**How the internet works in 5 minutes:**

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| it is a lot of connected devices that “talk” to each other, today its phones, tablets, computers and In the future it will be refrigerators, ovens and mainly everything will be connected  All of the devices are connected by “routing” - a physical machines who have the job of connecting information and data.  The way each device identify is through ip (internet protocol) address and it’s the id of the device  Ip is like home address it is the way to know where to send the information.  The internet is network of networks  The data pass through cables from the house to all over the world, even the wifi is powered by AT&T cable, by submarine cables that are connected to each other, the cable is made by optical fiber and the rest of the materials are to protect it.  The data pass through pulses of light by the optical fiber(electrons) | What is the internet? – How the internet works |
| The internet is a global network of interconnected computers that communicate via TCP/IP. Network of networks  The internet is the infrastructure that carries things like the web, streaming services, email, file sharing, online gaming, messages + internet calls  The Web is the world wide web, it is an information system where documents and others resources are available over the internet  Documents are transferred via HTTP.  The documents and resources are identified by URL – “Uniform resource locators”  The web is just one portion of what the internet allows us to do.  The web browser is the window for the web system, it means that with the web browser we can use the web system and search anything within it | The internet vs the web |
| Any time you have gone to a new URL or used a web browser to view some website, you are using the web,  The system allows us to request and view web resources | How does the web work? |
| The way information transfer in the web is by a protocol called HTTP “Hypertext Transfer Protocol”  It is the foundation of how the world wide web works, how we communicate and how we request and share resources or web pages  http is a protocol – standardized set of rules for how a form of communication should work  every time you put a url, refresh, etc you generate a request – “I would like this information please” ,  a request to the specific url ,  it will arrive to the website’s servers hopefully to get a response back – “ ok, here you go”  and the browser job is to display the information in a beautiful web page  request => response => browser display => human eyes  the servers don’t respond with a complete web page looking like what we see usually  the servers respond with instructions with code that the browser can understand and then display for us  the job of the browser is to display/render content for human eyes/screen reader- human ears  this is like calling to Ikea -request , invite a desk -request, they send me the parts of the desk with instructions how to build it – response, a worker build the desk in my house – web browser , I use the desk – human eyes.  The way to look at the response’s instructions is to click on “view page resources” | What are HTTP requests? - HTTP Requests/response Cycle |
| The term “server” is a web server  There are different types of servers in general  Web servers are machines connected to the internet, their entire job is to satisfy requests coming in via the web – web requests | What is a web server? – Intro to the web |
| The term CLIENT – a way of referring to the machine that is requesting something from the server  If I am using the web in a way I open a website ,In that case the browser is the client, I am the client, my machine is the client, anything happening here in the browser is happening on the client side and anything that happens on the website’s servers is the server side  Front end- sending a request to google server  Back end – the server needs to figure out a lot of things: what are the search results, how do I rank them? how many are there? How many pages do I need to make? What about ads? Who is asking for this?  Back end – response with instructions in a form of HTML CSS JS, the response can be used by a lot of programming languages  Front end – the code run in the browser  Front end are the stuff working on the browser  Back end are the staff working on the server | Front End vs. Backend |
| Download chrome  Download visual studio code  Mainly for mac use Spectacle  Go to extensions , find the theme you like  Atom one Dark theme  Material Theme | Environment setup – installing vs code and chrome |
| HTML CSS JS are the core technologies that the browser understands and that web page made out of | What are HTML CSS JS – understanding the roles of HTML CSS JS |
| HTML is the thing on the web page, it is the contractions, it is the letters and the elements  CSS is the way to describe how we want the HTML to look like, border wide and etc  JS is the actions, the way to calculate things | What do they each do |
| stands for Uniform Resource Locator  In order for computer networks and servers to “talk to one another,” computers rely on a language made up of numbers and letters called an IP address. Every device that connects to the Internet has a unique IP address  In order to navigate easily around the web, typing in a long IP address isn’t ideal, or realistic, to an online user. This is the reason why domain names were created – to hide IP addresses with something more memorable. You could consider the domain name as a “nickname” to the IP address.  A URL incorporates the domain name, along with other detailed information, to create a complete address (or “web address”) to direct a browser to a specific page online called a web page. In essence, it’s a set of directions and every web page has a unique one. | What is a URL |
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