Introduction to ITWS

Quiz 2: March 29, 2021

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

Enter your answers directly into this document (unless instructed otherwise)

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

There are 5 questions on this test. Make sure you complete them all.

Make sure your answers use an alternative font and/or color – (not black or red)

Save this document as *yourName*-*yourRCSID-*S21Quiz2.docx

Create a readme file and discuss any relevant information about the lab, include at least; your GitHub id and Discord handle.

Place all quiz specific documents including this one under your iit folder in a folder named

quiz2

When finished with the quiz, zip your iit folder into a file named

*yourName*-*yourRCSID-*S21Quiz2.zip

Commit your changes as instructed below and push to GitHub

Submit it to LMS

NOTE: You are not to discuss this quiz with anyone. You are not to reference old (previous semester) submissions for ‘help’ or guidance. You may not solicit or receive help online or in-person. You may reference online resources, and you may use the notes from this class, but all work must be your own and you must figure out the solutions on your own.

ALSO NOTE: This quiz is due at 11:59PM on the date shown on LMS. From 11:59-12:09:59 it will be accepted as late with a -30% penalty. At 12:10 it will NOT be accepted, and you will get a 0. Please submit your quiz on time.

1. GIT (10 points)
   1. Create a private repo on Github for your iit directory including all your content for this class thus far, including the quiz2 folder
   2. Make sure your repo and your local folder are synced and match
   3. Make sure you have a descriptive readme that is visible in the main area for the repo
   4. Invite Varad and me to collaborate: Varad’s id is varad0119, and my id is rplotka
   5. At the end of this quiz, all your work in your iit directory (including your quiz answers) should be pushed to your repo – make sure it is private.
2. Technology (coding): (35 points)
   1. You will be making changes to your website
   2. Create an issue indicating that Quiz 2 is taking place
   3. Check out a branch from your iit repo, and name it quiz2

You should make stages/commits to this branch – DO NOT merge it back into the master/main until you are finished with the quiz

* 1. jQuery/jQueryUI
     1. Modify your menu to use jQueryUI widgets (Menu, Tabs, etc)
        1. tabs
     2. Add 1 new interaction (your choice)
        1. Buttons that hide/show links on the main page
     3. Add 1 additional widget (your choice)
        1. accordion
     4. Add 2 effects (your choice)
        1. Hide/show on links on the main page
        2. Buttons to hide/show the links will now shake if the links are already hidden/shown

*(You may need to modify your design to accommodate the above. Be creative – use this opportunity to jazz up your site)*

* 1. Using external fonts from Google – make sure your Header and Menu and Footer use one unique font, and your text uses another.
  2. Make sure you give a detailed description of your design choices, why you made them and how you went about implementing them. Be descriptive.

**The navigation page for the lab now has the accordion widget from jQuery**

this enables users to see a brief description of the lab before clicking on the link to the lab and seeing a working example

**The main menu now uses tabs to show the website description and links to the lab navigation/frequently used links page**

this lets me give a better description of what each tab is

**There are now buttons that will let the user show/hide links, and they will shake if the links are already hidden/shown and the user tries pressing the button again**

* 1. When done, merge your changes back
  2. Close the issue with a detailed comment
  3. Make sure your readme is descriptive and styled (nothing too crazy, but not just text)

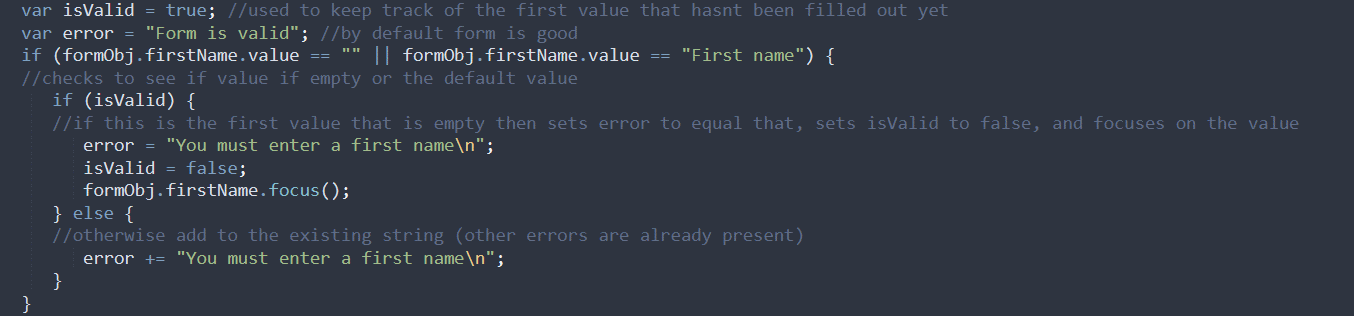
1. Technology (description) (15 points): Web Development
   1. Based on the discussions in class, what is a namespace and what does it mean for us. Explain in detail, and in your own words, and provide 2 examples from class discussions/labs.

A namespace in XML is way of separating groups of tags when just the name of the tag is not enough. They also help prevent clashes in the tags, as if one were to use only the <nut> tag for both food and hardware nuts, there would be a clash. For example, the tag <nut> by itself could be a nut you eat or the kind of nut that is a fastener, so tag nut with a namespace will help differentiate what kind of nut it is - <hardware:nut> and <food:nut> will tell the user what kind of nut it is.

