Project Odin – Curriculum Progress

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Purpose

//The purpose of this file is to document my progress on the online Project Odin Curriculum for Coding and understanding Full Stack Development. This is an exciting moment in my life where I venture straight into the void of the abyss of the unknown and WILL into existence the wisdom of the Lore of the Code. Within this coding experience, I will find new portions of myself and ensure that this is made manifest in the form of a useful and applicable skill that will not only make me more employable, but also, more independent and efficient with my time. Gone are the days of lazily letting life lick at the lusts for luxury. Today, this Man stands up tall to all the Giants who stands in his way, with his spear, he rides into battle, ready to die for the Wisdom.

Course - Web Development 101:

* Front-End: The Exoteric portion of the Website – The Right Hand Path
* Back-end: The esoteric guts of the Website – The Left Hand Path
* Full-Stack: The entire Microand Macrocosm of Coding. The front and back-end – The Grey Path

Motivation:

* Do you want to have a fulfilling career that pays well? Yes!
* Are you excited by the creative outlet programming provides? Amen!
* Are you determined to develop the skills and abilities to build any app you can think of? I WILL IT BE SO!
* Do you want to start your own company by turning an app idea into reality? Well…. I never thought about that! Until now! Let’s go for it!

My purpose defined, my motivation is a debt-free, stress-less life. One where I can control my workload by providing my services when needed as well as ensuring I have access to a newer skill that is in higher demand. I am motivated by the sheer fact of being able to do something that others may struggle with.

It is with this mentality that I move forward. So that one day, I might design something that can help the people who can’t do this skill do it successfully. Before I am even complete with learning it myself, I pray my life be the story someone tells themselves that allows them to carry on and believe in themselves.

GROW GROW GROW! This is the mindset of the Warrior of Odin! On January 9th , 2020 I admitted that I have YET to understand coding. I hope to update this in a future part of this record to prove to myself and to others that ALL CAN BE DONE THROUGH THE WILL OF THE PERSON.

Learning Concepts – Focus Mode Vs. Diffuse Mode

Focus Mode – The Mode in which your brain is actively learning. Some examples that are applicable to the study of the Occult would be when one goes ahead and reads over and watches others perform a set of rites or rituals. In this way, the participant is actively and consciously attempting to learn and model after these rituals.

Diffuse Mode – These are equivalent to the subconscious epiphanies that you come to when you remember that line from the ritual that you overlooked and see it and its pattern for what it is. In this way, this is a passive kind of learning that happens while the brain is trying to integrate the information you were trying to actively learn.

Stuck Between a Var and a Const Place

Options when you get stuck:

