Introduction to ITWS
Quiz 1: September 30, 2013

1. Network protocols: (10 points, 10 minutes)
In Lab 3, we set up a website to display our projects. In order to display the webpage we created, we typed in the URL for our personal RCS website.

a.   Upon hitting the enter key, how did my computer know where to "go"? (5 points).

The computer uses the DNS (Domain Name System). The DNS is used to return the IP address of the web server with the corresponding name, which allows the computer to know where to go.

b. If I am on the RPI network when I type in the address of my page, do I need to use the three-way handshake? Why or Why not? (5 points).

Yes because the three way handshake is always necessary when the user (you) wants to interact or a create a connection between another server or the RPI network in this situation. A three-way handshake is a method used in a TCP/IP network to create a connection between a local host/client and server. The DNS first finds out the resource IP address and then it sends the get request. After the connection is made the HTTP "Get request" must be issued. Then host A, you, first asks host B, the RPI network, to set up a connection using a "SYN" (synchronize) tag. Host B,the RPI Network, will respond by sending back an "ACK" or acknowledgement tag along with a "SYN" tag in order to indicate that it wants to communicate with you the user. Finally, the user, your computer, will respond to this by sending back an "ACK" tag. Once all of this is completed then we can start to transfer data or information (the interaction actually begins).

2. In our lectures and labs, we have talked about HTML and CSS. What is the difference between HTML 4, XHTML and HTML 5? What is the fundamental advantage of HTML5 and what challenges does it pose for development? (20 points, 10 minutes)

HTML5 is the combination of HTML4 AND XHTML.
In the end HTML 5 is basically a combination of both XHTML and HTML4, but is slightly easier to use and is laid out in a more organizational manner. As far as future challenges for HTML5 go:
1. Browser challenges-HTML project performance depends largely on browsers, unlike Flash where the Flash Player was able to overcome most browser variations.
2. Code is exposed-If the application is created using only HTML5 technologies then most of the files are rendered or cached on the user machine. This invariably means that an

application's presentation layer and business logic are exposed to the user. They can access all JavaScript, CSS, and HTML files and view code if so inclined.

3. Testing- Testing a web page means testing the layout, the logic inside, and the content being presented. Multiple layers of information make it difficult to test HTML5 RIAs (Rich Internet Applications).

3. Given the following HTML and CSS

<div id="mainBlock" class="header blockTitle">
       <p>Main Title</p>
</div>

p {
  text-color:red;
}
#blockTitle {
  text-color:blue;
}
 p#mainBlock#header.blockTitle {
  text-color:green;
}

What color will the text, "Main Title" be? Why? (10min, 10 points)
The class "header blockTitle" is not a valid entry for a class since it is two words. Classes must be a single word and must start with a letter or '_'. Since the line
" **p#mainBlock#header.blockTitle"** calls the class of blockTitle, with an id of header, within a class of mainBlock, and there is no id of header or class of mainblock, but an id of mainBlock and a class of header, the whole line of code is invalid, leaving the p tag the most specific element selector in the code above.

4. In Lab 3 we programmed and deployed a website. (20 points, 10 Minutes)
a. As an addition to that exercise, please describe the steps necessary to modify plotkr2 to have administration access to the site, and remove hugheg from having access to the site entirely – DO NOT execute these commands, enter them below, and describe what each part of your command is doing. (10 points)

Assuming that you have already completed the parts in the lab up to pts creategroup *yourRcsId*:iit, which creates a group that the user can use in the school's RCS system to grant or revoke access from members concerning specific files and directories, type fs sa iit

system:hugheg none, which gives hugheg no access to any of the data hosted on the site. Next type fs sa iit system:plotkr2 a, which gives plotkr2 (a) administrator access to the site in which he can change a directory's access control lists.

b. Describe, in detail the structure you chose for the website and why. Is it a good structure? Knowing that you will be posting all of your assignments to this site, do you anticipate changing the structure in any way? If so, what changes do you anticipate making? Why? (10 points)

Pretty much just describe the overall structure of your website and what changes you would like to improve upon it after you learn more CSS and HTML. Maybe add some animations make it more interactive, sick backgrounds, ...etc

5. Communications and Networks. (15 points, 10 minutes)
a. What is Metcalfe's Law and how does it explain the dominance of Facebook over MySpace? (Answer in complete sentences)

Metcalfe's Law states that the value of the network is proportional to the number of users squared (n^2). Additionally, Metcalfe's Law implies that the cost of a network is proportional to the number of users or the cost of the network increases arithmetically with the number of users. This helps to explain Facebook's dominance over MySpace because Facebook has way more users than MySpace; the value of Facebook's network is consequently larger than that of MySpace's . *(To give quantifiable numbers, as of the fourth quarter of 2018, Facebook had 2.32 billion monthly active users, while MySpace had 50.6 million monthly users. Last November, MySpace got 50 million unique visitors in the U.S. That's a lot of visitors for a site that most people haven't thought about in 8 years. Facebook currently boasts 864 million daily active users worldwide.)*

b. Discuss two concepts you learned from the "Global Wide Area Network In-Class Exercise" (where you planned, acquired and built communication cable networks between 12 world cities). (Answer in complete sentences)

- It's more important to set up a connection with as many cities as possible instead of focusing solely on one country or city. This is mainly because if that one connection has an issue then all connections are lost and that is obviously a bad thing.
- Establishing connections with "developing countries" gives both parties advantages, as the more financially developed country has the opportunity to pass through the order to

establish a connection with a more connected city, while the "developing country has access to "internet" from multiple communication superpowers.

- Connections are not only built on the countries that you have made "contracts" with and if one country is connected is connected to another the system or network for you becomes extensive or vast quite quickly

6. Web Science (10 points, 10 minutes)

a.   What is "Web Science" and why does it matter? (Answer in complete sentences)

- Positions the world wide web as an object of scientific study
- Recognizes the web as a transformationa, disruptive tech
- Focuses on understanding the web
  - Its components, facets, characteristics
  - Commerce platforms
  - Difficult to predict the impact of your product
- What processes have driven web growth, and will persist?
- How does web function as a socio-technical system?
- How does large scale structure emerge from a simple set of protocols?
- The web is fluid
  - Continuously changing
    - Coordinated, conflicting processes
  - Evolving large scale structure
    - Depends on static / dynamic parts
  - Socio-technical system
- Web Architecture
  - Identifying resources - standard system
  - Representing resources - standard formats
  - Exchanging resources - standard protocol

b.   What is the "Web Science Method"? How would you use the "Web Science Method" to address a "Social Problem"?

- You use creativity in conjunction with external values to come up with an idea to address specific issues. There are two ways to put your idea into practice: socially or through design. If you choose the design route you can implement technology to aid in your solution. Whichever path you choose, in order for your idea to be successful, it must address the issue on micro level. You will likely be unable to predict the impact of your product based on its complexity. Over time, this micro idea will impact people on a micro level. People will then analyze this micro idea and find issues with it or ways that

it can be improved upon. By relying on external value systems to address these new issues, the cycle starts again.