SCHOOL OF ENGINEERING AND

TECHNOLOGYACADEMIC SESSION

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WEB1201 WEB FUNDAMENTALS

DEADLINE: 30TH November 2022 (WEDNESDAY), 5:00 PM

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NRIC/PASSPORT NO: 020714-10-0539

INSTRUCTIONS TO CANDIDATES

- This final assessment will contribute 50% to your final grade.
- This is an individual assignment.

IMPORTANT

The University requires students to adhere to submission deadlines for any form of assessment. Penalties are applied in relation to unauthorized late submission of work. Coursework submitted after the deadline will be subjected to the prevailing academic regulations. Please check your respective programme handbook.

Academic Honesty Acknowledgement

"I DANIEL ALEXANDER GOMES (Name) verify that this paper contains entirely our own work. I have not consulted with any outside person or materials other than what was specified (an interviewee, for example) in the assignment or the syllabus requirements. Further, I have not copied or inadvertently copied ideas, sentences, or paragraphs from another student. We realize the penalties *(refer to the student handbook diploma and undergraduate programme)* for any kind of copying or collaboration on any assignment."

……..... (Student's Signature / Date)

Table of Contents

INTRODUCTION:

In recent years, the threat of global warming has become more apparent as time goes on. The condition of our planet is worsening with each passing year and the side effects of climate change are becoming more apparent. Hence, it is necessary to act now before the planet reaches a stage where it can no longer be saved. In fact, recent studies show that the threshold for when global warming becomes irreversible may be crossed sometime between 2027 and 2042 [1]. Hence, I have chosen to create an awareness website called "GlobalGuardians" to help spread awareness of global warming. In order to implement this website and create a design for it, the website should first have an aim along with objectives.

Aim:

To help spread awareness of global warming to the general population

Objectives:

a) Inform readers of all relevant information pertaining to global warming such as causes, effects, and solutions
b) Website should be creative and interactive to allow users to navigate between pages.
c) Website design should be consistent and professional

Requirements:

To achieve the aim and objectives stated above, there are many requirements that this awareness website should fulfil. Below are the requirements needed to create a good awareness website:

No.	Requirements	Justification
1.	Page headers	To clearly show the users the name of the website. Page headers should be consistent throughout the website to ensure the design looks professional.
2.	Navigation bar	Allow users to navigate between pages of the website easily via buttons. The bar should be the same on all pages.
3.	Table of contents	The website home page must include a table of contents that informs users about the sections within the page.
4.	Contains relevant information	The website should include all the relevant information that it wants to convey to the user. For example, this website must include relevant examples of the causes, effects and solutions to global warming.
5.	Multimedia objects	The website should have relevant graphs and images which complement the website content to make it more interesting.
6.	Navigation links	The website home page must have navigation links to allow users to navigate between page sections easily
7.	Contact options	The website should have options for users to contact the website creator if they have questions. This can be implemented via forms

		or email links.
8.	References list	The website should include references for the information conveyed to inform users that the content is factual and not made up.
9.	Multiple pages	The website should separate its pages to avoid a messy layout which can lead to a bad user experience.
10.	Search function	The website should have a search bar that allows users to search for a specific keyword within the page for ease of navigation.
11.	Additional Website links	The website should have links to go to other relevant websites. This allows users to get more if they want to know more about global warming.
12.	About page	The website should have a separate page that contains information about the website and its creators. A contact option can be included on this page
13.	Sign up/Login page	The website should have a separate page that allows users to sign up for the website's newsletter and a log in option for moderators to log in to make changes. This can be done via forms.
14.	Consistent Colour scheme	The website should feature a consistent colour palette to make the website more interesting instead of just plain black and white. The Colour palette chosen should be relevant to the website content. For example, this website follows the colours of the forest because it is relevant to the content about the Earth.
15.	Working backend	The website should use JavaScript to implement sign-up/login functions and handle errors within the page forms. The backend should also inform users of any errors in a way that allows them to fix them easily.
16.	Language selection	The website should have an option for the user to switch their preferred language. A website that allows for a language selection will improve user experience.

LAYOUT DESIGN:

COLOUR SCHEME:

For a website to be good, it should have a colour scheme which is consistent and relevant to the content within the website. Since the website content deals with matters related to nature and the earth, the colour scheme chosen was based on the colours found in the forest. The Colours of the website are as follows:

NO	COLOUR	Justification
1.	Dark-green Cyan (#003e29) 	This particular shade of dark green and cyan matches with the colours of leaves on forest trees to give the website a nature theme. Furthermore, since it is a dark colour, it will not irritate the reader's eyes. This shade of

		green is used for the page header background.
2.	Chlorella Green (#5cb25d)	This shade of green is chosen because it matches the colours of the plants. It complements the other colours on the website well and is suitable to be used as the page header text and logo colour
3.	Black	Black is a very neutral colour that can be found in most colour palettes. Black is used primarily as the font colour and the navigation bar colour.
4.	White	White was chosen as the nav bar font colour and the body background where the all the website content is placed. This is because white is a neutral colour that not only contrasts with the dark colours of the website, but also provides a clear background for the content to be seen clearly.
5.	Driftwood brown	This particular shade of brown was chosen because it matches the colours of tree trunks. Although this colour is only used as part of the body background image. It successfully gives the website a nature vibe.

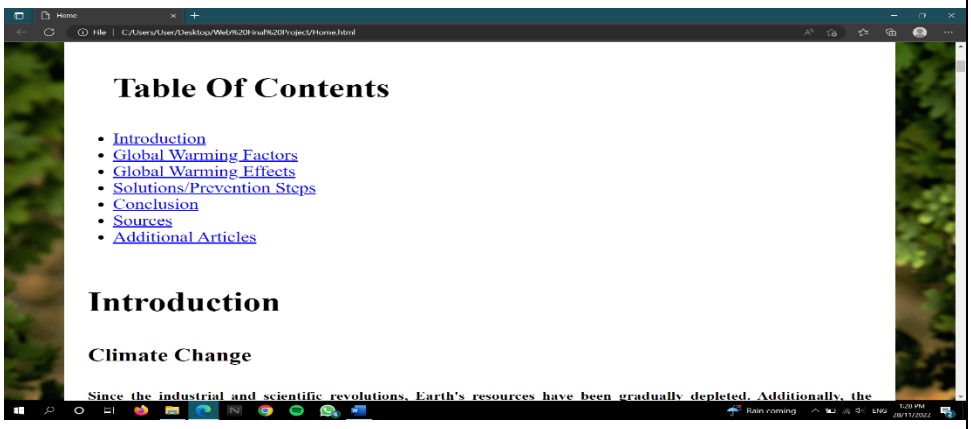
UI LAYOUT:

UNIVERSAL LAYOUT

This layout is universal for all pages in the website to maintain design consistency.

