Web Development Report

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Structure

All HTML files are split into the head and the body. The head contains all the metadata, largely remaining the same in all files, with the only differences being the names and the links to the corresponding CSS files. The HTML files share the same body template which is further split into the <header>, <main>, and <footer> elements.

The <main> element holds the unique content for each page and ensures compliance with its specific requirements. The navbar code is in the <header> while the footer is in the <footer>. Both the navbar and the footer are present in all four pages of the website. This requires the <header> and the <footer> to be identical in these pages to guarantee seamless transitions between pages. Any deviation regarding this part will cause an inconsistency in design and will be immediately noticed by the user.

Navbar & Footer

The website's main purpose is to educate the audience about human activities in space, covering general information, history, and the future of space exploration. Therefore, a blue navbar which is present throughout the entire website, contains four links to four different pages: Home, History, Future and Contact Us. They are located on the right side and when hovered over, the bold, light grey Arial font text turns blue, indicating that it is clickable and will redirect the user to another page. There is also a logo on the left side which serves as another button to go back to the home page.

To meet the specifications, a blue footer was also added. It contains a text, “@ Copyright 2025. All rights reserved.”, in bold, black 16px Arial font.

Notably an additional shared file called “shared.css” was created. It prevents the need to duplicate the same CSS code for the footer and the navbar into the separate CSS files, while allowing changing the design across all pages simultaneously.

Home Page

Home page is represented by the “index.html” and “home.css” files. This page is the simplest of the four, being the first page that the user sees. It contains a high-quality image spanning the entire screen and a small section of visuals below it. The image is wrapped in <section> element with the class “background”. This allows it to be separately styled in CSS so that it is stretched to an entire screen by setting the width to 100%. The visuals are contained in the <section> element with the class “intro” that includes a headline in 24px Arial blue font, a paragraph in 16px Arial grey font, and an image that, together, describe the ambitions of human space activities. The link under the image, represented as a blue text, redirects the user to the source of it in a new tab by adding “target= "\_blank"” to the tag.

The high-quality image is predominantly black; therefore, I decided that a black background would nicely compliment the image. The blue headline perfectly contrasts the background, allowing for a unique visual. Furthermore, the grey paragraph nicely matches the image of the grey moon on the right side of the page.

History Page

The history page was built using “history.html” and styled with “history.css”. The first half of the history page contains four significant feats of space exploration. This includes: the first human in space, the first moon landing, the establishment of the ISS, and the recent Mars explorations. These events are represented as cards spaced 40px apart, each containing a headline, a brief description, and a high-quality image of the event. When hovered over, the cards gently glow, providing visual feedback to the user while satisfying the given specification. Notably, “transition: box-shadow 0.3s ease-in-out;” property was added to the “.card” class in CSS to smoothen the glow transitions, making it more visually appealing. The headline uses a bold, 20px dark blue Arial font, while the description is set in a 16px black Arial font.

The second half of the page contains a 4x3 gallery showcasing twelve key achievements made through human space activities in a chronological order. The events in the gallery span from 1957 all the way to 2021 and each event contains an image and a short italicised 14px white Arial font description beneath. To achieve the gallery layout, the events had to be wrapped in a <section> element with the class “gallery-grid” in HTML and styled using “grid-template-columns: repeat(4, 1fr);” property in CSS. It is worth mentioning that implementing the specification of setting 20px gaps between images and scaling them to 1.2x on hover presented a challenge. Upon initial implementation, the images tended to overlap, making the entire gallery visually unappealing. This was later fixed by sizing down the width of the images and the descriptions to 90% and centring them relative to the gallery <section>.

The background of the page is set in black colour that gradually turns dark grey. Such a decision was made to continue the dark theme, set in the home page. The page also contains a .png image of the Moon in the centre with the opacity of 0.45. It greatly helps the blue glow of the cards to pop in contrast to its primarily grey colour. It is important to note that the same background design is also implemented in the future page to serve similar purposes, i.e. dark theme and contrast to cards.

Future Page

The future page is made up of “future.html” and “future.css”. The page consists of five interactive cards that represent the five future missions planned by various organisations. To follow the specifications, a dark-blue vertical line in the middle of the page was added. Additionally, a connector dot was also added to the line which points to the cards for a better visual association. Moreover, I decided that instead of putting all the cards on one side, it would be more balanced to alternate their positions. To achieve such a layout, each card/event was assigned either a “right” or a “left” tag within the “timeline-event” element to be easily distinguished and styled. This way, I was also able to place the images on the outer edges of each card, enhancing visual appeal.

However, on smaller screens, the entire structure of the page would collapse as the information in the cards failed to fit in properly. This was solved in CSS by taking advantage of media queries (@media screen and (max-width: 768px)). By setting the width of the “timeline-event” to 100% and allowing the cards to stack to the right, I was able to maintain the structure of a timeline even on smaller screens.

The information inside the cards were put into a separate <div> with the class “contents”. This allowed me to position the cards without affecting the inner content. Each card contains a relevant image that is displayed in a dark-blue circular frame, slightly scaling up to 1.1x when hovered over. The cards themselves also lift slightly, with a shadow underneath, further enhancing user interactivity. Each card features a bold, dark blue 20px headline in an Arial font and a brief description that provides the mission details, including the organisation and the expected date of launch. The description is set in black, 16px Arial font as per the specifications.

