

1. Funciones del Arquitecto, FOSA
2. Atributos de Calidad, FOSA y SEI.
3. Tacticas para Disponibilidad (Availability), Rendimiento (Performance) y Despliegue (Deployability). SEI.
4. SLA, SLI, SLO o KPI. SEI y otros.
5. Estilo vs Diseño, FOSA
6. Clasificacion de Estilos: por Despliegue: Monolitos vs Sistemas Distribuidos. SAP Report.
7. Listado de Estilos. FoSA, Azure
8. Listado de Patrones seleccionados. SAP Report, Azure

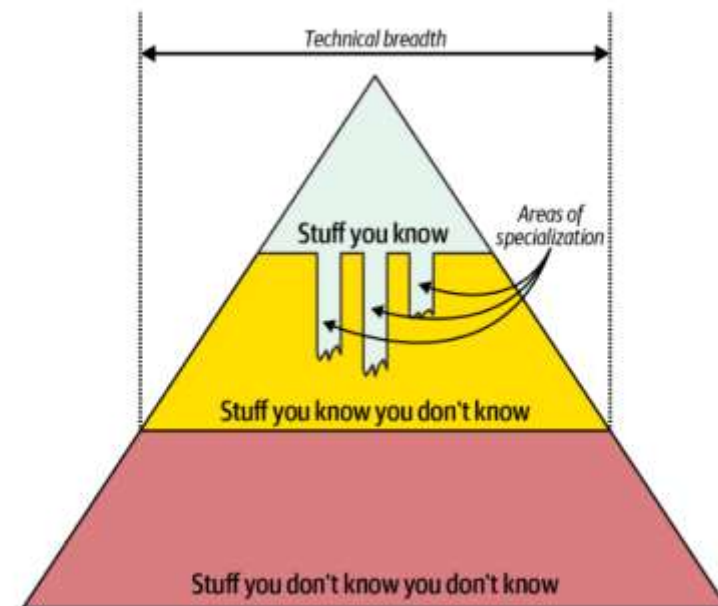
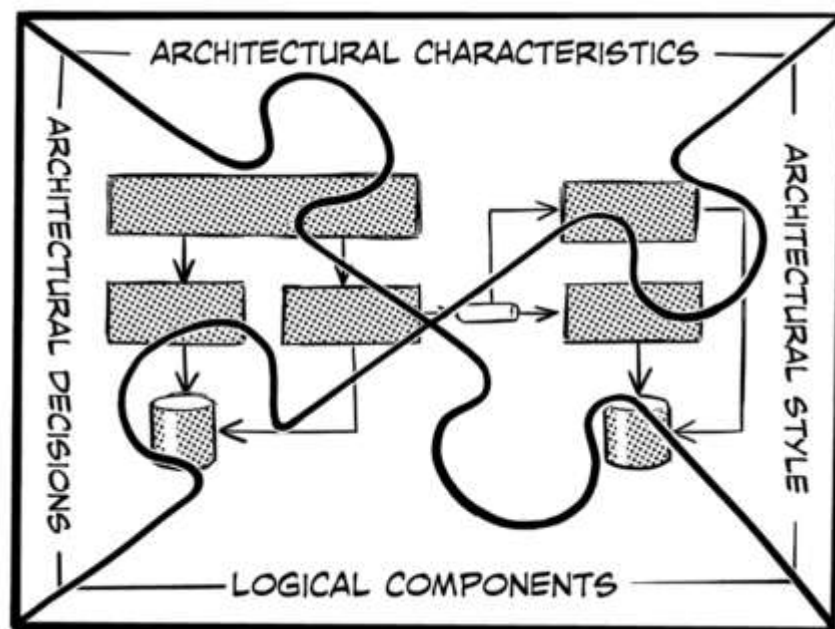


