Online Grocery-Shopping Web Application

Version 1.0

Revision History

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| 16/03/2023 | 1.0 | first supplementary specification document | Antonescu Maria-Cristina |
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# Introduction

The Supplementary Specification provides additional requirements for the online grocery shopping system that are not captured in the use cases of the use-case model. These requirements include legal and regulatory requirements, quality attributes of the system, and design constraints.

# Non-functional Requirements

## Availability

* Definition: The ability of the system to remain operational and accessible to users during normal usage and in the event of a system failure.
* Source of stimulus: Users, system events
* Stimulus: Network outages, hardware failures, software failures
* Environment: Production environment
* Artifact: System components
* Response: Automatic failover, data replication, system redundancy
* Response measure: Percentage of uptime (e.g. 99.9%)
* Tactics: Load balancing, redundancy, fault tolerance

## Performance

* Definition: The ability of the system to perform its functions within an acceptable response time and throughput rate under normal and peak loads.
* Source of stimulus: Users, system events
* Stimulus: High traffic, peak usage periods
* Environment: Production environment
* Artifact: System components
* Response: Efficient resource allocation, caching, query optimization
* Response measure: Response time, throughput rate
* Tactics: Caching, query optimization, efficient resource allocation

## Security

* Definition: The ability of the system to protect data and prevent unauthorized access.
* Source of stimulus: Hackers, malicious users, system events
* Stimulus: Attacks, breaches, unauthorized access
* Environment: Production environment
* Artifact: System components
* Response: Authentication, authorization, encryption, intrusion detection and prevention
* Response measure: Number of security incidents, security audit results
* Tactics: Encryption, secure authentication and authorization protocols, intrusion detection and prevention systems

## Testability

* Definition: The ability of the system to be easily tested and evaluated for functionality and quality.
* Source of stimulus: Quality assurance team, developers
* Stimulus: Changes to the system, new features
* Environment: Development and testing environments
* Artifact: System components
* Response: Test automation, test case design, test coverage analysis
* Response measure: Test coverage, number of defects found
* Tactics: Automated testing, comprehensive test case design, test coverage analysis

## Usability

* Definition: The ease of use and learnability of the system for users.
* Source of stimulus: Users
* Stimulus: User feedback, user surveys
* Environment: Production environment
* Artifact: User interface components
* Response: User-centered design, intuitive interface design, user feedback analysis
* Response measure: User satisfaction, user retention
* Tactics: User-centered design, usability testing, user feedback analysis

# Design Constraints

* The system must be developed using the Django web development framework for Python.
* The system must be compatible with modern web browsers, including Google Chrome, Mozilla Firefox, and Microsoft Edge.
* The system must be scalable to accommodate increasing numbers of users and products.
* The system must have a layered architecture.