* Google it: You can be certain someone else out there has encountered the same problem as you at some point. A quick Google search can often lead to a solution.
* Take a break: Allow your diffuse learning state to work on the problem.
* Ask for help in our chat: Come prepared with your research. People will be more willing to help you when they can see you have already put effort into trying to figure out the solution on your own. (NO SPOON-FEEDING! KNOWLEDGE IS LEARNED. EDUCATION IS CONSTANT.)
* Manage time - Building a habit of studying every day at a specific time and with a specific goal will ensure that you make consistent progress. It gets your mind in a habitual mode of “Switching Gears“ to a coding/problem-solving mindset rather than the everyday flow of the mind.
* Avoid these Pitfalls:
  + Procrastination will be your biggest enemy when trying to make progress.
    - Solution - The Pomodoro Technique is a way of managing your time in order to stay focused. The idea is to set a timer for 25 minutes and to work on a task until the timer goes off. If you get distracted or interrupted during the 25 minutes, start the 25 minutes of work over again. Once you’ve successfully focused on work for 25 minutes, take a 5 minute break. When your break is over, repeat the 25 minutes of work and 5 minute break. After you’ve completed four 25 minute blocks of work, take a longer 15-30 minute break.
  + Not Taking Breaks can lead to burn out and the dreaded procrastination. It is important to take breaks to allow your mind to switch into Diffuse Mode.
    - Solution – Pomodoro Technique! But what do you do during your break?!
      * Listen to Music, Journal, Doodle, Meditate, Play a quick game, go for a walk!
    - It is important to also realize that the work-week of the average person is 40 Hours/Week. It is not healthy to be working on these projects for more than that time on a consistent basis. This can lead to burn-out and furthermore, the reimergence of procrastination. If you feel you need a break, TAKE IT!
  + Physical and Digital Distractions – You know the ones! The dog barking, the facebook ping, the discord message.
    - Solution – Bruh, turn that shit off. Put it on silent. Or learn to control yourself. Remember why you‘re doing this. As for the dog, well you love him so just put some earphones in!
  + Rabbit Holes – Its like this one was written for Alexander himself. Rabbit Holes are basically what happens when you click on a Youtube video and keep watching the suggested video that plays next. One minute, you were watching “JavaScript for Beginners“ and then all of a sudden, you‘re watching a guide on how to make a pot of coffee in a microwave oven created out of loose computer wires and a Yu-Gi-Oh Card Tin. Waste of time and diverges from the ultimate goal of the course.
    - Project Odin is designed strategically to avoid these pitfalls.
  + Comparing yourself to Others – Bad Idea. Just don‘t. You‘re you and you‘re doing your best! Or are you?! Only you know! So stop looking across the fence to see the greener garden. That guy‘s been watering it for years. Make your own garden and see how beautiful and wonderful you can make it with your own two hands.
    - Compare Today‘s you with Yesterday‘s You.

Learning the Web

Learning Outcomes

* At the end of this lesson, you should be able to do the following:
* Describe what the internet is.
* Describe what packets are and how they are used to transfer data.
* Understand the differences between a web page, web server, web browser and search engine.
* Briefly explain what a client is.
* Briefly explain what a server is.
* Explain what DNS servers are.
* In your own words, explain what happens when you run a search on google.com.

Parts of the Internet:

1. Network – The Interconnection of different people via the internet.
2. Protocol – Rules that are designed and must be followed for proper communication.
3. Packet – The Parts of a bigger string of information that is spliced and given instructions for how it fits into the Network while still following the protocols. It has all the information from who it is from and where it is going.
4. IP Address – Unique signature that belongs to an individual‘s “Packet Distribution Center“. Can be looked up automatically via a domain name server.
5. Server – Like a giant Address Book.
6. Router – Pass on packets throughout the server like a baton to get a message from its start location to its end location.

Mozilla – Setting Goals (Project Ideation):

Turning ideas into Websites

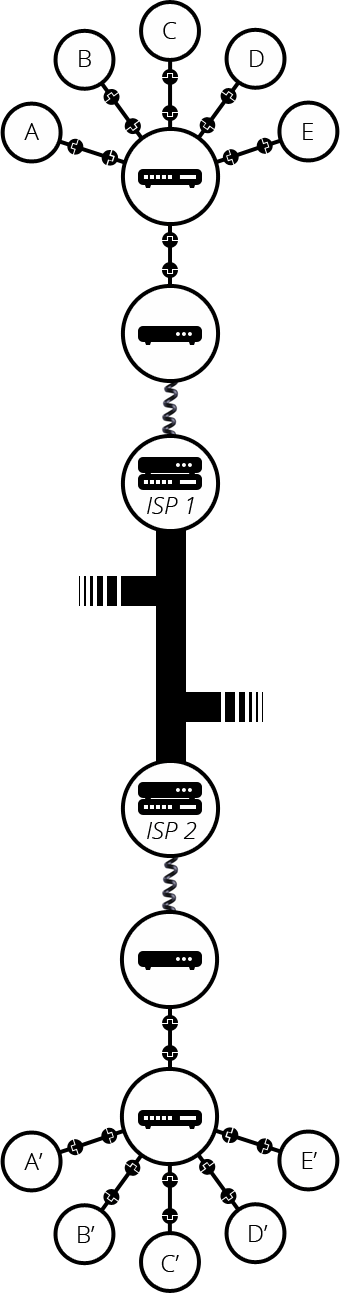
* What exactly do I want to accomplish?
* How will a website help me reach my goals?
* What needs to be done, and in what order, to reach my goals?

