Software Configuration Management Plan

Project Enlightenment

Computer Training For Visually Impaired Automation Tool (CTVIAT)

Prepared By: Project Enlightenment

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Document Change Control

The following is the document control for revisions to this document.

Version Number	Date of Issue	Author(s)	Brief Description of Change
1.0	21/10/10	Project Enlightenment	Phase 1 - Preliminary draft for Phase 1

Definition

The following are definitions of terms, abbreviations and acronyms used in this document.

Term	Definition
SCMP	Software Configuration Management Plan
SCM	Software Configuration Management
SDLC	Software Development Life Cycle

Table of Contents

1. Abstract

This document represents the Software Configuration Management Plan (SCMP) for the Software Engineering project of group 3. Software Configuration Management (SCM) is essentially the process of identifying and assuring retention of all of the various artifacts (documents, source code, executables, etc.) generated during the Software Development Life Cycle (SDLC). This document is designed conform to the IEEE 828-1998 standard for Software Configuration Management Plans.[1]

2. Introduction

2.1 Purpose and Scope

The primary objective of the SCM process is to coordinate the use of software artifacts among the project participants, making sure everyone is working with the same versions of various artifacts (change control), and making sure that nothing gets lost (retention control).

Our project CTVIAT will have some changes. In these times we will use this document to supply integrity. This document is also changeable with our project. In light of this document, we will see problems, we will fixed it and then afterwards we will change this document to see our new roadway.

The scope is the members of group 3, who are going to be working on the CTVIAT project. Moreover, SVN will be used during the project in order to make parallel working possible and manage the milestones of the project.

2.2 Used Acronyms

G3 Group 3
SCM Software Configuration Management
SCMP Software Configuration Management Plan: This document
SCI Software Configuration Item: Any item or artifact (document, code, script, etc) that should be managed
SVN Subversion: open source version control system used to manage the SCIs
PM Project Manager
CM Configuration Manager
ACM Assistant CM
SCR Software Change Request
CSA Configuration Status Accounting

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[1] IEEE STD 828-1998

3. SCM Management

3.1 Organization

Configuration Manager:
- Emmar Kardeslik

Assistant Configuration Manager:
- Ferhat Elmas

Project Manager:
- Osman Sokuoglu

Communication and Assistant Project Manager:
- Eray Saltik

Developers:
- Ferhat Elmas
- Emmar Kardeslik
- Eray Saltik
- Özge Inan
- Osman Sokuoglu

Testers:
- Emmar Kardeslik
- Özge Inan

3.2 SCM Responsibilities

3.2.1 Configuration Manager

The general responsibilities of the Software Configuration Manager (SCM) are to control changes in the software and documentation, and to ensure testing and verification of the released versions and revisions. Emphasis is placed on providing guidance on software development, and leading other software developers.

The SCM is responsible for the following:
- maintaining management control of CTVIAT and related software by
  - approving or rejecting all Software Change Requests (SCRs) based on full consideration of change impacts and software needs
  - assuring that all changes made under approved SCRs are properly implemented and independently tested
  - controlling the release of SCIs.
- ensuring CTVIAT and related software developers are trained to the requirements, procedures, and policies of this SCMP before they can serve as change evaluators or implementers
- assisting in software configuration maintenance assessments and reviews, as required

3.2.2 Assistant Configuration Manager

The ACM has the same responsibilities as CM. Whenever the CM is not available, the ACM will be responsible for jobs related to the CM. Moreover, the ACM should at all times be aware of the state and organization of the SCM.

3.2.3   Project Manager

The PM has knowledge of the state and content of all documents and follows them up. He plans the meetings and checks the deadlines. If for any reason both the CM and ACM are unable to perform their tasks the PM will find a solution to assign these tasks to other group members.

3.2.4   Communication and Assistant Project Manager

The Communication and Project Assistant Manager is responsible for sending the necessary documents to the customer, and managing the relations within the group members, as well as the relation between the group members and the customer. Also, whenever the PM is not available, he is responsible of the PM's duties.

3.2.5   Developers

Developers for CTVIAT related software are responsible for ensuring that changes to SCIs managed under this plan are only undertaken in accordance with the policies, procedures, and requirements of this SCMP. Developers must receive training on this SCMP before they are allowed to perform duties as implementers of changes approved in the SCR process. Developers will implement changes for approved SCRs as assigned by the SCM. Developers may run applicable baseline tests, based on the CTVIAT mode they are running, but independent testing will be performed on their implementation of SCRs.