No.	Layout Design	Justification
1.	Website Header	The website needs to have headers to inform the user of the website they are visiting. The name of the website and its

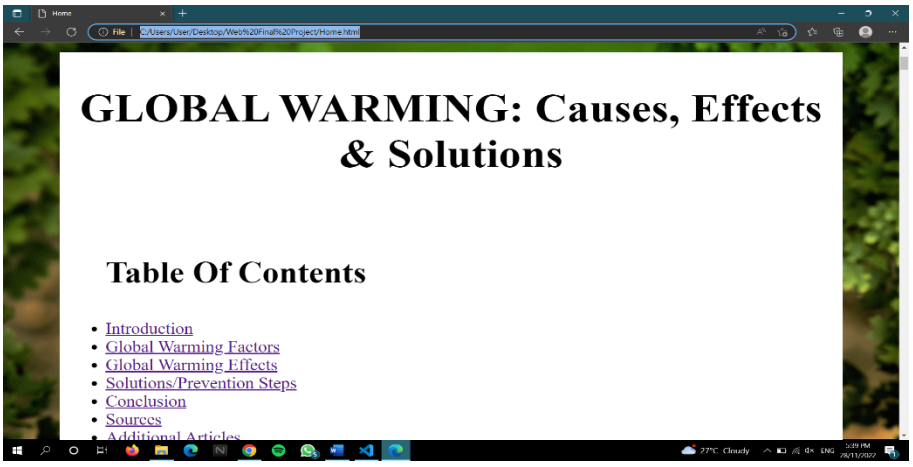
		logo are contained within the page header. The name and logo are placed in the centre of the header for clear visibility. The name and logo is chosen based on the website content. Since this website is trying to protect the earth, "GlobalGuardian" is a suitable name. Furthermore, the shield logo also complements the name.
2.	Navigation Bar 	The nav bar is placed at the top of the website under the page header so users can easily see the different pages and functions of the webpage. All buttons within the nav bar are aligned to the left to reduce the space utilized by each button. The buttons are styled with a white because it contrasts against the black background to provide clear text visibility.

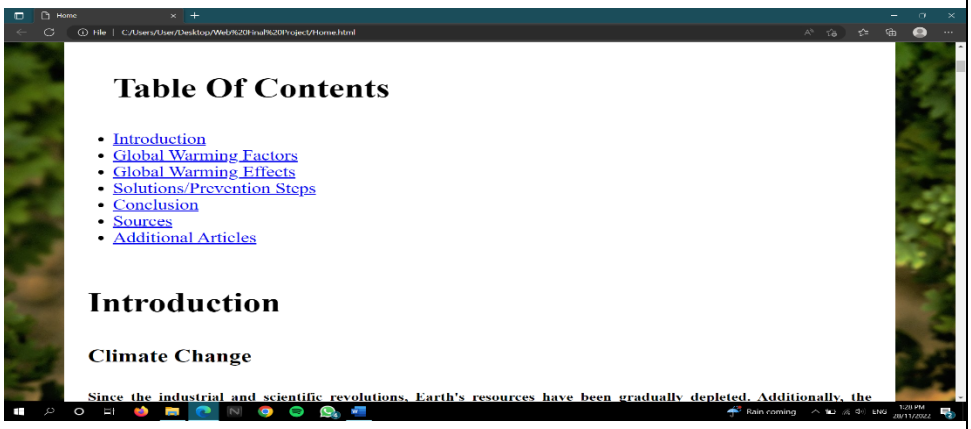
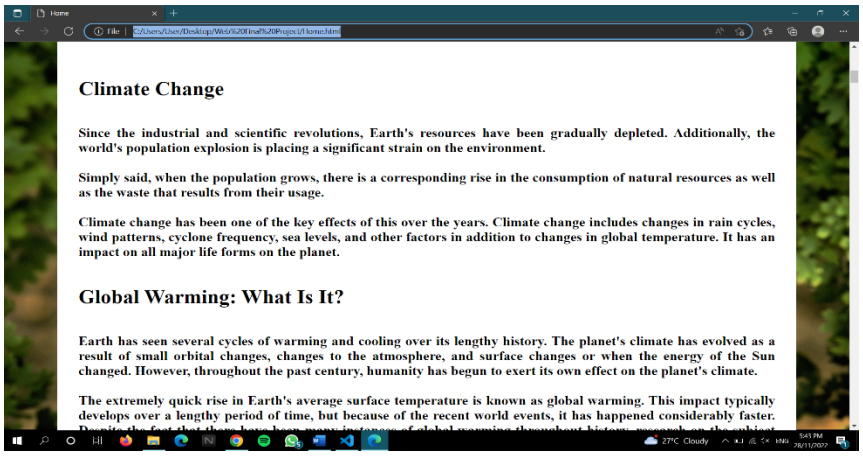
3.	Body background image 	For the body of each page, the background image is set to this image of a tree within a glass container. Though the centre of the image itself is not very visible due to the elements placed in front of it. The edges is still suitable for the content of this website which revolves around the earth.
4.	Body content section 	Within each page, the main content of the page is placed within a white section which is aligned at the centre of the page. This is to provide readers with clear visibility. Based on the image on the left, one can see how the previous background image interacts with the white section via margins to provide a clear space for users to read the content while also maintaining a natural theme to it. Note: Image shown is for the home page. The other pages follow the same layout but

