INTERNET BROWSERS

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INTRODUCTION

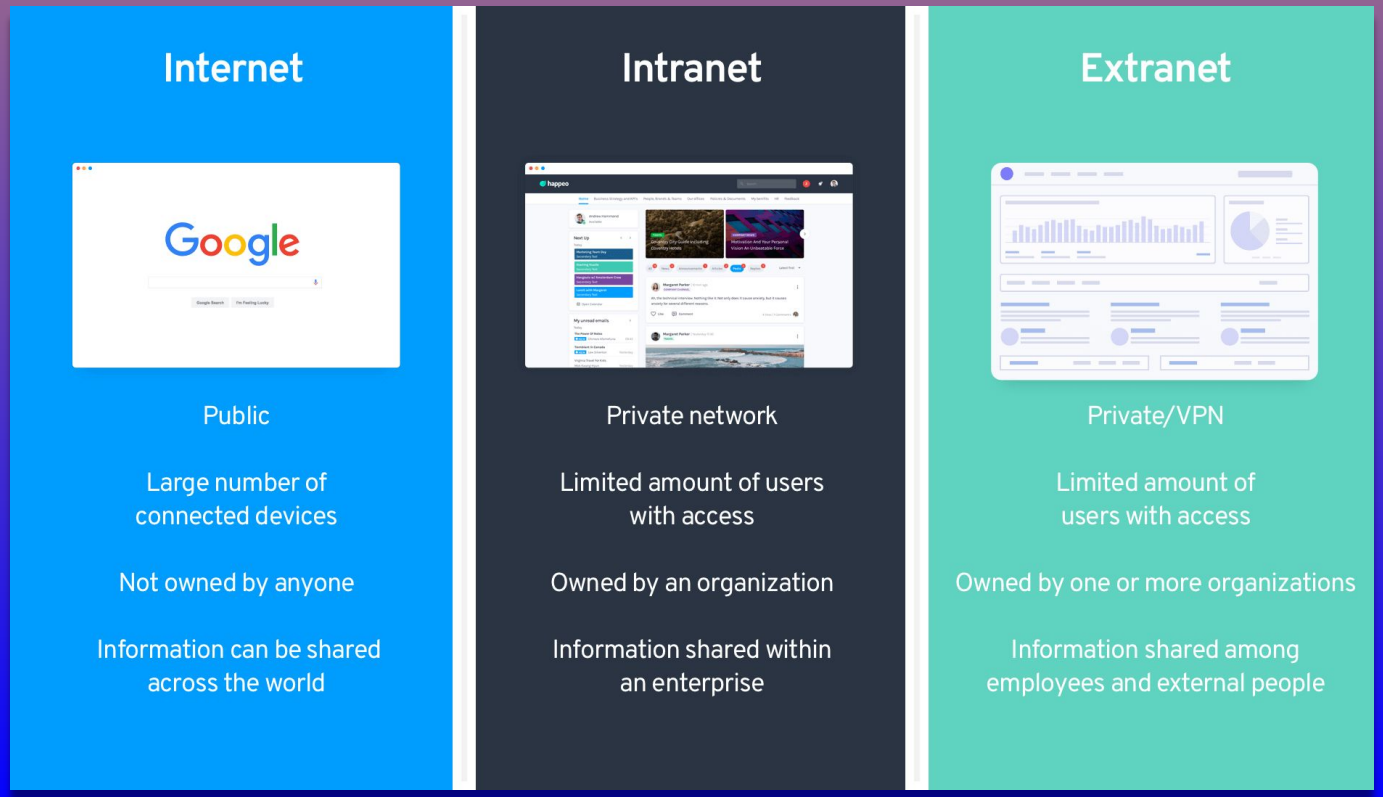
- The internet has proven to slowly evolve over the years.
- The future is driven by the internet for all the innovations that revolve around online access and ease of use.
- For one to access the internet there are vital tools that are meant to be used and these are referred to as internet browsers.
- Examples include; Google Chrome, Microsoft Edge, Mozilla Firefox, and Apple Safari

WHAT IS A INTERNET BROWSER?

- An internet browser is a software that enables people to access the web from all over the world.
- It serves to display all images, documents, videos and web pages that an individual seeks to find on the internet.
- Web browsers have evolved to implement other things like extensions, applications and plugins.

