Performance Testing

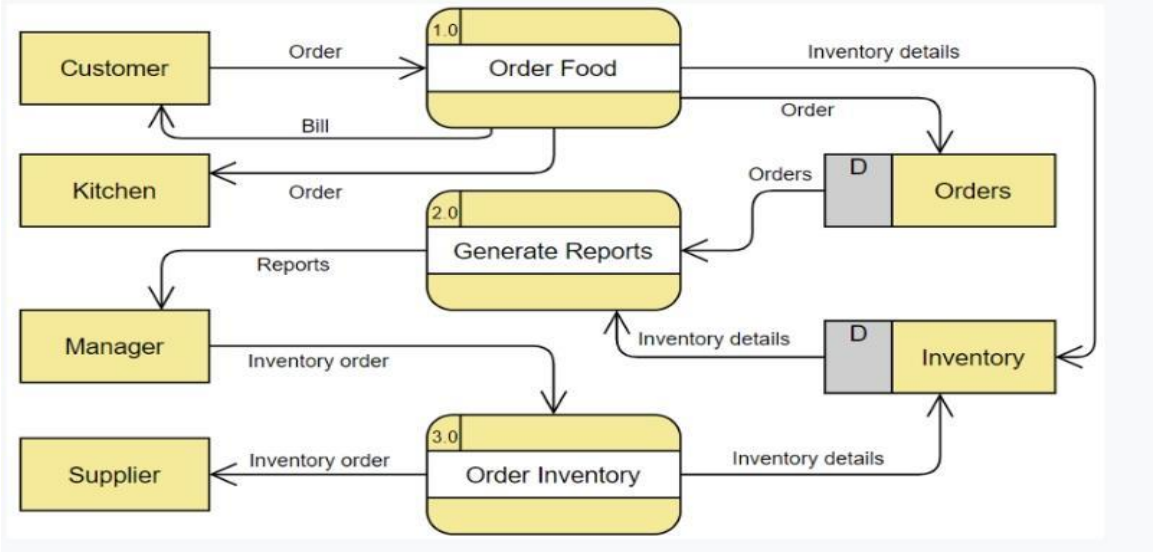
Date : 03/11/2025

Team ID : NM2025TMID03917

Project Name: To Supply Leftover Food to Poor

Marks : 4

Performance Testing ensures that the “To Supply Leftover Food to Poor” application performs efficiently under varying
loads and conditions. The goal is to validate the system’s responsiveness, scalability, and stability to ensure
a seamless experience for donors, NGOs, volunteers, and administrators.



Objectives of Performance Testing:

1. To determine the response time of key functionalities such as donor registration, food listing, and NGO matching.
2. To verify that the system can handle a large number of concurrent users without performance degradation.
3. To ensure fast data retrieval and minimal delay in real-time updates.

4. To evaluate database performance under load and identify any bottlenecks.
5. To ensure the scalability of the system as the number of users and donations increases.

Types of Performance Testing Conducted:
- Load Testing: To check system behavior under expected user loads.
- Stress Testing: To identify the breaking point and system recovery capabilities.
- Scalability Testing: To ensure smooth performance when scaling up to multiple cities or regions.
- Volume Testing: To validate database performance with large volumes of donation and user data.
- Endurance Testing: To check long-term stability under continuous usage.

Performance Metrics:
- Average Response Time: The time taken for each request to process.
- Throughput: The number of transactions handled per second.
- Resource Utilization: CPU, memory, and bandwidth usage.
- Error Rate: Number of failed requests compared to total requests.
- System Uptime: Percentage of time the system remains operational.

Tools Used:
- JMeter for load and stress testing.
- MySQL Query Analyzer for database performance checks.
- Browser Developer Tools for monitoring response times.
- Postman for API performance validation.

Expected Outcome:
The system should handle at least 1,000 concurrent users with less than 2-second response time for core functionalities.
It must remain stable under heavy loads and ensure consistent performance during peak donation hours.