Figure 2-5. Enhanced breadth and shrinking depth for the architect role

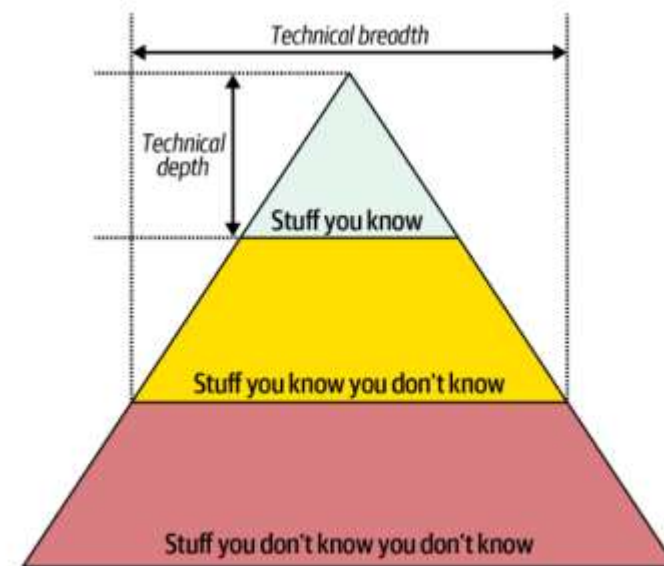


Figure 2-4. How much someone knows about a topic is technical depth, and how many topics someone knows is technical breadth

Everything in software architecture is a trade-off.

—First Law of Software Architecture

Why is more important than how.

—Second Law of Software Architecture

Most architecture decisions aren't binary but rather exist on a spectrum between extremes.

—Third Law of Software Architecture

- Make architecture decisions
- Continually analyze the architecture
- Keep current with latest trends
- Ensure compliance with decisions
- Understand diverse technologies, frameworks, platforms, and environments
- Know the business domain
- Lead a team and possess interpersonal skills
- Understand and navigate organizational politics

Dice modularidad en Prin

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- ▼ 1. Introduction
 - ... Defining Software Architecture
 - ... Laws of Software Architecture
 - ▼ Expectations of an Architect
 - ... Make Architecture Decisions
 - ... Continually Analyze the Architecture
 - ... Keep Current with Latest Trends
 - ... Ensure Compliance with Decisions
 - ... Understand Diverse Technologies
 - ... Know the Business Domain
 - ... Possess Interpersonal Skills
 - ... Understand and Navigate Politics
 - ... Roadmap
- ... 1. Foundations
- ▼ 2. Architectural Thinking
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 - ... Level of Effort
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 - ... From Modules to Components
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 - ... Architectural Characteristics and System Design
 - > Architectural Characteristics (Partially) Listed
 - ... Trade-Offs and Least Worst Architecture
- ... 5. Identifying Architectural Characteristics

Chapter 3. Modularity

Architects and developers have struggled with the c
quite some time, as is evident in this quote from *Co
Design* (Van Nostrand Reinhold, 1978):

*95% of the words [written about software archite
extolling the benefits of “modularity” and little,
about how to achieve it.*

