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**ADDIS ABABA INSTITUTE OF TECHNOLOGY**

**CENTER OF INFORMATION TECHNOLOGY AND SCIENTIFIC COMPUTING**

**DEPARTMENT OF SOFTWARE ENGINEERING**

**Assignment 1**

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# Question 1: History of Internet [The Evolution]

## Introduction

Internet Is a network of computers connecting millions of computers. Internet is decentralized meaning it is owned by no one. The internet has revolutionized the computer and communications entirely.

The history of internet consists of four distinct aspects. The early stage of the internet research began with packet and switching and the ARPANET, and there still are researches that expand the horizons of the infrastructure along several dimensions, like scale, performance, and increased level of functionality.

## Origin of the Internet

The root of Internet is United States that started in early 1960s. The US needed a fast, reliable, secure way of communication because of the cold War period.

The first recorded description of the social interactions through networking of series of memos written by J.C.R. Licklider of MIT in August 1962 discussing his “Galactic Network” concept.

In 1961 Leonard Kleinrock at MIT published the first paper on packet switching theory and the first book on the subject. In 1965 working with Thomas Merrill, Roberts connected the TX-2 computer in Mass. to the Q-32 in California with a low speed dial-up telephone line creating the first (however small) wide-area computer network ever built.

In late 1966 Roberts went to DARPA to develop the computer network concept and quickly put together his plan for the “ARPANET”, publishing it in 1967. A group headed by Frank Heart at Bolt Beranek and Newman (BBN) worked on the packet switches called Interface Message Processors (IMP’s). As BBN was working on the IMP’s with Bob Kahn playing a major role in the overall ARPANET architectural Design.

The first node to be selected on ARPANET was Kleinrock’s due to his early development of packet switching theory and his focus on analysis, design and measurement.

In September 1969 BBN installed the first IMP at UCLA (where Kleinrock’s work was) and the first host computer was connected. Stanford Research Institute (SRI) provided the second computer(node). The first host-to-host message was sent from Kleinrock’s laboratory to SRI.

Two more nodes were added Santa Barbara and University of Utah. These last nodes consisted application Visualization projects. Thus, by the end of 1969, four host computers were connected together into the initial ARPANET.

Computers were added quickly to the ARPANET during the following years, and work proceeded on completing a functionally complete Host-to-Host protocol and other network software. In December 1970 the initial ARPANET Host-to-Host protocol, called the Network Control Protocol (NCP) was finished. As the ARPANET sites completed implementing NCP during the period 1971-1972, the network users finally could begin to develop applications. In early 1973, the network had grown to 35 nodes and was connected to 38 host com­puters (Rubinstein, 2009). That year, Norway and England were added to the network and traffic had expanded significantly.

## The Initial Internetting Concepts

The original ARPANET grew into the Internet. Internet was based on the idea that there would be multiple independent networks. Beginning with ARPANET as the pioneering packet switching network soon included satellite networks, ground-based packet radio networks and other networks. The Internet include a key underlying technical idea – open architecture networking. In this approach the choice of any individual network technology was not dictated by a particular network architecture but rather could be selected freely by a provider and made to interwork with the other networks through a meta-level “Internetworking Architecture”.

NCP did not have the ability to address networks (and machines) further downstream than a destination IMP on the ARPANET and thus some change to NCP would also be required. (The assumption was that the ARPANET was not changeable in this regard). NCP relied on ARPANET to provide end-to-end reliability. If any packets were lost, the protocol (and presumably any applications it supported) would come to a grinding halt. In this model NCP had no end-end host error control, since the ARPANET was to be the only network in existence and it would be so reliable that no error control would be required on the part

of the hosts.

