



Quality Characteristics Prioritization Matrix Template

Reference: ISO/IEC 25010:2023 – Systems and Software Quality Requirements and Evaluation (SQuaRE)

Purpose:

To help teams **identify, assess, and prioritize** which ISO/IEC 25010 quality characteristics are most critical for their software or system project.

This ensures focus on what truly drives user satisfaction, business value, and risk mitigation.

1 Project Information

Field	Description
Project Name:	Enter the software/system name.
Project Description:	Brief overview of the system’s purpose, target users, and environment.
Evaluation Team Members:	List names, roles, and departments (e.g., Quality Manager, Developer, Product Owner).
Date:	
Version:	

2 Step 1 – Identify Relevant ISO/IEC 25010 Quality Characteristics

The ISO 25010 model defines **8 main quality characteristics**.

Select which are **relevant to your system** and note any **sub-characteristics** you will evaluate.

Quality Characteristic	Sub-Characteristics (examples)	Relevant? (Y/N)	Notes / Rationale
1. Functional Suitability	Functional completeness, Functional correctness, Functional appropriateness		



2. Performance Efficiency	Time behavior, Resource utilization, Capacity		
3. Compatibility	Co-existence, Interoperability		
4. Usability	Appropriateness recognizability, Learnability, Operability, User error protection, Accessibility		
5. Reliability	Maturity, Availability, Fault tolerance, Recoverability		
6. Security	Confidentiality, Integrity, Non-repudiation, Accountability, Authenticity		
7. Maintainability	Modularity, Reusability, Analyzability, Modifiability, Testability		
8. Portability	Adaptability, Installability, Replaceability		

3 Step 2 – Define Prioritization Criteria

Establish the factors that will guide prioritization.

Recommended dimensions include:

Criterion	Definition	Weight (1-5)
Business Impact	Importance of the characteristic to achieving business goals.	
User Impact	Effect on user satisfaction, usability, or trust.	
Risk Mitigation Value	Extent to which it reduces technical or operational risks.	
Regulatory / Compliance Need	Necessity for legal, safety, or compliance reasons.	



Feasibility	Realistic ability to achieve the desired level given constraints.	
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Teams may add or remove criteria based on context.

Step 3 – Rate Each Quality Characteristic

Rate each selected characteristic against each criterion using a **scale of 1–5**, where:

- 1 = Very Low Importance
- 2 = Low Importance
- 3 = Moderate Importance
- 4 = High Importance
- 5 = Critical Importance

Then multiply by the **criterion weight** to compute a **weighted score**.

Quality Characteristic	Business Impact	User Impact	Risk Mitigation	Compliance Need	Feasibility	Total Weighted Score	Priority Rank
Functional Suitability							
Performance Efficiency							
Compatibility							
Usability							
Reliability							
Security							
Maintainability							



Portability							
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After scoring, calculate totals and rank from highest to lowest.

5 Step 4 – Interpret Results

- **High-priority characteristics** → Must be translated into detailed, measurable quality requirements.
- **Medium-priority characteristics** → Monitor closely and integrate where feasible.
- **Low-priority characteristics** → Document rationale; revisit during reviews if project scope evolves.

Priority Level	Interpretation	Example Action
High (Top 3)	Critical to system success.	Define SMART quality metrics, allocate dedicated resources.
Medium	Important but secondary.	Integrate into design and testing where possible.
Low	Optional or deferred.	Monitor for future releases or client feedback.

6 Step 5 – Visualization (Optional)

You can visualize priorities using a **Heat Map or Radar Chart** for presentation and clarity.

Example Heat Map Key

● = High Priority

● = Medium Priority

● = Low Priority

7 Step 6 – Review and Approval



Role	Name	Signature	Date
Quality Manager			
Project Manager			
Technical Lead			
Stakeholder Representative			

✔ Tips for Effective Use

- Revisit the matrix at **each major project phase** (requirements, design, testing).
- Align with evolving **stakeholder priorities** or **regulatory requirements**.
- Use this tool to **justify design trade-offs** and **support audit evidence** under ISO/IEC 25010 compliance.
- Combine with a **Quality Requirements Definition Template** to specify SMART targets for each top-priority characteristic.