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| Addis Ababa Institute of Technology center for Information Technology and Scientific computing |
| **Fundamentals of web Design and Development** |
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History of Internet [The evolution]

The internet is one of the most important tools in recent history, giving us access to countless amounts of information. The internet actually got it started over 50 years ago and computers back then filled up the entire room. Scientists and researchers used it for a year to communicate during the cold war. It was useful because if one computer went down the other would not follow.

In 1962 the scientist J.C.R.LICKLIDER proposed the idea of a network of computers that could talk to one another.

In 1969 the first ever message was sent from one computer to another over the ARPANET the government network at that time.

ARPANET stands for the Advanced Research Projects Agency Network.

It all started with ARPANET on October 29, 1969 when the first successful message was sent from a computer in UCLA to another computer (also called node) at the Stanford Research Institute (SRI). These computers were called Interface Message Processors (IMP).

It was located in a research lab in UCLA and STANFORD all the message said was ‘LOGIN’. Stanford only receives the first two letters of the message ‘LI’. By the end of the year only 4 computers were connected to this network.

In 1971 Ray Tomlinson was developing the first system to send mail back and forth between users of ARPANET. This would eventually be called electronic mail or Email for short and the ‘@’ symbol was used to tell a person’s name and a host name apart. In that year computer scientist Vinton Cerf came in, he invented a way to introduce a computer across the globe to each other in a virtual space. This invention was called Transmission control protocol (TCP) which was followed by Internet protocol (Ip).

The system slowly evolved so it was not immediately adopted for commercial use. Instead in the early 1980’s it was adopted by universities and research institutes through an initiative by the NSF (National Science Foundation). It was called the NSFNET Project and its aim was to promote research and education. The best way to do this was to use an interconnected network of computers that can provide a way to collaborate and share information. This provided a backbone that included the Computer Science Network (CSNET) that linked computer science research among academics. Eventually ARPANET and NSFNET would be decommissioned, thus paving the way for the commercialization of the Internet. It was also called the “Internet” as a sort of portmanteau of “interconnected” and “network” and has been called the Internet since.

In the 1980s scientists used Cerf’s protocol to send data back and forth but in 1990s where it really all began.

In 1991 computer programmer named Tim Berners - Lee invented the World Wide Web this was just data sharing for scientists anymore. This was an entire network of information that was accessible to anyone with an internet connection.

In 1992 ERWISE was created. It was an internet browser and the first to have a graphical interface. A few Browsers came before and after but 1993 MOSAIC was created and it was popularized surfing the web. MOSAIC influences many of the browsers to follow including NETSCAPE NAVIGATOR. In 1994 NETSCAPE NAVIGATOR became the most popular web browser at the time accounting for 90% of web usage in 1995. In the early 90s some companies starting to provide dial-up internet access. It is a method of connecting to the internet the telephone line. The telephone line was plugged in to the modem and the other end was plugged in to the phone jack. There was a period in history where we could not use the telephone and the internet at the same time.

What are the guidelines for evaluating the value of a Web site?

There is a lot of useful information on the internet However, since anyone can publish to the internet it is crucial to evaluate website before relying on the information many of us use the internet to gather information for all sort of things we might use that information to make decision about health, politics, finances or social issues. But some of the information you fine on the internet is not going to be trustworthy.

1. Accuracy of Web Documents(Reliability)

* Does the website list its source of information?
* Are there grammatical errors?
* Is the information provided correct?
* Who wrote the page and can you contact him or her?
* What is the purpose of the document and why was it produced?
* Is this person qualified to write this document?
* Make sure author provides e-mail or a contact address/phone number.
* Know the distinction between author and Webmaster.

1. Authority of Web Documents(Credibility)

* Does the person who is producing the information have a professional background in the subject?
* Who published the document and is it separate from the "Webmaster?"
* Check the domain of the document, what institution publishes this document?
* Does the publisher list his or her qualifications?
* What credentials are listed for the authors)?
* Where is the document published? Check URL domain.

