN” button, it is filled with blue from the lower left corner to upper right corner.



When hover menu, that menu’s background color is changed.



When hover magnifier icon, color keep changing from sky blue to pink and vice versa.



When input is focused, red outline is activated.



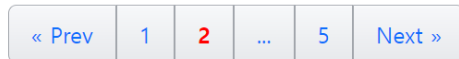
When hover pagination button, it gets to has shadow.

When it is focused, it changes background color and font color.



Total number of pages: 5

Current page: 2



Current page: 3



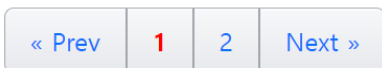
Total number of pages: 1

Current page: 1



Total number of pages: 2

Current page: 1

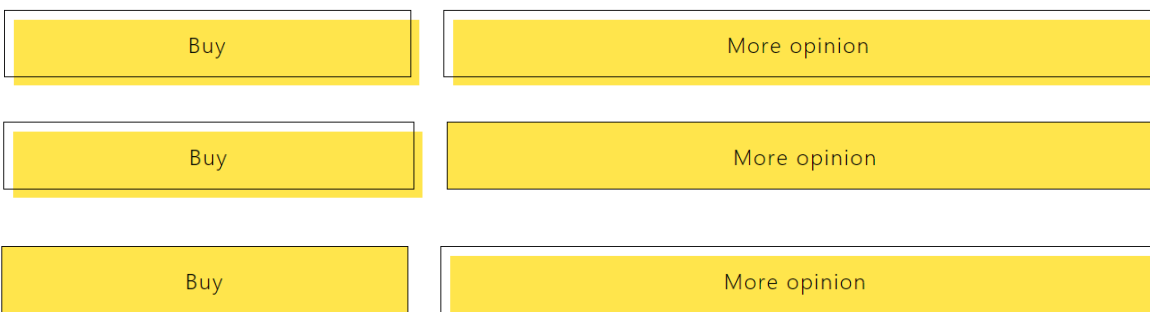


Total number of pages: 4

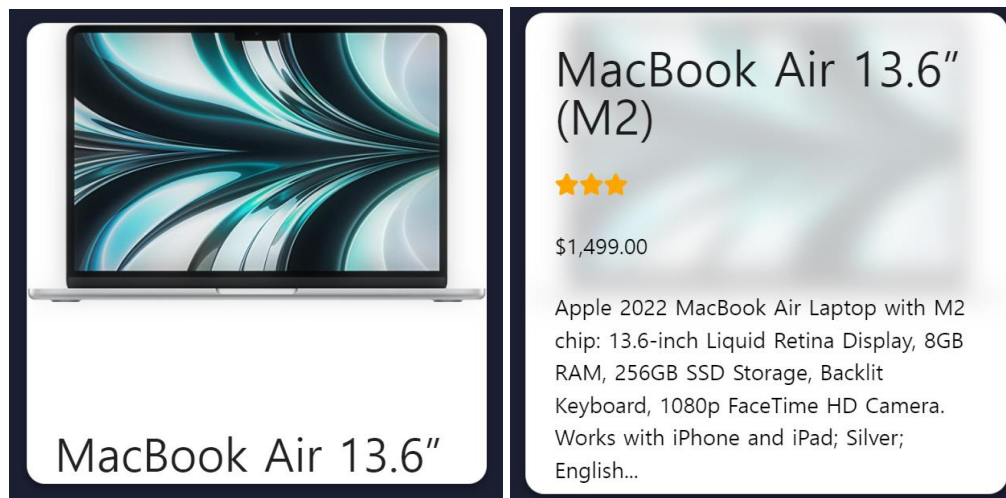
Current page: 3



When hover Buy or More opinion button, its background yellow shadow fits to its location



When hover image of product at product.php page, it slides up details.



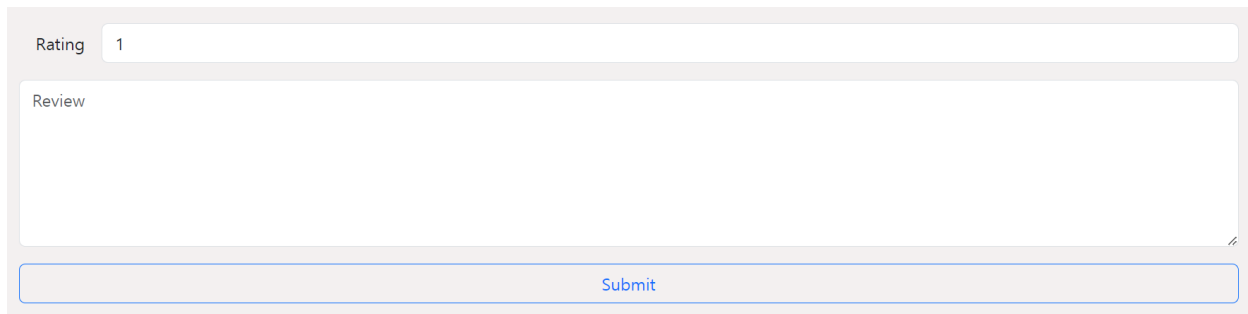
When hover user own review at product.php page, its color change to blue.

