



ADDIS ABABA INSTITUTE OF TECHNOLOGY
FUNDAMENTAL OF WEB DESIGN AND DEVELOPMENT
ITSE-2192
DEPARTMENT OF **SOFTWARE ENGINEERING**

Introduction to Web and WWW based
Assignment

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1. History of the Internet [The Evolution]

The Conceive

The Internet was initially created by Defense Advanced Research Projects Agency (DARPA), for use of the United States Department of Defense research for military technologies. The first Network was “Advanced Research Projects Agency Network” (ARPANET) which was created in 1969. ARPANET was used to connect computers in University of California, Los Angeles and University of Stanford in October 29, 1969.

The TCP/IP

In 1983, Robert E. Kahn and Vint Cerf formulated the Internet Protocol Suite called Transmission Control Protocol and the Internet Protocol (TCP/IP) which specifies how a certain data is transported in an end-to-end communication. The transportation includes packetizing, addressing, transmission, routing and receiving. The protocol serves as a common language to communicate through different devices of diverse principles.

The Protocol uses a specific addressing hierarchy called IPv4 and Ipv6 which were initialized in 1983 and 1994 respectively. The IPv4 uses a 32-bit address scheme which allows more than 4 billion addresses. But due to the enormously increasing number of Internet recently, the IPv6, which can support more than 340 Sextillion (3.40×10^{38}) unique addresses was developed by Internet Engineer Task Force (IETF).

The World Wide Web

The World Wide Web (www) was invented by Tim Berners-Lee at the famous European Particle Physics Laboratory CERN (Conseil Européen pour la Recherche Nucléaire). It was originally named Enquire after “Enquire within upon Everything”, an old book of Victorian advice. The invention completely changed the experience of the internet as it eased communications through websites and web pages.

The Internet of Things (I.O.T)

In 1982, the first non-computer device, a Coca-Cola vending machine, was connected to the Internet at Carnegie Mellon University. It was then able to report its inventory and whether newly loaded drinks were cold or not.

Then after, a lot of devices like sensors, phones, watches, cameras, and other electronics devices have been connected to the Internet. Nowadays, there are more than 15 billion devices connected to the Internet world wide.

Today, as this piece is written, there are more than 4 billion Internet users and around 1.7 billion Websites with approximate daily flow of 2 billion GB information in the world as of the [Internet Live Stats](#) update.

2. Observations and Assessments of some popular websites

1. <https://www.facebook.com> – Facebook

2006

The Login and Sign in form arrangement was different and lacked user-friendliness.

2020

All features are user-friendly and perfectly arranged although the calendar feature for the Birthday chooser isn't that much comfortable.

2. <https://imdb.com> IMDB

2005

The website isn't much attractive. Fonts and colors are of a poor choice.

Links are only embedded in underlined texts and the buttons are not responsive.

2020

Totally different and upgraded in all directions. Suited for the content (Movie).

3. <https://www.bbc.com/news>

2005

Poor organization over the Page. Font Styles, Links and colors aren't related and linked each other as well as the logo of the Company.

Stories are not attractive and well sorted. There is no headlines and preview of unseen posts.

2020

The website is well organized and sorted. Headlines and previews of stories are available.

4. <https://www.theguardian.com/world>

2015

All information is presented in interesting and pleasing way. Even the weather section is viewed in home page in simplistic yet incredible view. The Navigation pane is easy to choose topics and navigate.

2020

It has a standard format of news websites. But the fields are compacted and uneasy to see freely. And some pop-ups of Privacy content and others cover much of the screen and harden the experience. Personally, the 2015 version was much better in user design than the 2020.

5. <https://www.youtube.com/>

2012

The Navigation experiences were pretty uncomfortable including the theme color, which was dull and unrelated to the logo of the company.

2020

All features are attractive and video watching experiences are interesting.

3. Websites from the 12 categories

3.1. News

- I. <https://www.bbc.com/news> – A British Broadcasting Corporation originally founded in 18 October 1922 and is world's largest and oldest broadcaster.
- II. <https://edition.cnn.com/> – Cable News Network – An official site of American news-based television channel of AT&T's Warner Media.
- III. <https://www.aljazeera.com/> – Al-Jazeera is a website for Qatari state-funded broadcaster in Doha, Qatar, owned by the Al Jazeera Media Network.
- IV. <https://www.foxnews.com/> – This is a web interface for is an American conservative cable television news channel officially known as Fox News Channel.
- V. <https://www.theguardian.com/world> – Official website for The Guardian – a British daily newspaper.

3.2. Educational

- I. <https://www.edx.org/> – edx is website for an organization offering free and paid online video courses.
- II. <https://www.udacity.com/> – Udacity Works on practical projects to build experience, and advance your skillset as you learn.
- III. <https://www.udemy.com/> – Udemy is a website for a Company that provides High-Quality On-Demand Online Courses.
- IV. <https://lynda.com> – Lynda is an American website offering video courses taught by industry experts in software, creative, and business skills.
- V. <https://www.khanacademy.org/> – Khan Academy is expert-created content and resources for every course and level for free.

