



Ceng 492 Configuration Management Report



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Frog On Fire



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1. Introduction

This document is the configuration management plan of BP project by the developer team, Frog on Fire.

1.1 Purpose of Configuration Management Plan

Software Configuration Management (SCM) is a formal software engineering methodology providing the methods to identify and control the process of software development. Configuration Management Plan (CMP) is prepared as a guidebook in order to overcome cases possible to occur due to any update or change in the project during the development process. To deal with these possible changes and updates in a professional way, to increase the total quality of the project and to ensure that there exists a safe communication bridge between the members of development team, CMP is essential.

Since BP is a project which has a dynamic structure, it is a necessity for the developer team to build a clear CMP in order to reach the perfection as the ultimate goal. CMP aims to specify the team work in detail in order to provide the stability of the design and implementation of the project. In one sentence, the purpose of this document is to keep maintainability of the project during the development process.

1.2 Scope of the Document

Scope of this document is the identification of configuration management plan for BP project. CMP presents configuration management activities to be followed throughout the development process of the project. The activities explained in this document are applicable during the development and maintenance phases of the project.

The document also covers necessary plans to be followed against any modification and change possible to occur in the development process of the project.

The related audience of the document is the developer team Frog on Fire, the sponsor company, Usta Yazilim, our instructors and assistant.

1.3 Definitions, Acronyms and Abbreviations

AES: Advanced Encryption Standard

BP: Blöflü Pişti

CCT: Configuration Control Team

CENG: Computer Engineering

CI: Configuration Item

CM: Configuration Management

CMT: Configuration Management Team

CMP: Configuration Management Plan

IEEE: The institute of Electronical and Electronics Engineers

METU: Middle East Technical University

PI: Pişti

SCM: Software Configuration Management

SCR: System Change Request

SDT: Software Development Team

SVN: Subversion

TT: Testing Team

VCT: Version Control Team

1.4 Document References

[1] IEEE Standard for Software Configuration Management Plans (IEEE Std 828 - 2005).

[2] Pressman, Roger S. Software Engineering: A Practitioner's Approach, Sixth edition. New York, NY: McGraw-Hill.

[3] Software Configuration Management, lecture slides prepared in METU CENG department for CENG492 course in Spring 2011.

[4] A. Dogru, Component Oriented Software Engineering, the Atlas Publishing, Turkey, 2006.

[5] <http://en.wikipedia.org/>

1.5 Document Overview

This document consists of six sections which are namely and respectively; Introduction, The Organizations CM Framework, Configuration Management Process, Project Schedules and CM Milestones, Project Resources and Plan Optimization.

The first section presents preliminary information about the document. In this section, the purpose of the CMP, the scope of the document, the acronyms that are used are clearly explained. Referenced resources are also included.

The second section presents responsibilities of the team members and general organization. In this section, the Organizations CM Framework, the organization of the team, the tools that are to be used and their function in this project are clearly explained.

The third section presents the configuration management process to be used. In this section, the CM process, the identification of the configuration items, the methodologies to be carried and the general plan for the audits are subparts are clearly explained.

The fourth section describes the milestones of CM and Project Schedules. In this section, important dates and deadlines are explained.

The fifth section describes the resources to be needed in general. In this section, Project Resources for CM is explained.

Finally, the sixth section gives information about the optimization of plan. In this section, Plan Optimization, the way and adjustments chosen to optimize the CMP is explained.

2. The Organizations CM Framework

2.1 Organization

Frog on Fire is composed of three developers, each of whom has equal rights in the development process. Still necessary specific units are arranged considering management constraints about the process steps and configuration management.

These specific units and their tasks are as explained below:

Software Development Team (SDT): SDT is mainly responsible for implementing the modules of the BP project. A change is requested by TT, this change is carried out by SDT. This unit also fixes bugs possible to occur, creating releases and updating the source code via SVN.

Testing Team (TT): TT is mainly responsible for testing whether the components meet the predefined requirements. In case requirements are fulfilled; TT may want to change requests. This unit gives feedback to SDT afterwards.

Configuration Control Team (CCT): CCT is mainly responsible for supervising the other units. This unit reviews and monitors SCRs and behaves according to the case.

Configuration Management Team (CMT): CMT is responsible for maintaining whole CM organization. This unit keeps CMP up to date and updates it when necessary.

Version Control Team (VCT): VCT is mainly responsible for monitoring the versions of BP project. This unit also merges different branches.

2.2 Responsibilities

The organizational units described in Section 2.1 in detail are responsible for maintaining SCM during all phases of the development process. A healthy communication bridge between the members of the team is indispensable for a project aiming at perfection.

Responsibilities each team member has can be briefly listed as:

- Conforming to CM schedule
- Commenting about changes before committing resources through SVN
- Emailing team members about SCR

2.3 Tools and Infrastructure

Creately: Creately is a cloud-based diagramming and design application service operated by Cinergix, Pty Ltd. It can be used to create informational diagrams, flowcharts, organisational charts, website wireframes, UML designs, mind maps, circuit board designs, doodle art and many other diagram types.

Google Docs: Google Docs is a free, web-based office suite and data storage service offered by Google. It allows users to create and edit documents online while collaborating in real-time with other users. Google Docs combines the features of Writely and Spreadsheets with a presentation program incorporating technology designed by Tonic Systems.

iPhone: The iPhone is a line of smartphones designed and marketed by Apple Inc. The first iPhone was unveiled by Steve Jobs, then CEO of Apple, on January 9, 2007, and released on June 29, 2007.

