Software Requirements Specification

Enterprise Resource Planning System(ERP)

For

Stadia Engineering Works Consultant

Version 1.0-draft

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ABSTRACT

ERP

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Acronyms and Abbreviations

SRS	Software Requirement Specification
ERP	Enterprise Resource Planning
LB	Load balancing
HQ	Headquarters
HR	Human Resources
UML	Unified Modeling Language

Chapter 1

Introduction

ERP is one of the most widely implemented business software systems in a wide variety of industries and organizations. ERP is the acronym of Enterprise Resource Planning. ERP is just not only a software. ERP definition refers to both; ERP software and business strategies that implement ERP systems.

Our Addsoft implementation utilizes Human Resource Management System , Recruitment System, Attendance System, Leave (time off) System, Payroll System , Performance Management (Appraisal) System and Asset Management to improve the performance of any organizations for

- Resource Planning
- Management Control
- Operational Control

1.1 Open ERP(Odoo)

Odoo is a comprehensive business applications including Sales, CRM, Project management, Warehouse management, Manufacturing, Financial management, and Human Resources etc. It is an all-in-one management software that offers a range of

business applications that can form a complete suite of enterprise management applications targeting companies of all sizes. Odoo offers a community version and a commercial version. The community version is the open source free version while the enterprise version are charged at a certain cost and provides more features and services.

Odoo was published first under the name of OpenERP and TinyERP, where ERP stands for Enterprise Resource Planning. An ERP is a generic software that is flexible to any modification and customize and fulfills generic needs. Odoo is a modular system where its services are represented as modules, and the ones that are necessary come installed with the ERP and can be adapted to the workforce and growth of the company that uses the system. Odoo has a powerful process engine which allows the allocation of validation modes, tasks and deadlines. According to the ERP's official website, Odoo has 5525 module; production management, logistic, human resources, accounting, management control, payroll, customer relationship management or CRM, marketing, inventory management, documents management, etc. Odoo is used by many organizations such as Hyundai, Auchan, Sodexo, Danone, Veolia, and many others. Odoo is represented in 120 countries by more than 550 partners, and it is used by almost 2,000,000 users.

Odoo is known for a number of features such as:

- Social networking
- Website creation using CMS
- Employee assessment and evaluation
- Recruitment process

These and other features are exploited by the users to make the management of their business as organized and smooth as possible.

1.1.1 Why choose Odoo

Why do so many users choose Odoo management software? According to the users' feedback, these have been the predominant reasons:

- **Low cost of ownership and no lock-in:** cost of installing, configuring and running an ERP system is expensive. There is no license fee to run Odoo Community version, so users can save the cost for implementation and customization. And because it is open source software, user can download Odoo free of charge, test it and use it.
- **Customizable:** Odoo is flexible to customize to users' needs. With so many modules, the user can choose the ones that fits with their business requirements.
- **Comprehensive and modular:** Odoo is an all-in-one business software including CRM, Website/e-Commerce, billing, accounting, manufacturing, warehouse and project management, and inventory. The main Odoo components are the OpenObject framework, about 30 core modules and more than 3000 community modules.
- **Updated technology:** Odoo is based on a technology stack which is modern and up-to-date. And with its open source community, it is actively maintained by a large base of developers to meet customer's needs and provide new applications.

1.2 Scope

Human Resources: Human Resources Module

- Create and manage employee profile
- Create and manage employee profile

- Create and manage Departmental hierarchy
- Create and manage contracts
- Employee dashboard
- Import and export to Excel

Recruitment: Recruitment Module

- Create job position
- Publish vacancies
- Review applications
- Manage departments

Attendance: Attendance Module

- Tap in and tap out
- Reporting Dashboard
- Import and export to Excel
- Integrate with Payroll

Leave (time off): Leave (time off) Module

- Annual and other leave type
- Maintain Leave quota
- Employee self service
- Manager approval
- Integrate with Payroll

Payroll: Payroll Module

- Salary structure
- Setup payroll component

- Contract Management
- Reporting Dashboard
- Print pay slip and email pay slip
- Protect pay slip file with password
- Integrate with another modules

Performance Management (Appraisal): Performance Management (Appraisal) Module

- Create and manage Employee appraisal
- Set evaluation scale
- Create goal
- Sort appraisal
- Generate report

Asset Management: Asset Management Module

- Maintain asset record
- Assign asset to employee
- Depreciation
- Generate report

1.3 System Requirements

1.3.1 Hardware Requirements

Odoo is an undemanding system. For 5-employee companies, a 2 CPU 2 RAM server would be enough (recommended 8 RAM), raising to 4 CPU 8 RAM for 20 employees. We would recommend splitting application and database servers for 90 employees.

Load balancing (LB) of application server would be needed for a company of 250+ employees.

