Introduction to ITWS

Quiz 1: February 13, 2023

1. Network protocols, HTML & WWW: (20 points, 10 minutes) Answer the following question referencing (as needed) content and examples from class.   
   1. What are TCP & UDP? What is the difference (if any)? Include a definition in your answer as well as an example used in class. (5 points)

TCP sends data securely, with no lost data packets. It is based on a connection between two devices. A good example is something like E-Mail or HTTP, where you want a secure connection where no data is lost. Alternatively, UDP is connectionless and liable to lose data but is much faster. A good example is something like streaming audio/video or VOIP. You send out the data for your Netflix video in one burst from the servers, and on your end, the Netflix app collects this and puts the data in order (buffering).

* 1. What is Binary? What is Hexadecimal? Why do we care? Give an example of each as discussed in class (5 points).

Binary is a form of notation that is in base 2 (1 or 0). Hexadecimal is similar, however, Hex is in base 16. This is important since computers at their base level communicate in binary (5v or 0v, 1 or 0), and the information we’re sending across the web is sent in Binary. Hex is used for assigning RGB values, which is very important for styling a website.

* 1. What is the general order of precedence of selectors as covered in class (5 points)

IDs trump out classes, and then the order of appearance also matters (generally the later styles trump the earlier ones). Inline styles also trump embedded (changing the color within the <style> tag will trump external CSS). And embedded trumps externally declared styles (changing the default margin within your CSS file beats the web-browsers default margin).

* 1. What is an ID? What is a class? Give an example of each, and an explanation of why one might be used over another. (5 points)

An ID and classes are fairly similar in function. They are declared within CSS, and apply certain rules to whatever they are applied to. The difference is that IDs beat classes in terms of priority, and IDs are usually best for one-off named things (like a header or a footer). But classes are best for being applied to multiple different objects (like a “buttonStyle1” class, that applies to every button you would like it to).

1. DevOps (20 pts, 15 minutes) Answer the following question referencing (as needed) content and examples from class.
   1. What is Azure? How is it relevant to this class?

Azure is Microsoft’s cloud web hosting service. It is relevant to this class because we use Azure to host our individual websites. It is also important on a broader scale because Microsoft and Azure are two big players in the web/tech industry. Azure accounts for 27% of Microsoft’s revenue.

https://www.cnbc.com/2022/12/21/google-leaked-doc-microsoft-azure-losing-money-on-29-bln-in-revenue.html

* 1. What is Git, and what is it used for? Include the difference between Git and GitHub. How are we using it in this class?

Git is distribution and version control software, one of many, and GitHub is a cloud-based management system that uses Git, which streamlines and simplifies the process. We are using GitHub to directly send our files to the cloud to back them up, and then additionally using the Linux terminal and git to pull those files back down into our Azure instances. We are both backing up and transferring our files, which is convenient.

* 1. Explain your development workflow. Include how you move files from Development, through Staging and Production. (Make sure to mention their locations, locally, and remotely. And include how Git plays a role)

Firstly, I would create a branch for what I am developing. When I am done and my code is working, I will send a merge request, so that it is put into the main branch of the GitHub repository. Then, when I verified that the main branch is working properly, I will start my Azure instance, connect via the terminal, then pull down said data from GitHub. I will then test if the code is running well on my remote webserver.

* 1. Explain the steps you follow to deploy your latest changes to your web server.

I would boot up my Azure instance first, then, I would open up the terminal, type in ssh [brooka9@brooka9.eastus.cloudapp.azure.com](mailto:brooka9@brooka9.eastus.cloudapp.azure.com), then enter in my password. I would then type cd /var/www/html/iit/ to get to my website's root folder. Then, assuming I pushed all my changes, I would type sudo -u www-data git pull to pull my information down.

* 1. Write out (or describe) the commands (or steps) to do the following, in your environments
     1. Start your Azure Instance

Go to <https://portal.azure.com/> and navigate to my webserver, if it is deallocated (and chances are it is), go to overview and click “start” and in a few minutes the instance is running.

* + 1. Move into the root of your webserver

cd /var/www/html/iit/

* + 1. list the contents of your personal website root folder on your webserver assuming you are currently ‘in’ that folder.

ls -la

* + 1. What is sudo used for?

