Meta-ArchitecturE Document

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Meta-ArchitecturE document

[TEAM NAME]

# How To Use This document Template

Meta-architecture is the first set of decisions oriented toward addressing system-level concerns. Meta-architecture strongly influences the architecture, but is not the architecture itself. This document should therefore include statements of architectural vision, principles, styles, key concepts and mechanisms. Its focus is high-level decisions that will strongly influence the structure of the system; it rules certain structural choices out, and guides selection decisions and tradeoffs among others. These decisions may be expressed as:

* Guiding Principles, Strategies, Styles, Values
* Structural, Behavioral Patterns or Patterns of Interaction: especially patterns that are repeatedly applied to solve some issue, and simplify the architecture
* New system concepts or abstractions

The level of formalism should suit the project it describes. Making these ideas explicit, rather than leaving them implicit, helps ensure that a team shares a unified vision and goal.

# Architectural Vision

Describe your vision for the architecture here. There should be just enough detail to provide a context for the ideas described in this document.

# Principles

Guidelines on from for architectural principles:

* Each principle clearly states a fundamental belief of the organization.
* Each principle should be stated in a way that you will know if the architecture has the characteristics expressed by the principle
* Each principle should have a counterargument; that is, they should not be platitudes or general features that are desirable regardless of the system.
* Principles should be simply stated and understandable
* Principles need to be rationalized, stating why the principle is preferred; draw on business-related factors where possible
* The implications of adopting the principle should be identified if possible

You should include one table for each principle. To include new principles, cut and paste copies of the template below.

|  |  |
| --- | --- |
| Principle Name |  |
| Description |  |
| Rationale/Benefits |  |
| Implications |  |
| Counterargument |  |
| Principle Name |  |
| Description |  |
| Rationale/Benefits |  |
| Implications |  |
| Counterargument |  |

# Patterns & Mechanisms

Style is determined by

* A set of component types that perform some function at runtime
* A topological layout of these components indicating their runtime relationships
* A set of connectors that mediate communication, coordination, or cooperation among components (function call, RPC, data stream, socket, etc.)

We can identify styles by answering the following questions:

* What is the design vocabulary—the types of components and connectors?
* What are the allowable structural patterns?
* What is the underlying computational model?
* What are the essential invariants of the style?
* What are common examples of its use?
* What are the advantages and disadvantages of using the style?
* What are some common specializations of the style?

Three types of patterns are of interest:

* Structural Patterns
* Interconnection Patterns
* Decoupling Patterns

These follow directly from describing architecture in terms of a set of components and their relationships.

Patterns are described in terms of a Pattern Form (see below), and one or more CRC “cards” (see below), which describe each of the major pieces of the pattern. Cut and paste copies of the Pattern Form and CRC table (as needed), for each Pattern or Mechanism described.

## Pattern [NAME]

### Summary Description –

### Context of USE (INTENT)

### Problem Statement

### Solution Description

### Variants and Related Patterns

### Known Uses -

### Consequences

|  |  |
| --- | --- |
| Class: | Collaborator: |
| Responsibility: |  |

## Mechanism [name]

# Guidelines & policies

* Here you want to put general guidelines and policies that:
* Might affect the architecture & design of the system
* Don’t fit other places in this document

# Additional Information

Include comments or ideas that you want here, but that don’t fit anywhere else. Keep this section to a minimum, because you want a document people can use easily, not a tome of esoteric lore.