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TEST PLAN

ULTRAS Application

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# **Product Analysis**

First, before describing any kind of test strategy the product that will be tested has to be thoroughly researched. That way the testing will be more accurate and the results more meaningful. The product under test is a web application for selling football tickets. The website is going to be used mainly by football enthusiast, who enjoy watching their favorite teams. Fans will be able to purchase tickets, view their purchased tickets, maintain their personal data and so on. Finally, the web application will use Java and Spring Boot as a backend with React framework as a frontend and MySQL as a database.

# **User Acceptance Tests**

User Acceptance Testing (UAT) is a type of testing performed by the end user or the client to verify/accept the software system before moving the software application to the production environment. Since the User Acceptance Tests and the User Stories are similar, the UAT will be described using the help of this project’s User Stories:

* **TC01**: As an administrator I want to add matches, so that tickets can be sold for this match
* **TC02**: As an administrator I want to delete matches, so that customers do not buy tickets about a past event
* **TC03**: As an administrator I want to be able to modify existing matches, so that the information displayed is always correct
* **TC04**: As a customer I want to be able to see all available matches, so that I know which football match ticket to buy
* **TC05**: As a customer I want to buy a ticket, so that I can watch my favorite football team live
* **TC06**: As a customer I want to see my purchased tickets, so that I know which football matches to attend
* **TC07**: As a customer I want to be able to see all the important information about a match, so that I do not regret my purchase
* **TC08**: As a customer I want to be able to filter the matches, so that I save time and buy a ticket for the one I want

# **Test Strategy**

## Scope

**In Scope Testing**

The focus will be on testing the functionalities of the web application.

**Out of Scope Testing**

Nonfunctional testing such as stress or performance currently will not be tested.

## Testing Types

The testing types that will be used to test the functionalities of the application are:

**Unit Tests**

These tests will be performed on the applications’ service layer. It will test the functionality of the backend of the software.

**Integration Tests**

Integration tests are performed to test the controllers. They will test that the REST API services work as expected.

**User Acceptance Tests**

To test if the application is user friendly and good for the end user.

**Frontend Tests**

To test if the frontend of the application connects to the backend correctly and all components work as expected

## Test Environment

The technologies that will be used to perform the above-mentioned test are:

* **Junit** – to set up the testing environment in Java
* **Mockito** – to mock data and services, so that the industry version is not changed unintentionally
* **AssertJ** – for using custom assertions for better test coverage

## Test Objective

Test Objective is the overall goal and achievement of the test execution. For the scope of this project the test objectives are:

* Ensure that the software under test is bug free.
* Check that whether the web application functionality is working as expected without any error or bugs.
* Verify the usability of the website. Are those functionalities convenient for user or not?
* Achieve test coverage of 60%.

## Test Criteria

Test Criteria is a standard or rule on which a test procedure or test judgment can be based. There’re 2 types of test criteria:

**Suspension Criteria**

Specify the critical suspension criteria for a test. If the suspension criteria are met during testing, the active test cycle will be suspended until the criteria are resolved. For this project if 40% of the test cases fail, testing will be suspended until all failed test cases are fixed.

**Exit Criteria**

It specifies the criteria that denote a successful completion of a test phase. The exit criteria are the targeted results of the test and are necessary before proceeding to the next phase of development. For this project a successful test plan would be if test coverage is 60% and all test cases have passed. Then the Exit criteria will be met.