Report on the Exchange in the Context of the PROMISE Project

Developing the Collaborative User Interface as a Component for the PROMISE Evaluation Infrastructure

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1 Introduction

The purpose of the visit conducted from April 11 to April 15, 2011, was to present and discuss the technology specifications planned on [1] for the evaluation infrastructure of PROMISE, to the purpose of the implementation of the *Collaborative User Interface (CUI)* as proposed by WP5 in [2].

This activity was carried out in the context of the PROMISE[1] Network of Excellence, specifically in WP3 (*Evaluation Infrastructure*), and WP5 (*collaboration and knowledge sharing*). WP3 is responsible for designing, developing and delivering the evaluation infrastructure at the core of the PROMISE activities, in supporting all other WPs. In particular, the PROMISE infrastructure is strictly related with activities proposed by WP5, which is in charge for designing, developing and delivering the user interfaces and the annotation service needed to promote the collaboration among the stakeholders of the evaluation infrastructure and foster the knowledge sharing and reuse.

2 Planned Work

The specific objective of the activity was to outline the technical characteristics of the PROMISE infrastructure, in particular:

- the use of Liferay[2] as a portal platform, a content management system (CMS), and a social collaboration environment, to support the PROMISE activities and infrastructure;
- the characteristics of the Distributed Information Retrieval Evaluation Campaign Tool (DIRECT)[3] prototype and the future plans of its design and development;
- the use of *portlet* architecture to build the CUI as a component for the PROMISE Evaluation Infrastructure.

[1] http://www.promise-noe.eu
[2] http://www.liferay.com/
[3] http://direct.dei.unipd.it/

3 Conducted Work

The work carried out during the visit was mainly focused on the planned topics, with the addiction of a technological transfer about the best practices for the development of front-end applications distributed through World Wide Web and commonly accessed using a browser.

3.1 The Liferay Platform

3.1.1 Liferay Peculiarities

The first part of the activity consisted in a brief presentation of Liferay. Liferay is a free and open source portal – that is a software platform for building websites and web applications – written in Java an providing tools for:

- the management of users and the creation and display of web pages depending on a user's role and status;
- the integration of existing web applications;
- the build of themes and gadgets;
- the development and management of contents written in different languages, and the internationalization of provided interfaces;
- the storage and management of documents;
- the collaboration between users and groups.

As resumed in Figure 1, it is possible to group these features into three categories: the compliance to standards about the portal platforms, the features for managing the content, and the environment for social collaboration.

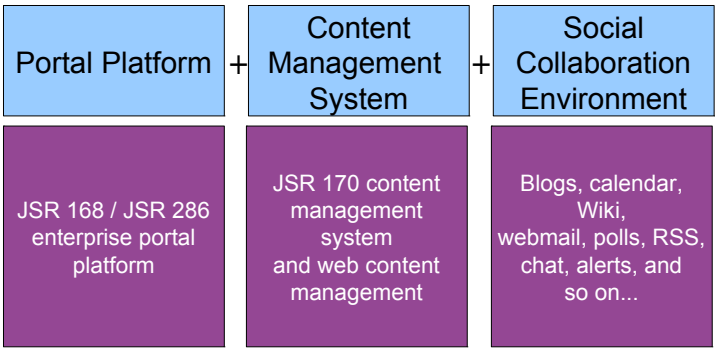

Figure 1: Liferay as a Portal Platform, a CMS, and a Social Collaboration Environment.

The peculiarities of the platform have been presented, in conjunction with the motivation of the adoption of Liferay, evaluated by WP3 at the beginning of the PROMISE activities.

After the presentation, each participant has been instructed on how to install on his local host a running instance of Liferay to perform tests and demo of functionalities, followed by the set-up of the *Liferay IDE* for the *Eclipse* platform[4], as presented in Figure 2

That IDE provides facilities for a quick development of:

