

TESTING

Easy-PC– Milestone Project 4

Testing User Stories

As a Visitor and a Potential Customer of the site:

I would like to navigate the website without registering or signing up.

- Anyone is able to visit and browse the site without the need to register or signing up. All links and buttons redirect to the correct destinations.

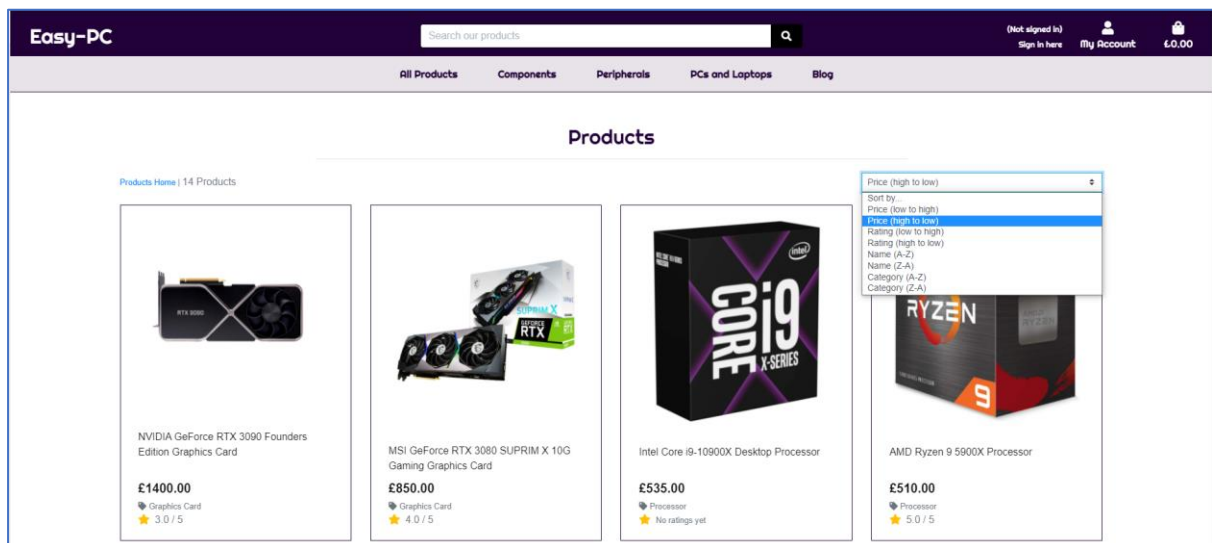
I would like to register for an account

- The Register page will allow a user to sign up for an account. They will then be sent an email to verify their email.

The screenshot displays the 'Sign Up' page of the Easy-PC website. The header is dark purple with the 'Easy-PC' logo on the left, a search bar in the center, and user account links ('Not signed in', 'Sign in here', 'My Account', '£0.00') on the right. Below the header is a navigation menu with links to 'All Products', 'Components', 'Peripherals', 'PCs and Laptops', and 'Blog'. The main content area is white and features the 'Sign Up' heading. Below this, there is a link for users who already have an account ('sign in'). The sign-up form consists of five input fields: 'E-mail address', 'E-mail address confirmation', 'test20', a password field with masked characters, and 'Password (again)'. At the bottom of the form are two buttons: 'Back to Login' and 'Sign Up'. The footer is dark purple and contains social media icons for Facebook, Instagram, Twitter, and YouTube, followed by the text 'Need assistance?' and contact information: 'Contact us by using the following', 'Phone: 01234 56789', and 'Email: easypcexample.co.uk'.

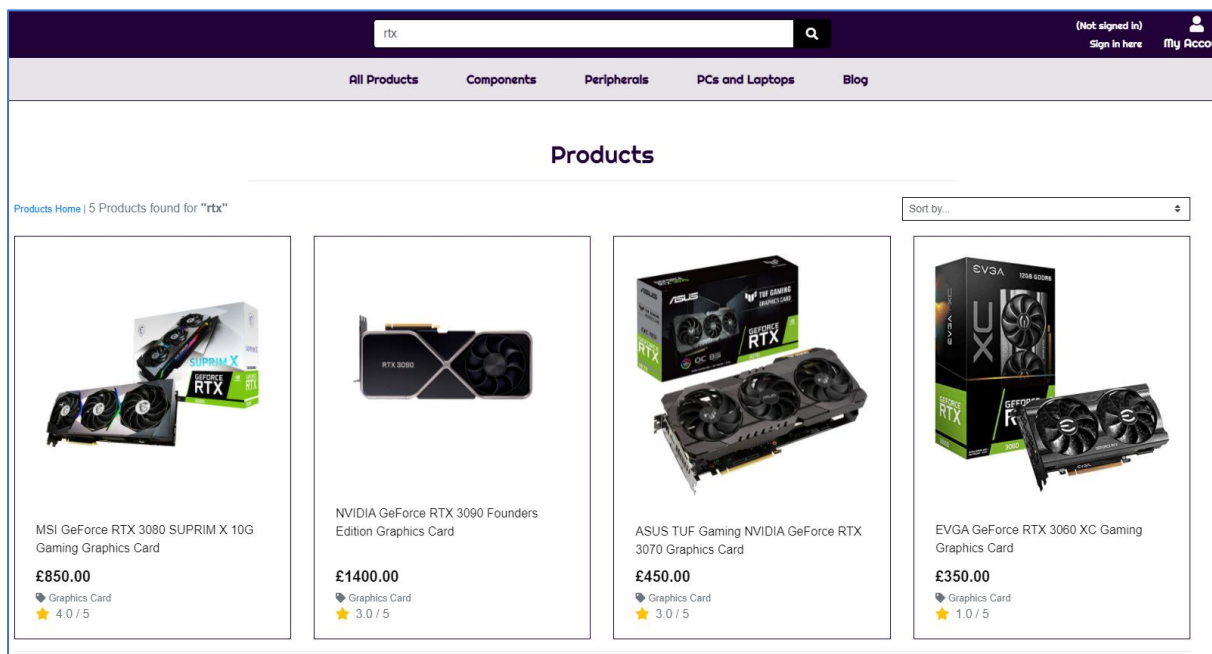
I would like to browse products and sort them by either name, rating or price.

- When navigating to the All Products page, using the dropdown menu, ordering the products is possible and is working as intended.



I would like to search for a product.

- Using the search bar, users can search terms to find their desired products. The screenshot below shows that the term "rtx" was searched and brought the desired results. Also there is a notification to show how many results were found.




I would like to read reviews of a product or comments on a blog article.

- Clicking on a product, if written, reviews are found at the bottom of the page showing the rating, comment, author and date the review was written.

Search our products

(Not signed in) [Sign in here](#) [my](#)

[All Products](#) [Components](#) [Peripherals](#) [PCs and Laptops](#) [Blog](#)



MSI GeForce RTX 3080 SUPRIM X 10G Gaming Graphics Card - RTX 3080, TRI FROZR 2S, TORX Fan 4.0, 10GB GDDR6X, 320 Bit, PCI Express Gen 4, DisplayPort v1.4a, HDMI 2.1, Zero Frozr, 4K Resolution Series GeForce RTX 3080 SUPRIM X 10G Brand MSI Graphics co-processor NVIDIA GeForce RTX 3080 Graphics Chipset Brand NVIDIA Graphics RAM type GDDR6 Graphics RAM size 10 GB Memory clock speed 1815 MHz GPU clock speed 1905 MHz Graphics card interface PCI-E

Dimensions: 32.10cm x 14.00cm x 5.60cm

Weight: 2.00kg

Quantity:

[KEEP SHOPPING](#) [ADD TO BAG](#)

Please [sign in](#) to add your own review

Reviews

Rating: 4 / 5

Comment: "excellent product! Has served me well"

Reviewed by [jaewong](#) on June 26, 2021, 7:19 p.m.

I would like to leave a comment on a blog post even without having an account.

- When viewing an article, the bottom of the page will show existing comments (if any) and anyone is able to add their own comment. This will show the name and comment, as well as the day the comment was made. Clicking the "Add Comment" link will redirect to the add comment page.

[All Products](#) [Components](#) [Peripherals](#) [PCs and Laptops](#) [Blog](#)

already makes it a more compelling upgrade. But what truly makes the 3080 an undeniably great buy is its performance boost, which Nvidia says is 50-80% over the RTX 2080 and 20-30% over the RTX 2080 Ti.

The Nvidia GeForce RTX 3080, therefore, might be the biggest generational jump in performance we've seen in a long time, if not ever. The fact that it lets you reap the benefits of 4K gaming, breezing through best PC games in incredibly high resolution, for less makes it one of the greatest releases from Nvidia and truly worth considering if you want to get the most out of your gaming experience.

Our verdict? Having used this card for half a year, I can only say WOW! Incredible performance and truly a next generation card!

Comments...

[Add Comment](#)

Justin Whiteck June 24, 2021, 9:08 p.m.
I can only dream of owning one of these...one day...

Anon June 24, 2021, 8:53 p.m.
First comment on herokull!

Search our products

[All Products](#) [Components](#) [Peripherals](#) [PCs and Laptops](#) [Blog](#)