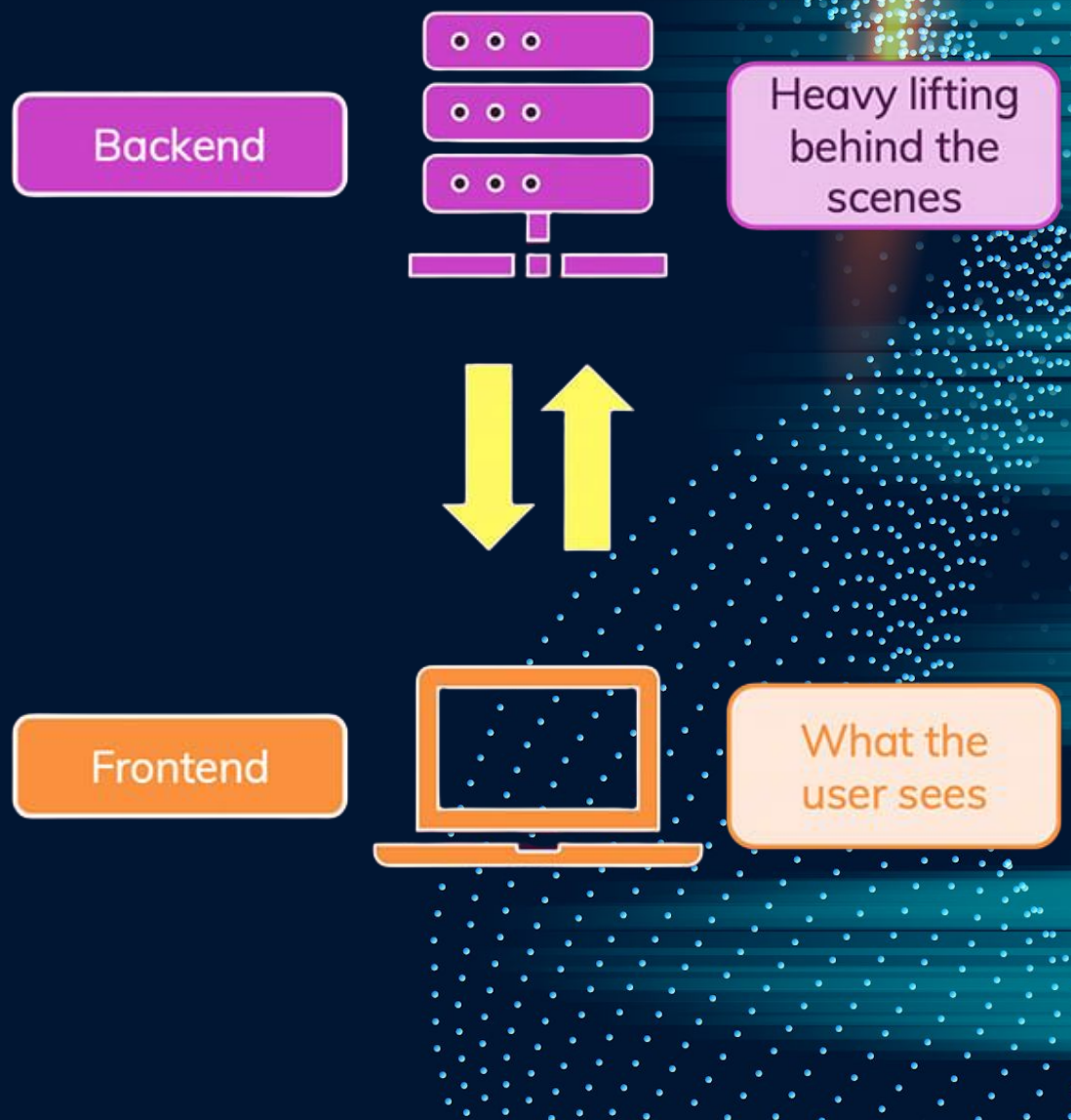
INTRANET

- Web browsers identify different segments of browsing. The internet is a general segment for accessing public sites.
- Local intranet is a private segment that only has internal pages that can be accessed by specific people.