#	Username	Rating	Review	Posted Date	Updated Date
1	user0	5	fsafa	2023-03-14 18:08:04	2023-03-18 15:15:14
2	user0	5	fsafa	2023-03-14 18:07:40	2023-03-18 15:15:14
3	user0	4	niceLorem ipsum dolor sit amet consectetur adipisicing elit. Quos voluptatem laudantium quo magnam! Beatae repudiandae maiores, debitis, expedita aliquam magni, aut doloremque error veritatis a impedit seqniceLorem ipsum dolor sit amet consectetur adipisicing elit. Quos voluptatem laudantium quo magnam! Beatae repudiandae maiores, debitis, expedita aliquam magni, aut doloremque error veritatis a impedit seqniceLorem ipsum dolor sit amet consectetur adipisicing elit. Quos voluptatem laudantium quo magnam! Beatae repudiandae maiores, debitis, expedita aliquam magni, aut doloremque error veritatis a impedit seq	2023-03-14 14:45:24	2023-03-18 15:15:14
4	user1	3	not bad	2023-03-14 14:45:24	2023-03-18 15:15:14
5	user2	2	not good	2023-03-14 14:45:24	2023-03-18 15:15:14
6	user3	1	bad	2023-03-14 14:45:24	2023-03-18 15:15:14

If user is disabled and hover its own posts, its color change to red

#	Username	Rating	Review	Posted Date	Updated Date
1	user3	1	badbadbad	2023-03-14 14:45:24	2023-03-18 15:15:14
2	user4	5	nicenice	2023-03-14 14:45:24	2023-03-18 15:15:14

Submit review button changes its color when it is hovered.

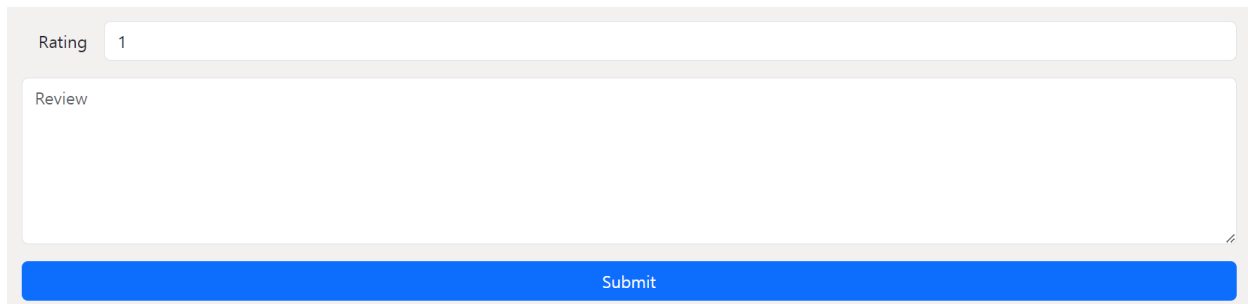


Rating 1

Review

Submit

This form contains a rating input set to '1' and a large text area for a review. Below the review area is a 'Submit' button with a light blue background and a thin blue border.



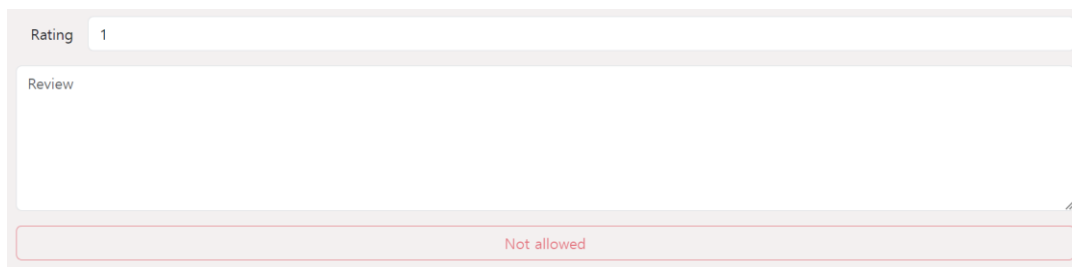
Rating 1

Review

Submit

This form is identical to the one above, but the 'Submit' button has a solid dark blue background, indicating a hover state.

If user is disabled, submit review button is changed to Not allowed with red color as well.



