

Question 1: Describe key events in the development of the internet from the 1980's to today?

The internet originally began in the 1950's but later hit a turning point in 1969 when ARPANET connected UCLA to Stanford Research Institutes Augmentation Research centre, This was only officialised in 1983 when all hosts switched over to TCP/IP and were able to all communicate across the network.

This was when the standard protocol for computers began to exchange information. At the same time this was occurring, so too was an emerging network called the bulletin board system (BBSs). It was popular amongst techno geeks. It was very slow, but as modems improved so did the commercialisation of companies such as Compuserve and America Online.

In the early 90's many of these BBS's began hooking up with the internet to support email. As the internet grew in popularity, privately owned BBSs began to vanish.

Then in 1994 the internet went public, web pages began springing up and people everywhere began realizing the possibilities.

Early websites were a great way to exchange information. It was through a combination of technologies that businesses could overcome the limitations of just html and create web applications, such as the humble shopping cart.

In 2000 the peak of the internet came to a screeching halt-Known as the dot com bust...the market peaking at 5000 technology heavy companies on the Nasdaq.

Many of these companies went bust overnight...but out of the ashes came web 2.0 and by 2003 the internet was seen as a solid investment once again, equipped with new technologies like java, flash ,php,asp,cgi,.net etc...a new trend of social networking began to emerge across the planet such as FaceBook, LinkedIn, and YouTube.

This is a brief outline and timeline of the Development of the internet.

- 1980. Tim Berners-Lee develops rules for the World Wide Web and is credited as being the "Web's father"; Alan Emtage develops the first search tool, known as "Archie."
- 1982. Standard network protocols are established: transmission control protocol (TCP) and Internet protocol (IP), commonly referred to as TCP/IP.
- 1984. Joint Academic Network (JANET) is established, linking higher-education institutions; domain name system (DNS) is introduced.
- 1985. A company named Symbolics becomes the first registered dot-com domain.
- 1987. U.S. National Science Foundation is the catalyst for the surge in funded work into the Internet; number of Internet hosts increases significantly in this period.
- 1988–1990. Twenty-eight countries sign up to hook up to the National Science Foundation Network (NSFNET), reinforcing international Internet potential.
- 1990. U.S. Senator Al Gore coins the term "information superhighway."
- 1991. Web father Tim Berners-Lee releases the World Wide Web (WWW) with scientists from the European Organization for Nuclear Research (CERN).
- 1992. America Online (AOL) is launched and raises \$23 million in flotation; the phrase "surfing the Net" is introduced by Jean Armour Polly; the World Bank goes online.
- 1993. Mainstream media attention increases awareness of the Internet; first Internet publication, Wired, goes on sale; Mosaic introduces the first Web browser with graphical user interface and is

the forerunner of Netscape Navigator; first online shopping malls and virtual banks emerge, as does evidence of spam; first clickable banner advertisement is sold by Global Network Navigator to a law firm.

- 1995. Amazon is launched by Jeff Bezos; trial dial-up systems such as AOL and CompuServe launch; charging is introduced for domain names; search technology companies such as Alta Vista, Infoseek, Excite, and MetaCrawler rapidly appear.
- 1996. Yahoo! is launched on the stock exchange, and shares are up nearly 300 percent on its first day.
- 1997. MP3.com is founded; the phrase "search engine optimization" is used for the first time in a Web forum.
- 1998. XML (extensible markup language) is released to enable compatibility between different computer systems; Google is founded by Larry Page and Sergey Brin.
- 1999. Peter Merholz coins the word "blog."
- 2000. AOL and Time Warner announce they are merging; pay-per-click (PPC) campaigns are introduced for top-ten search rankings; Google AdWords launches, charging for advertisements on a cost-per-mille (CPM, or cost-per-thousand impressions) basis.
- 2002. UK online monthly consumer shopping breaks through the £1 billion barrier; Google AdWords charges on a PPC basis instead of a CPM.
- 2003. EBay topples Amazon as the most visited UK Web site.
- 2004. CD WOW! loses court case and rights to source cheaper compact discs (CDs) outside the European Union, undermining the global concept of the Internet.
- 2005. Iceland leads the world with broadband penetration: 26.7 inhabitants per 100 have broadband compared with 15.9 per 100 in the United Kingdom.
- 2006. Google buys YouTube for \$1.6 billion; Facebook membership opens to anyone; Technorati.com notes that a blog is created every second of every day; Time magazine names "You" as person of the year due to online activity.
- 2008. Firefox 3.0 launches with over eight million downloads in twenty-four hours; Internet usage tops 1,407,724,920 worldwide.
- 2009. An estimated 1,802,330,457 are using the Internet worldwide as of December 31
- 2018 the use of the internet has seen the astronomical rise to 4 billion people.

