

# **COMP1021: INTRODUCTION TO WEB TECHNOLOGIES**

## **COURSEWORK – 2**

### **DYNAMIC WEBSITE**

#### **CONTENTS :**

##### **1. DESIGN**

- **Layout of each web page**
  - *Justification for every web page*
- *Wire frame Model*

##### **2. EVALUATION**

- *Test plan*
- *Recommendation (How to improve/impact the website)*

##### **3. ARCHITECTURE OF THE WEB**

##### **4. DESCRIPTION OF HTTP**

- *HTTP Request*
- *HTTP Response*

##### **5. COMPARISON OF CSS AND HTM**

# DESIGN

## • LAYOUT OF index.html

3. Heading box with opacity

4. Top of the landing page

1. Navigation bar

2. That shows to go down (mouse icon)

5. Section of the landing page and their background color.

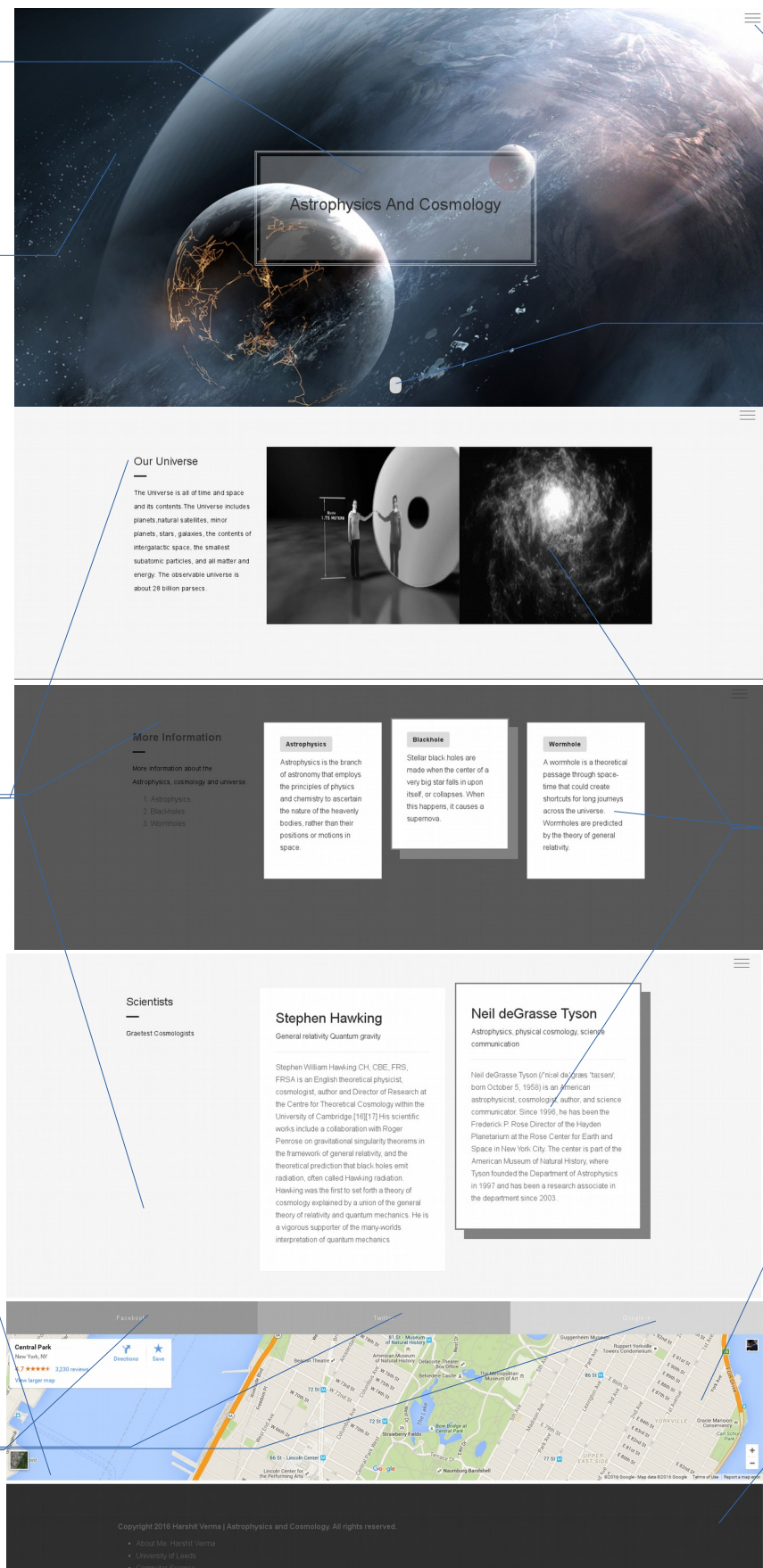
6. Small Introduction with contents

10. Session storage and local button

7. Footer-top: Social media icons linking with NASA pages.

8. Geo-Location section and there is button for location

9. Footer-bottom: copyright section



## JUSTIFICATION FOR DESIGN CHOICES FOR index.html

### 1. Navigation Bar:



HOME  
ASTROPHYSICS  
BLACKHOLE AND  
WORMHOLE  
QUOTES  
CONTACT

I used this navigation style as it looks modern and interactive due to it being collapsible and it opens when the button is selected the navbar opens again. This allows users to interact with the site and to view the pages without the navbar overlapping the content. The colours I used were grey and white as there is contrast so it is visually appealing as well as it being simplistic suiting my design. The colours are used across the site and are consistent with my design theme. The fonts are large and easy to read as well as being spaced out so it can easily be selected. The navbar has all the multiple pages so that the users can navigate easily.