Add Comment

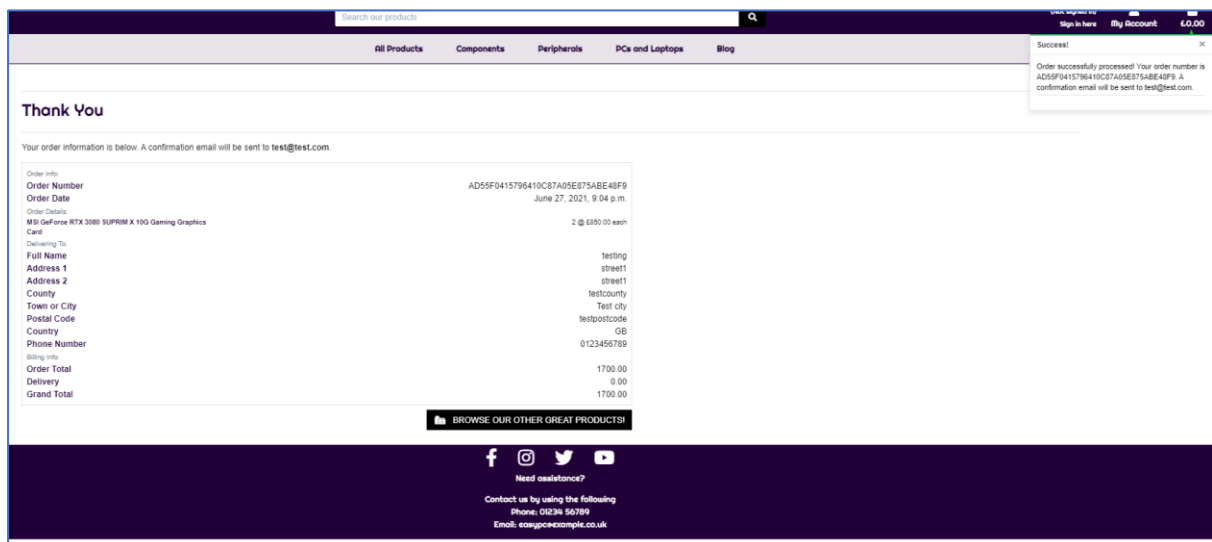
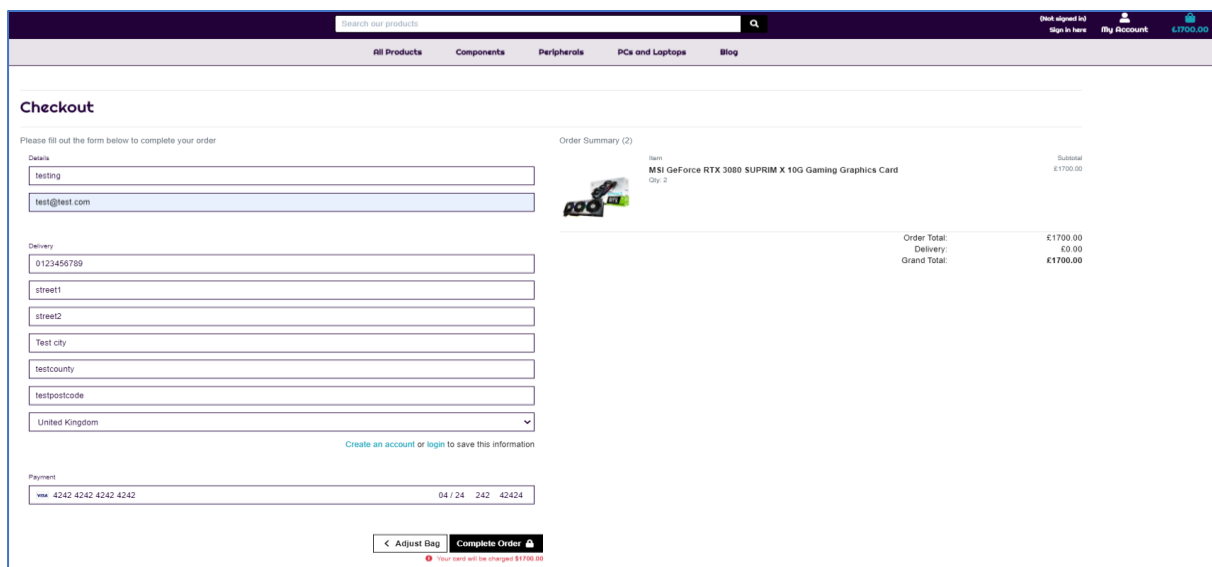
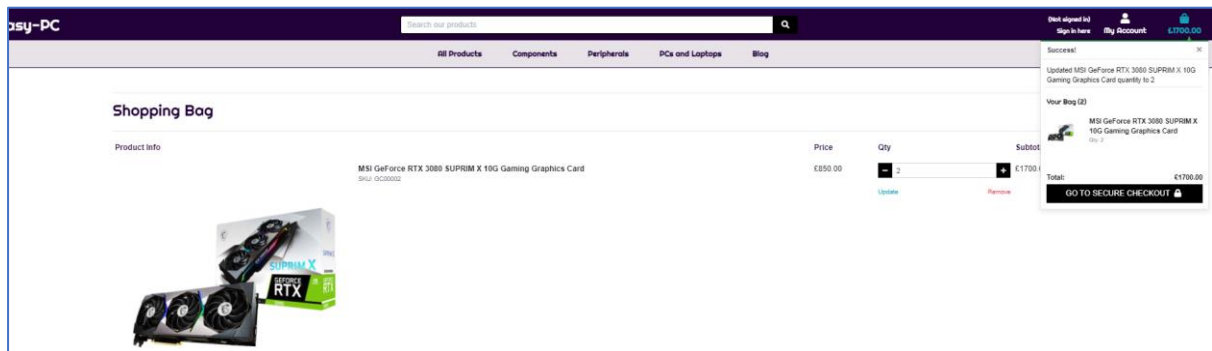
Name*

Body*

[X CANCEL](#) [ADD COMMENT](#)

I would like to purchase an item and checkout easily.

- Any visitor of the site is able to add a product to the shopping bag, edit the bag by updating the quantity or return to the products page to add more items to the bag. Every time an item is added to the bag, a toast message (top-right) will show the contents of the shopping bag along with the link to proceed to checkout. Once payment is completed, the site will redirect the user to a “Thank You” page with the Order Number.



I would like to edit my shopping bag easily.

- As above, in the shopping bag page, adjusting the bag is easy where the user is able to increase, decrease or remove an item. Different products are also able to be added by going back to the products page.

I would like to receive confirmation of my order.

- A confirmation email will be sent once checkout is completed.

The screenshot shows a 'Thank You' page for an order. At the top, there is a search bar and navigation links: 'All Products', 'Components', 'Peripherals', 'PCs and Laptops', and 'Blog'. A 'Success' message in the top right corner states: 'Order successfully processed! Your order number is AD55F0415796410C87A05E875ABE48F9. A confirmation email will be sent to test@test.com.' The main content area displays the order details:

Order info:	
Order Number	AD55F0415796410C87A05E875ABE48F9
Order Date	June 27, 2021, 9:04 p.m.
Order Details:	
MSI GeForce RTX 3080 SUPRIM X 16G Gaming Graphics Card	2 @ £890.00 each
Delivering To:	
Full Name	testing
Address 1	street1
Address 2	street1
County	testcounty
Town or City	Test city
Postal Code	testpostcode
Country	GB
Phone Number	0123456789
Billing info:	
Order Total	1700.00
Delivery	0.00
Grand Total	1700.00

Below the order details, there is a button that says 'BROWSE OUR OTHER GREAT PRODUCTS!'. At the bottom of the page, there are social media icons for Facebook, Instagram, Twitter, and YouTube, followed by the text 'Need assistance?' and contact information: 'Contact us by using the following', 'Phone: 01234 56789', and 'Email: easypcexample.co.uk'.

I would like to register an account.

- The sign-up page will allow a user to register an account. The user will need to input their email address, username and password. An email will be sent to the user once signed up as they will need to verify themselves. The link in the email will redirect to a confirmation page for user authentication.

The screenshot shows a 'Sign Up' page. At the top, there is a search bar and navigation links: 'All Products', 'Components', 'Peripherals', 'PCs and Laptops', and 'Blog'. The main content area has the heading 'Sign Up' and a link that says 'Already have an account? Then please sign in.' Below this, there are five input fields: two for email addresses (both containing 'aaa@aa.com'), one for a username (containing 'test20'), and two for passwords (both containing '*****'). At the bottom of the form, there are two buttons: 'Back to Login' and 'Sign Up'. At the bottom of the page, there are social media icons for Facebook, Instagram, Twitter, and YouTube, followed by the text 'Need assistance?' and contact information: 'Contact us by using the following', 'Phone: 01234 56789', and 'Email: easypcexample.co.uk'.

As a Registered User of the site:

I would like to save my details to my profile.

- On the navbar, the “My Account” button will bring up a new window which provides options for “My Profile” and “Logout”. Clicking “My Profile” will redirect the user to the profile page where they are able to make changes to their delivery information. This will be automatically entered into the checkout form.

Easy-PC Search our products

Logged in as: **test1** **My Account** **£0.00**

All Products **Components** **Peripherals** **PCs and Laptops** **Blog** **My Profile** **Logout**

My Profile

Default Delivery Information

Order History

Order Number	Date	Items	Order Total
81733...	June 26, 2021, 8:17 p.m.	MSI GeForce RTX 3080 SUPRIM X 10G Gaming Graphics Card x1	£850.00
EF682...	June 26, 2021, 7:55 p.m.	MSI MPG X570 GAMING EDGE WIFI Motherboard ATX x1	£169.00

Need assistance?

Contact us by using the following
Phone: 01234 56789
Email: easy-pc@example.co.uk

I would like to view my order history.

- Similar to the above, the profile page will display the user’s order history. They can also click the Order Number link to view more information on that particular order.

Easy-PC Search our products

Logged in as: **test1** **My Account** **£0.00**

All Products **Components** **Peripherals** **PCs and Laptops** **Blog** **Alert!**

Thank You

Your order information is below. A confirmation email will be sent to **test@test.com**.

Order Info:

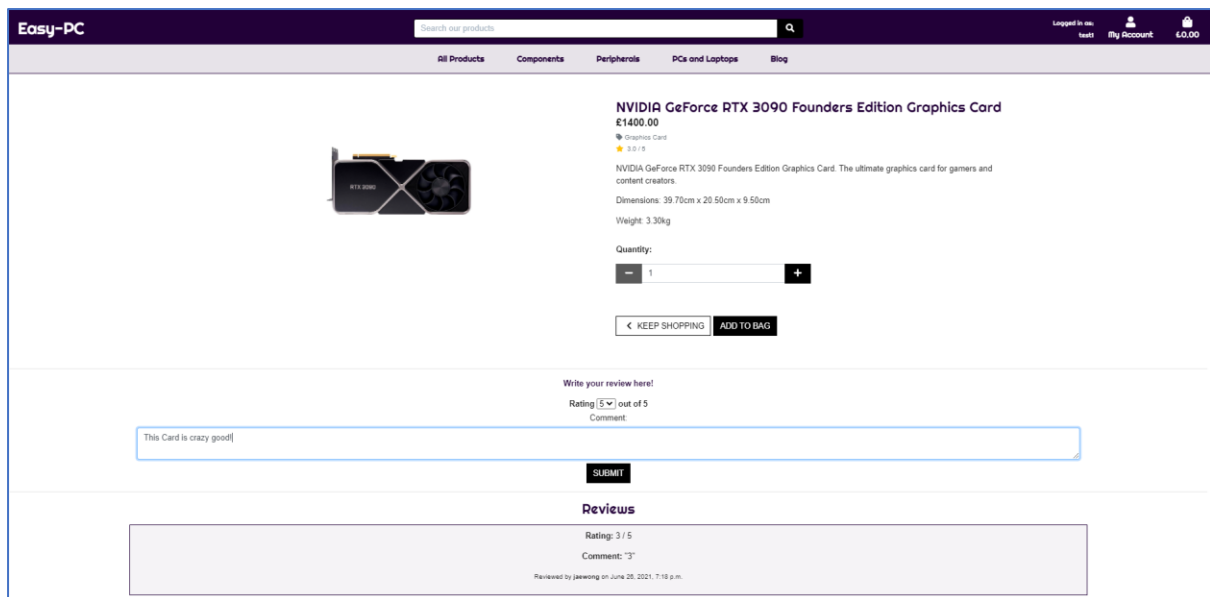
Order Number	81733CA423C04A7FA30FE68941958E17
Order Date	June 26, 2021, 8:17 p.m.
Order Details:	MSI GeForce RTX 3080 SUPRIM X 10G Gaming Graphics Card
Delivering To:	1 @ £850.00 each
Full Name	billy bob
Address 1	street1
Address 2	street1
County	london
Town or City	gwent
Postal Code	cf99 999
Country	GB
Phone Number	0123456789
Billing Info:	
Order Total	850.00
Delivery	0.00
Grand Total	850.00

Need assistance?

