**ASTANA IT UNIVERSITY**

**SOFTWARE QUALITY ASSURANCE**

**TEST PLANS FOR DATABASE TESTING**

Project Name: | Database Testing for Sales Management System |

Test Plan ID: | DBT-2023-001 |

Version: | 1.0 |

Date Prepared: | 31.05.2023

Last Updated By: | Dana Orenkyzy |

Last Updated Date: | 07.06.2023 |

Test Environment: | PostgreSQL 13.2, Windows 10 |

Testing Approach: | Manual Testing |

Test Coverage: | Data integrity, Data retrieval, Performance, Security |

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Link from Roadmap: [ https://trello.com/b/lV5qYVkt/mb]

Link to the Jira repository: [https://jirdone.atlassian.net/projects/MOV?selectedItem=com.atlassian.plugins.atlassian-connect-plugin:com.deviniti.atlassian.apps.rtm\_\_project-main-view#!/requirements/issues-list-view/243906

Link to the Github repository: [https://github.com/T1N1Rl/SQA\_8practice]

**Astana, 2023**

1. **Objectives**

The goal of this test plan is to assess the Cinema Paradiso Movie Database's functionality, integrity, performance, and security. The key objectives are as follows:

* Validate Movie Data

Ensure that movie information, such as title, genre, actors, directors, and release year, is saved and maintained appropriately in the database.

Check that the movie data is consistent and corresponds to the information supplied by credible sources.

To avoid erroneous or incomplete movie information, validate the data entering procedure.

* Test Movie Search and Filtering

Validate the movie search capability to guarantee accurate and appropriate search results based on multiple parameters such as title, genre, actors, and directors.

Test the movie filtering tool to ensure that it correctly filters movies based on user preferences such as genre, release year, and rating.

* Verify Rental Process

Experiment with the renting process by picking movies, adding them to the rental cart, and completing the checkout procedure.

Check the rental cost and availability of movies for rent.

Examine the database to ensure that rental transactions are appropriately recorded and updated.

1. **Scope**

The scope of this test plan includes the following Cinema Paradiso Movie Database components:

• Movie table: Includes information about the film's title, genre, actors, directors, and year of release.

• Rental table: This table stores information on movie rentals, such as rental dates, customer information, and rental status.

• User authentication and authorization: Ensures safe access to user accounts and manages user rights throughout the system.

• Customer reviews table: Keeps track of customer reviews and movie ratings.

• Data backup and recovery: Ensures that data is backed up on a regular basis and that it can be recovered in the event of a system failure or data loss.

|  |  |
| --- | --- |
| Component | Description |
| Movie table | Testing CRUD operations for movies |
| Rental table | Testing the rental process and rental history tracking |
| User authentication and authorization | Testing user registration, login, and access control |
| Customer reviews table | Testing customer reviews and ratings functionality |
| Data backup and recovery | Testing the backup and restore processes |

1. **Test Approach**

The Cinema Paradiso Movie Database will be tested using a combination of manual and automated methods to guarantee thorough system validation. The testing strategy will be adapted to the project's individual requirements and challenges.

* Requirement Analysis: Analyze the project requirements thoroughly to acquire a comprehensive grasp of the required features, performance goals, and security issues.
* Test Strategy Development: overall testing approach the scope, objectives, and test tiers (unit, integration, system, and acceptance). Determine the main testing approaches and tools that will be used.
* Test Environment Setup: Setup the test settings, including hardware, software, and network configurations, to closely resemble the production environment.
* Test Case Design: Create test cases based on the requirements and acceptance criteria that have been determined. Positive and negative testing, boundary value analysis, and error management should all be covered in test cases.
* Manual Testing: Skilled testers will undertake manual testing, step-by-step completing the defined test cases. They will interact with the user interface of the system, enter data, and evaluate the anticipated outcomes. Any deviations, difficulties, or flaws discovered during testing will be reported by testers.
* Automated Testing: Determine whether parts of the system may be automated, such as repetitive jobs, regression testing, and load testing. Create automated test scripts utilizing appropriate testing tools and frameworks. Automated tests will be run on a regular basis to assure the system's stability and dependability.
* Performance testing is used to analyze the system's reaction time, throughput, and scalability under various load circumstances. To mimic concurrent user activities and assess system performance metrics, utilize appropriate performance testing tools.
* Defect Management: Throughout the testing process, document and track detected faults. To prioritize, allocate, and monitor problem resolution, use a defect tracking system. Retest repaired faults to confirm they have been addressed effectively.
* Test Reporting: Write detailed test reports that describe the testing operations, such as test coverage, run test cases, discovered flaws, and overall test outcomes. Provide stakeholders with clear and simple information to aid in decision-making.

