

## Twitter Thread by Misha



**Misha**

[@MishaDaVinci](#)



**5 billion people use the internet.**

**Less than 1% understand it.**

**This mega thread will get you up to speed—starting today:**

1/47 The internet begins in the 1960s as a US government response to the Cold War.

Military leaders are concerned about potential attacks on US communication systems.

And the govt funds the development of a network of computers that can talk to one another—the Arpanet.

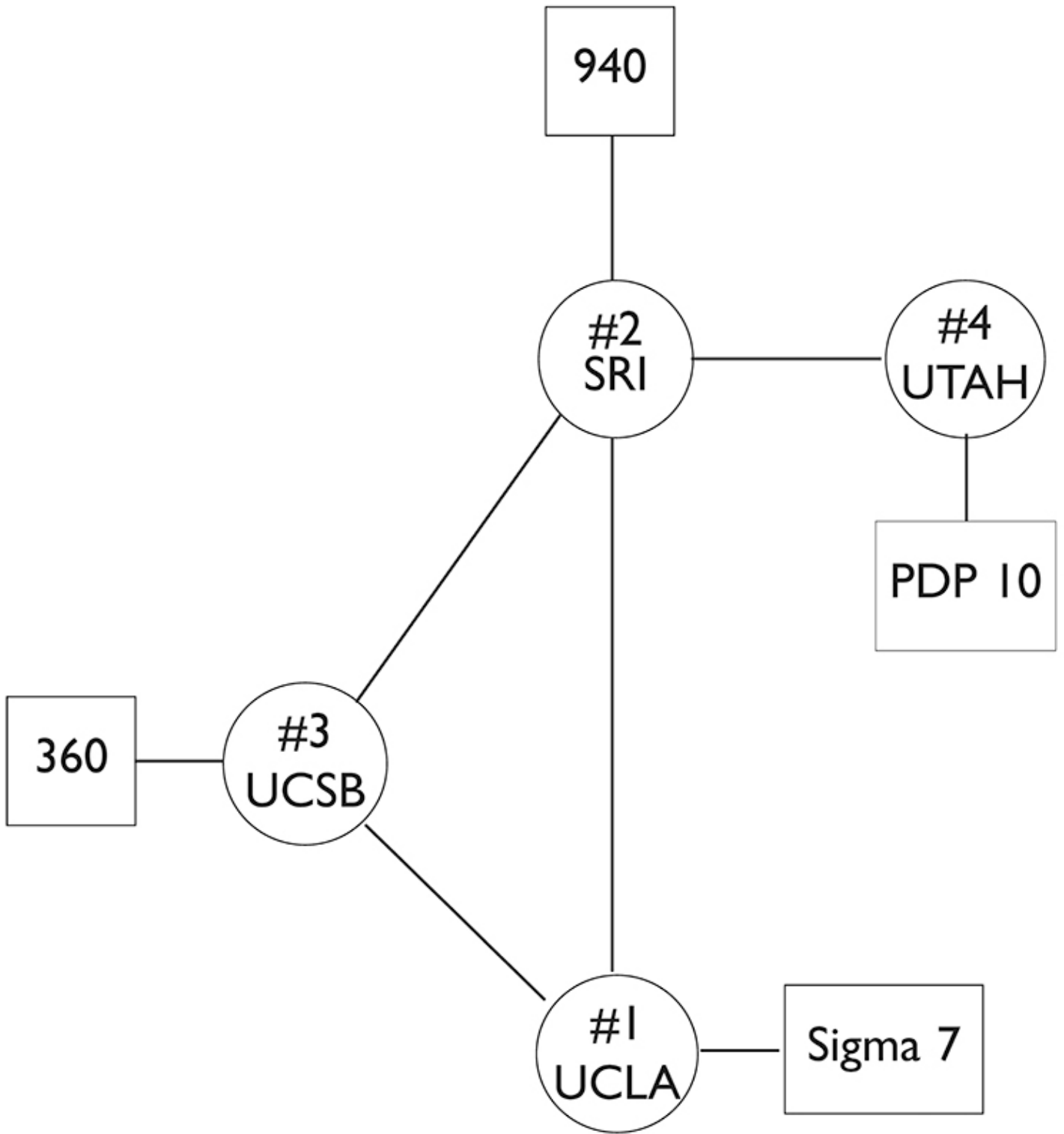


## 2/47 ARPANET

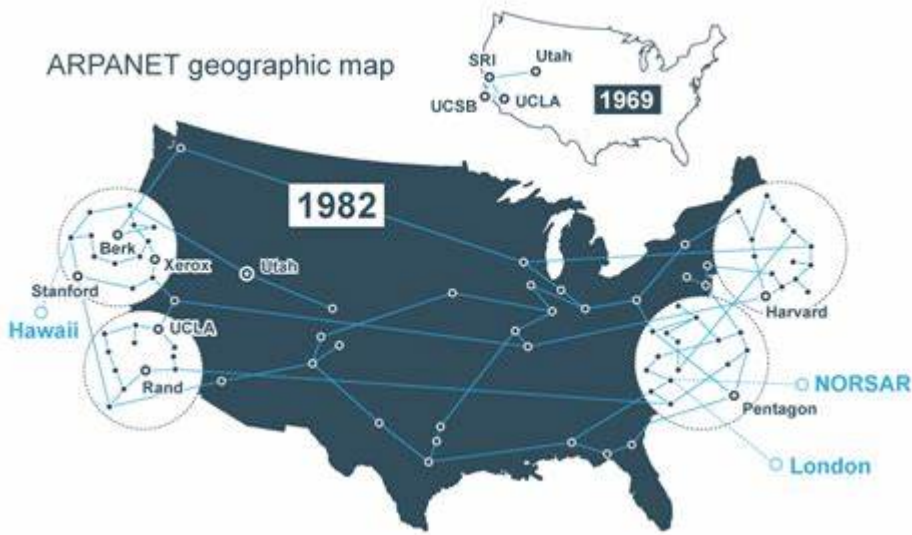
On October 29, 1969, ARPAnet delivers its first message.

The first computer is located in a research lab at UCLA, the second is at Stanford.

By the end of 1969, four computers are connected to the ARPAnet.



3/47 The network grows steadily throughout the 1970s.



#### 4/47 EMAIL

In 1971, computer programmer Ray Tomlinson implements the first email program on the ARPANET system.

He uses the @ sign to separate the username from the name of their machine.

This scheme has been used in email addresses ever since.

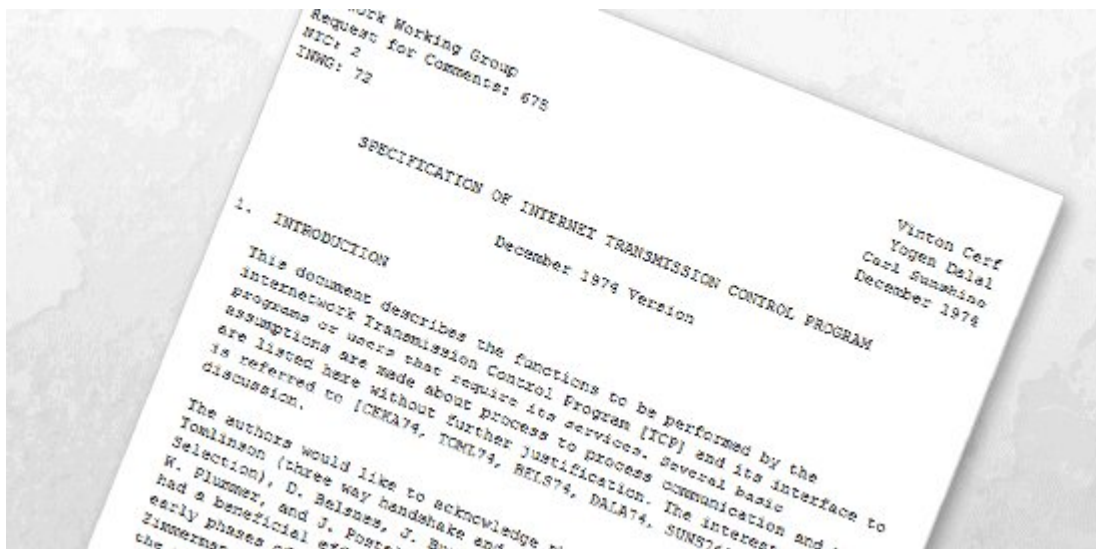


#### 5/47 The beginning of TCP/IP

In 1974, a proposal is made to link Arpa-like networks together into an “inter-network.”