### 2. Mouse Scroll Icon button:



This is a small mouse icon used to indicate the user to scroll on this page and allow interaction with the full page. It is useful as the landing page fills the screen and therefore users may need indication to know the page content is below so they would need to scroll down.

### 3. Heading:



This is a heading of the index page with opacity. I used this bring attention to the heading. The background image I have used has high contrast of colours thus I used the box to increase readability and make it look attractive without creating an object that covers the image.

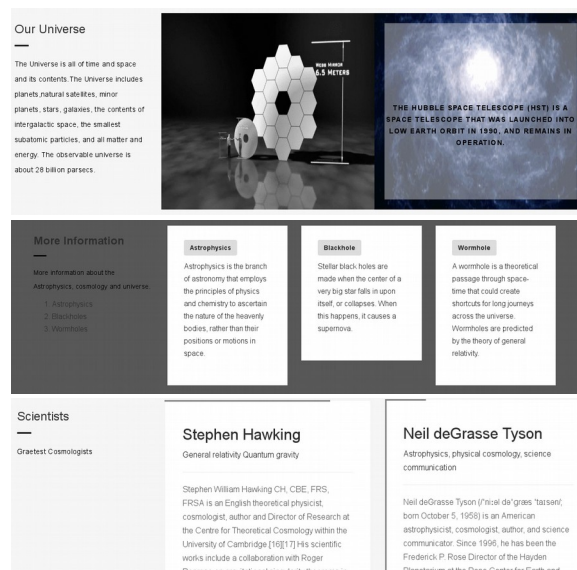
#### 4. Top of the landing page(Background image):

I used background image according to my theme and which is visually appealing. The image is suitable to the site as it is very astronomical as well as it being a incredible image.

#### 5. Section of the landing page and their background-color:

I used sections to slit the page to make it more readable and once again the grey and white theme is prevalent throughout the site. I split the information into separate sections with subheadings and intro so that it looks attractive and is more appealing to the reader.

#### 6. Small Introduction with contents:



I added an introduction to brief the reader regarding the section and summarise the content in that section. In terms of content I used JavaScript and Bootstrap to enable the user to be interactive and thus the page to respond

#### 7. Footer Top - Social media icons linking with NASA pages:

In the top of the footer section, I added the three social media icons which are linked with pages of NASA. I used facebook, twitter and gplus to once again add interactivity and also show the site is up-to date with the latest social media platforms as these icons are now standard on most large websites who also have social media pages. I used relevant colour for the social media icons when hovered over. The colours below are displayed.



