ESII Project

Software **Configuration Management Plan**

**Version** 1.3

**Revision History**

|  |  |  |  |
| --- | --- | --- | --- |
| **Date** | **Version** | **Description** | **Author** |
| 13/Dec/2018 | 1.0 | Project Discussion  Resources Evaluation | Abílio Castro  Ricardo Cardoso  Vitor Santos |
| 14/Dec/2018 | 1.0 | ESII Project Creation  GitHub Repository Creation  Youtrack Agile Board Creation (Sprint #1)  insertFile( )  readFile( ) | Ricardo Cardoso |
| 15/Dec/2018 | 1.0 | Virtual Machine Configuration Attempt  Upsource Configuration  Code Review | Abílio Castro  Ricardo Cardoso  Vitor Santos |
| 16/Dec/2018 | 1.1 | Gradle Configuration  Jacoco Configuration  DOC1  DOC2  insertFiles( ) test | Abílio Castro  Ricardo Cardoso |
| 17/Dec/2018 | 1.2 | SCM Plan Creation  Jenkins Configuration  Youtrack Agile Board Creation (Sprint #2)  Search Files  Code Review | Abílio Castro  Ricardo Cardoso |
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| 23/Dec/2018 | 1.3 | Gradle Test  Jacoco Test  totalWords( ) test | Abílio Castro |
| 24/Dec/2018 | 1.3 | Planning Poker  ESII Project Reconfiguration Discussion  ECP Tables  BVA Tables  Test Cases Tables | Abílio Castro  Ricardo Cardoso  Vitor Santos |
| 26/Dec/2018 | 1.4 | removeDigits( )  Jenkins Reconfiguration  Jacoco Test | Ricardo Cardoso |
| 27/Dec/2018 | 2.0 | removeDigits( ) test  removeChars( ) test  ESII Project Reconfiguration  Jacoco Reconfiguration  Upsource Reconfiguration  Code Review  Planning Poker | Abílio Castro  Ricardo Cardoso  Vitor Santos |
| 29/Dec/2018 | 2.0 | Code Review  ECP Tables  BVA Tables  Test Cases Table | Ricardo Cardoso  Vitor Santos |
| 31/Dec/2018 | 2.1 | matrizOrganizer( )  Jacoco Test | Abílio Castro |
| 07/Jan/2019 | 2.2 | calculoGrauS( )  matrizModifier( )  matrizOrganizer( ) update  matrizModifier( ) test  calculoGrauS( ) test  insertQuery( ) test  Grade Reconfiguration  Jenkins Reconfiguration  Youtrack Agile Board Creation (Final) | Abílio Castro  Ricardo Cardoso  Vitor Santos |
| 08/Jan/2019 | 2.3 | getQuery( ) test  insertQuery( ) test update  insertFile( ) test update  Search Files  Code Review | Ricardo Cardoso  Vitor Santos |
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| 10/Jan/2019 | 2.4 | uniqueWords( ) test  calculoGrauS( ) test  ESII Project Interface  Search Files  JavaDoc Comments  Test Comments | Abílio Castro  Vitor Santos |
| 11/Jan/2019 | 2.4 | Planning Poker | Abílio Castro  Ricardo Cardoso  Vitor Santos |
| 12/Jan/2019 | 2.4 | SCM Plan Update | Abílio Castro  Ricardo Cardoso  Vitor Santos |

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**Configuration Management Plan**

# **Introduction**

O Software Configuration Management (SCM) Plan descreve todas as atividades de Configuration and Change Control Management (CCM) que iremos realizar durante todo o ciclo de desenvolvimento deste software. Com isto, irá detalhar o agendamento de atividades, responsabilidades atribuídas e os recursos necessário, nomeadamente, software de apoio ao desenvolvimento, de tracking de versões, de testes...

## **Purpose**

O propósito do SCM Plan é definir, ou referir,os passos ou atividades que descrevem como o Configuration and Change Control Management é efetuado durante o desenvolvimento de um produto de software.

## **Scope**

A metodologia adotada para o desenvolvimento deste software é uma metodologia ágil, nomeadamente, a metodologia SCRUM.

É uma abordagem empírica que aplica ideias da teoria de controlo de processos industrias ao desenvolvimento de sistemas, resultando numa abordagem que re-introduz a ideia de flexibilidade, adaptabilidade e produtividade. Que se concentra-se na forma como os membros da equipa devem funcionar para produzir um sistema flexível num ambiente constantemente variável.

A ideia principal é que o desenvolvimento do sistema envolve várias variáveis ambientais e técnicas que estão provavelmente a alterar-se durante o processo, o que torna o processo de desenvolvimento imprevisível e complexo, requerendo flexibilidade para ser capaz de responder às alterações.

Ajuda a melhorar as práticas de engenharia existentes numa organização e, para isto, envolve actividades de gestão frequentes visando consistentemente a identificação de qualquer deficiências ou impedimentos no processo de desenvolvimento bem como das práticas que são usadas

## **Definitions, Acronyms, and Abbreviations**

CCB - Change Control Board

CCM - Change Control Management

CM - Configuration Management

ESII - Engenharia de Software II

SCM - Software Configuration Management

UC - Unidade Curricular

## **References**

Na elaboração deste documento, foi usado como referência o template de SCM Plan disponibilizado na plataforma moodle da unidade curricular. Sendo o mesmo fornecido no âmbito do Rational Unified Process.

Foram também usados como apoio na definição de alguns conceitos os slides disponibilizados no moodle da UC.

