### History of internet

The Internet has revolutionized the computer and communications world like nothing before. The Internet is at once a world-wide broadcasting capability, a mechanism for information dissemination, and a medium for collaboration and interaction between individuals and their computers without regard for geographic location.

The evolution of internet begins by the urgent need to design a communications system capable of surviving a devastating thermonuclear attack. In order to understand, the original Internet’s plan was not to be centralized. In fact it was a project by the **US DoD (Department of Defense)** to establish a computer data communications network that could withstand events and disasters like war. Therefore it must be decentralized so that if one part of the system fails the rest can still function. It must also be able to communicate using interconnectivity without relying on a single computer. Another important consideration is that the computers must be interoperable among dissimilar systems, so that more devices can be a part of the network.

**The ARPANET: 1967–1972**

It all started with the idea of resource sharing first emerging in APRA as **ARPANET** in 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). Given that the network was supposed to facilitate the sharing of expensive and scarce resources, namely the mainframe computers that ARPA had funded in various research centers across the country, a key obstacle to overcome was the fact that these machines were incompatible with one another. For each of them to participate in a network would require the creation of complex, customized networking software which would enable each machine to communicate with every other machine on the system.

Then it was build a ‘sub-net’ of identical minicomputers (which came to be called ‘interface message processors’ or IMPs) each linked to a single mainframe ‘host’. In that way the task of writing networking software for a host was greatly reduced: it would simply have to communicate with a single machine – the IMP assigned to it.

**Development of the TCP/IP-based ‘internetwork’: 1973–1983**

During and after the construction of the ARPANET, other significant developments in networking technology were under way. Within ARPA, it was decided to build on this work by creating a packet-switched radio network (named PRNET).By the early to mid-1970s, therefore, ARPA found itself running three separate ‘experimental’ networks – ARPANET, PRNET, and SATNET – all of which used packet switching technology, but in different ways. An obvious next step was to see whether a method for ‘internetworking’ them, so that they functioned as an apparently seamless whole, could be developed.

In the end, a suite of interlocking protocols centered on two new ones (TCP and IP ) evolved. In this way TCP/IP became the cornerstone of the new ‘network of networks’. The great advantage of this approach was that implicit in it was the possibility of organic growth: as long as a given network ‘spoke’ TCP/IP (as it were) it was free to join the Internet.

**Transition from a military/research network to a ‘civilian’ one: 1983–1995**

Until the end of the 1970s, access to the developing Internet was restricted to those working in a relatively small number of institutions which held research contracts from ARPA. As computer science became an accepted academic discipline in universities, the exclusiveness of the ARPANET/Internet club was increasingly perceived as irritating and dysfunctional. This led the US National Science Foundation (NSF) to fund the creation of the Computer Science Network (CSNET) in the early 1980s. After an initial hiccup, it was decided CSNET would use the TCP/IP protocols, which meant that a connection between CSNET and ARPANET was feasible and so, at a stroke, the community of networked computer scientists was significantly expanded. While access to ARPANET was only granted to researchers funded by the agency, membership of CSNET was open to computer scientists in any institution willing to pay the annual subscription (although *commercial use* of the network was prohibited under the NSF's ‘acceptable use’ policy). The result was that the network began to grow at a faster rate – from 2000 host computers in 1985, to 185,000 in October 1989, and 1,776,000 in July 1993.

CSNET turned out to be just the first step in the NSF's involvement in networking. In mid-1984, the foundation began funding the establishment of several new supercomputing centres around the US. To make these available to the widest possible community of researchers, a national network was required. The original idea was for a network – NFSNET – linking the centres that would form the ‘backbone’ of a wider academic network, but in 1998, an agreement was reached to use the ARPANET as the (temporary) backbone of the new network while it was being built. On 28 February 1990, the ARPANET was officially decommissioned; the era of formal military involvement in the operation of the Internet had ended.

