

# Risk & Mitigation Analysis

Risk	Likelihood	Impact	Mitigation
Data loss (backups fail)	Medium	High	Implement nightly backups, monitor backup jobs, test restores regularly.
Unauthorized access / data breach	Medium	High	RBAC, strong password policies, TLS, audit logs, limit sensitive info access.
Teacher resistance to new system (low adoption)	High	Medium	Provide simple UI, short training sessions, quick-start guide and support.
Payment/Invoice errors	Medium	High	Use unique invoice numbers, validation checks, require confirmation for payment entries, audit trail.
Timetable conflict errors	Medium	Medium	Conflict detection logic in timetable module and teacher/class validation.
Performance issues under load	Low→Medium	Medium	Optimize queries, use indexes, caching for frequent read-only queries, add read replicas.
Notifications failing (SMS/Email)	Medium	Low	Retry logic, queue system for delivery, alternative channels (in-app push).

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