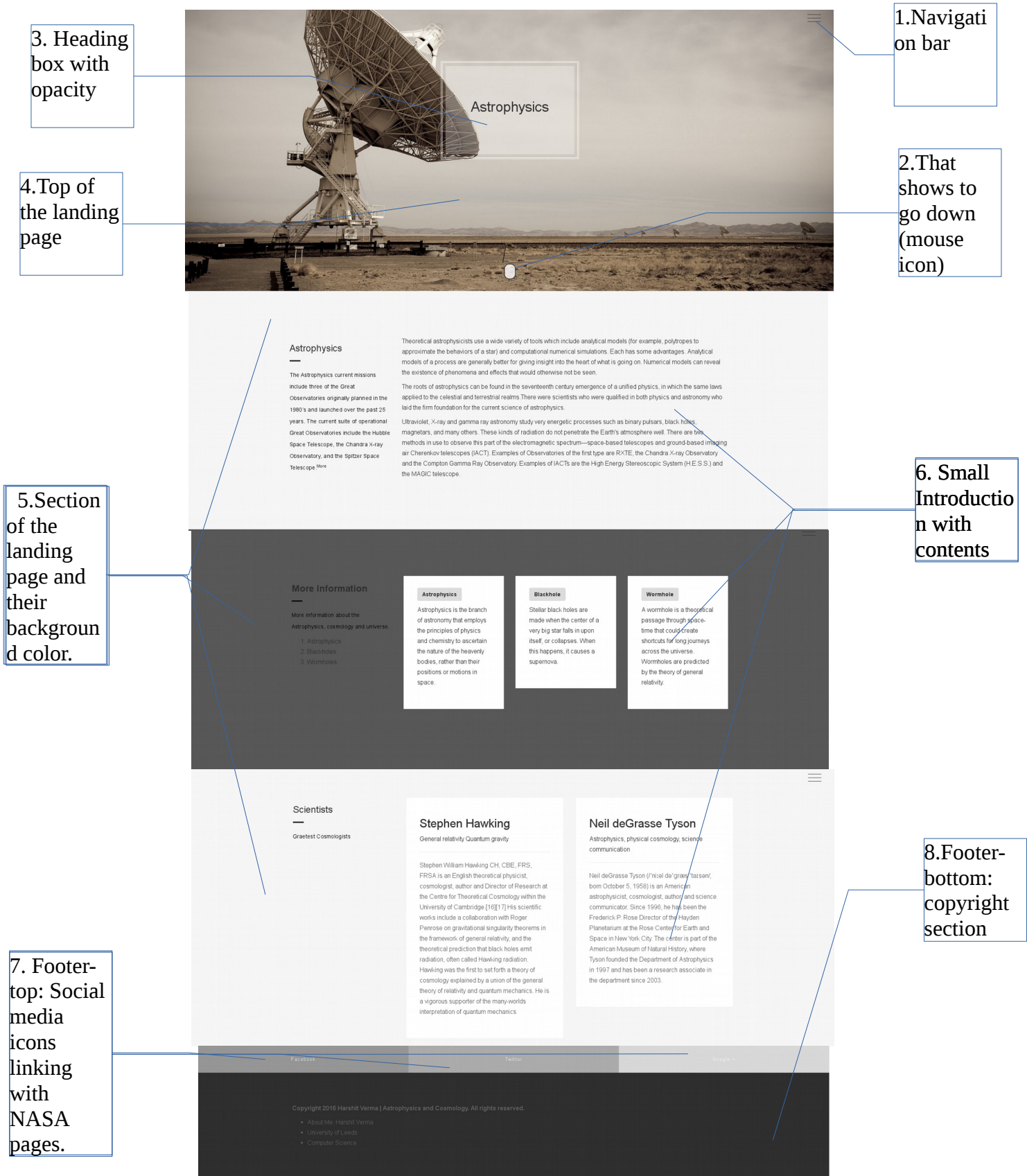
#### 8. Geo-Location:

I have added a map which is interactive so users are able to see where the location is as well as use Google services such as look for directions from their location or anywhere else. And there is button for current location which display your location's latitude and longitude.

#### 9. Footer bottom-Copyright Section:

In the footer I entered the copyright information as this is another common appearance element of most websites. This makes it look professional as well as protecting my work so users don't distribute or claim ownership of the content.

- **LAYOUT OF astrophysics.html**



## **JUSTIFICATION FOR DESIGN CHOICES FOR astrophysics.html**

I used the same layout to keep the site consistent and make it look professional. This page is very similar aside from the content is different hence the design is the same so the same justifications for design will be applied.

### **1. Navigation Bar:**

I have already justified this in my first page justification under section 1.

### **2. Mouse Scroll Icon button:**

I have already justified this in my first page justification under section 2.

### **3. Heading:**

I used box to display the heading to make it stand-out and to add professionalism. I have used has high contrast of colours thus I used the box to increase readability and make it look attractive without creating an object that covers the image.

### **4. Top of the landing page(Background image):**

I used the satellite image as it fits into the theme of astrophysics as well as it conforming to the theme. It is also accompanies the text and content well.

### **5. Section of the landing page and their background-color:**

I used sections to slit the page to make it more readable and once again the grey and white theme is prevalent throughout the site. I split the information into separate sections with subheadings and intro so that it looks attractive and is more appealing to the reader.

### **6. Small Introduction with contents:**

I added an introduction to brief the reader regarding the section and summarise the content in that section. In terms of content I used JavaScript and Bootstrap to enable the user to be interactive and thus the page to respond.

### **7. Footer Top: Social media icons linking with NASA pages**

I have already justified this in my first page justification under section 7.

### **8. Footer bottom-Copyright Section:**

In the footer I entered the copyright information as this is another common appearance element of most websites. This makes it look professional as well as protecting my work so users don't distribute or claim ownership of the content.