—Glenford J

Arch Characteristics/Quality attributes

ISO 25010:2023, SAiP

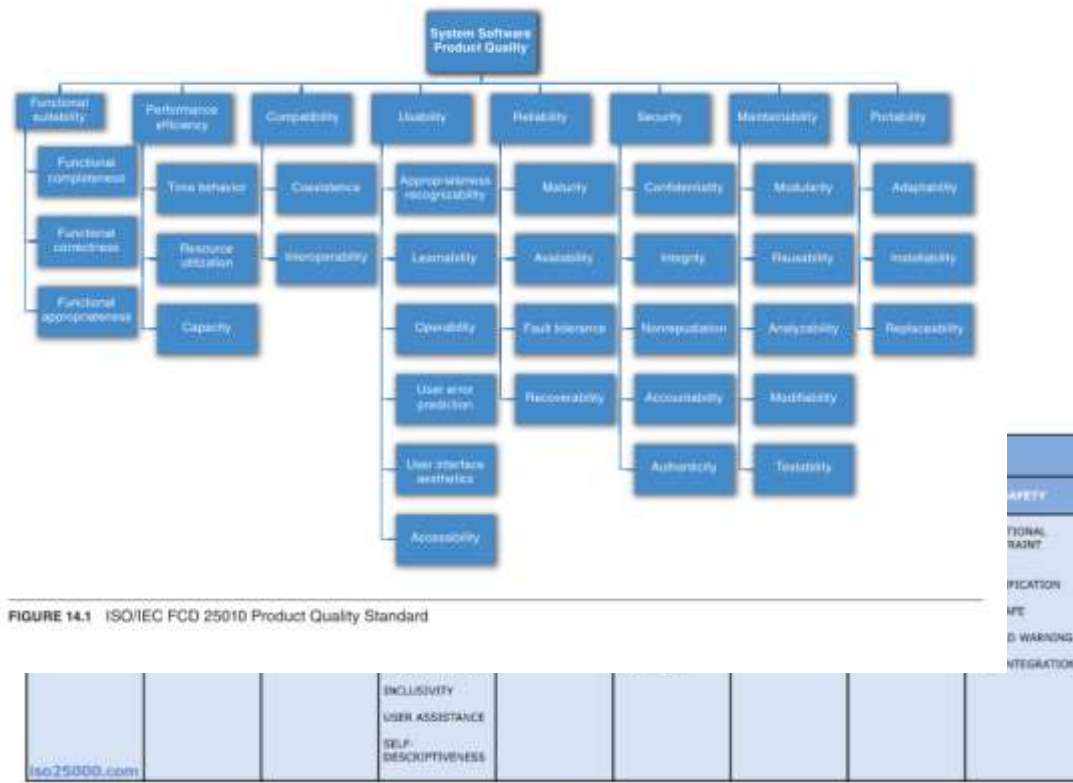


FIGURE 14.1 ISO/IEC FCD 25010 Product Quality Standard

FoSA. Ch 4
Architectural
Characteristics Defined

Operational Ach	Structural Ach	Cloud Ch	Cross-Cutting Ach
Term	Term	Term	Term
Availability	Configurability	On-demand scalability	Accessibility
	Extensibility	On-demand elasticity	Archivability
Continuity	Installability	Zone-based availability	Authentication
Performance	Leverageability/reuse	Region-based privacy and security	Authorization
Recoverability	Localization		Legal
Reliability/safety	Maintainability		Privacy
	Portability		Security
Robustness	Upgradeability		Supportability
Scalability			Usability/achievability

Even though to enterprise interoperability, but regulations/industries standard/market velocity/etc.

HLD

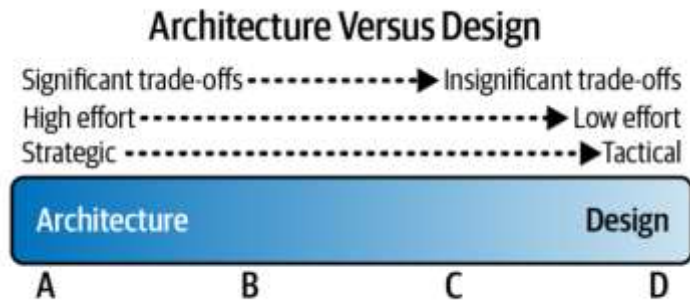


Figure 2-1. The spectrum between architecture and design

Who needs an architect – Fowler, who is architect vs Design: [Link](#)

Effort

Architecture is the stuff you can't Google or ask an LLM about.

—Mark Richards

There are no right or wrong answers in architecture—only trade-offs.

—Neal Ford

choice. However, to quote [Rich Hickey](#), the creator of the Clojure programming language:

Programmers know the benefits of everything and the trade-offs of nothing. Architects need to understand both.

—Rich Hickey

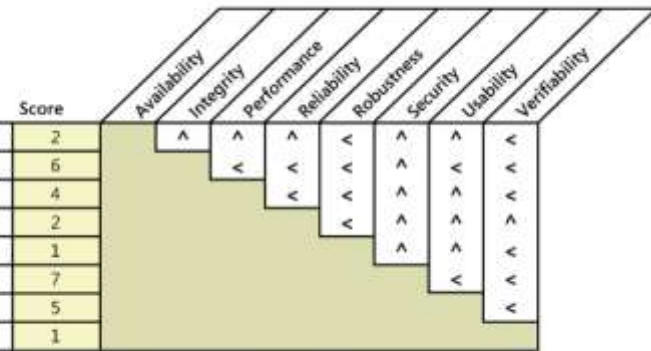


Figure 14-1. Sample quality attribute prioritization for an airport check-in kiosk

