HTML (HYPERTEXT MARKUP LANGUAGE)

- 1. Brief history of HTML
- 2. What is HTML?
- 3. Give at least 5 HTML tags and describe each tags.
- 4. what is a good characteristics of a web site?

HTML (Hypertext Markup Language)

- is a text-based approach to describing how content contained within an HTML file is structured.
  - This markup tells a web browser how to display text, images and other forms of multimedia on a webpage.
- a formal recommendation by the World Wide Web Consortium (W3C) and is generally adhered to by all major web browsers, including both desktop and mobile web browsers.
- HTML5 is the latest version of the specification.

How HTML works?

- HTML is a text file containing specific syntax, file and naming conventions that show the computer and the web server that it is in HTML and should be read as such.
- By applying these HTML conventions to a text file in virtually any text editor, a user can write and design a basic webpage, and then upload it to the internet.

- The most basic of HTML conventions is the inclusion of a document type declaration at the beginning of the text file.
  - This always comes first in the document, because it is the piece that affirmatively informs a computer that *this is an HTML file.*
- The document header typically looks like this: **<!DOCTYPE html>**.
  - It should always be written that way, without any content inside it or breaking it up.
  - Any content that comes before this declaration will not be recognized as HTML by a computer.

- **Doctypes**
  - are not just used for HTML, they can apply to the creation of any document that uses **SGML (Standard Generalized Markup Language)**.
  - SGML
    - is a standard for specifying a specific markup language being used.
    - HTML is one of several markup languages that SGML and doctype declarations apply to.

- The other critical requirement for creating an HTML file is saving it with a **.html** file extension.
  - Whereas the doctype declaration signals HTML to the computer from the inside of the file, the file extension signals HTML to the computer from the outside of the file.
  - By having both, a computer can tell that it's an HTML file whether it's reading the file or not.
  - This becomes especially important when uploading the files to the web, because the web server needs to know what to do with the files before it can send them to a client computer for the inner contents to be read.

- After writing the doctype and saving as an HTML file, a user can implement all the other syntactic tools of HTML to customize a web page.
  - Once finished, they will likely have several HTML files corresponding to various pages of the website.
  - It's important that the user uploads these files in the same hierarchy that they saved them in, as each page references the specific file paths of the other pages, enabling links between them.
  - Uploading them in a different order will cause links to break and pages to be lost, because the specified file paths will not match the pages.

BASIC ELEMENTS OF HTML

- Using HTML, a text file is further marked up with additional text describing how the document should be displayed.
- To keep the markup separate from the actual content of the HTML file, there is a special, distinguishing HTML syntax that is used.
- These special components are known as HTML tags.
  - The tags can contain name-value pairs known as attributes, and a piece of content that is enclosed within a tag is referred to as an HTML element.

- HTML elements always have opening tags, content in the middle and closing tags.
  - **Attributes** can provide additional information about the element and are included in the opening tag.
- Elements can be described in one of two ways:
  1. Block-level elements start on a new line in the document and take up their own space.
     - Examples of these elements include headings and paragraph tags.
  2. Inline elements do not start on a new line in the document and only take up necessary space. These elements usually format the contents of block-level elements.
     - Examples of inline elements include hyperlinks and text format tags.

PROS AND CONS OF HTML

Pros of using HTML include:

- Is widely adopted with a large amount of resources available.
- Is natively run on every browser.
- Is relatively easy to learn.
- Has a clean and consistent source code.
- Is open source and free to use.
- Can be integrated with other backend programming languages such as PHP.

Cons of using HTML include:

- Does not have very dynamic functionality and is mainly used for static web pages.
- All components must be created separately even if they use similar elements.
- Browser behavior can be unpredictable.
  - For example, older browsers may not be compatible with newer features.

Commonly used HTML tags

- HTML tags dictate the overall structure of a page and how the elements within them will be displayed in the browser. Commonly used HTML tags include:

1. <h1> which describes a top-level heading.
2. <h2> which describes a second-level heading.
3. <p> which describes a paragraph.
4. <table> which describes tabular data.
5. which describes an ordered list of information.
6. which describes an unordered list of information.

- there are opening and closing tags that surround the content they are augmenting.
- An opening tag looks like this: ** **.
- A closing tag is the same but contains a backslash in it to indicate that it's the end of the given HTML element. Closing tags look like this: ** .**

HOW TO USE AND IMPLEMENT HTML?