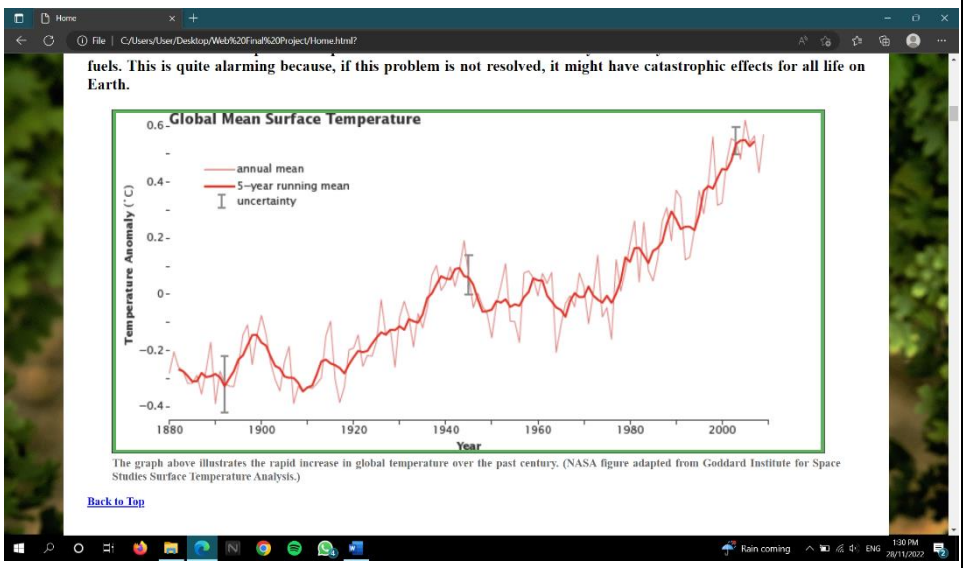
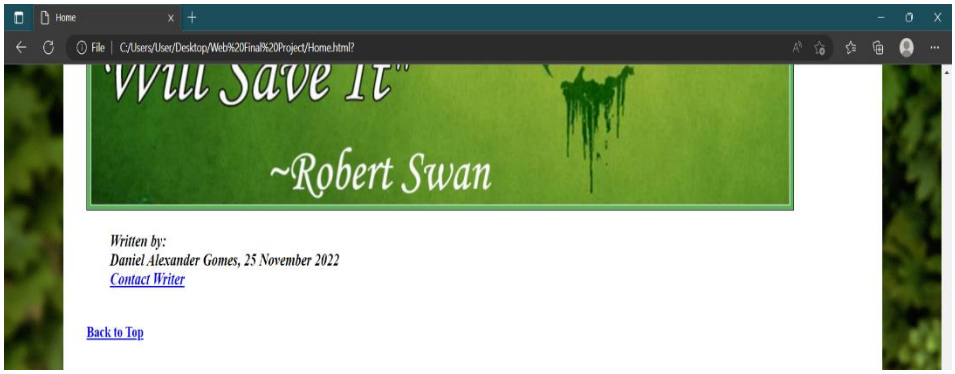
		with different content.

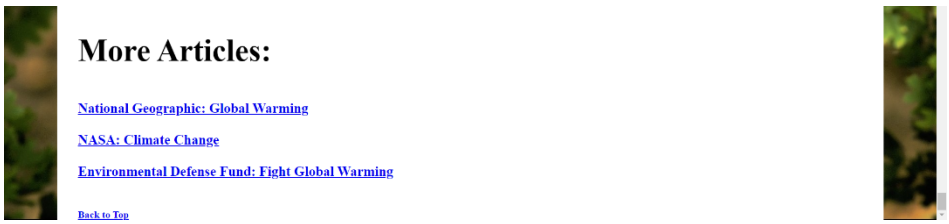
HOME PAGE LAYOUT:

Note: The website name header and navigation bar that can be found in this section is described in the above section: (Universal Layout).

No.	Layout Design	Justification
1.	Headers  	At the top of the home section, a header is placed to show the user what the content of the home page will be about. The header is centre-aligned with some margins on all sides and bolded to provide clear visibility. Each section header is left-aligned to differentiate between the heading levels. The text is also bolded to ensure users know that it is a heading.

2.	Table of Contents  	Under the main heading. A table of contents section is placed with navigation links to navigate to specific sections within the page. This is to make it easier for users to look up specific sections that they are interested in. Note: Navigation links back to the table of contents is placed at the end of each section for users to go back to the top of the page.
3.	Paragraphs  	All the content within the home page is written in paragraphs under the section headings. The paragraph alignment is justified with some margins to ensure it does not move too much to the right or left when viewing through different viewports.

4.	Images  	Within each section of the article, relevant images are placed. This is to ensure that users can visualize what the section is about while ensuring that the website looks interesting. Borders are also placed around the Images to differentiate the image from the white background.
5.	Writer information  	At the end of the article, the writer's information is placed so that readers are able to know who wrote the article. An email contact link is also placed here so that users can easily contact the writer if they need to. This information is left-aligned to provide clear visibility while also differentiating it from the article itself.
6.	Sources/References	It is necessary for an awareness website such as

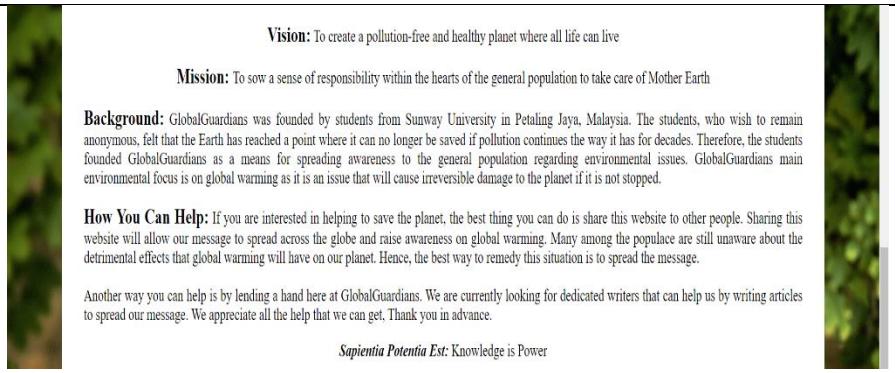
		this to have sources for the content featured. This is to inform the readers that the information conveyed is credible. For this website, the sources are listed near the bottom of the page. This is to be consistent with professionally written or academic articles that feature references at the end of the. website. The sources are listed numerically and justified for easy reference and consistency.
7.	Additional Information 	It is also necessary to have additional reading materials for readers who want to know more about the topic. At the end of this website, 3 additional links to other global warming awareness sites are added so that users will be able to navigate there directly if they want to. The article links are left-aligned to reflect consistency

		with the rest of the website.

