

Risk Management Table for Tutorly

| ID | Risk Description | Probability | Risk Cost (PKR) | Risk Exposure (PKR) | Mitigation Strategy | Monitoring & Management |
|----|--|-------------|-----------------|---------------------|--|---|
| R1 | Website becomes unresponsive during profile picture uploads or file parsing (Performance Risk) | 0.6 | 6,000 | 3,600 | Optimize file handling and limit size; test across formats | Conduct regular upload stress tests |
| R2 | Next or backend library becomes deprecated or breaks after update (Support Risk) | 0.5 | 8,000 | 4,000 | Lock dependencies in package.json and maintain changelogs | Review library changelogs monthly |
| R3 | Profile update fields don't save due to schema mismatch (Functional Risk) | 0.4 | 5,000 | 2,000 | Validate fields on both frontend and backend | Log data mismatches and run tests on update endpoints |

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| R4 | Delay in responsiveness fixes causes poor mobile UX (Usability/Schedule Risk) | 0.3 | 4,000 | 1,200 | Apply responsive design principles early, use media queries/test on devices | Perform cross-device testing biweekly |
| R5 | User registration fails silently due to backend timeout (System Risk) | 0.5 | 7,000 | 3,500 | Set request timeout handling and retries | Log all registration failures and audit weekly |
| R6 | Teacher filter returns wrong results due to backend filter mismatch (Logic Risk) | 0.4 | 4,000 | 1,600 | Write integration tests to verify filter logic | Log filter queries and results |
| R7 | Student review feature allows multiple submissions (Functional Risk) | 0.6 | 3,000 | 1,800 | Prevent duplicate submissions via session ID or review tokens | Check review logs and enforce one-review-per-user rule |
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| R8 | Teaching profile steps skipped due to UI bugs (UX Risk) | 0.3 | 4,000 | 1,200 | Highlight mandatory sections, validate step progression | Review session logs and user completion rates |
| R9 | App load time spikes during high traffic (Scalability/Performance Risk) | 0.4 | 9,000 | 3,600 | Lazy load components, cache API responses | Measure TTFB and use Lighthouse audits |
| R10 | Missing .env config leads to exposed API keys (Security Risk) | 0.7 | 5,000 | 3,500 | Use <code>.env</code> and version control ignores; perform security reviews | Run secrets audit during CI/CD |
| R11 | Delay in completing profile update due to inefficient DB query performance (Schedule Risk) | 0.3 | 3,000 | 900 | Optimize DB indexes and query structure | Use query profiler and check performance logs |