Mozilla – How does the Internet Work?

Ethernet Connections are physical connections between computers to have them communicate. If we wanted to connect 10 computers to each other, it would take 9 cables at each computer totalling 45 pathways in all. This can be countered by the presence of a router.

With a Router, messages are properly sorted and sent to the proper computer receiver. This eliminates the need for the 8 additional cables per computer and reduces the pathways from 45 to 10. Routers function like computers themselves, so technically, two systems of 10 computers connected to to separate routers could be linked from one router to the next. Thus connecting 20 computers together. This is the way the internet is built and expanded. This can be scaled infinitely for ever and ever (it would seem).

Modems help connect a personal router to the internet and allow for a connection between devices that cannot be connected via direct wire to the router. To demonstrate what this entails, you can connect your home computer to your router if you wished, but your extended family‘s computer in the next city over cannot be reached via direct connection. At this point, a router can be connected to a modem that will serve as a medium to send messages to the already established wired connection of telephone or cable services.

Personal Computer -> Personal Router -> Modem -> ISP 1(Internet Service Provider)-> ISP 2 (Could be the same or different from ISP 1)->Extended Family‘s Modem-> EF‘s Router -> EF‘s Computer 

Where A-E represent computers and other internet-enabled devices that are connected to your personal Router.

A’-E’ represent computers and internet-enabled devices that are connected to your extended family’s personal Router.

IP(Internet Protocol) Address – The Numerical address that represents a specific computer’s network connection to the server.

The Internet is an infrastructure, whereas the Web is a service built on top of the infrastructure.

\*This means not all internet commands and acitvities occur on the Web Server; these are their own fratalized entity within the scope of the larger internet of space.

Inter-Net: The concept that comes from thinking about the entire blueprint and planning for the structure of a spider’s web.

Web: This connects portions of the Inter-Net that may be farther from one another, making communication between these two smaller entities easier through the “Web” entity that brings together the Inter-Net.

Web Page – Website – Web Server – Search Engine

* Web Page: A document that can be displayed in a Web Browser (i.e. of web browsers; Google Chrome, Safari). These are written in HTML.

They contain:

style information — controlling a page's look-and-feel

scripts — which add interactivity to the page

media — images, sounds, and videos.

* Website: A collection of Web Pages (Documents called “pages” for short) which are grouped together and are often related and connected to one another.

They contain:

Explicit Links – Bringing forth Useful and relevant information

Provide Resoruces – For those looking for what the website will contain (the section of data it holds)

Home Page – Where all Webpages can be searched/selected

* Web Server: A computer that hosts a website on the Internet.

This is a computer that is hosting the websites that contain the web pages. If the server is down, all websites attached to that server will not work. A server is down when it cannot successfully send information to other computers when prompted to do so for one reason or another.

* Search Engine: A web service that helps one find other Web Pages.

Can be found as the home page of some browsers (i.e. Google Chrome).

Utilized to search the web for specific web pages found on websites other than the website that hosts the search engine.

Library Analogy

* The library has several sections = web server hosting multiple websites (Which are collections of web pages).
* The different sections (science, math, history, etc.) = websites.
* The books in each section = webpages on each website.
* The search index = search engine.
* Each book (webpage) has its own unique location in the library via catalog number (IP Address). Two books cannot be kept at the same place.

What is a browser?

Not: Windows or Mac, which are systems that allow for file and program management.

Not: Search Engine, like Google.com, which is a website used to search the internet for specific web pages of other websites.