	Availability	Efficiency	Installability	Integrity	Interoperability	Modifiability	Performance	Portability	Reliability	Reusability	Robustness	Safety	Scalability	Security	Usability	Verifiability
Availability								+	+							
Efficiency	+			-	-	+	-		-			+		-		
Installability	+							+					+			
Integrity		-							-		+		+	-		
Interoperability	+	-	-			-	+	+	+		-		-			
Modifiability	+	-					+	+				+				
Performance		+		-	-				-							
Portability		-		+	-	-			+							
Reliability	+	-		+	+	-				+						
Reusability		-		-	+	+	-	+								
Robustness	+	-	+	+	+		-	+								
Safety		-		+	+		-					+				
Scalability	+	+		+			+	+	+			+				
Security	+			+	+		-	-	+			+				
Usability		-	+				-	-	+			+				
Verifiability	+		+	+		+		+	+	+						

Figure 14-2. Positive and negative relationships among selected quality attributes

SWR, Ch14, - Quality attribute trade-offs

Step 1: Start with a broad taxonomy

Step 2: Reduce the list

Step 3: Prioritize the attributes

Step 4: Elicit specific expectations for each

Step 5: Specify well-structured quality requirements

Table 14-5. Translating quality attributes into technical specifications

Quality attributes	Likely technical information category
Installability, integrity, interoperability, reliability, robustness, safety, security, usability, verifiability	Functional requirement
Availability, efficiency, modifiability, performance, reliability, scalability	System architecture
Interoperability, security, usability	Design constraint
Efficiency, modifiability, portability, reliability, reusability, scalability, verifiability	Design guideline

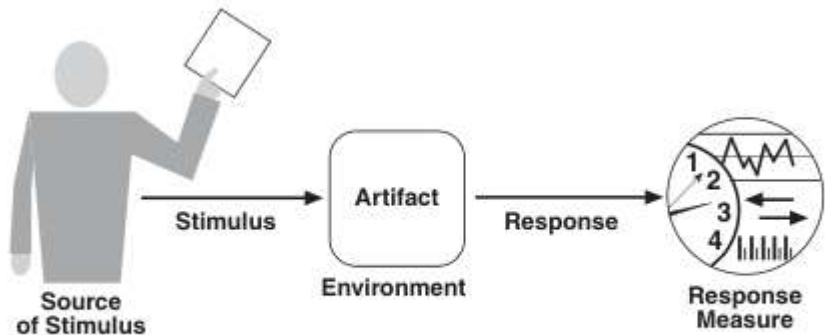


FIGURE 4.1 The parts of a quality attribute scenario



FIGURE 4.3 Tactics are intended to control responses to stimuli.

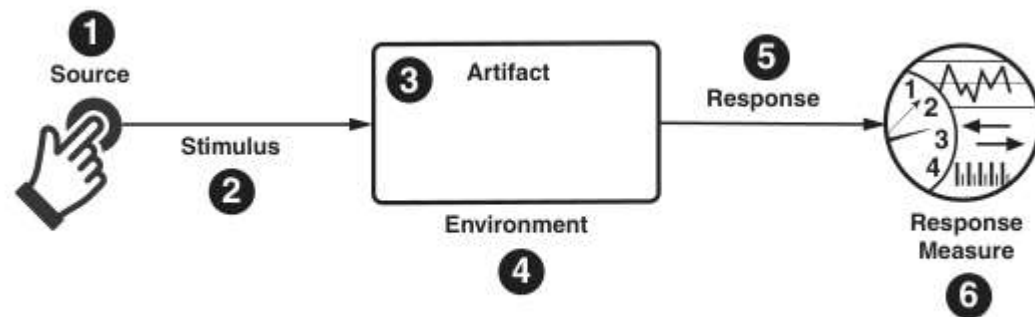
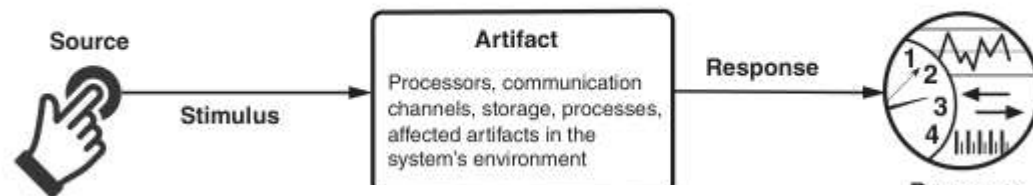