## **Overview**

O documento tem toda a sua estrutura explicada no índice, disponível na página 5 deste documento.

Tendo, antes do mesmo, o título do documento (Página 1) e o histórico de desenvolvimento do projeto, contendo alterações ao source code do software, criação de métodos, testes efetuados, configurações realizadas, responsabilidades atribuídas, entre outros (Página 2-4).

# **Software Configuration Management**

## **Organization, Responsibilities, and Interfaces**

Code Reviewer -

Code Tester -

SCRUM Master -

*[Describe who is going to be responsible for performing the various Configuration Management (CM) activities described in the CM Process Discipline.]*

## **Tools, Environment, and Infrastructure**

### Tools

Discord - Comunicação

Github - Repositório

Google Docs - Elaboração do SCM Plan

Google Sheets - Criação de Tabelas ECP, BVA e Test Cases

JetBrains InteliJ IDEIA 2018.8.4 - IDE para desenvolvimento de métodos e testes

JetBrains YouTrack - Issue Tracking and Project Management

Jenkins - Build

Microsoft Office 365 Exel - Elaboração de Tabelas ECP, BVA e Test Cases

Microsoft Office 365 Word - Elaboração do SCM Plan

Upsource - Code Review

[www.planningpoker.com](http://www.planningpoker.com) - Planning Poker

### Environment

ESII Project foi essencialmente desenvolvido em ambiente académico, dada a interrupção de Natal, foi adoptado um ambiente doméstico onde os vários membros da equipa comunicavam através do software Discord, realizando SCRUM Meetings diariamente.

Obstáculos e dificuldades na configuração do ambiente de trabalho:

* Atrasos na configuração da máquina virtual
* Configuração da máquina virtual (relacionado com permissões)
* Criação de pipelines no Jenkins (relacionado com permissões)

# **The Configuration Management Program**

## **Configuration Identification**

### *Identification Methods*

*[Describe how project or product artifacts are to be named, marked, and numbered. The identification scheme needs to cover hardware, system software, Commercial-Off-The-Shelf (COTS) products, and all application development artifacts listed in the product directory structure; for example, plans, models, components, test software, results and data, executables, and so on.]*

### *Project Baselines*

*[Baselines provide an official standard on which subsequent work is based and to which only authorized changes are made.*

*Describe at what points during the project or product lifecycle the baselines are to be established. The most common baselines would be at the end of each of the Inception, Elaboration, Construction, and Transition phases. Baselines could also be generated at the end of iterations within the various phases or even more frequently.*

*Describe who authorizes a baseline and what goes into it.]*

## **Configuration and Change Control**

### *Change Request Processing and Approval*

*[Describe the process by which problems and changes are submitted, reviewed, and dispositioned.]*

### *Change Control Board (CCB)*

*[Describe the CCB membership and the procedures for processing change requests and approvals to be followed by the CCB.]*

## **Configuration Status Accounting**

### *Project Media Storage and Release Process*

*[Describe retention policies, and the back-up, disaster, and recovery plans. Also describe how the media is to be retained—online, offline, media type, and format.*

*The release process describes what is in the release, who it is for, and whether there are any known problems and any installation instructions.]*

### *Reports and Audits*

*[Describe the content, format, and purpose of the requested reports and configuration audits.*

*Reports are used to assess the “quality of the product” at any given time in the project or product lifecycle. Reporting on defects based on change requests may provide some useful quality indicators and, thereby, alert management and developers to particularly critical areas of development. Defects are often classified by criticality (high, medium, and low) and could be reported on the following basis:*

* *Aging (Time-based Reports): How long have defects of the various kinds been open? What is the “lag time’’ between when defects are found in the lifecycle and when they are fixed?*
* *Distribution (Count Based Reports): How many defects are there in the various categories by owner, priority or state of fix?*
* *Trend (Time-related and Count-related Reports): What is the cumulative number of defects found and fixed over time? What is the rate of defect discovery and fix? What is the “quality gap” in terms of open as opposed to closed defects? What is the average defect resolution time?]*

# Milestones

## Milestone #1 (Sprint #1)

|  |  |
| --- | --- |
| **Date** | **Description** |
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## Milestone #2 (Sprint #2)

|  |  |
| --- | --- |
| 18/Dec/2018 | ESII Project Reconfiguration Discussion  Code Review |
| 20/Dec/2018 | Jenkins Reconfiguration Attempt  Code Review |
| 21/Dec/2018 | Code Review |
| 22/Dec/2018 | ESII Project Reconfiguration Discussion |
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## Milestone #3 (Final)

|  |  |
| --- | --- |
| 08/Jan/2019 | getQuery( ) test  insertQuery( ) test update  insertFile( ) test update  Search Files  Code Review |
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| 11/Jan/2019 | Planning Poker |
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# **Training and Resources**

## Software Tools

Discord

Github

Google Docs

Google Sheets

JetBrains InteliJ IDEIA 2018.8.4

JetBrains YouTrack

Jenkins

Microsoft Office 365 Excel

Microsoft Office 365 Word

Upsource

[www.planningpoker.com](http://www.planningpoker.com)

## Personnel

Abílio Castro - 8170054

Ricardo Cardoso - 8170278

Vitor Santos - 8170312

## Training Required

Álgebra Linear e Geometria Analítica

Engenharia de Software I

Engenharia de Software II

Laboratórios de Programação

Fundamentos de Programação

Paradigmas de Programação

# **Subcontractor and Vendor Software Control**

Software exterior ao projeto passará por reformulação, revisão e posterior implementação.