- LAYOUT OF blackhole and wormhole.html

3. Heading box with opacity

4. Top of the landing page

1. Navigation bar

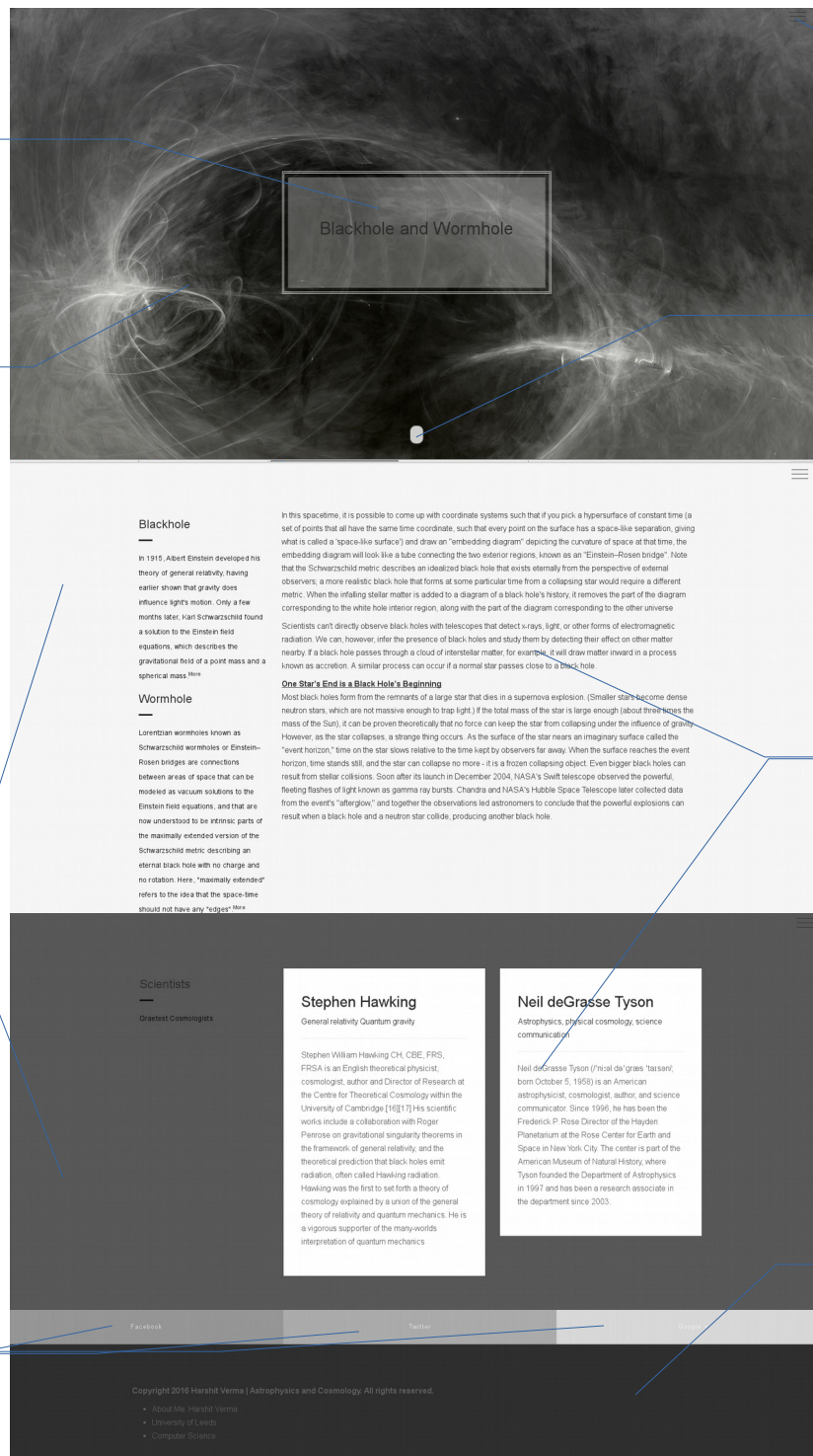
2. That shows to go down (mouse icon)

5. Section of the landing page and their background color.

7. Footer-top: Social media icons linking with NASA pages.

6. Small Introduction with contents

8. Footer-bottom: copyright section



## **JUSTIFICATION FOR DESIGN CHOICES FOR blackhole\_and\_wormhole.html**

I used the same layout to keep the site consistent and make it look professional. This page is very similar aside from the content is different hence the design is the same so the same justifications for design will be applied.

### **1. Navigation Bar:**

I have already justified this in my first page justification under section 1.

### **2. Mouse Scroll Icon button:**

I have already justified this in my first page justification under section 2.

### **3. Heading:**

I used box to display the heading to make it stand-out and to add professionalism. I have used has high contrast of colours thus I used the box to increase readability and make it look attractive without creating an object that covers the image.

### **4. Top of the landing page(Background image):**

I used this image as once again it is suitable for the content to which it is attached. It is an extraordinary graphic and therefore is will surprise the audience.

### **5. Section of the landing page and their background-color:**

I only used 2 sections rather than 3 as my content was under 2 subheadings.