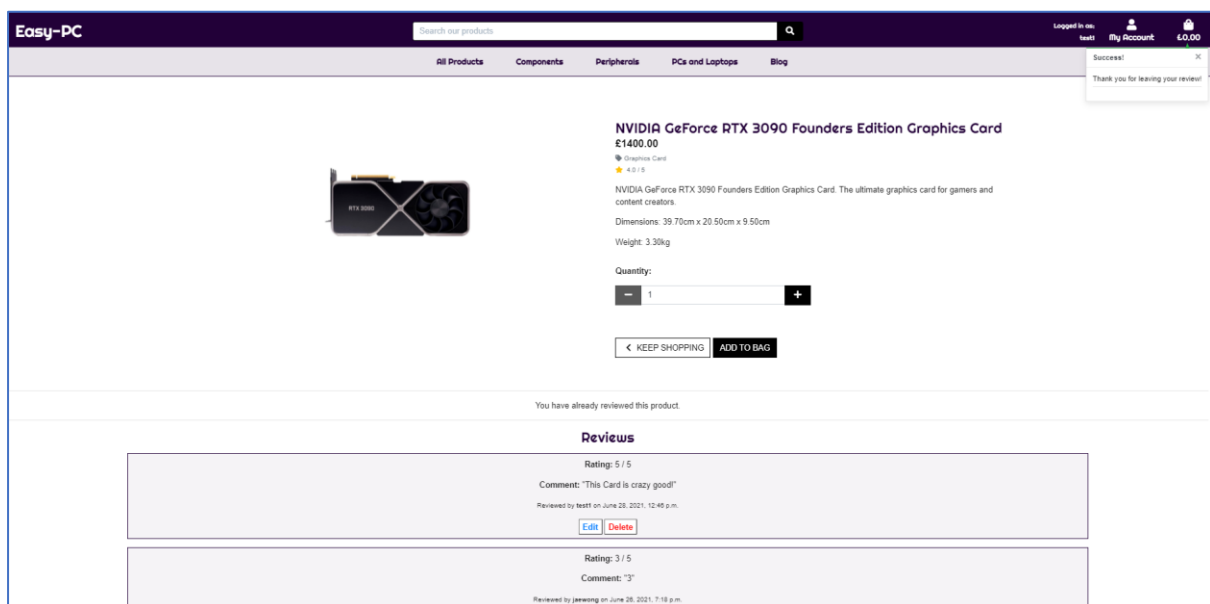
This is a past confirmation for order number 81733CA423C04A7FA30FE68941958E17. A confirmation email was sent on the order date.

I would like to review a product.

- On the product detail page, the bottom of the page lies the reviews section. Only one user is able to leave one review per product. Here a review is written by “test1” and once a review has been submitted, the page displays a message that I have already placed a review and no longer able to write another one for this product.

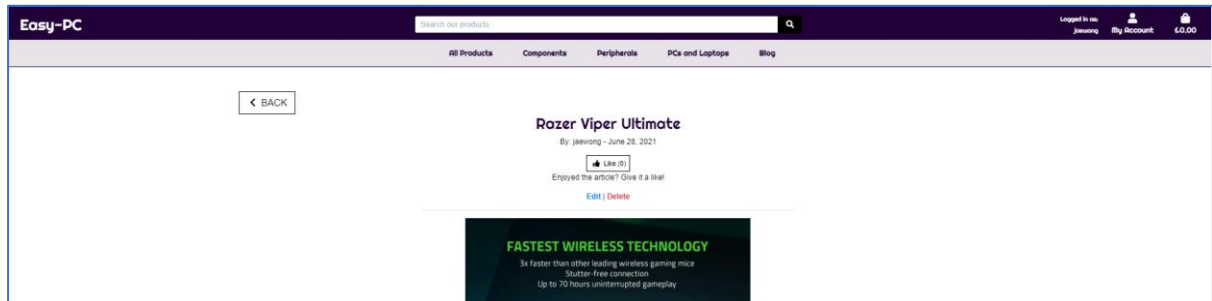


- A toast message is displayed on the top right to notify of the successful posting of the review. The user is also able to either edit or delete their own reviews only. The product average rating is also updated as shown below.

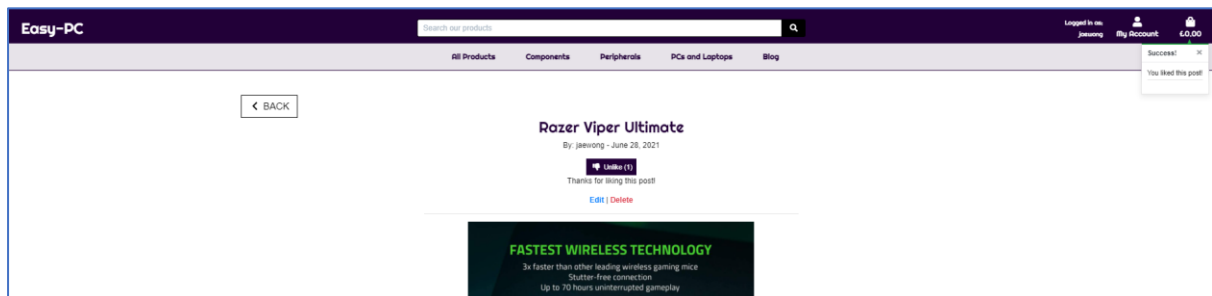


I would like to “Like” a Blog Article.

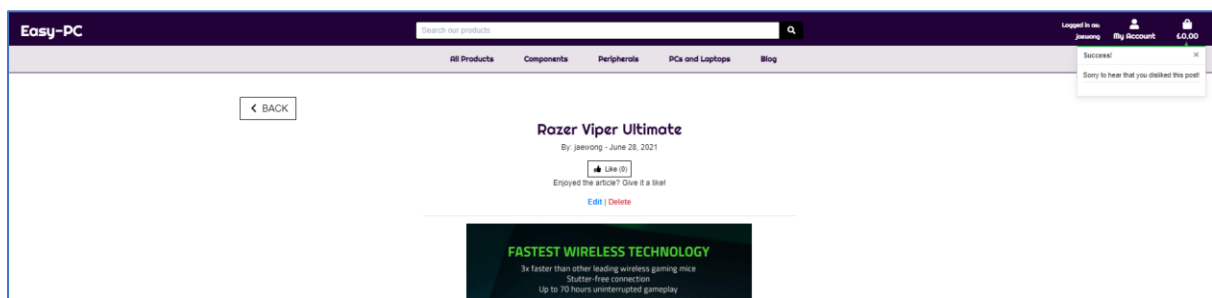
- On the article page, there is a “Like” button available for users and superusers. The number inside the brackets displays the total likes the article has received.



- When a user clicked to like the article, the number will increase by 1 where the icon will change to a thumbs-down, and text changed to “Unlike” if the reader wishes to retract their like.



- When the “Unlike” button is clicked, the total likes will reduce by 1 and the button will revert back to “Like” with a thumbs up icon. Only 1 like per user per article is permitted.



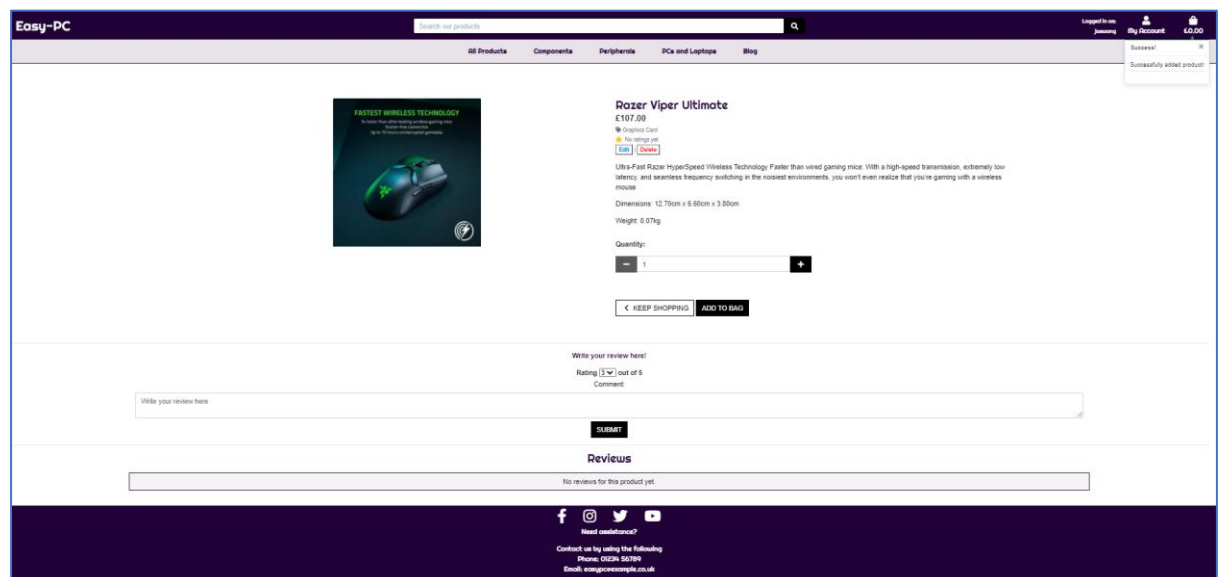
As an Administrative User:

I would like to add a new product to the database.

- From the Navbar, click “My Profile” -> “Product Management”. This is only available to the superuser. This will redirect to the Product Admin page where the superuser can add a new product as below.

The screenshot shows the 'Add Product' form in the Easy-PC admin interface. The form is titled 'Easy-PC' and has a search bar at the top. Below the search bar are navigation links: 'All Products', 'Components', 'Peripherals', 'PCs and Laptops', and 'Blog'. The form fields include: 'Category' (a dropdown menu set to 'Graphics Card'), 'Sku' (a text input field containing 'MS00001'), 'Name*' (a text input field containing 'Razer Viper Ultimate'), 'Description*' (a text area containing 'Ultra-Fast Razer HyperSpeed Wireless Technology Faster than wired gaming mice. With a high-speed transmission, extremely low latency, and seamless frequency switching in the noisiest environments, you won't even realize that you're gaming with a wireless mouse'), 'Length (centimetres)*' (a text input field containing '12.7'), 'Width (centimetres)*' (a text input field containing '6.6'), 'Height (centimetres)*' (a text input field containing '3.8'), 'Weight (kilograms)*' (a text input field containing '0.07'), 'Price*' (a text input field containing '107'), and 'Image url' (a text input field containing 'https://images-na.ssl-images-amazon.com/images/I/0116u5KZPL_AC_SL1500_.jpg'). There is a 'Select Image' button and a red error message 'Image will be set to: viper.jpg'. At the bottom right are 'Cancel' and 'Add Product' buttons.

- After clicking “Add Product”, the site will redirect the super user to the Product Detail page of the recently added product.