Rating 1

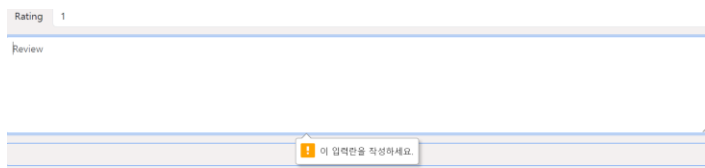
Review

Not allowed

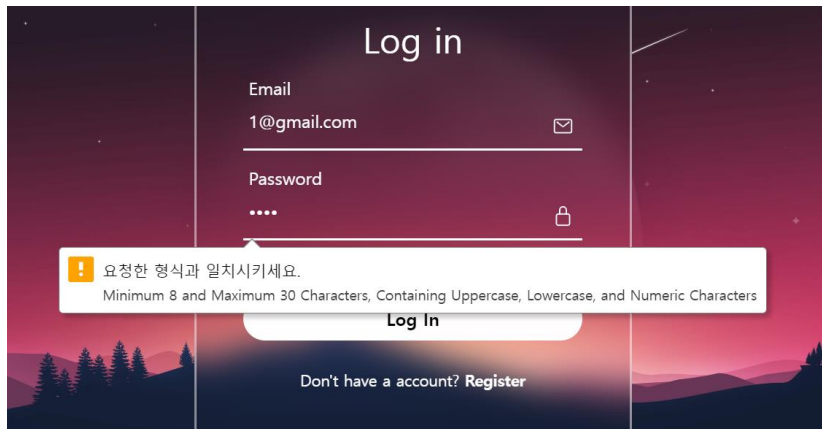
This form is identical to the previous ones, but the button at the bottom is red with the text 'Not allowed' in the center, indicating a disabled state.

Form validation with JavaScript

When input is empty or invalid, it shows warning message.



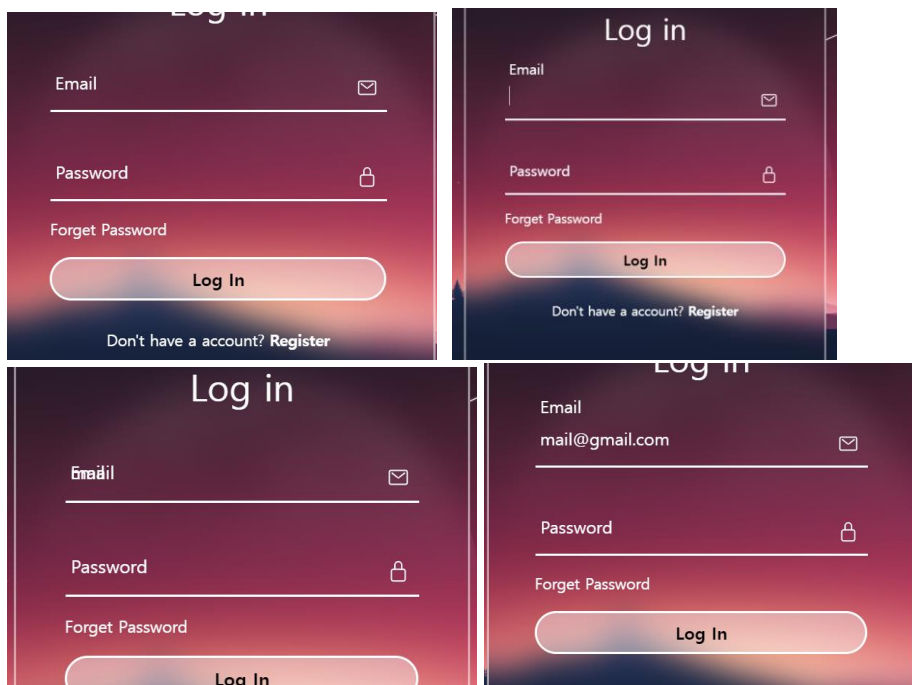
A form with a 'Rating' input field containing the value '1' and a 'Review' text area. A yellow warning message box is displayed below the form, containing a warning icon and the text '이 입력란을 작성하세요.' (Please enter in this input field).



A login form titled 'Log in' with fields for 'Email' (containing '1@gmail.com') and 'Password' (masked with dots). A yellow warning message box is displayed over the password field, containing a warning icon and the text '요청한 형식과 일치시키세요. Minimum 8 and Maximum 30 Characters, Containing Uppercase, Lowercase, and Numeric Characters'. Below the fields is a 'Log In' button and a link 'Don't have a account? Register'.

When it is focused or has correct formation of input, the label goes up.

On the contrary, When it is not focused with invalid input, the label goes down.



Four screenshots of a login form titled 'Log in' showing the animation of the 'Email' label. The form has fields for 'Email' and 'Password', a 'Forget Password' link, a 'Log In' button, and a 'Don't have a account? Register' link. The 'Email' label is shown in four states: 1. Not focused and empty, the label is below the input field. 2. Focused and empty, the label is above the input field. 3. Not focused and contains 'mail@gmail.com', the label is above the input field. 4. Not focused and contains 'mail@gmail.com', the label is above the input field.

Server-side scripting with PHP

Basically, this site is created using php. Use php to set up a session, search for and import data, or write a review.

Data storage in MySQL

All data is stored using mySQL. There is a table of users, options, and items.