It would have no central control and would work around a transmission control protocol.

This eventually becomes TCP/IP.



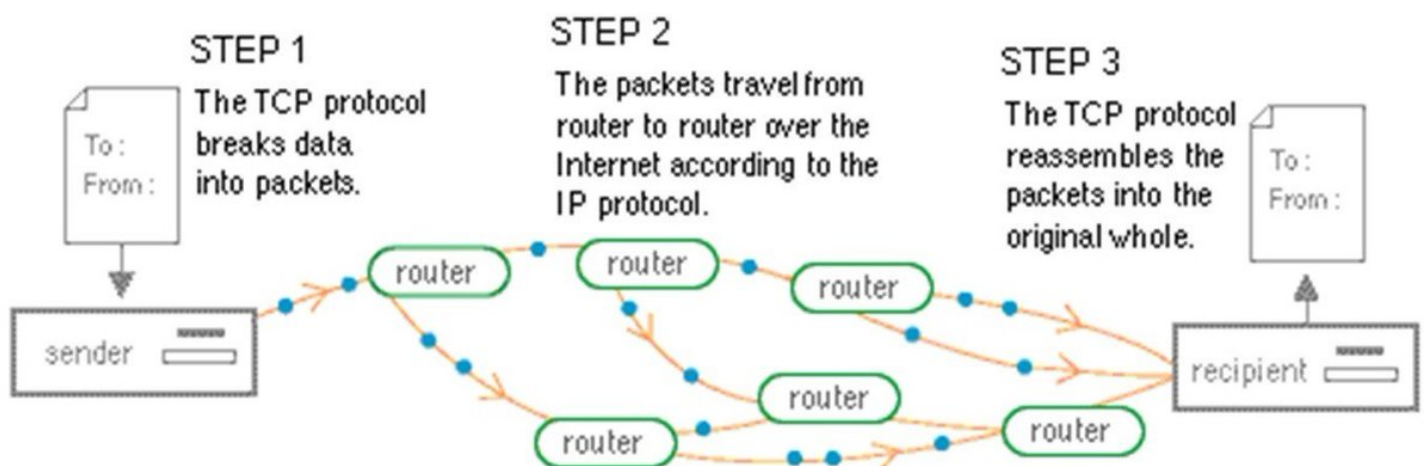
6/47 What is TCP/IP?

Transmission Control Protocol-Internet Protocol

A protocol which will work on any sort of computer and operating system for transportation of data across the internet between different systems.

It is the foundation protocol of the entire internet.

## How TCP/IP Works



7/47 MUD - multi-user dungeon games

In 1979, MUD, a precursor to World of Warcraft and Second Life is developed.

MUDs are entirely text-based virtual worlds, combining elements of role-playing games, interactive, fiction, and online chat.

```
Telnet british-legends.com
*~
Path.
You are standing on a path which leads off a road to the north, to a cottage
south of you. To the west and east are separate gardens.
*~
Flower garden.
You are in a well-kept garden. There is an unexpectedly sweet smell here and
you notice lots of flowers. To the east across a path there is more garden.
*~
Cliff.
You are standing on the edge of a cliff surrounded by forest to the north and
a river to the south. A chill wind blows up the unclimbable and unscaled
heights. At the base of the cliff you can just make out the shapes of jagged
rocks.
*~
As you approach the edge of the cliff the rock starts to crumble. Hurriedly
you retreat as you feel the ground begin to give way under your feet!
*~
You are splattered over a very large area, or at least most of you
is. The rest of your remains are, even now, being eaten by the seagulls
(especially your eyes). If you'd have looked properly before you leaped you
might have decided not to jump!
Persona updated.
Would you like to play again?
:
```

8/47 Domain Name System (DNS)

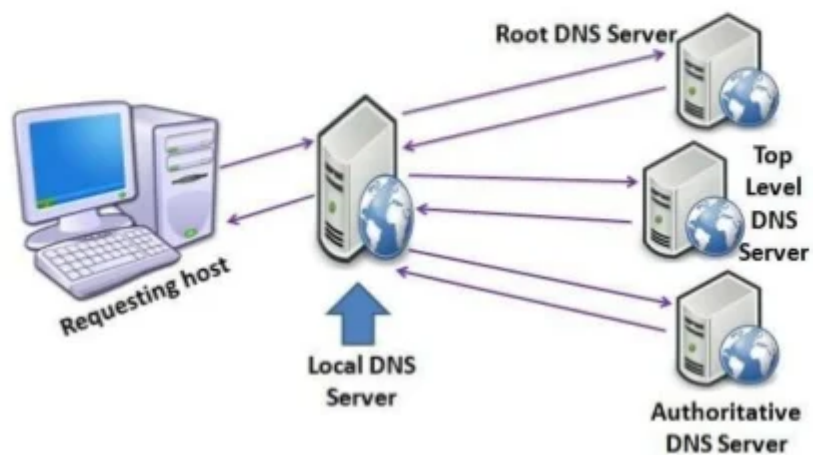
In 1984, the domain name system is created.

It is the internet's equivalent of a phone book and converts hard-to-remember IP addresses into simple names.

# What is DNS?

It converts the names we type in address bar to the IP addresses of hosted Web server.

It is distributing the responsibility of assigning domain names and mapping those names with IP addresses.



9/47 The Internet Grows

By 1987, there are nearly 30,000 hosts on the Internet.

The original Arpanet protocol is limited to 1,000 hosts.

But the adoption of the TCP/IP standard makes larger numbers of hosts possible.

10/47 America Online

In 1989, when Apple pulls out of the AppleLink program, the project is renamed America Online.

In the 1990s, AOL leads the way in making the Internet popular with average users.



11/47 WEB1

1990 brings the World Wide Web.

It's an application layer that runs on top of the internet, helping to make it more functional.

The code for the World Wide Web is written by Tim Berners-Lee along with the standards for HTML, HTTP, and URLs.

# INTERNET VERSUS WORLD WIDE WEB

## INTERNET

A global system of interconnected computer networks that use the TCP/IP protocol to link devices worldwide

A massive interconnection of computer networks around the world

Uses Transmission Control Protocol/Internet Protocol (TCP/IP)

## WORLD WIDE WEB

Online content that is formatted in HTML and accessed via HTTP protocol

Service provided by the internet

Uses Hyper Text Transfer Protocol (HTTP)

Visit [www.PEDIAA.com](http://www.PEDIAA.com)

12/47 First Web Page

In 1991, the first web page is created.

Its purpose, to explain what the World Wide Web is. :))

# World Wide Web

The WorldWideWeb (W3) is a wide-area [hypermedia](#) information retrieval initiative aiming to give universal access to a large universe of documents.

