The Introduction of Management of Trustworthiness Software Resource

Junfeng ZHAO
Peking University, CHINA

2011.10.11
Contents

1. Introduction & Current status of TSRR
2. Trustworthiness Resource Management
3. Introduction of INFLUX
Software resources (SR) are diversifying
- From closed, static, code
- To open, dynamic, service

More and more Web based development & application

The development environment requires
- Enhance Software Quality
- Improve Software reuse

Trust is the belief that the trustor has in the trustee willingness and capability to deliver a quality of service in a given context and in a given Timeslot. [Chang 2005]

The Trustie (Trust integrated environment) Software Resource Repository (TSRR) is to provide mechanism to describe, collect, evaluate, classify and manage software resources’ trustworthiness, to support trust software development.
The Framework of TSRR

- TSRR can
  - Provide SR management mechanism and software resources sharing environment
  - Provide multi-SRs acquisition, organization and management in Internet
  - Provide SR’s trust evaluation and classification mechanism
Three sub-projects (corresponding to the three modules under svn/trunk)

- **707Web**: **Source code of web application.** High level view (web pages) and business logic is implemented in this project. With improvement of the system function, modification on this project will be performed. This is a web application project under Eclipse. It is relied by sub-project TSRR. Please refer to referenced-lib under ‘Release Files’ section for the lib files it relies.

- **Complib4Jonas**: **Source code of EJBs which are in charge of basic business logic implementation and data persistence.** This module seldom needs modification for new function because it is designed as extensible as possible. It is relied by TSRR. Please refer to referenced-lib under ‘Release Files’ section for the lib files it relies.

- **TSRR**: **Enterprise Application Project for Eclipse.** It relies on project ‘707Web’ and ‘Complib4Jonas’. With this project, an deployable EAR file which can be deployed on Jonas directly can be exported.

Homepage on OW2 Forge

Leading Open Source Middleware

GForge

Homepage on OW2 Forge

Trustbe Software Resource Repository aims to provide a trustworthy software resource management mechanism and a software resources sharing environment. This project is hosted on the Trustbe forge, operated by the OW2 China Local Chapter.

This project has not yet categorized itself in the Open Source Map.
Registered: 2010-05-10 10:13

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Project Version</th>
<th>Date</th>
<th>Author / Maintainer</th>
<th>Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>referenced-ib</td>
<td>Referenced-ib</td>
<td>November 1, 2010</td>
<td>Liye Wang</td>
<td>Download</td>
</tr>
<tr>
<td>documentation</td>
<td>TSR-Installation-Guide</td>
<td>November 1, 2010</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

[View All Project Files]

User Manual 1.0 is released
Liye Wang - 2010-11-01 17:46

[News archive] [Submit News]
### OW2 SUBVERSION REPOSITORIES

#### LAST MODIFICATION

**[/] [trunk/] - Rev 10**

- **Path:**
  - 707Web/
  - Complib4Jonas/
  - TSRR/

**Last Modification**

- **Rev 10 2010-11-01 10:04:17**
- **Author:** lijiejacy

Log message:

- FTP configuration information is added.

**Path**

<table>
<thead>
<tr>
<th>Path</th>
<th>Last Modified</th>
</tr>
</thead>
<tbody>
<tr>
<td>707Web/</td>
<td>9 2h 00m</td>
</tr>
<tr>
<td>Complib4Jonas/</td>
<td>10 2h 05m</td>
</tr>
<tr>
<td>TSRR/</td>
<td>6 144d 00h</td>
</tr>
</tbody>
</table>

#### LAST MODIFICATION

**[/] [trunk/] [707Web/] - Rev 10**

- **Path:**
  - .settings/
  - src/
  - WebContent/
  - .classpath
  - .project

**Last Modification**

- **Rev 9 2010-11-01 10:02:42**
- **Author:** lijiejacy

Log message:

- Introduced cache mechanism into TSR. Fault handling is improved.

**Path**

<table>
<thead>
<tr>
<th>Path</th>
<th>Last Modified</th>
</tr>
</thead>
<tbody>
<tr>
<td>.settings/</td>
<td></td>
</tr>
<tr>
<td>src/</td>
<td></td>
</tr>
<tr>
<td>WebContent/</td>
<td></td>
</tr>
<tr>
<td>.classpath</td>
<td></td>
</tr>
<tr>
<td>.project</td>
<td></td>
</tr>
</tbody>
</table>
Project current status

- tsr.trustie.net
- Total Resources: 25269
  - Components: 11845
  - Services: 13022
  - Tools: 265
  - Architectures: 76
  - Others: 61
- Registered Users: 10027

- TSRR has been deployed and served several Software Incubators which are established by National Hightech Plan over China, including Beijing, Shanghai, Changsha, Xi’an etc.
- Also, there are several companies has installed TSRR to support their software development, such as Digital China.
• **Evidence model** determines what is needed to collect and organize the evidence.

• **Evidence gathering module** collects and stores various kinds of evidence for trustworthy software resource evaluation.

• **Evidence trustworthiness management module** deals with the situation that the collected evidence is false or inaccurate.

• **Trustworthiness evaluation and classification** uses gathered evidence and the user-defined expectation model to evaluate the trustworthiness of software resources.
Nearly 17000 components & services have been evaluated and classified by collected evidence.
Take Web service as example, we develop CoWS to help people find proper services.

http://www.cowwebservices.com
Introduction to INFLUX

NUDT INFLUX Group
Searching and Mining of Open Source Data
2011.10.11
Motivation of INFLUX

❖ Target
  ▪ Evaluating open source software by the data through Internet

❖ Method
  ▪ Construct the network hidden in these data
  ▪ Comparing and ranking open source software over the network

❖ Open source data through Internet
  ▪ Open source forges
    • project data: name, topics, description, programming languages, operating systems, ...
    • people data: name, projects, programming languages, email, ...
    • social data: downloads, followers, comments, ...
    • development data: SVN, mailing list, bug list, feature request, ...
  ▪ Open source communities
    • forums: blog, topics, texts, comments, discussions
    • people data: name, comments, posts
Blueprint of INFLUX

Applications
- Web Search Engine
- CDE(Eclipse) Plugin
- TSR Plugin

Mining Tools
- Metric Extractors
- Network Miners
- Association Miners
- Feature Miners
- Requirement Miners
- Topic Miners
- Expert Miners
- Pattern Miners

Data Collection
- Repository Crawlers
- Forge Crawlers
- Community Crawlers
- Heritrix Engine
- Lucene Engine
- Hibernate DB Engine

Data Storage
- OSS Entity Data
- OSS Network Data
- OSS Versions
Current Progress of INFLUX

Evaluating and ranking OW2 projects by using the data across all forges over Internet

OW2 Ranking  Middleware  XWiki  Jonas  More
Search from 347,477 projects

The home page for INFLUX specifically customized for OW2.

Typical search and classification interfaces are provided by current version of INFLUX.

Every project in INFLUX shows its data mined from its resided forges.

OW2 projects are ranked by their data integrity, synergies and resided forges.
Thank you!

Merci Beaucoup!