NAAN MUDHALVAN PROJECT REPORT

SB8067- SALESFORCE DEVELOPER

"APPLY LEFTOVER FOOD TO POOR"

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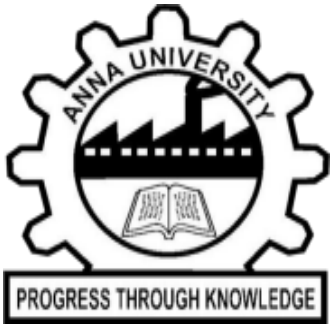

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5. Performance Testing Phase — Apply Leftover Food to Poor

5.1 Introduction

- Performance testing validates the platform's responsiveness and stability during peak donation hours (e.g., post-event meal times).

5.2 Objectives

- Measure response times, identify bottlenecks, ensure stability under concurrent users, and validate routing/scheduling performance.

5.3 Types of Tests

- Load Testing: Normal donor/NGO traffic.
- Stress Testing: Peak loads during large events.
- Scalability Testing: Ability to handle more cities/NGOs.
- Endurance Testing: Continuous operation during busy days.

5.4 Tools & Environment

Tools: Apache JMeter, Postman. Environment: Node.js/Django backend, MySQL/Postgres DB, simulated clients, mapping ,API mocks, SMS gateway test sandbox.

5.5 Metrics & (Sample) Results

- Average Response Time: ~1.2–1.8 seconds under normal load.
- Peak Load Capacity: Stable with ~300 concurrent users in test environment (donors + NGO dashboards).
- CPU Utilization: Below 75% during tests.
- Memory Usage: Stable over 8-hour endurance tests.
- Error Rate: <1% during varied scenarios.> Note: These are baseline figures expected in the test environment. Real-world numbers will depend on hosting and SMS/map provider latencies.

5.6 Observations & Optimization

- Database-heavy operations (searching open donations by geolocation) are the main bottlenecks — mitigate with spatial indexes and caching.
- Use async notifications and background workers for SMS/push to keep UI responsive.
- Consider in-memory queue (e.g., Redis) for scheduling tasks during peak surges.

5.7 Conclusion

- The testing indicates the platform is fit-for-purpose for NGO workflows with further tuning (indexing, caching, scaled workers) before broad production rollout..