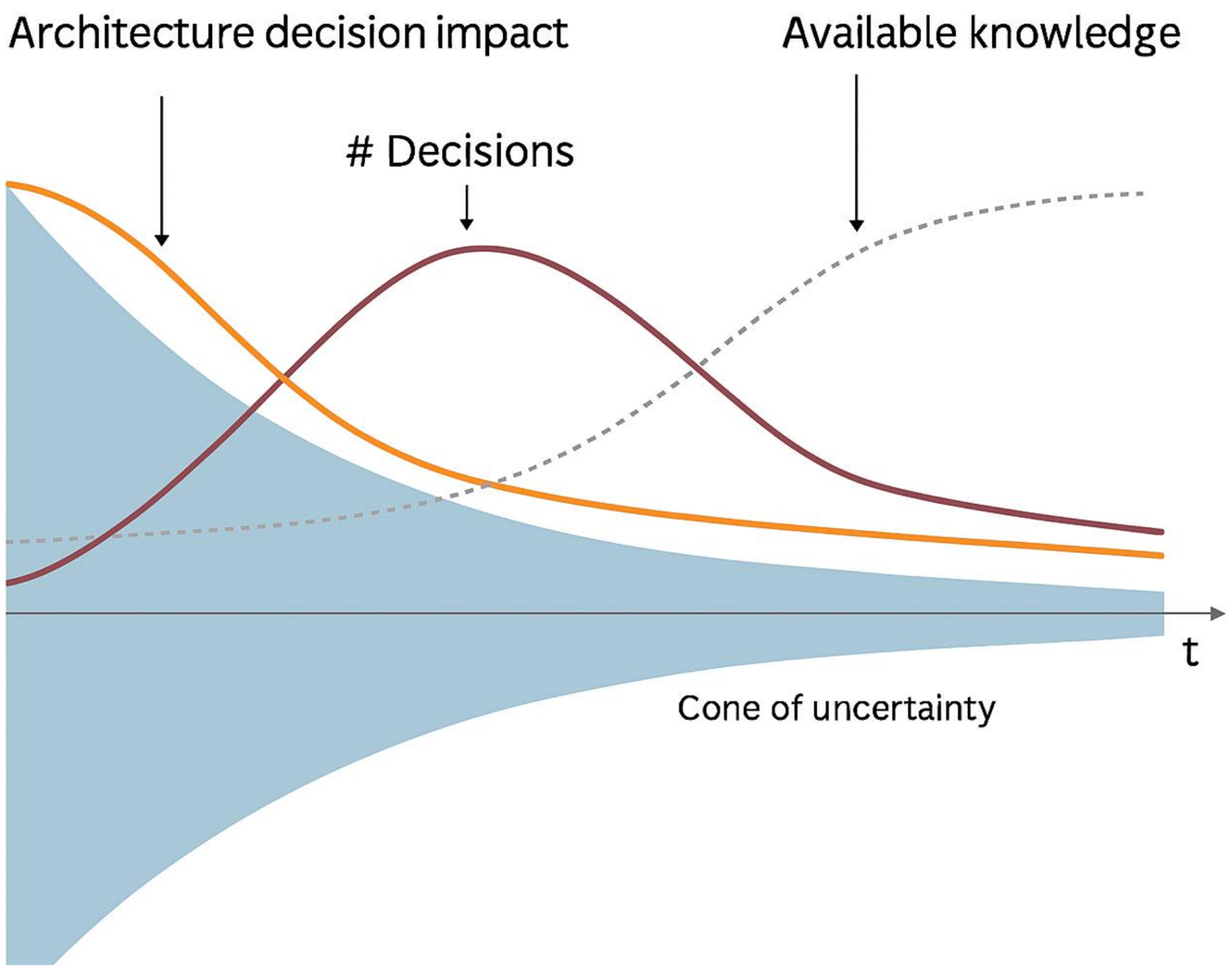
The Lean Architect:
Experimenting your way to better decisions