MacOS: Mac OS is a series of graphical user interface-based operating systems developed by Apple Inc. (formerly Apple Computer, Inc.) for their Macintosh line of computer systems. The Macintosh user experience is credited with popularizing the graphical user interface.

SVN: Apache Subversion is a software versioning and a revision control system. Its goal is to be a mostly compatible successor to the widely used Concurrent Versions System (CVS). SVN is the vital part for a CM system. It provides maintenance of the code's being secured.

Trac: 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 SVN.

XCode: Xcode is a suite of tools developed by Apple for developing software for Mac OS X and iOS, first released in 2003. The latest stable release is version 4.3.1, which is available on the Mac App Store free of charge for Mac OS X Lion users (requires an Apple ID). Registered developers can download preview releases and previous versions of the suite through the Apple Developer website.

Web Page: All of the documents, information about the project and the project progress can be seen on our web page.

3. Configuration Management Process

3.1 Identification

Configuration Items (CI) can be divided into three categories: Source Code, Data and Documentation.

3.1.1 Source Code

Source code can be considered as the most important configuration matter in BP project. All members of Frog on Fire are responsible for management of the source code. According to their functions, source code is classified into four units.

- **Client Network Component:** This component is about how the client side communicates with the server through the network.
- **Server Network Component:** This component is about updating the information of client side while balancing the network load on the server.
- **Artificial Intelligence Component:** This component is about the intelligence of the game which has an essential role in BP.
- **Graphical User Interface Component:** This component is about the functionality of the game and its ease of usage seeming to player.

3.1.2 Data

Data of BP project is hold and managed in databases. Data includes necessary game statistics which is essential for the artificial intelligence module to improve itself accordingly. All data will be available on the server during the development of the project, which provides each member to test the project anywhere.

3.1.3 Documentation

Documentation is also a part of the CM process. They are available in our web page. The documents which have been formed up to now are listed below:

- Project Proposal
- Software Requirement Specifications Report
- Initial Design Report
- Detailed Design Report
- Configuration Management Plan
- Weekly Progress Reports

3.2 Configuration Management and Control

3.2.1 System Change Request

Change requests can be handled in two distinct ways. For minor changes, it is automatically handled by SVN. There is no need to keep extra information about the changes. All necessary information is kept by SVN. However, if the changes require more information than that SVN keeps which can be considered as a major change, Trac will handle those requests.

In case of any team member reported a System Change Request, Trac system opens a ticket and this ticket can be seen by all members.

3.2.2 System Change Evaluation

After system change requests are made, discussion about the topic will be maintained over the Trac system. Also in the face to face meetings, the evaluation process of the SCR's are discussed. Members can give opinion about the SCR and the best way of evaluation will be determined.

3.2.3 System Change Implementation

CIs that are to be changed and updated are determined after the evaluation process of a system change request. If it is needed, they can be updated through SVN.

3.3 Configuration Status Accounting

In the project, keeping the track of development process is essential. In order to achieve this important goal, different ways will be used to express those changes and updates simultaneously.

The information will consist configuration identifications, change the information of request and information about the details of the implementation. While approaching to the end, comments of the SVN and reports will guide us through the common changes. Also, versioning of the project will be controlled by comments and defining the use of updates.

All the developments made in the project will be done on SVN, and be available to trace. To have a better understanding of the changes made before, applied improvements will be documented in weekly reports and project website.

This will enable the team members to not only see the final version of the project, but also comprehend what other team members have been doing on the project. It will also provide the assistant of the project group to evaluate the performance of the team.

3.4 Auditing

Managing the configuration audits is a very critical issue to develop a successful project. Throughout the project, auditing is being done at regular time intervals by means of appropriate test methods. Our aim on auditing is to see the possible defects before they occur. This operation is performed by all team members. Changes that are made on a CI will be checked during the auditing phase. Also, each team member should check his own part of the code to determine its correctness. Each member can commit that code to SVN after self-checking. Project schedule should be checked and updated regularly in order to obey the timing that is planned.

4. Project Schedules and CM Milestones

Our project schedule and CM milestones are determined according to the deadlines in the course schedule. The milestones of the project are given below:

Delivery of CM Report	March 27, 2012
First Development Snapshot, Demo	March 27, 2012
First Release, Demo	May 15, 2012
Final Package, User Manual	May 22, 2012

5. Project Resources

Apart from us, the three developers of the project, the resources utilized during all development process are listed below as also explained in detail before:

- Creately
- Google Docs
- iPhone
- MacOS
- SVN
- Trac
- XCode
- Web Page

6. Plan Optimization

This CM Report is a guide for both coordination and progress of BP project during the development process. Coordination of the planning, scheduling and development phases of the project will be performed according to CMP. All possible updates will be controlled, bugs will be reported and be followed using the Trac platform.

All team members will stick to the living schedule and the schedule will be followed during whole development process. Meetings will be arranged to optimize the schedule of the project in emerging situations. According to these meetings, the living schedule may be updated. In case of any unforeseen circumstance not able to be fixed and solved, we may consult our instructors or assistants.

All team members can update and edit this report.