

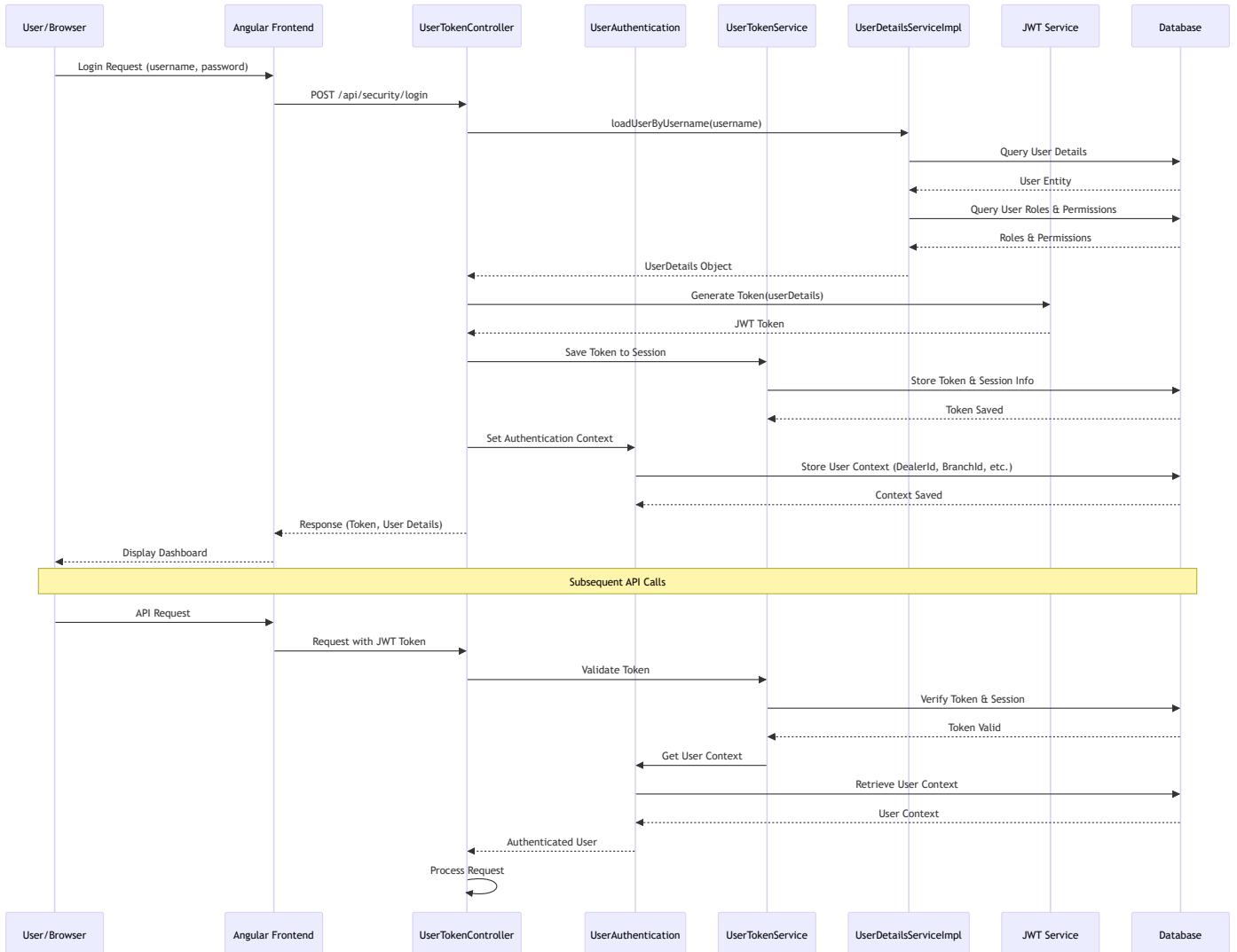
# KUBOTA DMS - Detailed Sequence Diagrams

This document contains comprehensive sequence diagrams for the KUBOTA Dealer Management System (DMS), illustrating the main business flows and system interactions.

