Range of Requirements for Pizza Drone System

Introduction:
This document outlines the different types of requirements that must be met for the successful operation of a pizza drone system. The emphasis is on providing good coverage of a range of requirements in order to ensure that the system is efficient, effective, and user-friendly.

Range of Requirements:
1. Geographical coverage: The drone must be capable of delivering pizzas to a variety of locations, including urban and rural areas.
2. Weather conditions: The drone must be able to operate in various weather conditions, including rain, wind, and snow. (Present in robustness requirements)

Functional Requirements:
1. Navigation: The drone must be able to navigate to the delivery location accurately and efficiently.
    a) The drone must be able to fly to a specified location
    b) The drone must be able to detect and avoid obstacles in its flight path
2. Communication: The drone must be able to communicate with the customer, including confirming the delivery location and updating the customer on the delivery status.
    a) A user interface for ordering and managing pizzas
    b) Option for customers to customise their pizzas
    c) Integration with payment gateways for secure transactions
    d) Email/SMS notifications for order updates
    (However, the above functional requirements are not necessary but a good improvement for the project because the project is mainly to implement an algorithm to control the drone's flight and respect the constraints)
3. Delivery: The drone must be able to securely deliver(carry and transport) the pizza to the customer.

Measurable Quality Attributes:
1. Delivery speed: The drone must be able to deliver the pizza in a timely manner.
2. Navigation accuracy: The drone must be able to navigate to the delivery location accurately.
3. Response time for planning routes and processing orders.
4. Availability of the system during peak hours.
5. Accuracy of pizza order and delivery information

Qualitative Requirements:
1. User-friendliness: The drone must be easy to use and provide a positive customer experience. The interface must be accessible.

2. Design: The drone must have a visually appealing design. (Sleek and attractive)
3. Consistent branding across the platform.
4. Users' experience is satisfying and efficient.

Performance Attributes and Requirements:

1. Ability to handle a high volume of orders
2. Fast processing times for customer orders and payments
3. Scalable infrastructure to accommodate growth

Security Requirements or Robustness Requirements:

1. Secure data storage for customer information
2. Implementation of secure payment processing
3. Regular security audits and updates to protect against threats
4. Disaster recovery plan in case of system failures.
5. The drone must have a backup power system to ensure continued flight in case of power failure, such as battery aging.

Conclusion:

This document demonstrates comprehensive coverage of a range of requirements for a pizza drone system. The emphasis is on ensuring that the system is efficient, effective, and user-friendly; while also meeting the functional and measurable quality requirements. By covering a variety of requirements, the system will provide a high level of quality and meet the needs of customers.