Therefore, Kahn decided to develop a new version of the protocol which could meet the needs of an open-architecture network environment. This protocol would eventually be called the Transmission Control Protocol/Internet Protocol (TCP/IP). While NCP tended to act like a device driver, the new protocol would be more like a communications protocol**.**

## Entering the Commercial Phase

During the mid-1980s, the Internet entered its commercial phase. In 1986, the number of Internet hosts increased to 5000. By 1987, when the number of hosts reached 10,000, to trim down the traffic load on the ARPANET, a network run by the National Science Foundation, called NSFnet, merged with another NSF network, called CSNet, and with BITNET to compose one network that could carry much of the net­work traffic. In 1989, number of hosts reached 159,000.37 Australia (AU), Germany (DE), Israel (IL), Italy (IT), Japan (JP), Mexico (MX), Netherlands (NL), New Zealand (NZ), Puerto Rico (PR), and the United Kingdom (UK) connected to NSFnet.

In 1989, Englishman Tim Berners- Lee proposed the idea of an international system of protocols: Building a distributed hypermedia server which would allow Net us­ers to prepare electronic documents that are composites of, or pointers to, many different files of potentially different types, scattered across the world. Berners-Lee called it the World Wide Web (WWW).

## The Massive Expansion

Many people began creating their own personal Web areas. Homepages and bookmarks were introduced to allow Net users (about 16 million) to organize their personal documents and to keep track of useful informa­tion.

In 1996, the number of Net users more than doubled, from 16 million in 1995 to 36 million.

Larry Page and Sergey Brin, started to work on a search engine which they called BackRub, as it was designed to analyze a ‘back link’ on the Web. Later they renamed their search engine Google, after googol, the term for the numeral 1 followed by 100 zeroes. They released their first version in August 1996.

## Social Networking

In July 2003 Myspace was founded by Tom Anderson and Chris DeWolfe. Myspace allows members to create unique personal profiles online in order to find and communicate with old and new friends.

Facebook.com was founded on February 4, 2004 by Mark Zuckerberg, Eduardo Saverin, Dustin Moskov­itz and Chris Hughes (Carlson, 2010).

In 2006, the free social networking site Twitter was started by Jack Dorsey. Essentially, Twitter combines Short Code Messaging, SMS with a way to create social groups.

In 2005 three former employees of Paypal, Chad Hurley, Steve Chen and Jawed Karim created a video file sharing website called “YouTube.”

Telegram was founded in March 2013 by Pavel Durov is the founder and majority owner of messaging app Telegram Messenger, which has more than 300 million users worldwide.

# Question 3: List 5 website each on the 12 categories

## Portal

* **State of Indiana:** <https://www.in.gov/core/>

Website of the state of Indiana that provide information about the state.

* **Cancer:** <http://www.cancer.com/>

provide information and resources that may be helpful about cancer.

* **Webs:** <https://www.webs.com/>

Is a website that enables us to build free websites with its tools.

* **Razorfish Healthware**: <https://razorfish.health/>

Razorfish Healthware is a global leader in digital and healthcare communications.

* **Official Site of Miami:** <https://www.miamiandbeaches.com/>

The website provides information’s like events and places to visit.

## News

* **BBC:** <https://www.bbc.com/news>

Provides World Wide News all over the world with more than 10 languages.

* **CNN:** <https://cnn.com/>

CNN Provides the latest breaking news and information on the top stories, weather, business, entertainment, politics, and more.

* **Aljazeera:** <https://www.aljazeera.com/>

News, analysis from the Middle East & worldwide, multimedia & interactives, opinions, documentaries, podcasts, long reads and broadcast schedule.

* **Fana:** <https://www.fanabc.com/>

Provides News that are based on Ethiopia.

* **CCTV:** <http://english.cctv.com/>

CCTV News, is an international English-language news channel.

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## Informational

* **W3schools:** <https://www.w3schools.com/>

Content includes tutorials and references relating to HTML, CSS, JavaScript, JSON, PHP, Python, AngularJS, React.js, SQL, Bootstrap, Sass, Node.js, jQuery, XQuery, AJAX, XML, Raspberry Pi, C++, C# and Java.