- HTML is completely text-based, an HTML file can be edited simply by opening it up in a program such as
  - Notepad++,
  - Vi or Emacs.
- Any text editor can be used to create or edit an HTML file and, so long as it is named with an **.html** file extension,
- any web browser -- such as **Chrome or Firefox** -- will be capable of displaying the file as a webpage.

- For professional software developers, there are a variety of WYSIWYG editors to develop webpages.
  - NetBeans
  - IntelliJ
  - Eclipse
  - Microsoft's Visual Studio
- provide WYSIWYG editors as either plugins or as standard components, making it incredibly easy to use and implement HTML.

- These WYSIWYG editors also provide HTML troubleshooting facilities, although modern web browsers often contain web developer plugins that will highlight problems with HTML pages, such as a missing closing tag or syntax that does not create well-formed HTML.

- Chrome and Firefox both include HTML developer tools that allow for the immediate viewing of a webpage's complete HTML file, along with the ability to edit HTML on the fly and immediately incorporate changes within the internet browser.

HTML

- is used to create webpages but does experience limitations when it comes to fully responsive components.
- Therefore, HTML should only be used to add text elements and structure them within a page.
- For more complex features, HTML can be combined with cascading style sheets (CSS) and JavaScript (JS).

- An HTML file can link to a cascading style sheet or JS file -- usually at the top of the document with a specified file path -- which will contain information about which colors to use, which fonts to use and other HTML element rendering information.
- JavaScript also allows developers to include more dynamic functionality, such as pop-ups and photo sliders, in a webpage.
- Tags called class attributes are used to match HTML elements to their corresponding CSS or JS elements.

HISTORY AND DEVELOPMENT

- In the early days of the world wide web, marking up text-based documents using HTML syntax was more than sufficient to facilitate the sharing of academic documents and technical memos.
  - as the internet expanded beyond the walls of academia and into the homes of the general population, greater demand was placed on webpages in terms of formatting and interactivity.
- HTML 4.01 was released in 1999, at a time when the internet was not yet a household name
- HTML5 was not standardized until 2014.
  - During this time, HTML markup drifted from the job of simply describing the document structure of webpage content into the role of also describing how content should look when a webpage displays it.

HTML VERSIONS

- HTML 1.0 -- released in 1992 -- had very limited capability and around 20 elements.
- HTML 2.0 -- released in 1995 -- began to incorporate elements relating to math functions.
- HTML 3.2 -- released in 1996 -- dropped the math function initiative altogether, and fixed overlap between various proprietary extensions.
- HTML 4.0 -- released in 1997 -- offered three variations which differed in the number of deprecated elements that were allowed.

- HTML 4.01 -- released in 1999 -- largely the same as 4.0.
- HTML 5 -- released in 2014 -- came after a long break in updates because the organization that developed it -- W3C -- was focusing on another, parallel language called XHTML.
- HTML 5.1 -- released in 2016 -- aimed to more easily accommodate various types of media embedding with new tags.
- HTML 5.2 -- released in 2017 -- aimed to be equally understandable by humans and computers.
- HTML 5.3 -- yet to be released -- W3C is collaborating with WHATWG on a new version. The collaboration began in 2019.

FEATURES OF HTML5

- HTML5 introduces several elements to increase interactivity, multimedia capabilities and semantic efficiency.
  - Instead of using plugins, multimedia can be placed within the HTML code.

These elements include

- Graphics elements:
  - <canvas>, which creates a blank rectangular space in which web designers can draw using JavaScript.
  - <svg>, which is a container for scalable vector graphics (SVG).
- Semantic elements:
  - <header>, which creates a header at the top of the page.
  - <footer>, which creates a footer at the bottom of the page.
  - <article>, which creates an area for independent content.
  - <section>, which defines sections and subsections such as chapters, or headers and footers when more than one are necessary.
  - <nav>, which creates a navigation menu.

- Multimedia elements:
  - <audio>, which describes MP3 files, WAV files and OGG files in HTML.
  - <video>, which describes MP4, WebM and OGG video types.
- Attributes that apply to the <form> element, which creates an area for user input on the web page. These include number, date, calendar and range.

Other main features of HTML5

- Elimination of outmoded or redundant attributes.
- Offline editing.
- The ability to drag and drop between HTML5 documents.
- Messaging enhancements.
- Detailed parsing
- MIME and protocol handler registration.
- A common standard for storing data in SQL databases (Web SQL).
- Application program interfaces (API) for complex applications.
- Accommodations for mobile device app development.
- MathML for mathematical and scientific formulas.

