Web Design and Development

Assignment I

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Abstract

Technology has come a long way to become what it is today.It didn't become the tech we know today, specially the Internet, it took over two decades to built the internet we know and love today.

Lots of intelligent people have contributed to this tech over the course of these years.

A big part of the Internet is the web(WWW). Which along side the Internet, has been evolving over the years. These websites have been changing so much over the last two decades with the goal of satisfying the customer or the receiving end. Websites these days are more accessible and look more attractive than they did years ago.

There are 12 categories of websites each with specific uses and intended purposes.

They are as follows: Portal, Blogs, News, Entertainment, Personal, Social Network, Educational, Informational, Business/Marketing, Advocacy, Wiki and Content Aggregator.

We evaluate these websites based on 5 guidelines, which are: Accuracy, Authority, Objectivity, Currency and Coverage.

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4. What are the guidelines for evaluating the value of a website?

   - Try to evaluate 2-5 websites based on the guidelines and put your judgement.

Section I - Introduction

This document visits the evolution of the Internet thoroughly and tries to cover as much information as possible made short and precise to read.

The Internet has come along way, more than two decades of inventions, ideas, experiments and applications makes the Internet the Internet we know today.

Website is just a an application of the Internet, most people do not know the difference between the Internet and the Web, Simply the Internet is a platform which upon the Web resides and works/runs.

We can rate these websites using internationally agreed upon guidelines.

Section II - History of the Internet[The Evolution].

As shown below the evolution of the internet is put and organized with different years of its making, which makes it easier for the reader to really see the evolution of arguably the biggest and the best invention of human kind, **the Internet**.

March 1960 - Earliest idea of the internet was born

C.R. Licklider envisions in Man-Computer Symbiosis "A network of [computers], connected to one another by wide-band communication lines [which provide] the functions of present-day libraries together with anticipated advances in information storage and retrieval and [other] symbiotic functions."

May 1960 - design for distributed networks using packet switching

Paul Baran publishes "Reliable Digital Communications Systems Using Unreliable Network Repeater Nodes," the first of a series of papers that proposed the design for distributed networks using packet switching, a method used to this day to transmit all types of information over the Internet. A little later, Donald Davies at the UK's National Physical Laboratory (NPL) independently developed the same idea. While Baran used the term "message blocks" for his units of communication, Davies used the term "packets."

July 1961 - Invention of packet-switched networks theory

Leonard Kleinrock publishes "Information Flow in Large Communication Nets"; in December 1962, Kleinrock submits his MIT Ph.D. dissertation, proposing a mathematical theory for what were later called packet-switched networks.

August 16, 1964 - Early predictions of computers and networks

Isaac Asimov writes in the New York Times: "The I.B.M. exhibit at the [1964 World's Fair]… is dedicated to computers, which are shown in all their amazing complexity, notably in the task of translating Russian into English. If machines are that smart today, what may not be in the works 50 years hence? It will be such computers, much miniaturized, that will serve as the 'brains' of robots… Communications will become sight-sound and you will see as well as hear the person you telephone. The screen can be used not only to see the people you call but also for studying documents and photographs and reading passages from books."

February 1966 - The first proposing of a network for office use

Robert Taylor becomes the director of the Information Processing Techniques Office (IPTO). He proposes to his boss the ARPAnet, a network that will connect the different projects that ARPA was sponsoring. At the time, each project had its own specialized terminal and unique set of user commands.

Early 1967 - 'Interface Message Processors' (IMPs) Invented

At a meeting of ARPA's principal investigators at Ann Arbor, Michigan, Larry Roberts, the ARPA network program manager, proposes his idea for a distributed ARPAnet as opposed to a centralized network managed by a single computer. Roberts' proposal that all host computers would connect to one another directly, doing double duty as both research computers and networking routers, was not endorsed by the principal investigators who were reluctant to dedicate valuable computing resources to network administration. After the meeting broke, Wesley Clark, a computer scientist at Washington University in St. Louis, suggested to Roberts that the network be managed by identical small computers, each attached to a host computer. Accepting the idea, Roberts named the small computers dedicated to network administration 'Interface Message Processors' (IMPs), which later evolved into today's routers.

