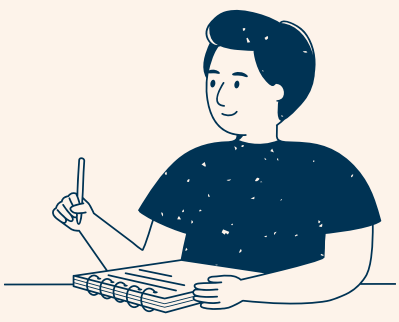
The strengths and weaknesses of software architecture design in the RUP, MSF, MBASE and RUP-SOA methodologies

Objective

Assess the adherence of RUP, MSF, MBASE, and RUP-SOA to established best practices in SA design and identify their strengths and weaknesses.



METHODOLOGY

Each SDM is evaluated against a well-regarded SA design model to determine its alignment with best practices.

KEY FINDINGS

Rational Unified Process (RUP)

- Strengths: Structured approach with defined phases and deliverables.
- Weaknesses: Incomplete adherence to SA design, lacks comprehensive guidance.

KEY FINDINGS

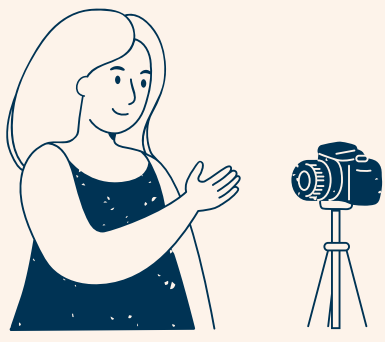
Microsoft Solutions Framework (MSF)

- Strengths: High adherence to SA design, detailed architectural guidance.
- Weaknesses: Needs explicit integration of some SA best practices.

KEY FINDINGS

Model-Based System Architecting & Software Engineering (MBASE)

- Strengths: Strong theoretical adherence, model-based approach.
- Weaknesses: Complex practical implementation.



Conclusion

While MBASE, MSF, and RUP-SOA show high theoretical adherence to SA best practices, RUP is incomplete in this regard. These methodologies must evolve to integrate emerging best practices and ensure high-quality software development

Sources

The strengths and weaknesses of software architecture design in the RUP, MSF, MBASE and RUP-SOA methodologies: A conceptual review - ScienceDirect (umb.edu.co)