3.2.6   Testers

The general responsibilities of the Testers are to test CTVIAT and related software and verify that SCRs are implemented based on new requirements. Testers are responsible for creating and implementing Test Plans prior to testing. Testers are also responsible for generating Test Reports with the results of the testing.

3.3 Applicable policies, directives, and procedures

- All relevant products are to be added and stored to the G3 VisualSVN Server. Documents, source-code, test codes should immediately be available to the developers as well as to the general public.
- Committed source-code should always be tested and must not contain any simple errors. This rule can exceptionally be overruled with explicit permission of the Implementation Leader to let others help resolve errors.
- Revision conflicts are to be resolved by the developers themselves as soon as possible. Communication with other developers is advised.

4. SCM Activities

This section identifies all functions and activities required to manage the software configuration of CTVIAT and related software products and documentation. Software configuration management activities are grouped into four general areas:

- software configuration identification
- software configuration control
- software configuration status accounting
- software configuration management assessments and reviews.

4.1 Configuration Identification

4.1.1 Identifying Configuration Items

All developers are allowed to add new SCIs to the VisualSVN Server as long as they are in the right format described by the coding standards. The CM is allowed to overrule decisions about additions of new SCIs to the software configuration.

4.1.2 Naming Configuration Items

SVN handles the version numbering hence it is forbidden to provide version numbers manually. SCIs are to be given as short as possible meaningful names, without becoming cryptic. Underscores (_) are used instead of spaces.

Overview of repository directory structure:

Code/ The Project's source code
Design/ Directory for documents related to design issues
Plan/ Directory for documents related to planning
Release/ where different releases are stored
Requirements/ RAD document and UML files
Test/ Test codes and related documents

4.1.3 Acquiring Configuration Items

- SCIs should only be obtained by using standard SVN commit and checkout procedures.
- All SCIs is stored and can be accessed in the following URL: https://168.144.77.100/svn/cmpe451-g3/

4.2 Configuration Control

4.2.1 Requesting Changes

Developers can only change SCIs assigned to them. However, any developer may apply small changes to any SCI but has to notify the SCIs owner. For other changes the developer should notify the SCI owner and request the change. He will decide whether he will apply the change or not, he can also grant the developer permission to apply the change. For big changes, all the members of G3 should be notified.

4.2.2 Evaluating Changes

For major issues, that seemed unimportant to the CM before, developers can notify the CM for a change. The CM will evaluate this change and he will decide if the issue will be discussed in the next meeting with all members, in order to make the change.

4.2.3   Approving or Disapproving Changes

The CM and Implementation Leader have ability to roll back the changes in case they agree on the issue that these changes will cause system instability. They can immediately make that decision or discuss it with the members of G3 in the next meeting.

4.2.4   Implementing Changes

Each developer can commit his or her changes, by the help of CM, using the SVN tool.

4.3 Configuration Status Accounting

Configuration Status Accounting (CSA) is a means by which enhancements/changes and new versions/revisions of configuration items are identified and tracked. The status of proposed changes will then be progressively tracked through approval and implementation. These records provide traceability between versions of SCIs and associated documentation. The status of each SCI will be reported to the SCM, CTVIAT development team, and CTVIAT users periodically or upon request.

4.4 Configuration Audits and Reviews

Software configuration audits and formal technical reviews are held to ensure that change has been properly implemented. Periodic reviews of the SCM teams actions determine if they are conducting their activities properly and thoroughly. This is done to make sure any changes that are made retain the original quality of the design, and do not introduce new defects or design flaws. The SCM leader will be contacted if any infractions are found. It will be his duty to take corrective action to correct the problem.

5. SCM Schedules

Software configuration management activities will span the entire life of the software.

6. SCM Resources

6.1 Personnel

The SCM is responsible for implementing this plan. He will establish and maintain the development support directories, and assist other members in processing SCM documentation, generating status accounting reports, and preparing and distributing the project deliverables. The SCM is also responsible for ensuring that all testing activities are evaluated, documented, and reported according to the requirement of the SCMP. In addition, the SCM will participate in and provide documentation for system development assessments and reviews, if requested.

The development team members are responsible for the generation of software, electronic documentation, and other SCIs applicable to the project under the direction of the SCM.

6.2 Software and Hardware
- Visual Studio Ultimate
- Microsoft SQL Server
- Testing tools

7. SCM Plan Maintenance

SCMP maintenance is necessary to document configuration management activities throughout the software's life cycle. If any procedures defined in this document are changed, those changes will be reflected in the SCMP, as needed.

It is the SCM's responsibility to ensure the compliance and cooperation of development team members in abiding by this plan. The Software Configuration Manager's responsibility is to monitor compliance, and ensure that changes and updates are reflected in the SCMP, as required.