Sudo (which stands for superuser do) allows commands to be run as a super/root user. Essentially allowing us to execute high-security commands. I like to think of it as being somewhat similar to “Run As Administrator” on Windows.

* + 1. List out the contents of your webserver’s root folder, assuming you are currently located in /users/myname/

ls -la /

1. HTML & CSS (35 points, 40 minutes) In Lab 3, you created a website to host your classwork; specifically, your labs, according to your Information Architecture (IA). Answer the following question referencing (as needed) content and examples from class.
   1. What is absolute linking? How do we use it? How does it compare to other types of linking? Answer in detail below

Absolute linking is writing out the full address of the site we would like to link to. Like writing out [www.rpi.edu](http://www.rpi.edu). We could also write relative links, for example, if we wanted to go to another HTML file in our root folder, instead of typing out [www.mywebsite.com/site2.html](http://www.mywebsite.com/site2.html), we could just type ./site2.html. Absolute linking is better for linking to external sites, while relative linking is better for files within your site

* 1. I am editing the index.html file in the iit folder, and I want to reference my style guide file which is in the resources folder and named mySite.css. Write the appropriate markup for this below.

<link href="./resources/mySite.css" rel="stylesheet" type="text/css" media="all">

* 1. Write the CSS to select the 3rd li of the first <ul>, and turn it blue, given the following HTML. Include the selector and CSS below the HTML in this document (DO NOT change the HTML)

<ul id=”myFirstList” class=”myLists”>

<li class=first”>first</li>

<li class=”second”>second</li>

<li class=”third”>third</li>

<li class=”fourth”>fourth</li>

</ul>

<ul class=”myLists”>

<li class=first”>first</li>

<li class=”second”>second</li>

<li class=”third”>third</li>

<li class=”fourth”>fourth</li>

</ul>

#myFirstList li.third {

color: blue;

}

* 1. I want you to add an image to the top left of your page. Write the HTML to include an image named myHeadshot.jpg, with a height of 100 and a width of 75 pixels. Add CSS to place it in the top left corner of the page and make sure that nothing will ‘get in its way’. Feel free to test this on your computers, but put the code inline here, below.

<style>

.position{

position: absolute;

top: 0px;

left: 0;

}

</style>

<img class="position" src="https://eng.rpi.edu/sites/default/files/SISMan\_0.png">

* 1. After having worked on a couple of labs and deployed your personal website; Explain how you would update your IA to accommodate your site and why. If you would not change anything, write a justification.

I would personally not change anything, I feel as though my IA was designed well, showing where all the current and all future labs will go. Additionally, I created a broad “resources” folder, which I broke down into subfolders for different files. So for any future css endeavors, I can just go to /resources/css/. And when we do PHP and JS, I will create subfolders within resources accordingly.

* 1. Explain the Box model, and why is it important

The box model is extremely important. Websites are always broken down into different divs and boxes, and the spacing between the outside and inside of said boxes. If my text inside the box is too close to my border, then I know that I have to apply more padding, but if my text outside the box is too close, I know that I must add a margin around the box.

* 1. If <body> has a width of 1200 pixels, and a <div> in the body has a width of 90%, what is the width of a <ul> inside that div with a width of 80%?

864 pixels

1. “Microsoft Blizzard” Case (25 points, 20 minutes)
   1. Based on your research and the conversation in class, will the acquisition give Microsoft a monopoly on the Gaming industry? Why? Why not? Be specific. (25 points)

I don’t think Microsoft acquiring Activision Blizzard will give them a monopoly since there are still 2 other major players in the console game industry, both of which are ousting Xbox in terms of pure console sales. This could help give Xbox the edge in terms of raw development power, which could help push more Xbox consoles. But this is only looking in the short term, in the long term, I think this acquisition could be dangerous since this would be a huge card to Microsoft’s hand in the future for Cloud Game Streaming, as well as the metaverse. When it comes to the games industry in specific, Sony, Nintendo, and Apple don't have that power, so if anything they would need the manpower more than Microsoft. So overall, I believe that while this may not be a monopolistic move in the short term, in the long term this could prove very dangerous, and give Microsoft the power to make a monopoly in the coming years.