

## **Project Part 3a - Implementation Proposal**

### **Grocery Inventory System using QUIC Protocol**

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The service provides a Comprehensive Grocery Inventory Management System.

Leveraging the QUIC protocol for fast, reliable, and secure communication, our service ensures robust, concurrent access to inventory data, allowing users to perform seamless and efficient inventory operations and place orders without conflicts. Some of the key features that can be implemented on top of QUIC are as follows:

1. **Role-Based Access Control:**  
Implementing granular access control policies to enforce user permissions based on roles (e.g., admin, regular user).
2. **User Authentication:**  
Developing a simple user login/logout with predefined accounts. Adding an error message for the wrong credential too.
3. **Inventory Operations:**  
Upon requesting the server, users and admins can view the inventory in the list format. In addition, admins have the rights to modify (i.e add, remove and update) the inventory by sending the requests to the server with the help of QUIC protocol.

With features like user authentication, role-based access control our inventory management system streamlines workflows and enhances operational efficiency in the retail sector.