ABOUT PAGE LAYOUT

Note: The website name header and navigation bar that can be found in this section is described in the above section: (Universal Layout).

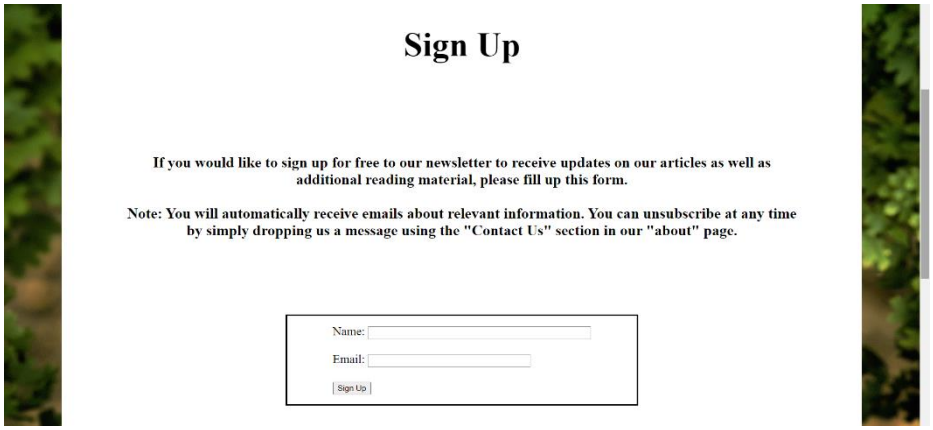
NO.	Layout Design	Justification
1.	About page header and image 	At the top of the about page, a heading is placed. This is to inform readers that this is the about page and it will contain information related to the website and its creators. The heading is bolded and centre-aligned to provide users with clear visibility In addition, a symbolic image is also placed under the heading to show that the website owners value the planet over profit. The image is center-aligned for consistency.
2.	Vision, Mission, etc.	The vision, mission and other relevant information about the website and creator is placed within the about page to give

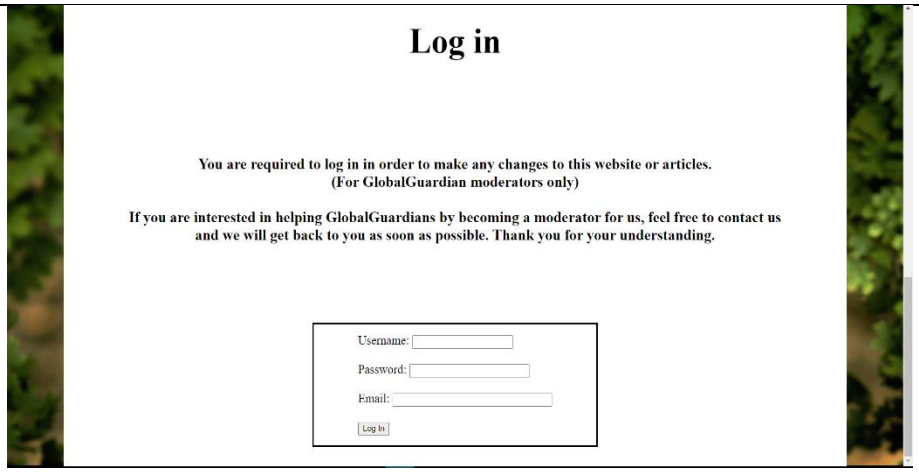
		readers an understanding of the website's purpose. All text shown in the image is centre-aligned for consistency except the "background" and "how you can help" sections. This is because the website layout will look messy when large paragraphs are aligned to the centre.
3.	Contact Form 	At the end of the about page, a contact form is created for users to contact the website creators if they have any enquiries. The information required is just the user's full name and email address along with the message they wish to send. This form is centre-aligned for consistency and to provide clear visibility to the user.

SIGN UP/ LOGIN PAGE LAYOUT

Note: The website name header and navigation bar that can be found in this section is described in the above section: (Universal Layout).

No.	Layout Design	Justification

1.	Sign up Section  	One of the functions of this website is to allow users to sign up to a newsletter where they can receive updates from the website such as new articles. Hence, a sign-up page is created and a sign-up section is placed on this page. This section has a header which is bolded and centre-aligned for clear visibility and centre-aligned paragraphs informing them of the purpose of the sign-up form. The form itself is centre-aligned for consistency and it requires the user's full name and email address to sign up.
2.	Log in Section	Below the sign-up section, the login section is placed. The function of the login section is to allow the website moderators to insert, update or delete content

		within the website. Similar to the sign-up section, the heading is bolded and centre-aligned together with the information paragraphs. The login form is placed below the paragraph. This form is also centre-aligned for consistency and visibility purposes. In order for moderators to log in, a username, password and email address is required.

IMPLEMENTATION OF LAYOUT:

Note: The implementation of the layouts in this section is based on the layout designs shown in the sections above. Please refer to the layout design section to see the layout design.

The implementation section is separated as follows:

- Implementation of the universal layout
- Implementation of home page layout
- Implementation of about page layout and JavaScript
- Implementation of signup/login page layout and JavaScript

UNIVERSAL LAYOUT:

No	Layout Design	Implementation and Justification
1.	Website Header	To achieve the page header shown above, a division is created using the “div” tag at the start HTML file under the body tag.