FIGURE 3.1 The parts of a quality attribute scenario



Internal/external:
people, hardware,
software, physical
infrastructure,
physical
environment

Fault: omiss
crash, incor
timing, incor
response

FIGURE 3.2 A general scenario



FIGURE 3.3 Tactics are intended to control responses to stimuli.

3rd Edition

- ▼ PART TWO: QUALITY ATTRIBUTES
 - 4 Understanding Quality Attributes
 - 5 Availability
 - 6 Interoperability
 - 7 Modifiability
 - 8 Performance
 - 9 Security
 - 10 Testability
 - 11 Usability
 - 12 Other Quality attributes
 - 13 Architectural Tactics and Patterns
 - 14 Quality Attribute Modeling and Analysis

4th Edition

- ▼ PART II: QUALITY ATTRIBUTES
 - CHAPTER 3 Understanding Quality Attributes
 - CHAPTER 4 Availability
 - CHAPTER 5 Deployability
 - CHAPTER 6 Energy Efficiency
 - CHAPTER 7 Integrability
 - CHAPTER 8 Modifiability
 - CHAPTER 9 Performance
 - CHAPTER 10 Safety
 - CHAPTER 11 Security
 - CHAPTER 12 Testability
 - CHAPTER 13 Usability
 - CHAPTER 14 Working with Other Quality Attributes

- Availability
- Modifiability
- Performance
- Security
- Testability
- Usability

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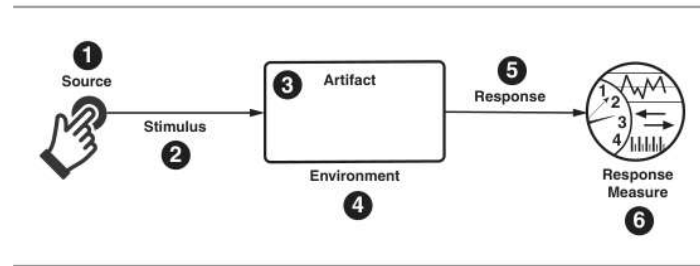