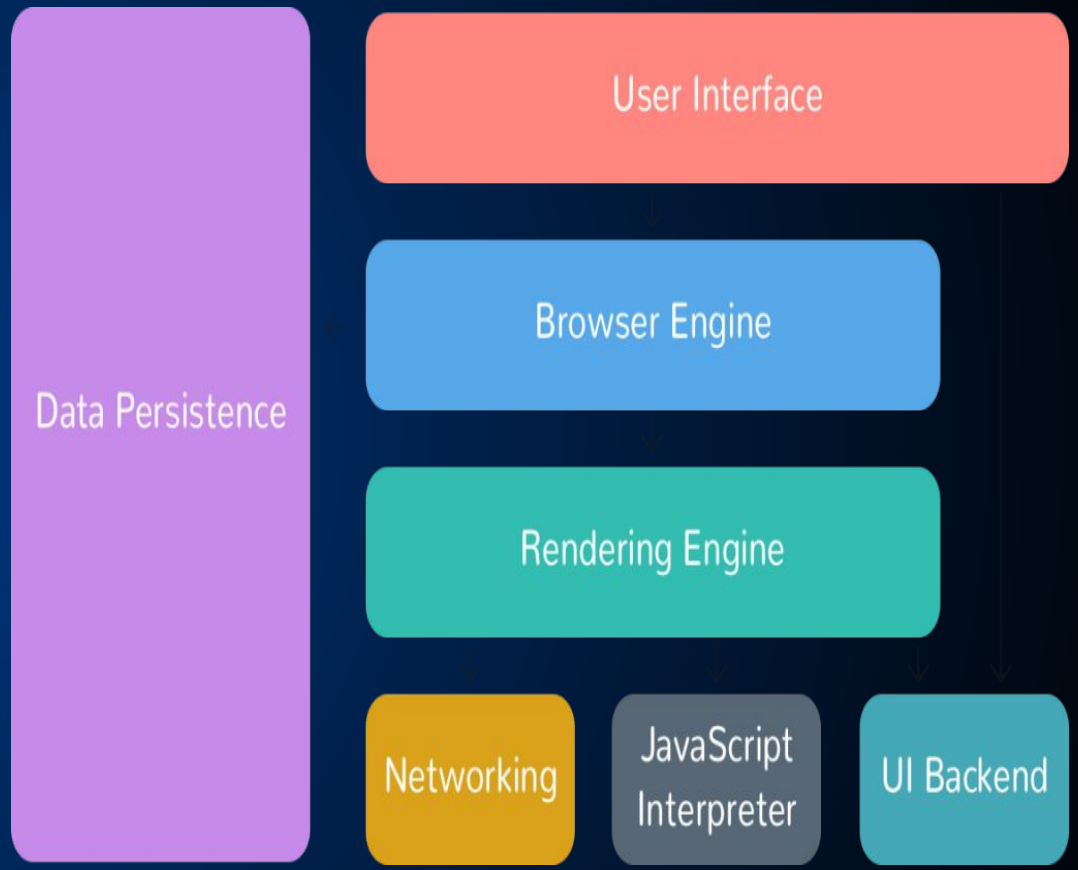
WHAT ARE ITS COMPONENTS?

- A web browser consists of two elements, front-end and back-end.
- Front-end elements are the interfaces displayed when searching on a device.
- Back-end elements are the core of the browser that facilitates its functioning.
- The components include; User interface, browser engine, rendering engine, networking, JavaScript interpreter, User Interface backend and data storage.



