

Configuration Management Plan

for

AJCON, Applet to JSF Converter

Prepared by Teaplet

Anıl Sevim

Berkan KISAOĞLU

Zehra Özge TOKGÖZ

20.03.2011

Table of Content

1. Introduction	4
1.1 Purpose of Configuration Management Plan	4
1.2 Scope of the Document	4
1.3 Definitions, Acronyms and Abbreviations	4
1.4 Document References	5
1.5 Document Overview	5
2. The Organizations CM Framework	6
2.1 Organization	6
2.1.1 Software Development Team	6
2.1.2 Testing Team	6
2.1.3 Version Control Team	6
2.1.4 Release Control Team	7
2.1.5 Configuration Management Team	7
2.1.6 Configuration Control Team	7
2.2 Responsibilities	7
2.3 Tools and Infrastructure	7
2.3.1 Software Development	8
2.3.2 Version Control	8
2.3.3 Project Management	8
2.3.4 Libraries	8
3. Configuration Management Process	8
3.1 Identification	8
3.1.1 Source Code	9
3.1.2 Data	9
3.1.3 Documentation	9
3.2 Configuration Management and Control	10
3.2.1 System Change Request	10
3.2.2 System Change Evaluation	11
3.2.3 System Change Implementation	11
3.3 Configuration Status Accounting	11
3.4 Auditing	11

Configuration Management Plan for AJCON

4. Project Schedules and CM Milestones	11
4.1 Schedule	11
4.2 Milestones	12
5. Project Resources	12
6. Plan Optimization	12

1. Introduction

1.1 Purpose of Configuration Management Plan

Configuration Management plans are for handling situations which are caused because of changes and updates during the development process. For the software developers, it is always good to apply configuration management plans while developing the product. Such appliances increases the code and product quality.

When changes are needed, Configuration Management Plan will coordinate the relations and communications among the developers and all the related people who are likely to be affected.

To sum up, CMP helps developers to handle causes and identify the possible effects of a change. CMP is essential for all software development teams. It is one of the most crucial part of the software development process.

1.2 Scope of the Document

Scope of this CMP Document is identification of configuration management plan for the project AJCON. This document includes a methodology which the team members are responsible of behaving accordingly and determines the general standards of the project. This document also includes plans to be implemented against a change or modification occurs in the process of development.

The related audience is the members of Teaplet Inc. and project advisors.

1.3 Definitions, Acronyms and Abbreviations

- CMP - Configuration Management Plan
- SRS - Software Requirement Specifications
- SDD - Software Design Descriptions
- CM - Configuration Management
- SCR - System Change Request

- SDT - Software Development Team
- TT - Testing Team
- CCT - Configuration Control Team
- SVN - Apache Subversion

1.4 Document References

- Pressman, Roger S. (2001). Software Engineering: A Practitioner's Approach, Fifth edition. New York, NY: McGraw-Hill
- IEEE Standard for Software Configuration Management Plans (IEEE Std 828-2005)
- A. Dogru, Component Oriented Software Engineering, The Atlas Publishing, Turkey, 2006.
- http://en.wikipedia.org/wiki/Configuration_management

1.5 Document Overview

1.5.1 Introduction

This part of CMP Document includes the purpose of the document, scope of the document, definitions and abbreviations that are used in this document, references that are used in the preparation stage.

1.5.2 The Organizations CM Framework

This part of CMP Document includes the organization of the Teaplet Inc., responsibilities of the team members, the tools that we will use in the development process.

1.5.3 Configuration Management Process

This part of CMP Document includes identification of process, tools and methodologies that will be used.

1.5.4 Project Schedules and CM Milestones

This part of CMP Document includes further schedule and CM Milestones about the project AJCON.

1.5.5 Project Resources

This part of CMP Document includes resources that will be needed for CM.

1.5.6 Plan Optimization

This part of CMP Document includes discussion about optimization of CMP.

2. The Organizations CM Framework

2.1 Organization

During the project management process, all the members of Teaplet contribute to CM to develop an successful project. Still some subteams are arranged and specialized considering management constraints about the process steps and configuration management.

2.1.1 Software Development Team

Assigned Team Members: All

This team implements modules of the AJCON project and integrates modules with others. Another duty is to make changes in implementation according to TT feedbacks. This team will also responsible from the releases of the AJCON project

2.1.2 Testing Team

Assigned Team Members: Zehra Özge Tokgöz, Berkan Kısaoğlu

This team is responsible of testing and debugging of the implementations produced by SDT. Checking if the requirements correspond to the implementations, stating the problems and of course returning feedback (SCR) to SDT are in the duties.

2.1.3 Version Control Team

Assigned Team Members: Anıl Sevim

Version of the source codes are controlled by this team. If any inconsistency is encountered, SDT will be informed about this situation and expected to solve it.

2.1.4 Release Control Team

Assigned Team Members: Anil Sevim

The control of the current release product and making plans about the releases are the main responsibilities. This team also gives feedback (SCR) to SDT about the current release.

2.1.5 Configuration Management Team

Assigned Team Members: Zehra Özge Tokgöz, Anil Sevim

Maintenance of the CM organization is provided by this team. This group should keep the CMP up-to-date and update it every time when necessary.

2.1.6 Configuration Control Team

Assigned Team Members: Berkan Kısaoğlu, Anil Sevim

This group has the duty of supervising the other five groups. The main responsibilities of this group are review SCRs, accept or reject SCRs and monitor SCRs.

2.2. Responsibilities

Since each member of Teaplet contributes to CM, its responsibilities are shared at all. These are the followings:

- Conforming to CM schedule
- Commenting about changes before committing resources through svn.
- Emailing group members about SCR

Expect from these, any single change in the CMP is to be first argued in CCT and to be committed afterwards.

