🧭 Software Quality Risk Mapping Template

(Aligned with ISO/IEC 25010:2023 and ISO 31000:2018 Principles)

📘 Purpose

This worksheet helps quality managers and learners:

- Identify potential **risks affecting software quality** characteristics.
- Analyze each risk's **source, likelihood, impact, and affected ISO 25010 attributes**.
- Evaluate and prioritize risks to guide mitigation planning.
- Develop an actionable **risk map** linking quality objectives to assurance activities.

🧩 Section 1 – Basic Information

Field	Details
Software/Product Name	
Version/Release	
Project Phase (Development, Testing, Deployment, Maintenance)	
Evaluation Date	
Evaluator Name / Team	
Objective of Risk Assessment	(e.g., Identify software quality threats before release)

⚙️ Section 2 – Risk Identification

Instructions:
List potential risks that may affect the software's quality across its lifecycle. Consider functional, technical, process, human, and environmental factors.

Risk ID	Risk Description	Source/Cause	Affected ISO 25010 Characteristic(s)	Possible Consequences
RQ-01	Inadequate unit testing coverage	Poor QA planning	Reliability, Functionality	Increased post-release defects
RQ-02	Unpatched third-party libraries	Weak dependency management	Security, Maintainability	Vulnerability exploitation
RQ-03	Inconsistent UI across platforms	Lack of design guidelines	Usability	Customer dissatisfaction

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⚖️ Section 3 – Risk Analysis

Evaluate each identified risk using the following rating scale:

- **Likelihood (L):** 1 = Rare | 2 = Unlikely | 3 = Possible | 4 = Likely | 5 = Almost Certain
- **Impact (I):** 1 = Negligible | 2 = Minor | 3 = Moderate | 4 = Major | 5 = Severe

Risk Exposure (R): $R = L \times I$

Risk ID	Likelihood (1–5)	Impact (1–5)	Risk Exposure (L × I)	Risk Level *(Low / Medium / High / Critical)*	Justification / Notes
RQ-01	4	4	16	High	Insufficient testing leads to high rework costs
RQ-02	3	5	15	High	High security exposure to external threats

RQ-03	2	3	6	Medium	Impacts user perception and adoption

🧠 Section 4 – Risk Evaluation & Prioritization

Instructions:
Rank risks according to their exposure score and strategic impact on project or organizational goals.

Priority Rank	Risk ID	Risk Title / Description	Justification for Priority	Decision (Accept / Treat / Transfer / Avoid)
1	RQ-02	Unpatched third-party libraries	Direct threat to data integrity	Treat
2	RQ-01	Inadequate unit testing	Could delay release and increase COPQ	Treat
3	RQ-03	Inconsistent UI	Moderate effect on satisfaction	Accept

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🔧 Section 5 – Risk Treatment and Mitigation Plan

Define measures to reduce the likelihood or impact of each high-priority risk.

Risk ID	Mitigation Actions	Responsible Person(s)	Timeline / Due Date	Expected Outcome	Residual Risk Level
RQ-01	Implement unit test automation and coverage metrics	QA Lead	30 Nov 2025	Reduced internal defects	Low
RQ-02	Enforce dependency scanning and patch management policy	Security Officer	15 Dec 2025	Improved system integrity	Low

RQ-03	Develop UI consistency checklist	Design Team Lead	10 Dec 2025	Improved usability and consistency	Low

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📊 Section 6 – Risk Mapping Matrix

Visualize risks according to their **Likelihood** and **Impact** to support prioritization.

Impact →	1 – Negligible	2 – Minor	3 – Moderate	4 – Major	5 – Severe
5 – Almost Certain				🔴 Critical	🔴 Critical
4 – Likely			🟠 High	🔴 Critical	🔴 Critical
3 – Possible		🟡 Medium	🟠 High	🟠 High	🔴 Critical
2 – Unlikely	🟢 Low	🟢 Low	🟡 Medium	🟠 High	🟠 High
1 – Rare	🟢 Low	🟢 Low	🟡 Medium	🟡 Medium	🟠 High

🔴 = Critical | 🟠 = High | 🟡 = Medium | 🟢 = Low

(Learners can mark each identified risk within this matrix to visualize distribution.)

📜 Section 7 – Monitoring and Review

Risk ID	Status (Open/Closed)	Review Date	Effectiveness of Mitigation (Low/Medium/High)	Remarks
RQ-01	Open	01/02/2026	High	Automation test setup ongoing

RQ-02	Closed	15/01/2026	High	All dependencies patched
RQ-03	Open	20/12/2025	Medium	UI review scheduled

🧩 Section 8 – Reflection and Lessons Learned

Guided Reflection Questions for Learners:

1. Which ISO 25010 quality characteristics are **most frequently at risk** in your context?
2. What **patterns or systemic causes** were revealed through this risk analysis?
3. How could better **preventive quality practices** have reduced identified risks?
4. What monitoring mechanisms can you embed into your SDLC to **track risk evolution**?
5. How can this mapping template support your **future quality assurance planning**?