

ENSEK REMOTE SOFTWARE TESTER EXERCISE

Test Plan & Approach

Version 1.0

07/02/2023

INTRODUCTION

Overview

As part of ENSEK Interview process, candidates are required to create test plan to test the ENSEK test environment.

This Test Plan details the testing required for the ENSEK test environment. The objective of the Test Plan is to define the overall test approach to System Integration Testing (SIT) for this project.

This document aims to ensure that the following points are clearly communicated to all key stakeholders:

- Scope of testing
- Key test approach and objectives
- Test Management and Defect Management Process
- Environment Management Process
- Risks and assumptions

ASSUMPTIONS

The following assumptions have been made to support test estimates, schedules and resource requirements:

- Plans have been created based upon formal project delivery dates
- All the relevant software will be provided to QA Team
- The Test Environments will have been set up and configured prior to the start of testing
- Allocated QA resources are available during the project
- All the necessary QA quality gates have been achieved and approved prior to testing
- All areas defined as out of scope in this document are owned and tested by the relevant business areas

SCOPE

In Scope

The areas in scope for testing by ENSEK QA during SIT are as follows:

- Functional testing
- Regression testing
- Exploratory testing
- Performance testing
- In scope requirements

Out of Scope

Not applicable

TEST APPROACH & TEST OBJECTIVES

Pre-Test Execution Quality Assurance

Requirement Gap Analysis

In order to ensure that quality is embedded early, the Business Requirement Specification, HLD and Design documents are analysed by the ENSEK QA Team to ensure that there are no gaps or anomalies. If any gaps or anomalies are identified then this information is fed back to the Business Analyst and/or Product Owner.

Risk Assessment/Traceability Matrix and Test Prioritisation

ENSEK QA Team will create a Requirements Traceability Matrix which will be reviewed and approved by the Business Analyst.

Test Review - Test Artefacts

Artefacts produced by the ENSEK QA Team will be peer-reviewed internally by the QA team followed by a formal review and walkthrough workshop of some of the key artefacts with SMEs from all stake holders for sign-off and approval.

Some of the test artefacts which will be reviewed prior to the start of testing includes, but are not limited to the following:

- Test Scenarios
- Test Cases
- Traceability Matrix
- Test Data

Test Review - Test Witnessing

Not applicable

Test Data Planning

Prior to test execution, test data will be defined by the ENSEK QA Team in order to ensure that the correct dataset is available to cover the various test scenarios.

Test Prioritisation

Test Cases to be executed during SIT will be prioritised by the ENSEK QA Team in order to gain early confidence that the core functionalities are working as expected. Prioritisation will be agreed and based on the likelihood of scenarios happening in Production between the ENSEK QA Team and the Product Owner

Environment Pre-Implementation Checks

The test environment setup is expected to be complete 2 week prior to the SIT commencement date in order for us to mitigate any environment issues we may encounter during SIT. Issues encountered during the pre-implementation tests will be logged on Jira and managed using the defect management process.

Environment Post-Implementation Checks

Basic sanity tests around access and navigation will be conducted by the ENSEK QA team to evaluate the readiness of the environment before testing commences.

Executing Test Cases

Manual Test cases will be executed manually in TestRail. Test results (Actual Result with test evidence, Pass/Fail) will be captured.

Automation Test scripts will be executed in Cypress and provide test execution report.

Test Phase - System Integration Testing (SIT)

The aim of SIT is to bring all system components together (for the first time) in a single integrated test environment in order to:

- Prove the implementation procedures of the release.
- Execute integration tests to prove all system components are communicating together
- Perform other project specific verification tests

This is also the main test execution phase with the aim to test the requirement changes in a fully integrated end-to-end environment. This is where the main scope of functional and non-functional test execution will take place.

The following test activities will be conducted during SIT:

- Smoke Testing
- Targeted Functional Testing
- Functional Regression Testing
- Exploratory Testing
- User acceptance testing
- Non Functional Testing
 - Performance (conducted by the Performance Testing Team)
 - Security (conducted by the Security Testing Team)

However, there will be a test report from all test activities from the stakeholders mentioned above which will feed into the SIT TCR.

Functional

The functional test stream will be responsible for all functional testing and regression testing on the ENSEK test site. The ENSEK QA Team will ensure that the functionalities which have been implemented are as per the BRS. Testing will mainly be focussed around the following areas on the ENSEK test site;

- Registration
- Login
- Home page links
- Buy energy
- Sell energy

Non Functional

The Non-Functional test team will be responsible for the performance testing on ENSEK test site to ensure there is no performance degradation during the stated load as in the BRS.

The Security test team will be responsible for the security testing on ENSEK test site to ensure there is no security threat for the application and for the customers

Defect Logging and Reporting

Defects will be logged and reported using Jira

Test Completion

On completion of SIT, a formal Test Completion Report (TCR) will be issued to project stakeholders detailing the outcome for each test phase. The TCR will be issued in the week following completion.

TEST TOOLS

Test Name	Tool	Test Tool Purpose
JIRA		Defect management Tool
TestRail		Manual Test script execution, test execution status dashboard and test management
Google drive		Shared repository for test artefacts
Cypress		Automation test execution and provide report

TEST AUTOMATION APPROACH

All the requirements that are identified to do Automation testing will be scripted and executed in Cypress

TEST ENVIRONMENT

<https://ensekautomationcandidate.azurewebsites.net/>

TEST DATA APPROACH

Test data will be created by the ENSEK QA Team based on relevant scenarios and test cases under test. The test environments will be supplied empty of all data. The test data will be created in advance during test prep phase

TEST SCHEDULE

Test Start date – 07/02/2023

Test End date – 09/02/2023

PROJECT TEAM

The ENSEK QA Team are:

- QA Lead x 1
- QA Analyst x 1

DELIVERABLES

Below is a set of key deliverables for this project.

Deliverables	Owner
Test Plan & Approach	ENSEK QA Team
Requirements Traceability Matrix	ENSEK QA Team
Test Completion Report	ENSEK QA Team
Daily Status Report	ENSEK QA Team

SUSPENSION CRITERIA

The suspension criteria, listed below will be followed.

- Priority 1 defects which completely block ENSEK QA from testing.
- Multiple Priority 2 defects found during execution which severely hinder the ability of ENSEK QA to test.
- Severe environmental and/or server problems encountered during test execution.
- Assigned SME resources (QA and Project/Release) are not available as and when needed.

RESUMPTION CRITERIA

The Resumption should be agreed between the ENSEK QA lead and Delivery Manager. The Delivery Leads and Technology stakeholders for the project should be immediately informed if resumption is activated. Resumption will only occur once the problem(s) that has caused suspension has been resolved. Stakeholders will be informed when testing will be resumed.

METRICS AND REPORTING

Metrics will be gathered using Jira and TestRail Dashboards and will be distributed to stakeholders in the Daily Status reports.

A test completion report will be distributed to the stakeholders on completion of SIT.

RISKS, ASSUMPTIONS, ISSUES & DEPENDENCIES

The risks, assumptions, issues and dependencies affecting the project during SIT will be logged in the project action tracker log and managed by the Delivery Manager