Appropriate security for data

By using the prepare() and bind_param() functions in PHP, the code is able to prevent SQL injection attacks as shown below.

```
// Prepare and execute the SQL query
$stmt = $conn->prepare("SELECT * FROM items WHERE id = ?");
// $stmt = $conn->prepare("SELECT * FROM opinions");

$itemId = $_GET['id'];
$stmt->bind_param("i", $itemId);
$stmt->execute();

// Get the result
$result = $stmt->get_result();
```

Besides, It ensures the security of the user's personal information using hashed password Part of signup.php

```
if (!empty($_POST['email']) && !empty($_POST['password'])
&& !empty($_POST['username'])) {
    // Check if email and password are valid
    $email = $_POST['email'];
    $password = $_POST['password'];
    $password = password_hash( $password, PASSWORD_DEFAULT);
    $username = $_POST['username'];
```

Part of login.php

```
if (!empty($_POST['email']) && !empty($_POST['password'])) {
    // Check if email is valid
    $email = $_POST['email'];

    // Prepare and execute SQL query to retrieve the user's hashed password
```

```

        $stmt = $conn->prepare('SELECT id, status, password FROM users WHERE
email = ?');
        $stmt->bind_param('s', $email);
        $stmt->execute();
        $result = $stmt->get_result();

        // Check if a row was returned
        if ($result->num_rows == 1) {
            // Fetch the row and verify the hashed password
            $row = $result->fetch_assoc();
            $hashed_password = $row['password'];
            $input_password = $_POST['password'];

            if (password_verify($input_password, $hashed_password)) {
                // Authentication successful, set session variables
                $_SESSION['user_id'] = $row['id'];
                $_SESSION['email'] = $email;
                $_SESSION['status'] = $row['status'];

                // Redirect to authorized page
                header("Location: ./index.php");
                exit();
            }
        }
    }
}

```

Hashed Password

\$2y\$10\$qj4KSMNdJE8qVWCbEZz/HOsl7moPVMQO5K/7gG4j9rD... user8

1 2023-03-26 19:41:02

Site must maintain state (user state being logged on, etc)

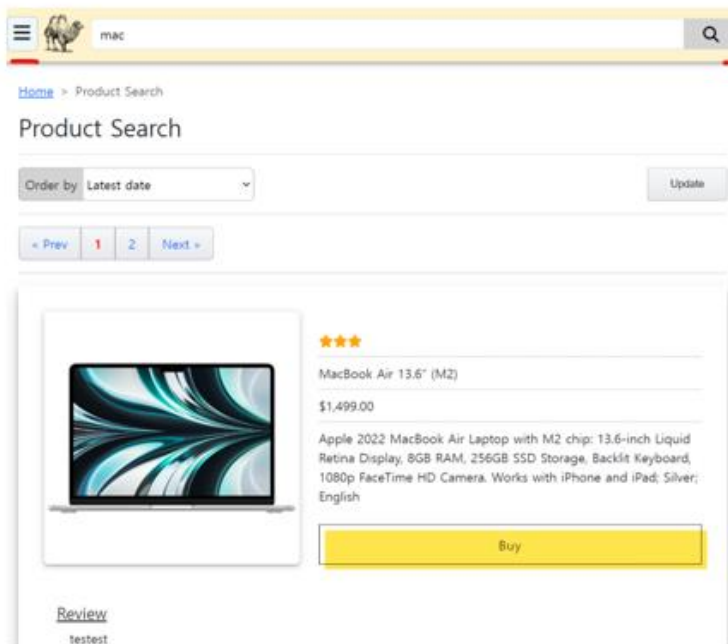
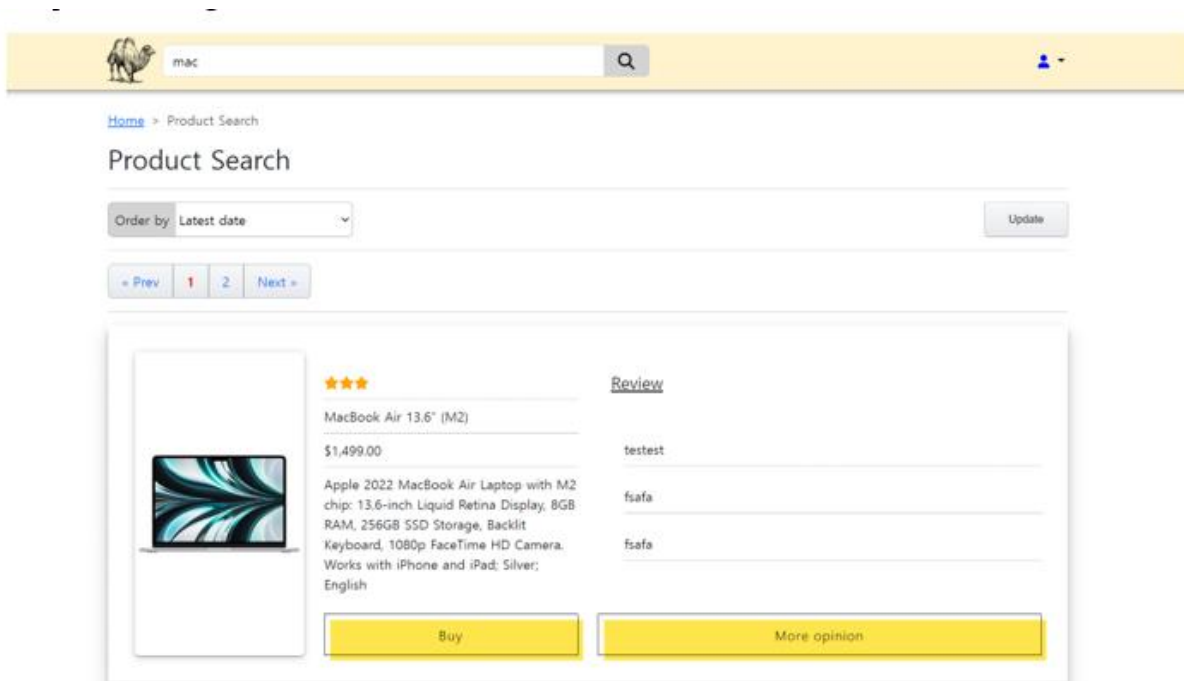
The codes of page files start with session start() as shown below so can always check and manage state maintenance.

```

<?php
// Start session
session_start();

