

**TEAM 2**

**Sigma**

# **Configuration Management Plan**

**Version 1.0**

|                         |                                      |
|-------------------------|--------------------------------------|
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## Revision History

| Date     | Version | Description                              | Author                       |
|----------|---------|--|------------------------------|
| 07.11.15 | 1.0     | Draft Version( configuration management) | Imtiaz Ahmed                 |
| 08.11.15 | 1.0     | Draft Version( configuration management) | Kuchimanchi Lakshmi Prasanna |

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## 1. Introduction

The change management is a step wise procedure where the activities are checked for its consistency. The development is dependent on its latest version of recording the activities. More specifically this approach is for maintaining the product history.

### 1.1 Purpose

The main purpose of writing the configuration management is to define the steps of activities involved in the software product. The purpose of the change management plan (CMP) is to define the future enhancements and developments of few processes like issuing of change request, decision on priorities of changes and the software that is subjected to change request which falls under the control of configuration items associated with sigma project.

The main aim of CMP is to have complete check of documentation and versions of the documents to avoid discrepancy and ambiguity in the following documentations like Sigma requirements document, Sigma architecture document, sigma implementation document, and testing documents. The changes made can be easy notified and updated in any part of the document with ease.

### 1.2 Scope

The scope of the documentation is to give a detailed and the complete overview of the current version of the sigma project documents which suggests few specific features like

- Stakeholder identification and their needs
- A brief description of actors and their events
- The basic functionalities like search, login, contact student , register and job offer

### 1.3 References

The below documentations are mainly responsible for the change management plan for initializing and planning the final release of the software.

1. Sigma Requirements\_4.2
2. Sigma Archietecture\_1.0
3. Sigma Implementation\_01.01
4. Sigma Testing\_0.5

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## 2. Software Configuration Management

### 2.1. Organization, Responsibilities, and Interfaces

The roles and responsibilities relevant to the CM Plan are stated below:

**Lead Development Engineer:** Lead Development Engineer is responsible for code base, environment configuration and code structure.

**Development Engineer:** The position is mainly responsible for development of features and maintaining code of the project.

**Tester:** Tester is responsible for testing added features and making reports for bugs. Project cannot be released unless tester assures affirmative opinion.

**Manager:** Manager is responsible for management of artifact and code base.

### 2.2. Environment and Infrastructure

We have used CBU server as our major repository for development of this project. We have Python on server side, Django as a web framework. We are using CKAN which internally uses PostgreSQL. Bootstrap is used as front end framework. For code version management we have SVN.

### 2.3. Tools

During the development following tools were used:

| Description                      | Tool name       | Version       |
|----------------------------------|-----------------|---------------|
|                                  | Python          | 3.4.3         |
|                                  | Django          | 1.8.5         |
|                                  | Ckan            | 2.4           |
|                                  | Bootstrap       | 3             |
|                                  | Jquery          | 1.11.3        |
|                                  | PostgreSQL      | comp. w. CKAN |
| Web automation tool              | Selenium        | 2.47          |
| binding for python               | python-selenium | latest        |
| Plugin for web browser           | Selenium IDE    | latest        |
| Selenium works best with Firefox |                 |               |
| Code editor, support UML         | PyCharm         |               |

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|                 |                 |          |
|-----------------|-----------------|----------|
| Code editor     | Sublime         |          |
|                 |                 |          |
| For UML         | Microsoft Visio |          |
|                 | Dia             |          |
|                 | Argo UML        |          |
| Version Control | SVN             | 1.8.2010 |
|                 |                 |          |
| Bug tracking    |                 |          |
| First option    | Axosoft         | SaaS     |
| Fallback option | Bitbucket       | SaaS     |
|                 | Bugzilla        |          |
|                 |                 |          |
| Communication   | Whatsapp        | SaaS     |
|                 | Slack           | SaaS     |

### 3. The Configuration Management program

#### 3.1 Configuration Identification

##### 3.1.1 Identification Methods

The identification is to follow the structure of the product, and differentiating each component and making it available with appropriate version numbers and accurate documentation.

Thus the project Sigma is developed in many stages, with the following tools and frameworks to handle different activities which help in the final deployment of the product

- Python 3.4.3
- Django 1.8.5
- Ckan 2.4
- Bootstrap 3
- jquery 1.11.3
- PostgreSQL comp. w. CKAN with Web automation tools and code editors

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The team divided the work based on their interest and everyone in the team was responsible for the individual phase development like requirements, design, architecture, implantation, testing. For achieving this development the team has laid many strategies, held meeting at least 2-3 times a week. The meeting was physical and was also online.

