Risk Tables

Legend

Likelihood and impact scores from 1-5

1 = Occurrence is improbable and negative influence on the project is negligible

2 = Unlikely to occur and negative influence on the project is low

3 = May occur occasionally and negative influence on the project is moderate

4 = Likely to occur and negative influence on the project is significant

5 = Likely to occur frequently and negative influence on the project is catastrophic

Likelihood Impact	Negligible (1)	Low (2)	Moderate (3)	Significant (4)	Catastrophic (5)
Frequent (5)					
Likely (4)					
Occasional (3)					
Unlikely (2)					
Improbable (1)					

Initial Risk Assessment Table Below

ID	Risk Description	Category	Likelihood	Impact	Score	Priority	Mitigation Strategy	Owner
R1	Scope Ambiguity: Unclear whether GSM is back-office only or includes customer-facing e-commerce functionality.	Scope	4	5	20	HIGH	Immediate clarification meeting with stakeholders. Document explicit use cases for both owner and customer journeys. Freeze scope by end of Day 1.	Project Lead
R2	Extreme Timeline: 2-week deadline for full-stack application with comprehensive testing suite.	Schedule	5	5	25	HIGH	Adopt MVP approach. Prioritize core CRUD operations over polish. Use simplified testing strategy initially. Consider timeboxing features.	Project Lead
R3	Incomplete Auth Design: Security NFR requires auth, but it's listed as future enhancement.	Technical/Scope	3	4	12	MEDIUM	Decide immediately: implement basic session-based auth for owners OR formally revise NFRs to remove the requirement. Cannot be ambiguous.	Tech Lead
R4	Testing Overload: Requirement for 6 different testing types (Static, Unit, Integration, API, E2E, Performance) is unrealistic in timeline.	Quality/Process	5	3	15	HIGH	Prioritize: 1) Unit tests for core logic, 2) Integration tests for API endpoints, 3) Basic E2E for critical paths. Defer Performance and detailed Static testing.	QA Lead
R5	External API Dependency: Weather widget depends on third-party API (availability, rate limits, key management).	Technical	3	3	9	MEDIUM	Identify fallback/offline mode for weather widget. Acquire API key immediately. Wrap API calls with robust error handling and timeouts.	Developer
R6	Team Capacity & Burnout: High intensity over short period risks fatigue and errors.	Resource	4	3	12	MEDIUM	Establish clear daily check-ins, define "done for day" time, ensure adequate breaks. Pair programming for complex tasks to reduce errors.	Project Lead
R7	Incomplete Data/Order Flow: Missing spec for how customers add multiple items to an order.	Technical/Scope	2	3	6	MEDIUM	Design and document the "shopping cart" or order builder flow as part of scope clarification (R1).	Tech Lead
R8	Deployment & Packaging Complexity: Delivery as a single ZIP with all components (DB, backend, frontend) for easy execution.	Technical	2	2	4	LOW	Use containerization (Docker) from day one to ensure consistent environment. Write clear setup scripts.	Developer

3.2 Mid-Development Risk Assessment Table (After Week 1)

ID	Risk Description	Status	Likelihood	Impact	Score	Priority	Current Status & Mitigation Actions	Owner
R1	Scope Ambiguity	MITIGATED	1	5	5	LOW	Resolved: Decision made to build two UIs: simple public order form and separate owner dashboard. Wireframes signed off.	Project Lead
R2	Extreme Timeline	ACTIVE	5	5	25	HIGH	Worsening: Core backend (Flask, DB models) is complete, but frontend is lagging. Mitigation: Drop non-essential UI features (advanced filtering, sorting). Focus on functional completeness over beauty.	Project Lead
R3	Incomplete Auth Design	MITIGATED	1	4	4	LOW	Resolved: Implemented basic HTTP Basic Auth for owner endpoints for simplicity. Aligns with revised, realistic NFR.	Tech Lead
R4	Testing Overload	ACTIVE	4	4	16	HIGH	Evolving: Unit test coverage at 70%. E2E tests proving time-consuming. Action: Halt new E2E test creation. Focus remaining testing time on API integration tests, which cover both frontend-backend interaction and backend logic.	QA Lead
R5	External API Dependency	MITIGATED	1	3	3	LOW	Resolved: Weather API integrated with caching (5-minute cache). Fallback implemented to show "Data unavailable" gracefully.	Developer
R6	Team Capacity & Burnout	ACTIVE	4	4	16	HIGH	Emerging: Signs of fatigue evident. Action: Enforce a half-day break this weekend. Re-prioritize remaining backlog to focus only on absolutely essential items.	Project Lead
R7	Incomplete Data Flow	MITIGATED	1	3	3	LOW	Resolved: Order flow designed. Public form allows adding multiple items via a simple table interface. DB schema supports it.	Tech Lead
R9	NEW: Feature Creep	ACTIVE	3	3	9	MEDIUM	Identified: Requests emerging for "quick search" on product table and order status updates. Action: Formal freeze on new features. Log ideas in "Future Enhancements" document only.	Project Lead
R10	NEW: Bug Accumulation	ACTIVE	4	3	12	MEDIUM	Identified: Bug count rising as integration begins. Action: Institute a "stop-and-fix" period tomorrow morning before adding new code. Prioritize critical bugs that block core functionality only.	Tech Lead