Everything there is online about W3 is linked directly or indirectly to this document, including an [executive summary](#) of the project, [Mailing lists](#), [Policy](#), November's [W3 news](#), [Frequently Asked Questions](#).

## [What's out there?](#)

Pointers to the world's online information, [subjects](#), [W3 servers](#), etc.

## [Help](#)

on the browser you are using

## [Software Products](#)

A list of W3 project components and their current state. (e.g. [Line Mode](#), [X11 Viola](#), [NeXTStep](#), [Servers](#), [Tools](#), [Mail robot](#), [Library](#))

## [Technical](#)

Details of protocols, formats, program internals etc

## [Bibliography](#)

Paper documentation on W3 and references.

## [People](#)

A list of some people involved in the project.

## [History](#)

A summary of the history of the project.

## [How can I help?](#)

Information on how to support the project.

## 13/47 First Content-Based Search Protocol

Also in 1991, the first search protocol that examines file contents instead of just file names is launched.

Like HTTP, it's an application layer protocol run on top of TCP/IP (the internet).

It's called Gopher.

**1991**

**GOPHER**  
Designed for distributing, searching, and retrieving documents over the internet.

**Veronica and Jughead**  
Searched for file names and titles stored in Gopher index systems.

**Turbo Gopher**  
TurboGopher 2.0.3  
© University of Toronto 1992-1998  
shell:veronica@toronto.utoronto.ca  
gopher@toronto.utoronto.ca

## 14/47 First Webcam

In 1991, the first webcam is deployed at a Cambridge University computer lab.

Its sole purpose is to monitor a particular coffee maker so that lab users could avoid wasted trips to an empty coffee pot.

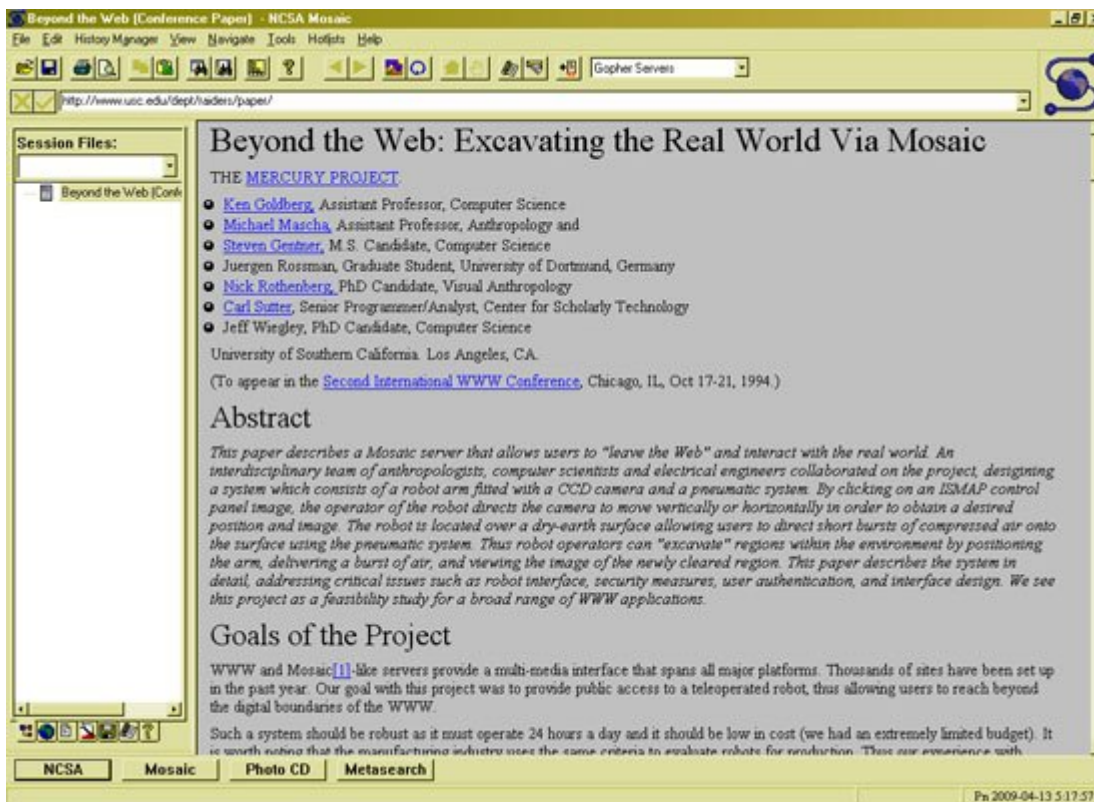


## 15/47 MOSAIC

In 1993, the first widely downloaded Internet browser, Mosaic, is released by NCSA at University of Illinois.

It is funded by the Gore Act and designed by [@pmarca](#) and Eric Bina.

It is the first browser to make the Internet easily accessible to non-techies.



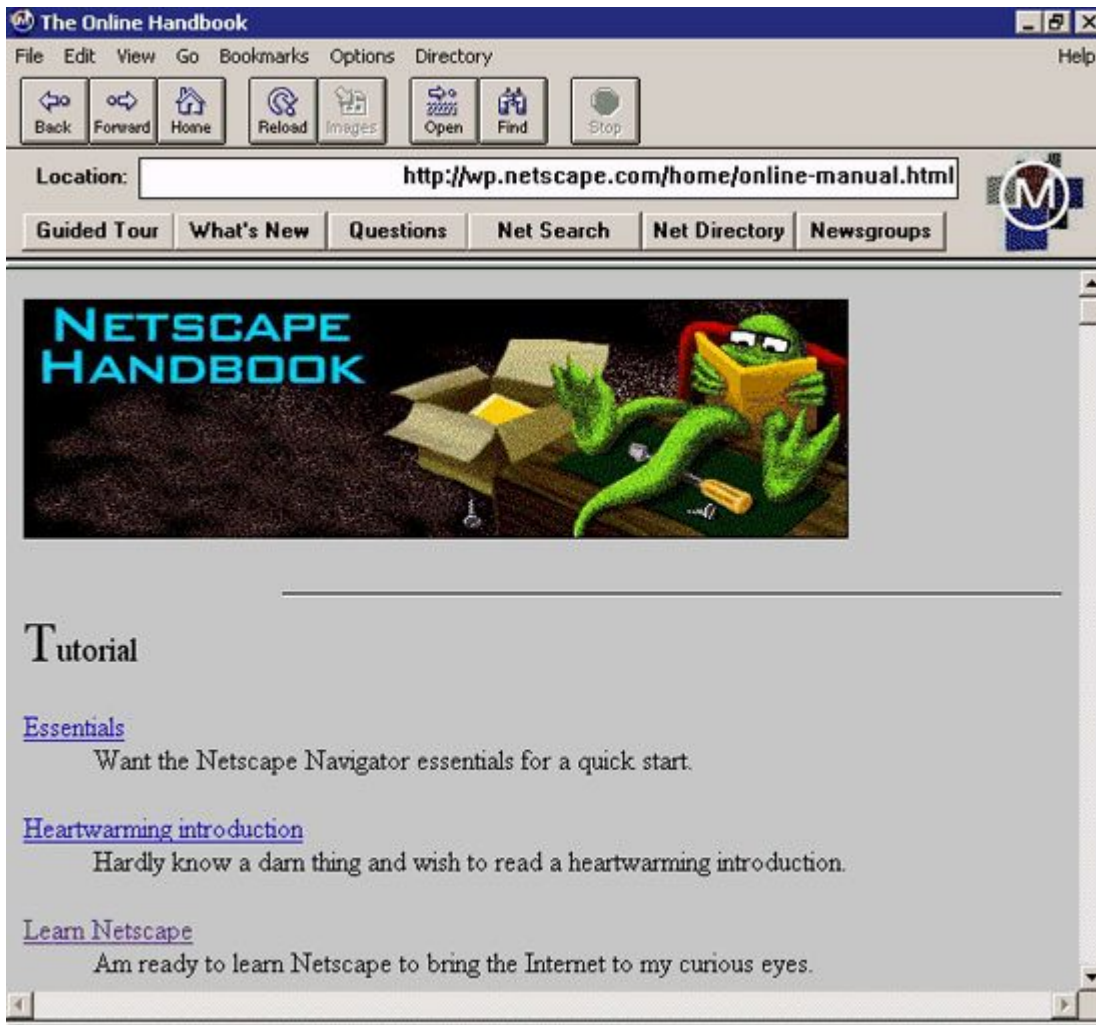
## 16/47 NETSCAPE NAVIGATOR

In 1994, another [@pmarca](#) browser, Netscape Navigator is released.