2.3. Tools and Infrastructure

The functions of the platforms made use of in the project steps are described below:

2.3.1 Software Development:

Netbeans IDE¹: This development platform can run anywhere a JVM is installed, including Windows, Mac OS, Linux, and Solaris. The NetBeans Platform allows applications to be developed from a set of modular software components called modules.

We chose this platform because it supports mainly JAVA and it provides some features such as content assistant, code completion, support for versioning systems etc.

2.3.2 Version Control:

SVN²: (Renamed as Apache Subversion in February 2010). Developers use Subversion to maintain current and historical versions of files such as source code, web pages, and documentation. It provides convenience for group members who work on the project at different times and places by controlling project sources separately.

2.3.3 Project Management:

Trac³: Trac is an open source, web-based project management and bug-tracking tool. The program was originally named *svntrac* due to its ability to interface with Subversion(SVN).

2.3.4 Libraries

WebSite: We are going to store the available libraries in our website⁴ such that everytime they are needed, members will not have to research on internet to find them. Moreover, these libraries do not change during project development. This will reduce svn work.

3. Configuration Management Process

3.1 Identification

General control items can be divided into three section in this CMP Document: Source, Data, Documentation.

¹ <http://en.wikipedia.org/wiki/NetBeans>

² http://en.wikipedia.org/wiki/Apache_Subversion

³ <http://en.wikipedia.org/wiki/Trac>

⁴ <http://senior.ceng.metu.edu.tr/2011/groupteaplet/>

3.1.1 Source Code

Since our team develops a software project, source has to be the most important control item. Code development of the project maintaining by all the members of Teaplet Inc., so general naming conventions are used while in the progress of development. Variables, classes, components and systems are named according to their functionality. Main parts are:

UI: Responsible from all user interactions and GUI operations.

Applet Class Extractor: Responsible from extracting applet sources from a project.

Lexer: Responsible from generating lexemes from the given input.

Parser: Responsible from generating parse tree from the generated lexemes.

Translator: Responsible from traversing the parse tree and translating them into a new language.

Logger: Responsible from logging operations in each steps.

3.1.2 Data

As previously stated in SRS and SDD, data section contains the general .xml files, no database is required. So, only configuration item is .xml files for AJCON. They are named according to their functionality.

3.1.3 Documentation

In a software project, project documentation is another important control item. Maintain of documentation is handled in two way:

Reported Documents:

- Project Proposal
- Software Requirement Specifications Report
- Initial Design Report
- Detailed Design Report

- Configuration Management Plan

Online Documents:

- Web Page
- Web Blog

Development Reports:

- Weekly Progress Reports

3.2 Configuration Management and Control

3.2.1. System Change Request

Change requests are handled in two way. For the little changes, it is automatically handled by SVN. There is no need to keep extra information about the changes. All required information is kept by the SVN. If the changes requires more information than that SVN keeps, Trac will handle those requests. Track keeps various information about the changes will be made. With the use of track, a ticket will be opened in the system and this ticket will contain various information about the change. Those information are:

- Team Member Identifier
- Description
- Report Date
- Deadline
- Related Component
- Priority
- Version
- Assigned or Not
- Resolved or Not

3.2.2. System Change Evaluation

After system change requests are made, discussion about the topic will be maintained over the Trac system. Also, system change requests are handled in the general team meetings. During the evaluation process, all the team members and advisers are free to mention their opinions about the topic.

3.2.3. System Change Implementation

After the evaluation process of a system change request, if the request is approved, all the possible effects are reporting with the change of the configuration item. After reporting and handling those effects, a newer version of the system will be submitted through the SVN.

3.3 Configuration Status Accounting

Keeping track of the development process is an essential for the AJCON. Understandability of the versioning process is another important thing for the AJCON. While changes are applied to the sources a general change log message is required. All the developer team is responsible from committing sources with an understandable message. This results with a clean project look for the developers and other people that follows AJCON.

3.4 Auditing

Auditing is one of the most important thing for any project. Auditing of the project will be made by all the members of Teaplet Inc., and also by project advisers. Also, auditing will be done in the weekly meetings. Auditing will be made in three way: Physical, functional, process.

4. Project Schedules and CM Milestones

4.1 Schedule

The living schedule with all tasks and milestones to be completed are in the website of Teaplet⁴. The development process of AJCON project has been divided into some components such that we expect better functionalities and ease workload sharing.

4.2 Milestones

- First Development Snapshot, Demo – 29 March 2011
- First Release, Demo – 10 May 2011
- Final Release, Demo – 13 June 2011
- Documentation – 12 June 2011

5. Project Resources

Manpower: We have three members to develop AJCON project.

Budget: We have no budget in order to implement this project.

Facilities/Services: While developing AJCON project, we are provided hosting service for our website by our department⁵. Our development will mainly depend on a project (JavaML: A Markup Language for Java Source Code)⁶ developed by Greg J. Badros . Moreover, during implementation stage, we will made use of some available libraries such as Apache logging service⁷ (log4j).

Software Resources:

- Netbeans IDE: Development platform
- SVN: Revision Control System
- Trac: Project Management and Bug-tracking Tool
- Web Site and Blog: Project Development News

6. Plan Optimization

CMP will be a guide for coordination and progress of AJCON. CCT will be responsible for any changes or updates in CM schedule. By using TRAC, all members of Teaplet will be able to follow any changes or updates and act accordingly. There will be regular meetings in order to keep track of the current schedule. According to these meetings and weekly progress, the

⁵ <http://www.ceng.metu.edu.tr/>

⁶ <http://www9.org/w9cdrom/342/342.html>

⁷ <http://logging.apache.org/log4j/1.2/>

related schedule will be updated. If there are any unforeseen circumstances that we are not able to fix or update, we may consult our project assistant, project leader or project supervisor.