7 Qualities of a Great Website

- Well Designed and Functional. Your site reflects your company, your products, your services and ultimately your brand. ...
- Easy to Use. ...
- Optimized for Mobile. ...
- Fresh, Quality Content. ...
- Readily accessible contact and location. ...
- Clear calls to action. ...
- Optimized for Search and the Social Web.

What define a good website?

- a good website should excel in both form and function.
- It should have a clear purpose.
- **It should be visually pleasing and easy to navigate**.
- It should perform well for a wide range of visitors and be technically stable and secure

What makes a good website in 2020

- Good websites are **well organized and follow a structure**.
- They are not cluttered; they are clean and professional.
- Organization makes a website accessible and user-friendly.
- By creating a thoughtful organizational structure in your website, site visitors will be able to better navigate and find the content in your site.

The different types of websites and how to design them

- Homepages.
  - The homepage is your site's main hub and serves as the face of a brand. ...
- Magazine websites.
- E-commerce websites.
- Portfolio websites.
- Landing pages.
- Social media websites.
- Directory and contact pages.

5 Basic Elements of Web Design

1. Content.
2. Usability.
3. Aesthetics.
4. Visibility.
5. Interaction.

Content

- It plays a massive role in Search Engine Optimisation (SEO), and is one of the main reasons people visit your website.
- You need to focus a great deal of effort into creating first class content for your website, which should include videos, relevant news/information and high-resolution imagery to make your website ‘stickier’.
- This will ensure you keep your users on your website for longer.

Usability

- Great usability will never be noticed by the end user, but bad usability instantly stands out.
  - Your website must be easily navigable, intuitive, accessible and mobile-friendly.
- The user should know where they are on the website at all times and be able to find where they want to go with little thought.
  - They should also be able to access any page they need without having to view the whole site.
- Your site should try to anticipate what your visitors are thinking and help them to fulfil their needs with as little effort as possible.

Visibility

- If you had the most aesthetically pleasing and user-friendly website on the web, it would still be unsuccessful unless it could be found.
  - Your presence and visibility through digital marketing campaigns including SEO, social media and email marketing is vital to the success of your website.
- It’s important that you understand how to be found, what platforms to target and how to utilise your content.
  - Thousands of factors have an impact on where you appear within the search engines, so make sure you have a plan in place!

Interaction

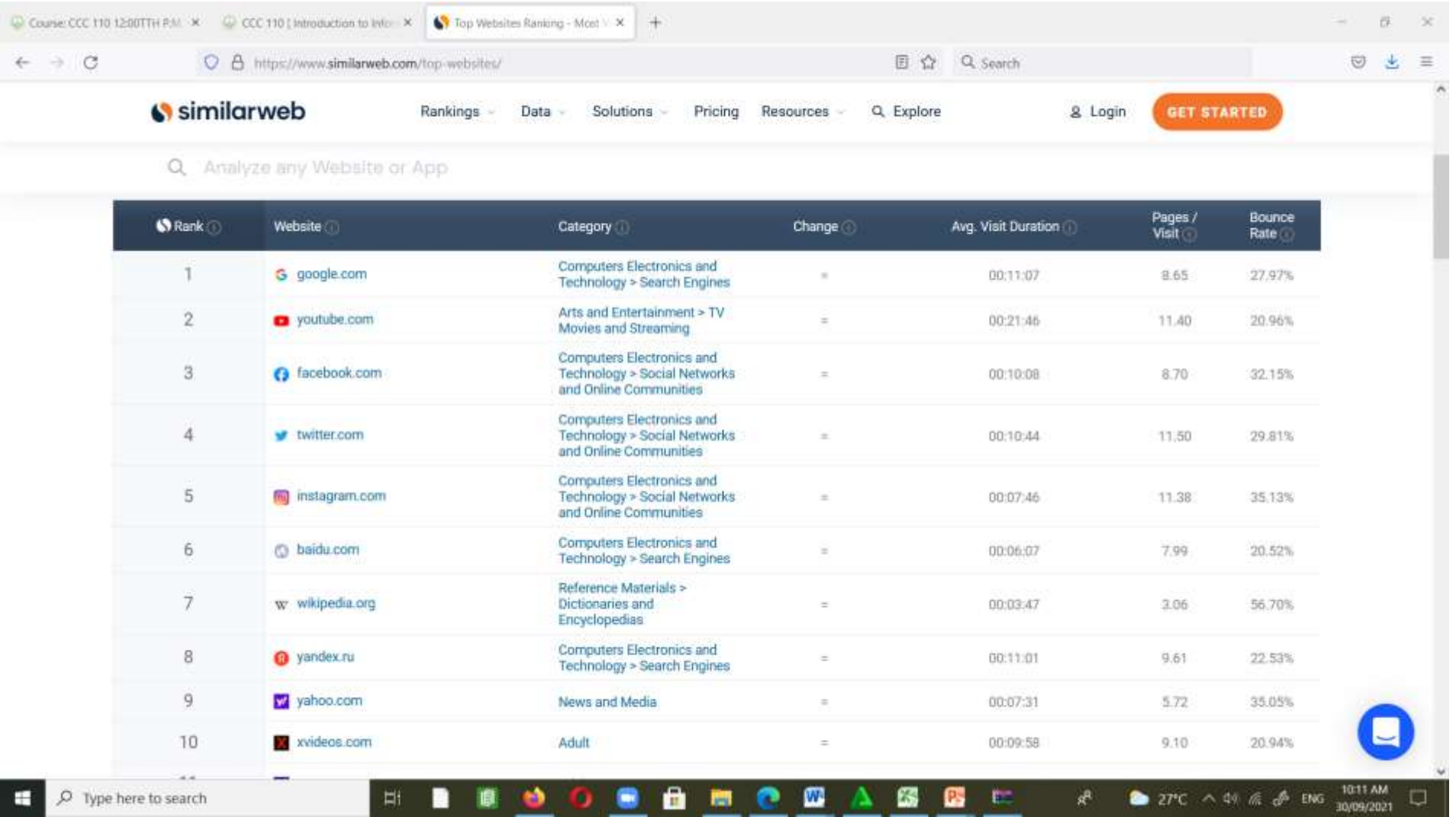
- Your website must engage with your audience, hold their attention, direct them through the stages of your website and finally encourage them to contact you.
- Your website isn’t just there for show, it is there to help you generate leads, increase sales and grow your business so ensure your website engages with your visitors in the correct way.

