**Test Plan**

For a Track & Field Meet Server

Version 1.0

Submitted in partial fulfillment of the requirements of the degree of MSE

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# Test Plan Identifier

TFMS-TestPlan-1.0

# Introduction

This document is meant to explain the plan for testing the Track & Field Meet Server. The project provides an API so that clients can be developed to connect to the server and perform different commands. The system is made up of three main parts, the communicator, database control and database. Testing will be done following the guidelines laid out in the Project Plan and SQA plan.

# Test Items

The items listed below will be tested. Requirements for these items are stated in the vision document and described in further detail in the System Architecture Design.

* Communicator
  + Sender
  + Receiver
  + Message
  + Encryption
* Database Control
  + Action Dispatch
  + Authenticator
  + Updater
  + Creator
  + Fetcher
* Database
  + Meet
  + User
  + Team
  + Event
  + Result
  + Status

# Features to Be Tested

The items below are the requirements that will be tested. These requirements were defined in the Vision Document.

## SR1.1

The system SHALL authenticate users with each interaction they have with the system.

## SR2.1

The system SHALL receive data requests from concurrent users.

## SR3.1

The system SHALL interpret user requests based on the API.

## SR4.1

The system SHALL send response messages to the users.

## SR5.1

The system SHALL receive data submittals from official and admin users based on the API.

## SR6.1

The system SHALL put submitted data into the system.

## SR7.1

The system SHALL add data to the system that is submitted by officials.

## SR8.1

The system SHALL modify data in the system that is submitted by administrators.

## SR9.1

The system SHALL store a status that is reported by a participant or official.

# Features Not to Be Tested

No Features will go untested.

# Approach

The type of testing that will be done for this project is black box testing. Scenarios will be developed that will run the system through execution that will exercise all of the functional requirements as well as the architectural system constraints.

Testing will begin by testing smaller units of code and slowly integrate more units until full functional tests can be ran on the system.

# Item Pass/Fail Criteria

All tests will be marked as pass when the test meets the specification requirements that are stated in the Vision Document. If the tests do not meet these requirements, then they will be marked as fail.

# Suspension Criteria and Resumption Requirements

## Suspension Criteria

Testing on all features dependent on a failed test case. The failure will be logged with a thorough description of the issue. Testing on independent features will continue to occur.

## Resumption Criteria

Upon resolution of the logged failure with a pass of a retest, testing will then resume on all dependent features.

# Test Deliverables

## Test Log

All testing that is done on the system will be captured in a system test log. This log will record the state of passing or failing for each test case run. In the case of a failure a detailed description will be entered in the logged and a plans for solving the issue will be described.

# Testing Tasks

The table below reflects the high level test cases that will be performed to verify the functionality of the system.

|  |  |  |  |
| --- | --- | --- | --- |
| Test Case | Scenario | Features Tested | Passing Criteria |
| 1 | Enter data into server | All Features | Administrators data that they request to add ends up in the database and other users are unable to add data |
| 2 | Modify data | All Features | Modifications to requested data are made when an administrator sends the request but for no other users |
| 3 | Submit Data | All Features | Officials submitted data is accessible to other users and non-officials get rejected |
| 4 | Report Status | All Features | Athletes status update reflects the status that they send and coaches and officials can update the status of athletes that either belong to their team or event respectively. Other users status updates are rejected. |
| 5 | User Authentication | All Features | Users that the system knows about can make requests appropriate to their class and unknown users are rejected |

# Environment Needs

The Track & Field Meet Server architecture will be tested using a combination of a Windows 10 computer running python 2.7 to act as the client and a Raspberry Pi running Java SE 8 acting as the server. All source code will be archived and revisions maintained using a GIT repository.