1. Objectivity of Web Documents(Bias)

* Is the information presented from an unbiased, factual, non-perspective?
* What goals/objectives does this page meet?
* How detailed is the information?
* What opinions (if any) are expressed by the author?
* Determine if page is a mask for advertising; if so information might be biased.
* View any Web page as you would an infomercial on television. Ask yourself why was this written and for whom?

1. Currency of Web Documents(Timeliness)

* When was the information posted to the internet?
* When was the website last updated?
* Does the website show current change in relation to advances made in the subject matter?
* When was it produced?
* When was it updated
* How up-to-date are the links (if any)?
* How many dead links are on the page?
* Are the links current or updated regularly?
* Is the information on the page outdated?

1. Coverage of the Web Documents(Quality)

* How well rounded is the information?
* Does the website discuss information within the context of larger issues and form different perspectives?
* Are the links (if any) evaluated and do they complement the documents' theme?
* Is it all images or a balance of text and images?
* Is the information presented cited correctly?
* If page requires special software to view the information, how much are you missing if you don't have the software?
* Is it free or is there a fee, to obtain the information?
* Is there an option for text only, or frames, or a suggested browser for better viewing?
* Domains in relation to evaluating websites

In addition to using the previously mentioned concepts, we can also begin to think about how trustworthy a website is paying attention to its domain.

Domains are parts of a web address that can tell us a little about the kind if institution or organization the information originate from. Like .edu, .com, .gov, .net, .org

* Websites ending in .com or .net are considered as commercial websites whose main objectives is to gain financial income from the information provided. Not all website that end in .com or .net are untrustworthy, but we should be more caution of these websites than others

Evaluating website base on the above guidelines

<https://www.cdc.gov/healthywater/index.html>

* “.gov” is a governmental site so that the information is more reliable. This page is sponsored by centers for disease and prevention.
* CDC is a federal agency under the department of health and human service and is an organization with along research history.
* On this website if we scroll down to the bottom of the page we can see the date of review, it says “page last reviewed: October 4, 2016”. There is also an option to receive emails when the content is updated, that’s an attempt to make sure visitors of this have the timeliest information. These will help to determine the current of the information on the site.
* On this site there are a lot of clickable button, which leads to a page with detailed information on the purpose and intended audiences of this website. Though there are image found throughout the website, there are all relevant to the topic of water.
* The font and colors being used are all professional in a nature as well. There is multiple healthy water topic area we can explore. If we click on any topic area, we can find various publications, data and statistics on the topic.
* The corresponding author is clearly listed along with their credentials. And we can use the contact information to perform even more research to field make sure they are an expert in this field.
* This site provides high quality information. Though out the pages on this website, including the home page, I have noticed there’s no advertising any claims putting forth a biased agenda.
* The site’s purpose is to provide research based information on all aspects of healthy water using statistic and in depth research. That suggests the information is an objective as possible and free of biased.
* So generally this site is current, its information is relevant, the information we found way written objectively, we can easily identify the author and creator of research and the information has been reviewed and maintained to ensure the highest quality,
* Nonprofit websites have different business purposes. But still, they need to follow the [best-practices of web design](https://www.webalive.com.au/good-website-design-principles/) to provide the necessary information to their target groups and supporters. Maintaining a good brand image is also another critical factor. Good looking websites help nonprofits to reach more people and motivate visitors to advance their causes.