Netscape IPOs in 1995.

In 1999, Netscape is acquired for \$4.3 billion by AOL.

The internet is big business.



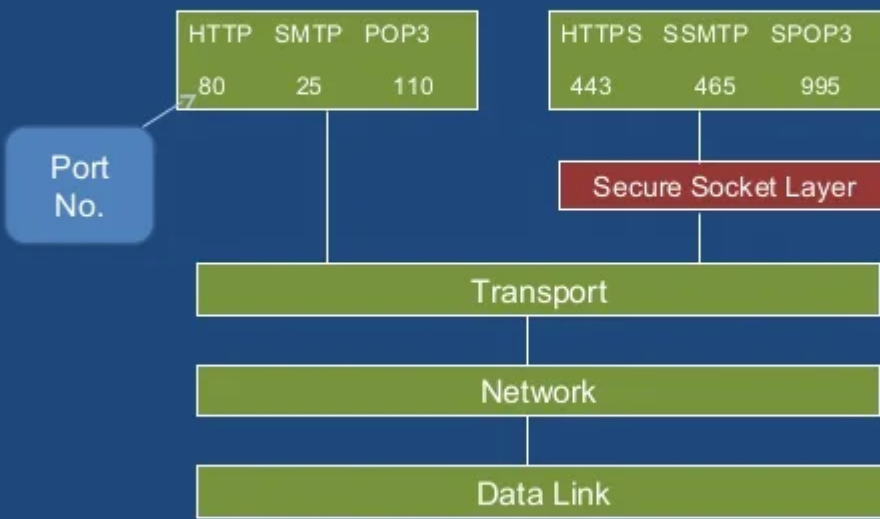
17/47 Commercialization

1995 is the year the web becomes commercialized.

SSL (Secure Sockets Layer) encryption is developed by Netscape, making it safer for credit card payments online.

And Amazon and eBay are started.

# Where SSL fits?



## 18/47 Firsts at EBAY and AMAZON

A broken laser pointer for \$14.83 was the first ever item to be sold on eBay.

The first book to be sold on Amazon was Douglas Hofstadter's "Fluid Concepts and Creative Analogies: Computer Models of the Fundamental Mechanisms of Thought"



19/47 HOTMAIL

In 1996, Hotmail, the first webmail service, is launched.



The  
World's  
FREE  
Web-Based  
Email

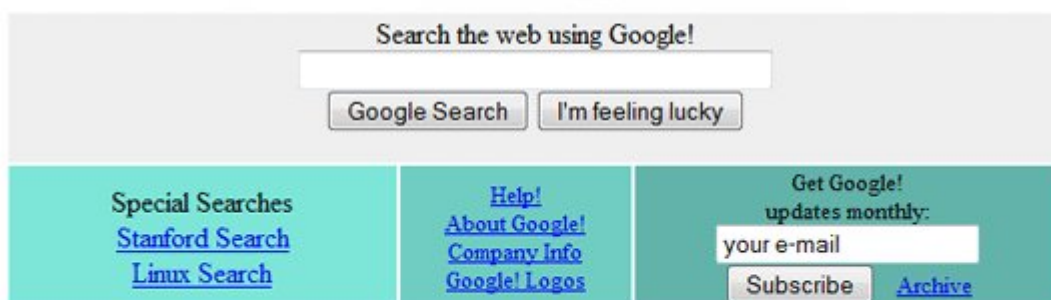


20/47 GOOGLE!

In 1998, the Google search engine goes live.

It revolutionizes the way people find information online.

[And establishes the beginnings of a massive, global surveillance operation that continues today.]



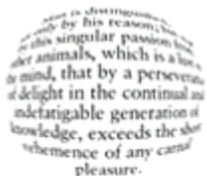
Copyright ©1998 Google Inc.

21/47 WIKIPEDIA

In 2001, Wikipedia launches.

Initially regarded as an unreliable source, it goes on to become one of the truly great accomplishments of the internet.

Paving the way for collective web content generation and the democratization of information.



**WIKIPEDIA**  
The Free Encyclopedia

[Main Page](#)  
[Recent changes](#)  
[Random page](#)  
[Watch list](#)  
[Current events](#)

**Protected page**  
[Talk page](#)  
[History](#)  
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## Main Page

From Wikipedia, the free encyclopedia.

**Welcome to Wikipedia**, a collaborative project to produce a [cor encyclopedia](#) from scratch. We started in January [2001](#) and are ab on [48152 articles](#), with more being added and improved all the tim including *you*, can edit any article right now, without even having to copyedit, expand an article, write a little or write a lot. See the [Wi](#) more background information about the project, and the [help page](#) on how to use and contribute to Wikipedia.

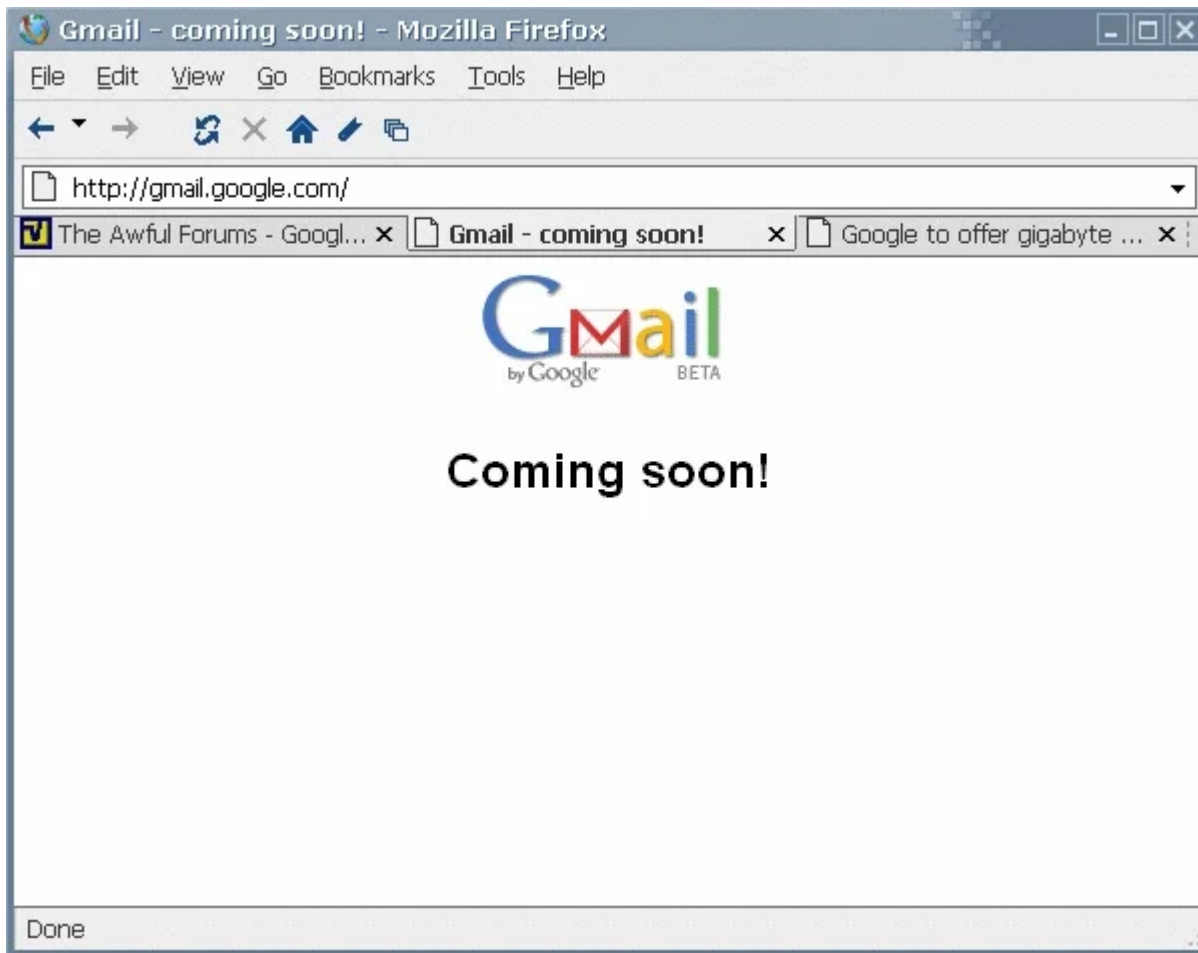
The content of Wikipedia is covered by the [GNU Free Document](#), which means that it is free and will remain so forever. See [wikipedi](#) the details and [user content](#) and [free content](#) for background

