COLLEGE OF ENGINEERING

DEPARTMENT OF SOFTWARE ENGINEERING

COURSE:Software configuration management

Title: Attendance Management System

SECTION: B

GROUP 3

Group members	ID.No
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3. Diana Luel	ETS0490/14
4. Etsub Girma	ETS0563/14
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1. INTRODUCTION

1.1 Purpose

The purpose of this Software Configuration Management Plan (SCMP) is to define the configuration management processes, roles, tools, and controls applied to the Attendance Management System project. This document ensures that all project artifacts are systematically identified, controlled, tracked, and audited throughout the software lifecycle.This SCMP follows standard SCM best practices aligned with IEEE 828 guidelines

1.2 Scope

This SCMP applies to all configuration items (CIs) produced during the development of the Attendance Management System, including:

- Project documentation
- Source code files
- JSON data storage files
- Repository structure
- Change requests
- Baseline records
- Release artifacts

1.3 Project Overview

The Attendance Management System is an simplified web based application with the following core functional capability:

- User login (basic authentication)
- Dashboard displaying system options
- Attendance marking functionality
- JSONbased data storage

The system is implemented using simple web technologies, including HTML, CSS, and JavaScript, with data stored in a lightweight JSON file. Project documentation is created using Google Docs to facilitate collaborative drafting and review.

2. SCM MANAGEMENT

2.1 SCM Objectives

The objectives of SCM for this project are:

- To uniquely identify and manage configuration items
- To control changes systematically
- To maintain baselines at defined milestones
- To provide configuration status visibility
- To ensure auditability and traceability

2.2 Roles and Responsibilities

Group Member Information

Name	Student ID	Role	Responsibilities
Betselot Tesfa	ETS0327/14	Project Manager	Overall project oversight and approvals
Bezawit Edilu	ETS0334/14	SCM Manager	SCM planning, CI control, audits
Diana Luel	ETS0490/14	Developer	Implements,login.html and index.html
Etsub Girma	ETS0563/14	Developer / QA	Implements attendance.html and script.js, verifies data
Eyerusalem Rufael	ETS0572/14	Change Control Board Member	Evaluates and approves CRs

Frezer Metasebia	ETS0679/14	Release Manager / Documentation Specialist	Maintains SCMP, CI Register, Release Notes

3. CONFIGURATION IDENTIFICATION

3.1 Configuration Items (CIs)

Configuration Items include all artifacts that require control. These are grouped into:

- Documents
- Source Code
- Data Files
- Repository Assets

Each CI is uniquely named, versioned, and tracked.

3.2 CI Naming Conventions

CI Type	Naming Convention	Example
Documents	`<DocName>_<Project>_vX.X`	SCMP_AMS_v1.0
Source Code	lowercase_with_underscores	login.html
JSON Data	descriptive_name.json	attendance_data.json
Change Requests	CRXXX	CR001

3.3 Versioning Rules

The project follows **s**emantic versioning:

- Major Version: Baseline or significant functional milestone (BL1, BL2)

- Minor Version: Approved Change Requests or minor updates

- Patch Version: Documentation formatting or cosmetic fixes

Example:

- v1.0 Initial repository setup (BL1)

- v1.1 Attendance functionality implemented with CRs applied (BL2, Release v1.1)

3.4 Git Branching Strategy

The project follows a simple and controlled Git branching strategy to support parallel development while maintaining configuration stability. The **main** branch represents the latest approved and stable baseline. All development activities are conducted in isolated **feature branches** to prevent direct modification of the stable configuration.

The following branches are used:

- main: Contains approved baselines and release-ready artifacts

- feature-login: Development of login.html and index.html

- feature-attendance: Development of attendance.html and script.js

- feature-cr: Implementation of approved Change Requests (CR-001, CR-002, CR-003)

All feature branches are merged into main only after review and approval to maintain traceability, auditability, and configuration integrity.

4. CONFIGURATION CONTROL

4.1 Change Control Process

All changes must follow a formal change control procedure:

1. Change Request (CR) submission
2. Impact analysis
3. Change Control Board (CCB) review and approval

4. Implementation
5. Verification
6. Baseline update (if applicable)

Unapproved changes are not permitted.

4.2 Change Control Board (CCB)

The Change Control Board consists of:

- Project Manager
- SCM Manager
- QA Engineer

The CCB ensures that changes do not negatively affect scope, schedule, or baseline integrity.

4.3 Change Classification

All change requests are classified to ensure appropriate evaluation and approval. The project recognizes the following change categories:

- **Minor Change**: Documentation updates, formatting corrections, or small user interface adjustments with no functional impact.
- **Major Change**: Functional modifications affecting attendance logic, data handling, or system behavior.
- **Emergency Change**: Critical fixes required to resolve system failures or data inconsistencies.

Change classification assists the Change Control Board (CCB) in determining approval priority and implementation strategy.

5. CONFIGURATION STATUS ACCOUNTING

Configuration status accounting ensures that:

- CI versions are traceable
- Change implementation status is visible

- Baselines are documented

Status information is maintained through:

- Configuration Item Register
- Change Log
- Git commit history

6. BASELINE MANAGEMENT

6.1 Baseline Definition

A baseline represents a formally approved configuration snapshot.

Planned Baselines:

- BL1: Initial repository setup including empty source files and SCMP document. (Git tag: BL1, Version: v1.0)

- BL2: Fully implemented Attendance Management System with all CRs applied, updated source files, and documentation. (Git tag: BL2, Version: v1.1)

6.2 Baseline Control

Baselines are:

- Tagged in Git
- Documented formally
- Modified only through approved change requests

7. CONFIGURATION AUDITS

7.1 Audit Types

Two audit types are conducted:

- **Physical Configuration Audit (PCA)**
  Verifies the presence, correctness, and version consistency of configuration items.

- **Functional Configuration Audit (FCA)**
  Confirms that functional requirements are correctly implemented and traceable.

Audit results are documented in the Configuration Audit Report.

8. TOOLS AND ENVIRONMENT

Tool	Purpose
Git	Version control and change tracking
GitHub	Remote repository hosting
Visual Studio Code	Source code development
Google Docs	Collaborative document drafting and review
HTML / CSS / JavaScript	Simple web based user interface
JSON	Lightweight data storage for attendance records

9. SCM STANDARDS AND REFERENCES

- IEEE 828 Software Configuration Management
- ISO/IEC 10007 - Configuration Management
- Academic SCM best practices

10. APPROVAL

Name	Role
Project Manager	Approval Authority
SCM Manager	SCM Approval

Document Control Information

Item	Description
Document Title	Software Configuration Management Plan
Project Name	Attendance Management System
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