TEST PLAN

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Project Title: Travel Agency Management System (TADMS)

1. Introduction

The test plan outlines the approach for testing the Travel Agency Database Management System (TADMS), which automates booking management, vehicle inventory, payments, and driver assignments for travel agencies. The system is web-based and integrates different modules like customer management, booking, vehicle, driver, and payment tracking.

2. Scope

In Scope:

- Testing functionalities for customer management, vehicle management, booking management, driver assignments, payment management, and notifications.
- Validation of data accuracy, secure storage, and retrieval.
- Performance testing to ensure response time of under 2 seconds and support for up to 1,000 concurrent users.

Out of Scope:

- Mobile application versions.
- Integration with third-party services not covered in the system specifications.

3. Quality Objective

Ensure a stable, scalable, and user-friendly system that accurately handles bookings, payments, and assignments while maintaining data security and reliability.

4. Roles and Responsibilities

- **QA Lead:** Plans and coordinates the testing process.
- **Test Engineers:** Execute test cases, report results, and log bugs.
- **Developers:** Fix reported issues and provide support during testing.
- **System Administrators:** Set up and maintain the test environment.

5. Test Methodology

Overview: Testing will follow a combination of manual and automated approaches using the V-model for software development.

- **Test Levels:**
    - **Unit Testing:** Test each module (customer management, booking, etc.) individually.

    - **Integration Testing:** Validate interactions between modules (frontend-backend, database).
    - **System Testing:** Test the complete system to ensure all requirements are met.
    - **User Acceptance Testing (UAT):** Confirm the system functions as expected from a business perspective.
- **Bug Triage:** Issues are prioritized based on severity, with critical bugs fixed immediately.
- **Suspension Criteria and Resumption Requirements:** Testing pauses if critical functionalities are blocked, resuming only after resolution.
- **Test Completeness:** Testing ends when all high-severity bugs are fixed, and all test cases have passed.

6. Test Deliverables

- Test plan and updated test cases.
- Bug reports and test summary documentation.
- Automated test scripts for regression testing.
- Final test report summarizing test results.

7. Resource & Environment Needs

- QA team (3-5 members).
- Development and test servers mirroring production configurations.
- Data sets for testing customer registration, bookings, payments, etc.

8. Testing Tools

- **Selenium:** Automate web UI tests.
- **Postman:** API testing for backend functionalities.
- **JMeter:** Performance testing under simulated user loads.
- **MySQL Workbench:** Database validation.

9. Test Environment

Replicate the production environment using the following setup:

- **Frontend:** React.js for customer and admin interactions.
- **Backend:** Node.js to handle business logic and database communication.
- **Database:** MySQL for storing data.
- **Browsers:** Chrome, Firefox, Safari for cross-browser testing.