October 1967 - ARPAnet potential discovered - Speed of ARPAnet significantly increases

At the first ACM Symposium on Operating Systems Principles, Larry Roberts presents "Multiple computer networks and intercomputer communication," in which he describes the architecture of the "ARPA net" and argues that giving scientists the ability to explore data and programs residing in remote locations will reduce duplication of effort and result in enormous savings: "A network will foster the 'community' use of computers. Cooperative programming will be stimulated, and in particular fields or disciplines it will be possible to achieve 'critical mass' of talent by allowing geographically separated people to work effectively in interaction with a system."

Another presenter at the conference, Roger Scantlebury, tells Roberts about the work of Donald Davies at NPL and Paul Baran at RAND. Roberts incorporated their packet-switching ideas and the proposed communications speed to be used in the ARPANET was upgraded from 2.4 kbps to 50 kbps.

August 5, 1968 - Packet-switching network demonstrated in public

Donald Davies at the UK's National Physical Laboratory (NPL) demonstrates publicly for the first time a prototype packet-switching network.

December 9, 1968 - NLS introduced and demonstrated

Doug Engelbart demonstrates oN Line System (NLS), a working prototype of the first fully functional, multi-user hypertext system; users of NLS could share and annotate documents and use hyperlinks to jump from place to place within a document or between documents.

September 2, 1969 - IMP connected to a computer

The first BBN Interface Message Processor (IMP), is connected for the first time to UCLA's SDS Sigma-7 mainframe, establishing the first node of the

ARPAnet. Leonard Kleinrock (quoted in Stephen Segaller, *Nerds 2.0.1*): “We cautiously connected and the bits began to flow; The pieces really functioned, just why I still don’t know; Messages were moving pretty well by Wednesday morn; All the rest is history. Packet switching had been born.”

October 29, 1969 - First message over the Inter net

The first message (“Login”) is sent over the ARPANET between the network node at UCLA and a second one at SRI. Leonard Kleinrock: “At the UCLA end, they typed in the ‘l’ and asked SRI [by phone] if they received it; ‘got the l’ came the voice reply. UCLA typed in the ‘o’, asked if they got it, and received ‘got the o’. UCLA then typed in the ‘g’ and the darned system CRASHED! Quite a beginning. On the second attempt, it worked fine!” By the end of the year, four host computers were connected together into the initial ARPANET.

1971 - First computer virus created

Bob Thomas at BBN creates the first computer virus, an experimental self-replicating program called Creeper which copied itself to computers connected to the ARPANET and displayed the message “I’m the creeper, catch me if you can!”.

Late 1971 - First network email created

Ray Tomlinson at BBN writes the code for network email and sends the first email over the ARPANET. Tomlinson: “I used the at sign to indicate that the user was ‘at’ some other host rather than being local. The first message was sent between two machines that were literally side by side. The only physical connection they had (aside from the floor they sat on) was through the ARPANET.”

An ARPA study in 1973, a year after network email was introduced to the ARPANET community, found that three-quarters of the traffic over the ARPANET consisted of email messages.

September 1973 - TCP/IP introduced

At a meeting of the International Network Working Group (INWG) at Sussex University, Bob Kahn and Vint Cerf present their work on connecting ARPANET and other existing networks by using a common internetwork protocol. They later published the description of what became to be known as the Transmission Control Protocol/Internet Protocol (TCP/IP) in the May 1974 issue of *IEEE Transactions on Communications Technology* ("A Protocol for Packet Network Intercommunication"). Shortly thereafter, DARPA funded three independent implementations of the TCP/IP protocol, at Stanford (Vint Cerf), BBN (Ray Tomlinson), and University College London (Peter Kirstein). On January 1, 1983, all the ARPANET hosts switched to TCP/IP.

1980 - Documents were linked over the Internet by Berners-Lee

Tim Berners-Lee writes ENQUIRE, a program documenting links between people, computers, and projects at CERN. Berners-Lee in Weaving the Web: "When I first began tinkering with a software program that eventually gave rise to the idea of the World Wide Web, I named it Enquire, short for Enquire Within upon Everything, a musty old book of Victorian advice I noticed as a child in my parents' house outside London. With its title of suggestive magic, the book served as a portal to a world of information, everything from how to remove clothing stains to tips on investing money."

September 1983 - Users of the Internet increases

A Louis Harris & Associates survey finds that 10% of U.S. adults have a home computer and, of those, 14% use a modem to send and receive information. The resulting estimate was that 1.4% of U.S. adults used the Internet in 1983.