FIGURE 3.1 The parts of a quality attribute scenario

4th Edition

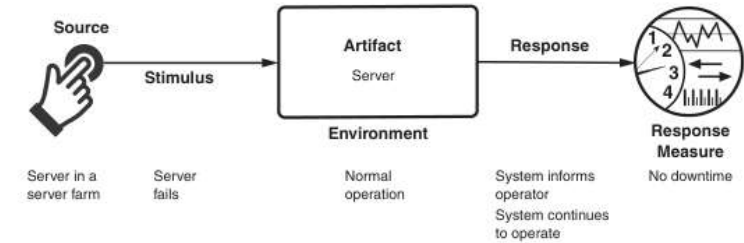


FIGURE 4.1 Sample concrete availability scenario

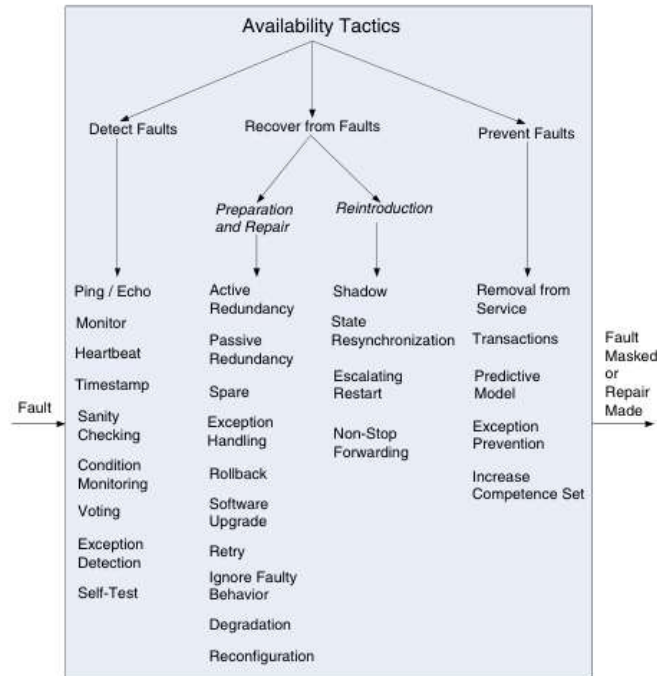


FIGURE 5.5 Availability tactics

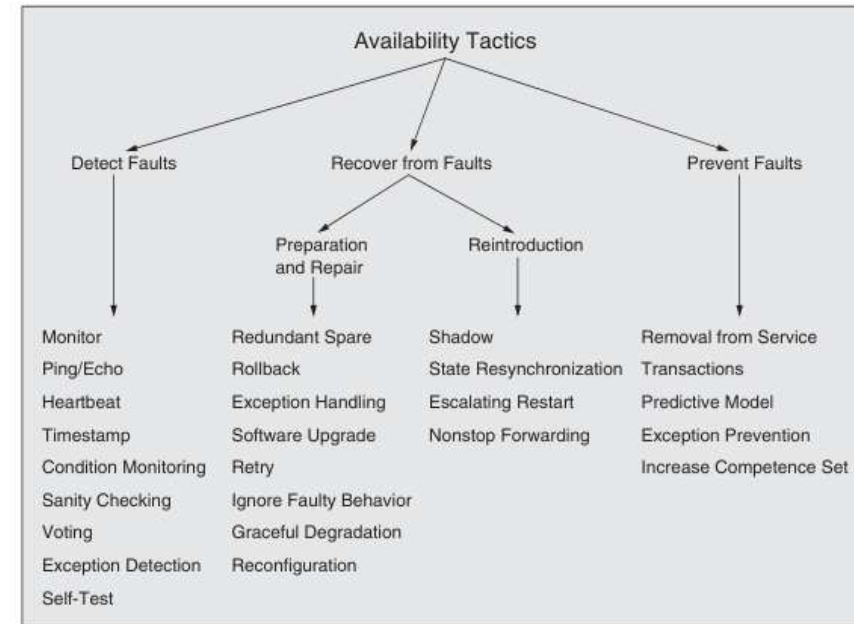


FIGURE 4.3 Availability tactics

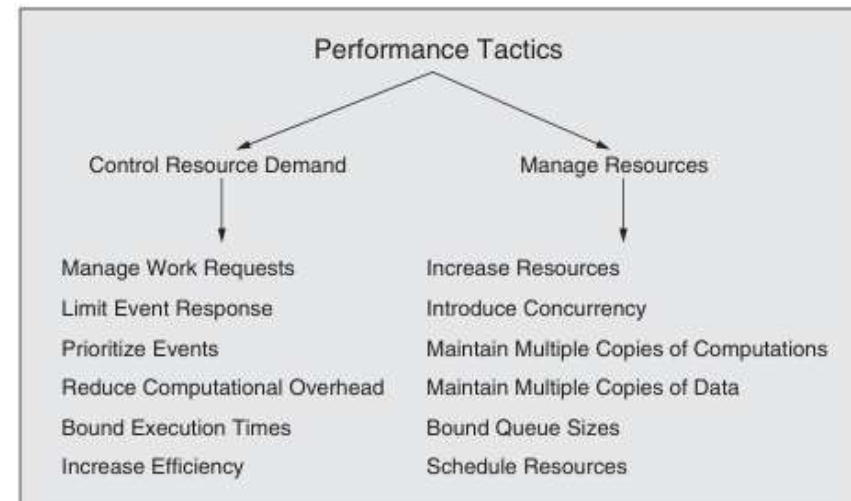


FIGURE 9.3 Performance tactics