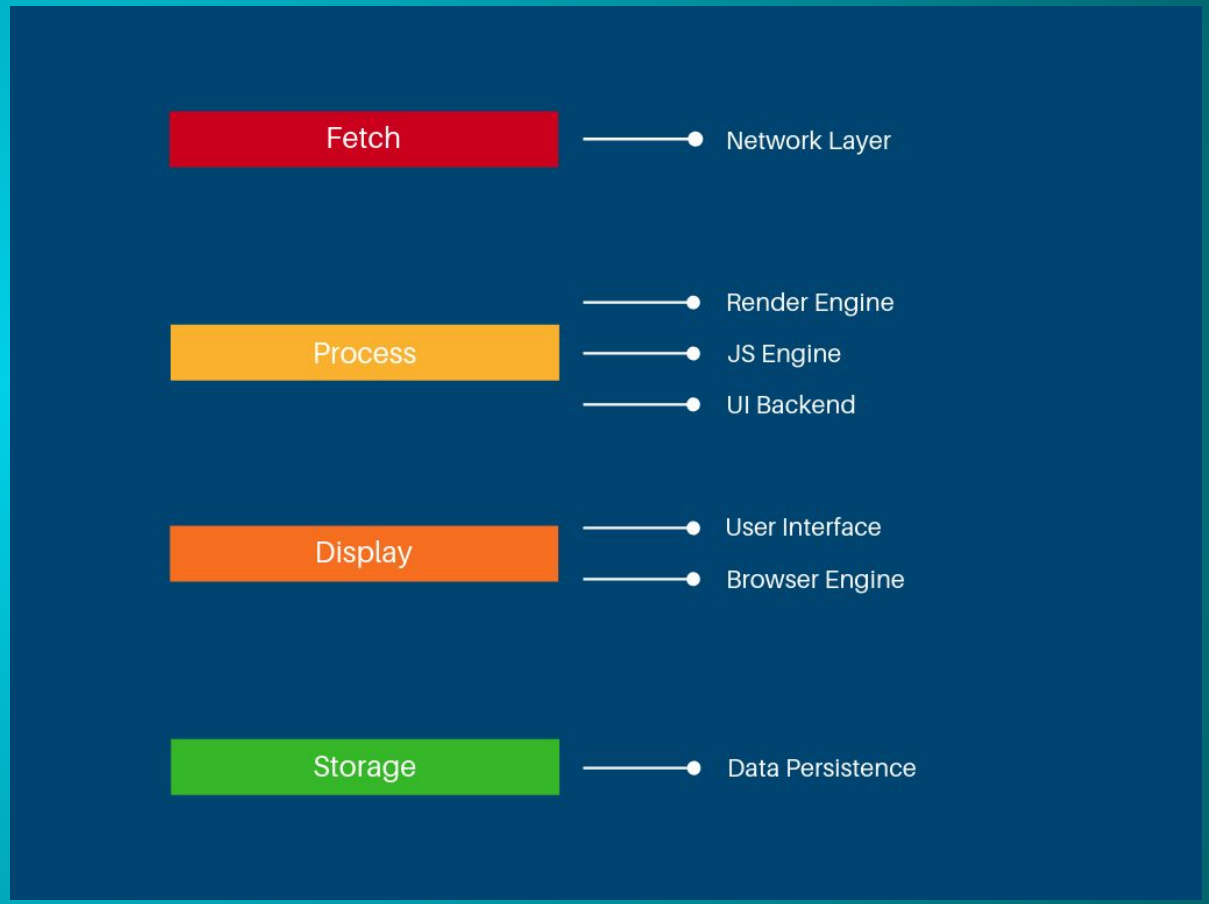
COMPONENTS OF A BROWSER

- User Interface is what the user sees and interacts with and it is where the results of the search are displayed.
- The browser engine acts as a chain that connects and manages the rendering engine with the user interface.
- The rendering engine converts the web page data written in HTML into a viewable format that is understandable to the user.
- Networking part of a browser facilitates internet security and communication between server and client.
- The JavaScript Interpreter is to interpret java code in web-pages and forward it to the rendering engine.
- User Interface back end (UI back end) provides the data requested by the user.



