**Evolution of the Internet.**

The internet is a global network connecting billions of devices. But it didn’t become what it is now overnight. A predecessor of the internet called ARPANET was created by (ARPA)   Advanced Research Projects Agency in 1969 in the US as a response to the Soviet Union launching **Sputnik,** the first man-made satellite. Since the cold war was at its peak ARPA was aimed to give the US a technological upper hand on other countries. The ARPANET started small and it first connected four computers but soon in 1973 global networking became a reality as the University College of London (England) and Royal Radar Establishment (Norway) connect to ARPANET. The greatest invention of the ARPANET was called packet switching which laid a path to the internet we use today. During and after the construction of the ARPANET, other significant developments in networking technology were underway, one of them was TCP/IP. The great advantage of this approach was that implicit in it was the possibility of organic growth meaning that as long as the protocol used was TCP/IP it was free to join the Internet. And because the system was not owned or controlled by anybody (unlike the ARPANET), there were no gatekeepers to control admission to it and it still remains the standard protocol for the Internet. In 1983 the [Domain Name System](http://www.businessnewsdaily.com/1108-icann-new-domain-names-top-level-domains.html) (DNS) system was implemented allowing the use of the familiar .edu, .gov, .com, .mil, .org, .net, and .int system for naming websites instead of IP addresses like 232.112.53.2 .

In the 1980s ARPANET administrators were looking to hand over the responsibility for maintaining the internet since ARPANET had long since accomplished its goals. The national science foundation’s huge network (**NSFNET**)  officially replaced ARPANET as the backbone of the internet and it’s more than half a million users. But NSFNET was still government-funded it had a policy about banning commercial traffic also navigating the internet was frustrating since there was no Web. But in 1989 a scientist named Tim Berners Lee invented the web by making the Hypertext concept the primary way for navigating what he called the World Wide Web by using the Hypertext Transfer Protocol (HTTP) and the Hypertext Markup Language (HTML) and we still use it to this day.

 In 1991 the NSF allowed commercial enterprises to use the Internet for the first time which laid way for many startups like amazon and a whole new world of e-commerce.

Soon after the world’s first World Wide Web search engine named W3Catalog was created enabling users to find web pages by searching them. More ISP’s were opened in the years to come and in 1995 NSFNET shutdown leaving the internet as a completely self-sustaining industry. And soon after the Internet Protocol version 6 was introduced, to allow for the future growth of Internet Addresses. Since then the Internet has rapidly evolved from this simple, military-only communications system to a planet-wide and universally accessible informational universe that we know today.

**2.View the 5 – 10 popular websites of your choice from web archive URL and put your observation and assessment**

**1.Uber**

**Uber**, is an American multinational ride-hailing company offering services that include peer-to-peer ridesharing, ride service hailing, food delivery (Uber Eats), and a micromobility system with electric bikes and scooters. The company was founded in March 2009 and As of March 2020 the approximate estimation of Uber’s net worth is $100 billion. For some reason the official website of uber is cached in web archives since 2011.

**Uber, Feb 2011**

The website in Jan 2011 Lacked many features and was poorly designed. For example, the web site isn’t very informative about what it does and from a technical standpoint it isn’t interactive for example it does not resize with the window and possibly because of the lack of interactive elements it doesn’t look appealing.

**Uber, Jan 2015**

On this year the website resizes with the window and the Uber features are on the home page.

And they’ve also added a navbar and included the links to the Uber apps for android, apple and windows. you can also send feedback from the website and there are some new features like page background slideshow picture. A search bar was also added to search for the cities you’re in if they support Uber.

**Uber, Mar 2020**

On this year it looks like they made a completely new website since it doesn’t look anything like any of the websites from the years mentioned above. The reworked website looks much more appealing. Some of the changes include a new button to change the language, new window resize effects and a Newsroom page to get up to speed on uber news and announcements.

**2.YouTube**

YouTube is a video-sharing platform founded on February 14, 2005 and then Google bought the site in November 2006.

**YouTube, Dec 2005**

The YouTube website back then looked nothing like what it is now. Every button is a text and the website is really unattractive and there was a separate search bar to search users and videos and videos were rated by stars. The web site was also unresizable.

**YouTube, Feb 2010**

The websites UI got better but still, videos were loosely organized and the website was still unresizable but there were new features like Recommended Videos, Most viewed videos from many categories and more.

**YouTube, May 2015**

On this year types of videos like movies, sports and etc are listed on the home page and videos are rated by likes and dislikes instead of stars Also a button to change the language of YouTube was also added on the home page.

**YouTube, March 2020**

The website is taken to a whole new level with an amazing UI.

**3. Stackoverflow**

Stack Overflow is a question and answer site for professional and enthusiast programmers created in 2008.

**Stackoverflow, Nov 2008**

The website was in its public beta testing phase. It still was functional but the UI didn’t seem to be fully developed yet.

**Stackoverflow, Aug 2011**

New features were added to the website like tagging questions and showing them as recent tags on the home page. A new blogs section was also added and also questions were grouped into hot, interesting and such.

**Stackoverflow, Feb 2015**

A new feature called Hot Network Questions was added.

**Stackoverflow, Mar 2020**

Products and customer pages were added.

**4. The Internet Archive**

The Internet Archive is a digital library that lets us explore more than 408 billion web pages saved over time.

**The Internet Archive, Nov 2010**

The website doesn’t seem to use Javascript to assist with the UI which made the UI not that appealing however the contents are still organized. There is no way to make the website save websites manually.

**The Internet Archive, Oct 2015**

The website has been completely transformed with a new UI. some of the new features include a new UI with a navbar that changes its elements when the pages are resized. And also there is a way to send feedback from the home page. You can also start crawling and then saving a page manually.

**The Internet Archive, Mar 2020**

No significant changes are made from the above version.

**4. Reddit**

Reddit is an American social news aggregation, web content rating, and discussion website that was founded on June 23, 2005.

**Reddit, July 2005**

The Reddit website wasn’t interactive back then and the login page was a sidebar in the Reddit home page. And the news on the website redirected to external websites when you click on them.

**Reddit, June 2010**

Lots of categories were added than before but the website still had an unsatisfying UI, for example, there were no previews for the news links and nothing happened when you hover over over them.

**Reddit, July 2015**

A quick way to subscribe to Reddit newsletter was added on the home page and also trending subreddits were added on the home page. Thumbnails were also added to links of Reddit posts.

**Reddit, March 2020**

Trending videos are shown in a lovely manner and have awesome previews and the actual posts are shown on the homepage instead of displaying links to Reddit posts. Also, video links from other websites like YouTube can be seen without leaving the site by an embedded video player. The stream with most views is also previewed as “Top broadcast right now”.

**5. Lyft**

Lyft is a ridesharing company based in San Francisco, California. The company was founded in 2012.

**Lyft, Jan 2012**

The Lyft website only had links to the mobile app and a way for the driver to login but it had links to Lyft help, press, blogs and jobs. But there isn’t anything special/futuristic about the website.

**Lyft, May 2016**

Much has changed since 2012 and the website has a better UI. for example, the homepage now has some informative infographics about how Lyft works and the type of services they provide.

**Lyft, March 2020**

When resized or viewed in smartphones the website now resizes beautifully and there is a background video of people riding bikes and it integrates into the website perfectly and there is new links to why you should use Lyft and such.