Risk Register Table

ID	Risk Category	Risk Description	Probability	Impact	Risk Score	Mitigation Strategy	Owner
R1	Technical	Difficulty migrating inconsistent Excel + Access data into a clean relational database	Medium	High	12	Run data profiling early; design automated validation tools before import	Technical Lead
R2	Technical	Authentication & RBAC system more complex than expected; risk of incorrect access permissions	Medium	High	12	Use proven frameworks; conduct role-permission matrix testing	Software Engineer
R3	Technical	Logging of all user activity may degrade performance	Low	Medium	6	Use asynchronous logging and database indexing	Backend Engineer
R4	Technical	Integration between recurring billing logic and ledger entries may fail or cause duplicate charges	Medium	Medium	9	Build monthly cycle scheduler with guardrails; unit test recurrence logic	Developer
R5	Security	Unauthorized access due to weak password or session management	Low	High	10	Enforce strong passwords; implement session timeouts; multi-factor optional	Security Engineer
R6	Security	Sensitive tenant data exposed if API endpoints are not secured	Low	High	10	Use HTTPS, proper authentication middleware, and access logs	Security Engineer
R7	Requirements	Sparky's requirements are ambiguous (especially reporting & grouping) and may evolve mid-project	High	Medium	12	Regular requirement reviews; freeze scope milestones	Project Manager
R8	Requirements	Business Analyst needs may require custom reporting not originally planned	Medium	Medium	9	Use flexible reporting engine; document reporting templates early	Business Analyst
R9	Schedule	Team underestimates time for database schema design and testing	Medium	High	12	Add buffer time; break schema work into milestones	Project Manager
R10	Schedule	UI/UX development takes longer because workflows differ from Excel/VBA	Medium	Medium	9	Adopt reusable UI components; involve Sparky in early prototypes	Frontend Developer
R11	Cost	Phase 1 may require additional engineers beyond budget	Low	Medium	6	Identify required skills early; refine estimates based on prototypes	Project Manager
R12	Infrastructure	Hosting environment (cloud or local) not defined; deployment delays possible	Medium	Medium	9	Decide early on hosting platform; prepare CI/CD pipeline	DevOps
R13	Stakeholder	Support staff resist change from Excel to a web system	Medium	Medium	9	Provide training; beta test with real staff workflows	PM / Sparky
R14	Team/Skill	Team lacks experience integrating Access → SQL → Web backends	Medium	High	12	Provide training or documentation; assign senior engineer for support	PM
R15	Operational	Production issues due to concurrency (multiple staff updating same ledger)	Low	High	10	Implement transaction locking or optimistic concurrency	Backend Developer

5×5 Probability–Impact Matrix (For Phase 1 Risks)

		Low (1)	Medium (2)	High (3)		
	Impact ↓ / Probability →	Low (1)	Medium (2)	High (3)		
	High (3)	R5, R6, R15	**R1, R2, R9, R14**	—		
	Medium (2)	—	R4, R8, R10, R12, R13	**R7**		
	Low (1)	—	—	—		