The project has test plan

Test plan: Referred to test plan document

### **3.1.2 Product directory structure (Project repository)**

Every phase has clear documentation and named after its version. The documents are named as supplementary document are uploaded in the cbu server. The document contains all the documentation, progress report which explains the week progress as a team and individual and appended memo to the clear discussion and strategy of the team. In addition to this there is Django database, user interfaces, and finally the source code. SVN hosted on cbu server, slack for communication, drop box for storing the files temporarily for reviewing other automation tools like selenium 2.47, python selenium latest, selenium IDE latest

#### **3.1.2.1 Workspaces**

The workspaces mainly refer to the areas where developers and code and tester can test the code and develop the project according to the standard of the deliverables.

The work of the project is divided among the team during the meetings and each individual or the pair of partners of the team will choose their own private workspace suitable for working. The development is carried out and is uploaded to the cbu server for its correctness and unity.

The workspace includes:

- Python
- Django
- Ckan
- Bootstrap
- JQuery
- Postge SQL
- Selenium
- python selenium
- Selenium IDE
- PyCharm
- Sublime
- Microsoft visio
- Dia
- Agro Uml
- SVN
- Axosoft
- Bitbucket
- Buqzilla
- Slack

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### 3.1.3 Project Baseline

Sigma baseline includes:

- The first schedule of the project was on 12.9.2015 and expected finish date is 15.12.2015
- The total hours needed by each individual to complete the project is 182 hours.
- The main scope of the project is to design a student portal which is very reliable and easy accessible to every student to help them get their desired job with their existing skill set
- The main objective of Sigma is to use a effective platform to become an employee of the desired job by directly approaching and discussing their skill set with employer.
- The important phases of the development are gathering and requirements to achieve the stakeholder satisfaction, designing the product with all the system as well as the architecture requirement than the implementation followed by testing with number of iterations.

The baseline of the project are evaluated and corrected by the responsible person of the phase and the changes are informed to the team for necessary suggestions or modifications. Each baseline is mostly base lined with several iterations and established. Any changes to the documents in the client point of view is considered and enhanced.

## 4. Configuration and Change Control

### 4.1. Change Request Processing and Approval

A Change request form can be submitted via email based on a change request form template that can be downloaded from the website

Change request form should contain the name, email and description of the requested feature or enhancement

The website administrator has the primary role of reviewing and prioritizing the requested features so that incoming change requests should be forwarded to the website administrator;

The web administrator should also be able to evaluate possible effects of making requested changes in case of reported problems.

A secondary role of web administrator will be implementing minor changes for example UI or reporting configuration.

Changes related to the application development which are more complicated should be discussed and forwarded to the website developers.

Web developers will take the final decision on if such changes should be implemented or not.

The developers and administrator should have arranged a meeting on what items should be implemented immediately and what can be added to future milestones.

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#### **4.2. Change Control Board (CCB)**

A change control board will be in need to establish to manage incoming change requests when the amount of requests will increase.

#### **4.3. Configuration Status Accounting**

##### **4.3.1. Project Media Storage and Release Process**

Files related to the project will be backed up regularly in order to keep hold of the contents in case of surprising disaster. Backup can be taken for both on hardware or software level

Software level backup involves the use a versioning system for code & release management for examples we are using SVN.

Hardware level backup can includes creating a physical copy of the project files onto a different hard disk or drive; as the most common approach is disk mirroring.

Software level backup is highly recommended for this project in order to be able to restore to a previous version in case of possible bugs introduced as a result of implementing change requests; to revert to an earlier version will be possible in that case.

##### **4.3.2. Reports and Audits**

- We can add reports related to the effectiveness of the change request processing to milestones since it requires further integration outside the scope of this project
- However, reports related to portal's performance can be measured using Google analytics. It is possible to extract information related to number of page visits, engagement time, popular pages, top recruiters/companies, etc from the Google report.

### **5. Milestones**

The project aims to provide a website interface for companies/recruiters who are looking for students based on their knowledge and skill and also for a group of students who are looking for jobs.

For the future development we may need to update the configuration management plan when we want to expand our project as the following:

- ✓ If the number of users hugely expands, it will increase traffic and more data have to be processed, in that case we will be in need to have a more powerful server to support good number of simultaneous users.
- ✓ Develop Mobile application: Our current project aims for web application and our project doesn't have mobile application version. If we need to develop mobile application for some additional features considering about distinct users need then we have to consider some changes in the structure, mobile application GUIs.
- ✓ We also might need to be integrated with universities so that they can post any event news for concerned students in our portal.