### **6. Small Introduction with contents:**

I added an introduction to brief the reader regarding the section and summarise the content in that section. In terms of content I used JavaScript and Bootstrap to enable the user to be interactive and thus the page to respond.

### **7. Footer Top: Social media icons linking with NASA pages**

I have already justified this in my first page justification under section 7.

### **8. Footer bottom-Copyright Section:**

I have already justified this in my first page justification under section 8.



- **LAYOUT OF quotes.html**

3. Heading box with opacity

4. Top of the landing page

1. Navigation bar

2. That shows to go down (mouse icon)

5. Section of the landing page and their background color.

6. Small Introduction with contents

8. Footer-bottom: copyright section

7. Footer-top: Social media icons linking with NASA pages.



## **JUSTIFICATION FOR DESIGN CHOICES FOR quotes.html**

I used the same layout to keep the site consistent and make it look professional. This page is very similar aside from the content is different hence the design is the same so the same justifications for design will be applied.

### **1. Navigation Bar:**

I have already justified this in my first page justification under section 1.

### **2. Mouse Scroll Icon button:**

I have already justified this in my first page justification under section 2.

### **3. Heading:**

I used box to display the heading to make it stand-out and to add professionalism. I have used has high contrast of colours thus I used the box to increase readability and make it look attractive without creating an object that covers the image.

### **4. Top of the landing page(Background image):**

I used this image as once again it is suitable for the content to which it is attached. It is an extraordinary graphic and therefore it will surprise the audience. It contains graphical text which is representative of quotes.

### **5. Section of the landing page and their background-color:**

I only used 2 sections rather than 3 as my content was under 2 subheadings. First section which has whitish background display the information in boxes. I used hover to make it interactive and which fits with my webpage. And second section is a image of solar system where I used JavaScript for the quotation which changes after few seconds

### **6. Small Introduction with contents:**

In this webpage I added an image the width of the page which occupies a section,. This image includes JavaScript which scrolls through multiple quotes. The image is complex and includes detail, I tried to make this website interactive and professional with a target audience of individuals who are already informed of the subject.

### **7. Footer Top: Social media icons linking with NASA pages**

I have already justified this in my first page justification under section 7.

### **8. Footer bottom-Copyright Section:**

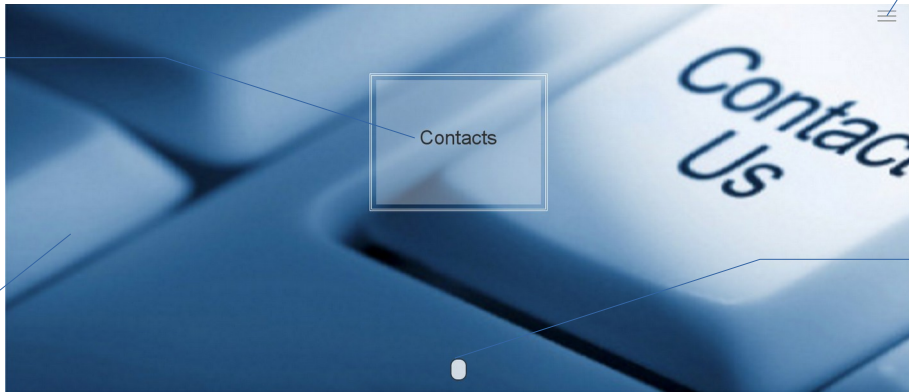
I have already justified this in my first page justification under section 9.

- **LAYOUT OF contact.html**

1. Navigati  
on bar

3. Heading  
box with  
opacity

4. Top of  
the landing  
page



2. That  
shows to  
go down  
(mouse  
icon)

5. Section  
of the  
landing  
page and  
their  
background  
d color.

6. Contact  
form

7. Footer-  
top: Social  
media  
icons  
linking  
with  
NASA  
pages.

8. Footer-  
bottom:  
copyright  
section

## **JUSTIFICATION FOR DESIGN CHOICES FOR contact.html**

I used the same layout to keep the site consistent and make it look professional. This page is very similar aside from the content is different hence the design is the same so the same justifications for design will be applied.

### **1. Navigation Bar:**

I have already justified this in my first page justification under section 1.

### **2. Mouse Scroll Icon button:**

I have already justified this in my first page justification under section 2.

### **3. Heading:**

I used box to display the heading to make it stand-out and to add professionalism. I have used has high contrast of colours thus I used the box to increase readability and make it look attractive without creating an object that covers the image.

### **4. Top of the landing page(Background image):**

I used this image as once again it is suitable for the content to which it is attached. It is an extraordinary graphic and therefore is will surprise the audience. It contains an image of a computer button as this represents the user enter their information using a computer or device and a keyboard is an input device.