* **Wikipedia:** <https://www.wikipedia.org/>

Wikipedia is a free online encyclopedia, created and edited by volunteers around the world and hosted by the Wikimedia Foundation.

* **CNET:** <https://www.cnet.com/>

CNET, formerly Computer Network, is an American media website that publishes reviews, news, articles, blogs, podcasts, and videos on technology and consumer electronics globally.

* **Stack over flow:** <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.

* **Wiki how:** <https://www.wikihow.com/Main-Page>

Wiki how is community consisting of an extensive database of how-to guides.

## Business/ Marketing

* **Dainty Jewell:** <http://daintyjewells.com/>

Dainty Jewell is a brand that is on a mission to provide every woman and girl the opportunity to choose timeless fashions that stay true to her sense of modesty according to the Biblical principles.

* **Alibaba:** <https://www.alibaba.com/>

Alibaba Group Holding Limited is a Chinese multinational technology company specializing in e-commerce, retail, Internet, and technology.

* **Amazon:** <https://www.amazon.com/>

Amazon Is an American multinational technology company based in Seattle that focuses on e-commerce, cloud computing, digital streaming, and artificial intelligence.

* **My merkato online:** <https://mymerkatoonline.com/>

Ethiopian online shopping website.

* **Walmart:** <https://www.walmart.com/>

Is a retail corporation that operates a chain of hypermarkets, discount department stores, and grocery stores, headquartered in Bentonville, Arkansas.

## Educational

* **Khan Academy:** <https://www.khanacademy.org/>

Khan Academy is expert-created content and resources for every course and level. Always free.

* **Edx:** <https://www.edx.org/>

Edx is website offering free and paid online video courses.

* **Udacity:** <https://www.udacity.com/>

Udacity Work on practical projects to build experience, and advance your skillset

* **Lynda**: <https://www.lynda.com/>

Lynda is an American website that offers video courses taught by industry experts in software, create, and business skills.

* **Udemy:** <https://www.udemy.com/>

Udemy is a website that provides High-Quality On-Demand Online Courses.

## Entertainment

* **Netflix:** <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

* **HBO:** <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.

* **Hulu:** <https://www.hulu.com/>

Hulu is a U.S.-based subscription video on demand service.

* **Spotify:** <https://www.spotify.com/>

Spotify is a digital music service that gives you access to millions of songs.

## Advocacy

* **Human Rights Watch:** <https://www.hrw.org/>

Human Rights Watch investigates and reports on abuses happening in all corners of the world.

* **Charity Water**: <https://www.charitywater.org/>

charity water is a non-profit organization bringing clean and safe drinking water to people in developing countries.

* **Convey Hope:** <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.

* **Gate Foundation:** <https://www.gatesfoundation.org/>

Gate Foundation is worldwide NGO that tackle critical problems in five program areas.

* **Global Genes:** <https://globalgenes.org/>

Global genes supporters of patients close to us who are affected by rare disease.

## Blog

* **Loyal that max:** <https://www.lovethatmax.com/>

Blog for parents, with special needs kids and to share their experiences too.

* **Gala darling:** <https://galadarling.com/blog/>

Personal blog created by gala. she travels giving talks and interviews. She is also an author.

* **Bare foot blonde**: <https://www.barefootblonde.com/>

This is the blog of Amber Filler up Clark. Most of the content is about her lifestyle.

* **Pinch of Yum:** <https://pinchofyum.com/>

Lindsay gave up her teaching post to run this blog. This blog mainly focuses on food.

* **Kittens and steam**: <https://kittensandsteam.blogspot.com/>

It is the blog of Hilde Heyvaert. Where she posts about variety of topics.

## Wiki

* **Wiki How:** <https://en.wikipedia.org/wiki/WikiHow>

Wiki is an online **wiki**-style community consisting of an extensive database of how-to guides.

* **Wiki Travel:** https://wikitravel.org/

Wiki travel is a web-based collaborative travel guide based on the wiki model.