```

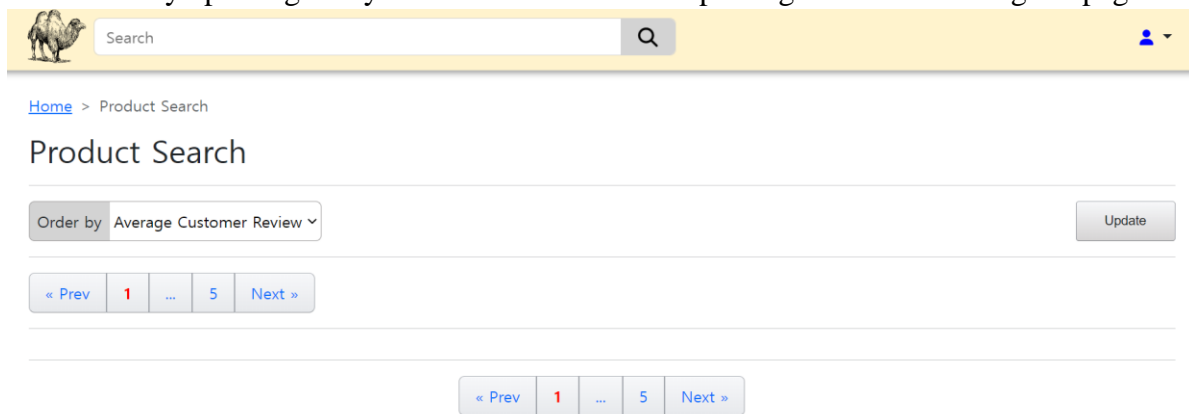
Responsive design philosophy (minimum requirements for different non-mobile display sizes)



AJAX (or similar) utilization for asynchronous updates (meaning that if a discussion thread is updated, another user who is viewing the same thread will not have to refresh the page to see the update)

Item lists are imported asynchronously using AJAX. When the Internet speed is adjusted slowly, you can directly see that the item list changes without reloading the page.

Setinterval is used with callback function which is ajax and 100sec timer so it keeps automatically updating every 100sec so user can see updating without renewing the page.



Example of Code

```
var intervalID = setInterval(() => {
  console.log('setData');
  if(!search) {
    getItemNum("");
    asyncItems("", order);
  } else {
    getItemNum(search);
    asyncItems(search, order);
  }
}, 100000);
```

```
const asyncItems = (search = "", order, page=1) => {

$.ajax({
  url: "../database/items.php",
  type: "GET",
  dataType: "json",
  data: {
    search: search,
    order: order,
    page: page
  }
});
```



```

    },
    success: function(response) {
        // Update the HTML with the fetched data

        productItem_html = "";
        $(".item_list").html("");
        showData(response);
        showPagination(pageNum);
        console.log("asyncItems: "+search);

    },
    error: function(xhr, status, error) {
        // Handle errors here
        console.log("Error: " + error);
    }
  });
}

```

User's reviews also automatically updates every 1sec.

```

function fetchData() {
  $.ajax({
    url: "../database/opinions.php",
    type: "GET",
    dataType: "json",
    data: {
      itemId: itemId
    },
    success: function(response) {
      // Update the HTML with the fetched data
      showOpinion(response);
    },
    error: function(xhr, status, error) {
      // Handle errors here
      console.log("First Error: " + error);
    }
  });
}

fetchData();

var intervalID = setInterval(fetchData, 1000);

```

User profile stored in database.

User information is stored in the database. A user has an id, email, username, password, status, account creation date.