November 1983 - The DNS created

RFC 882 is published, describing the Domain Name System (DNS) invented by Paul Mockapetris at the University of California, Irvine. The increase in the number of independently managed networks (mostly Local-Area Networks) meant that maintaining a single table of hosts' names (hosts were assigned names so that it was not necessary to remember their numeric addresses) was no longer feasible and a hierarchical distributed naming system for computers, services, or any resource connected to the Internet, was needed.

March 15, 1985 - First commercial Internet domain name

The first commercial Internet domain name, symbolics.com, is registered by Symbolics Inc., a computer company based in Cambridge, Massachusetts.

November 2, 1988 - First Internet worm created

Robert Tappan Morris, a Cornell University computer science graduate student, releases what became known as the Morris worm, considered the first Internet worm, disrupting a large number of computers, guessed to be one tenth of all those connected to the Internet at the time. Morris became the first person tried and convicted under the 1986 Computer Fraud and Abuse Act. Morris went on to co-found a Web startup which was sold to Yahoo in 1998 and Y Combinator, a startup investor and accelerator. Today, he is a computer science professor at MIT.

March 1989 - Tim Berners-Lee talks about potential of the Internet

Tim Berners-Lee writes "Information Management: A Proposal," and circulates it at CERN. Berners-Lee in *Weaving the Web*: "I was excited about escaping from the straightjacket of hierarchical documentation systems…. By being able to reference everything with equal ease, the web could also represent associations between things that might seem unrelated but for some reason did actually share a relationship. This is something the brain can do easily, spontaneously. … The research community has used links between paper documents for ages: Tables of content, indexes, bibliographies and reference sections… On the Web… scientists could escape from the sequential organization of each paper and bibliography, to pick and choose a path of references that served their own interest."

1990 - First Internet search engine

Archie, the first Internet search engine, is developed by Alan Emtage at McGill University.

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October 1990 - Birth of the World Wide Web

Tim Berners-Lee begins writing code for a client program, a browser/editor he calls WorldWideWeb, on his new NeXT computer.

December 1990 - First website

First website, nxoc01.cern.ch, goes live.

August 1991 - World Wide Web came to life

Tim Berners-Lee publishes the code for the World Wide Web on the Internet. Later he wrote in *Weaving the Web*: “From then on, interested people on the Internet provided the feedback, stimualtion, ideas, source-code contributions, and moral support… The people of the Internet built the Web, in true grassroot fashion.”

July 1992 - First photo on the web

Tim Berners-Lee posts the first photo uploaded to the Web, showing the all-female parody pop group Les Horribles Cernettes (LHC), consisting of four of his colleagues at CERN.

November 1993 - The first Webcam

The video camera monitoring the Trojan Coffee Pot at the University of Cambridge’s Computer Laboratory is connected to the Web, becoming the first Webcam. What before enetertained a few lcoally connected people becomes a world-wide show with 1 million hits by 1996.

Summer 1994 - First transaction on the web

A large pepperoni, mushroom and extra cheese pizza from Pizza Hut is ordered online, possibly the first transaction on the Web.

May 25, 1994 - First WWW conference

First World Wide Web conference opens at CERN.

1996 - First phone to have a web browser

Nokia releases the Nokia 9000 Communicator, the first cellphone with a web browser.

1996 - Email usage increases

77% of online users send or receive e-mail at least once every few weeks, up from 65% in 1995.

1998 - First Google index

The first Google index has 26 million Web pages.

February 15, 1998 - The Internet mentioned in "The Simpsons"

"Oh, so they have the Internet on computers now?"—Homer Simpson

2000 - One billion mark of indexing reached

Google's index of the Web reaches the one-billion mark.

March 2007 - The Internet in election

Estonia becomes the world's first country to use internet voting in a parliamentary election.

April 2007 - Wikipedia usage

36% of American online adults consult Wikipedia.

June 2008 - One trillion mark of indexing reached

Google's index of the web consists of one-trillion unique URLs.

February 2014 - Internet's impact on society peaks

45% of internet users ages 18-29 in serious relationships say the internet has had an impact on their relationship.

Summer 2014 - Internet users number

The number of Internet users worldwide reaches 3 billion.

Section II - View the 5-10 popular websites of your choice from the web archive URL and put your observation and assessment.

Amazon

2001, 2005, 2009, 2013 and 2019 checked.