3.3 Final Risk Assessment Table (Pre-Delivery)

ID	Risk Description	Status	Likelihood	Impact	Score	Priority	Final Status & Resolution	Owner
R1	Scope Ambiguity	CLOSED	1	5	5	LOW	Closed. Scope was clearly defined and adhered to.	Project Lead
R2	Extreme Timeline	ACTIVE	5	5	25	HIGH	Remains Critical: Project is on track but will deliver exactly at the deadline with minimal buffer. Final 48 hours dedicated to packaging and final smoke tests. No further code changes allowed.	Project Lead
R3	Incomplete Auth Design	CLOSED	1	4	4	LOW	Closed. Basic auth implemented and functional.	Tech Lead
R4	Testing Overload	ACTIVE	3	4	12	MEDIUM	Partially Mitigated: Core tests (Unit, API Integration) are complete and passing. E2E coverage is minimal but covers main user journeys. Performance testing was reduced to a single JMeter smoke test. Acceptable outcome given constraints.	QA Lead
R5	External API Dependency	CLOSED	1	3	3	LOW	Closed. Feature working reliably with cached fallback.	Developer
R6	Team Capacity & Burnout	ACTIVE	4	4	16	HIGH	Active Management: Team is fatigued but motivated for final push. Action: All work stops at agreed time day before deadline to allow for rest before final packaging and submission.	Project Lead
R7	Incomplete Data Flow	CLOSED	1	3	3	LOW	Closed. Flow implemented and tested.	Tech Lead
R9	Feature Creep	CLOSED	1	3	3	LOW	Closed. Feature freeze was successful. No unauthorized features added.	Project Lead
R10	Bug Accumulation	ACTIVE	4	3	12	MEDIUM	Contained: "Stop-and-fix" period reduced critical bugs. A known list of minor UI/UX bugs remains but does not affect core functionality. Documented as "Known Issues" in delivery README.	Tech Lead
R11	NEW: Last-minute Integration Issues	ACTIVE	3	4	12	MEDIUM	Identified: Fear that the final "ZIP and run" might expose environment-specific issues (port conflicts, missing dependencies). Action: Dedicated "packaging day" with step-by-step deployment on a clean machine using only the ZIP file.	Developer

R12	NEW: Documentation & Delivery Rush	ACTIVE	4	3	12	MEDIUM	Identified: Risk of poor final documentation or submission errors (wrong file, missing components). Action: Create a submission checklist. Allocate specific person to prepare final ZIP and verify contents against requirements.	Project Lead

4.0 Summary and Recommendations

Our GSM project navigated significant risks primarily driven by an extremely aggressive timeline. The proactive risk management process—particularly the immediate resolution of scope ambiguity (R1) and authentication design (R3)—prevented potential project failure.

Key Success Factors in Risk Mitigation:

1. Early Scope Freeze: Preventing ambiguity from derailing development.
2. Technical Simplicity: Choosing straightforward solutions (Basic Auth, simple caching) over complex, time-consuming ones.

Remaining Concerns at Closure:
The project delivers a Minimal Viable Product (MVP) that meets the core functional requirements but with acknowledged trade-offs in test coverage, UI polish, and feature completeness. The final days carry execution risks (R11, R12), but with careful management, successful delivery is anticipated.