Contact Us Page

The files “contact.html” and “contact.css” make up the contact us page. The design choice to make this page predominantly white was made to contrast the dark space theme, grounding the users back to Earth, where they engage with the owner of the website. The page itself allows the users to give feedback or reach out to the owner by filling out a form. The form consists of 3 fields: a name, an email address, and the message itself. The fields contain corresponding placeholder messages to ensure that the users understand the expected input format.

The name can only be made up of letters and be of maximum length of 100 characters. Therefore, the attribute “maxlength” was set to 100, and the “pattern” attribute was set to "^[A-Za-z\s]+$". The email field is of the type “email” which ensures that the user inputs a valid email address, while the “maxlength” was set at 255 characters. The message field is expected to have the most information, so the maximum allowed length was set at 1000 characters. All these fields are set to be mandatory by having “required” attribute in the <input> tag. The form can be submitted by pressing on a blue “Send Message” button that turns light blue when hovered over to improve user interaction. It is worth noting that the “method” attribute in the <form> tag was omitted to prevent errors upon submission, it would otherwise be set to “POST” in a full implementation.

Below the form, there is a Google Map that displays the University of Exeter’s Streatham campus. This way, the users could locate the organisation’s location and physically inquire about the website. The implementation of the map was made possible through embedding the interactive Google Map into the <iframe> tag.

Logging

|  |  |  |
| --- | --- | --- |
| Date | Time | Duration/hours |
| 04/02/2025 | 14:00 | 1 |
| 05/02/2025 | 18:00 | 2 |
| 08/02/2025 | 12:00 | 1 |
| 08/02/2025 | 20:00 | 2 |
| 11/02/2025 | 18:30 | 2 |
| 14/02/2025 | 15:30 | 1 |
| 16/02/2025 | 19:00 | 3 |
| 17/02/2025 | 19:00 | 1 |

Declaration

AI-supported/AI-integrated use is permitted in this assessment. I acknowledge the following uses of GenAI tools in this assessment:

[ ]        I have used GenAI tools for developing ideas.  
[  ]        I have used GenAI tools to assist with research or gathering information.  
[  ]        I have used GenAI tools to help me understand key theories and concepts.  
[  ]        I have used GenAI tools to identify trends and themes as part of my data analysis.  
[  ]        I have used GenAI tools to suggest a plan or structure for my assessment.  
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[  ]        Other [please specify].  
[  ]        I have not used any GenAI tools in preparing this assessment.

I declare that I have referenced use of GenAI outputs within my assessment in line with the University referencing guidelines.

References

Images

* apollo11 image - https://images.nasa.gov/details/as11-40-5875
* artemis 3 - https://images.nasa.gov/details/MAF\_20220727\_CS3\_LOX\_FwdDome\_04
* background - https://images.nasa.gov/details/iss040e083604
* dragonfly image - https://www.nasa.gov/science-research/planetary-science/nasas-dragonfly-team-soars-through-major-design-review/
* europa clipper - https://spacenews.com/nasa-to-replace-europa-clipper-instrument/
* gagarin - https://histrf.ru/read/biographies/gagharin-iurii-alieksieievich
* hubble - https://images.nasa.gov/details/PIA18165
* iss - https://images.nasa.gov/details/0201587
* james webb - https://science.nasa.gov/mission/webb/
* laika - https://medium.com/@relaxingvibe18/the-first-dogs-to-travel-to-the-moon-a-brief-history-41e702f08268
* logo - https://gpm.nasa.gov/science-team/resources/nasa-logo
* lunar gateway - https://www.nasa.gov/mission/gateway/
* mars (curiosity rover) - https://images.nasa.gov/details/PIA22960
* moon - https://www.freeiconspng.com/img/44668
* moonlanding - https://www.nasa.gov/image-detail/amf-as11-40-5927/
* new horizons - https://airandspace.si.edu/collection-objects/spacecraft-new-horizons-mock-model/nasm\_A20080394000
* rosetta-philae - https://science.nasa.gov/mission/rosetta-philae/
* salyut - https://www.britannica.com/technology/Salyut
* sample return - https://images.nasa.gov/details/PIA25326
* sojourner - https://images.nasa.gov/details/PIA01122
* thumbnail/astronaut - https://images.nasa.gov/details/as11-40-5903
* voyager 1 - https://images.nasa.gov/details/PIA17462
* yuri gagarin - https://www.theguardian.com/science/2011/apr/06/yuri-gagarin-orbital-flight-1961

Content

Future.html:

* Europa Clipper - https://science.nasa.gov/europa-clipper-homepage/
* Artemis 3 - <https://www.nasa.gov/mission/artemis-iii/>
* Mars Sample Return - https://science.nasa.gov/mission/mars-sample-return/
* Lunar Gateway - <https://www.nasa.gov/mission/gateway/>
* Dragonfly - https://science.nasa.gov/mission/dragonfly/