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# Introduction

## Purpose

The purpose of this document is to provide a detailed test plan of the TrackModel module of the Train System. This document will:

1. Define the tools to be used throughout the testing process.
2. Communicate to the responsible parties the items to be tested, set the expectations pertaining to the tests and the testing schedules, and define the hardware and software requirements for performing tests.
3. Define how the tests will be structured and conducted.

## Scope

The systems to be tested include the TrackModel module of the Train System.

## Definitions, Acronyms, and Abbreviations

## References

## Overview

# Quality Management

## Resources, Roles, and Responsibilities

The Test Manager is responsible for facilitating the testing project, creating a schedule for the Testers, and training all the testers. Each tester should understand the expectations of the tests and quality level. The Test Manager should communicate any risks to the testers before testing begins.

## Schedules

Testing should start 4 weeks prior to the due date of the project. The first round of testing should be completed in 1 week, and testing should continue until the end date of the project. The final testing should begin 1 week before the end date and completed by the day before the project due date.

## Control Procedures

### Problem Reporting

If a test fails, the tester will mark the test as Fail in the test procedure and give a detailed description of the failure. The tester will also create a bug report in GitHub and include the specific test, a reference to the code that failed, and a detailed description of the failure.

## Dependencies

## Risks and Assumptions

If the first round of testing is not completed in the timeline specified above, it could delay bug fixes and the dates of final testing. If this happens, the schedule will be shifted accordingly to ensure the project is completed by the end date.

If the testers do not have a basic understanding of the track model platform, testing may not be conducted properly and to the correct quality level.

# Testing Strategy

## Unit Testing

The testing strategy used for unit testing will be test driven development. If a new class is created, unit tests for the specified class will be created before development of the class is started. The developer will then get the program to pass each test before moving on the next.

## Component Testing

## Performance and Stress Testing

## Automated Regression Testing

## User Acceptance Testing

# Environment Requirements

## Hardware Requirements

The hardware required for this product is a machine running Windows 10 or above.

## Software Requirements

The software requirements for this product include:

## Tools Required

# Features Not to be Tested

# Test Procedure

The table below lists all the cases tested for this product. In the Date Tested column, all of the provided dates are in the year 2022.