Browser: Program that allows one to visit websites. No Browser, no Search Engine, no Search Engine, no websites, no websites no web pages.

* Click on the Browser Icon (i.e. Google Chrome)
* Type website name (Address)
* Browser displays web page (Home Page) of the website.

Clients and Servers

Clients:

1. Typical web user's internet-connected devices (for example, your computer connected to your Wi-Fi, or your phone connected to your mobile network)
2. Web-accessing software available on those devices (usually a web browser like Firefox or Chrome).

Servers:

1. computers that store webpages, sites, or apps. When a client device wants to access a webpage, a copy of the webpage is downloaded from the server onto the client machine to be displayed in the user's web browser. Client Searches -> Message sent via router to through the modem, to the Web Server -> Client machine receives a downloaded copy of the responding webpage correlating to the search -> The Web Browser displays the copy of the web page to the Client, thus allowing you to see the result of the request.

Other Important Factors for Internet Connectivity

* Internet Connection: Allows for the sending and receiving of data. If you are not connected to the Internet, you can’t receive or send information. If there is a roadblock between you and your job, you might have trouble getting to work on time. You will have to find an alternate route or a workaround in order to reestablish internet connectivity.
* TCP/IP: Transmission Control Protocol, Internet Protocol. The “Bike” that has the GPS coordinates for which way it should be travelling. The Bike Rider chooses where the bike should go. The bike itself has an address (IP) that allows others to know where the bike came from and who the bike belongs to.
* DNS: Domain Name Servers. Like an address book for websites (that contain a single or multiple web pages). It takes the alphabetical domain name that the client has entered and converts and finds the correct IP Address to send the message to the correct location and establish a connection via HTTP messages.
* HTTP: Hypertext Transfer Protocol. An application protocol that defines a language for clients and servers to speak to each other. It functions as a translator to ensure messages can be correctly understood.
* Component files: The parts of a website that can be broken down and sent via an internet connection through a client to a server and back or to another client. There are two types:
  + Code files: The primary structure of the website that contains the HTML, CSS, and JavaScript codes. (There are other code files, but these are the ones focused on here)
  + Assets: The collective name for the rest of the files (i.e. all of the photos, videos, audio media, Word Documents, and PDF’s)
* <https://ipinfo.info/html/ip_checker.php> (Check IP Addresses)

What is a Virtual Machine (VM)?

Computer: An electronic device that can interpret and follow a set of instructions. (i.e. Desktop, Laptop, Cell Phone)

* Built with physical parts called HARDWARE
* Software: Makes a computer easy to use. (i.e. Linux, Windows, Android, iOS)
  + These are examples of Operating Systems because they can CONTROL the hardware

Virtual Machine: A Hypervisor that allows us to run one Operating System within another Operating System. (i.e. VirtualBox, vmware)

To set up the Virtual Machine, one must download a VM Manager. I chose to download VirtualBox. From here, I downloaded Linux on my Host OS (Windows) so that I could further download it into the VM. After the initial set-up, I followed the prompts found in the “Prerequisites” portion of the course.

The Command Line

$ pwd – Present Working Directory. Tells the user where they are.

$ ls – Lists your files and directories.

$ ls -a – All of the hidden and visible files are shown.

What is the command line? A place found in the Computer’s terminal where the User can input commands to get different effects.

How do you open the command line on your computer? To open it on Linux, you hold Ctrl +Alt + T

How can you navigate to a particular directory? You can use the command $ cd nameOfParticularDirectory

Where will cd on its own navigate you to? It will take you back to The User @ the computer.

Where will cd .. navigate you to? It will navigate you to home$

How do you display the name of the directory you are currently in? $pwd

How do you display the contents of the directory you are currently in? $ls

How do you create a new directory? $mkdir nameOfDirectory\*

How do you create a new file? $touch (or echo) fileName

How do you destroy a directory or file? $rm or $rm -r (for directories)

How do you rename a directory or file? $mv fileName newFileName

A Version Control

VCS

Creates things

Save things

edits things

save the things again – this is the way that VCS works.