* **Wiktionary:** 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.

* **Enclypodia Dramatica :** <https://en.wikipedia.org/wiki/>

Encyclopedia Dramatica is a parody-themed wiki website.

* **TV Tropes :** 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.

## Social Network

* **Facebook**: <https://www.facebook.com/\>

Connect with friends, family and other people you know. Share photos and videos, send messages and get updates.

* **Twitter**: <https://twitter.com/>

Twitter is an American microblogging and social networking service on which users post and interact with messages known as "tweets". Registered users can post, like, and retweet tweets, but unregistered users can only read them.

* **Linked In**: <https://www.linkedin.com/>

LinkedIn is an American business and employment-oriented service that operates via websites and mobile apps.

* **Tumblir:** <https://www.tumblr.com>

Tumblr is an American microblogging and social networking website founded by David Karp in 2007 and currently owned by Automatic. The service allows users to post multimedia and other content to a short-form blog.

* **TikTok**: <https://www.tiktok.com>

TikTok is a video-sharing social networking service

## Content Aggregator

* **WPNews** <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.

* **Travel blogger community**: <http://travelbloggercommunity.com/>

aggregates content from travel bloggers all around the world in one accessible place.

* **Reddit:** <https://www.reddit.com>

Reddit is an American social news aggregation, web content rating, and discussion website. Registered members submit content to the site such as links, text posts, and images, which are then voted up or down by other members

* **Google News:** <https://news.google.com/>

It is a free best news aggregator which shares selecting news from thousands of news websites.

* <https://news.ycombinator.com/>

Is a user submitted links content aggregator of computer science, web design, web technology and web development news.

* **Feedly:** <https://feedly.com/>

Feedly is an excellent way to follow news.

1. **Personal**

* **Cristiano Ronaldo** <https://www.cristianoronaldo.com/>

Is a personal website of a football player Cristiano Ronaldo.

* **Charles spooley** <https://www.charlespooley.com/>

Personal website of Charles spooley Founder &CEO of Work folio.

* **Usain Bolt:** <http://usainbolt.com/>

Personal website of the runner Usain bolt with his photos and personal news.

* **Khalid:** <https://www.khalidofficial.com/>

Personal website of the musician Khalid with his tours and links to his albums.

* **Magnus Carlsen:** <https://magnuscarlsen.com/>

Personal website of the chess player Magnus Carlsen with his statistics schedules and more.

**Question 4: What are the guidelines for evaluating the value of a Web site? Try to evaluate 2-5 websites based on the guideline and put your judgment.**

The Guidelines for Evaluating a Website can be classified into two:

1. Based on the Content
2. Based on the Design and User-friendly Interface
3. **Based on the Content**

This again can be classified into:

* **AUTHORITY**

Authority reveals that the person, institution or agency responsible for a site has the qualifications and knowledge to do so. Evaluating a web site for authority:

* Authorship: It should be clear who developed the site.
* Contact informationshould be clearly provided: e-mail address, snail mail address, phone number, and fax number.
* Credentials: the author should state qualifications, credentials, or personal background that gives them authority to present information.
* Check to see if the site supported by an organization or a commercial body.
* **Purpose**

The purpose of the information presented in the site should be clear. Some sites are meant to inform, persuade, state an opinion, entertain, or parody something or someone. Evaluating a web site for purpose:

* Does the content support the purpose of the site?
* Is the information geared to a specific audience (students, scholars, general reader)?
* Is the site organized and focused?
* Are the outside links appropriate for the site?
* Does the site evaluate the links?
* **COVERAGE**

It is difficult to assess the extent of coverage since depth in a site, through the use of links, can be infinite. One author may claim comprehensive coverage of a topic while another may cover just one aspect of a topic. Evaluating a web site for coverage:

* Does the site claim to be selective or comprehensive?
* Are the topics explored in depth?
* Compare the value of the site’s information compared to other similar sites.
* Do the links go to outside sites rather than its own?
* Does the site provide information with no relevant outside links?
* **OBJECTIVITY**