3.3. Portal

- I. <http://www.grants.gov/> – Allow applicants for federal grants to apply for and manage grant funds online through a common website.
- II. <https://www.sonyatv.com> – Music Publishing Portal
- III. <https://www.qq.com> – is an instant messaging software service and [web portal](#) developed by the Chinese tech giant Tencent.
- IV. <https://www.shou.com> – is a Chinese Internet company headquartered in the Sohu Internet Plaza in Haidian District, Beijing.
- V. <https://www.yahoo.co.jp> – is a Japanese internet company originally formed as a joint venture between the American internet company Yahoo! and the Japanese company SoftBank.

3.4. Business/Marketing

- I. <https://www.walmart.com/> – Walmart Is a retail corporation that operates a chain of hypermarkets, discount department stores, and grocery stores, headquartered in Bentonville, Arkansas.
- II. <https://www.amazon.com/> – Amazon – an American multinational technology company based in Seattle that focuses on e-commerce, cloud computing, digital streaming, and artificial intelligence.
- III. <https://www.alibaba.com/> – Alibaba a business group Holding Limited is a Chinese multinational technology company specializing in e-commerce, retail, Internet, and technology.
- IV. <https://www.ebay.com> – is a website of an American multinational e-commerce corporation based in San Jose, California, that facilitates consumer-to-consumer and business-to-consumer sales through its website.
- V. <https://www.rakuten.com> – is a website of a Japanese electronic commerce and online retailing company based in [Tokyo](#), founded in 1997 by Japanese businessman Hiroshi Mikitani. Its E-Commerce

platform **Rakuten Ichiba** is the largest e-commerce site in Japan and among the world's largest by sales.

3.5. Informational

- I. <https://www.wikipedia.org/> – Wikipedia – is a free online encyclopedia, created and edited by volunteers around the world and hosted by the Wikimedia Foundation.
- II. <https://www.w3schools.com/> – W3schools is a website which content includes tutorials and references relating to nearly all programming and scripting computer languages.
- III. <https://www.wikihow.com/Main-Page> – Wiki how is community consisting of an extensive database of how-to guides.
- IV. <https://www.dealipedia.com/> – Dealipedia is an excellent source of information for corporate sectors. It also delivers information over any subject matter but from a business and transaction point of view. It is just the source of information over the internet for getting detailed information about business deals readily available and very accessible for everyone from any part of the world.
- V. <https://stackoverflow.com/> – Stack overflow is a question and answer site for professional and enthusiast programmers. It features questions and answers on a wide range of topics in computer programming.

3.6. Entertainment

- I. <https://www.hbo.com/> – HBO is premium television network with full episodes of original series, movies, schedule information, exclusive video content, episode guides and more.
- II. <https://www.spotify.com/> – Spotify is a digital music service that gives you access to millions of songs.
- III. <https://www.netflix.com/> – Netflix is the world's leading internet entertainment service with 158 million paid memberships in over 190 countries enjoying TV series, documentaries.

- IV. <https://www.apple.com/tv/> – Apple is TV that puts you in control of what you watch, where you watch, and how you watch. And it's all in one place — on every screen.
- V. <https://www.hulu.com/> – Hulu is a U.S.-based subscription video on demand service

3.7. Advocacy

- I. <https://www.hrw.org/> – Human Rights Watch investigates and reports on abuses happening in all corners of the world.
- II. <https://www.charitywater.org/> – Charity water is a non-profit organization bringing clean and safe drinking water to people in developing countries.
- III. <https://www.convoyofhope.org/> – Convey Hope work through churches, businesses, government agencies, and other nonprofits to provide help and hope to those who are impoverished, hungry, and hurting.
- IV. Gate Foundation: <https://www.gatesfoundation.org/> – is the official website of the Charity Organization of Bill and Melinda Gates.
- V. <https://globalgenes.org/> – Global genes supporters of patients close to us who are affected by rare disease.

3.8. Blog

- I. <https://www.lovethatmax.com/> – Blog for parents, with special needs kids and to share their experiences too.
- II. <https://galadarling.com/blog/> – Personal blog created by gala who travels giving talks and interviews.
- III. <https://www.barefootblonde.com/> – This is the blog of Amber Filler up Clark. Most of the content is about her lifestyle.
- IV. <https://pinchofyum.com/> – Lindsay gave up her teaching post to run this blog. This blog mainly focuses on food.
- V. <https://kittensandsteam.blogspot.com/> – It is the blog of Hilde Heyvaert. Where she posts about variety of topics.

3.9. Wiki

- I. <https://en.wikipedia.org/wiki/> – Encyclopedia Dramatica is a parody-themed wiki website.
- II. <https://en.wiktionary.org/wiki/website> – Wiktionary is a multilingual, web-based project to create a free content dictionary of terms in all-natural languages and a number of artificial languages.
- III. <https://wikitravel.org/> – is a web-based collaborative travel guide based on the wiki model.
- IV. https://en.wikipedia.org/wiki/TV_Tropes – TV Tropes is a wiki that collects and documents descriptions and examples of various plot conventions and plot devices, more commonly known as tropes, that are found within many creative works.
- V. <https://www.gamepedia.com/> – A wiki hosting platform dedicated to games and written by gamers.

