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.

UAT-01: Register as a user

    Steps:

1. Navigate to the 'Register' page
2. Fill out the necessary fields
3. Click the 'Register' button to confirm the action

    Expected Result:

- Notification to confirm the action will appear and the user will be redirected to the 'Login' page

UAT-02: Viewing all available matches

    Steps:

1. Navigate to the 'Matches' page

    Expected Result:

- All available matches will be displayed on the page

UAT-03A: Login as a user

Steps:

1. Navigate to the 'Login' page
2. Fill out the necessary fields with the provided data
3. Click the 'Sign In' button to confirm the action

Mock Data:

Email: leclerc@gmail.com

Password: 12345

Expected Result:

- User will be navigated to the 'Profile' page

UAT-03B: Login as an admin

Steps:

1. Navigate to the 'Login' page
2. Fill out the necessary fields with the provided data
3. Click the 'Sign In' button to confirm the action

Mock Data:

Email: fff@gmail.com

Password: 12345

Expected Result:

- User will be navigated to the 'Profile' page

UAT-04: Purchasing a ticket as a user

Steps:

1. Navigate to the 'Matches' page
2. Choose a match and press the 'Buy ticket' button
3. Select the quantity and confirm the action

Expected Result:

- System will notify the user the ticket(s) were purchased, and the user will be redirected back to the 'Matches' page

UAT-05: Perform CRUD operations on matches

Steps:

1. Login as an admin (refer to **UAT-03B**)
2. Navigate to the 'Match Management' page
3. Fill the necessary fields and confirm the action

Expected Result:

- System will confirm the action by a notification

UAT-06: Perform CRUD operations on football teams

Steps:

1. Login as an admin (refer to **UAT-03B**)
2. Navigate to the 'Team Management' page
3. Fill the necessary fields and confirm the action

Expected Result:

- System will confirm the action by a notification

UAT-07: Viewing purchased tickets as a user

Steps:

1. Login as a user (refer to **UAT-03A**)

Expected Result:

- All purchased tickets will be displayed on the right

UAT-08: Modify personal information as a user

Steps:

1. Login as a user (refer to **UAT-03A**)
2. Update the user's data
3. Confirm the action

Expected Result:

- System should notify the user that the action was performed

UAT-09: Filter matches

Steps:

1. Navigate to the 'Matches' page
2. In the search bar type the team's name you are looking for

Expected Result:

- System will filter the matches and display only the relevant ones

UAT-10: Give account administrative permissions

Steps:

1. Login as an admin (refer to **UAT-03B**)
2. Choose an account
3. Confirm the action

Expected Result:

- System will confirm the action by a notification

UAT-11: View statistics as an admin

Steps:

1. Login as an admin (refer to **UAT-03B**)
2. Navigate to the 'Statistics' page

Expected Result:

- System will display statistics about AVG sales of tickets per match for each team

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
- **Cypress** – for frontend testing

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.