Cafeteria Management System (Cashless Canteen)

Software Configuration Management

Version 1.0

18 October, 2013

Autumn 2013-14
DA-IICT, Gandhinagar

Overview

Configuration Management (CM) Plan document describes how CM of the project will be carried out.

Target Audience

Software Development Team
Client

Document Revision History

Version	Author(s)	Description	Reviewer(s)	Date
1.0	Jay	SCMP v1.0		18 October, 2013

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1. Introduction

The SCM Plan documents what SCM activities are to be done, how they are to be done, who is responsible for doing specific activities, when they are to happen, and what resources are required. It can address SCM activities over any portion of a software product's life cycle. The objective of SCM is to ensure a systematic and traceable development process, so that at all times a system is in a well-defined state with accurate specifications and verified quality attributes. SCM should validate and maintain the systems' integrity by ensuring that the systems' objects are the appropriate ones.

SCM activities are developed for:

- Identifying, defining, and base lining CM activities.
- Controlling modifications and releases of CM activities.
- Reporting and recording status of CM activities and any requested modifications.
- Ensuring completeness, consistency, and correctness of CM activities.
- Controlling storage, handling, and delivery of the CM activities.

2. Management

SCM management information describes the allocation of responsibilities and authorities for SCM activities, and their management, to organizations and individuals within the project structure.

2.1 Roles and Responsibilities

Role	Responsibilities	Name
Project Manager	The Project Manager has knowledge of the state and content of all documents and follows them up. If for any reason configuration manager is not present he assigns his role to someone else from the team to perform on his behalf.	Purav Chitaliya
Configuration Manager	Organizes software configuration management. Configuration Manager is also responsible for installation and maintenance of configuration management tool and providing support and training	Aakash Thakkar, Jay Parikh

	to its users.	
Developers	All the members of team 2 come under this role and they follow the plan for the configuration management using configuration management tool.	Team 2

2.2 Applicable Policies, Directives, and Procedures

- All relevant products are to be added and stored to the Dropbox folder. Documents, website files, source-code should immediately be available to the developers.
- Updated source-code should always be tested and must not contain any simple errors.
- Revision conflicts are to be resolved by the developers themselves as soon as possible. Communication with other developers is advised.

3. SCM Activities

SCM activities information identifies all functions and tasks required to manage the configuration of the software system as specified in the scope of the Plan. Both technical and managerial SCM activities shall be identified.

3.1 Configuration Identification

Configuration identification activities shall identify, name, and describe the documented physical and functional characteristics of the code, specifications, design, and data elements to be controlled for the project.
The configuration identification schemas enable the identification and tracking of all the work products. The following section will describe the details how these configuration items are identified and tracked.

3.1.1 Document Configuration Identification

Every document created during the development of this project is considered a configuration identification item and will be named in a way which helps in identifying its configuration. The documents will have version control numbers which will be issued by the document writer and reviewer and the Document Configuration Manager.

The document numbering will follow the pattern:

"Team2_Document Title_v x.y_IT632 SWE"

Where v x.y is the version number of the document.

For eg. *"Team2_Software Configuration Management Plan_v 1.0_IT632 SWE"*

3.1.2 Software & Data Configuration Identification

Git identifies each revision with a unique SHA1 id, which is a long 160-bit number code written in hexadecimal. The latest revision can be referred to by HEAD, its parent by HEAD^, and its parent to be HEAD^^ and so on. The names given to the configuration objects have to be as short and as meaningful as possible. Spaces in names are replaced by underscores. Configuration objects can be acquired by using the commit and checkout procedures only. The repository can be accessed:
Remote (Online):https://github.com/errfanwadia/CMS

3.2 Configuration Control

Configuration control activities involve request, evaluate, approve or disapprove, and implement changes to base-lined CIs. Changes encompass both error correction and enhancement.

Configuration control deals with the management of changes that are made to the controlled objects. These changes may be due to either error correction or object enhancement. Configuration control involves managing and regulating all the requests, evaluations, approvals or disapprovals and implementations of the changes made to the objects. This section also involves the records to be used for tracking and documenting the sequence of steps for each change.

3.2.1 Requesting Changes

After changes are made to a configuration object, the Git add and commit procedures are used to push the changed configuration object on to the master repository. After this is done, a pull request is created by the team member requesting the changes.

3.2.2 Evaluating Changes

Changes made to a configuration object are evaluated by the review team. After evaluation, the pull request is either accepted or rejected based on the evaluation results.

3.2.3 Implementing Changes

Once a pull request is accepted, Git stores the new, changed configuration object in the repository along with the changes that were made from the previous version. Then it deletes the older version from the repository.

4. Resources

- Git is a free & open source, distributed version control system designed to handle everything from small to very large projects with speed and efficiency.
- Every Git clone is a full-fledged repository with complete history and full revision tracking capabilities, not dependent on network access or a central server. Branching and merging are fast and easy to do.
- Git is used for version control of files, much like tools such as Mercurial, Bazaar, Subversion, CVS, Perforce, and Team Foundation Server.
- Dropbox is cloud based storage medium.

5. Plan Maintenance

The Configuration Manager is responsible for monitoring the Software Configuration Management Plan. The Software Configuration Management Plan has to be updated on the introduction of new Software Configuration Management guidelines or the modification of the old guidelines.

The Plan should be reviewed at the start of each project software phase, changed accordingly, and approved and distributed to the project team. Changes made to the Software Configuration Management Plan are evaluated and approved by the review team. When the review team reviews and modifies the Software Configuration Management Plan, the changes made are communicated to all the team members along with the new, modified Software Configuration Management Plan.

6. References

Purav Chitaliya et. al., Team 2 – Project Plan Version 2.0, IT632 Software Engineering, Autumn 2013-14, DA-IICT.

IEEE Std 828™-2005 (Revision of IEEE Std 828-1998) – IEEE Standard for Software Configuration Management Plans.