		Inside this division, two other divisions are created. One for the website name and another for the website logo. The background colour of the parent division is styled in CSS as “#003e29”. The display of the parent div is set to “flex” and the flex-direction is set to “row”. The text-align and justify-content is set to “centre”. This is to ensure that the name and logo flow from left to right but are centred on the page. Next, for the website name, the colour specified in the CSS is #5cb25d. The text is bolded with a font-size of “3cm” and a text-shadow of “7px 7px black” is set to further emphasize the website name. Lastly, the website logo is downloaded from a copyright-free online source and the image link is placed in the HTML file using the “img” tag within the specified header division.
2.	Navigation bar	To create the navigation bar, another division is created. The main div background-color is set to “black” and the display is “flex” and flex-direction is “row”. This is so that the buttons in this section flow from left to right. A padding of “8px” is also specified to ensure the buttons are vertically centred. The next step is to create smaller divisions for each button. Since there are 5 buttons, 5 divisions are created. These divisions have a transparent background and “white” font colour to contrast against the black of the parent div. To create the search function and buttons, the “form” tag is used and a “button” tag is placed under each form. Each button on the nav bar is a new form with different actions. The borders of each form are specified as 0 so that there are no unwanted lines separating the buttons For the home page, sign up/log in and about page, the action of the form will lead to the chosen page. To implement the search function, the input type of the form is specified as “search” and a search button for the form is created. For the language selection button, a Combobox is created using the “form”, “select” and “option” tag. Under each option tag, the desired language option is placed.
3.	Body Background Image	To create the body background image shown above, a “section” tag is used. Within this tag a class of “backgroundimage” is

		specified. In this class, the attributes are: padding-top: 1cm, background-repeat: no-repeat, background-attachment: fixed, and background-size: cover. The justification for each attribute is as follows: • Padding-top: To ensure that the top part of the image is not blocked by the website header. • Background is not repeated so that only one image is shown. • Attachment is fixed so that users can scroll through the website without changing the image view that is visible to them. • Cover is used as the size so that the image covers the whole webpage and does not leave any unwanted empty spaces.
4.	Body Content Section	Another "section" tag is created within the background image section. This section will store the main content of the webpage. This section tag is styled using CSS and given the attributes: margin-top: 1cm, display: flex, flex-direction: column, margin-left: 1in, margin-right: 1in, and background-color: white. The justification for each attribute is as follows: • Margin-top to leave some space between the content section and the website header so that the website design looks professional. • Display is set to flex so that the items can be arranged easily • Flex-direction is set to column so that each item in this section will flow from top to bottom in a way that allows for a proper website flow. • Margins are set on the left and right so that parts of the background image are visible. This enhances the website's look. • Background colour is set to white so that the content of the webpage can be read easily.

HOME PAGE LAYOUT

No	Layout Design	Implementation and Justification
1.	Headers	Main Header: The main header of the page is written within a level 2 heading

		(h2 tag) and has a font size of 2cm and font-weight is set to bold. Furthermore, the text-align is set to center. The justification for this is so that users are able to easily tell that this is the main heading of the page. Section Header: Section headers are the sub-headers within the page that specify the main sections that can be found. To implement the section header a level 3 heading (h3 tag) is used. The font-size is set to 1.5cm. The default alignment which is left is used. The justification for this is such that the sub-headings need to be smaller than the main header but still visible enough for users to see.
2.	Table of Contents	To create the table of contents, firstly a section header is used. Next, an unordered list is created using the "ul" tag. Within this tag, each list item is placed inside the "li" tag. Each "li" tag contains a link to the different sections of the page. The links are created using the "a" tag and the "href" is specified to the id of each section that the list item is about. At the end of each section, another "a" tag is used to link users back to the table of contents using the id #top.
3.	Paragraphs	To implement the paragraphs, firstly, a division for that section is created. Then, the paragraph title is written in a level 4 sub-heading (h4 tag) of size 1cm. This heading is used to separate out the content into smaller paragraphs while displaying to readers that the paragraph belongs to a particular section. The paragraphs are then written using the default font in black with a size of 25px. Next, some line breaks (br tag) are used to further separate out the paragraphs so that there are no more than 10 lines of text. This way, readers are able to follow the website flow without getting lost in the paragraph. Lastly, the text-alignment is set to justify, margin-left and margin-right are both set to 1cm. This is to ensure the content looks professional and easy to read. Note: Some sections feature a level 5 sub-heading (h5 tag) because there are more paragraphs within that section.
4.	Images	Within each sub-section, images are inserted for better reader comprehension using the "img" tag either at the top or bottom of the section division depending on the desired location of the

		image. Then the image is given a class with the attributes of height: auto, width: 30cm, border: 1px solid black, padding: 5px and background-color: #5cb25d. The justification is as follows: • Height of the image is automated so that the image does not look too compressed or stretched. • Width is set to 30cm so that the image can be seen clearly without unnecessarily expanding the body page • Borders are set to differentiate between the image and background • Padding is set so that the background-color which matches the website's theme can be seen. • Colour chosen matches the website name font in the website header. Thus, it follows the colour scheme chosen for this website. Note: For graphs, the "img" tag is placed inside a "fig" tag. Inside this tag, a "figcaption" tag is placed under the image to convey to users what the graph is about. The colour of the caption is set to grey to indicate that it is not part of the main paragraph but rather information about the graph it is under.
5.	Writer information	To create the writer information, another "div" tag is used followed by a "p" tag. The div avoids other elements from overlapping with the writer info section. Within the "p" tag, the writer's information is written followed by "br" tags after each piece of information. This is to maintain readability. Lastly, an "a" tag is used in conjunction with the "mailto" attribute to specify the writer's email. The writer information is written using font-style: italics, font-size: 20p , font-weight: bold and then aligned to the left. The justification for this is that the combination of these attributes allows users to see the information clearly while differentiating it from the main content.
6.	Sources/References	The references are created similarly to the table of contents. The only difference is that an ordered list (ol tag) was used instead of an unordered list. Each reference is written under separate "li" tags as well. The "ol" tag was chosen because it orders the references based on where the data is inserted. This allows for easy referencing. Note: References are plain text and not hyperlinks.

7.	Additional Information	This section is created similarly to the table of contents section but it does not utilize any list tags. Instead, the links are inserted using the “a” tag and separated by two “br” tags.