Maxime Najim

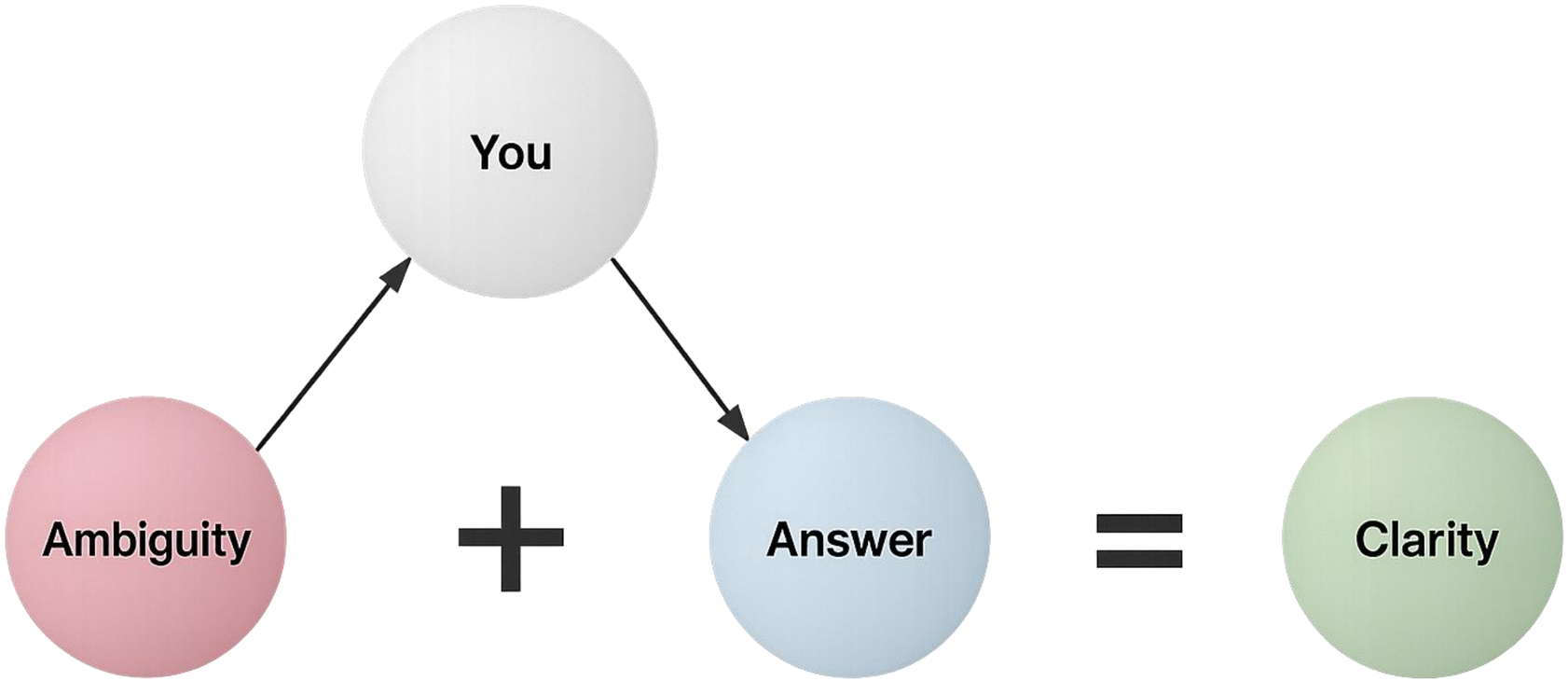

ARCHITECTURAL DECISION?
SYSTEM
ADVANTAGES
MODULES

Cone of Uncertainty

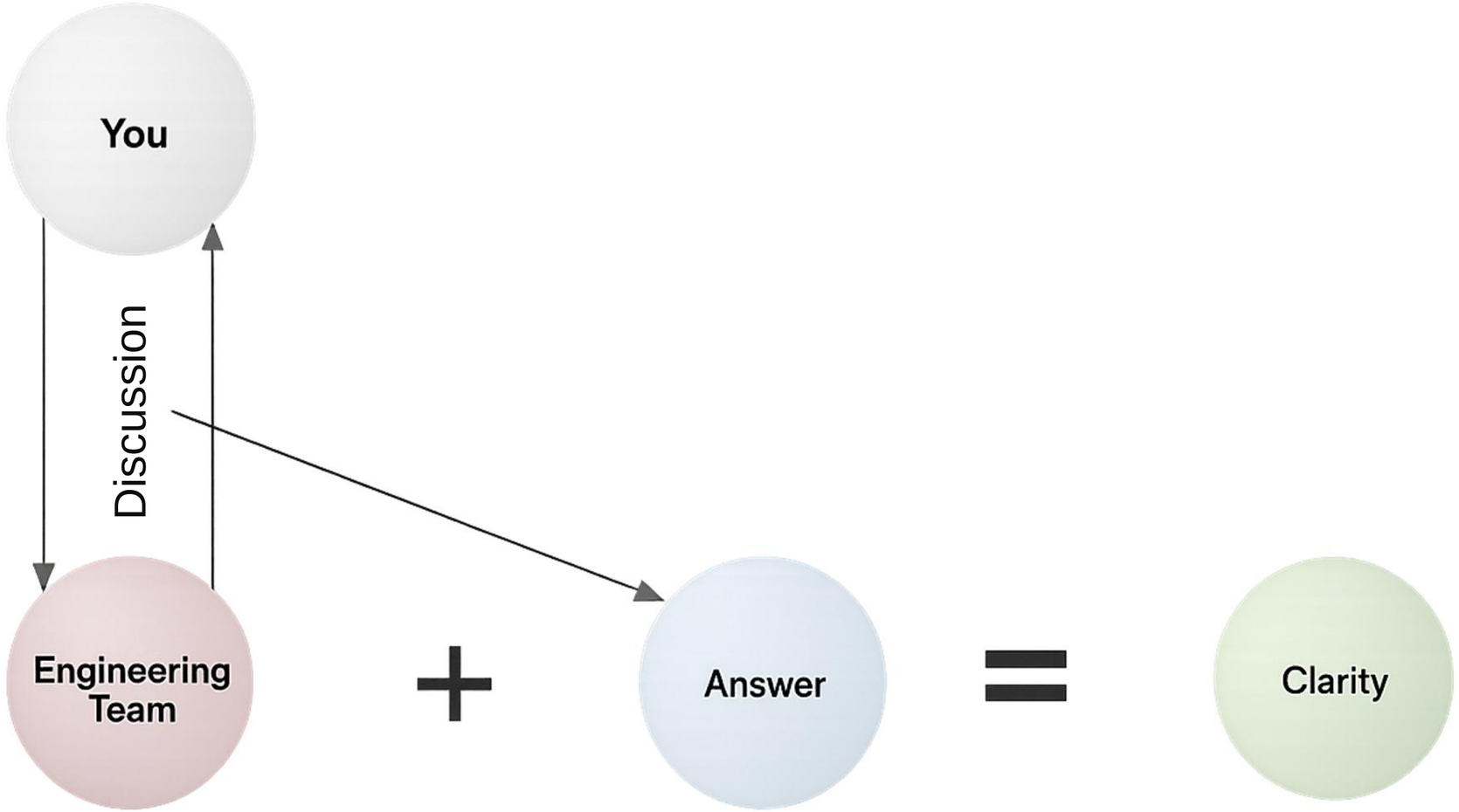


Bringing Clarity to Ambiguity

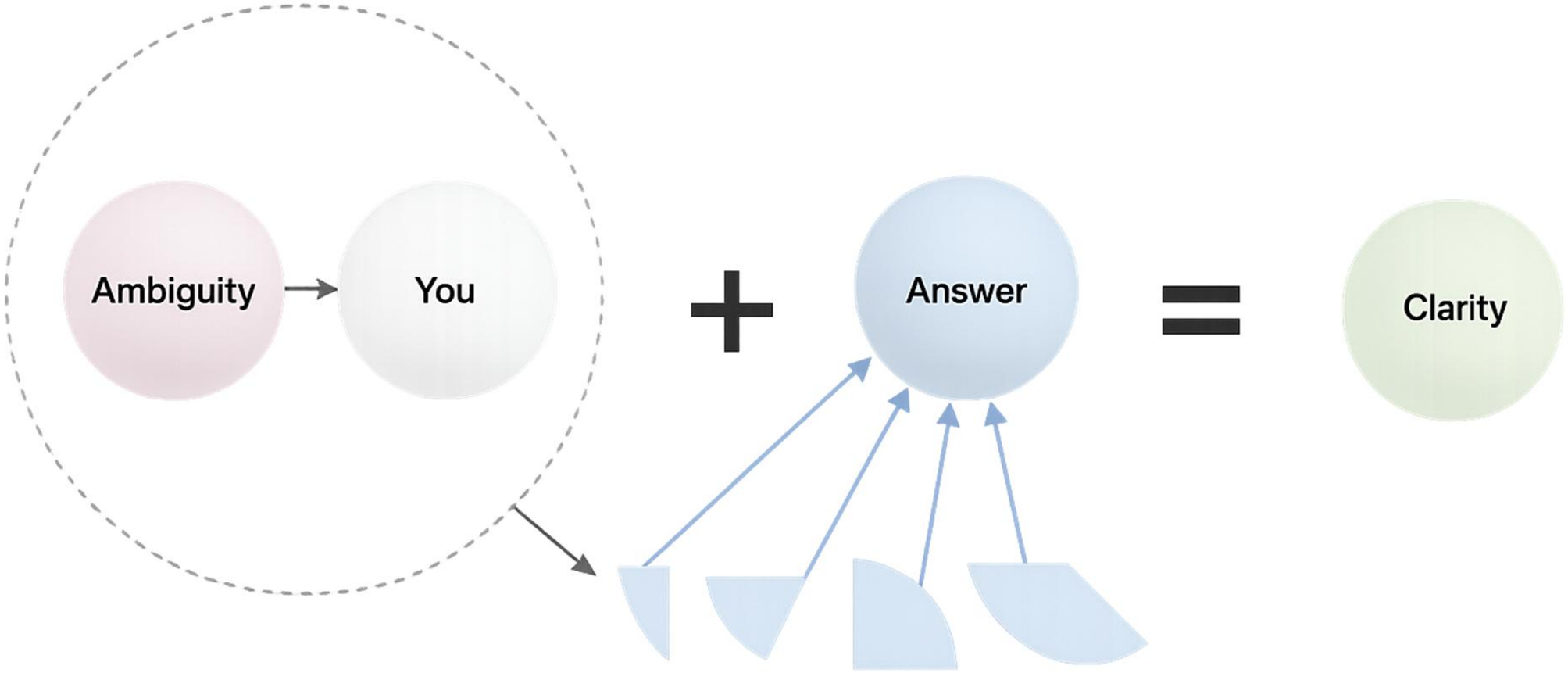