When you go ahead and make a change, these files can be documented based on what was added or edited so that further copies and reviews can be done accordingly.

Git – Lightweight

Git – Gives history of ALL changes

Git – Allows for collaborative changes

Git – Easy to use

It is a DVCS vs a CVCS – Which is a singular place for the copy of that file. If that CVCS is down, no central remote repository will have

DVCS – Everyone has a local repository based on the last sync.

Even without access to remote repository, it will be able to see the file.

Important Git Codes

For Initial Start-Up:

$git --version (This will check to ensure git has installed properly.)

$git config --global user.name “Lysanironman”

$git config --global user.email [lysanironman@gmail.com](mailto:lysanironman@gmail.com)

Getting Help:

$git help <command>

$git config --help

Initialize New Repository:

$git init (Starts a new Repository from the Directory you are in)

$git ls -la (Lists the files with relevant time stamps)

$git status (Check the Working Directory for upcoming commits/missing files)

To remove git tracking

$ rm -rf .git

For information you do not wish to send:

$touch .gitignore

Working Directory – Untracked modified

Removing items from staging area:

$git reset <filename>

$git reset (Removes everything from the staging area)

$git log (To get hash number for the commit)

CLONING REMOTE REPOS

$git clone <https://www.samplewebsite.com/yes/i/made/this/up> <nameofdirectoryyouwanttocloneitto>

Viewing info about Remote Repo

$git remote -v

$git branch -a

When working in a Team:

Always

$git pull origin master (Where origin is the remote repo name and master is the name of the branch)

Then

$git push origin master

$code . (Opens current directory + content into an initialized editor (VS Studio)

HyperText Markup Language (html)

<!Doctype html> (Tells the Browser what kind of information to begin loading

<html></html> (All html code is contained between these tags)

<head></head> ( tag appears before the body and contains information about the page. does not appear in the browser window.?

<Title></Title> (Adds the Title to the Text box at the top of the webpage)

<h1>-<h2>-…..(Headings h1 BIGGEST h3 smaller)

Within paragraphs

<p></p> (This will separate words from headings and create paragraphs)

<em></em> (emphasize the words between them - Italics)

<strong></strong> (emphasize the words between them – BOLD)

Lists ( Three Kinds)

<ul><li></li></ul> (Unordered List)

<ol><li></li></ol> (Ordered List)

Links

<p><a href="http://www.htmldog.com">HTML Dog</a></p>

Linking to content on the same Web Page

<h2 id="moss">Moss</h2>, and then link to it by using something like this: <a href="#moss">Go to moss</a>

<table>

<tr></tr> (Defines Row)

<td>Row 1, cell 1</td> (Defines data in a cell)

<td>Row 1, cell 2</td>

<td>Row 1, cell 3</td>

</tr>

<tr>

<td>Row 2, cell 1</td>

<td>Row 2, cell 2</td>

<td>Row 2, cell 3</td>

</tr>

<tr>

<td>Row 3, cell 1</td>

<td>Row 3, cell 2</td>

<td>Row 3, cell 3</td>

</tr>

<tr>

<td>Row 4, cell 1</td>

<td>Row 4, cell 2</td>

<td>Row 4, cell 3</td>

</tr>

</table>

Form

<form action="processingscript.php" method="post">

<form (defines that a form is being created)

Action (defines where the form information will be sent to)

Method (defines how something will be sent to its location [i.e. get, post]

</form>

Input

<input type="text"> (This is a standard textbox for data entry)

<input type="password"> (Hides the text, as one would hide a textbook.

<input type="checkbox"> (Creates a checkbox for the user)

<input type="checkbox" checked> (Checkbox auto-checked by default)

Cascading Styles Sheets (CSS)