

# Career Skills Enhancement with Ajax and JSON Data Exchange

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**Abstract:-**Acquiring a job is the dream of every college student but most colleges start placement training only at the final year of study. So, the Students don't get the knowledge about the interview process until they attend some interviews that is form the chances they miss. The solution is providing prior knowledge starting from the first year through an interview training system so that they can get the required skills. A major concern in a web application is its loading time that is addresses by using json data format. Test question uploading is another overhead which is solved by an advanced data convertor.

This approach avoids interruption of the user experience between successive pages, making the application behave more like a desktop application. Json is considered efficient over XML in data transfer mechanism.

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## 1. Introduction

The computers don't communicate with each other the way that people do. Instead, computers require codes, or directions. These binary codes and commands allow computers to process needed information. Every second, billions upon billions of ones and zeros are processed in order to provide you with the information you need.

The methods by which computers communicate with each other through the use of mark-up languages and multimedia packages is known as web technology. It may be easier to think of web technology as a gradual process of evolution, some stages of which are still in use today. First, try imagining a network without web technologies. While you'd have direct access to individual computers, you wouldn't have the ability to run anything off the cloud, so to speak. Any time you wanted to look at a piece of information, you would have to do it with a direct link to the host computer, which, simply put, would be pretty inefficient.

Web technology does away with such inefficiencies by providing us with ways to interact with hosted information such as websites. Using a variety of mark-up languages, like hypertext mark-up language (HTML) and cascading style sheets (CSS), our capabilities can range from delivering text to producing incredible graphics.

## 2. Related Work

Ajax (also AJAX short for "asynchronous JavaScript and XML") is a set of Web

development techniques using many Web technologies on the client side to create asynchronous Web applications. Ajax is not a single technology, but rather a group of technologies. HTML and CSS can be used in combination to mark up and style information. AJAX [4] is a set of Web development techniques using many Web technologies on the client side to create asynchronous Web applications. The ideal page load speed for your website's HTML to be less than 1.5 seconds. Hence a light weight data interchange format is required for minimizing load time. JSON [1] is designed to be a data exchange language which is human readable and easy for computers to parse and use. Ontologies are knowledge representation frameworks that describe an area of knowledge by defining the common concepts of that domain and the concepts' properties and relationships (Daconta, Obrst, & Smith, 2003; Gruber, 1993; Wilson, (2004).

Gruber (1993) defines ontology as a specification of a conceptualization that is created with the aim of sharing knowledge by committing to this ontology.

Knowledge about a collection of learning content units can be used to organise individual units into a larger learning object by sequencing the units based on inherent dependencies that are derived from the knowledge. In addition to basic taxonomy and thesaurus functionalities, conceptual modelling and logical theory functions play an important role. While this is traditionally the task of the instructor, with increasing automation and reasoning and interface support, learners could

equally well compose content units from repositories according to their individual needs.

The knowledge space – defined by Sowa (2000) as the combination of knowledge types, representation formats, and purpose of represented knowledge – for learning technology systems (LTS) comprises several knowledge types relevant to the educational context.

Content authoring comprises the creation of educational content from scratch by an author or instructional designer and the generation of content from resources such as ontologies. Pahl & Holohan start with a generation-oriented scenario, where stand-alone knowledge such as a subject ontology (see corresponding entry in Table 4) is directly used to generate a content outline (Diogene, 2004; Fischer, 2001; Pahl & Holohan, 2004). This is in contrast to knowledge-based organisation or annotation of content, which use ontologies on a meta level. Content does not exist prior to the generation process.

### 3. XML data exchanging format

W3C specifies that “XML shall be straightforwardly usable over the Internet” and “XML documents should be human-legible and reasonably clear.”

XML is a language used for creating user-defined markups to documents and encoding schemes. XML does not have predefined tag sets and each valid tag is defined by either a user or through another automated scheme. Vast numbers of tutorials and user forums provide wide support for XML and have helped create a broad user base.

### 3.1 JSON data exchanging format

JSON is designed to be a data exchange language which is human readable and easy for computers to parse and use. JSON is directly supported inside JavaScript and is best suited for JavaScript applications

Crockford addresses such arguments by claiming that “every object is a namespace. Its set of keys is independent of all other objects, even exclusive of nesting. Also, JSON uses context to avoid ambiguity, just as programming languages do”.

They calculated the efficiency in both the sides i.e. server side and client side in terms data sending with the help of xml , same with the help of the JSON as the compared results suggests that JSON performs well over the AJAX wee applications.