### **5. Section of the landing page and their background-color:**

I only used one sections rather than 3 or 2 as my content. I added the contact form in this section to make this website more appealing and interactive. I used the same white and grey theme because

### **6. Contact form:**

I used input fields which are a lighter text to indicate users where to enter their information as well as a line. I added a button so the user can easily submit it by completing the fields in order. There are few advantages of contact form: Firstly users are able to contact the site directly regarding any mistakes or errors or even just general fan mail. Also it is useful for feedback and improvements from users regarding any aspect of the site.

### **7. Footer Top: Social media icons linking with NASA pages**

I have already justified this in my first page justification under section 7.

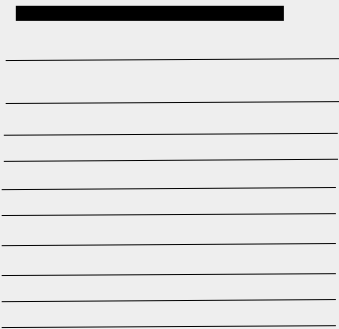
### **8. Footer bottom-Copyright Section:**

I have already justified this in my first page justification under section 9..

- **WIREFRAME MODEL**

Heading of the web page

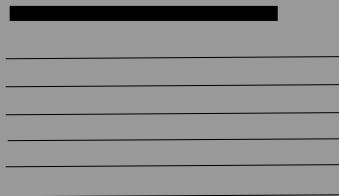
Background Image



Description/Images/  
Small Infomation

Description/Images/  
Small Infomation

Content and section layout

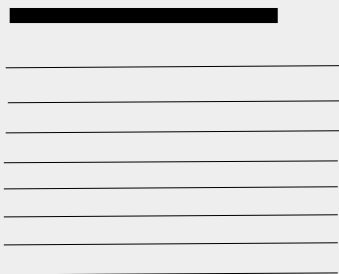


Description/  
Small Infomation

Description/  
Small Infomation

Description/  
Small Infomation

Content and section layout



Description/  
Small Infomation

Description/  
Small Infomation

Content and section layout

Facebook(After hovering)

Twitter(After hovering)

Google+(After hovering)

Button

Geo-Location (Only for the index.html and in other pages this section is not included)

CopyRight Section (Footer)

- **EVALUATION**

### **Test Plan**

S.NO	TEST	EXPECTED	ACTUAL
1.	Test for dead links	All links are working	All links are working as they should
2.	Geo-Location and map	It should work and show the latitude and longitude of current location.	Geo-Location is working but not in chrome. It is working for firefox.
3.	Text slideshow in quotes.html	Text should be passing the screen in a slide show in the last picture located in quotes.html	Text slideshow is working as it should
4.	Test hover feature in CSS	All hovering features in pages should work properly	Hovering feature is working as it should
5.	Test social media icons and links	Social media links should connect to the NASA pages of facebook, twitter and Google+	Social media links are connected to NASA pages
6.	Test for Navigation bar	Every navigation bar should connect to different pages and from every page user should be able to navigate to every other page of the website.	Navigation bar is working properly as it should.
7.	Test for .gif images	.gif images in index.html should work properly with hovering feature	It is working properly.
8.	Test for contact form	Contact form in contact.html should work and it should show error if user has typed wrong email	Contact form is working fine as it should.
9.	Test for button in web pages	Button should complete the assigned task	Buttons of every web page is working as it should.
10.	Test for JavaScript features in index.html	Every function of javascript in index.html should display the correct outcome.	JavaScript is working properly for index.html
11.	Test for JavaScript features in astrophysics.html	Every function of javascript in astrophysics.html should display the correct outcome.	JavaScript is working properly for astrophysics.html
12.	Test for JavaScript features in blackhole_and_wormhole.html	Every function of javascript in blackhole_and_wormhole.html should display the correct outcome.	JavaScript is working properly for blackhole_and_wormhole.html
13.	Test for JavaScript features in quotes.html	Every function of javascript in quotes.html should display the correct outcome.	JavaScript is working properly for quotes.html



14.	Test for JavaScript features in contact.html	Every function of javascript in contact.html should display the correct outcome.	JavaScript is working properly for contact.html
15.	Test for images being displayed correctly	Every image should display in the correct format fitting the CSS as well as being displayed correctly and successfully	Every images are working properly for all web pages.
16.	Test for text being displayed correctly	All displayed text should be the correct format in terms of font, font size,colour, style, margin, family and alignment.	Text of every content section of web pages are working fine.
17.	Test for each and every section to display the correct background colours/images	The correct CSS background images/colours to be displayed in each section.	Background colours and images are working fine as they should.
18.	Test for Bootstrap functions and elements	This should render all web pages according to the styles defined in the Bootstrap CDN.	It is working fine.

---

### **Recommendation (How to improve/impact the website)**

The new featured added to the site make it dynamic and more user friendly such as the geolocation which saves the user time by actually located himself on a map. Other features added such as Bootstrap enable the website to be viewed successfully in a multitude of devices from tablets to smart phones without the user being disadvantaged or loosing out from use of the features.

