Introduction to ITWS

Quiz 1: March 1, 2021

There are 4 questions of multiple parts. Point values are indicated

Place your name on the top of the document in the header

Enter your answers directly into this document (other than coding)

All answers should be in be in Your Own Words, and use proper grammar

Make sure your answers use an alternative color – (not Black or Red)

Save this document (or a copy) as *yourname*-quiz1.docx (or doc)

Place all documents including this one in a folder, inside your iit folder, named

ITWSQuiz1-*yourname*-*yourRCSID*

When finished with the quiz, zip your iit folder and all related files into a file named

ITWSQuiz1-*yourname*-*yourRCSID*.zip

And submit it to LMS

Make sure your submitted document remains in MS Word format – Pages, GDocs, etc… will not be graded.

Follow all of these instructions or you will lose points

1. XML (20 points) Place your answers to this question inside this document per the above instructions)
   1. What is XML and what is it used for? Give 2 examples discussed in class and describe how it is useful.
      1. XML, which stands for Extensible Markup Language, is a markup language used primarily for describing data in a plain text format that can be opened and read with virtually any text editor. XML is similar to HTML in the sense that they both deal with data, but HTML displays the data and describes the structures of webpages while XML stores and transfers the data. XML also allows the user to create their own data tags, whether it be for music or different kinds of screws in an inventory and use them to describe things in the XML file.
      2. One example of XML used in class is using XML to describe a book, which had elements such as the author, title, publisher, genre, and ISBN. Each of the tags were created by the user and specific to the book, which highlights shy XML is so useful in describing data.
      3. Another example used in class was the RSS feed pulled from http://events.rpi.edu /. It showed an example of XML being used for an RSS feed, which although isn’t as popular as it used to be, is still very useful for consolidating your information that you receive by aggregating multiple RSS feeds into one stream and looking at that one stream.
   2. Design your own XML format to describe your favorite music files. The format is yours to design – it should be unique and customized per your preferences. Your format should include the following;
      1. Root element
      2. A tag for your song
      3. Descriptive tags for your music such as (but not limited to)
         1. Song name
         2. Artist
         3. Release date
         4. Length
         5. Genre
         6. Name of music file on your computer
2. HTML & CSS (40 points)

In Lab 3 you were to build a website with at least two pages. For this question, you will be working with your submissions for lab 3 and updating your website.

* 1. Make sure you have/add a background that has a consistent theme throughout your site (all pages) (done)
  2. Add a personal photo in the background to your website (whatever style you like) (done?)
  3. Enhance your site by adding a unique page for each lab. Include at least a brief description of the lab and a link to your solution. (omit the quiz1 folder – no page for this is required) (done)
  4. Your menu and theme must be consistent (done)
  5. Add at least two externally hosted Google Fonts to your website – you may need to research this. (done)
  6. Make sure you document your code with detailed descriptions (done)
  7. Make sure your entire site refers to one, external css file. If you need more, justify it/them in your readme file (done)
  8. Include a readme file (text or markup) file which
     1. Explains in detail, the changes you made to your site architecture (include an updated diagram/map) (done)
     2. Explains in detail your design choices (logic and UI) (done)

1. Communications and Networks. (20 points) Write in your own words, using proper grammar)
   1. In reflecting on the exercise and your understanding of how networks are deployed, how would you have changed your network? How?

The nation that my group was assigned to was Pakistan. Since we did not have as much buying power as other nations, we made relatively few deals until the end until Germany offered to help pay for a connection with India. In hindsight, I think that my group should’ve sought out to make deals with more powerful nations to have my team’s nation be a bridge between themselves, like bridging western Europe with eastern Asia, allowing for cheaper costs for laying down cable and also figuratively putting Pakistan on the map as a connection between major cities/countries.

* 1. Give the current state of technology, how would you design a network to bring Internet to the world’s population? Design any network you like, using any technology, but be reasonable and consider how it would be paid for.

In the United States, The Accessible, Affordable Internet Act for All Act was passed in late June/early July, which was to “invest $100 billion to build high-speed broadband infrastructure in unserved and underserved communities to close the digital divide”[[1]](#footnote-1) in America. Because America is one of the world’s leading powers, it has the money and infrastructure to undergo something like this, but to developing nations, such a feat would be very burdensome for the government. I would suggest forming a coalition of the world’s nations to help provide the payment and support for establishing high-speed broadband infrastructure to the majority of the world. In the cases where even the support from the leading powers of the world would make a wired connection difficult, the government could do something with satellite internet service providers like Starlink to provide more affordable plans to people without Internet.

1. “Peloton” Case (20 points)
   1. Describe, in detail how Peloton has or has not been successful in vertically integrating their supply chain. Research your answer by looking beyond the case to news articles and financial data all available online.

Peloton has definitely been successful in vertically integrating their supply chain– stock prices have shot up and they boast lots and lots of sales. Their strategy of vertical integration was a tiny bit necessary (because they couldn’t find people willing to do what they wanted for a bunch of stuff anyways) but in the long run it absolutely benefited them a great deal. With more control over the supply chain, profit margins increase, and they have the ability to create and ship new products faster than corporation that use horizontal or no form of integration. Peloton already has 2 other products (rowing machine and treadmill) at the time of this writing and is currently making another one, striving to make them more affordable too.

* 1. You are now the CEO – what are your top 3 objectives that you believe will allow Peloton to maintain their dominance, or if this is not possible, what will you do to keep them competitive. Justify your position and strategy.

My first objective is to maintain support for my original product line and to work on improving the offerings. Peloton has found its original success in the original offerings, but in order for the products to stay competitive with other corporations that will inevitably spring up, Peloton should not stay complacent with its success.

My second goal is to not just cater towards the original audience of the upper middle class / boutique fitness enthusiasts but to diversify my product line to also cater towards a wider range of people. Peloton has already offered their fitness subscription, which does not come with a bike or anything, but does come with the instructional videos, which is aimed towards people who do not want the bikes but still want the fitness experience with Peloton. This is a step towards the right direction, but I would also strive for Peloton to create more affordable products that would appealing to a wider range of people.

My last goal is to expand the services that Peloton offers. Since Peloton is so deeply entrenched in vertical integration, the company can offer its services such as logistics, recording studios, or fitness instructors, to other companies that are willing to partner with Peloton. For example, Samsung, one of Apple’s competitors, provides a wide variety of parts to Apple, such as screens and incorporated circuits.

1. https://www.klobuchar.senate.gov/public/index.cfm/2020/7/klobuchar-clyburn-introduce-comprehensive-broadband-infrastructure-legislation-to-expand-access-to-affordable-high-speed-internet [↑](#footnote-ref-1)