- **In 2001**, they used tables to organize and place elements on the page, In fact, they created one table and packed almost the whole content of the website in there, which worked but not recommended and not used that much nowadays, it's simply "outdated".

  They also used p tags(..) for each elements of the body.

  Not a bad looking website for 2001, but the styling looked very specific and hard to do, and a little bit naive seen from the source code.

- **In 2005**, they were still using tables to organize the contents of the website.

  But they sabotaged using p tags(..) for elements in the body, for div tags(<d> ...), which are actually used very, very often in the website.

- **In 2009**, they finally sabotaged using table for a div tag, wrapping the whole page in a div.

  But still used tables in some places in the page to list items.

- **In 2013**, the whole page (except the header) is in one div tag, which also has two major div tags i.e the main page content and the footer.

  Header tag is used, which is the feature of HTML5.

- **In 2019**, the page looks very attractive and the contents are easy on the eye to see, they don't show many things at once.

  Many, many nested div tags are used, also for the logos, which rarely changes, they used sprites instead of old-school images.

Google

2001, 2006, 2012 and 2020 visited.

- **In 2001**, the homepage looks organized but one can tell from the logo that the website is old.

  They used tables to organize the contents.

  The used manual breaks(
) for spaces.

- **In 2006,** the logo hasn't changed from the classic look but there were few additions to the page, there were search options such as "Web", "Images", "Groups", "News" etc.

- **In 2012**, the logo has already changed and looks good.

  They used multiple div tags(..) for containing elements.

  They used the Form tag(<form> .. <form/>) for the search keyword input area like the previous years and used the table(<table> .. </table>) tag to align them right.

- **In 2020**, it's very much similar to the 2012's design, but the logo looks so much better.

Microsoft

1999, 2001, 2004, 2010, 2014 and 2019 visited.

- **In 1999**, the whole content of the were stacked into one big table, except for the header, which they used div for, which contains a table.

- **In 2001**, the page somehow looks better than the previous versions, they were still using tables to include and organize the contents of the page.

- **In 2004**, design-wise it looks like it has gotten a little bit worse than the previously mentioned version, it also has maybe too many contents for a homepage which can be uneasy on the eye.

- **In 2010**, the page looks very nice, they mostly used div tags to contain elements of the page.

  Navigation bar looks better than the previous ones.

- **In 2014**, the best look of the website so far, the nesting of the div tags used in the website can be very confusing.

  Attractive and simple on the eye experience.

- **In 2019**, it doesn't look as good as the 2014 one, but still very good.

  It's very general with it is contents.

  Looks modern.

Twitter

2008, 2011, 2014 and 2019 visited

- **In 2008**, the website actually looked pretty decent for it's time.

  Mainly the home page contained about what twitter is, because it was in its early days, in fact years of coming to life.

- **In 2011**, the page looks very simple and organized

  The div tag was mostly used of course.

- **In 2014**, the page looks bad, worse than it's previous years.

  The code for the page is written clearly and look easy to understand.

- **In 2019**, the page looks amazing, arguably one of the best out there.

  Still used the div tag for the footer, even though HTML5 had came out with the new footer tag(<footer> .. </footer>)

Facebook

2005, 2012, 2018 and 2020 are visited as follows.

- **In 2005**, in the early ages of Facebook, the homepage/login/sign up page looks kind of basic, but not bad.

- **In 2012**, the page looks very nice and very attractive.

  Also, the hyper-text code for the page is well written and is easily understandable.

- **In 2018**, the page has changed look wise, but still looks very good.

  Lots of nested div tags, but yet still readable and understandable.

- **In 2020**, the page looks pretty much the same.

Generally, the web has changed very much over the course of the past two or three decades.

Websites are now more attractive to look at, more easy to use, more sophisticated in its tech in the background.

For example, in the past the look of a website wasn't given much attention but only it's functions and capabilities were the one's that most mattered, but now a days looks almost matter as the functions, because the presentation has to be very good for the customer or the user to collect as many users as possible.

Section III - List 5 websites each in the 12 categories you learned (Try to view their look in different years web archives).