ABOUT PAGE LAYOUT:

No.	Layout Design	Implementation and Justification
1.	About page header and image	The implementation of this page header is similar to that of the home page. Except that for this page, the heading is written within a level 3 sub-heading (h3 tag) and font-size is set to 1.5cm. The reason for this is that this is a small page with minimal content, thus a smaller header size is sufficient. The implementation of the image is similar to inserting graphs on the home page. The image is placed within a “fig” tag followed by a “figcaption” tag containing the copyright of the owner. The image width however is set to 20cm and height is set to 12cm so that the page does not unnecessarily expand.
2.	Vision, Mission, etc.	The vision, missions, background and how you can help paragraphs are all implemented the same way. First, each section is placed within separate “p” tags followed by writing the titles within a “b” tag to bolden the text. This is so that users can see the title of the paragraph easily. Next, the short paragraphs are centre-aligned for consistency but the longer paragraphs are justified to ensure that the page layout stays the same when viewing through different viewports.
3.	Contact Form	To implement the contact form, the “form” tag is used. The form is given a suitable name such as ‘message’ followed by inserting “label”, “input” and “span” tags. The label tags will show the user what they need to fill up in the input. The message input however is set to “textarea” instead of “input” so that users have more space to type out their message. Each label and input is given a name and id which will be used for JavaScript error checking. The form’s “onsubmit” attribute is then linked to the JavaScript error checking function.

		The styling for the form is as follows: i. border: 3px solid black; ii. width:fit-content; iii. height: auto; iv. align-self: center; v. padding-top: 15px; vi. padding-bottom: 15px; vii. padding-left: 85px; viii. padding-right: 85px; The justification for these styling choices is that it allows the form to be easily read while occupying minimal space and maintaining consistency in the website design.

SIGN UP/LOGIN LAYOUT:

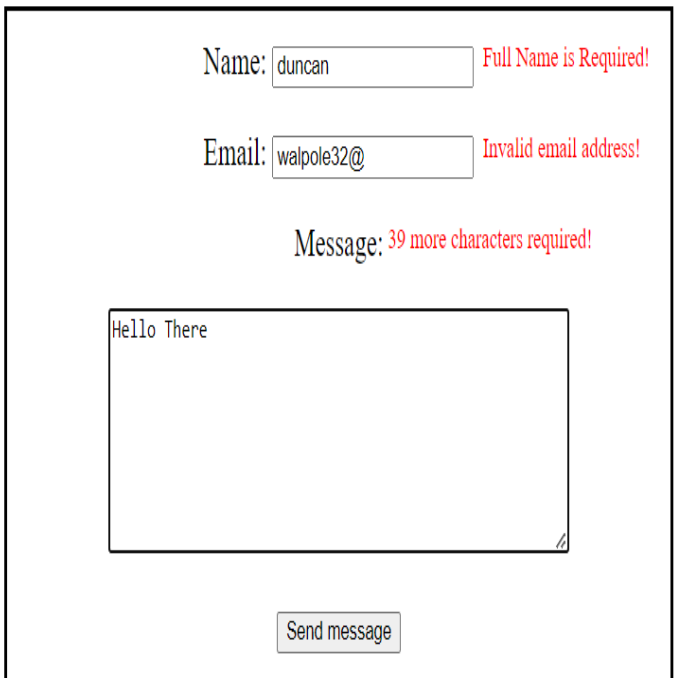
No	Layout Design	Implementation and Justification
1.	Sign up section	For this section, the heading is written inside an “h3” tag. The font size specified is 1.5cm and it is centre-aligned. The reason for this is so that the page does not have much content and does not need very big headers to get the point across to users. The information related to the sign-up is written inside a “p” tag with two “br” tags to separate out the information. This is to allow for better readability. The creation of the form is similar to the contact form on the about page. The only difference is that this form does not implement the “textarea” tag. Furthermore, the styling for this form differs from the contact form in terms of left and right paddings. The padding on both sides is reduced to 75px to allow for a better flow of items within the form.
2.	Log in section	The creation for this section is exactly the same as the sign-up section listed above. Do note however that since the login requires a password, the input type under the password label is set to ‘password’. This is to ensure that other people cannot read the user’s password.

JAVASCRIPT TEST CASE:

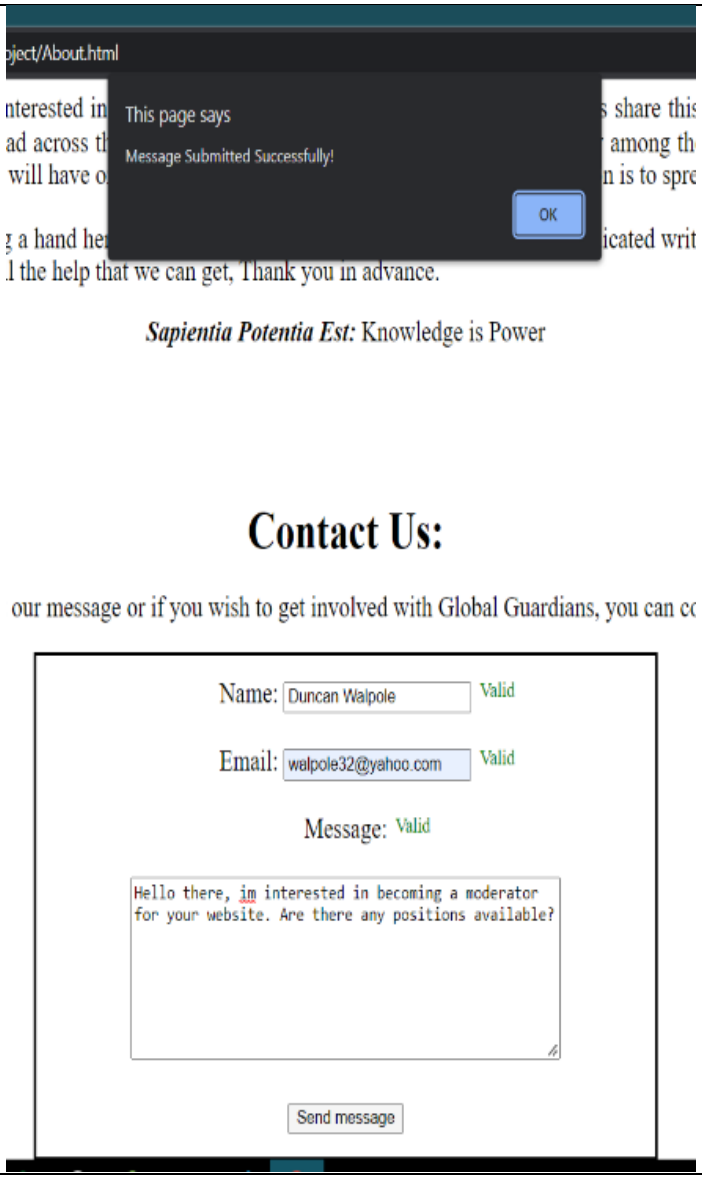
Since this website features forms that users can interact with, it is necessary for JavaScript to be implemented within this website for the purpose of error checking. These are the test cases and result of the error checking.