<https://www.worldwildlife.org/>

* WWF has a very informative website that aims to educate visitors about the current status of wildlife across the planet. The navigation bar includes Our work, Species that you should know and care about, Places that are important for wilderness preservation, about us and How to help. Hovering mouse pointers on these headings brings out drop-down menus with well-organized sections.
* The Donate and Adopt call-to-action buttons at the top right corner take the visitor to a page with multiple donation options and information. This is a great way to convert potential participators.
* The rest of the homepage presents informative content from WWF. It blends images, text and social media content using a grid of rectangular boxes. The site looks great on a small screen. Overall the design is visually appealing.
* The site’s purpose is to provide research based information on all aspects of World Wild life using depth research in order to conserve nature and reduce the most pressing threats to the diversity of life on Earth. That suggests the information is an objective as possible and free of biased.
* There is also an option to get the latest conservation news with WWF email when the content is updated, that’s an attempt to make sure visitors of this have the timeliest information and determine the current of the information on the site.
* On this site there are a lot of clickable button, which leads to a page with detailed information on the purpose and intended audiences of this website. Though there are image found throughout the website, there are all relevant to the topic of World wild life.
* This website is more reliable because it is nonprofit website.
* This website provides high quality information. Though out the pages on this website, including the home page, I have noticed there’s no advertising.
* The font and colors being used are all professional in a nature as well. There is multiple world wild life topic area we can explore. If we click on any topic area, we can find various publications, data and statistics on the topic.
* It is public participating website in different aspect.

**12 most popular types of websites**

* **Ecommerce** an ecommerce site, otherwise known as an online store, allows you to take online payments for products or services.

Example:- Apple(<https://www.apple.com/>),  [Snapchat Spectacles](https://www.spectacles.com/)(<https://www.spectacles.com/>), Gorgias(<https://www.gorgias.com/>), Farmer(<https://www.framer.com/>), Spotify(<https://www.spotify.com/us/>)

## Portfolio just like a physical portfolio, these types of websites are used to display and promote examples of previous work. Primarily used by those in the creative industry, a portfolio website can be used like a CV, demonstrating your skills in order to impress clients, customers, or future employers.

## Example: -  [Jessica Caldwell](http://jtcdesign.com/)(<https://www.jessica-caldwell.com/>), Andy Mangold(<https://friendsoftheweb.com/>), Kyle Thacher(<http://kylethacker.com/>), Sam Dallyn(<https://www.lundqvistdallyn.studio/>), Float Left(<http://floatleft.com/portfolio/>)

## Social Media we all know Facebook and Twitter, but social media sites can take many other forms. These sites are usually created to let people share thoughts, images or ideas, or simply connect with other people in relation to a certain topic. Social media sites are also increasingly becoming the go-to destination for people to read up on the news.

## Example:- Snapchat(<https://www.snapchat.com/>), Pinterest(<https://www.pinterest.com/>), Linkedin(<https://www.linkedin.com/>), Twitter(<https://twitter.com/>), Wechat(<https://www.wechat.com/en>)

## Educational Website The websites of educational institutions and those offering online courses fall into the category of educational websites. These websites have the primary goal of either providing educational materials to visitors, or providing information on an educational institution to them.

## Example:- edx(<https://www.edx.org/school/edx>), Academic Earth(<https://academicearth.org/>), Big Think(<https://bigthink.com/>), Brightstorm(<https://brightstorm.com./>), CosmoLearnig(<https://cosmolearning.org/>)

## Wiki or community forum A wiki website allows people to collaborate online and write content together. The most popular example is Wikipedia itself, which allows anyone to amend, add to, and assess the content of each article.

## Example:- Quora(<https://www.quora.com/>), Stackoverflow(<https://stackoverflow.com/>), Nexipia(<https://forums.nexopia.com/>), Reddit(<https://www.reddit.com/>), Whilpool(<https://www.whirlpool.com/>)

* **Nonprofit websites** don’t aim to sell products or services to their visitors, but they still need to convince people to support their cause. Websites are one of the primary ways the charity organizations connect with their potential patrons.

### Example: - Charity: water(<https://www.charitywater.org/>), Red Cross Australia(<https://www.redcross.org.au/>), World Wildlife Fund(<https://www.worldwildlife.org/>), One Drop(<https://www.onedrop.org/en/>), Ford Foundation(<https://www.fordfoundation.org/>)