Bringing Clarity to Ambiguity



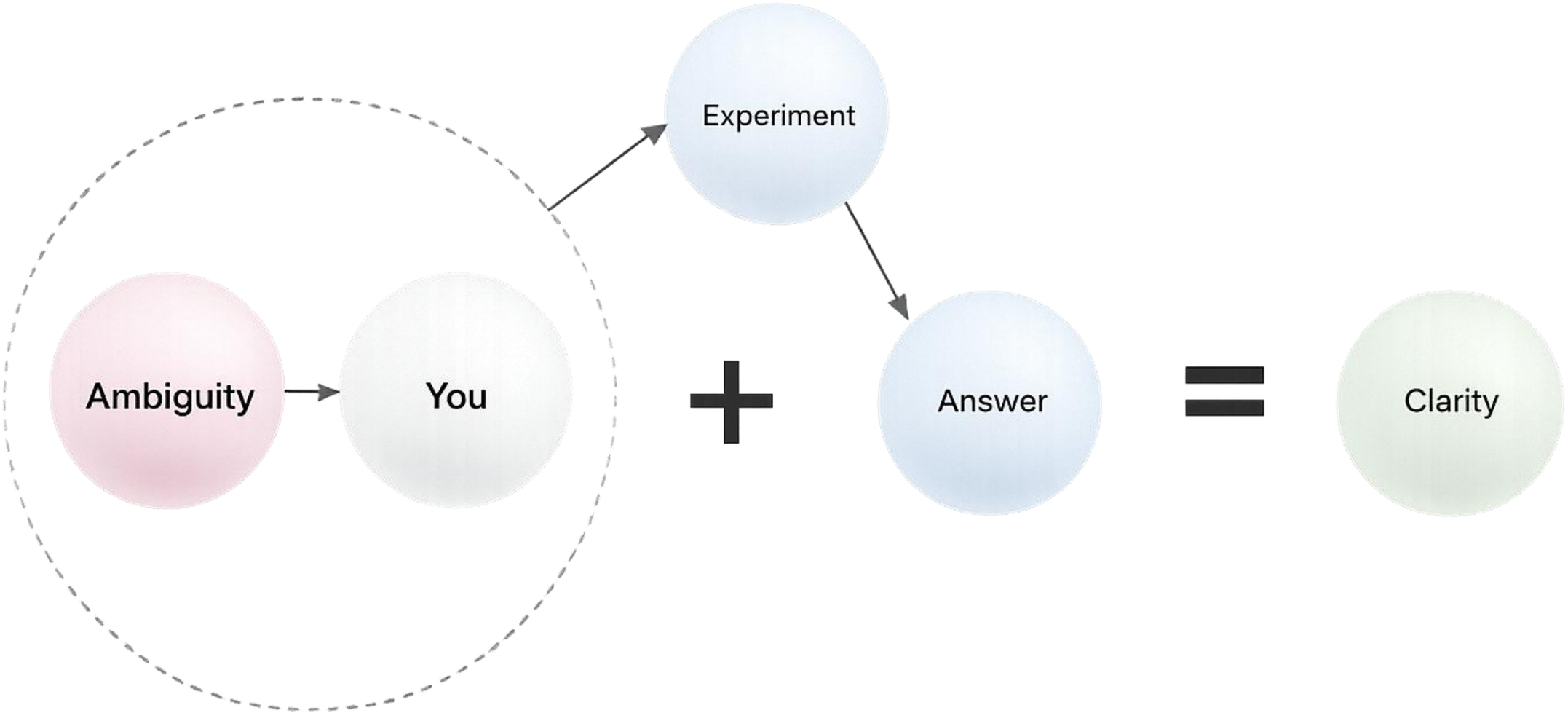
Bringing Clarity to Ambiguity



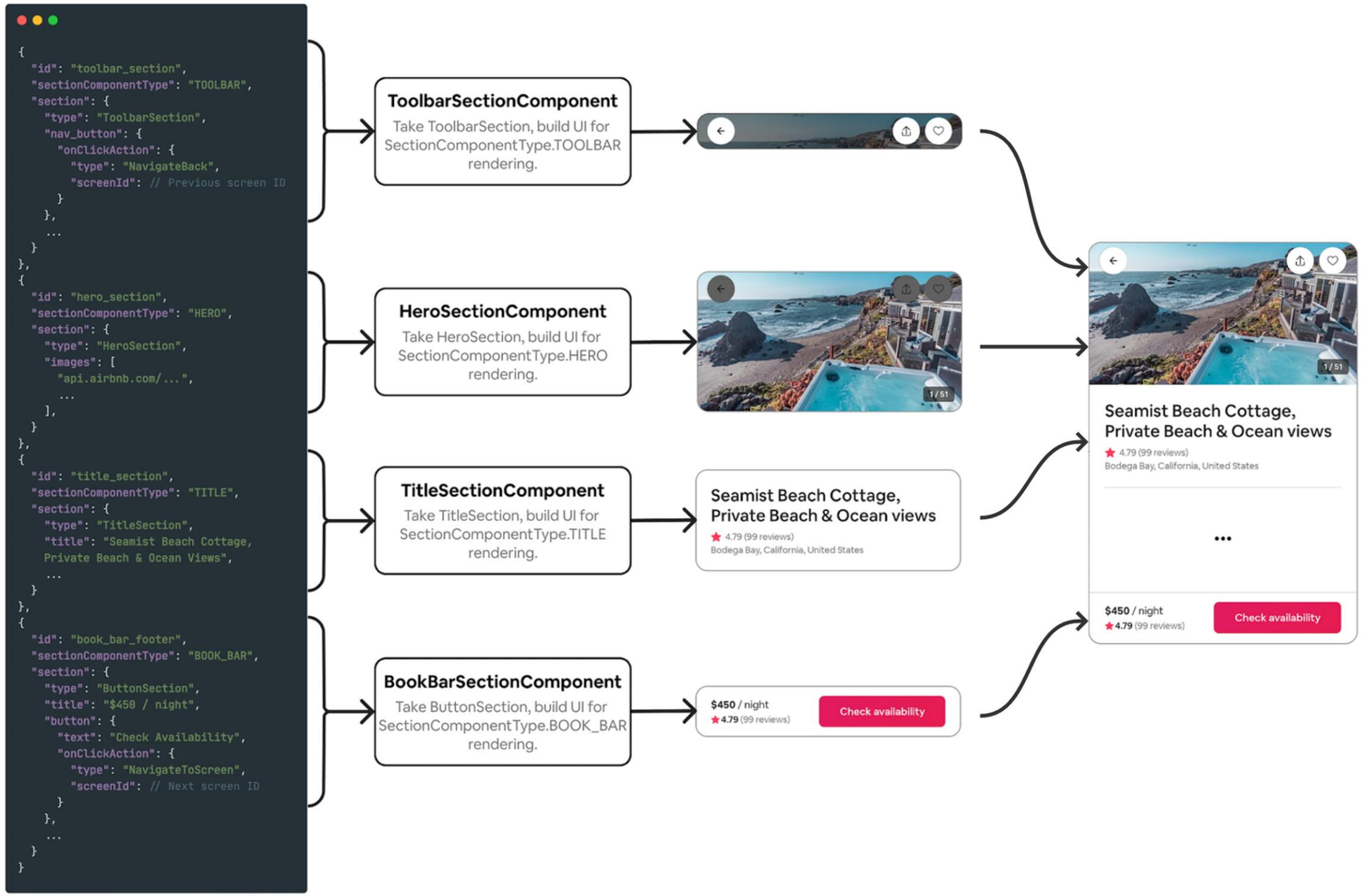
Bringing Clarity to Ambiguity



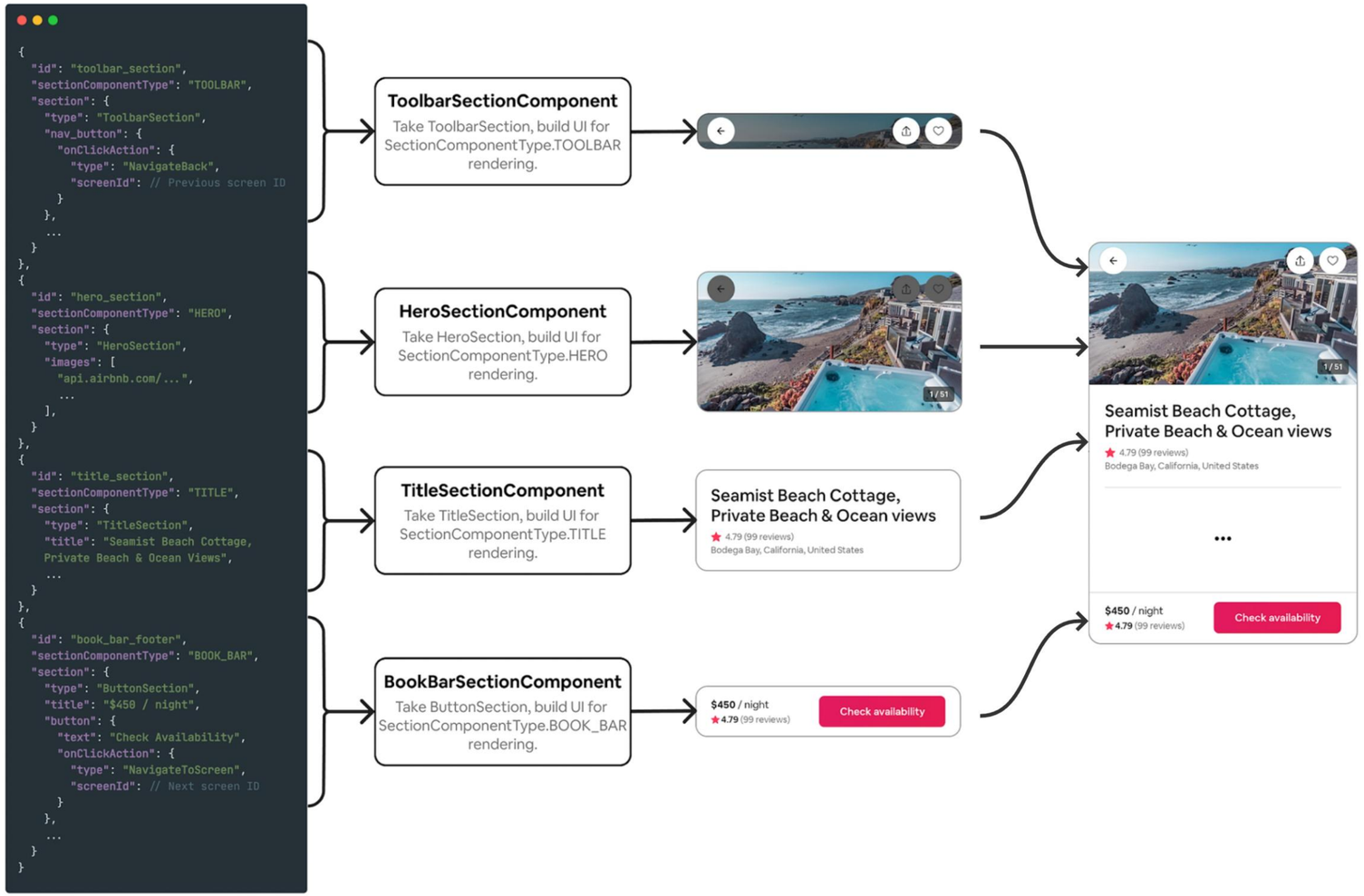
Bringing Clarity to Ambiguity