Table 1 - categories of websites

Type	Examples
Portal	• AAIT Portal • Copper Point Portal • Forest Hills Pediatrics, Pateint Portal • Marines,Federal Government Portal • Santander Bank, Retail Banking Portal
Blogs	• TechCrunch • mashable • Gawker • Lifehacker • TreeHugger
News	• BBC • CNN • NBC News • The Guardian

	• Fox News
Informational	• Wikipedia • Youtube • Guinnessworldrecords • Stackoverflow • W3
Business/ Marketing	• Ebay • Amazon • Yelp • LinkedIn • Foursquare
Educational	• Coursera • edX • Khan academy • Big think • brightStorm
Entertainment	• Tmz • Netflix • IMDb • Spotify • Youtube
Advocacy	• The Malala fund • Human Rights Watch.com • Greenbelt, Essex County's Land Trust • Memphis Zoo • We Heart Trees

Wiki	• Wikipedia • Wikia • Wikihow	• Wiktionary • gamepedia
Content Aggregator	• Reddit • Google news • AllTop	• Popurls • Flipboard
Personal	• Gary Sheng • Raf Derolez • Pascal van Gemert	• Brandon Johnson • Quinton Harris
Social Network	• Facebook • Twitter • Instagram	• Youtube • Snapchat

Section IV - What are the guidelines for evaluating the value of a website?(Try to evaluate 2-5 websites based on the guidelines and put your judgement).

Table 2 - guidelines to evaluate websites

Basic Evaluation Criteria	What the Criteria Means
1. Accuracy of Web Documents? ● Who wrote the page? Can you contact him/her?? ● What is the purpose of the document and was it produced? ● Is this person qualified to write this document? ● Have you googled the author, or used a Who is search to determine who owns the domain name?	**Accuracy** ● The site author is accessible. ● The page supports the truth of its information (quoted sources, bibliography). ● There aren't any obvious grammar or spelling errors. ● You can verify the information from other sources (print, as well as online).
2. Authority of Web Documents ● Who published the document and is it separate from the "Webmaster"? ● Where is the document published (the domain) and who owns the domain? ● Does the publisher list his/her qualifications, or can they be verified?	**Authority** ● The author is well established in his or her field & the author's credentials are listed on the site.. ● The author's credentials can be verified and they are current. ● The author provides an e-mail or a contact address/phone number.

3. Objectivity of Web Documents ● Does the site reflect a particular bias or viewpoint? What opinions (if any) are expressed? ● What goals/objectives does this page meet? ● How detailed is the information?	**Objectivity** ● You don't see any obvious advertising . ● You don’t sense "hidden" advertising. ● You are not asked to purchase something or donate money to a cause.
4. Currency of Web Documents ● When was it first published? ● When was it updated? ● How up-to-date are the links (if any)?	**Currency** ● The information on the page is outdated. ● Generally all the links are accessible. . ● The links are current.
5. Coverage of Web Documents ● Do links complement the page’s theme? ● Are images overwhelming or balanced? ● Is information cited correctly? ● Is the document easy to navigate? ● Can you easily get back to the previous page? ● Is it easy to get back to the home page?	**Coverage** ● You don’t need special software to view the information. ● You don’t need to pay money for information. ● You have an option for text only or for a suggested browser.

1. BBC.com

- **Accuracy of web documents:** The writer of the page can be contacted and is mentioned in the pages.

  The pages that are written have well defined purposes

  The person whom writes on their pages is a qualified person .

- **Authority of the web document:** The publisher of the pages are always mentioned. The author's credentials can be verified and they are current. And their contacts like email address are mentioned.

- **Objectivity of the web document:** There are no kinds of opinions expressed, it's a news page so it only has to present the facts, and that's what it does.

- **Currency of the web documents:** Their web pages are updated frequently, in fact in a matter of hours only.

- **Coverage of the web documents:** It's contents are free to access for anybody. The documents are pretty easy to navigate, but it can improve. No need for special software to access the pages.

2. TechCrunch.com

- **Accuracy of web documents :** The site author is accessible.The page supports the truth of its information (quoted sources, bibliography). There aren't any obvious grammar or spelling errors.

- **Authority of the web document :** The author's credentials can be verified and they are current.The author provides an e-mail or a contact address. But this is not always the case..

- **Objectivity of the web document :** You can see some advertising .You don’t sense "hidden" advertising. You are not asked to purchase something or donate money to a cause.

- **Currency of the web documents :** The information on the page is mostly updated.Generally all the links are accessible. The links maybe not that current, but mostly are.

- **Coverage of the web documents :** You don’t need to pay money for information.

Section IV - References

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