IT-2320: INTERACTIVE INTERNET PROGRAMMING

Cuyahoga Community College

Viewing: IT-2320 : Interactive Internet Programming

Board of Trustees:

December 2023

Academic Term:

Fall 2024

Subject Code

IT - Information Technology

Course Number:

2320

Title:

Interactive Internet Programming

Catalog Description:

Introduction to client-side scripting using JavaScript. Covers language fundamentals, interacting with HTML elements, event-driven functions, validating form input, JavaScript Object Notation, and more.

Credit Hour(s):

4

Lecture Hour(s):

3

Lab Hour(s):

2

Requisites

Prerequisite and Corequisite

IT-1050 Programming Logic, and IT-2310 Web Programming.

Outcomes

Course Outcome(s):

Master the fundamentals of the JavaScript language for client-side scripting.

Objective(s):

1. Add JavaScript to a web page using the script element.
2. Create variables to store and access data throughout the use of a program.
3. Utilize single- and multi-line comments to add documentation to HTML and/or JavaScript files.
4. Change the flow of statements in a program using control logic statements.
5. Modularize statements into functions and call them based on events triggered by a user interacting with HTML elements.
6. Read, update, and validate HTML form data.
7. Use dates and numbers with included JavaScript Date and Number methods.
8. Utilize JavaScript arrays to process sets of data.
9. Create and use JavaScript objects.

Course Outcome(s):

Utilize JavaScript and client-side scripting techniques to implement interactive web pages.

Objective(s):

1. Identify, analyze, and research business problems and solve them using Hyper Text Markup Language (HTML), Cascading Style Sheets (CSS), and client-side scripting.

2. Use JavaScript functions to write event-driven programs where users interact with HTML on a web page using HTML's Document Object Model (DOM) and JavaScript's document object.
3. Attach events to HTML elements using JavaScript.
4. Demonstrate an understanding of JavaScript events such as page load, form submission, and user interaction.
5. Modify existing CSS properties using JavaScript and the DOM.
6. Explain and use JavaScript Object Notation (JSON) to store and pass data.
7. Create asynchronous calls to a web server using AJAX or the Fetch API.
8. Explore relevant JavaScript frameworks and libraries.

Methods of Evaluation:
1. Class participation or discussion
2. Programming projects
3. Quizzes
4. Exams

Course Content Outline:
1. Getting Started
   a. Introduction to web development
   b. Getting started with JavaScript
   c. The essential JavaScript statements
   d. How to work with JavaScript objects, functions, and events
   e. How to script forms and controls
   f. How to test and debug a JavaScript application
2. JavaScript essentials
   a. How to work with numbers, strings, and dates
   b. How to code control statements
   c. How to work with arrays and web storage
   d. How to create and use functions
   e. How to create and use objects
   f. How to use regular expressions, handle exceptions, and validate data
3. Advanced JavaScript skills
   a. How to work with events, images, and timers
   b. How to work with closures, callbacks, and recursion
   c. How to work with namespaces, modules, and custom properties
   d. How to work with JavaScript Object Notation (JSON)
   e. How to make asynchronous network requests using AJAX or Fetch API

Resources
McFarland, David. *JavaScript jQuery: The Missing Manual.* 3rd. O'Reilly Media, 2014.

Marijn Haverbeke. (2018) *Eloquent JavaScript*, No Starch Press.

David Flanagan. (2020) *JavaScript: The Definitive Guide*, O'Reilly Media.

(2023) *JavaScript Tutorial*, W3Schools. https://www.w3schools.com/js

Mozilla Corporation. (2023) JavaScript Basics (MDN Web Docs). https://developer.mozilla.org/en-US/docs/Learn/

(2023) *Tutorial: Intro to React (Facebook Open Source)*, Meta Platforms, Inc. https://reactjs.org/tutorial/tutorial.html

(2023) *What is jQuery?*, OpenJS Foundation. https://jquery.com

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