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| **Demand Specifications**   |  |  |  | | --- | --- | --- | | Version | : | 1.0 | | Status | : | Final | | Date | : | June 28, 2023 | |

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Index

[Internal-Engine-Kit 2](#_Toc139620375)

[1. Introduction 2](#_Toc139620376)

[1.1 Background 2](#_Toc139620377)

[1.2 Objectives 2](#_Toc139620378)

[1.3 Target Audience 2](#_Toc139620379)

[2. Project Overview 3](#_Toc139620380)

[3. Functional Requirements 3](#_Toc139620381)

[3.1 Locator 3](#_Toc139620382)

[3.2 Generator 3](#_Toc139620383)

[3.3 Converter 3](#_Toc139620384)

[4. Non-functional Requirements 4](#_Toc139620385)

[5. System Architecture 4](#_Toc139620386)

[5.1 Technical Architecture 4](#_Toc139620387)

[5.2 Data Model 4](#_Toc139620388)

[6. Data Requirements 5](#_Toc139620389)

[7. User Interface 5](#_Toc139620390)

# Internal-Engine-Kit

## 1. Introduction

This requirements document aims to define and describe the functional and non-functional requirements of the Internal-engine-kit web system to meet the needs and expectations of its users.

### 1.1 Background

* In the current digital age, web systems have become essential tools in various industries.
* Software development emphasizes agile development and the need for continuous improvement in development efficiency.
* As a result, the Internal-engine-kit system was developed to focus on serving development teams by providing various features to enhance efficiency and support software development processes.

### 1.2 Objectives

* The objective of this system is to provide users with a feature-rich, user-friendly, secure, and reliable web platform that meets their specific needs.
* The system should demonstrate excellent performance, high availability, and exceptional user experience.

### 1.3 Target Audience

The target audience for this system includes, but is not limited to, the following roles:

1. Developers
2. Testers
3. Non-technical users involved in the project

## 2. Project Overview

This project aims to develop a web system, Internal-engine-kit, to meet users' specific needs by providing the following key features:

- Locator: Includes links and account information for various internal systems.

- Generator: Provides convenient code generators for various purposes.

- Converter: Offers commonly used conversion tools during the development process.

## 3. Functional Requirements

### 3.1 Locator

1. System Information Addition: Users can add new system links and account information as needed.
2. System Information Deletion: Users can remove system links and account information as needed.
3. System Information Preview: Users can preview and search for the required systems.
4. System Redirect: Users can redirect to the desired system link.

### 3.2 Generator

1. Mock Data Generator
2. Binary Stream Generator
3. More generators to be added...

### 3.3 Converter

1. UUID Conversion
2. More converters to be added...

## 4. Non-functional Requirements

The following are the non-functional requirements of the system:

1. Performance Requirements: The system should demonstrate quick response times to ensure a smooth user experience during practical use and operations.
2. Usability Requirements: The user interface should be designed in a user-friendly manner, ensuring ease of understanding and operation.
3. Security Requirements: The system and account information should be protected.
4. Compatibility Requirements: The system should support mainstream web browsers and provide a consistent user experience across different devices.

## 5. System Architecture

### 5.1 Technical Architecture

The system adopts the following technical components and architecture:

* Front-end: Responsive web interfaces are built using Vue.js (Quasar) framework.
* Back-end: The MVC (Model-View-Controller) architecture is used, developed using Java language, Spring Boot framework, and JPA ORM.
* Database: The system utilizes a relational database (SQLite3) to store the locator/generator/converter-related input/output data.

### 5.2 Data Model

The system's data model includes the following key objects:

- Locator: Stores links and account information for each locator.

- Generator: Stores generator types and input/output information for each operation.

- Converter: Stores converter types and input/output information for each operation.

## 6. Data Requirements

The system requires the following data items:

1. Locator: System name, system link, system user, system password.
2. Generator: Name, type, input data, output result.
3. Converter: Name, type, input data, output result.

## 7. User Interface

The system's user interface should include the following pages and components:

1. Home Page: Displays key system-related information.
2. Locator Page: Presents locator information in a card-based layout.
3. Generator Page: Provides a dual-pane layout for operation interfaces.
4. Converter Page: Displays operation interfaces in a horizontal split layout.