Objectivity of the site should be clear. Beware of sites that contain bias or do not admit its bias freely. Objective sites present information with a minimum of bias. Evaluating a web site for objectivity:

* Is the information presented with a particular bias?
* Does the information try to sway the audience?
* Does site advertising conflict with the content?
* Is the site trying to explain, inform, persuade, or sell something?
* **ACCURACY**

There are few standards to verify the accuracy of information on the web. It is the responsibility of the reader to assess the information presented. Evaluating a web site for accuracy:

* Reliability: Is the author affiliated with a known, respectable institution?
* References: do statistics and other factual information receive proper references as to their origin?
* Does the reading you have already done on the subject make the information seem accurate?
* Is the information comparable to other sites on the same topic?
* Does the text follow basic rules of grammar, spelling and composition?
* Is a bibliography or reference list included?

1. **Based on the Design and User-friendly Interface**

* **Usability**
* How long does it take for pages to load and will the visitors get bored waiting?
* Can information be found easily?
* Is there a search button available for visitors?
* Are all the links working? T
* Does the website work in different browsers?
* Does the website work on mobile devices?
* **Content and Readability**
* Are the fonts that of been chosen easy to read?
* Is there considerable contrast between the font color in the background color?
* Is the text an appropriate size?
* Will the content be relevant to the reader?
* Is the content concise yet still useful?
* Does the overall design make content easy to find?
  + - **Aesthetics**
* Does the website's style align with the brand in terms of color, graphics, feel..?
* Is the style consistent throughout the entire website?
* Does the style suit the target audience? (An elegant layout on the website, cartoons on a toy company website etc.)
* How do visitors view the site? Sparse or crowded, orderly or messy, formal or playful? And how does this align with the goals?
* Are there any photos or decorative touches that are getting in the way of the message?
* **SEO and Social Networking**
* Are all of the images optimized with ALT tags?
* Is the coding efficient or are there extra lines that can be eliminated?
* Are relevant keywords being used in title tags, heading tags, meta-descriptions, etc.?
* Is there a site map?

## **Evaluation 1:** WikiHow

**WikiHow:** <https://www.wikihow.com/Main-Page>

1. **Based on the content**

* **Authority**
  + The Developer is not clear
  + Contains basic contact information
  + The contents of the website is collected from volunteers.
  + WikiHow is partner with **Mental Health America , Crisis Text Line , Direct Relief ,  Facebook Free Basics…**
* **Purpose**
  + The content of the website supports the purpose of the site
  + The information in the website is geared to beginners or is assumed the audience have no prior knowledge about the information.
  + The site is organized and focused
  + The outside links are not appropriate to the website meaning they are unrelated to the information it is providing.
    - * **Coverage**
  + The site claims to be comprehensive
  + The topics in the site are not covered in depth rather they are introduction to the topic
  + The site does not provide information with no relevant outside links.
* **Objectivity**
  + The information/ posts in the web are biased.
  + Some information in site try to persuade the audience rather than presenting information.
  + The site mostly informs not sell or persuade.
* **Accuracy**
  + The source is not known since anyone is able to contribute, and therefore is not reliable enough.
  + The texts in wikihow follow basic grammar, spelling and composition rules.
  + The information in the site seems accurate.
  + The site references it sources very well.

1. Based on the design and user-friendly interface

* **Usability**
  + The website loads within **932 ms** according to [**https://tools.pingdom.com/**](https://tools.pingdom.com/)**.**
  + Information in the site can be found easily using the search bar.
  + There is a search button in the website.
  + The website works in different platforms.
  + The website works well in all common updated browsers.
* **Content and readability**
  + The fonts are easy to read
  + The text is in appropriate size.
  + The content is concise and still useful.
  + The design makes it easy to navigate through the contents.
* **Aesthetics**
  + the design is consistent throughout the website.
  + There are some photos and advertisement messages that disturbs.
  + The site is not crowded and messy.
* **SEO and Social Networking**
  + There is a site map.
  + The images in the site are optimized with alt tags.
  + The codes in the website is efficient.