CONTACT FORM (ABOUT PAGE):

No.	Test Case	Explanation
1.	Empty Form Values (Name: null, email: null, message: null)  	To avoid users from submitting empty forms. JavaScript is implemented to ensure that all inputs are not null. Each field is checked separately using functions. Within the functions, an if statement is used to check if the field is blank. If the statement is true, then the function will write to the "innerhtml" to display that the specified field is required. Lastly, the function will return false. If the user submits the form without filling in anything, a message telling users to fix the specified errors will appear. The message colour chosen is red because red is associated with errors. Note: A time function is implemented for the "fix errors" message. The message will disappear after 5 seconds so that the interface is not cluttered.

		Result: As seen in the image, the implementation is a success.
2.	Invalid Values Values (Name: 'Duncan', email: 'walpole32@', Message: 'Hello There' 	To avoid users from submitting a form with invalid values, JavaScript functions are used to ensure that each input value follows a specified format. Within the function, another if statement is used to check if the input does not match the specified format. For example, for the name input, the input is checked for a string followed by a whitespace and another string. If the input format does not match, then a message telling the user that their full name is required will be displayed. The function will then return false. For the email input, the methods are the same but the format followed is different. The email is checked to follow the format 'String@x.x' where x is any number of characters. The message input is not checked for format but instead for length.

		If the user enters a message which is too short, a message telling the user how many more characters are required in their message will appear. Result: As seen in the image, all error messages are displayed. Hence, the test is successful.
3.	Valid Values Values (Name: ‘Duncan Walpole’, email: ‘walpole32@yahoo.com’, Message >= 50 characters)	Lastly, JavaScript functions are also used to inform the users that their inputs are valid, hence they can submit their message. Another function with an if statement is used. This time, however, the if statement checks if the functions for not null and invalid format returns true. The mentioned functions will return true only if the input is not null and the format is correct. If the parameters are true, the if statement will execute to show that each input field is valid using the “innerhtml” method to display a “Valid” message in green. Green is chosen as the message colour because it is associated with validity. After all the inputs are

		determined valid, a show message function is used to display an alert to the user that their message is sent. Result: As seen in the image, all the inputs are shown as valid and the alert message pops up to inform users that their message is sent. Hence, implementation is successful.

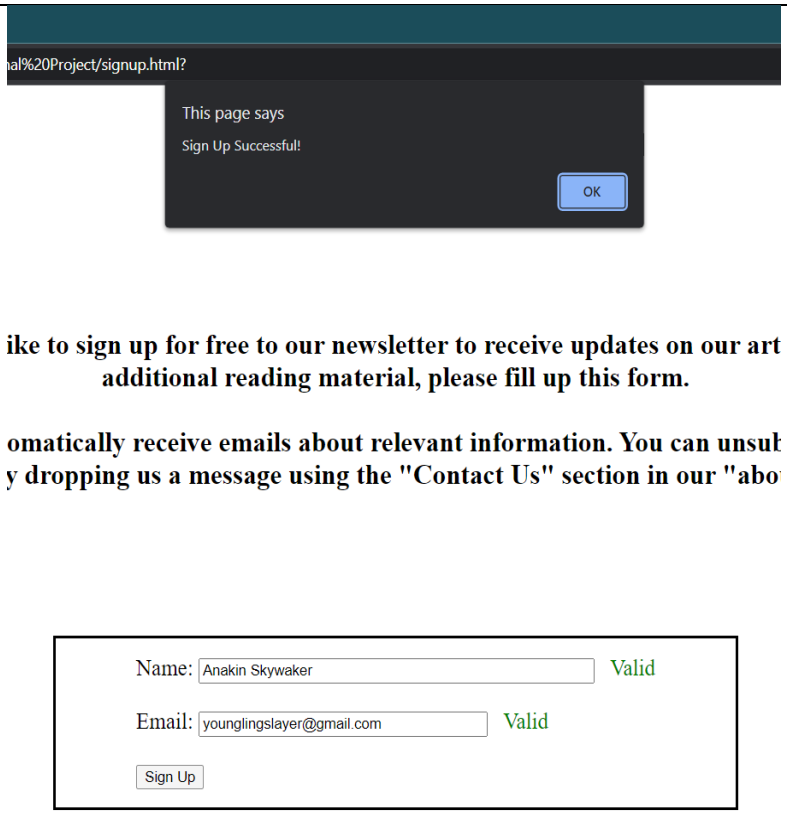
SIGN UP FORM (SIGN UP/LOGIN PAGE)

Note: The coding for this section is similar to that of the contact form. Thus, the explanation will not be as detailed to avoid repetition. If there are any differences in the approach, they will be stated.

No	Test Case	Explanation
1.	Empty Form Values (Name: null, email: null)	To avoid users from signing up using an empty form. JavaScript functions similar to

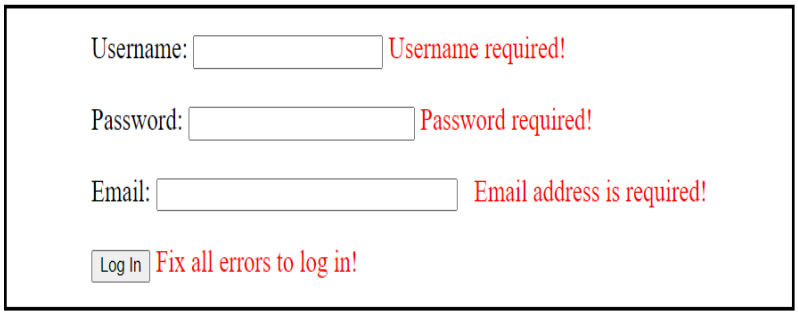
		the ones in the 'contact form' are used. The functions have if statements that check if the input value is not null. If the values are null, then a message telling users that an input is required will appear. If users proceed to submit the form with empty inputs, a message will appear telling users to "fix all errors" will appear. Result: As seen in the image, all the desired messages appear when the inputs are left empty. Hence, the test is a success.
2.	Invalid Values Values (Name: 'Anakin', email: 'younglingslayer@gmail')	Similar to the contact form, JavaScript functions are also used to check if the values of the inputs are valid. Functions and if statements are implemented to check if the name and email input follow the format specified. The