22/47 GMAIL

In 2004, Gmail launches.

By offering one gigabyte of storage space, significantly more than competitors at the time, it's quickly positioned to own the email game.

And it goes on to become the most used email service around the globe.



23/47 Web 2

Web2 refers to websites that are highly interactive and user-driven that emerge around 2004.

Users can publish articles and comments, create accounts on different sites, create personal profiles, connect with other users and more.

24/47 Moving from Web1 to Web2

At the time, it seems a good thing. The user experience is dramatically transformed.

## Web 1.0

Read only  
Web as reading platform  
Developer authorship  
Individual intelligence  
Software applications  
Commercial/proprietary  
Static  
Impersonal  
Restricted collaboration  
Short tail  
Official releases  
Text-based  
HD as storage platform  
Lecture

## Web 2.0

Read/Write/Collaborate  
Web as publishing platform  
Public authorship  
Collective intelligence  
Web as software platform  
Open source/shared  
Dynamic  
It knows you & your needs  
Collaborative  
Long tail  
Constantly versioning  
Multimodal  
Web as storage platform  
Conversation

25/47 But in retrospect, it's a dangerous step.

The tech giants co-opt the free protocols of web1 to build centralized platforms that own our data and identities.

### 26/47 FACEBOOK

Facebook launches in 2004, though at the time it was only open to college students and was called "The Facebook."



### 27/47 YOUTUBE

YouTube launches in 2005, bringing free online video hosting and sharing to the masses.

Here is the first YouTube video:

<https://t.co/L37uzqJYWR>

## 28/47 TWITTER

Twitter launches in 2006.

It was originally going to be called twittr (inspired by Flickr).

Here is the first tweet:



## 29/47 The iPhone and the Mobile Web

2007 brings the single most consequential web2 innovation, Apple's iPhone.

With it comes an explosion of activity in mobile web applications and design.

And it takes the web truly mobile.



## 30/47 The beginnings of Web3

In 2008, Satoshi Nakamoto publishes Bitcoin: A Peer-to-Peer Electronic Cash System

It is a response to the economic collapse triggered by investment banks.

<https://t.co/0SrTnjQCTg>

31/47

[Threads 'cut off' at 31.

Click 'Show replies' ■ to keep reading.]

32/47 The first blockchain

In 2009, Bitcoin makes its appearance:

- Jan 3 - the genesis block in the bitcoin blockchain appears
- Jan 12 - brings the first bitcoin transaction

**Transaction** View information about a bitcoin transaction

f4184fc596403b9d638783cf57adfe4c75c605f6356fbc91338530e9831e9e16

12cbQLTFMXRnSzkfKuoG3eHoMeFtpTu3S (50 BTC - Output) → 1Q2TWHE3GMdB6BZKafqwxXtWAWgFt5Jvm3 - (Spent) 10 BTC  
12cbQLTFMXRnSzkfKuoG3eHoMeFtpTu3S - (Spent) 40 BTC

50 BTC

Summary		Inputs and Outputs	
Size	275 (bytes)	Total Input	50 BTC
Weight	1100	Total Output	50 BTC
Received Time	2009-01-12 03:30:25	Fees	0 BTC
Included In Blocks	170 ( 2009-01-12 03:30:25 + 0 minutes )	Fee per byte	0 sat/B
Confirmations	558832	Fee per weight unit	0 sat/WU
Visualize	<a href="#">View Tree Chart</a>	Estimated BTC Transacted	10 BTC
		Scripts	<a href="#">Hide scripts &amp; coinbase</a>

33/47 COINBASE

In 2012, Coinbase, the first cryptocurrency exchange is founded.

In 2013, it raises \$25 million in a Series B round led by a16z.

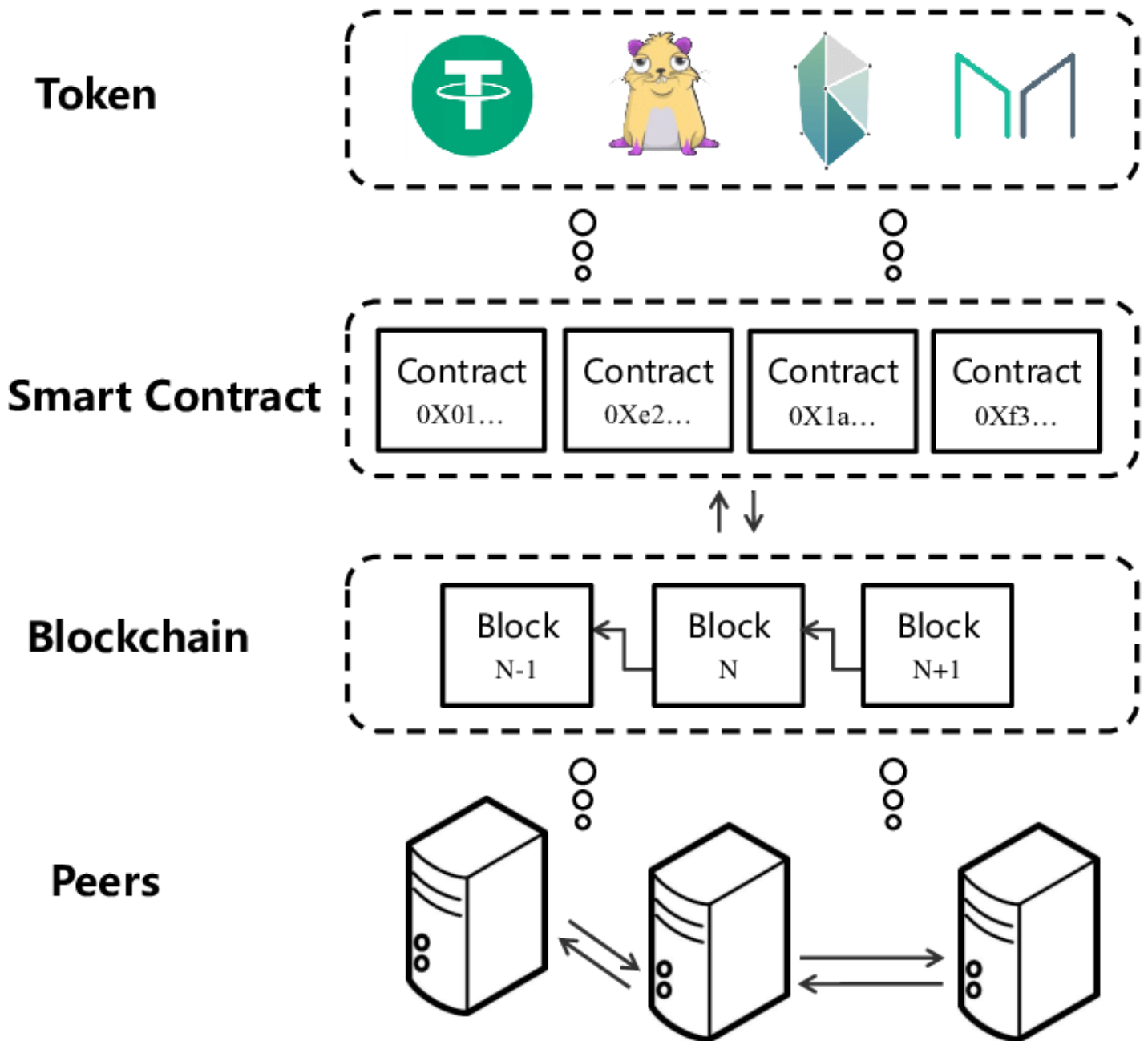
On April 14, 2021, Coinbase becomes a public company on the Nasdaq via a direct stock listing.