Effective Website Design – The Top 20 Characteristics of an Effective Web Design.

1. The colors are reflective of your target customers and fitting.
2. The fonts are easy to read and understand and it is a web safe font.
3. The font size makes it easy for a 16 year old or 60 year old to read.
4. The images used on the website help convey your market message
5. Your website content clearly defines the problem your audience is facing and how you are able to solve them.
6. You have testimonials and case studies included in your website.
7. Your phone number and contact information is easily visible.
8. Your website is very intuitive and easy to use.
9. Your website have the necessary call to actions
10. Your website has a way to capture the contact information of visitors, so that you can continue to follow up with them.

Effective Website Design – The Top 20 Characteristics of an Effective Web Design.

11. If your website is 20 pages or more, adding a search bar to make it easier for visitors to find information increases usability.
12. Avoid building a flash website, it takes very long for the site to load and most people computers and smartphones cannot support flash.
13. Keep the size of the images small, large images affects the load time of your website .
14. Keep the layout of the website and the branding consistent.
15. Link your logo to the homepage, people expect it there.
16. Keep your content short and to the point, but offer visitors the option to learn more, via whitepapers or articles or company brochure.
17. Use your thank you page to further engage those who fill out a contact form.
18. Make sure that your website looks the same across all platforms but performing browser compatibility testing before launching your website.
19. Make it easy for prospects to find you by optimizing your website to get found online in searches by utilizing keywords.
20. Make sure that you have the ability to update your website as you wish, outdated information on your website and expired offers can and will turn visitors away.



Rank	Website	Category	Change	Avg. Visit Duration	Pages / Visit	Bounce Rate
1	google.com	Computers Electronics and Technology > Search Engines	=	00:11:07	8.65	27.97%
2	youtube.com	Arts and Entertainment > TV Movies and Streaming	=	00:21:46	11.40	20.96%
3	facebook.com	Computers Electronics and Technology > Social Networks and Online Communities	=	00:10:08	8.70	32.15%
4	twitter.com	Computers Electronics and Technology > Social Networks and Online Communities	=	00:10:44	11.50	29.81%
5	instagram.com	Computers Electronics and Technology > Social Networks and Online Communities	=	00:07:46	11.38	35.13%
6	baidu.com	Computers Electronics and Technology > Search Engines	=	00:06:07	7.99	20.52%
7	wikipedia.org	Reference Materials > Dictionaries and Encyclopedias	=	00:03:47	3.06	56.70%
8	yandex.ru	Computers Electronics and Technology > Search Engines	=	00:11:01	9.61	22.53%
9	yahoo.com	News and Media	=	00:07:31	5.72	35.05%
10	xvideos.com	Adult	=	00:09:58	9.10	20.94%