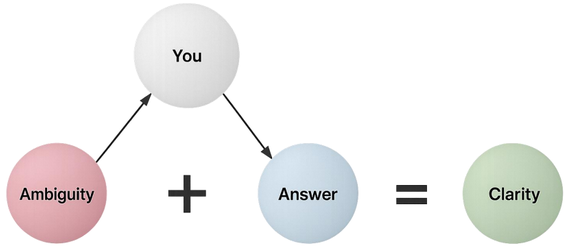


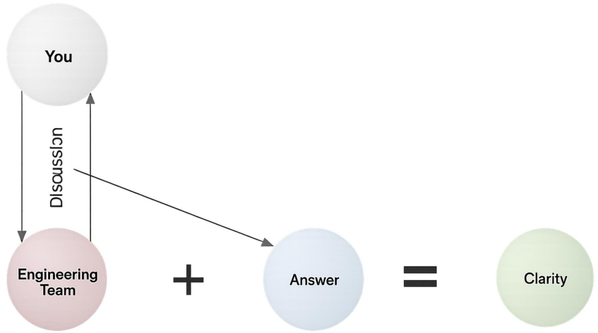
Server Driven UI Example

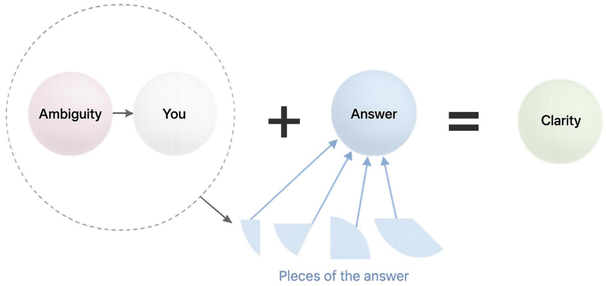


Server Driven UI Example

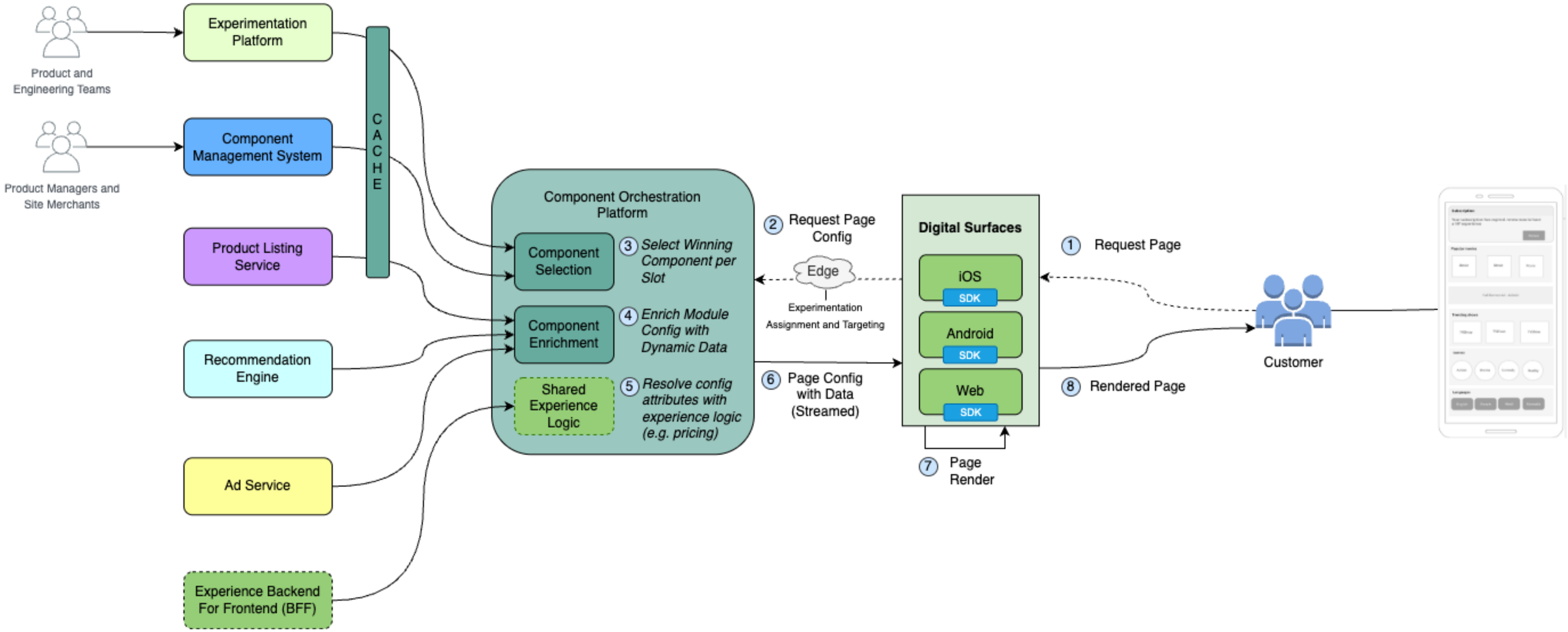




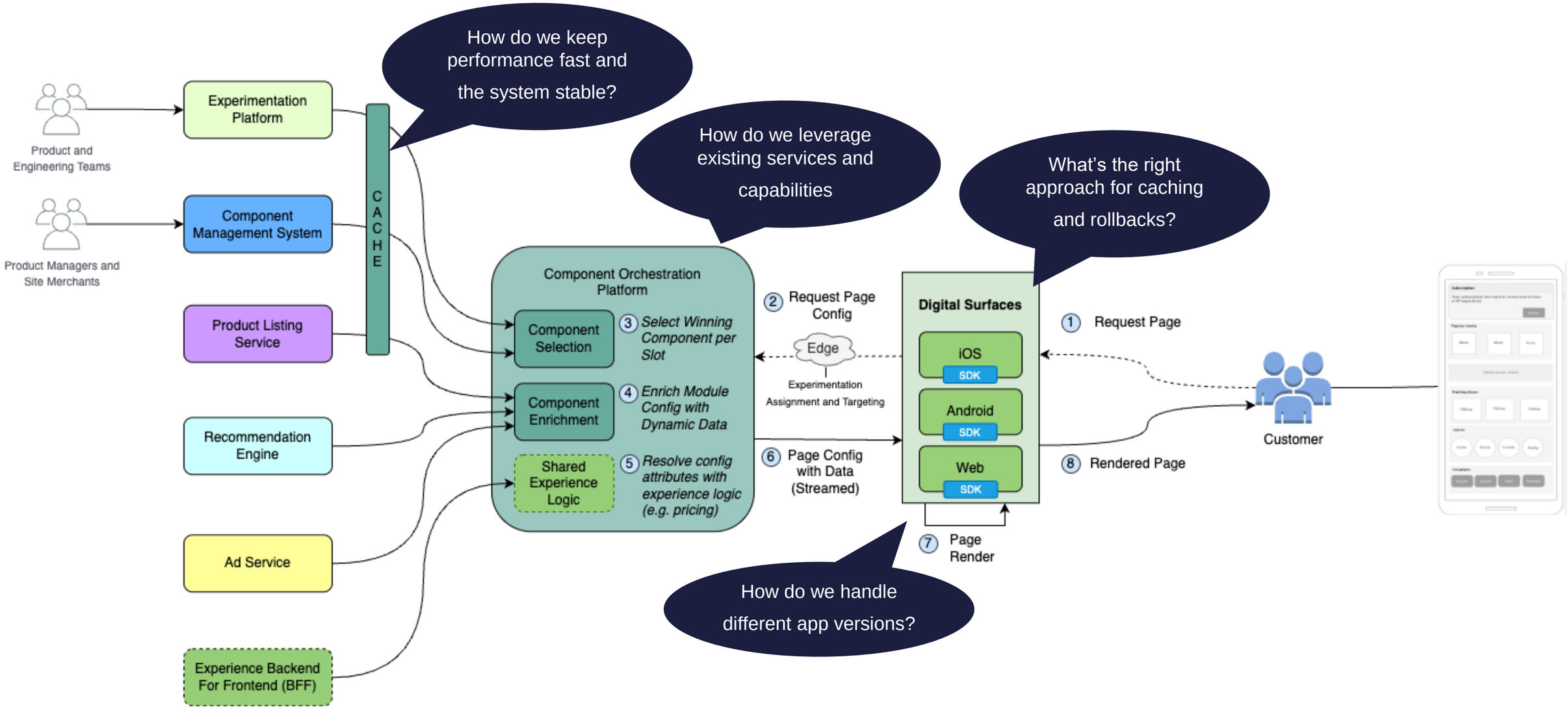




