Introduction to ITWS

Quiz 2: November 5, 2020

1. Technology (coding): (50 points)
   1. You will be making changes to your website
   2. Check out a branch from your iit repo, and name it quiz2

You should make stages/commits to this branch

* 1. Create an XML file with called usersXML.xml. Format it any way you like, but it must be well formed. Do not worry about a dtd or stylesheet, however it should be documented in your readme file. In it you must have, at least
     1. Userid
     2. Password
  2. Add a user and password to your XML file using your editor
  3. Add a login form to your website to be accessed via your menu
  4. When user logs in check the user id and password against the entry in your XML file using AJAX
     1. If they are a valid user, change the menu item for login to logout
        1. You will need to keep a flag for ‘logged in’. your choice as to how to do this
     2. If they are not valid, display an error upon returning to the index.html
  5. Building off lab 9, expand your json file to include an image file of your choosing for each page of your website. These image files may be local or external. Modify your website to use these images on your pages. Images may be background, highlight or other. Use your own sense of style.
  6. Create an XML or json file – your choice, names preferences.xxx where xxx is appropriate for the file type you choose.
     1. In this file, you are to store information relevant to the presentation of your site. It should include, at a minimum
        1. The location and name of your website’s readme file
        2. The fonts to be used on your site and the source location
        3. The names of any image files used for your site other than the ones for the individual pages done in (g)
     2. Modify your site to read in this information and use it to display your information for your site.

1. Technology (description) (25 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 is an overarching set that allows the use of uniquely named objects, preventing collisions. What this means for us is that it allows programmers to have multiple different objects and tags when using languages such as XML, preventing conflicts. One example is jQuery. The $ in front of the functions tells the system that the following code is jQuery. We also use namespaces in our XML files to tell the system how to parse it.

* 1. We have learned the jQuery function in class. Explain what the ‘$’ does as it pertains to jQuery. Also explain what we would do if another API set is already using the $.

The $ is a namespace indicator for jQuery, telling JavaScript that the function is a part of the jQuery library. If another API uses $, we can simply use “jQuery.” in front of our function.

* 1. What is the OSI 7-layer stack and how does it differ from a normal web stack? Why do we care?

The OSI 7-layer stack is a framework that describes how information is processed in a networking environment, and how computers communicate over this network. A normal web stack instead focuses on all of the tools needed to build and run a website. This includes the language, the operating system, a database system, and a web server. We care because each stack solves a different problem, with OSI giving us a visual depiction of information flow and a web stack giving us the tools needed to create a website.

* 1. What is the LAMP Stack? What is it used for?

The LAMP stack is a common web stack used for creating websites or applications on the web. It stands for Linux, Apache, MySQL, and PHP. Linux fulfills the OS requirement, Apache fulfills the web server, MySQL is the database, and PHP is the programming language.

* 1. What is XSS and why did Plotka make us type in those scripts? When you did type those scripts, what *exactly and specifically*, happened. Do NOT just say the browser went to another page.

XSS is the process of running code entered by the user in a webpage. Prof. Plotka made us type those scripts to showcase security vulnerabilities possible when not fully checking inputs. When we typed the scripts, the jQuery parsed the text, but detected the script tags and subsequently ran the enclosed code.

* 1. What is an array? How are they used?

Arrays are data structures of collections of data of usually one type, and of a fixed size. They are used by initializing an array with a size, in most cases, and then placing data inside of it by accessing the specific indexes. This data can then be retrieved by accessing the indexes again.

1. HCI - Website mockups (25 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

Paper prototyping is drawing out, or using paper to create a representation of a digital interface. This allows the designer to plan out their website and assess its usability and accessibility.

* 1. Explain, in your own words, how you went about developing your lab 7 solution?

I started out by creating a generic template that can go on every page. This includes mainly a menu bar at the top of the screen. I worked with my group to split up the tasks. I worked on the student feedback portion of the website. For this, I knew that I wanted a few key features: A title of the feedback, a text field for feedback, a date and timestamp, a way to see if the feedback had been viewed, and a response box for staff. Past that, I wondered about what other features would be nice, so I added buttons to archive, edit, and delete the post.

* 1. What would you have done differently, or how would you take it to the next step?

I would have improved the areas around the form submission part. This includes adding more to the menu bar, such as an RPI logo. Other details in the menu bar that I could have added could be login information and inputs.

* 1. How can you tell if it is going to be usable or not?

I asked a friend who did not know what my project was about if they could understand what the layout was displaying. I worked with them to make sure that it was as intuitive and readable as possible, and used that as my benchmark to see if it was usable.