User images (thumbnail) and profile stored in database

One of example

1919@gmail.com	\$2y\$10\$Vjeoeuwc3FZGjFy4WmbtvOzXFtNd5XM3ml5GCsfFDUR...	user19	0	2023-03-30 12:30:54	image/gif	[BLOB - 12 KB]
----------------	--	--------	---	---------------------	-----------	----------------

Simple discussion (topics) grouping and display

Users can discuss about product and it is displayed.

cancelling woofers Four Thunderbolt 3 (USB-C) ports Up to 11 hours of battery life 802.11ac Wi-Fi

#	Username	Rating	Review	Posted Date	Updated Date
1	user19	5	test	2023-03-30 12:31:49	0000-00-00 00:00:00
2	user1006	5	test	2023-03-28 18:47:57	0000-00-00 00:00:00
3	user11	1	test	2023-03-27 10:30:01	0000-00-00 00:00:00
4	user10	2	test	2023-03-26 21:27:58	0000-00-00 00:00:00
5	user2	3	test->edit	2023-03-23 14:09:49	2023-03-23 14:11:33
6	user2	1	hello	2023-03-23 12:49:34	2023-03-23 12:49:52

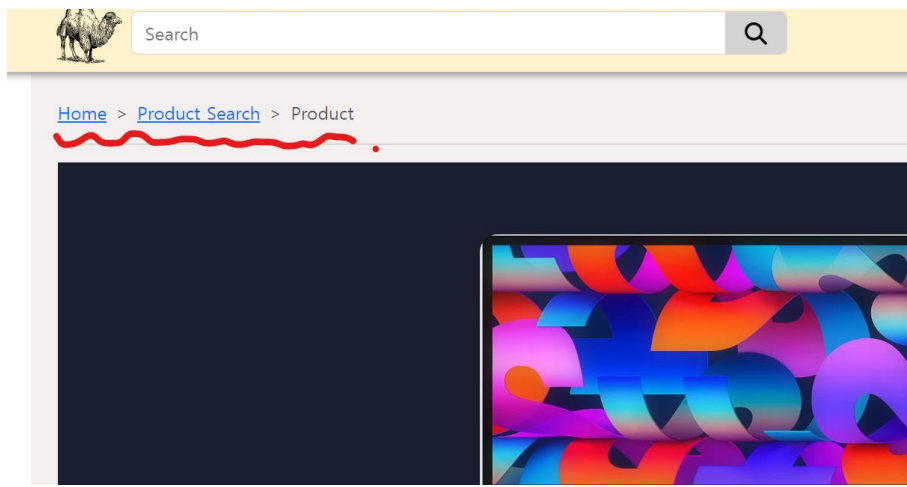
Rating

1

Review

Submit

Navigation breadcrumb strategy (i.e. user can determine where they are in threads)



Error handling (bad navigation)

If an unauthorized user tries to use url to move to a specific page, it is automatically moved to index.php using the header function in php.

```
// Start session
session_start();

// Check if user is already logged in
if (!isset($_SESSION['user_id']) || $_SESSION['status'] == 0) {
    // Redirect to authorized page
    header("Location: ./index.php");
    exit();
}
```

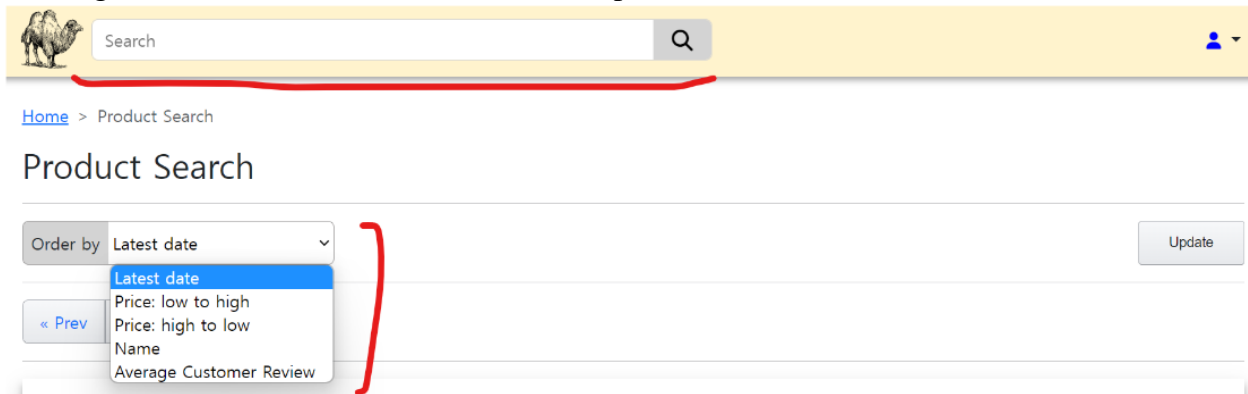
Additional Requirements:

Search and analysis for topics/items

Hot threads/hot item tracking

This site allows users to search and analyze topics/items using a search bar and select options.

“Average Customer Review” will show most reputable items first, which is hot items.