3.10. Social Network

- I. <https://www.facebook.com/> – Connect with friends, family and other people you know. Share photos and videos, send messages and get updates.
- II. <https://twitter.com/> – Twitter is an American microblogging and social networking service on which users post and interact with messages known as "tweets".
- III. <https://telegram.org> – Official site for the famous chatting Application.
- IV. <https://www.tiktok.com> – is a video-sharing social networking service
- V. <https://instagram.com> – A website for the social status sharing application.

3.11. Content Aggregator

- I. <http://wpnewsdesk.com/> Is website that focuses specifically on WordPress. It automatically pulls in content from a variety of

WordPress blogs and companies and displays posts on the front page.

- II. <http://travelbloggercommunity.com/> – aggregates content from travel bloggers all around the world in one accessible place.
- III. <https://www.reddit.com> – Reddit is an American social news aggregation, web content rating, and discussion website.
- IV. <https://news.google.com/> – It is a free best news aggregator which shares selecting news from thousands of news websites.
- V. <https://news.ycombinator.com/> – Is a user submitted links content aggregator of computer science, web design, technology and development news.

3.12. Personal

- I. <https://messi.com/en/> – Official website of Lionel Messi.
- II. <http://usainbolt.com/> – Personal website of the runner Usain bolt with his photos and personal news.
- III. <http://daniellesteel.com> – Personal website of the famous female author.
- IV. <https://www.cristianoronaldo.com/> – Is a personal website of a football player Cristiano Ronaldo.
- V. <http://leonardodicaprio.com/> – Is a personal website of a famous actor Leonardo DiCaprio.

4. Guidelines to evaluate a Website

Information found on the Internet can be misleading and inaccurate as it can be useful and easy to get. What makes the situation worse is as there is no a fixed or solid authority to monitor, evaluate and rate the information posted on every website around the world; therefore, it is the responsibility of the individual to effectively evaluate and check a website before taking any available information.

The Guidelines for evaluation of a website are vast and numerous. But they can be divided into two general groups as:

- I. Based on Importance
- II. Based on Design and User-friendly Interface

Based on importance, we can evaluate a website by the quality of the content.

Quality of the Content includes,

- Accuracy – Precise information without any semantic and grammar errors.
- Reliability and Credibility – Every information's source and other referred body's address and contact information (including the author) should be provided.
- Diversity/Multilanguage – Is information available in different languages?
- Timely – State of the website (Is it updated frequently?) This feature needs to be checked in parallel with the type of the information the website provides.
- Valid Links– Are links mentioned valid, relevant and helpful?
- Objectivity – Is the information a fact, an opinion or propaganda?
- Motive and Purpose – Who is the intended audience of the website? Why is it created? This can be the core evaluating question as it answers many other questions dependent on it.

Design and User-friendly interface can be further categorized into two evaluation guidelines.

- a. Logical Design

This examines the design of the website in accordance to the content and type of information it provides.

- Appropriateness – Designs and features such as colors, image and text should serve the functionality of the website in accordance to the sensitivity of the information with these features.
- Multimedia – Multimedia files such as Images, Videos and Sounds should be minimized to ease download of website. However, this feature should be examined carefully with the type of the website and the media type the information it provides requires. E.g. a Website that streams news cannot have the same Multimedia evaluation with that of a Website that reviews books.

b. Quality of the Organization/Grouping

This is about the structure and categorization of the website in order to help the user to navigate and retrieve information easily.

Mapping of the website, Consistency throughout the layout designs of each page, indices and links to navigate to each part of the website are guidelines for the Organization/Grouping evaluation.

As a simple user, we can use only the first category to examine websites, the second category is more intended to evaluate and standardize website in international sense. I.e. websites of Organizations, Governments, Business Companies and others should qualify them in order to have a good value among users.

<https://www.bbc.com/news>– BBC News

Accuracy – Content is accurate and free of grammar or semantic errors.

Reliability and Credibility – Every information's source and other referred body's address and contact information (including the author) is provided.

Timely – As a news website, all contents are updated frequently.

Objectivity – Content is pure information.

Motive and Purpose – Everyone is an intended audience.

<https://www.goodreads.com> Goodreads

Accuracy – Content is accurate and free of grammar or semantic errors.

Reliability and Credibility – Every information's source and other referred body's address and contact information (including the author) is provided.

Timely – As a news website, all contents are updated frequently.

Objectivity – Content is pure information.

Motive and Purpose – Everyone is an intended audience.

Logical Design and User-friendly Experience – The page is Excellent in its design and graphical user interface, but announcements, cookie policy pop-ups and other messages are uncomfortable for the user.

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