I added these extra features to make the site as visually appealing as I could as well as being compatible with other devices other than the one I used to create it. These feature add to professionalism and enhanced the website. The navigation system was much better as users could collapse the navbar to ensure content was not being overlapped. Even though I added more content I ensured the website theme was prevalent throughout.

I will add more jQuery and JavaScript elements. This would make the site more dynamic. I would add more colour to make it more appealing and visually enhanced. I would add video elements to keep it interesting and interactive. I would also add more content and include more features where the user is more engaged than just viewing images and reading text like a crossword or a quiz.

Another recommendation would be to asses the site and get some feedback from some users before I finalise the site thus I am able to get the users input and implement solutions or tackle any confusion caused.

---

- **ARCHITECTURE OF THE WEB**

### **1. name = cdata**

This attribute names the current anchor so that it may be the destination of another link. The value of this attribute must be a unique anchor name. The scope of this name is the current document. Note that this attribute shares the same name space as the `id` attribute.

### **2. href = url**

This attribute specifies the location of a Web resource, thus defining a link between the current element (the source anchor) and the destination anchor defined by this attribute.

### **3. hreflang = langcode**

This attribute specifies the base language of the resource designated by `href` and may only be used when `href` is specified

.

### **4. type = content type**

This attribute gives an advisory hint as to the content type of the content available at the link target address. It allows user agents to opt to use a fallback mechanism rather than fetch the content if they are advised that they will get content in a content type they do not support.

Authors who use this attribute take responsibility to manage the risk that it may become inconsistent with the content available at the link target address.

### **5. rel = link-types**

This attribute describes the relationship from the current document to the anchor specified by the `href` attribute. The value of this attribute is a space-separated list of link types.

### **6. rev = link-types**

This attribute is used to describe a [reverse link](#) from the anchor specified by the `href` attribute to the current document. The value of this attribute is a space-separated list of link types.

### **7. charset = charset**

This attribute specifies the character encoding of the resource designated by the link. Please consult the section on character encodings for more details.

---

## • DESCRIPTION OF HTTP

HTTP stands for Hypertext Transfer Protocol. Hypertext is text which has an embedded link within, this is called a hyper link thus users are able to click a text and a file or document can be navigated to or accessed. This then enabled documents to be linked together and also documents also can link to multimedia such as video or images.

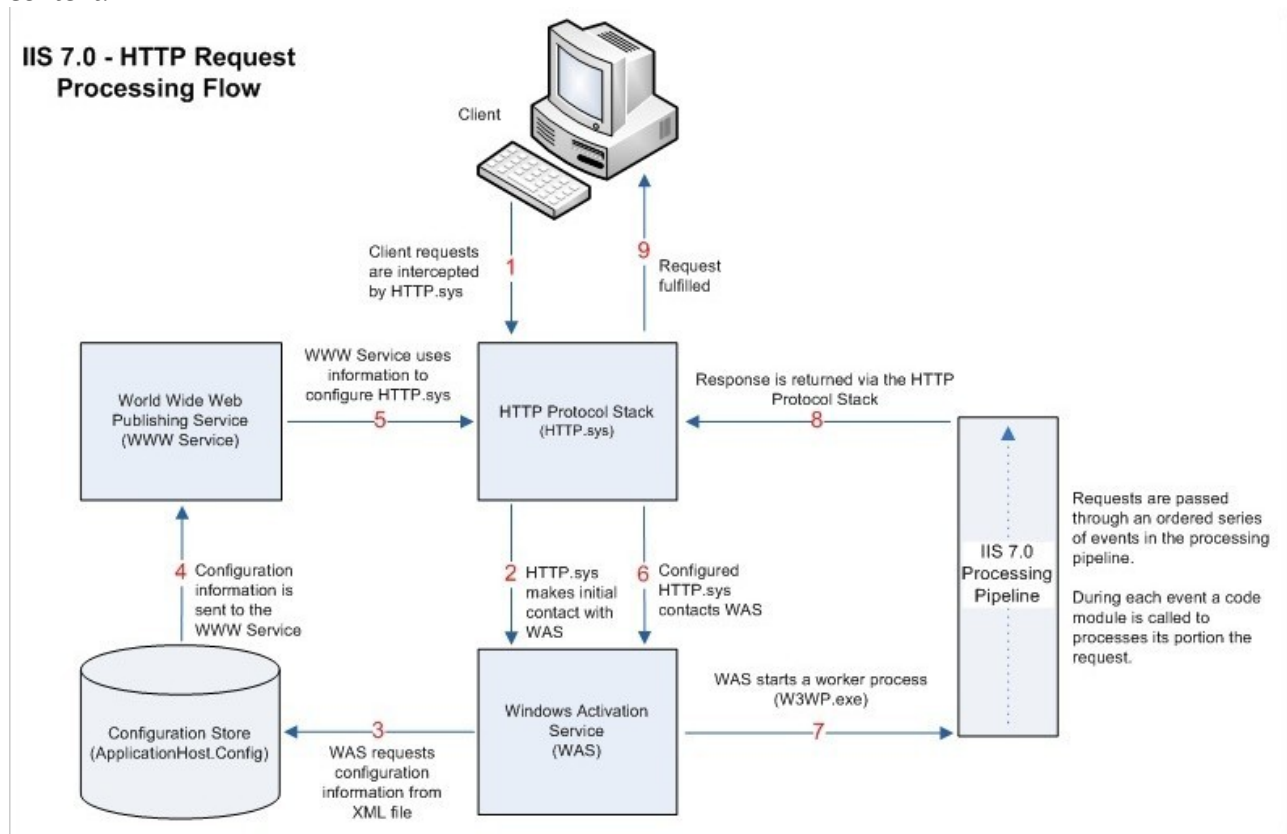
An HTTP client sends an HTTP request to a server in the form of a request message which includes following format:

