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Web-Based Editor for GuideXML

Greetings!

I wish to take on the development of a WYSIWYG (What-You-See-Is-What-You-Get) Editor for GuideXML documents as a part of Gentoo's participation in Google's Summer of Code. This project will result in a web-based application that will help people who are not familiar with GuideXML, in authoring documents that will be used by Gentoo.

This editor will make it easier for contributors to author documentation and web pages for Gentoo, so that they can concentrate more on the actual content, rather than learning the GuideXML syntax. GuideXML is the standard XML format that Gentoo uses to maintain documents on it's website and the documentation itself. This project will also benefit other communities which use GuideXML.

Also have a look at <http://www.kix.in/soc/guide-xml.html> for some notes.

Deliverables

At the end of the program, an AJAX based through-the-web WYSIWYG editor based for GuideXML will be developed. The editor will be ready for deployment either on a server or on a client machine.

Non-Code deliverables will include documentation for the editor and tutorials for its usage.

Project Details

This application will be developed using PHP on the server-side and JavaScript on the client-side, a concept more commonly known as AJAX. Using rich text editing components (much like existing software like TinyMCE or HTMLArea) and CSS techniques, a full IDE-like experience will be brought to the user.

The application will offer two basic views of the document:

- a) A code view which will show the actual XML source
- b) A design view which will show the actual output

This enables the application to be used by people who are new to GuideXML as well as those who are already quite familiar with it. The code view will offer features such as syntax highlighting and code completion that will provide GuideXML veterans with a richer experience, while the design view is intended for use by those who don't know GuideXML.

Another feature planned is internalization of all content presented by the editor using PHP's *gettext* functions. Translations can be made using standard PO files used by GNU *gettext*.

XML Validation will be done via an existing tool called *repodoc*, that is an experimental part of the Gentoo documentation project. It is understood that invoking *repodoc* directly on a server installation is not all that secure, and hence a web-service for the same will be developed. The best way to implement a web-service for *repodoc* is not yet known, but will be determined at the onset of the project after evaluating a number of parameters. For a client-side “offline” implementation of XML validation, regular DOM validation using a Schema (that may have to authored during the program) for GuideXML will be done.

Project Schedule

The project is planned to be split across 6 major stages:

1. **Analysis** (May 23 - May 31):

This stage involves detailed analysis of the GuideXML format. Validation will be performed using *repodoc*, but as mentioned before, the best method of setting up a web-service for the same will be analyzed. Project infrastructure (CVS Repository & Website) will also be setup during this stage.

2. **Web Service setup and Logic Design** (June 1 - June 15):

This stage will involve the setup of the *repodoc* web service in addition to the development of the logic that the application will follow. The Schema for GuideXML may also be authored in this stage.

3. **Interface Design** (June 16 - July 5):

The user interface that will be presented to the user will be designed in this stage. This includes development of the CSS style-sheets and basic XHTML documents that will form the visual skeleton of the web application.

4. **Server side programming** (July 6 - July 20):

The server-side programming will be done. This involves development of the PHP scripts that will respond to client requests (for validation or preview of documents, as examples).

5. **AJAX Integration** (July 21 - August 10):

The client-side JavaScript will be developed during this stage. This stage will complete the development of the editor and will integrate all the components of the AJAX application.

6. **Testing and Wrap-Up** (August 11 - August 21):

The last stage of the project will involve testing of the editor and authoring of the documentation and some tutorials. The editor will be ready for deploying at the end of this stage.

Justification

The reason I chose to write a web-based editor instead of a desktop application is because I believe this provides a more robust and accessible environment.

The web editor removes most of the pre-requisites that are usually present for a desktop application. I also believe that there is nothing that a desktop application can offer that a web-based application can't. With the combination of AJAX and CSS on the client side and a

strong PHP based server, an unbeatable WYSIWYG experience can be offered in the web browser itself.

Bio

I am a second-year undergraduate at the Malaviya National Institute of Technology, Jaipur, India. I am pursuing my B.Tech. in Computer Engineering at the institute. I have been passionate about computers since my childhood and have been a free software advocate as well as a Gentoo user for around 2 years now.

I am an active developer in several open source projects, the most prominent of which are GNU Parted and PHP-GTK 2. My involvement in many such open source projects has brought me a great deal of experience in the open-source development methodology and environment. I will have no trouble merging in and working together with the Gentoo team. I was offered CVS commit access to both the PHP and GNU Parted repositories within a month of my involvement with them, and I believe this goes to show the quality and timeliness of my coding efforts.

I am also a system administrator at my university, and have had the opportunity to develop several applications that automate routine tasks at the institute. Applications that I have developed include a content management system, an online assignment evaluation system, and a library management software. Such projects at my university have given me an extensive knowledge of the PHP language and web design principles in general. I have also worked with XML extensively, particularly the DocBook format as a part of my documentation efforts for the PHP-GTK 2 project. I setup the core DocBook infrastructure for the GNU Storage Guide, which I am also co-authoring.

Lastly, I would like to express my deep commitment to this project and Gentoo in general. I have been trying to get involved with Gentoo for a long time, and I would like to take this opportunity as an entry point to becoming a full-time Gentoo developer. I would love to continue offering my services as a developer to the Gentoo Project even after the Summer of Code program concludes. I guarantee that I will take full responsibility for maintenance of the editor (and any associated modules) that I create during this project.

You can find more details about me and the projects that I am currently involved in, at my website. Please don't hesitate to contact me if any part of this proposal is not clear to you or if you need me to produce some sample code.

Thank you for considering this proposal, and for your time!

GuideXML : <http://www.gentoo.org/proj/en/site.xml>
I18N : <http://www.w3.org/International/>

My CV : <http://www.kix.in/soc/resume.pdf>
My Website : <http://www.kix.in/>

The latest version of this proposal is available at : <http://www.kix.in/soc/guide-xml.pdf>
along with supplementary notes : <http://www.kix.in/soc/guide-xml.html>