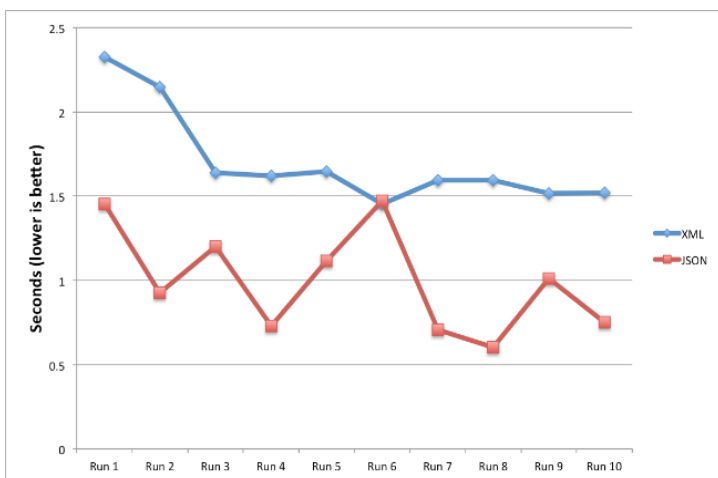
2. Percentage APIs of XML vs JSON

Figure no:	Heading
1	Loading time of Xml and Ison
2	Percentage APIs of XML vs JSON

### 3.2 JSON OVER XML IN AJAX

According to Boci Len, Yan Chen, Xu Chen’s tiled paper “Comparisons of JSON and XML in AJAX “they proved that Json is better than xml in the new web application of AJAX.

As the main Severe Reason is as xml is traditional old language needs to restricted at both the client and server side this causes one of the drawback and the main thing is JSON is



1.Loading time of XML vs JSON

thin thing to pass data across the network and it's very easy and convenient way to transfer the data as early as possible.

They calculated the efficiency in both the sides i.e. server side and client side in terms data sending with the help of xml ,same with the help of the JSON as the compared results suggests that JSON performs well over the AJAX wee applications.

Jenq Leu instead of using xml used JSON and proved which is like 54% overhead is reduced with the help of JSON transfer of data over the network.

### 3. Module Description

#### 3.1 SIMPLIFIED LEARNING CONTENT

Most colleges start placement training only at the final year of study. So, the Students don't get the knowledge about the interview process until they attend some interviews that is from the chances they miss. The solution is providing prior knowledge starting from the first year through an Interview training system so that they can get the required skills.

Asking all the right questions and really looking at your business from a birds-eye perspective. By doing so, the learning styles and needs of your staff can be assessed, allowing for the most effective training plan and content to be put in place. Looking at your existing training set-up (how you implement it, what systems (if any) you use already and how your staff feel about this arrangement), as well as speaking with and observing your learners is the best way to really understand where there can be improvements to your training plan. Taking the time to understand the training objectives and any specific company goals is priceless when creating a successful course.

From basic text creation, to audio, video and simulations, this can be extremely complicated. The more interactive and engaging the content, the richer the learning experience is; however, this often also means the more difficult the creation is. The creation of content such as gamification and custom graphic design and animation can vastly improve the likelihood of a learner to not only remember the content in the short term, but also to retain the information for years to come. This deep understanding of the content as well as basic fact-retention is what makes for great training and business-improving results.

#### 3.2 APTITUDE TEST AND EVALUATION

Aptitude tests are structured systematic ways of evaluating how people perform on tasks or react to different

situations. They have standardised methods of administration and scoring with the results quantified and compared with how others have done at the same tests. They are increasingly administered on a computer. Aptitude tests are one of the most commonly used assessments in measuring candidates' suitability for a role. The most commonly used set of cognitive tests includes – abstract/conceptual reasoning, verbal reasoning and numerical reasoning.

The question sets for both aptitude will be extracted from JSON files using AJAX mechanism so that the web content can be pulled dynamically without the intervention of the web browser and without reloading the whole page itself. A major concern in a web application is its loading time that is addressed by using JSON data format. Test question uploading is another overhead which is solved by an advanced data convertor.

The answers chosen are checked with the content in the JSON file and evaluated. The content from the JSON files are fetched quickly for efficient data transfer between the server and application. The data from the JSON files are stored in the Local Storage and Session Storage of the browser for easy access of information.

An easy question set uploading mechanism through DOCX to JSON using JavaScript.

### 4. Conclusions

Thus a Single Page Application using AJAX approach to provide at least basic Interview knowledge for all students through a web based training system has been modelled.

Efficient data exchange with JavaScript Object Notation over XML. Easy questions uploading with MSWord document to JSON convertor using JavaScript can be designed.

### References

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