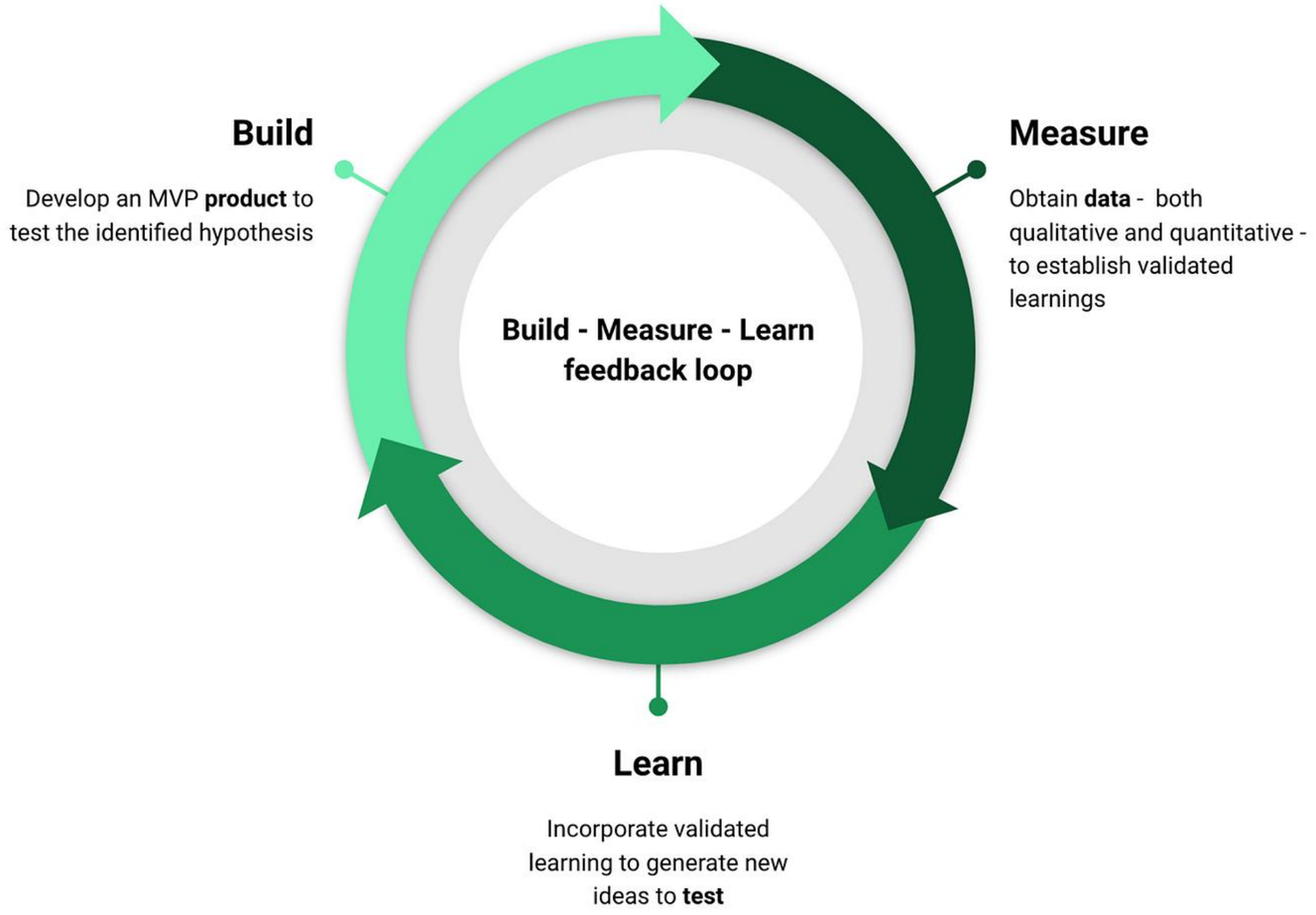
Server Driven UI Example



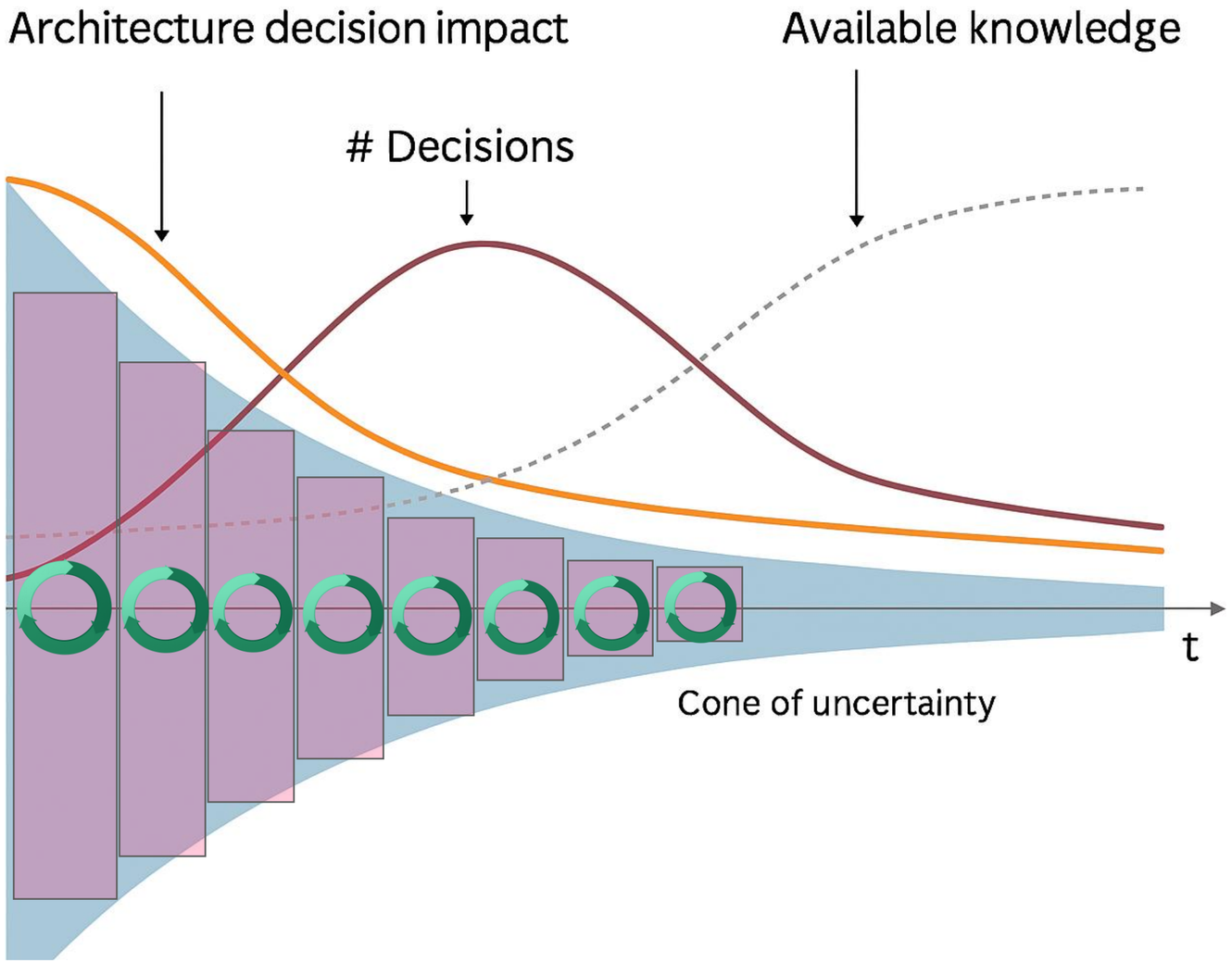
Server Driven UI Example



Build-Measure-Learn Loop



Cone of Uncertainty



Lean Architecture

Experimenting your way to better decisions