1. **A Request-line:** Request line begins with a token method. These method followed by the protocol version and ending with CRLF.
2. Zero or more header fields followed by Carriage Return Line Feed(CRLF)
3. An empty line indicating the end of the header fields.
4. Optionally a message-body

--**Request Method:** This method performed on the resource identified by the Uniform Resource Identifier(URI)

There are some Different methods of 'request method':

1. **GET** – This method retrieve the information from the server using URI. If requests using this method then it should only recover the data.
2. **HEAD** – This method is used to transfer header and line.
3. **POST** – It is used to send data to server
4. **PUT** – This method replaces the current representations of the target resource with the upload content.



Reference: <http://blogs.iis.net/tomwoolums/iis-7-0-http-request-processing>

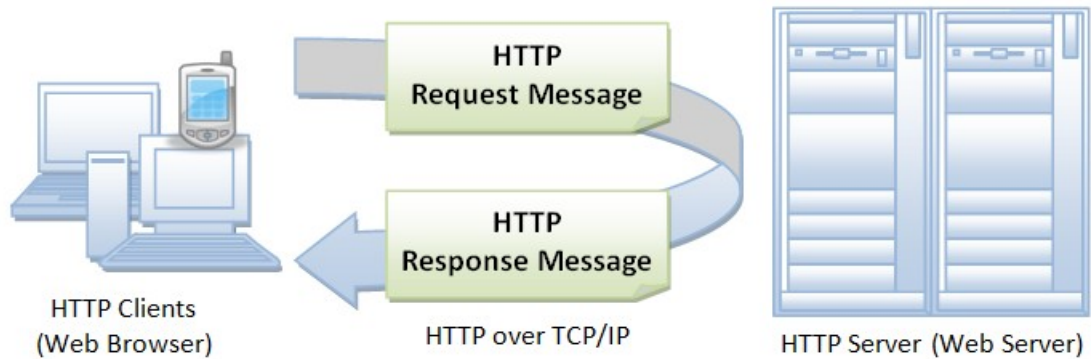
After receiving and interpreting a request message, a server responds with an HTTP response message:

**1. A Status-line**

2. Zero or more header (General|Response|Entity) fields followed by CRLF

3. An empty line (i.e., a line with nothing preceding the CRLF) indicating the end of the header fields

4. Optionally a message-body.



- **COMPARISON OF CSS AND HTML**

HTML (the Hypertext Markup Language) and [CSS](#) (Cascading Style Sheets) are two of the core technologies for building Web pages. HTML provides the *structure* of the page, CSS the (visual and aural) *layout*, for a variety of devices. Along with graphics and scripting, HTML and CSS are the basis of building Web pages and Web Applications

CSS	HTML
CSS is used to describe the presentation of a web page, including colours, layout and fonts.	HTML is a language for describing the structure of a web page.
CSS allows the presentation of a web page to change depending on the device it is being viewed on.	HTML is used to define the structure of how documents are related on the web.
CSS allows for the easy maintenance of web pages by the sharing of a single style sheet.	Retrieve online information via hypertext links, at the click of a button.
The separation of HTML from CSS makes it easier to maintain sites, share style sheets across pages, and tailor pages to different environments.	Design forms for conducting transactions with remote services, for use in searching for information, making reservations, ordering products, etc.
External Style Sheets can save a lot of work External Style Sheets are stored in CSS files	Include spread-sheets, video clips, sound clips, and other applications directly in their documents.
More precise control of layout numerous advanced and sophisticated techniques.	With HTML, authors describe the structure of pages using <i>markup</i> . The <i>elements</i> of the language label pieces of content such as “paragraph,” “list,” “table,” and so on.

---