[4] http://www.eclipse.org/

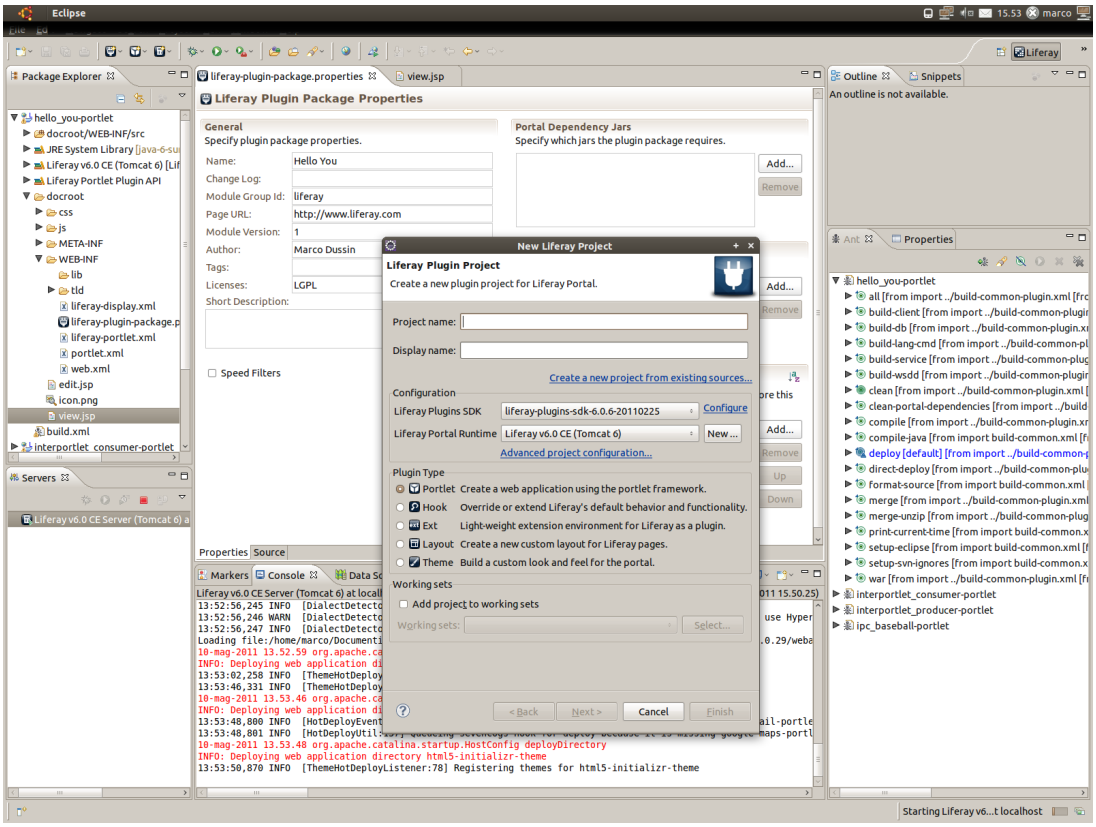

Figure 2: Liferay IDE Perspective in Eclipse.

- *themes* and *layouts* to customize the look and feel of the portal;
- *portlets*: pluggable software components that are managed and displayed by the portal platform provided by Liferay. Portlets should be developed according to the Java Portlet specifications (JSR 168[5]) and the Java Portlet Specification 2.0 (JSR 286[6]). The IDE provides a series of wizard to guide the developer and help him writing the code;
- *hooks* and *exts* (extensions) to customize, patch and rewrite the source code of the core of Liferay.

3.1.2 Integration Strategies

Additional discussion has been done on strategies to better integrate existing or planned for the future software into the Liferay platform.

As presented during the *Liferay Italy Symposium* held in Treviso (IT) on November 12th 2010 (attended by Marco Dussin and Ivano Masiero from UNIPD), and as suggested by Liferay technical whitepapers [4], integration strategies can be resumed in four main paths, as sketched in Figure 3, representing in blue the facilities provided by the infrastructure and in violet the additional cost in terms of implementation to reach the goal of integration.

For further information about the pros and cons of each strategy please refer to the slides presented by WP3 during the First Semestral Meeting held in Paris [3].

[5] http://www.jcp.org/en/jsr/detail?id=168
[6] http://www.jcp.org/en/jsr/detail?id=286

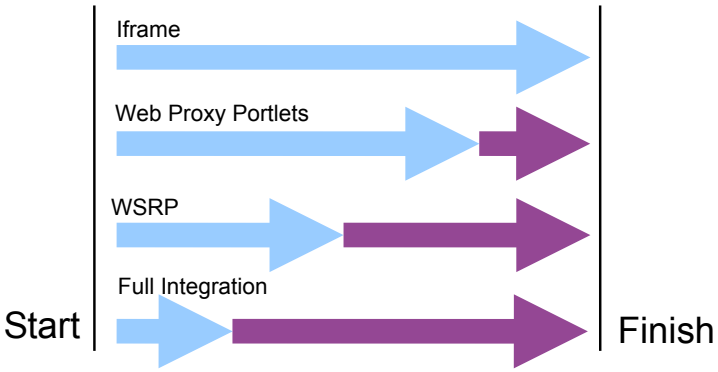

Figure 3: Application Integration Strategies.

3.2 The DIRECT state of the art, future plans and development

The second part of the activity consisted of the description of what is intended to be an evaluation campaign, presenting the role of involved actors, the different type of the resources produced and of the tasks done [1].

A demo of the current version of DIRECT has been shown, followed by a discussion about future plans for development, in particular about the strategies to store, retrieve, modify, and enrich data using the Representational State Transfer (REST) architecture.

In particular the discussion focused on the need of open and explicit data formats, such as XML[7] and JSON[8], able to facilitate the exchange of data.

3.3 The use of Portlets to Build the CUI

The discussion about the tools provided by default by the Liferay system resulted in the need of better investigate on what can be useful to build some modules for the CUI, and what must be implemented.

In particular, after some example on how to build a portlet able to communicate with a remote system, the discussion has pointed out the need of further investigate on:

- the connection between the portlets developed for Liferay and the DIRECT system;
- the common best practices on the development of modules for Liferay to allow the exchange of pieces of code, suggestions and bug fixes;
- how to connect the prototypes under development in ROMA1 with the planned infrastructure.

We planned to present the results of this investigation during the *Collaboration and Knowledge Sharing Meeting* hosted by ROMA1 in May 2011.

3.4 Additional Activities

Part of the activity carried out during the visit concerned with the best practices for the development of front-end applications distributed through WWW and accessed using a browser or a mobile client.

[7] http://www.w3.org/XML/
[8] http://json.org/

In particular we discussed about characteristics and resources provided by the frameworks:

- YUI 3[9]
- ALLOY UI[10]
- JQuery[11] , in particular in relation to the plotting and charting plugin jqPlot[12]

The last part of the visit concerned on time to experiment how to use the frameworks to build a demo prototype of a portlet and how to deploy it into the local instance of Liferay, and to reply to questions of participants.

References

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