## 34/47 ETHEREUM

In 2015, Ethereum, the second major blockchain launches.

Ethereum is a decentralized open source blockchain with smart contract functionality.



35/47 Web3

Since 2020, several new and relentlessly improving blockchains and sidechains develop:

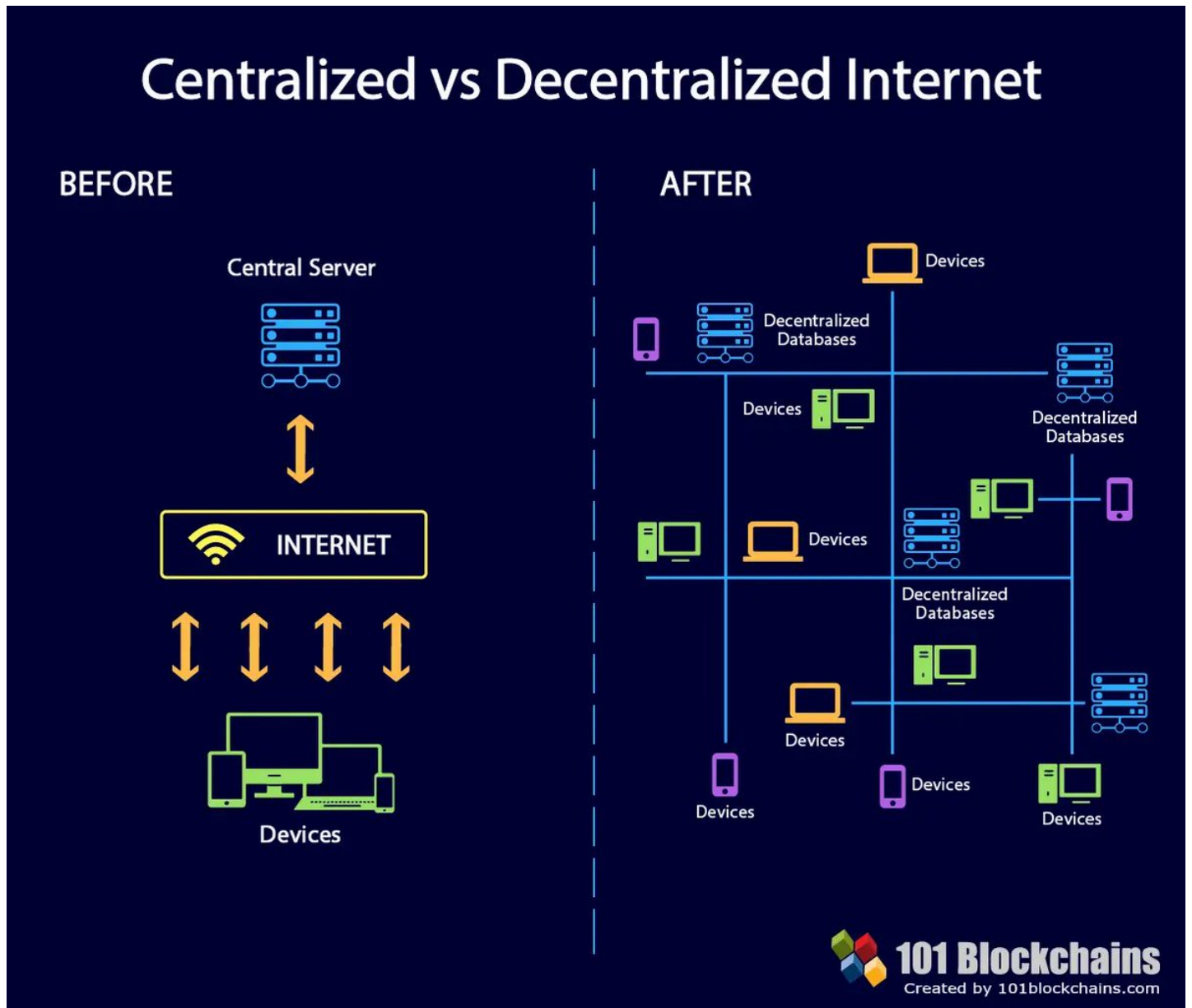
- SOLANA
- POLKADOT
- AVALANCHE
- NEAR
- POLYGON
- SUI and more.

They bring a suite of new concepts and protocols that are redefining how the internet (and world) works.

36/47 From Web2 to Web3

Web2 is built on a client-server architecture, with all data concentrated on servers.

The servers belong to specific companies that control users and the internet.



37/47 Web3 changes all that.

It comprises decentralized protocols that can be used by all parties.