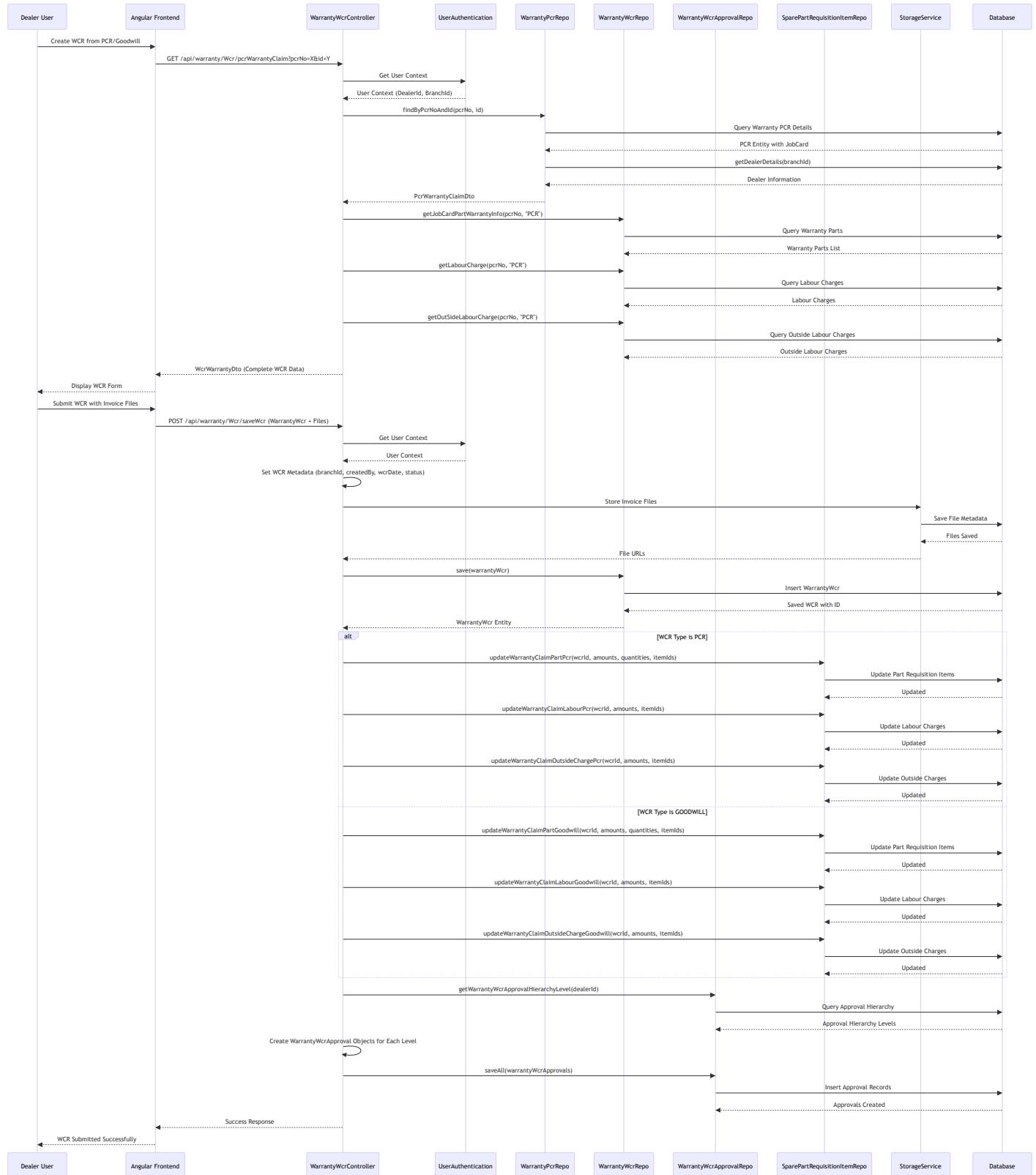
## Table of Contents

1. [User Authentication & Authorization Flow](#)
2. [Warranty Claim Request \(WCR\) Flow](#)
3. [Spare Parts Sales Order Flow](#)
4. [Service Job Card Creation Flow](#)
5. [File Upload & Storage Flow](#)
6. [Approval Workflow Flow](#)

