# Career Services Assignment 9 – API Flash Cards

**Points possible:** 50

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| Category | Criteria | % of Grade |
| Completeness | All requirements of the assignment are complete. | 100 |

**Instructions:** Research common interview questions online revolving around HTML, CSS, and AJAX and create 20 flash cards from the information you find. Study your flash cards regularly to better prepare for interviews. Fill out the table below with the information you put on each of your flash cards.

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| **Front of Card** | **Back of Card** |
| *HTML* |  |
| Are the HTML tags and elements the same thing? | No. HTML elements are defined by a starting tag, may contain some content and a closing tag.For example, <h1>Heading 1</h1> is a HTML element but just <h1> is a starting tag and </h1> is a closing tag.1 |
| What are void elements? | HTML elements which do not have closing tags or do not need to be closed are Void elements. For Example <br />, <img />, <hr />, etc.1 These are also known as self-closing tags. |
| What are HTML Entities? | In HTML some characters are reserved like < > and /, etc. To use these characters in our webpage we need to use the character entities called HTML Entities.1 These are also known as escape characters. |
| What is the difference between the ‘id’ attribute and the ‘class’ attribute? | Multiple elements in HTML can have the same class value, whereas a value of id attribute of one element cannot be associated with another HTML element.1  Simplified, class >= 1 element and id = 1 element. IDs can also be used to create anchors. |
| What is multipart form data? | Multipart form data is one of the values of the enctype attribute. It is used to send the file data to the server-side for processing. The other valid values of the enctype attribute are text/plain and application/x-www-form-urlencoded.1 |
| *CSS* |  |
| What is the origin of CSS? | SGML (Standard Generalized Markup Language) is the origin of CSS. It is a language that defines markup languages.2 |
| How can you integrate CSS on a web page? | 1. Inline method - It is used to insert style sheets in HTML document 2. Embedded/Internal method - It is used to add a unique style to a single document 3. Linked/Imported/External method - It is used when you want to make changes on multiple pages.2 |
| What are the different types of selectors? | * Element * ID * Class * Universal * Group2 |
| What is the CSS Box model and what are its elements? | The CSS box model is used to define the design and layout of elements of CSS. The elements are:   * Margin - It removes the area around the border. It is transparent. * Border - It represents the area around the padding * Padding - It removes the area around the content. It is transparent. * Content - It represents the content like text, images, etc.2 |
| What is the purpose of the z-index and how is it used? | The z-index helps to specify the stack order of positioned elements that may overlap one another. The z-index default value is zero and can take on either a positive or negative number. An element with a higher z-index is always stacked above than a lower index. Z-Index can take the following values:   * Auto: Sets the stack order equal to its parents. * Number: Orders the stack order. * Initial: Sets this property to its default value (0). * Inherit: Inherits this property from its parent element.2 |
| *AJAX* |  |
| What is AJAX? | Asynchronous JavaScript and XML (AJAX) is a technique that uses XMLHttpRequest objects to update web pages asynchronously by exchanging a small amount of data with the server, update the page without page reload. It is a front-end tool that communicates with the back-end server from the browser.3 |
| What are the protocols AJAX uses? | * JSON – For communication between client and server * UED or URL encoded data * HTTP’s GET or POST methods * XMLHttpRequest that place a request with webserver3 |
| How do Synchronous and Asynchronous Requests differ? | In a Synchronous request, the request sent from the client receives the response in the same HTTP connection. Examples being responses from Internet gateway, phone calls, and video meetings.  Whereas for Asynchronous requests, multiple requests can be sent from clients and their responses can be received in subsequent connections. Examples are collaborative documents like assessments, online queries, emails, and online forums.3 |
| What are some important features? | * High performing web pages and user-friendly features like autocomplete suggestions * Help in Template rendering at the client-side * Client component declarative instantiation * Use of Observer pattern on JavaScript arrays and objects * Invoke ADO.Net data contexts and services * Assists in Data View control and binding live data3 |
| What are some advantages of using AJAX? | * Ajax reduces latency-response time in both Request/Response. * XMLHttpRequest object in Ajax is highly responsive in data transfer in specific areas without page reload. * Asynchronous calls to Server prevent client’s wait for data before rendering. * Form validation is instant using Ajax. * Bandwidth use is reduced when Ajax is used in fetching and storing data from the database in the background without page reload.3 |
| What are the limitations of Ajax? | * Ajax is not advisable in developing web applications but is great for websites. * View page source display code is written in Ajax exposing the functionality. * It is complex, less secured, needs more time in developing web pages. * Search engines cannot index pages developed using Ajax as Crawlers cannot identify web applications developed in JavaScript and Ajax. * XMLHttpRequest object can only fetch information from the server where pages are hosted but cannot fetch information from another server. * It is not possible to bookmark pages developed in Ajax. * Ajax cannot function with JavaScript disabled in the browser. * It has a slow response time because different page controls load at different times. * Dynamic page registration of its own on browser history engine is not possible, the code-behind file function does not work.3 |
| What are the security threats that prevail with Ajax code? | * Ajax request calls are in plain text format, resulting in insecure access to the database. * Data retrieved gets stored on the client browser so anyone can view it. * It makes monitoring browser sessions with help of a script. * Entire Ajax code can be seen using view page source, hackers can misuse this code in a cyber attack.3 |
| What is XMLHttpRequest? | XMLHttpRequest is an API that has methods and properties used by various scripting languages such as JavaScript, VBScript for manipulating and transferring XML data using HTTP protocol connecting client and server.  Various formats supported by XMLHttpRequest for data transfer are XML, JSON, plain text, and even binary content. XMLHttpRequest object help update parts of the webpage without reloading the page. It recognizes events that occur during the processing of the request.3 |
| How does the AJAX callback function work? | The following are steps carried out during Ajax callback:   * Client browser sends a request message to Server. * The user is free to do anything other than waiting for the response as the request call is asynchronous in nature. * The server receives the message and processes the page for which Ajax callback is called. * The response is sent to the browser as a JavaScript code string that gets executed in the browser.3 |
| How can you improve AJAX performance? | In order to improve the performance of Ajax call, we can consider the following steps:   * Limiting Ajax requests to a minimum * A wise selection of events that triggers Ajax request * Optimum use of GET request * Minimize data amount transmission * Use Caching to secure data3 |

Sources:

1 <https://www.interviewbit.com/html-interview-questions/>

2 <https://www.javatpoint.com/css-interview-questions>

3 <https://www.softwaretestinghelp.com/ajax-interview-questions/>