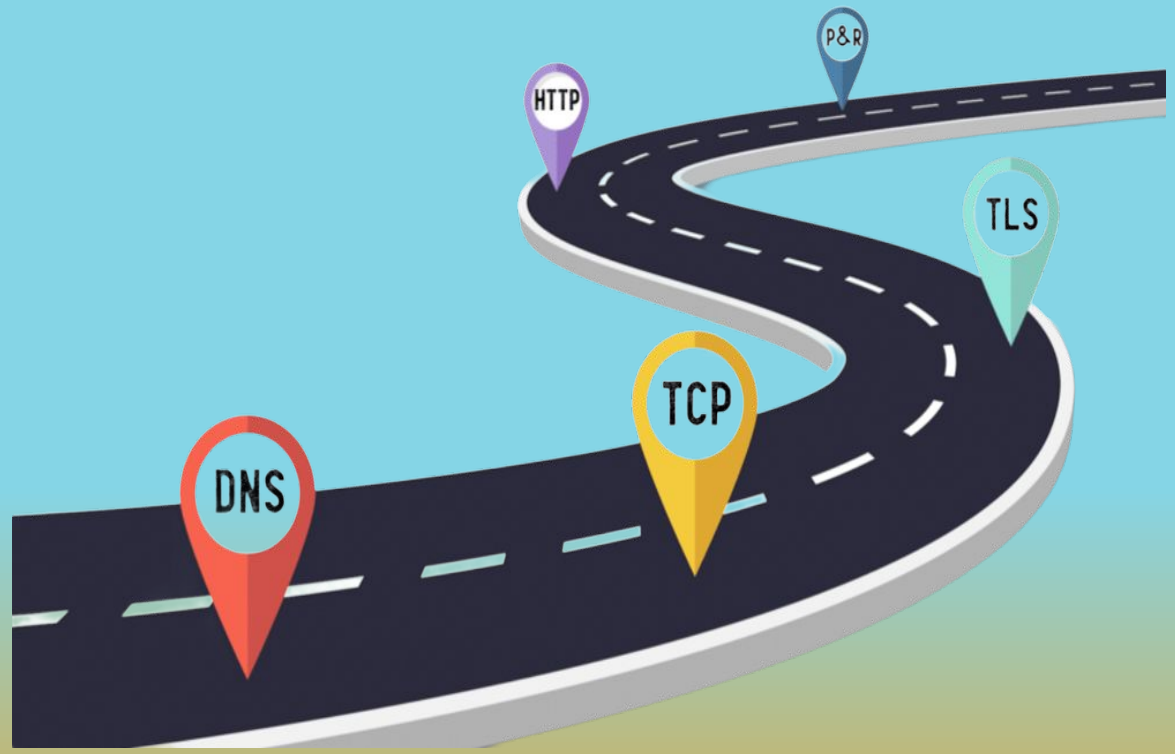
HOW DOES IT WORK?

- A user first enters the Uniform Resource Locator (URL) of the search in the web browser
- The browser then seeks for an Internet Protocol address (IP address) using Domain Name System (DNS) for its domain
- A connection with a server is then started
- A HyperText Transfer Protocol (HTTP) request is sent to the server
- A response is then sent to the browser by the server
- Browser renders the information and displays it on the user interface.



Browser Functionality

- A browser's functions mainly include DNS resolution, HTTP exchange, rendering, rinsing, and repeating.
- DNS resolution is a process that ensures the browsers are aware of a server as it connects, once a URL is entered.
- A browser connects to a DNS server that translates words to an Internet Protocol address that can easily be connected to.
- A TCP connection is started within a browser, and an HTTP exchange is initiated
- In other words, it's a way of the browser sending a message to the server and it sending back a reply.