Another example of a namespace is the default namespace for documents declared with a html tag, [<html xmlns=<http://www.w3.org/1999/xhtml>>].

* 1. Explain, in your own words, exactly how your solution to the validation in Lab 5 worked. Include a reasoning for your logic and include the code snippet here in Menlo font.

I had a Boolean called isValid that I set to true by default, and I would check the value of each text field. If the area had something that was not blank/the placeholder text when the user pressed submit, the function would check to see if isValid is true or false. If it is true, it will set it to false, set the variable error’s value to “You must enter a first name/last name/etc. \n”, and focus on the said field. If isValid is already false, then instead of overwriting error’s previous value, it would concatenate “You must enter a first name/last name/etc. \n” to the error message. The function would do this with every text field in the form, and at the end it would call an alert with the value of error. Lastly, I would return false at the end because otherwise clicking on the button would redirect the page to a blank page which I did not want to do.



var isValid = true; //used to keep track of the first value that hasnt been filled out yet

var error = "Form is valid"; //by default form is good

if (formObj.firstName.value == "" || formObj.firstName.value == "First name") {

//checks to see if value if empty or the default value

if (isValid) {

//if this is the first value that is empty then sets error to equal that, sets isValid to false, and focuses on the value

error = "You must enter a first name\n";

isValid = false;

formObj.firstName.focus();

} else {

//otherwise add to the existing string (other errors are already present)

error += "You must enter a first name\n";

}

}

* 1. What is the difference between an application layer protocol, a Transport layer protocol and a Link layer protocol? Give 3 example of each.

Link layer transports the data – physical link layer transmits/receives the signals, data link layer converts the signals into binary that can be used by the network layer.

The transport layer is responsible for delivering data to the application layer and preparing data from the application layer to be transmitted to the internet layer – it breaks up the data into packets that include metadata like the source and destination port numbers which will be used by other layers.

The application layer is a more abstract layer that mainly organizes and manages the data that is received from the transport layer or sends a response to the transport layer. The application layer also specifies the communication protocols that will determine what kind of data is sent and how it should be sent.

Application layer protocol examples -http/ftp/pop

Transport layer protocol examples – tcp/udp/dccp

Link layer protocol examples - Ethernet, Category 5 cables, USB

HCI - Website mockups (20 points) (deck and video are online on LMS in week 9)

* 1. Explain, in your own words, per the inclass lecture, what is a paper prototype

A paper prototype is a way to communicate ideas in the initial stages of development of a product. It does not require the user to create an actual mockup, just what it should look like and therefore requires less energy and resources than something like a proper mockup.

* 1. Using Balsamiq, create a prototype of your website. Include the files in a subfolder of your quiz2 folder named quiz2HCI

I created the mockup before question 2 where I added modifications to my website with jQuery. The future planned next steps is what I will add with jQuery

I saved this as quizHCI.bmpr, there was only 1 file so I did not make a subfolder.

* 1. In your prototype, add the current functionality and add future planned next steps. Make sure they phases are indicates clearly in your mockups

1. Web Science (20 points)
   1. Explain, in your own words: What is a URI? How does it relate to a URL? How do they help make ‘the Web’? Name 3 examples from class in your answer. (use complete sentences and your own words)

A URI is an acronym for Uniform Resource Identifier and is used to identify where a resource is on the web. They identify a specific resource, and compared to a URL, they do not specify how to access the resource – a URI would be [www.ietf.org/rfc/rfc2396.txt](http://www.ietf.org/rfc/rfc2396.txt) while the URL would be <http://www.ietf.org/rfc/rfc2396.txt>. Another example of URI vs URL would be the URI being [example@example.com](mailto:example@example.com), while the URL being <mailto:example@example.com>. URLs URIs help make “the Web”

By having URLs and URIs link to each other, they enable users to access otherwise isolated resources, giving “the Web” its namesake – without URLs and URIs, someone would have to input the specific address of the specific resource they want to access and not be able to traverse through the internet as well as they can with the system that is “the Web”.

* 1. Social Problem
     1. Using references from the in-class lecture, identify a social problem and propose an engineered solution. What could you do to offer a solution?

(In your response, identify how to measure, analyze evaluate and iterate. In other words, How might you analyze and visualize information to help make your case? )

Who should govern the web – how should it be regulated?

An ongoing social problem is the question of who should govern the internet and how it should be regulated. There were bills like the Stop Online Piracy Act (SOPA) which tried to essentially stop online piracy. However, there was a large opposition for the passing of the act because of the implications of suffocation of free speech that was possible, and it was not passed. There was another act about abolishing Net Neutrality that was passed in 2014 regardless of the millions of emails and hundreds of thousands of calls that were made to congress. This shows that although some senators have good intentions, the majority are easily swayed by the lobbyists and “donations” from parties of interest and will change their vote for those reasons. A possible solution is to instead have the public vote for how the internet should be regulated, and have their votes weighted by the population of the state, similar to how the presidential election works with the electoral college.