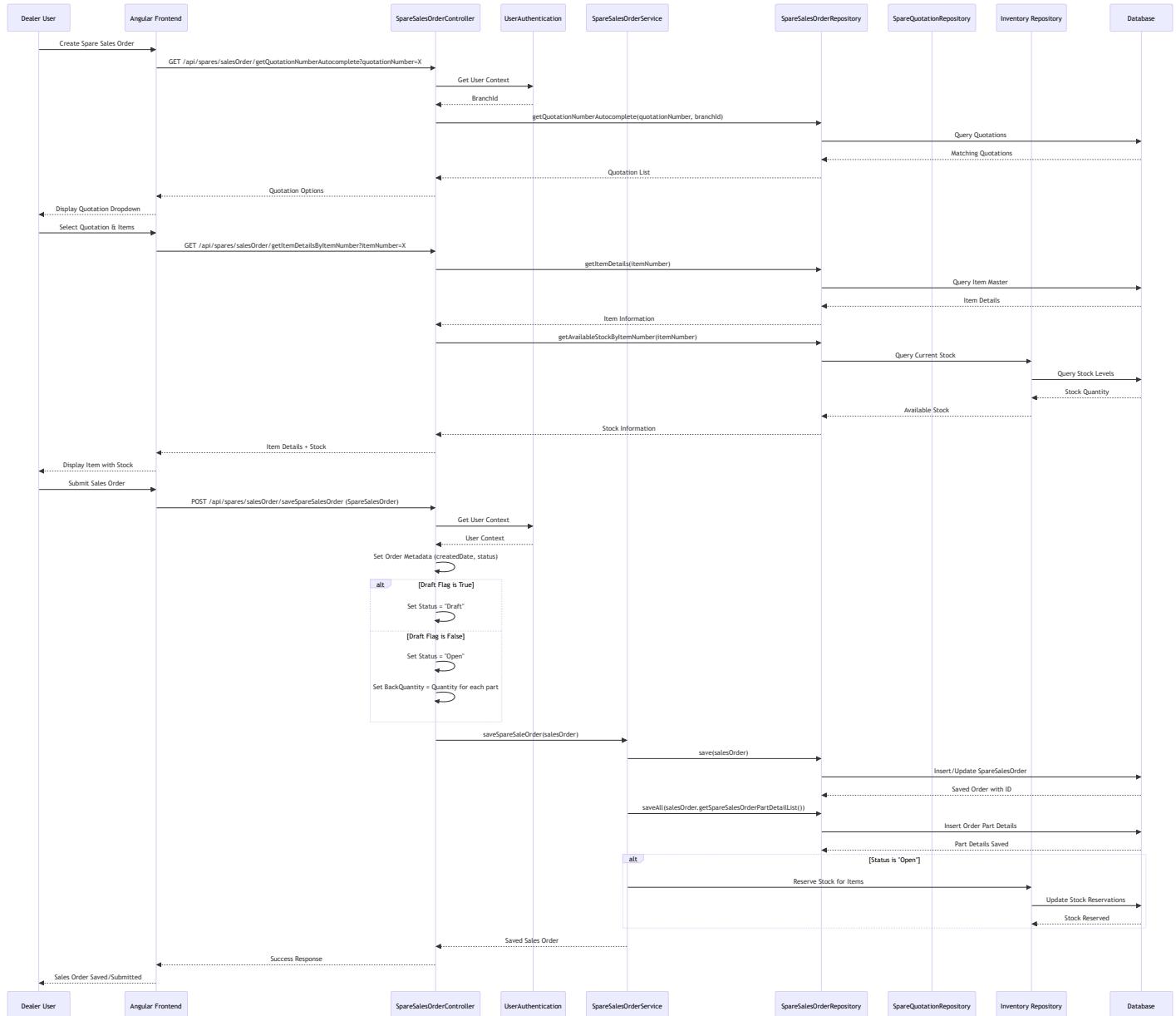
# 1. User Authentication & Authorization Flow