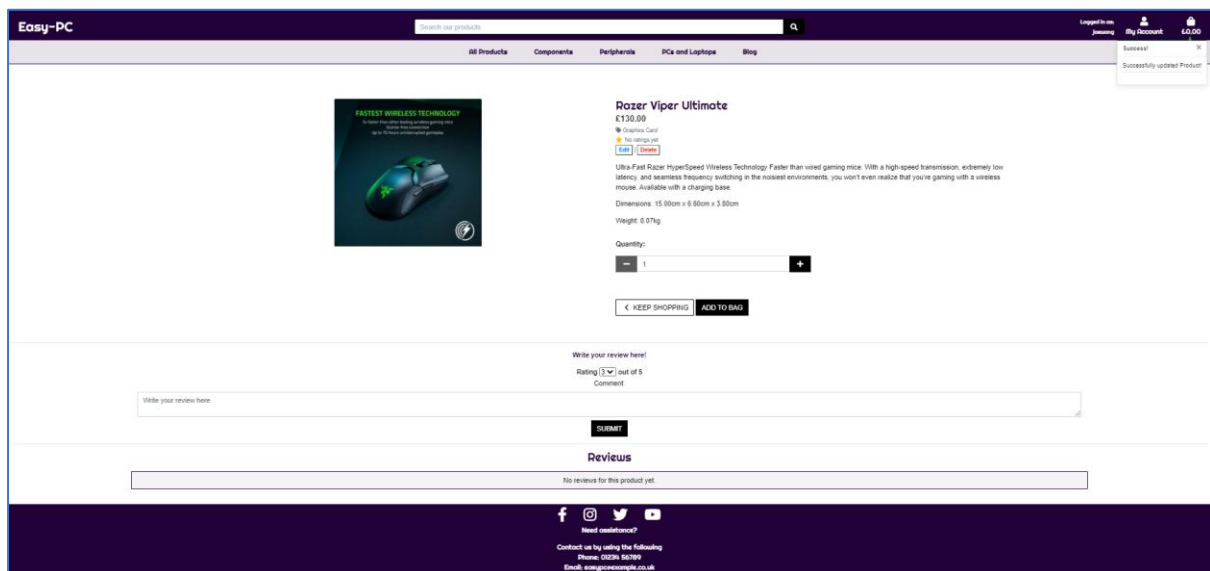
I would like to edit existing product details.

- From either the All Products page or the Product Detail page, the “Edit” button is available only to the superuser. This will redirect to the Product Management page where a form is pre-filled with existing information. Any of these fields can be changed to update the product. Here added a line in the description, made changes to the dimensions and price as an example.

The screenshot shows the 'Easy-PC' Product Management form. It includes a search bar at the top with the text 'Search our products'. Below the search bar are navigation tabs: 'All Products', 'Components', 'Peripherals', 'PCs and Laptops', and 'Blog'. The form fields are as follows:

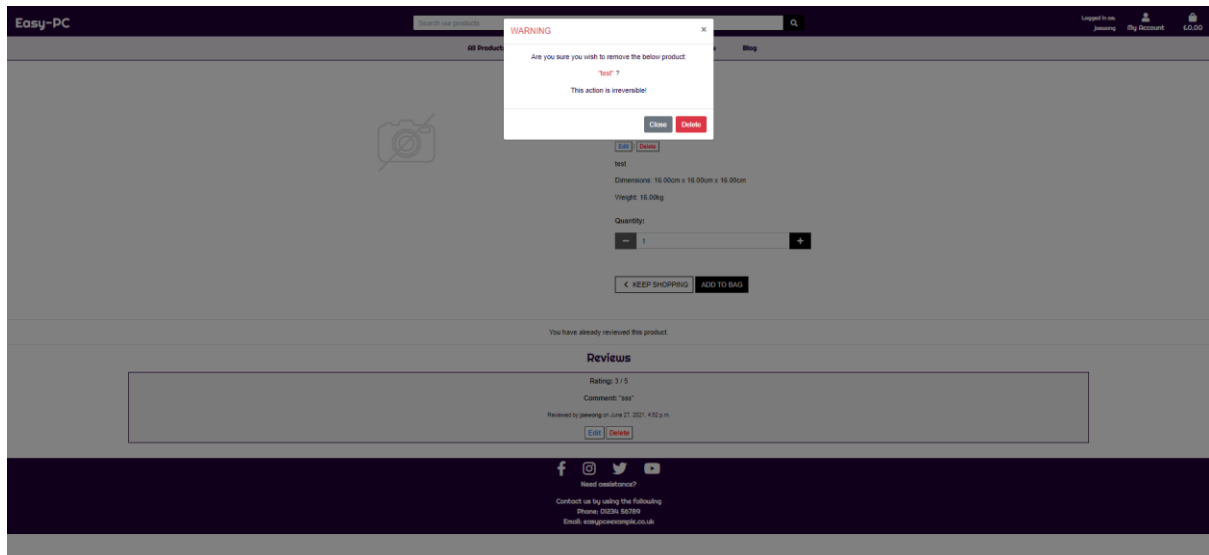
- Category:** A dropdown menu with 'Graphics Card' selected.
- Sku:** A text input field containing 'MS00001'.
- Name:** A text input field containing 'Razer Viper Ultimate'.
- Description:** A text area containing 'Ultra-Fast Razer HyperSpeed Wireless Technology. Faster than wired gaming mice. With a high-speed transmission, extremely low latency, and seamless frequency switching in the noisiest environments, you won't even realize that you're gaming with a wireless mouse. Available with a charging base.'
- Length (centimetres):** A text input field containing '15'.
- Width (centimetres):** A text input field containing '6.60'.
- Height (centimetres):** A text input field containing '3.80'.
- Weight (kilograms):** A text input field containing '0.07'.
- Price:** A text input field containing '130'.
- Image url:** A text input field containing 'https://images-na.ssl-images-amazon.com/images/I/5118eSNDPL_AC_SL1500.jpg'.
- Current Image:** A small image of the Razer Viper Ultimate mouse with a 'Remove' button below it.

- Here we can see the product has been successfully updated with a corresponding toast message notifying the success of the update

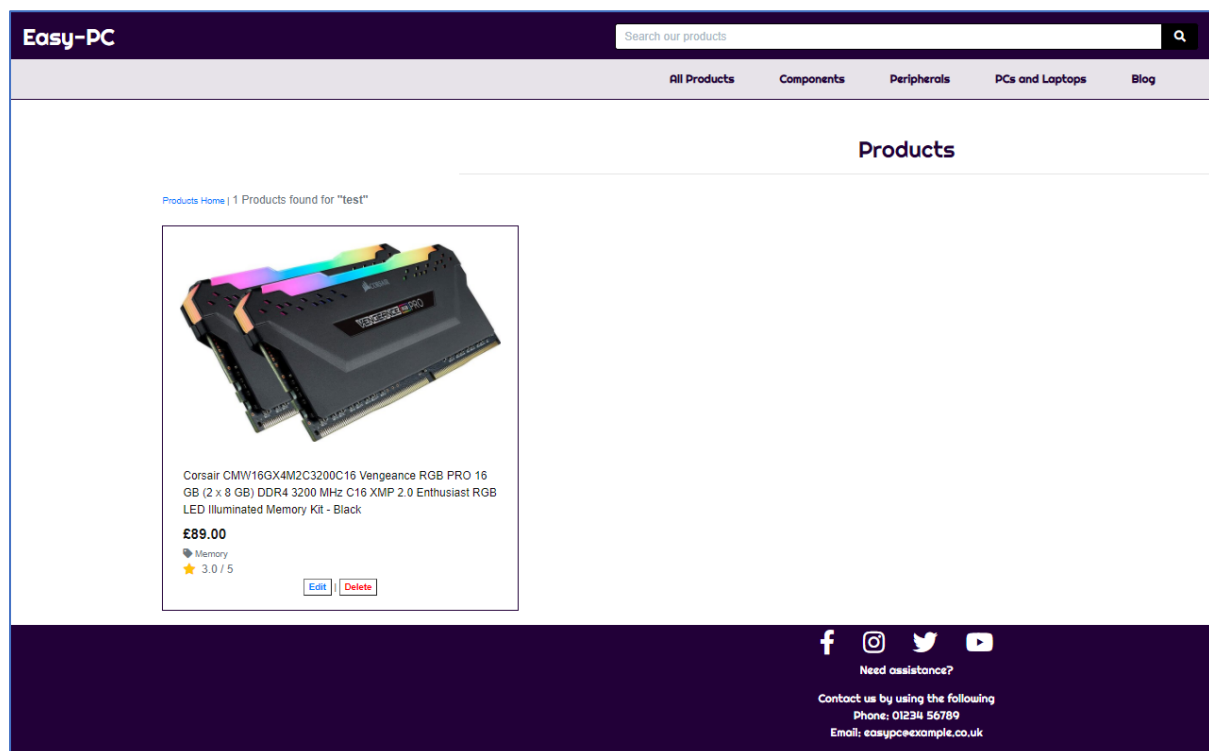


I would like to delete an existing product.

- The delete button will allow the superuser to delete a product. This can be done from the all products page or the product detail page. When clicked, a modal will appear to ask the superuser if they wish to continue with removing the product from the database. Here I deleted a “test” product that was recently added.

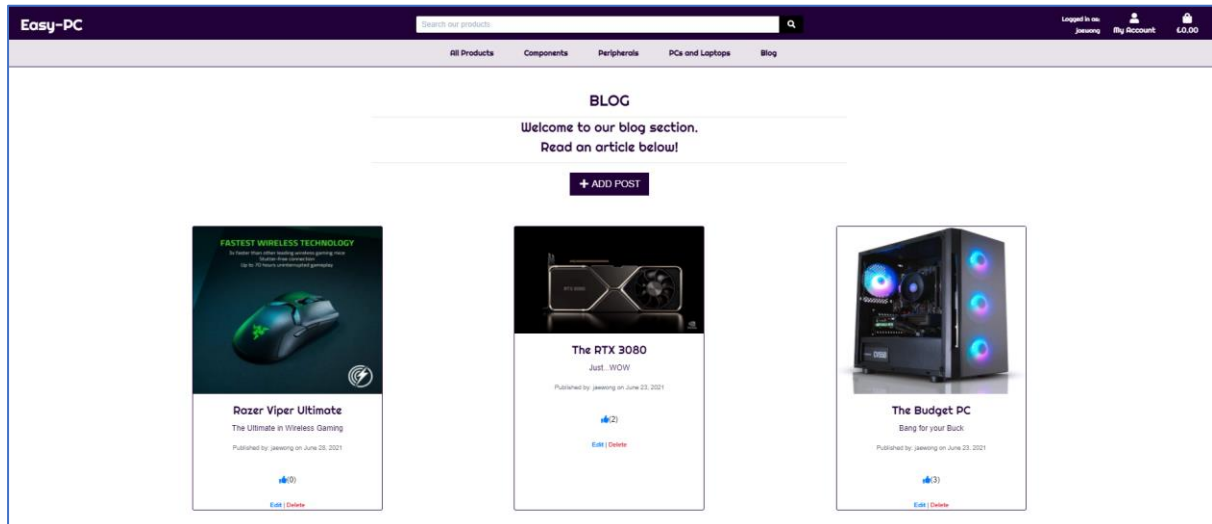


- When attempting to search for this “test” product, it can no longer be found.



I would like to create new blog posts.