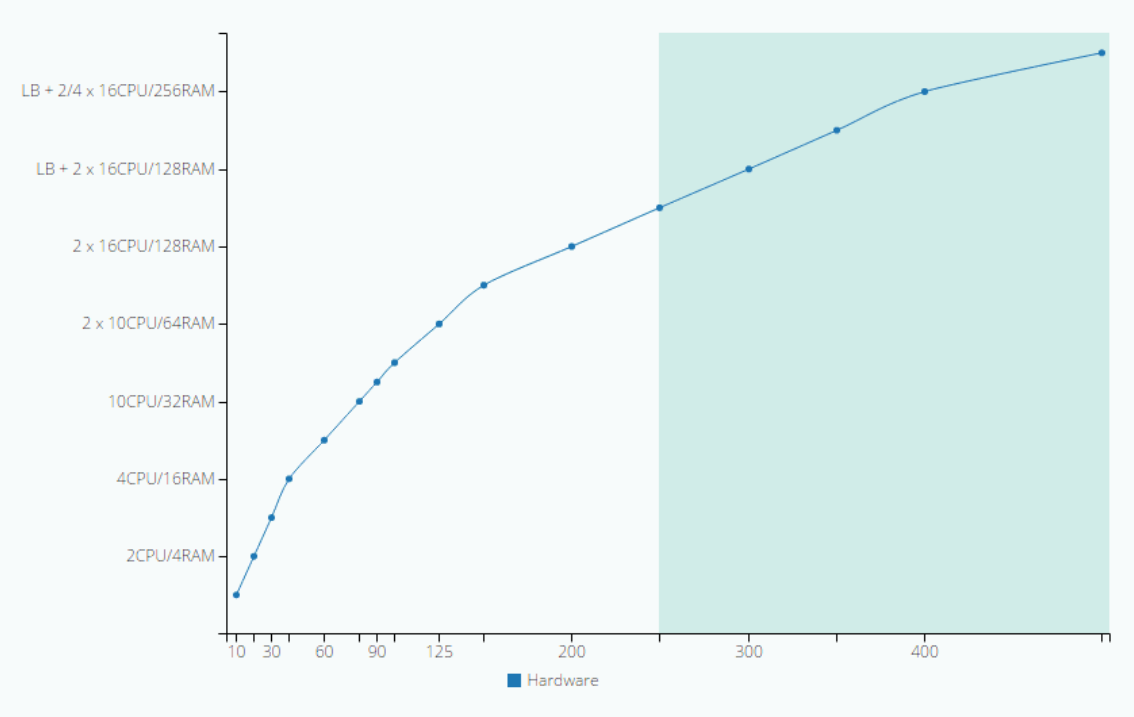

Figure 1.1: Odoo server requirements

1.3.2 Software Requirements

Postgresql v14.0: Is a powerful, open source object-relational database

Odoo community v14: Is a suite of business management software tools

Docker: Is a set of platform as a service products that use OS-level virtualization to deliver software in packages called containers

Docker compose: Is a tool for defining and running multi-container Docker applications

Python v3.7 Is a high-level, interpreted, general-purpose programming language.

Chapter 2

System Analysis

2.0.1 System Requirement Specification

General structure of a user story described in this document:

{User story name}: As a {role}, I want {goal}, so that {benefit} ({priority}).

2.0.2 Functional Requirements

The following sections describe the data required and the functional requirements that shall be performed in the new ERP System for both the HQ and field-based staffs. These functional requirements include the on-going System maintenance and the creation and management reports for all areas.

2.0.3 Non-functional Requirements

2.1 System Requirement Analysis

2.1.1 Actor and Use Case Identification

A use case diagram is a graphic depiction of the interactions among the elements of a system. A use case is a methodology used in the system analysis to identify, clarify, and organize system requirements in this context, the term s̈ystem" refers to something being developed or operated such as a mail-order product sales and service website. Use case diagram are employed in UML (Unified Modeling Language). A standard notation for the modeling of real-world object and systems. System objectives can include planning overall requirements validating a hardware design, testing and debugging a software product under development, creating an online help reference, or performing a consumer-service oriented task. For example, use case in a product sales environment would include item ordering, catalog updating payment processing, and customer relations. A use case diagram contains four components.

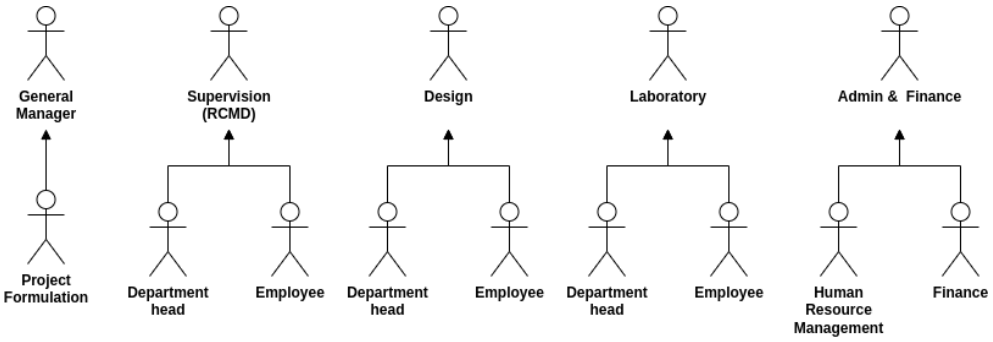

Figure 2.1: Actors involved

2.1.2 Use Case Diagram

Use case diagrams are used during the analysis process to find system requirements and to design system functionality. In this study use case diagrams are used to

describe the access rights of each actor. Administrator Actors generally have a function to manage users such as creating accounts and setting access rights.

Administrator Use Case Diagram

Manager Use Case Diagram

HR Use Case Diagram

2.1.3 Activity Diagram

Recruitment Module Activity Diagram

Human Resources Activity Diagram

Attendance Activity Diagram

Leave (time off) Activity Diagram

Payroll Activity Diagram

Performance Management (Appraisal) Activity Diagram

Asset Management Activity Diagram

2.1.4 User Access Rights

No	User	Acess Level	Object	Acess Right				Information
				Read	Write	Create	Delete	
1	Administrator	Administration	ALL	✓	✓	✓	✓	Top Level
2	System Admin	System Admin	User	✓	✓	✓	✗	Second level below Administrator
			Acess Right 2	✗	✗	✗	✗	
3	Manager	Manger	Attendance	✓	✓	✗	✗	Manager
			Acess Right 2	✗	✗	✗	✗	

Chapter 3

System Design

Chapter 4

Implementation

Chapter 5

Testing

Appendices