**DQ2:Topics**

Select two of the following topics: AJAX, jQuery, HTML5, CSS3, OWASP, Apps. Assess the practical uses to which you might put these two topics in your future career. Evaluate the effect they may have in influencing the future of the Web.

1. Introduction
   1. Bioinformatics
      1. BioPlanet
         1. Bioinformatics is the application of computer technology to the management of biological information. Computers are used to gather, store, analyze and integrate biological and genetic information which can then be applied to gene-based drug discovery and development. The need for Bioinformatics capabilities has been precipitated by the explosion of publicly available genomic information resulting from the Human Genome Project.
   2. Describe what I do.
2. HTML5
   1. What is it?
      1. Deitel, 2012, p. 6-7
         1. Chapters 2–3 introduce HTML (HyperText Markup Language)—a special type of computer language called a markup language designed to specify the content and structure of web pages (also called documents) in a portable manner. HTML5, now under development, is the emerging version of HTML. HTML enables you to create content that will render appropriately across the extraordinary range of devices connected to the Internet—including smartphones, tablet computers, notebook computers, desktop computers, special-purpose devices such as large-screen displays at concert arenas and sports stadiums, and more. (Associates 6)
   2. Application to my career/bioinformatics
   3. Effect on influencing future of the web.
      1. Avram, 2014
         1. For the near future, 2014-2017, the study anticipates that while HTML5 will progress, the native vs. web controversy will continue, HTML5 failing to displace native applications for mobile devices. HTML5 will “gain significant traction as a technology for several classes of apps” such as “content-based publishing apps for magazines and electronic books” and enterprise apps. Also, hybrid apps will represent a large share of HTML5-based applications over the next years.
3. jQuery
   1. What is it?
      1. Deitel, 2012, p. 8
         1. jQuery (jQuery.org) is currently the most popular of hundreds of JavaScript libraries.3 jQuery simplifies JavaScript programming by making it easier to manipulate a web page’s elements and interact with servers in a portable manner across various web browsers. It provides a library of custom graphical user interface (GUI) controls (beyond the basic GUI controls provided by HTML5) that can be used to enhance the look and feel of your web pages. (Associates 8)
      2. Arel, 2014
         1. jQuery became popular for one key reason: Its clean and easy to use API that abstracts the complexity of cross-browser scripting among even the most dated browsers. So as we approach an era of the Web where some of these browsers are quickly becoming a thing of the past, it’s understandable that we see a shift in the need for such APIs, and that the future of jQuery is in question.
      3. Stackoverflow:
         1. The purpose of jQuery is to smooth over the differences between browsers. So while some may implement this behavior many won't, but jQuery allows you to use the functionality without dropping support for them.
         2. Yahoo answers
            1. jQuery is a extensive library of javascript functions that make it easier to create javascript driven webpages. As you know already implementing jQuery is very easy involving a link to a ".js" file.
         3. Narayan, 2011
            1. jQuery is not a language, but it is a well written JavaScript code. As quoted on official jQuery website, "it is a fast and concise JavaScript Library that simplifies HTML do
            2. jQuery is very compact and well written JavaScript code that increases the productivity of the developer by enabling them to achieve critical UI functionality by writing very small amount of code.

It helps to improve the performance of the application

It helps to develop most browser compatible web page

It helps to implement UI related critical functionality without writing hundreds of lines of codes

It is fast

It is extensible – jQuery can be extended to implement customized behavior

* + - * 1. Other advantages of jQuery are:

No need to learn fresh new syntaxes to use jQuery, knowing simple JavaScript syntax is enough

Simple and cleaner code, no need to write several lines of codes to achieve complex functionality

* 1. Application to my career/bioinformatics
     1. Biostars
        1. The JavaScript libraries Prototype and jQuery are both heavily used for coding bioinformatics web interfaces.
     2. Many bioinformatics tools take input from the user, which should be validated.
  2. Effect on influencing future of the web.
     1. Arel, 2014
        1. jQuery is a powerful, well tested, highly utilized library available to JavaScript in the browser. While it may still make sense to include in most of your web applications, it’s important to understand the DOM isn’t such a scary place after all. jQuery can assist in extracting the bugs and complications within, but it shouldn’t replace the knowledge we have and our ability to navigate the DOM in a meaningful and effective way.

1. Conclusion
   1. I plan to create web pages as a wrapper for command line bioinformatics tools.

References:

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