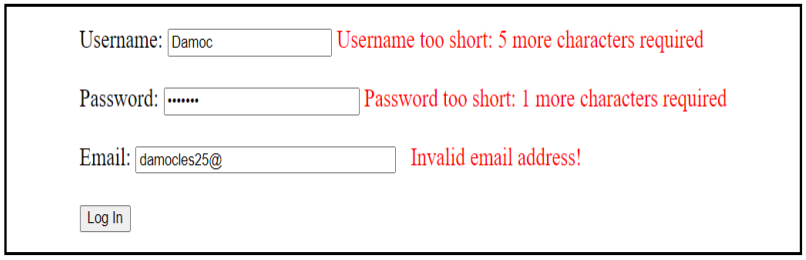
		format of these inputs is exactly like those in the contact form. If the values entered are invalid a message will appear telling users that their input is not valid and therefore need to be changed. If users submit the form with these errors, another message will be displayed telling users to fix the errors in the form. Result: As seen in the image, all the proper messages appear when invalid values are entered. Hence, the test is successful.
3.	Valid Values Values (‘Anakin Skywalker’, ‘younglingslayer@gmail.com’)	Lastly, JavaScript functions are used to show valid messages and allow users to submit the form. The approach for checking the validity of each input follows the approach used in the contact form where a function and if statement checks for true using the not null

		and invalid format functions. If both functions are true then the "Valid" message will display. When users submit a valid form, an alert message function will be used to display to the users that their sign up is successful. Result: Based on the image, all desired messages and alerts are displayed. Hence, the test is a success.

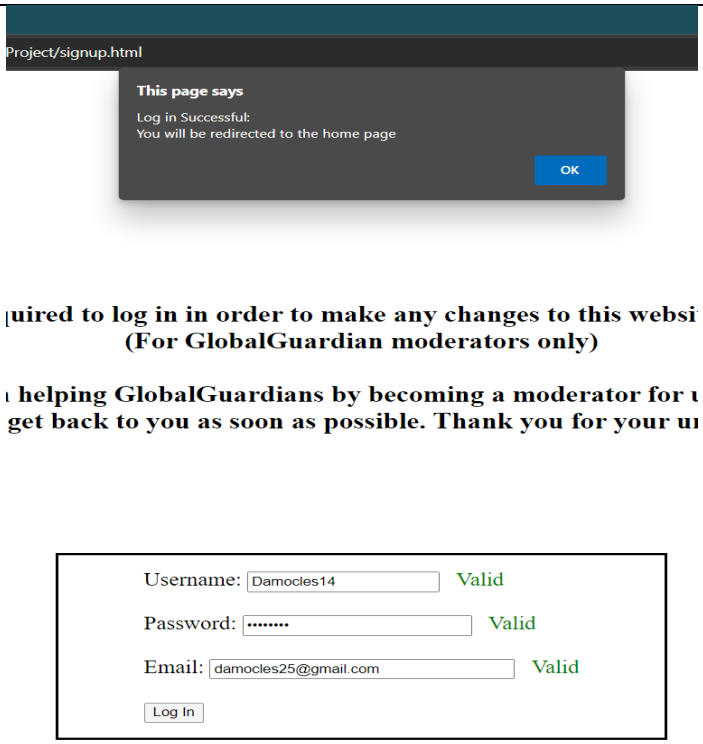
LOGIN FORM (SIGN UP/LOGIN PAGE)

Note: The coding for this section is similar to that of the contact form and sign-up form.

No	Test Case	Explanation
1.	Empty Form Values (Username: null, Password: null, email: null) 	To avoid users from logging in using an empty form, JavaScript functions are used to check the inputs for each field. Each input is given a separate function and if statement. The if statement checks if the input is not null. If it is null, a statement

		executes to display an error message next to the input box. If the user submits the form with empty inputs a message saying 'fix all errors' will appear at the bottom next to the log-in button. Result: As seen in the image, all desired errors are displayed correctly when values are left null. Hence, the test case is successful.
2.	Invalid values Values (Username: 'Damoc', Password: 'Lasagna', email: damocles25@') 	To avoid users from submitting invalid values in their form, JavaScript functions are used to ensure that the inputs follow certain parameters. For the username input, the value of the input is checked using a function with an if statement. The if statement checks that the username is at least 10 characters long. If the input is less than that, an error message will appear telling users that they

		need ‘n’ more characters. A similar approach is used for the password input. The difference is that the password only needs 8 characters to be valid. For the email, the approach is the same with the exception that the input is checked based on the format stated in the contact form section. Result: Based on the image, all desired error messages appear when invalid values are entered. Hence, the test case is successful.
3.	Valid Values Values (Username: ‘Damocles14’, Password: ‘Lasagna7’, email: damocles25@gmail.com)	Lastly, to show users that their inputs are valid, more JavaScript functions are used. Similar to that of the sign-up and contact forms, A function and if statement is used to check if all the input are not null and in the correct format. If those conditions are true,

		the function will write to the "innerhtml" to display "Valid" in green next to the input boxes. After all the inputs are determined to be valid, the form can then be submitted. A function will be executed to show users that the login attempt is successful and that they will be redirected to the home page. Once users click Ok, they will be brought to the home page. Result: All desired messages appear when the values are entered and the website redirects to the home page after clicking Ok. Hence, the test is successful.

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VIDEO PRESENTATION LINK:

Note: If the video viewed from the browser has choppy audio, download the file and view it from a media player application.

https://drive.google.com/file/d/1rE0Jb9GESgE3Xia5swhkFP7krfDb8gqQ/view?usp=share_link