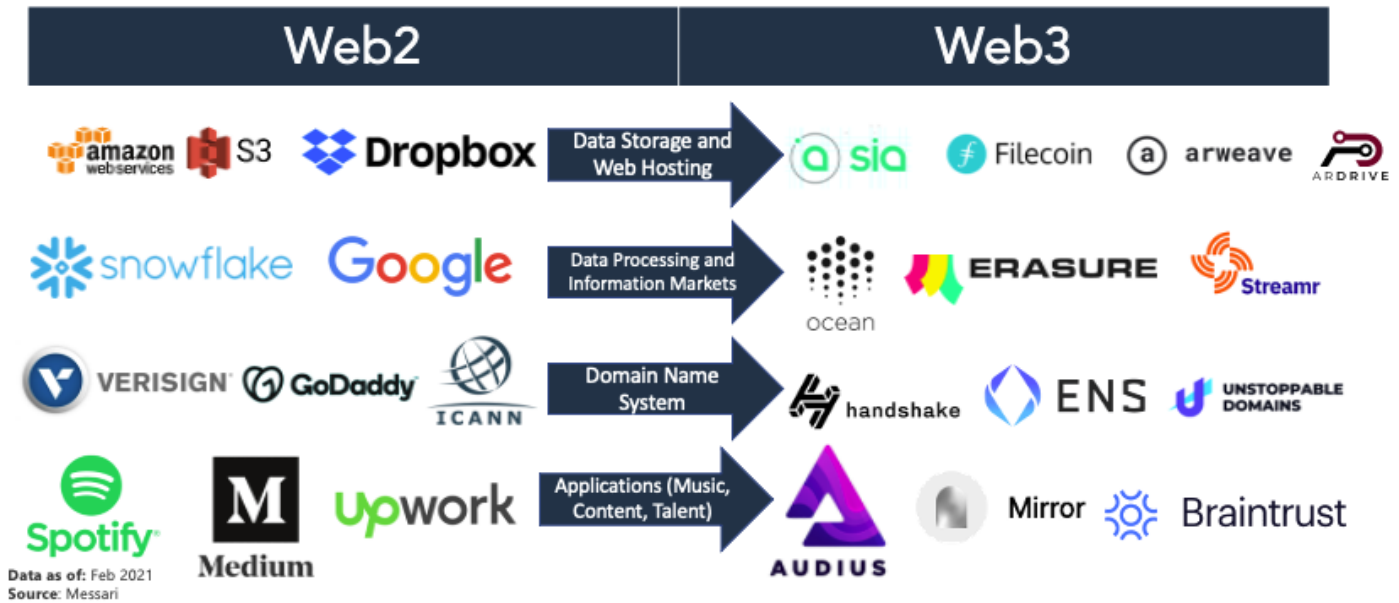
It is not just a shift in technology, but a shift in culture.

And it is redefining how we work and live:

# MESSARI

## Web2 Companies Vs. Web3 Protocols

Web3 protocols aiming to replace or compete with web2 companies

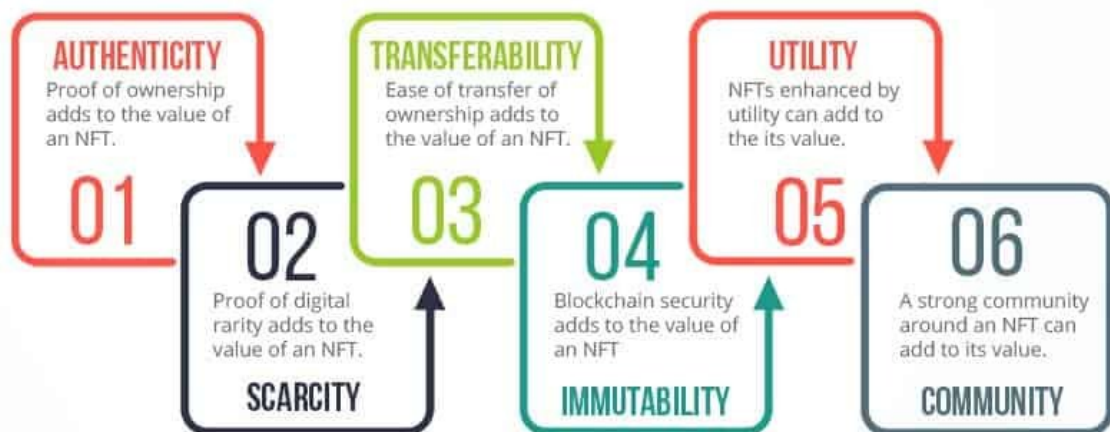


38/47 NFTs - non fungible tokens

An NFT is a digital asset that confers ownership of a virtual good, such as a piece of digital artwork or online collectible.

It allows users to own a piece of the internet.

## THE VALUE OF AN NFT



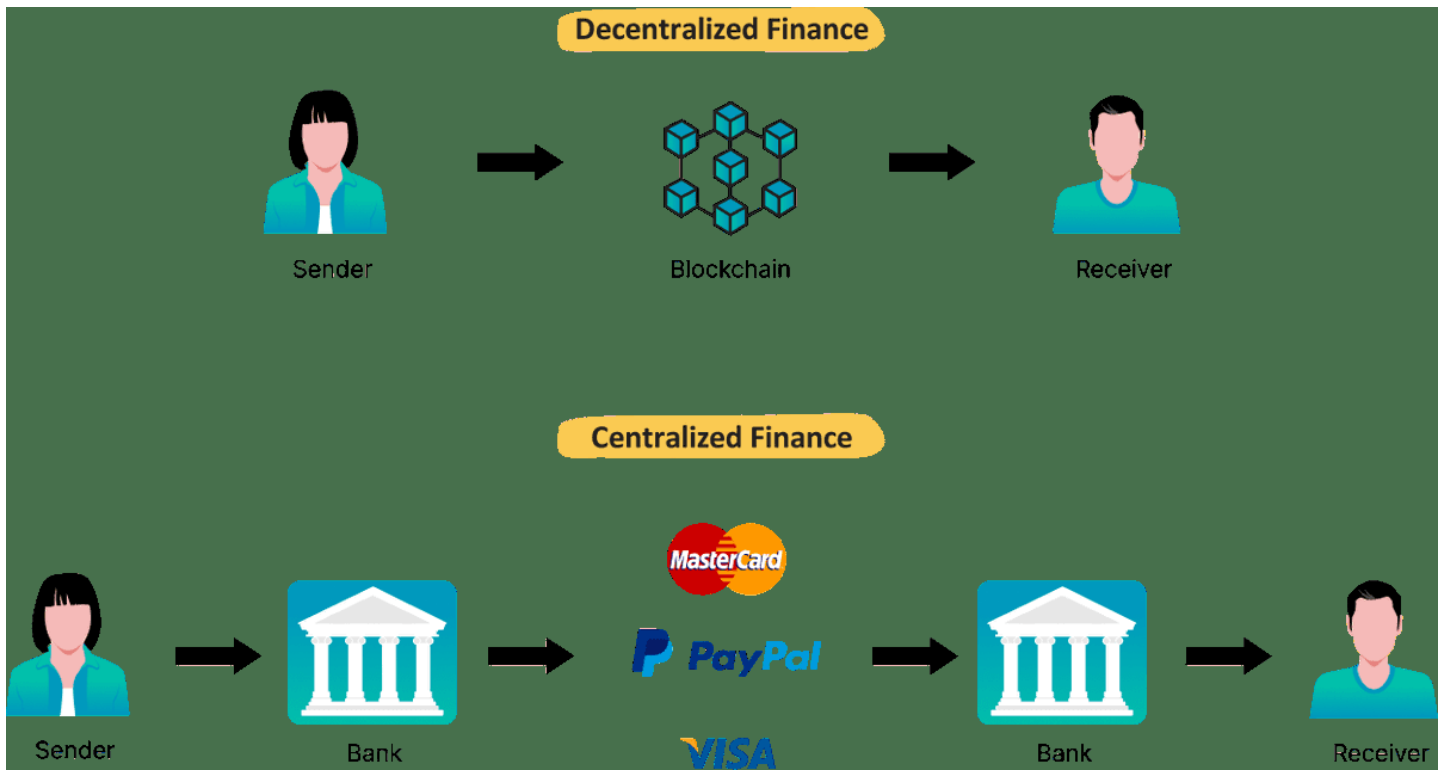
A DAO is an internet-native business that's collectively owned and managed by its members.

They have built-in treasuries and decisions are governed by proposals and voting to ensure everyone in the organization has a voice.