Question 2 : Define the relationship between fundamental aspects of the internet such as : Domains, web servers, DNS, This is a breakdown of the relationships between fundamental aspects of the internet such as domains, web servers, DNS, and web browsers.

Computers connected directly to the internet are called "Servers," while the computers you and I use are "clients," because they are not connected directly to the internet, but through an Internet Service Provider. Routers shuttle packets of information across the internet, and transmit e-mail, pictures, and web pages.

There are hundreds of millions of computers on the Net, but they don't all do exactly the same thing. Some of them are like electronic filing cabinets that simply store information and pass it on when requested. These machines are called servers.

Machines that hold ordinary documents are called file servers; ones that hold people's mail are called mail servers; and the ones that hold Web pages are Web servers.

There are tens of millions of servers on the Internet.

A computer that gets information from a server is called a client. When your computer connects over the Internet to a mail server at your ISP (Internet Service Provider) so you can read your messages, your

computer is the client and the ISP computer is the server. There are far more clients on the Internet than servers—probably getting on for a billion by now!

When two computers on the Internet swap information back and forth on a more-or-less equal basis, they are known as peers. If you use an instant messaging program to chat to a friend, and you start swapping party photos back and forth, you're taking part in what's called peer-to-peer (P2P) communication. In P2P, the machines involved sometimes act as clients and sometimes as servers. For example, if you send a photo to your friend, your computer is the server (supplying the photo) and the friend's computer is the client (accessing the photo). If your friend sends you a photo in return, the two computers swap over roles.

Apart from clients and servers, the Internet is also made up of intermediate computers called routers, whose job is really just to make connections between different systems. If you have several computers at home or school, you probably have a single router that connects them all to the Internet. The router is like the mailbox on the end of your street: it's your single point of entry to the worldwide network.

3. One Aspect that has contributed to the world today-WIFI

Wi-Fi technology today is found all over the world, and the means for making it fast and reliable was an Australian invention.

It is the same wireless network technology that allows our phones, computers and other technologies to connect to the internet reliably and at fast speeds.

Today the technology is so widespread there are far, far more Wi-Fi devices than there are human beings; by 2020, there will be close to [40 billion devices worldwide](#), according to one estimate.

There are even Wi-Fi connected toasters and sex toys.

Twenty years ago (on January 23, 1996) CSIRO's patent for a method of creating a fast and reliable Wireless Local Area Network (WLAN) was approved in the US.

Since then, the CSIRO has made more than \$420 million from the invention (not adjusted for inflation), making it the organisation's best performing commercial enterprise.

3. Reflect on one aspect of the development of internet technologies and how it has contributed to the world today.

One aspect that the internet has pioneered the way forward for is cryptocurrency. What underpins all cryptocurrencies is the Blockchain—it is a historical record of changes in the ownership of an asset (currency, property, literally anything).

Whenever a transaction occurs, its details are broadcast throughout the entire network by the spending party, ensuring that everyone has an up to date record of ownership.

Periodically, all the recent changes get bundled together into one “block”, and added to the historical record. And so the “Blockchain” -a linked list of all the previous blocks-serves as the full and complete record of who owns what on the network. It is essentially a ledger that is cryptographically encoded and becomes more secure daily as the network grows larger.

Building a transparent and fraud proof society involves turning a worldwide computer network into a decentralized platform for data storage and processing. The Blockchain is a celebrated peer to peer data technology that has huge potential, some say as big as the web itself. The world economic forum predicts as the world economy grows by 2030, 10% of global GDP (15.5 trillion US\$) could be stored on the blockchain.