- **How you approach problems**
- **How you build solutions**
- **How you prioritize change in your architecture**

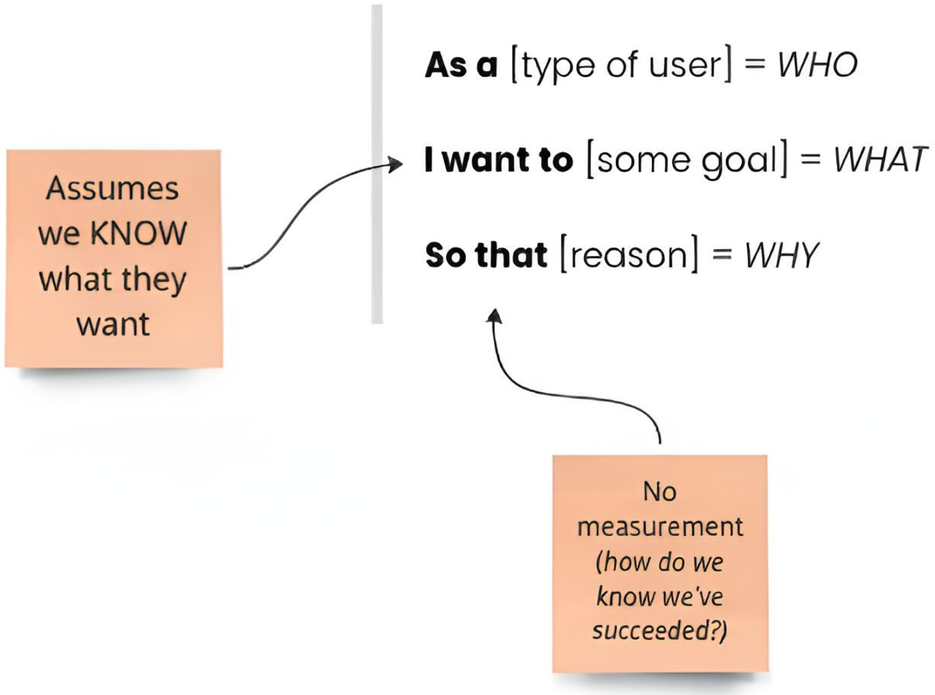
How you approach problems: hypothesis driven development

ART & FEAR

Observations on the Perils (and Rewards) of Artmaking

