**Risk Management Table**

**Project: Stockwise Inventory Management System**

**Group Members:**

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| **Risk ID** | **Description** | **Probability** | **Risk Cost ($)** | **Risk Exposure ($)** | **Mitigation Strategy** | **Monitoring & Management** |
| R1 | External API changes from POS or ERP systems | 0.7 | 2,500 | 2,000 | Implement abstraction layers and versioning for all integrations | Regularly test API endpoints and review integration logs |
| R2 | Database performance degradation under high load | 0.5 | 3,000 | 1,500 | Optimize queries, use indexing, and consider read replicas | Monitor DB performance with tools (e.g. pgAdmin, New Relic) |
| R3 | Security breach or data leak | 0.25 | 20,000 | 4,000 | Enforce RBAC, encryption (TLS/AES-256), regular security audits | Conduct monthly penetration testing and audit logs |
| R4 | Inaccurate or inconsistent inventory data due to user error | 0.6 | 1,500 | 750 | Input validation, user training, and rollback functionality | Weekly data audits and automated error alerts |
| R5 | Failure of third-party payment gateway | 0.2 | 5,000 | 1,000 | Integrate backup gateway (e.g. both Stripe and PayPal) | Monitor transaction logs, implement automatic failover |
| R6 | Requirement changes mid-development | 0.8 | 2,000 | 1,600 | Use Agile sprints, modular architecture, and maintain product backlog | Sprint reviews with stakeholders, maintain change logs |
| R7 | Client dissatisfaction due to poor UI/UX | 0.3 | 2,200 | 1,100 | Conduct usability testing and iterative feedback loops | Weekly syncs with supplier teams and contingency workflows |
| R8 | Data loss due to system crash or failure | 0.2 | 10,000 | 2,000 | Implement automated daily backups and cloud redundancy | Monitor server health, run backup restore drills monthly |