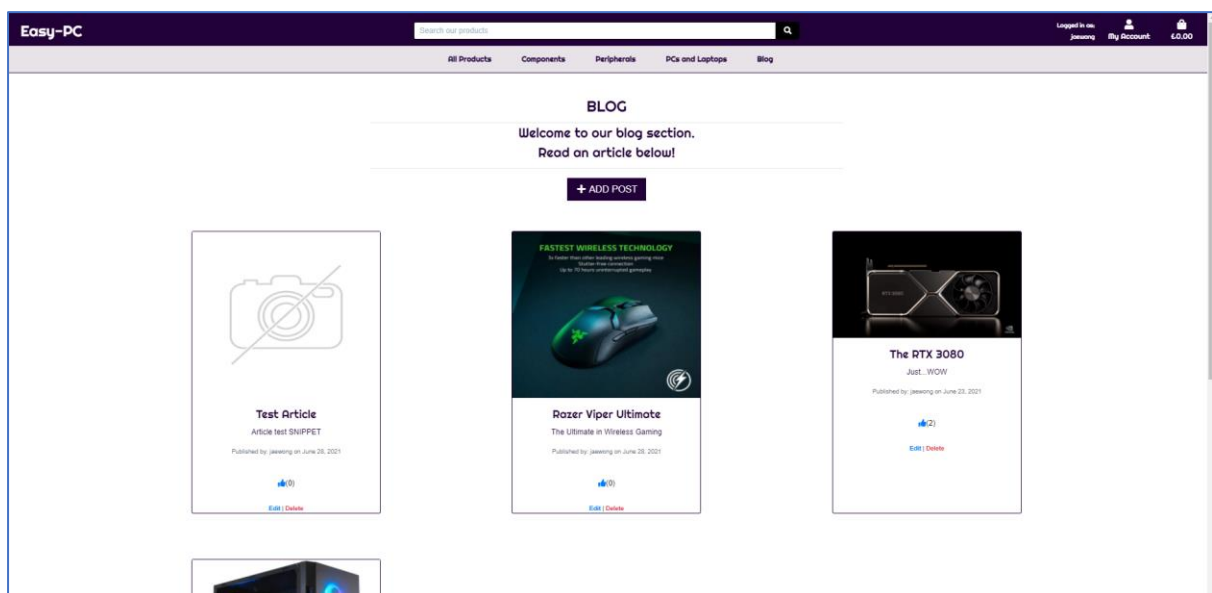
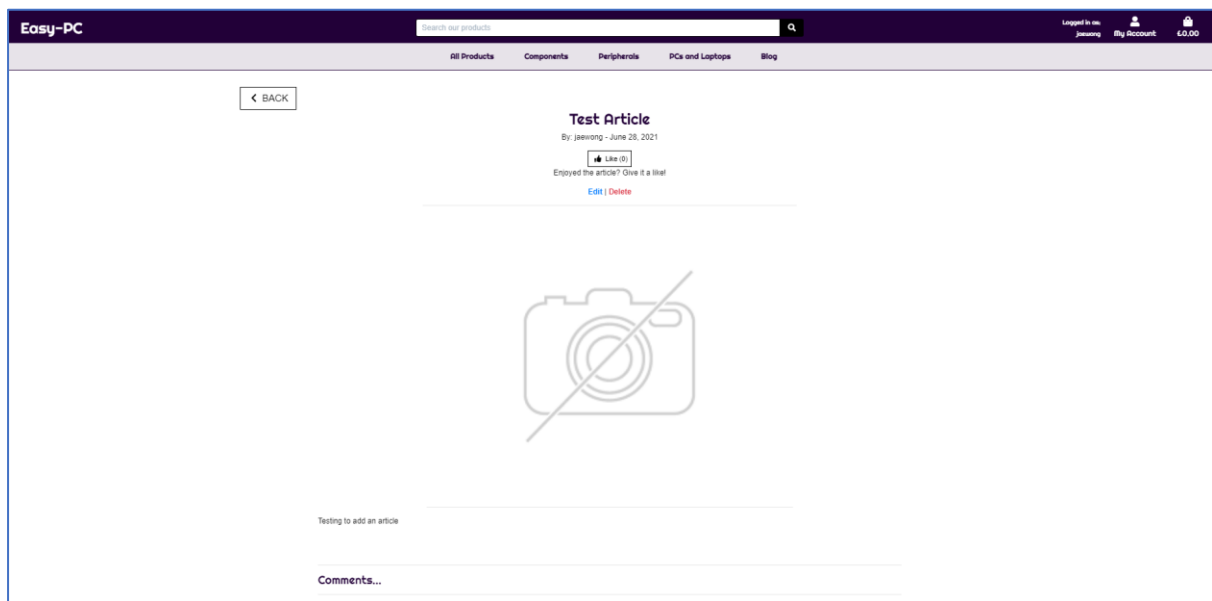
- From the blog page, the “Add Post” button is only available to the superuser. They are able to add a new blog post as below:



- The button will redirect to the Add Post form for the superuser to fill out. The Snippet field is the sub-heading found on the Blog page. This is to give a small description of the article.

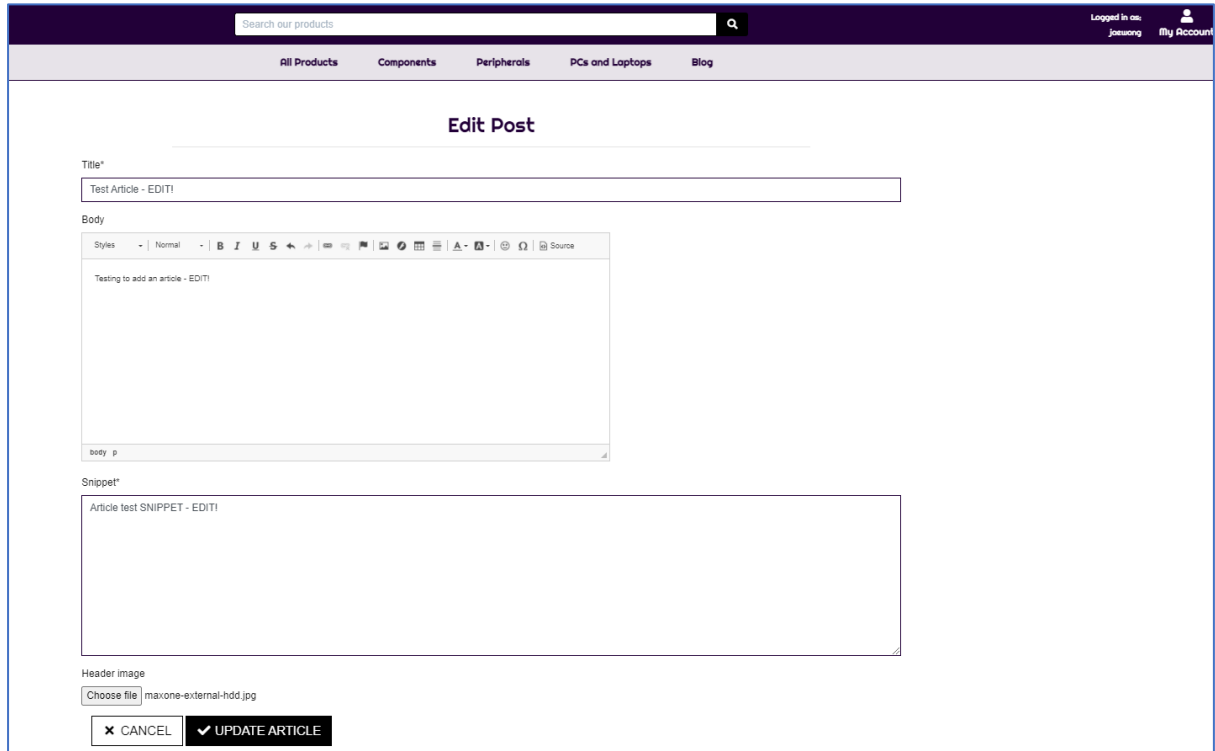
The screenshot shows the 'Add Post' form. It has a title field with 'Test Article' entered. Below it is a rich text editor for the 'Body' with the text 'Testing to add an article'. There is a 'Snippet' field with 'Article test SNIPPET' entered. At the bottom, there is a 'Header image' section with a 'Choose file' button and the text 'No file chosen'. At the very bottom are 'CANCEL' and 'POST' buttons.

- When “POST” is clicked to add the post, the superuser is redirected to that particular article page and is also visible on the BLOG page.



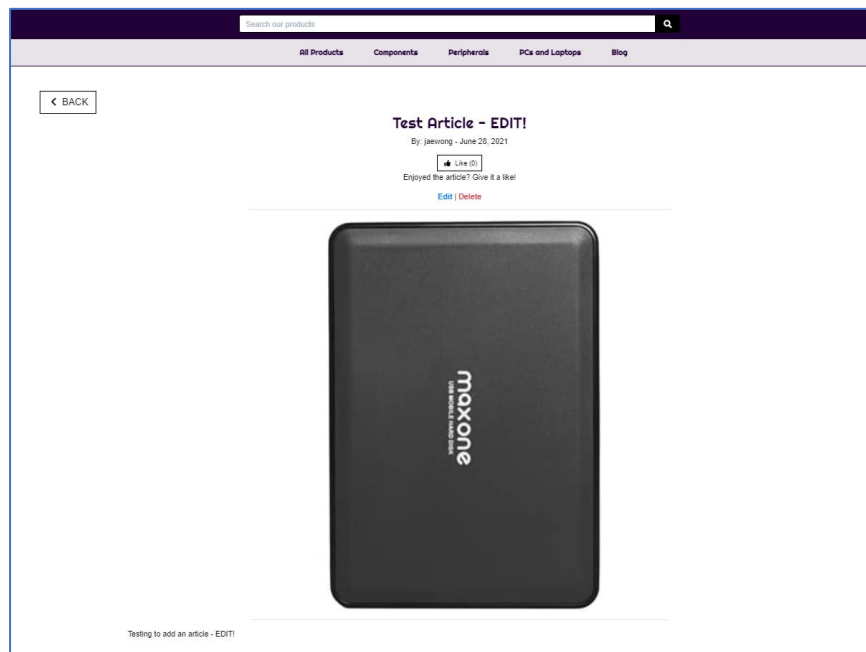
I would like to edit an existing blog post.

- The Edit button can be found on the BLOG page or inside the Article page. Both will redirect to the Edit Post form page. Here the superuser is able to edit the article as they wish. Images can also be changed here.



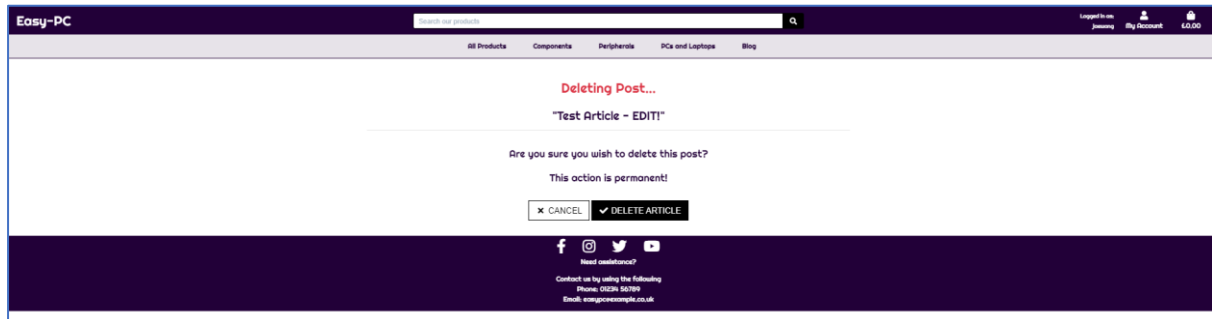
The screenshot shows the 'Edit Post' form in a web application. The form has a title field containing 'Test Article - EDIT!', a body field containing 'Testing to add an article - EDIT!', and a snippet field containing 'Article test SNIPPET - EDIT!'. Below the snippet field is a header image field with a 'Choose file' button and a file name 'maxone-external-hdd.jpg'. At the bottom of the form are two buttons: 'CANCEL' and 'UPDATE ARTICLE'.

