Title: From Page Versioning to Extension Versioning / System Restore

Student: Victor Cărbune

Abstract: Page Versioning - I will extend the one developed in 2008, get very familiar with the Joomla! Framework by developing features like HTML code differences, search possibility (date, time, user that made the changes and content).
Extension Versioning - A generalized versioning possibility (of any component). I will implement a versioning extension for the content component so that users could easily simply revert. After that I will design a general way to store information for any extension.

Content: From Page Versioning to Extension Versioning / System Restore

Introduction

I have selected a project from the project ideas list, which I am sure I can finish successfully in the first part of the summer and a second one, that is not on the ideas list, but it will certainly be needed at a moment in time (as soon as possible). After I develop the first one (get very familiar to the Joomla! Framework) certainly I can successfully start developing the second one, as I will have enough experience with the coding style in Joomla!.

First of all, a page versioning feature must be included in the Joomla! 1.6 Core: I have tried [1] and it supports some of the features needed by the project according to [3], excepting the *html code differences* and *searching data.*

The same thing could be said about [2] made in the 2008 GSoC and I think this one should be continued in 2009, since there exists a very clear menu component that could be easily adjusted for the other needs. Although the version control in [2] can be made only through the administrator panel, it is easy to create a plugin that will allow users to handle the versions (similarly as they can with [1]) from the front-end.

[1] http://extensions.joomla.org/extensions/authoring/content-submission/6260/details

[2] http://developer.joomla.org/gsoc2008/version-control.html

[3]
http://docs.joomla.org/Summer_of_Code_2009_Project_Ideas#Page_Versioning_Extension

Main tasks, in order to adjust [2]:

1. Make possible front-end version control so that versioning could be done also by common users that have write access to the document.

2. Implement html code difference in the component menu: this is not possible now, and I find it very important since there are cases when users simply destroy something and they don't know how to fix it, and this could not solved only by reverting since the content was modified a lot. This could also help users better understand the way html code works.

3. Implement search function in the component menu: this should help Joomla! users in order to simply revert versions from a certain date, modified by a certain user, and possibly containing some specific content.

The second part of the summer would consist in creating an extension that should try to manage a versioning system in a generalized manner, that could be applied to any other extensions existing in a Joomla! Installation. The administrator should be able to choose which extensions need to be tracked as they are changed (parameters are modified, updates – modifications, etc.)

Main tasks:

1. Developing a versioning extension for core content component. This will give me a very good insight for further development.

2. Creating a user – friendly interface, through which administrators can compare different versions of the com_content component.

As soon as these are finished (I hope according to the timeline described below) all the rest of the time will be dedicated in order to generalize this extension: specific methods of obtaining the table structure of each other component/module/plugin (my approach consists in storing information about the structure of the tables needed when these are installed), generic modeling so that any table structure will efficiently be stored.

Schedule/Timeline

April, 20 – May, 11 (three weeks) – Continuos documentation, experimental coding in Joomla! Framework. I will ask my mentor questions if there is anything unclear for me (I will always be online on IRC and/or on other IM protocol). After this period I should be able to adapt very good to the Joomla! Framework and coding style.

May, 11 – June, 11 (one month) - I will add the new features to [1], report my work on a blog and to the Joomla! Community in order to have a permanent feedback, and enhance any change. After this month page versioning should be ready in order to integrate it in the Joomla! 1.6 Core.

June, 4 – July, 1 (~3 weeks) – I have my final exams at my faculty and I will work a little less during this period. I will document especially on the structure of the com_content component in order to successfully code the second project and get a very good knowledge of the table structure in order to design the system restore extension.

July, 1 – July, 8 (~1 week) – Bug solving issues, testing the final code of the page versioning component and discussing any issues that could appear in order to be included in Joomla! 1.6 Core.

July, 8 – July, 13 (5 days or less) – Preparing the mid-term report and submitting it to Google.

July, 13 – August, 3 (3 weeks) – Coding for the versioning extension for the content component in particular. Discussing with my mentor about solutions in order to efficiently gain information about table structures of other components.

August, 3 – August, 17 (2 weeks) – Coding, designing a general versioning extension so that it could be applied to any other extension. Even though maybe this will not be finished, the first step (and not an easy one) will be made. I am interested in continuing developing this extension for the Joomla! CMS, and I will try to finish it by the end september.

August, 17 – August, 24 (1 week or less) – writing final report

The schedule may suffer minor modifications, depending on the way the project evolves. If I will finish some important parts earlier, maybe I will take several days (3 - 4) off. After 1st of July I will finish with any tasks I have to do for my university, and I will certainly have double amount of time to code so I expect that a good part of a system restore component will be available (at least for the com_content).

Benefits for the organization

I'm sure that many users (mainly me) will be very happy that they can use a page versioning extension, that is already installed (there are lot of users who simply don't search for such an extension and even don't know that it exists and after some time they realise they would need it). A great community needs such an extension, since there a lot of editors and publishers who can make a mistake for whatever reason. This should be easily repaired directly from the frontend.

During the second part of the summer, the most important benefit is that main guidelines in order to create a system restore will be drawn, and there will be a very good starting point. At the end of the summer I would be glad to further develop this extension. As page versioning, a system restore extension (after it will be finished, maybe in autumn) should be available in the core.

Biography

I'm very eager to start working on any of the projects discussed above. I have participated in many IT project competitions during my high-school and I have enjoyed working for them, since any new challenge requests a lot of new knowledge in order to successfully compete and win.

I am experienced in PHP & SQL programming: developed some simple content management systems for some websites (www.geology.ro, for example, an museum's web page), developed a virtual grading catalog (this required both php and sql), several other minor projects and in my last high-school year I participated at an International Database Modeling Competition (sponsored by Oracle) and won the first prize with my team and got invited to the Redwood Shores to present the conceptual model.

I am very enthusiastic to work for the Joomla! Community, and I'd like to be an active contributor not only this summer.

I am quite sure that programming languages and/or database modeling will not represent problems for this summer coding. Also, I'm intending to dedicate most of the summer (as written in the schedule) to work for Joomla! 1.6 and not intending to apply for any summer job.