1. **Test Case Template**

The following template will be used to create test cases:

|  |  |  |  |
| --- | --- | --- | --- |
| Test Case ID | Description | Test Data | Expected Results |
| TC001 | Movie selection by title | Movie title: “Academy Dinosaur” | Movies with matching title are displayed |
| TC002 | Movie selection by category | Movie category: “Action” | Movie matched with written category |
| TC003 | Movie selection by actor | Actor name: Penelope Guiness | Movie featured specific actor |
| TC004 | Movie details display | Movie ID: 1 | Detailed information of a movie is displayed |
| TC005 | Customer registration | Customer details: first name, last name, email | Customer account is successfully created |
| TC006 | Rental queue management – Add movie | Movie ID: 1001 | Movie is added in a rental queue |
| TC007 | Rental queue management – Remove movie | Movie ID: 1001 | Movie is removed from a rental queue |
| TC008 | Rental availability check | Movie ID: 1000 | Availability status of a movie |
| TC009 | Rental duration | Rental duration: 3 days | Rental fees are calculated correctly |
| TC010 | Account information update | Updated customer details: first name, last name, email | Customer information is updated |
| TC011 | Rental history tracking | Movie ID: 1000 | Rental history for the customer displayed |
| TC012 | Movie rating | Movie rating: “PG” | Movie selected by the rating |
| TC013 | Rental reminders and notifications | Customer ID: 3 | Upcoming due dates notificaions |
| TC014 | Customer support contact | Customer email | Customer support email is successfully sent |
| TC015 | Film language display | Movie ID: 1000 | Language ID of the movie is displayed |
| TC016 | Date and time localization | Time zone: UTC+5:30 | Date and time are displayed |
| TC017 | Customer address information | Address details: city: Batna, country: Algeria | Customer’s address information is captured correctly |

1. **Test Schedule**

The test execution for the database testing will be conducted according to the following schedule:

|  |  |  |
| --- | --- | --- |
| **Test Activity** | **Start Date** | **End Date** |
| Test Case Creation | 31.05.2023 | 5.06.2023 |
| Test Environment Setup | 1.06.2023 | 6.06.2023 |
| Test Execution | 3.06.2023 | 6.06.2023 |
| Test Reporting and Documentation | 4.06.2023 | 7.06.2023 |

1. **Test Deliverables**

The following deliverables will be produced as part of this testing effort:

1. Test Plan Document:

A comprehensive document outlining the objectives, scope, approach, and schedule of the database testing. It provides guidance and instructions for the testing team to follow.

2. Test Case Documents:

Detailed test cases that cover various scenarios for validating different components of the Sales Management System database. Each test case includes test steps, expected results, and any necessary test data.

3. Test Execution Reports:

Reports summarizing the execution of test cases, including the test case ID, description, pass/fail status, and any issues encountered during the testing process. These reports provide a clear overview of the testing progress.

4. Defect Logs:

A log of all identified defects or issues discovered during the testing. Each defect should include details such as a description, severity level, steps to reproduce, and the person responsible for resolving the defect.

5. Final Test Report:

A comprehensive report summarizing the entire database testing effort. It includes an overview of the testing activities, test coverage, test execution results, identified issues, recommendations for improvement, and a conclusion.

1. **Test Dependencies**

Test Data Dependency: It is crucial to prepare a comprehensive range of test data that covers various scenarios, including valid and invalid movie records, customer information, rental orders, and inventory items. Thorough documentation of the test data should be maintained for future reference.

Test Environment Setup: The setup process for the test environment, involving the installation and configuration of PostgreSQL with the Cinema Paradiso database, should be carefully documented. This includes specifying any required settings, access credentials, and network configurations.

Test Execution Reports: Detailed reports capturing the executed test steps, actual results, expected results, and any identified defects or issues should be generated. Screenshots or logs can be included as supporting evidence if needed.

Defect Reports: Any identified defects or issues should be documented in a separate report, including a unique defect ID, a clear description, severity level, steps to reproduce, and a comparison between the actual and expected results. Collaboration with the development team is crucial for tracking and resolving these issues.

Test Plan Updates: The test plan should be regularly updated to reflect changes or additions based on the evolving requirements of the Cinema Paradiso database. It is important to maintain an organized and accessible document, properly versioned for future reference.