

Development of an Open Source XML and JSON Visualisation Software

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Introduction

The project, the development of an open source XML (eXtensible Markup Language) and JSON (JavaScript Object Notation) visualisation software. As XML and JSON become more widely used as a means to transfer data between people/computers. Visualizing this information would be useful, while there are tools available these cost huge amount of money.

“JSON is a language-independent data format that expresses JSON objects as human readable list of properties” [3]

“XML (Extensible Markup Language) is a flexible way to create ‘self-describing data’ - and to share both the format and the data on the World Wide Web, intranets, and elsewhere.” [4]

JSON

```
{
  "siblings": [
    { "firstName": "Anna", "lastName": "Clayton" },
    { "firstName": "Alex", "lastName": "Clayton" }
  ]
}
```

XML

```
<siblings>
<sibling>
<firstName>Anna</firstName>
<lastName>Clayton</lastName>
</sibling>
<sibling>
<firstName>Alex</firstName>
<lastName>Clayton</lastName>
</sibling>
</siblings>
```

Image from PC Magazine Encyclopaedia [2]

XML and JSON are commonly used With AJAX/AJAJ (Asynchronous JavaScript and XML/JSON) to receive and process data in the background of websites.

Aim & Objectives

To develop an open source application for the visualization of XML and JSON files.

Objectives:

- Research existing application’s functionality and limitations.
- To develop an open source application to correctly processes and displays XML and JSON files.
- To work across multiple platforms and operating systems utilising web technology.
- To evaluate the functionality of the application with other products (Commercial and non-commercial).

Methodology

Research of existing application’s features and their limitations.

To produce and gain information via a questionnaire on what features are important, the features shortlisted will be gained via the research. The results will then be used to build the user requirements.

Using TTD (Test-Driven Development) and PHPUnit to create and produce the application.

Solution

The proposed solution will process and display a interactive object to the users based upon a tree data structure. Features of the application will be gathered via the research and questionnaire.

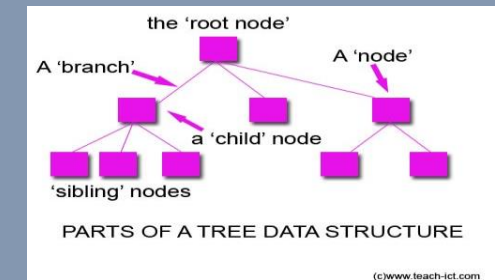


Image from Teach-ICT [1]

Expected Outcome

The expected outcome is a functioning application that correctly displays to the end-user XML & JSON files, that match's the user requirements.

References

- [1] “tree.jpg (500×400).” [Online]. Available: http://www.teach-ict.com/as_as_computing/ocr/H447/F453/3_3_5/data_structures/miniweb/images/tree.jpg.
- [2] “_JSON.GIF (430×415).” [Online]. Available: http://common.ziffdavisinternet.com/encyclopedia_images/_JSON.GIF.
- [3] J. FRIESEN, Java XML and JSON. Apress, 2016.
- [4] E. T. Ray, Learning XML. 2003.