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Abstract

This document specifies the requirements for developing a web application GUI and database to manage smart ticketing assets within train stations across the estate.

TOC Station Assest Information

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# Introduction

The project aims to create an intuitive, user-friendly interface that enables efficient tracking, maintenance, and reporting of existing smart ticketing infrastructure. The web application will serve as a centralised platform for managing data related to various assets, including contactless payment systems, ticket vending machines, mobile ticketing validators, platform validators, entry/exit gates and integrated ticketing kiosks.

Key objectives include:

* Providing real-time visibility into the status of ticketing assets.
* Enabling comprehensive reporting and analytics to support data-driven decision-making.
* Ensuring secure access and data integrity through robust authentication and encryption protocols.

By implementing this web application, the DTS aims to enhance the operational efficiency of smart ticketing systems, ensure consistent asset management, and improve overall service quality for commuters in relation to the use of these devices as part of a seamless journey throughout the rail network. This initiative is a critical component of a broader strategy to modernise transportation infrastructure management and support smart ticketing initiatives.

# User Requirements

## TSAG\_USR\_001

The system shall provide a Graphical User Interface (GUI) that enables users to search and retrieve information regarding station assets managed by Train Operating Companies (TOCs).

## TSAG\_USR\_002

The user shall be able to access the GUI without requiring authentication.

## TSAG\_USR\_003

The user shall have the capability to filter and sort search results.

## TSAG\_USR\_004

The user shall have the ability to download search results.

## TSAG\_USR\_005

The user shall have 24/7 access to the GUI, except during scheduled maintenance and updates.

# System Requirements

## TSAG\_SYS\_001

The GUI shall present all pertinent asset information for each TOC station. [TSAG\_USR\_001](#_TSAG_USR_001)

## TSAG\_SYS\_002

The GUI shall categorise the returned information by TOC name, station name, station NLC, supplier name, device type, and number of devices. [TSAG\_USR\_001](#_TSAG_USR_001)

## TSAG\_SYS\_003

The GUI shall permit asset searching based on individual TOC criteria (e.g., search by TOC name). [TSAG\_USR\_001](#_TSAG_USR_001)

## TSAG\_SYS\_004

The GUI shall facilitate asset searching based on station name or NLC. [TSAG\_USR\_001](#_TSAG_USR_001)

## TSAG\_SYS\_005

The GUI shall present search results in a user-friendly table format for ease of interpretation. [TSAG\_USR\_001](#_TSAG_USR_001)

## TSAG\_SYS\_006

The GUI shall serve as the front-end interface of the system, while a back-end database (or alternatively, an xls file) will function as the source of information. [TSAG\_USR\_001](#_TSAG_USR_001)

## TSAG\_SYS\_007

The system shall support the loading of updated asset information on a regular, periodic basis. [TSAG\_USR\_001](#_TSAG_USR_001)

## TSAG\_SYS\_008

The GUI shall be accessible via a browser without necessitating a username, login, or any form of multi-factor authentication (MFA). [TSAG\_USR\_002](#_TSAG_USR_002)

## TSAG\_SYS\_009

The GUI shall only be accessible within the RDG intranet environment, restricting access from outside the RDG corporate network. [TSAG\_USR\_002](#_TSAG_USR_002)

## TSAG\_SYS\_010

The GUI shall function seamlessly on any browser supported by RDG, including Edge, Chrome, Firefox, and Safari. [TSAG\_USR\_002](#_TSAG_USR_002)

## TSAG\_SYS\_011

The search results presented on the GUI shall offer sorting options by TOC name, station name, station NLC, supplier name, device type, and number of devices. [TSAG\_USR\_003](#_TSAG_USR_003)

## TSAG\_SYS\_012

The search functionality on the GUI will allow filtering by all available fields. [TSAG\_USR\_003](#_TSAG_USR_003)

## TSAG\_SYS\_013

The system shall provide the capability to download search results in multiple formats, including CSV, XLS, and TXT. [TSAG\_USR\_004](#_TSAG_USR_004)

TSAG\_SYS\_014

The system shall be operational 24/7, except for scheduled downtime for maintenance and updates. [TSAG\_USR\_005](#_TSAG_USR_005)

## TSAG\_SYS\_015

The GUI shall be accessible to users 24/7, except during scheduled downtime. [TSAG\_USR\_005](#_TSAG_USR_005)

## TSAG\_SYS\_016

The system shall incorporate a backup and redundancy strategy to mitigate the risk of system corruption. [TSAG\_USR\_005](#_TSAG_USR_005)