- As shown below, the article contents has been updated and an image is added.

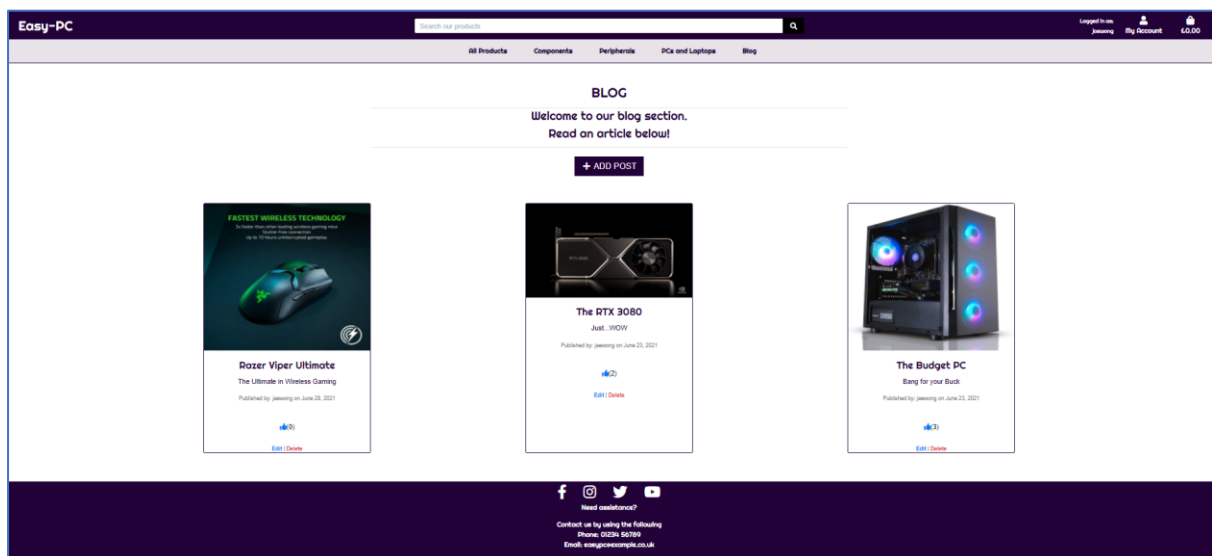


I would like to delete an existing blog post.

- The Delete button can be found on the BLOG page or inside the Article page. Both will, when clicked, redirect the superuser to the delete confirmation page.

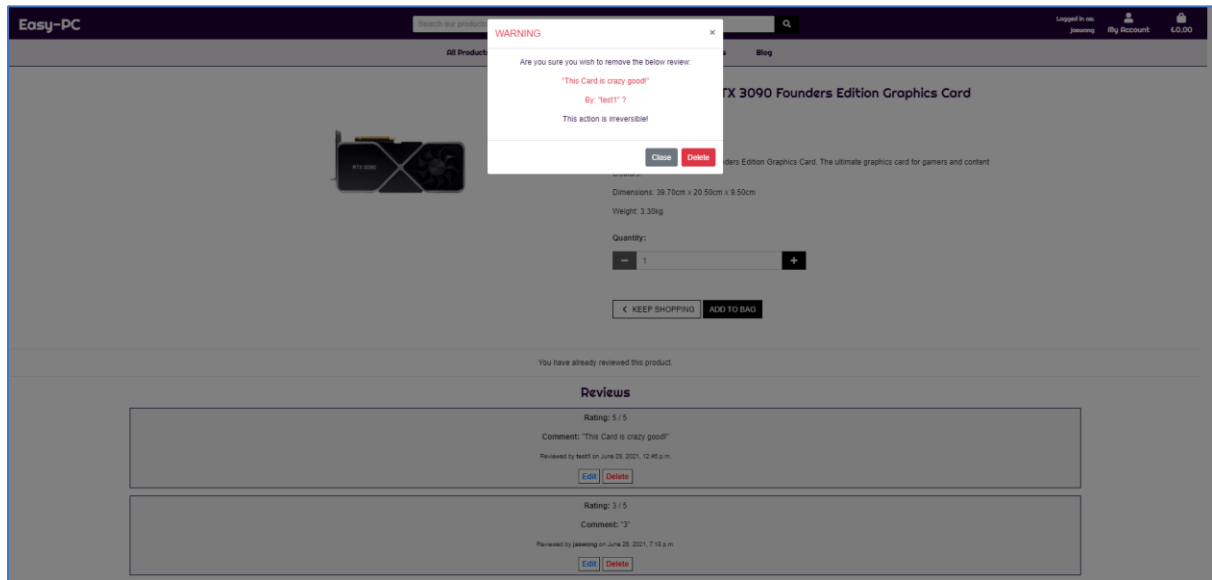


- When the "DELETE ARTICLE" button is clicked to confirm removable, the superuser is then redirected to the blog page where the deleted article no longer exists.

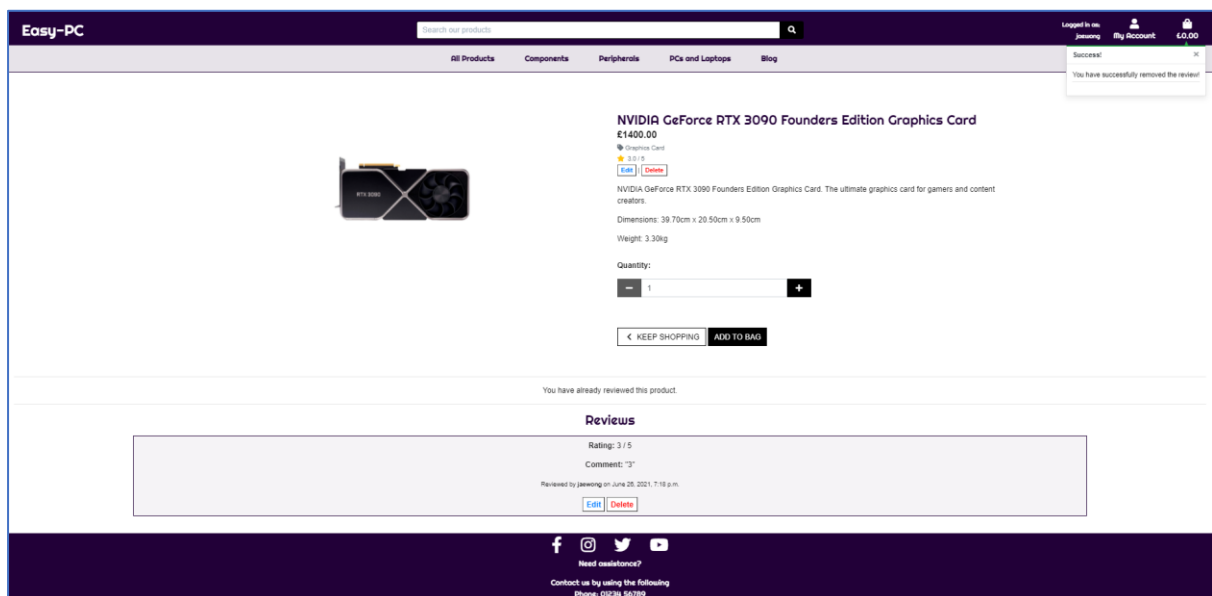


I would like to delete existing Product reviews written by all users in case the content is inappropriate.

- As a superuser, it is possible to delete reviews by all users. Below is a screenshot to show that a superuser is able to delete a review by a different user called "test1".

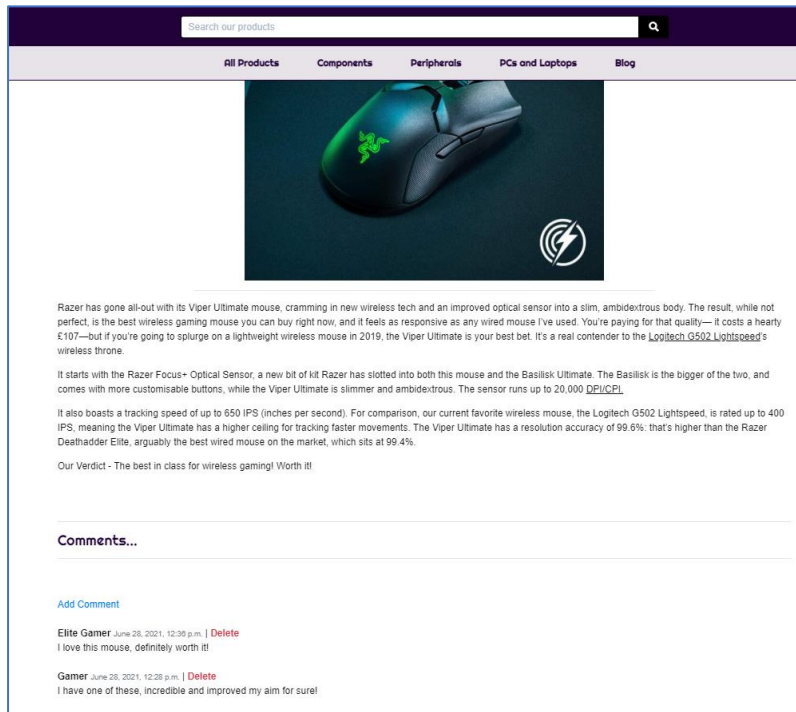


- After confirming deletion, the review is successfully removed.

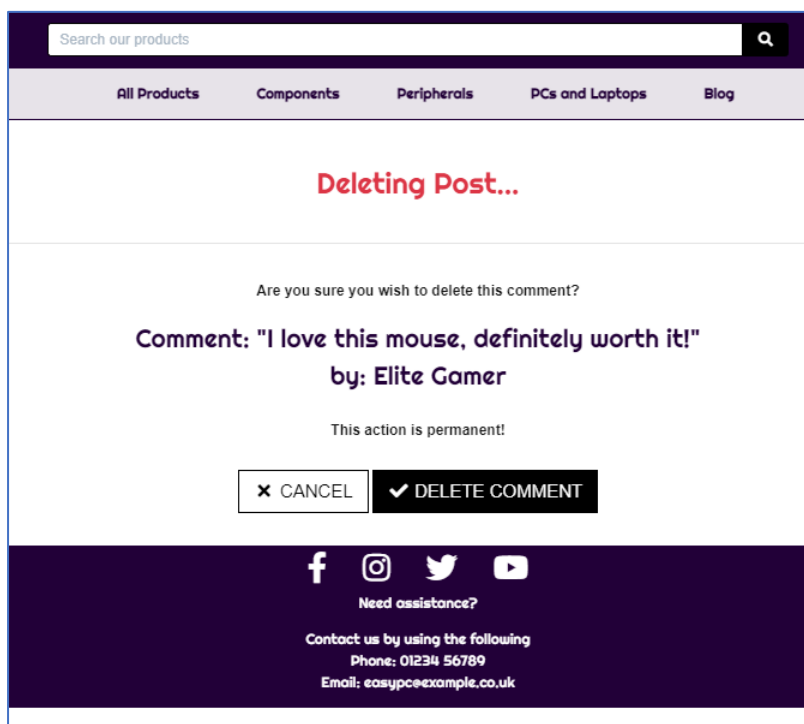


I would like to remove existing Blog Article comments by all users or visitors, in case the content is inappropriate.



