

❖ Test Plan for CRM Module:

Objective

The objective of this test plan is to ensure that all functionalities of the CRM module, as outlined in the user stories, are implemented correctly and meet the specified acceptance criteria. This includes both **Manage Contacts** and **Manage Invoices** features.

Scope

The test plan focuses on the following:

1. **Functional Testing:**

- Managing contacts (CRUD operations, balance adjustments).
- Managing invoices (creating, viewing, returning, paying).

2. **Integration Testing:**

- Interaction between contacts and invoices (e.g., balance updates after invoice creation).

3. **Non-Functional Testing:**

- Performance, usability, and security.
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Features to Be Tested

Manage Contacts

- View all contacts with optional pagination and search parameters.
- Retrieve a contact using its unique ID.
- Create, update, and delete contacts.
- Adjust contact balances by adding a specific amount.

Manage Invoices

- View a list of invoices associated with the account.
- Retrieve detailed information of any invoice.

- Create new invoices, associate them with contacts, calculate total profit, and adjust balances.
 - Return invoices and ensure they can no longer be paid while adjusting balances.
 - Pay invoices, mark them as paid, and update the contact's balance.
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Test Objectives

1. Ensure all functional requirements are met.
 2. Validate integration between contacts and invoices.
 3. Identify and log defects for resolution.
 4. Confirm the system's performance, security, and usability.
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Test Cases

A. Manage Contacts

Test ID	Test Cases	Input	Expected Outcome
TC1	View all contacts with pagination	Request contact list with pagination	Contact list displayed with correct pagination.
TC2	Search for a contact	Enter search criteria (e.g., name)	Contacts matching the criteria are displayed.
TC3	Retrieve a contact by unique ID	Provide valid contact ID	Contact details are displayed correctly.
TC4	Create a new contact	Enter valid contact details	Contact is created successfully and listed.
TC5	Update an existing contact	Modify contact details	Contact information is updated accurately.
TC6	Delete a contact	Submit delete request for contact	Contact is removed from the system.
TC7	Adjust contact balance	Add specific amount	Contact's balance is updated correctly.

B. Manage Invoice

Test ID	Test Case	Input	Expected Outcome
TC8	View a list of invoices	Request invoice list	All invoices associated with the user are displayed.
TC9	Retrieve an invoice by unique ID	Provide valid invoice ID	Invoice details are displayed correctly.
TC10	Create a new invoice	Submit valid details and contact ID	Invoice is created, associated with the contact, and profit is calculated.
TC11	Return an existing invoice	Submit return request	Invoice is marked as returned, and the contact's balance is adjusted accordingly.
TC12	Prevent payment of a returned invoice	Attempt payment for returned invoice	Payment request is denied with an appropriate message.
TC13	Pay an invoice	Submit payment with valid amount	Invoice is marked as paid, and the payment is added to the contact's balance.

Testing Approach

1. **Functional Testing:** Validate all features against user story acceptance criteria.
 2. **Integration Testing:** Test interactions between contacts and invoices to ensure data consistency.
 3. **Regression Testing:** Verify that new changes do not impact existing functionalities.
 4. **Non-Functional Testing:**
 - **Performance:** Validate system responsiveness with 1000+ contacts and invoices.
 - **Usability:** Ensure user-friendly navigation and functionality.
 - **Security:** Test authentication, authorization, and data protection mechanisms.
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Testing Tools

- **Functional Testing:** Selenium, Postman for API validation.
 - **Performance Testing:** Apache JMeter.
 - **Bug Tracking:** Jira.
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Traceability Matrix

User Story ID	Test Case IDs
Manage Contacts	TC1, TC2, TC3, TC4, TC5, TC6, TC7
Manage Invoices	TC8, TC9, TC10, TC11, TC12, TC13

Test Environment

1. **Software:** CRM application in staging environment.
 2. **Hardware:** System with minimum 8 GB RAM, 2.5 GHz CPU.
 3. **Browsers:** Chrome, Firefox, and Edge (latest versions).
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Deliverables

1. Detailed test cases document.
 2. Bug reports with severity and priority levels.
 3. Test execution report.
 4. Final test summary report indicating pass/fail analysis.
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Pass/Fail Criteria

- **Pass:** All test cases meet expected outcomes.
 - **Fail:** Any deviation from expected results is logged as a defect
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