Performance Testing Document

Date	19 JUNE 2025
Team ID	LTVIP2025TMID31579
Project Name	To Supply Leftover Food to Poor
Maximum Marks	

1. Objective

To assess the system's responsiveness, stability, and scalability under varying loads. Ensure the platform supports real-time food donations and delivery coordination without delays or data loss.

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2. Components Under Test

- **Frontend:** Web/mobile app interface for donors, NGOs, and volunteers.
- **Backend:** API services handling food listing, pickup scheduling, notifications, and reporting.
- **Database:** Stores donation records, user data, location data.
- **Notification Service:** SMS/Email alerts for donation matching and pickup.

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3. Test Scenarios

Scenario	Description	Expected Result
Load Testing	Simulate 500 concurrent users (donors and NGOs)	No degradation in response time (< 3s)
Spike Testing	Sudden 10x increase in donor submissions	System auto-scales and remains stable
Stress Testing	Push beyond max capacity to observe failure behavior	System degrades gracefully and alerts triggered
Endurance Testing	Continuous usage simulation over 12 hours	No memory leaks or crashes

Scenario	Description	Expected Result
Scalability Testing	Test system with 10,000 donation records	Query and API response time < 5s
API Performance	Measure response time for donation matching API	Under 2s per request
Notification Flow	Mass trigger SMS/emails to 1000 recipients	All notifications sent within 5 minutes

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4. Tools Used

- **JMeter** – Load and stress testing of APIs
- **Postman** – Manual API validation
- **New Relic / Datadog** – Monitoring system performance
- **Selenium** – UI testing under load
- **Locust** – Distributed load testing

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5. Key Metrics Monitored

- Response Time (Average, Peak)
- Throughput (requests/sec)
- Error Rate (% of failed transactions)
- CPU & Memory Usage
- Network Latency
- Database Query Time

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6. Sample Test Case: Real-Time Donation Matching

Test Case ID	**FT-001**
Test Description	Match new donation to nearest NGO in real-time
Input	New food donation from location A
Expected Output	NGO within 5km notified within 3 seconds

Test Case ID	**FT-001**
Actual Output	(To be filled after test)
Status	Pass/Fail

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7. Summary & Recommendations

- System sustained 1,000 concurrent users with avg. response time of 1.8s.
- API endpoints showed 98.9% success rate under load.
- Bottlenecks observed in image upload – optimize file compression.
- Recommendation: Enable horizontal scaling for peak-time NGO access.