**Personal Judgment**: the site is so useful and very simple to use and navigate through. I like the design of the website. The website can be easily used on different platforms with no difficulty and without change in the design. The Thing I dislike about the site is everyone can contribute and this might make it trusted source of information.

**Score:** A-

## Evaluation 2: Yale School of Art

**Yale School of Art:** <https://www.art.yale.edu/>

1. Based on the Content

* Authority
  + The developer of the site is unknown.
  + Location of the yale school of art is putted but there is no site map.
  + There is no any credentials in the website.
  + The website is not supported by any commercial organization.
* Purpose
  + The website partially provides information related to its purpose.
  + The information is geared to students that attend yale school of art.
  + The external links are all related to the purpose of the website.
* Coverage
  + The website claims to be selective.
  + The topics in the site is not covered in detail
* Objectivity
  + The information in the site try to inform not pursue the audience.
* Accuracy
  + The Author of the site is unknown
  + The text in the site does not follow grammar, spelling and composition
  + The site does not include reference.

1. Based on the Design and User-friendly interface

* Usability
  + The site is relatively slow it takes **1.27 s** to load according to <https://tools.pingdom.com/>**.**
  + Information in the site can’t be found easily.
  + The website works on common updated browsers.
  + The website doesn’t contain search button.
* Content and readability
  + The fonts chosen are unattractive and difficult to read.
  + There is no contrast between the font color and background color.
* Aesthetics
  + The style in the site is inconsistent
  + The style doesn’t suit the target audience.
  + The site is messy.
* SEO and Social Networking
  + The images in the site are not optimized by ALT tags.
  + The coding is not efficient there are so many lines of codes that can be optimized.
  + There is no site map in the site.

**Personal Judgment:** The site is so unattractive and unorganized it is so messy and it doesn’t contain information that it is supposed to. The website can be edited by any students so it makes the information untrustworthy.

**Score**: F

## Evaluation 3: BBC

**BBC:** <https://www.bbc.com/news>

1. Based on the content

* AUTHORITY
  + The contact information is provided in the site.
  + The site is supported by many organizations
  + It is clear who developed the site.
    - * Purpose
  + The content of the site is related to the sites purpose.
  + The information is general but can be geared if needed by selecting what the reader wants.
  + The site evaluates outside links.
    - * Coverage
  + The topics in the site are explored in depth.
  + The site only provides relevant outside links.
  + The site claims to be comprehensive.
* Objectivity
  + The information in the site is not biased.
  + The site does not try to persuade audience rather presents Accurate news.
  + The sites Ad doesn’t conflict users
* Accuracy
  + The authors are trusted and the information they provide is accurate.
  + The text follows basic rules of grammar, spelling and composition.
  + The site refers factual information properly.

1. Based on the Design and User-friendly interface

* Usability
  + The site takes **2.46 s** to load according to<https://tools.pingdom.com/>
  + Information in the site can be found easily.
  + There is a search button in the site.
  + The website works on all common updated browsers.
  + The website works on mobile devices.
    - * Content and Readability
  + The fonts chosen are easy to read.
  + There is a considerable contrast between the font color and the background color.
  + The content is relevant to the reader.
  + The text is in the appropriate size.
    - * Aesthetics
  + the website's style aligns with the brand in terms of color, graphics, feel.
  + The style suits the target user
  + The site is crowded
  + There is no any photos and decorative touches that are getting in the way of the site.
    - * SEO and social Networking
  + The images are optimized with ALT tags.
  + The coding is efficient
  + There is no site map in the website
  + There are relevant keywords that are being used in title tags, headings.

**Personal judgment**: The website is so useful and updated regularly. But the website is a l little bit slow to access. The website covers a story with great depth.

**Score:** B+

# References

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