Activity by date

#	Username	Rating	Review	Posted Date	Updated Date
1	user0	1	testest	2023-03-19 17:00:17	2023-03-19 17:00:17
2	user0	5	fsafa	2023-03-14 18:08:04	2023-03-18 15:15:14
3	user0	5	fsafa	2023-03-14 18:07:40	2023-03-18 15:15:14
4	user0	4	niceLorem ipsum dolor sit amet consectetur adipisicing elit. Quos voluptatem laudantium quo magnam! Beatae repudiandae maiores, debitis, expedita aliquam magni, aut doloremque error veritatis a impedit seqniceLorem ipsum dolor sit amet consectetur adipisicing elit. Quos voluptatem laudantium quo magnam! Beatae repudiandae maiores, debitis, expedita aliquam magni, aut doloremque error veritatis a impedit seqniceLorem ipsum dolor sit amet consectetur adipisicing elit. Quos voluptatem laudantium quo magnam! Beatae repudiandae maiores, debitis, expedita aliquam magni, aut doloremque error veritatis a impedit seq	2023-03-14 14:45:24	2023-03-18 15:15:14

Collapsible items/treads without page reloading

User can see next data set from the next offset using pagination without reloading the page.



★★

Apple 2020 MacBook Air Laptop: Apple M1

\$1,699.00

Apple 2020 MacBook Pro with Apple M1 Chip (13-inch, 8GB RAM, 256GB SSD Storage) - Space Gray

Buy

Review


good

sadfa

fsdfs

More opinion

Order by Latest date



★★

iMac (24" 7-core GPU)

\$1,949.00

Apple 2021 iMac (24-inch, Apple M1 chip with 8-core CPU and 8-core GPU, 8GB RAM, 256GB) - Blue - English



Buy

Review

More opinion

The administrator can fold and unfold certain form elements to modify the product's information. Input elements currently have data of the product as a default.

The same approach is utilized while adding products, wherein the default value is an empty string.



[Home](#) > [Product Search](#) > Product

Unfold

[Home](#) > [Product Search](#) > Product

Title

MacBook Air 13.6" (M2)

\$



1499.99

.00

Purchase Link URL

https://www.amazon.ca/dp/B0B4DY72M4/ref=fs_a_i_0

Fold



[Home](#) > [Product Search](#) > Product

Title

MacBook Air 13.6" (M2)

\$

1499.99

.00

Purchase Link URL

https://www.amazon.ca/dp/B0B4DY72M4/ref=fs_a_i_0

Image Link URL

https://m.media-amazon.com/images/W/IMAGERENDERING_521856-T1/images/I/71eXNIDUGjL_AC_SX679_.jpg

Description

STRIKINGLY THIN DESIGN — The redesigned MacBook Air is more portable than ever and weighs just 2.7 pounds. It's the incredibly capable laptop that lets you work, play or create just about anything — anywhere.

Details

Apple 2022 MacBook Air Laptop with M2 chip: 13.6-inch Liquid Retina Display, 8GB RAM, 256GB SSD Storage, Backlit Keyboard, 1080p FaceTime HD Camera. Works with iPhone and iPad; Silver; English