- There are delete buttons next to all comments on each blog article. Again this is only available for the superuser.



- The button will redirect to a new page to confirm the removal of the comment



- Once the “DELETE COMMENT” is clicked, we can see that the comment is successfully removed.



Razer has gone all-out with its Viper Ultimate mouse, cramming in new wireless tech and an improved optical sensor into a slim, ambidextrous body. The result, while perfect, is the best wireless gaming mouse you can buy right now, and it feels as responsive as any wired mouse I've used. You're paying for that quality—it costs a hell of a lot more than a wired mouse—but if you're going to splurge on a lightweight wireless mouse in 2019, the Viper Ultimate is your best bet. It's a real contender to the [Logitech G502 Lightspeed](#) wireless throne.

It starts with the Razer Focus+ Optical Sensor, a new bit of kit Razer has slotted into both this mouse and the Basilisk Ultimate. The Basilisk is the bigger of the two, and comes with more customisable buttons, while the Viper Ultimate is slimmer and ambidextrous. The sensor runs up to 20,000 [DPI/CPI](#).





It also boasts a tracking speed of up to 650 IPS (inches per second). For comparison, our current favorite wireless mouse, the Logitech G502 Lightspeed, is rated up to 400 IPS, meaning the Viper Ultimate has a higher ceiling for tracking faster movements. The Viper Ultimate has a resolution accuracy of 99.6%: that's higher than the Razer Deathadder Elite, arguably the best wired mouse on the market, which sits at 99.4%.

Our Verdict - The best in class for wireless gaming! Worth it!

Comments...

[Add Comment](#)

Gamer June 26, 2021, 12:28 p.m. | [Delete](#)
I have one of these, incredible and improved my aim for sure!



Further Manual Testing

In this section, I did further manual testing to ensure the site functionality and security is working as intended.

Secured Admin Views (defensive design):

Adding, Deleting and Editing

Deleting or Editing of the following can only be done by the superuser or admin. Here I tested by either logging in with a regular user account “test1” and without being signed in.

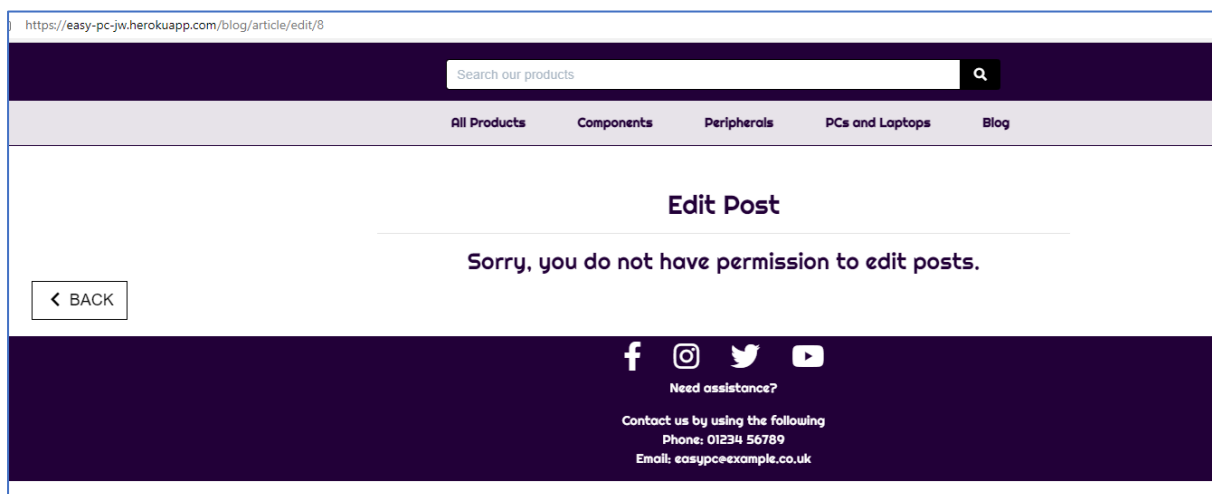
These include:

- 1) Product - Adding, Editing and Deleting
- 2) Product Reviews – Editing and Deleting
- 3) Blog Articles – Adding, Editing and Deleting
- 4) Blog Article Comments – Deleting

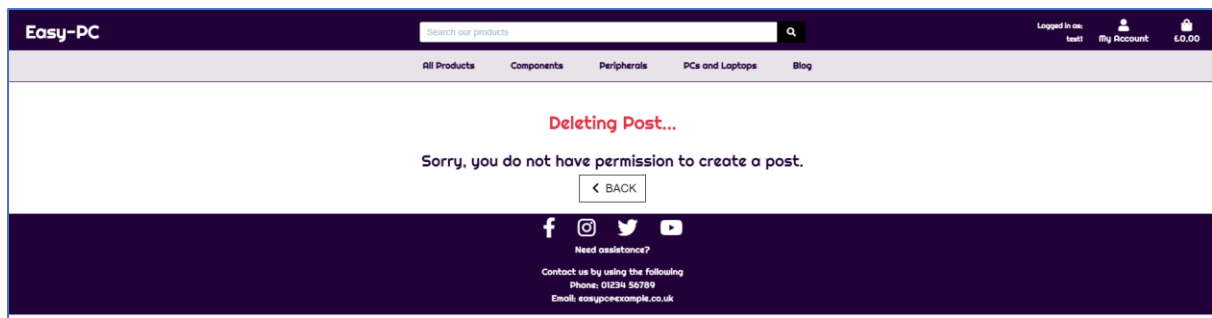
In the Product app, the user will be redirected to the home page with a toast message to display “Sorry, only store owners can do that”



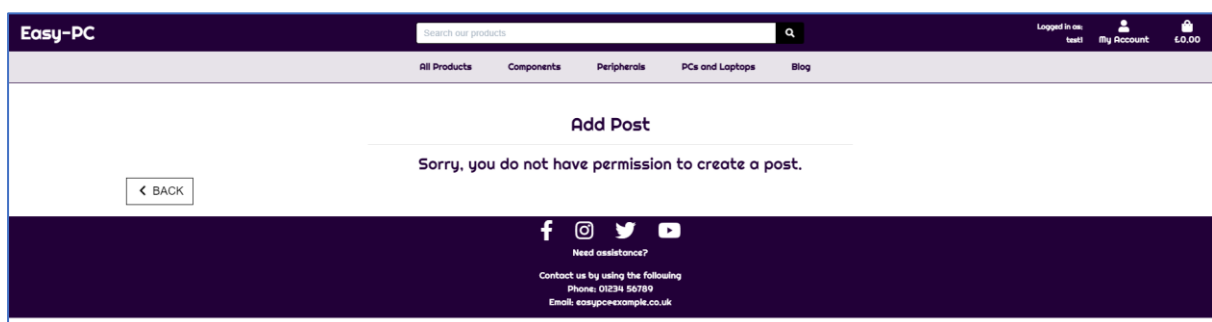
In the BLOG app, a whole page will display the below message “Sorry, you do not have permission to edit posts” when attempting to edit.



In unauthorised attempts to delete Blog posts, the below will be displayed:



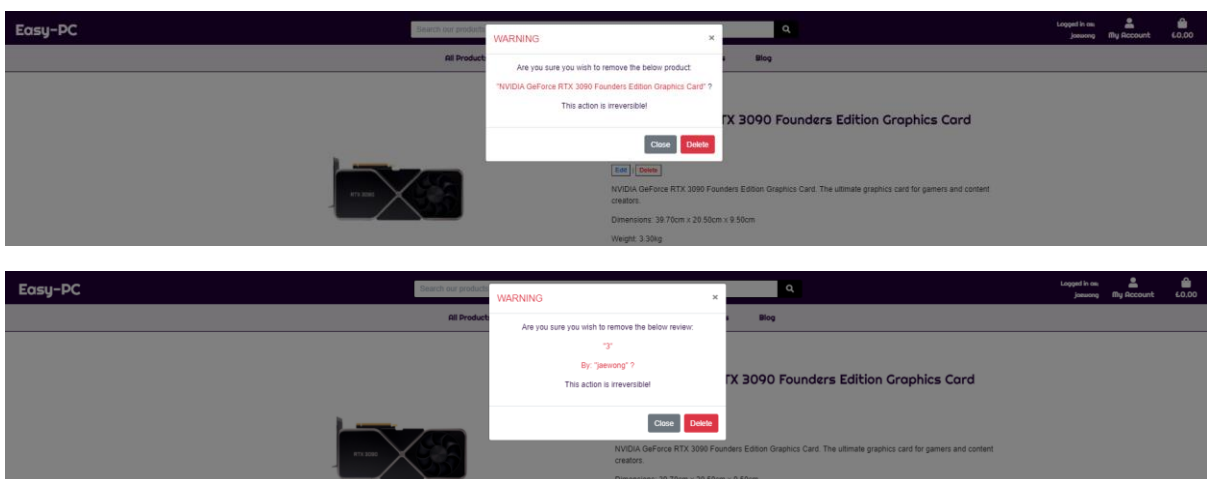
And when attempting to add posts as a non-superuser:



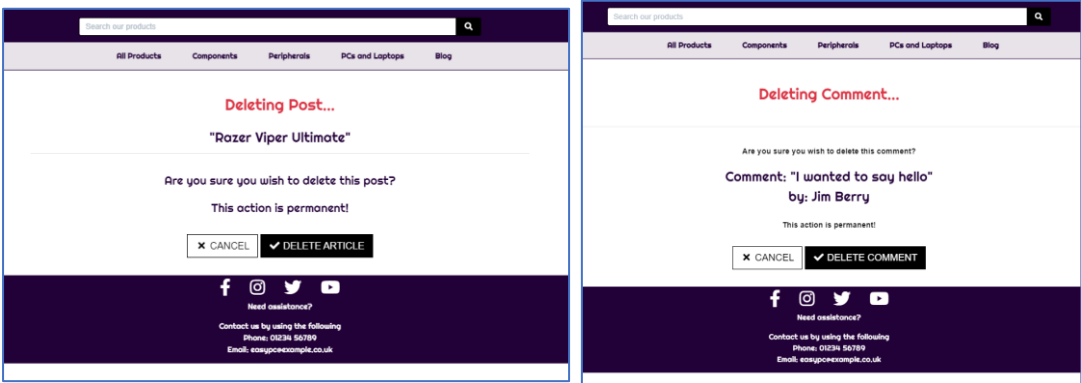
Warning Modals and Pages

As a precaution and an extra step for deletion, modals and additional pages were created to implement this.

