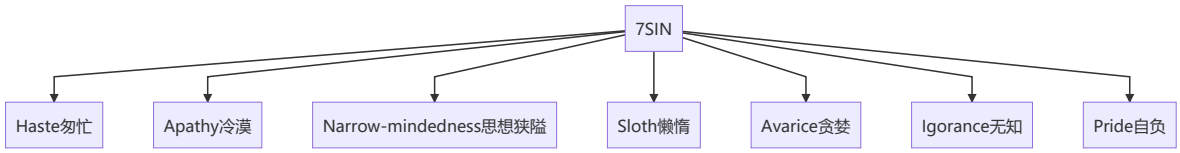
MINDMAP

Map: Reason of all anti-pattern

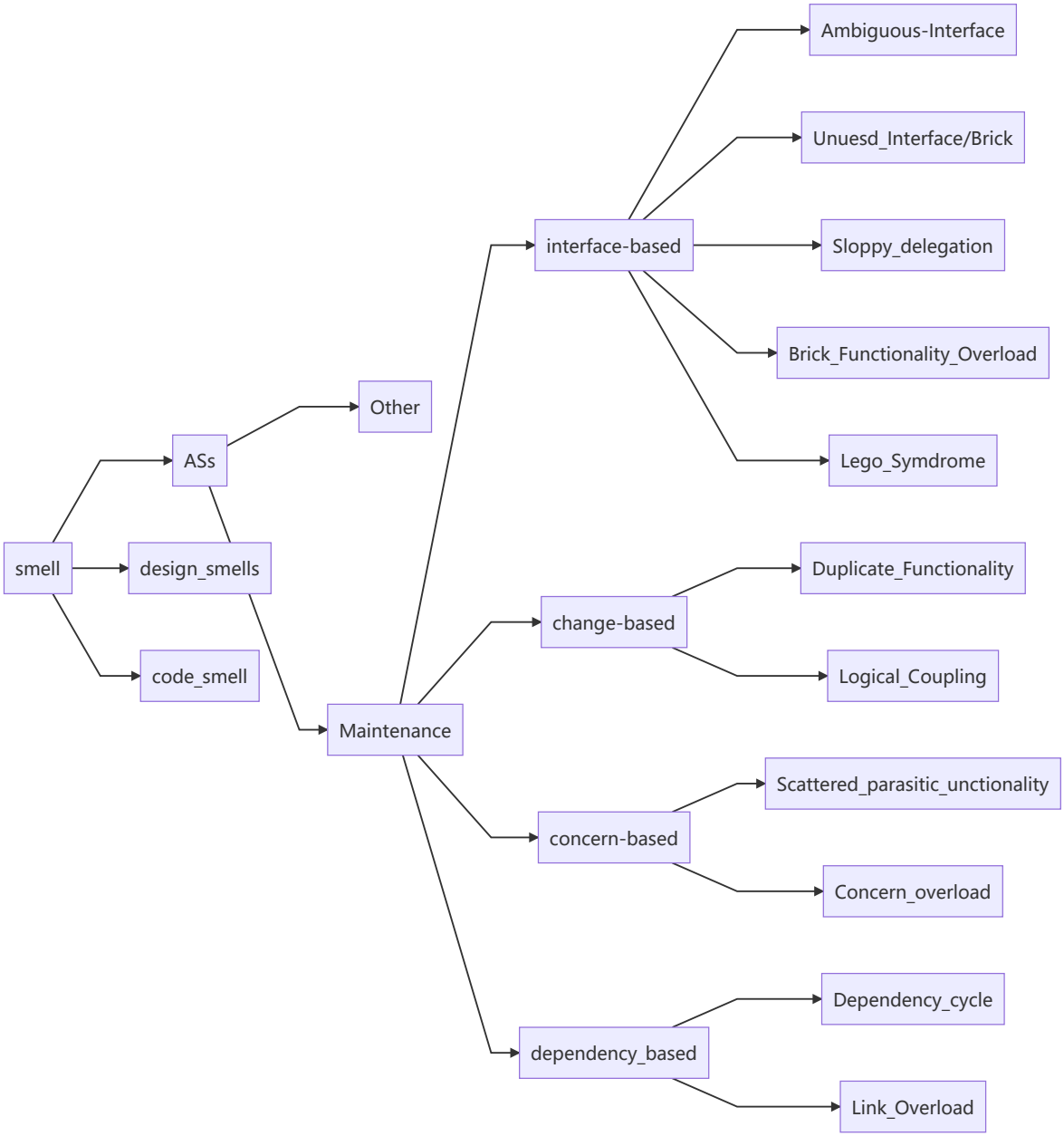
seven sin



Old School Def of ASs

mainly view from Architects' point

Smell's formal classification


Ambiguous-Interface
Unuesd_Interface/Brick
interface-based
Sloppy_delegation
Brick_Functionality_Overload
Other
Lego_Symdrome
ASs
smell
design_smells
Duplicate_Functionality
change-based
Logical_Coupling
code_smell
Maintenance
Scattered_parasitic_unctionality
concern-based
Concern_overload
Dependency_cycle
dependency_based
Link_Overload

detail:

TABLE II

ARCHITECTURAL SMELLS AND METRICS USED TO ESTIMATE ARCHITECTURE SUSTAINABILITY FOR MAINTENANCE AND EVOLUTIO

Practice areas	Smells	Architecture Smells	Metrics	QAs impacted
Maintenance	Interface-Based	Ambiguous Interface	Module Interaction Index (MII), Attribute hiding factor (AHF)	Analyzability Understandability
		Unused Interface and Unused Brick	API Function Usage Index	Complexity
		Sloppy Delegation	API Function Usage Index	Modularity
		Brick Functionality Overload	API Function Usage Index	Changeability Modularity
		Lego Syndrome	API Function Usage Index	Modularity Reusability
	Change-Based	Duplicate Functionality	Clone detection techniques	Reusability Complexity
		Logical Coupling	Coupling between objects (CBO) Ratio of Cohesive Interactions (RCI)	Complexity Modifiability
	Concern-Based	Scattered parasitic functionality	Concern Diffusion over Architectural Components (CDAC) Component-level Interlacing Between Concerns (CIBC)	Modifiability Reusability
		Concern overload	Number Concerns per Component	Modularity Understandability
	Dependency-Based	Dependency cycle	Cyclic dependency metric	Understandability Changeability
		Link Overload	API Function Usage Index	Changeability Modularity
Evolution		Architectural elements that change too often	Instability	Stability
		High number of elements impacted by a change	Ripple Effect algorithms	Evolvability
		Dependencies between components	Ratio of Cohesive Interactions (RCI), Modularization Quality (MQ)	Modularity
		Bi-directional relationships between components	Bi-directional Component Coupling (BDCC)	Complexity
Transversal to different practice areas		Any Architectural smell	Architectural Smell Density (ASD) Architectural Smell Coverage (ASC)	Cost