## DAOs vs. traditional organizations

Title	DAOs	Traditional organizations
<b>Organizational structure</b>	Flat, democratic	Hierarchical
<b>Role of voting</b>	Mandatory for making any changes to the protocol	A sole party can implement changes based on the company's structure
<b>Governance</b>	Based on community	Based on board of directors, executives, or activist investors.
<b>Transparency</b>	Transparent and fully public	Private and restrictions on the public involvement.
<b>Handling of services</b>	Automated	Requires human handling

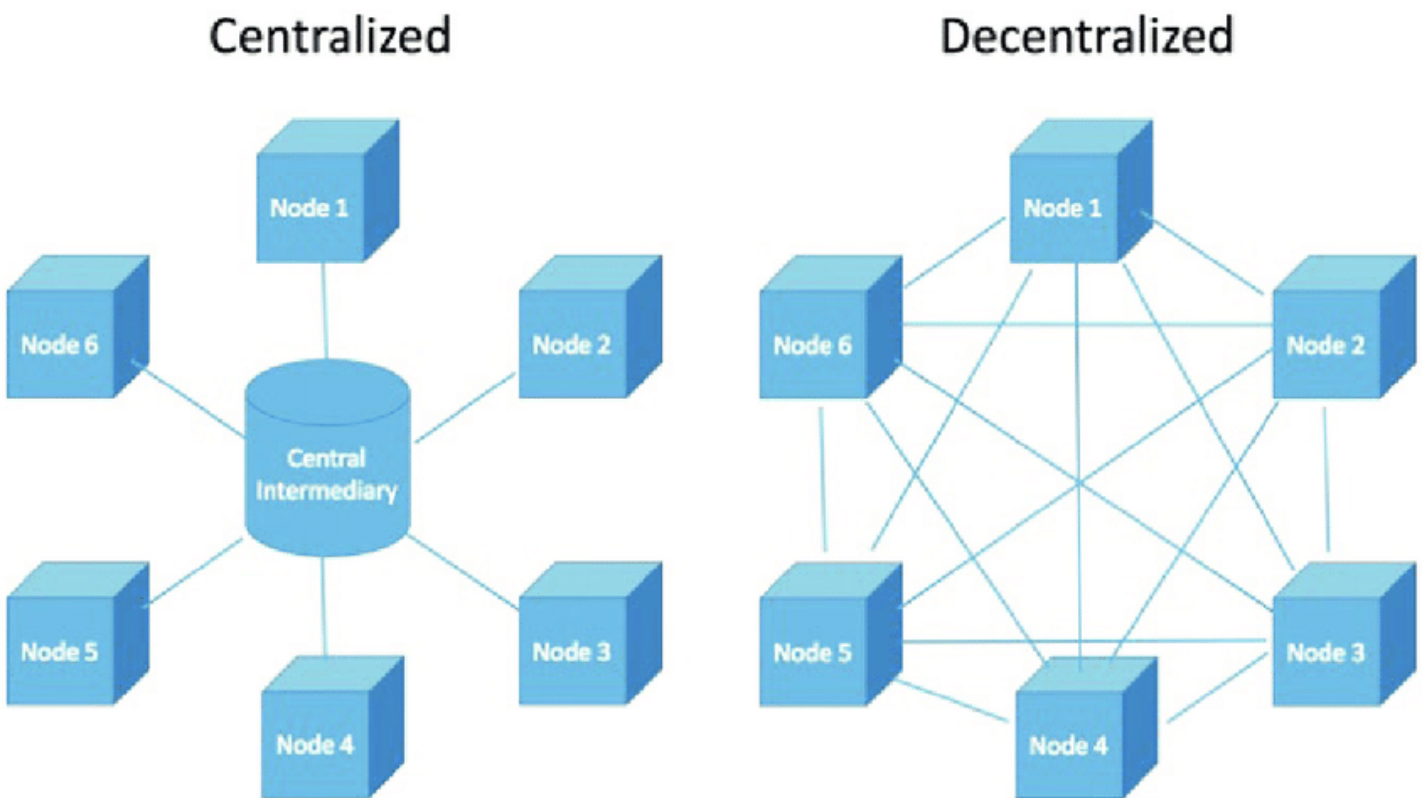
DeFi removes the control banks and institutions have on money, financial products and services.



41/47 Decentralized Social Networks

Blockchain-based social networks that are capable of being decentralized and resistant to censorship and undue control.

Users own and control their identity and content and have direct access to their audience.

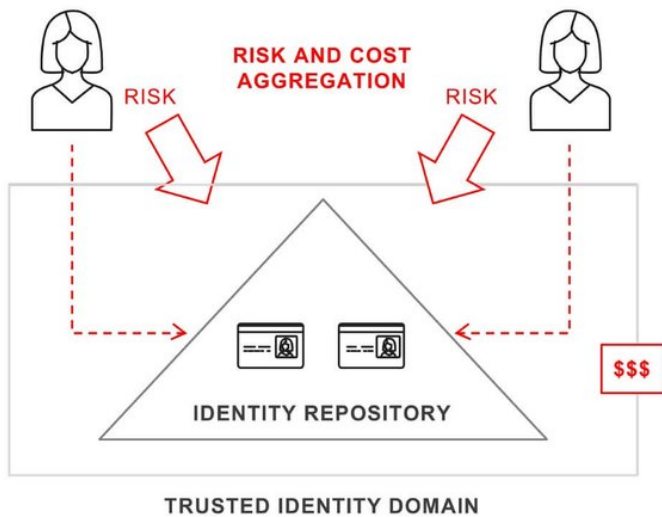


42/47 DID - decentralized identifiers

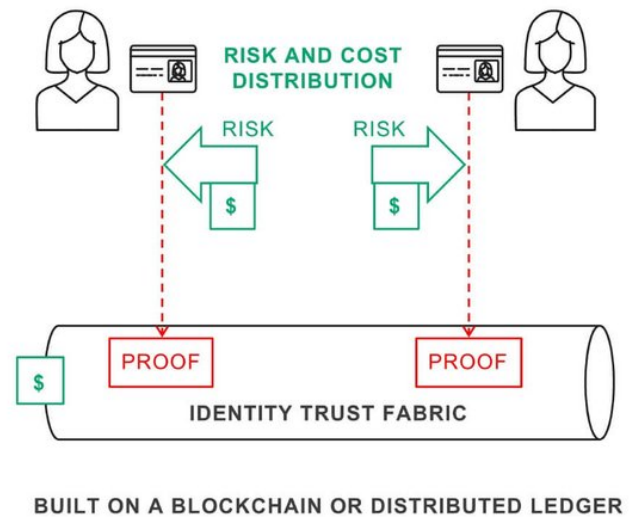
Traditional identifiers like your legal name or email address rely on third parties—governments and email providers.

DIDs are different— they are issued, held, and controlled by the individual.

### Centralized Identity



### Decentralized Identity



43/47 The internet begins as a way to improve communication.

Instead, it transforms society:

1990 to 2004, expansion of information

2005 to 2020, disruption of media

2020 on, disruption of ownership

By 2030, it will redefine every aspect of how we work, do business & live.

44/47 Some resources for understanding the internet:

Collected web3 twitter threads of [@cdixon](#)

<https://t.co/Ww9cKFfFX1>

45/47 How the Internet Happened - from Netscape to the iPhone by [@brianmcc](#)

<https://t.co/Tc2eEcUaDF>

46/47 The Untold Story of the Women Who Made the Internet by Claire Evans

<https://t.co/lvnrhx7DLA>

47/47 That's it, folks. Hope this useful.

If you enjoyed it, please share by retweeting the first tweet.

I write about web3 and the future. You can follow me [@MishadaVinci](https://t.co/sjmQpFffO8). <https://t.co/sjmQpFffO8>

5 billion people use the internet.

Less than 1% understand it.

This mega thread will get you up to speed starting today:

— Misha (@MishaDaVinci) [July 24, 2022](#)