Edit Info

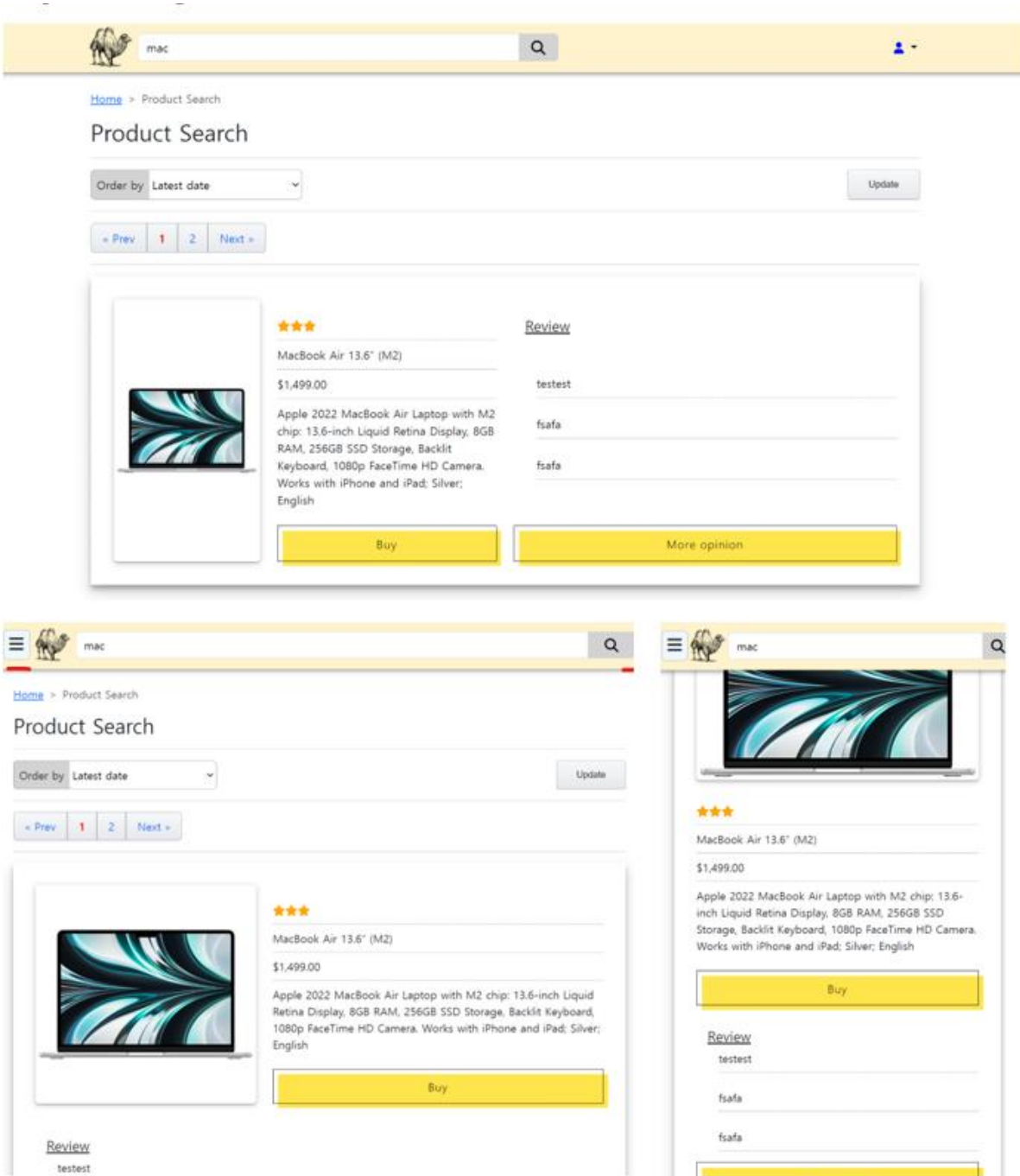
Delete Item

Fold

Styling flourishes

In order to create various styles, css grammar related to style changes such as keyframe and transition was used.

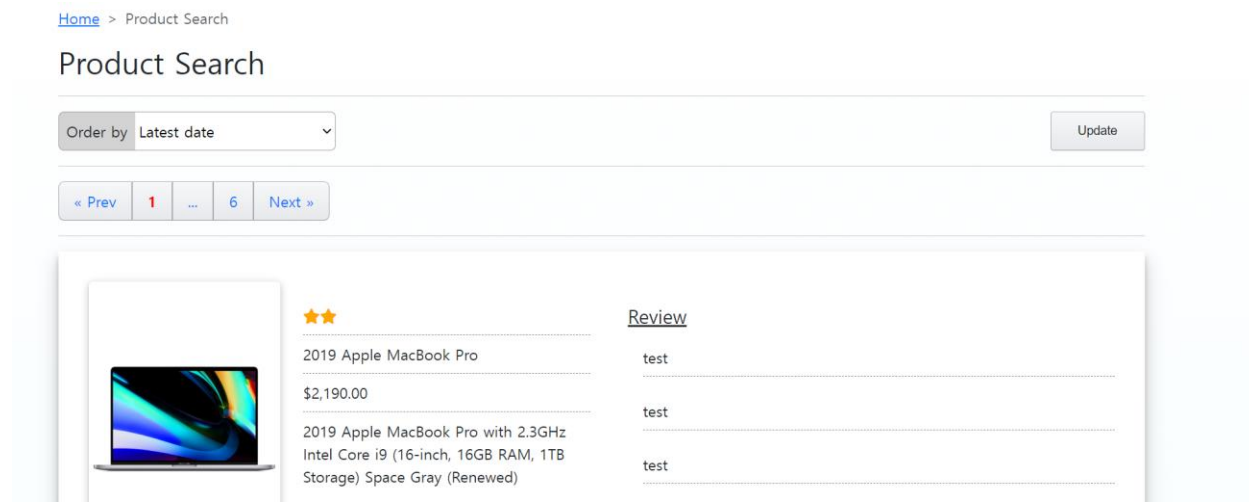
Responsive layout for mobile



Your choice (this is your opportunity to add additional flourish to your site but will need to be documented in the final report)

A pagination function was added for well-organized access to product lists to users.


Even when the entire product list is automatically updated, a feature is implemented in way that the user still can check the products on the current number page without the number of the current page being reset to 1.



One button is coded to appear in the lower right when the page scrolls down, which makes it the easiest to access when clicked.



Average rating is shown as stars from one to five. It is automatically updated when user post/edit/delete review with rating.



★★

2019 Apple MacBook Pro

\$2,190.00

2019 Apple MacBook Pro with 2.3GHz Intel Core i9 (16-inch, 16GB RAM, 1TB Storage) Space Gray (Renewed)

Buy

Review

test by user11

test

test

More opinion



★★★★

Apple 2022 MacBook Pro Laptop with M2 chip


\$1,673.00


Apple 2022 MacBook Pro Laptop with M2 chip: 13-inch Retina Display, 8GB

Review

test

test->edit





2019 Apple MacBook Pro

::2019 Apple MacBook Pro

★★

\$2,190.00

Ninth-generation 8-core Intel Core i9 processor Brilliant 16-inch Retina display with True Tone technology Touch Bar and Touch ID AMD Radeon Pro 5500M graphics with GDDR6 memory Ultrafast SSD Intel UHD Graphics 630 Six-speaker system with force-