. In 1994, the NSF implemented a plan to allow Internet service to be taken over by commercial companies known as ‘Internet Service Providers’ (ISPs), each of which would operate its own backbone, enabling the old NSF backbone to be decommissioned. Customers would connect to one of the companies’ backbones, and the ISPs would operate a set of gateways at which a number of ISPs could interconnect their systems, allowing traffic to pass smoothly from one network to another, giving end users the illusion of interacting with a seamless, unitary system. What this also implied, though, was that the network was open for businesses.

**The commercial Internet (1995–present)**

Another huge development was the arrival of the network's second killer application the World Wide Web. The Web was the creation of a single individual – the physicist and computer scientist Tim Berners-Lee, who was employed in the late 1980s and early 1990s at CERN. The underlying idea was to develop a way of publishing, locating, and retrieving documents stored on Internet servers across the world. On the spring of 1993, Marc Andreessen and Eric Binna working at the National Center for Supercomputer Applications (NCSA) at the University of Illinois at Urbana-Champaign released *Mosaic*, a browser they had written for the Web. The launch of *Mosaic* was a landmark moment in the evolution of both the Web and the Internet. The Web was originally conceived as a means of sharing information among particle physicists who were scattered across the world. So the first ‘release’ of the Web (to use a software term) created a worldwide repository of linked, static documents held on servers distributed across the Internet.

In order to make transactions possible, a whole range of problems had to be solved. For example, ways had to be found to allow interactivity between browsers and servers; to facilitate personalization of web content; and to overcome the problem that the http protocol was both insecure (in that communications between browser and server could be intercepted and monitored by third parties) and stateless (i.e. unable to support multistep transactions).

### Observation and assessment on different websites

1. **Yelp**

Yelp is a website created for the purpose of helping people in certain countries to find different places, places from restaurants to the most renowned cardiologist. The website allows people to choose the country in which they want to search for places. It also has a list of certain languages to choose. Yelp also has links with the name of well known cities that are categorized accordingly to the country which they belong that redirect to the places found in that particular city. It also contains links that redirects to the neighboring cities of that particular city. The website also has two searching boxes one where you can search particular places the other where you can search for particular cities. The places in this website are arranged under different categories. The website allows people to create their own account and give reviews about different places. Texts written in this website are not compacted and are not irritating to look at. The website’s user interface is attractive and very easy for people to use.

1. **Amazon**

Amazon is a web site for online shopping purpose. The items to be purchased are written under different categories so it’s not that hard for people to use this website and get what they want. The website also updates people with new releases. The user interface of this website is not that attractive and is kind of irritating to look at. The font sizes of the texts written on this website are very small and they are also compacted. There are so many links that redirects to different web pages of the website. So it doesn’t welcome people to use this website.

1. **Food network**

It is a website for people to have recipes for different foods. The website has links that redirect to different shows and chefs where they can find the recipe for foods and also different restaurants in different cities that are featured with this website. It also contains links to help people find some cooking tips, healthy diets, quick and easy recipes for different holidays. It allows people to search for the recipes by the show or host name, by the location and by the recipe. The website has so many links leading to different web pages and is also complicated. The color combination of this website is good and the text’s font is moderate.

1. **Etsy**

Etsy is a website that helps its users to buy and sell handmade crafts. The general front of the website is quite welcoming with a general picture display of the products available for trade and also a categorized product types in which any user can select one based on interest. The other thing that I have noticed is it will show recently added items to the website and are ready for a sell. Another interesting feature I have noticed that is the seller can write his inspiration behind the production of that particular craft so that any user may find an emotional connection to the craft making the business more efficient. There is also a search box located at the up top of the website which makes even simpler for the users or customers.

1. **The New York times**

The first thing that I have noticed when I entered this website is that it is very compacted with many news and that might be pretty much unwelcoming. It is filled with all kinds of different category news all displayed in a scattered way that might take away the interest of gathering information from the user. It also contains lot of advertisements and the categorizing method is also a bit sophisticated with small fonts. And also like any famous website in the world it contains search box that makes life easier for the user. But I appreciate the effort of the company to put all the trending news on the front display even though it is a bit compacted