Modals for the Product App when attempting to delete a product or product review as below:

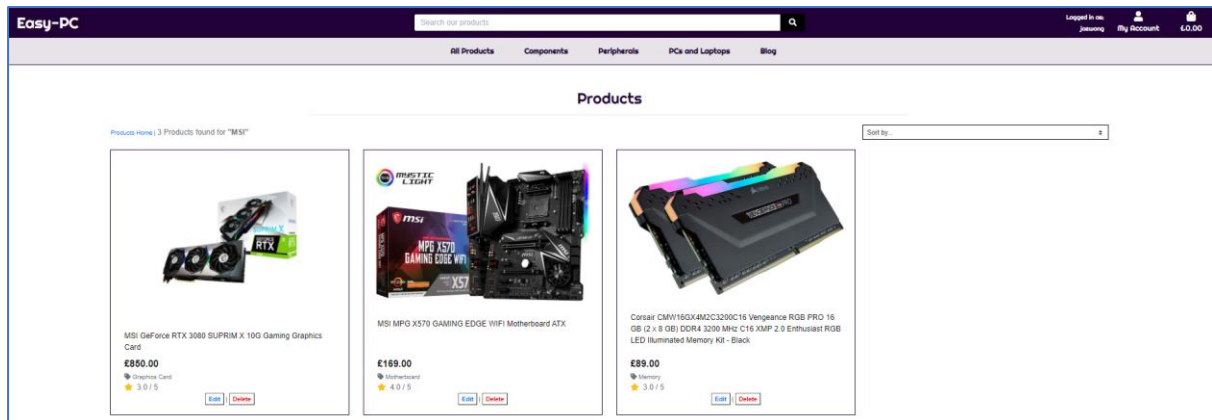


Pages for confirming deletion of blog articles and comments are below. The Cancel button will redirect back to the article page.



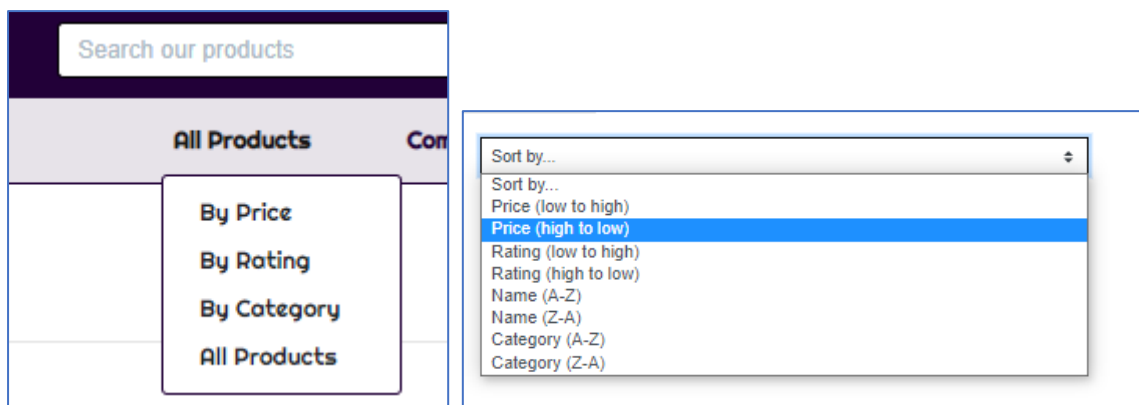
Search Queries

The search function for products was tested and works as intended. The search terms correctly display results and also display the number of products found. An example below is by searching the brand term “MSI”. This correctly displayed 3 products.



Sorting

The products can also be sorted using the dropdown menu or navigation link.



Having tested this thoroughly, the products are sorted in the correct selected orders with no issues.

Purchasing and Checkout

Purchase limit - £10,000

Using Stripe, there is a purchase limit of £10,000 in place.

To tackle this within the project, during the checkout phase, the complete checkout button is disabled and instead will display a disabled button advising the customer to adjust their shopping bag.

The screenshot shows the Easy-PC checkout page. The header includes the Easy-PC logo, a search bar, and user account information (Logged in as test, My Account, £1805.00). The navigation bar lists categories: All Products, Components, Peripherals, PCs and Laptops, and Blog. The main content area is divided into two columns. The left column contains form fields for user details (email: test@test.com), delivery address (street1, street2, city, country: United Kingdom), and payment information (card number, MM/YY, CVC). The right column displays the cart items, including an NVIDIA GeForce RTX 3090 Founders Edition Graphics Card. The subtotal is £11200.00. The order total is £11200.00, and the delivery cost is £0.00, resulting in a grand total of £11200.00. A message at the bottom states: "Apologies, we are unable to accept single transactions that exceed £10,000. Please adjust your bag." A button labeled "Adjust Bag" is visible.

Checking the Webhooks on stripe, I can see that the payments are all going through successfully.

Webhook attempts	
Attempts to send an event to your endpoint in the past 15 days	
	EVENT TYPE
> Succeeded ✓	payment_intent.succeeded
> Succeeded ✓	charge.succeeded
> Succeeded ✓	payment_intent.created
> Succeeded ✓	payment_intent.created
> Succeeded ✓	payment_intent.created
> Succeeded ✓	balance.available
> Succeeded ✓	payment_intent.succeeded
> Succeeded ✓	charge.succeeded
> Succeeded ✓	payment_intent.created
> Succeeded ✓	payment_intent.created

Product Ratings

Each product has an average rating which displays on both the All Products page or the individual Product Detail page.

This is influenced by user reviews and is automatically updated upon adding reviews and removing reviews.

This was thoroughly tested where the app updates the product review each time a review rating is added, edited or deleted.

Responsive Design

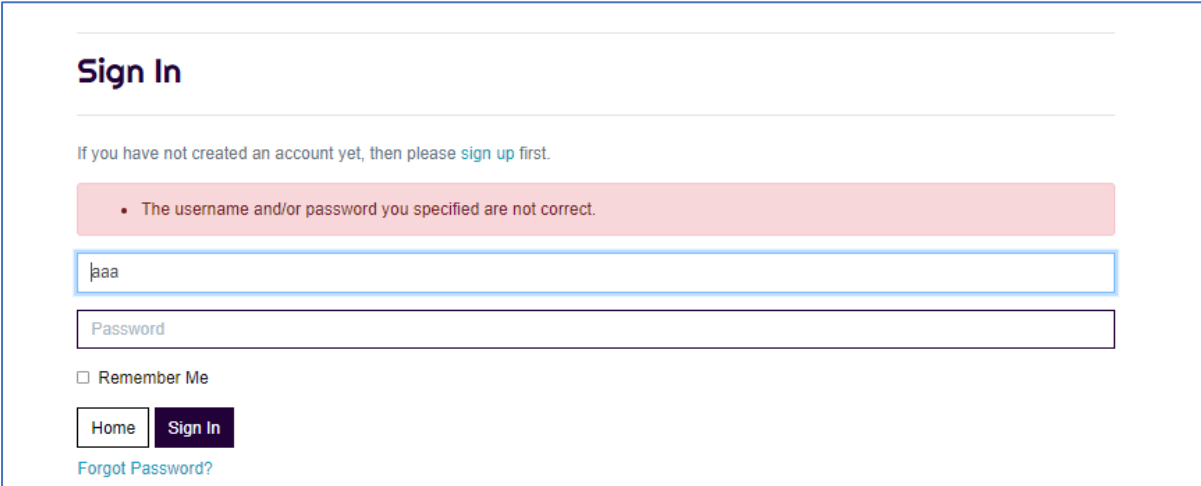
The Webapp was tested on both Desktop and Mobile devices using Google Chrome and Firefox web browsers.

I currently own a OnePlus 6 so this real-life device was used to test the whole website on both Google Chrome and Firefox web browsers.

Responsinator (<http://www.responsinator.com/>) was also used to test a variety of screen sizes to ensure the website responsiveness.

User Login Information

When logging into a profile, submitting incorrect credentials will notify the user of such.



The screenshot shows a 'Sign In' form with a title 'Sign In' in bold. Below the title, a message states: 'If you have not created an account yet, then please [sign up](#) first.' A red error message box contains the text: 'The username and/or password you specified are not correct.' Below this, there are two input fields: the first contains the text 'jaaa' and the second is labeled 'Password'. There is a checkbox labeled 'Remember Me' and two buttons: 'Home' and 'Sign In'. At the bottom, there is a link that says 'Forgot Password?'.

If a user has forgotten their password, they can request for an email to reset this.

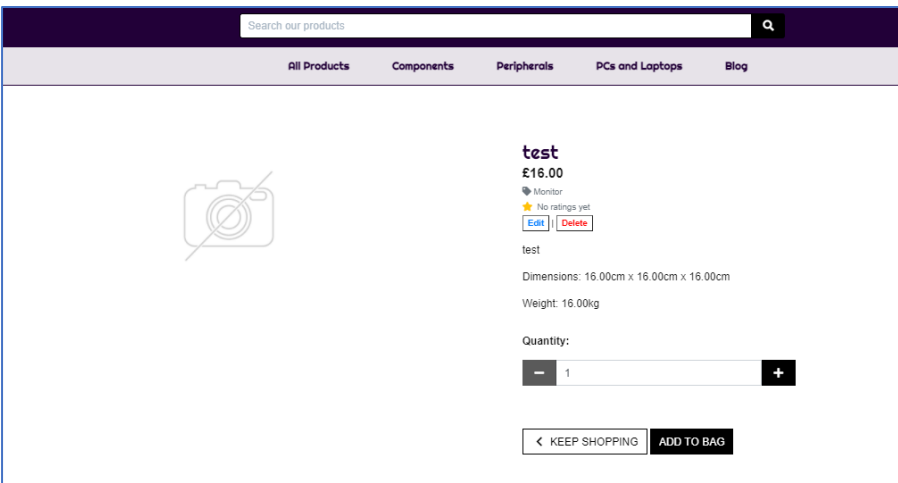
Having tested this on a few user accounts, this is working as intended.

Product and Blog Images

When creating products or blog articles, images are normally added.

Both new products and blog articles have optional image fields. If there is no image uploaded, a generic “no image” is used as a placeholder.

This is also used if the admin removes an image of the product or blog article.



The screenshot shows a product page with a search bar at the top. Below the search bar, there are navigation links: 'All Products', 'Components', 'Peripherals', 'PCs and Laptops', and 'Blog'. The main content area features a placeholder image of a camera with a diagonal line through it. To the right of the image, the product name 'test' is displayed, followed by the price '£16.00'. Below the price, there is a star icon and the text 'No ratings yet', along with 'Edit' and 'Delete' buttons. The product details include 'test', 'Dimensions: 16.00cm x 16.00cm x 16.00cm', and 'Weight: 16.00kg'. A quantity selector shows '1' with minus and plus buttons. At the bottom, there are two buttons: 'KEEP SHOPPING' and 'ADD TO BAG'.

Navigation

To ensure all links are working, I checked all links and buttons to ensure they redirect to the correct destinations.

The footer houses social media links for Facebook, YouTube, Instagram and Twitter. These are all working as intended.

There is also a “back to top” button at the bottom-right of the all products page which correctly functions.