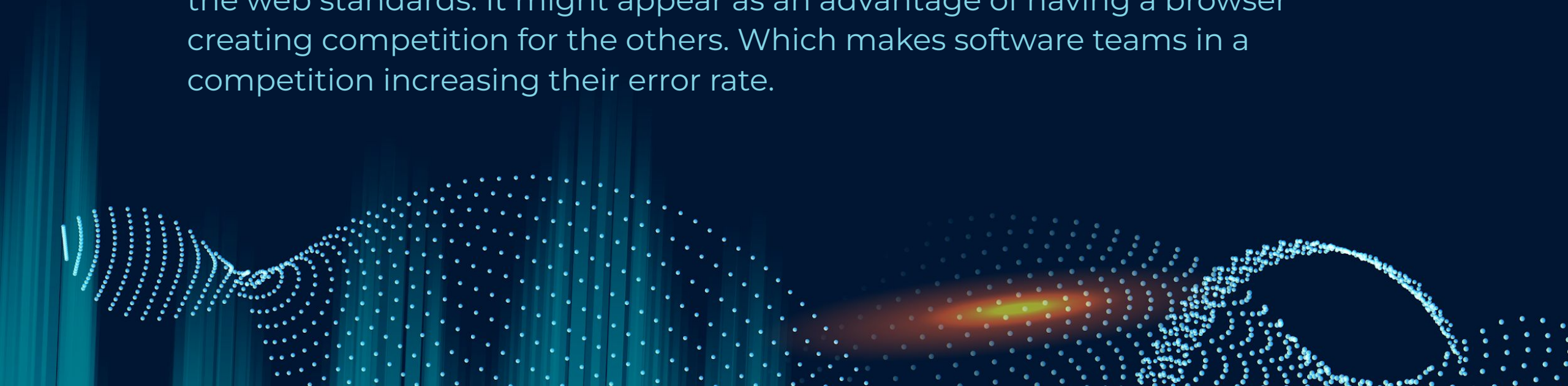


WEB STANDARDS AND WEB COOKIES

- Web standards are not strict rules to be followed to create consistency in searches between web browsers.
- The organization in charge of setting the web standards is referred to as the World Wide Web Consortium.
- Web cookies are files sent to a user's device that will be used to remember them.
- Third party web cookies can serve as a threat to a user's information by selling their search patterns to other companies.

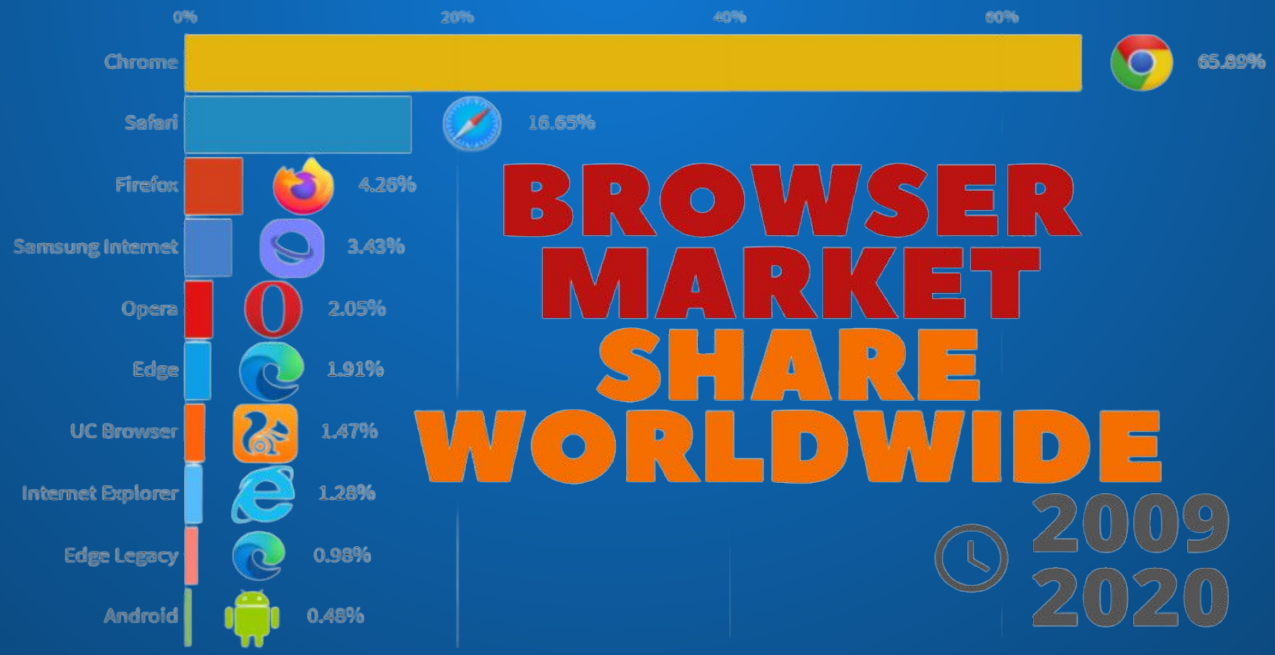
COMMON ERRORS?

- Web standards are not strict rules to be followed and are interpreted differently by rendering engines.
- When using different browsers, one might experience discrepancies, and that is primarily the reason why. Although browsers are to abide by the rules set, they also have to follow their own rules, leading to compatibility issues.
- For instance, an update might add new features that are not specified within the web standards. It might appear as an advantage of having a browser creating competition for the others. Which makes software teams in a competition increasing their error rate.



CONCLUSION

- A browser is to fetch resources from the web to the user and translate it in a manner understandable by the user and allows them to have access to other resources that are relevant their search.
- Browsers are built to ease a users' use of the internet.
- The components are built to make access to the internet quick.
- The world has undoubtedly become a small city by internet browsers.



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