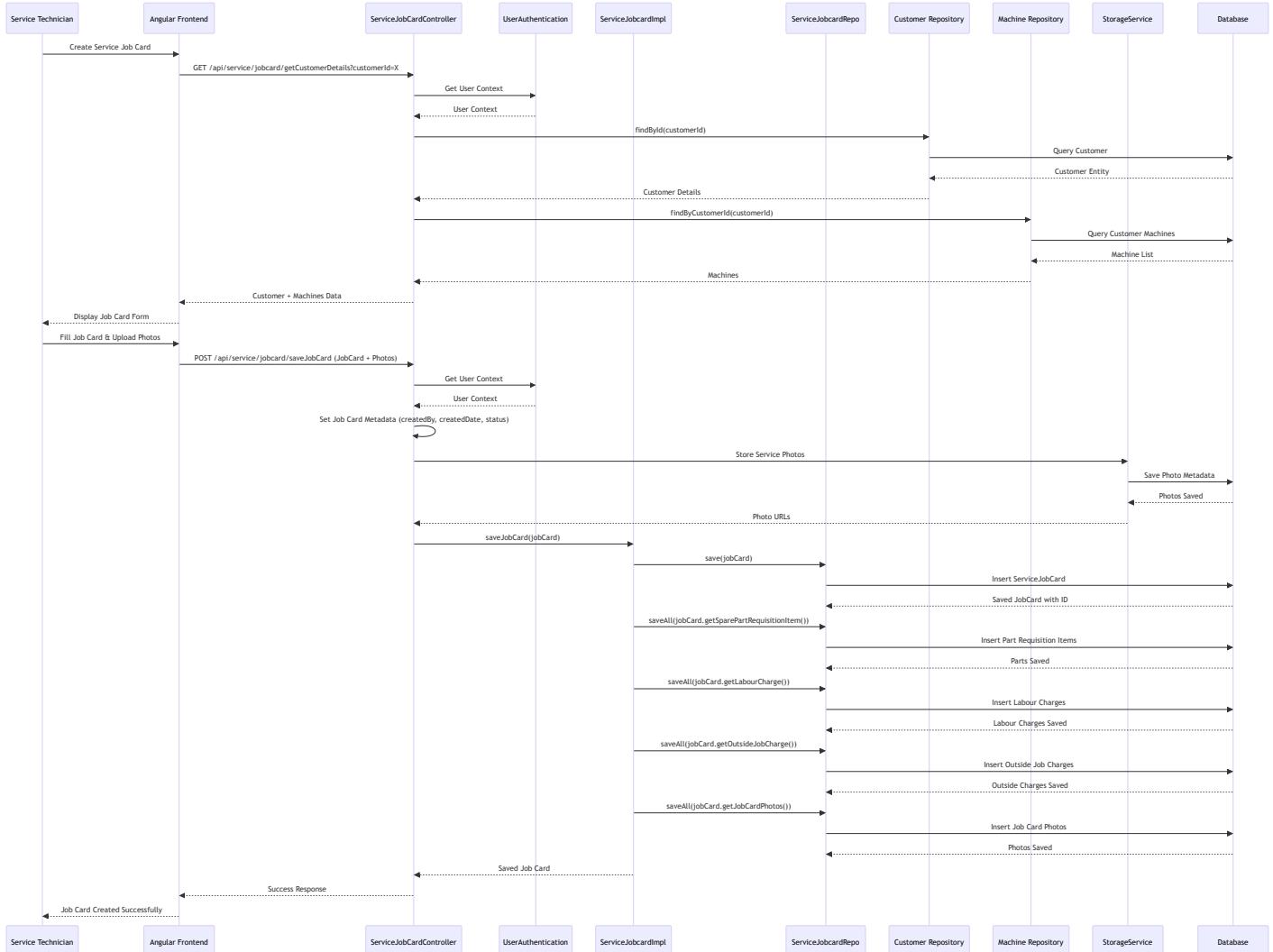
## 2. Warranty Claim Request (WCR) Flow



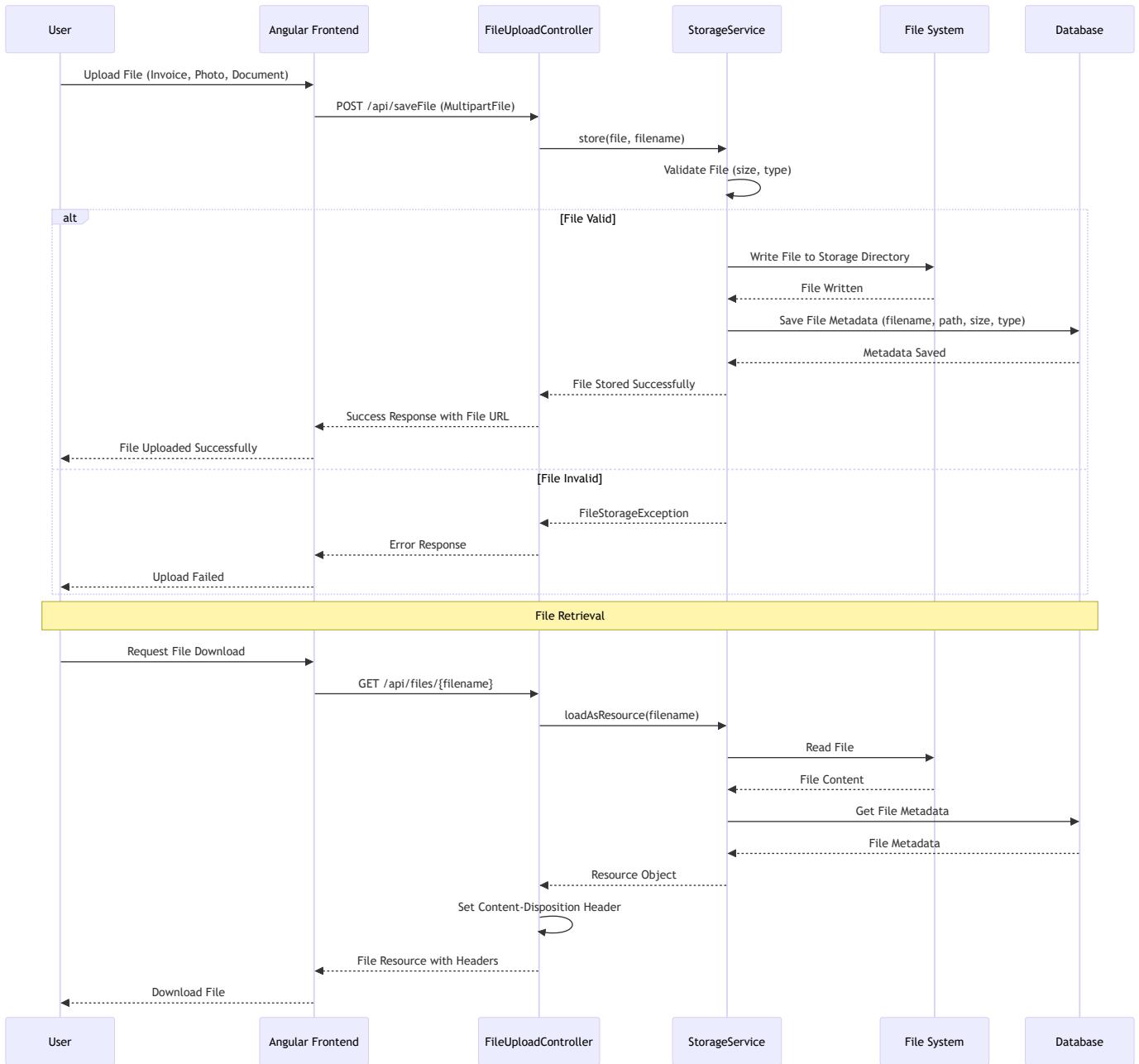
### 3. Spare Parts Sales Order Flow



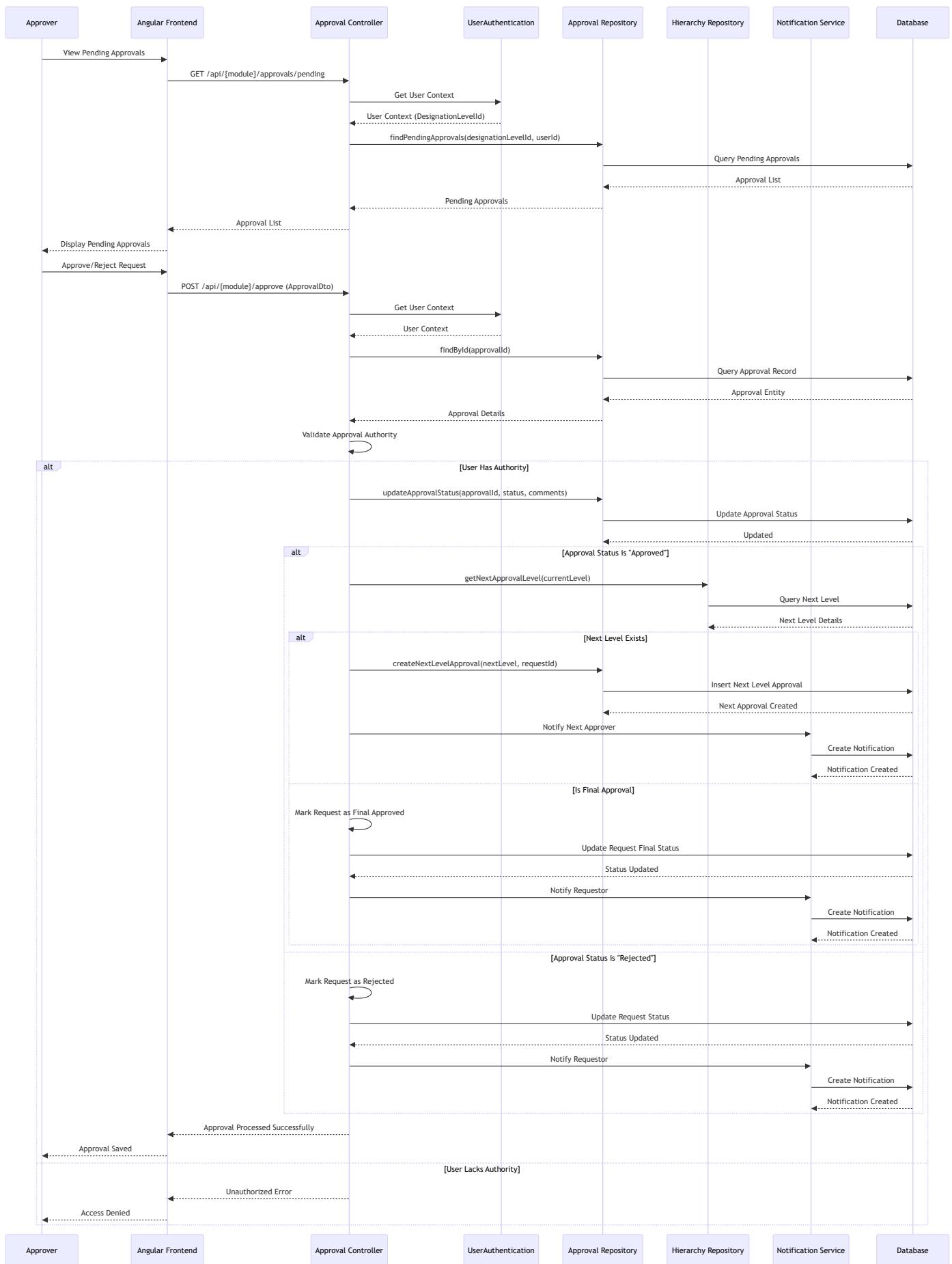
# 4. Service Job Card Creation Flow



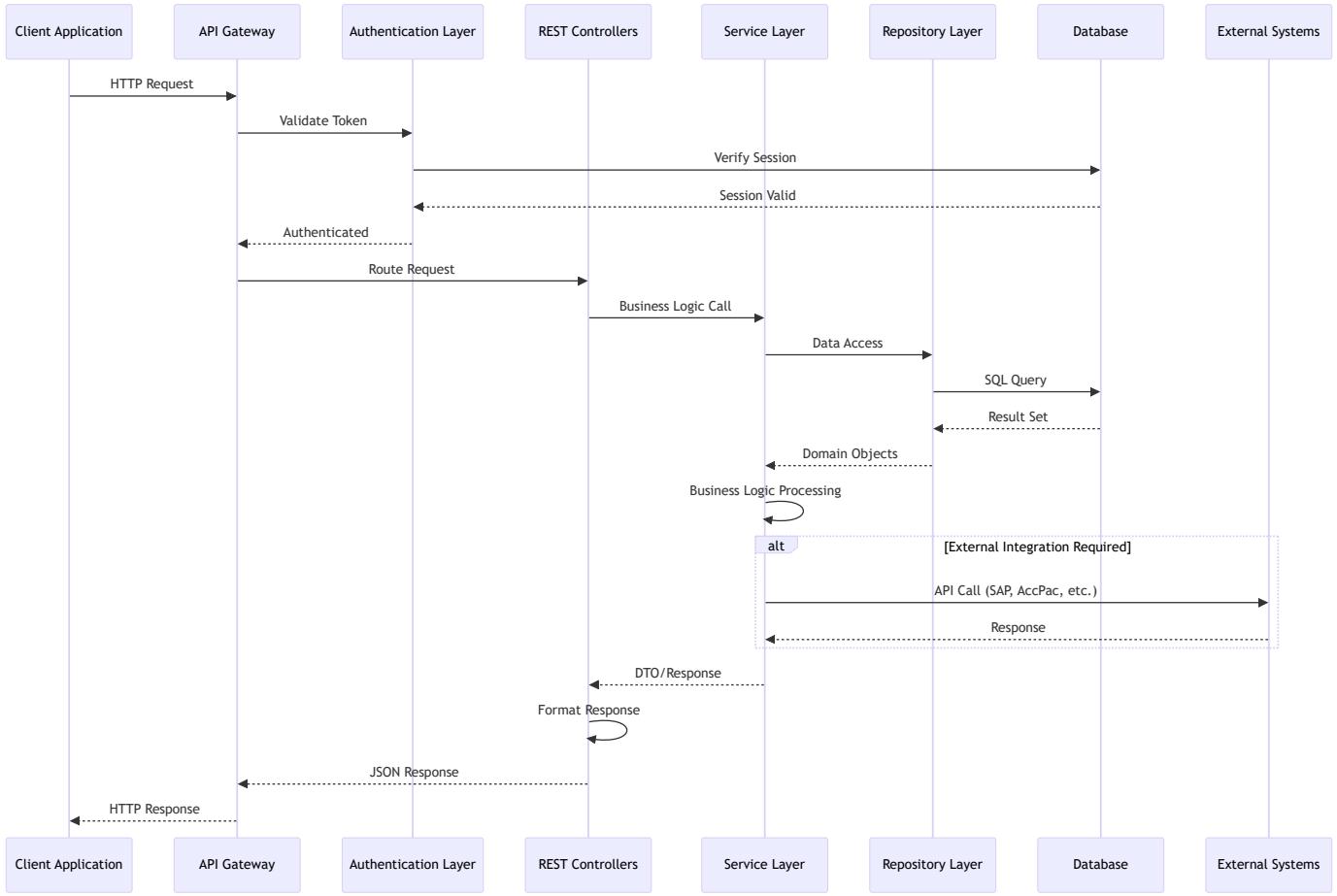
# 5. File Upload & Storage Flow



## **6. Approval Workflow Flow**



# System Architecture Overview



## Notes

## Key Components:

- **Controllers:** Handle HTTP requests/responses, input validation
- **Services:** Business logic, orchestration, transaction management
- **Repositories:** Data access layer, database operations
- **Authentication:** JWT-based authentication, user context management
- **Storage Service:** File upload/download management
- **Approval System:** Multi-level approval workflow

## Common Patterns:

1. All requests go through authentication/authorization

2. User context (DealerId, BranchId) is injected via UserAuthentication
3. File uploads are handled by StorageService
4. Approvals follow hierarchical workflow
5. Database operations use JPA/Hibernate repositories

## Error Handling:

- Global exception handler catches all exceptions
- ApiResponse wrapper for consistent response format
- Validation errors returned with appropriate HTTP status codes

*Last Updated: December 2025*