DAVID BAYLES
& TED ORLAND

USER STORY NARRATIVE



USER STORY NARRATIVE

As a [type of user] = *WHO*

I want to [some goal] = *WHAT*

So that [reason] = *WHY*

Assumes we KNOW what they want

No measurement *(how do we know we've succeeded?)*

HYPOTHESIS

We believe that [*doing something*]

For [*type of user*]

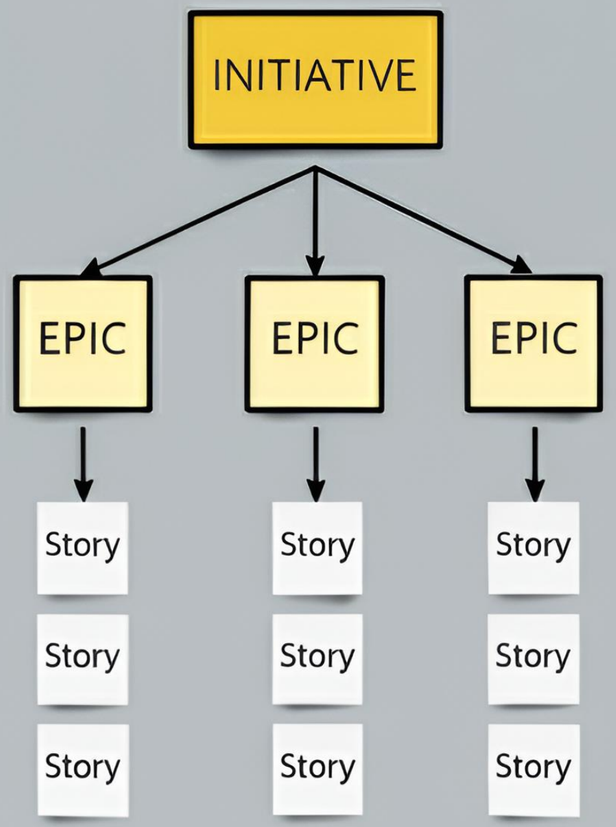
Will achieve [*some kind of outcome*]

We know we have succeeded when we see [*this measurable impact*]

Doesn't assume we KNOW

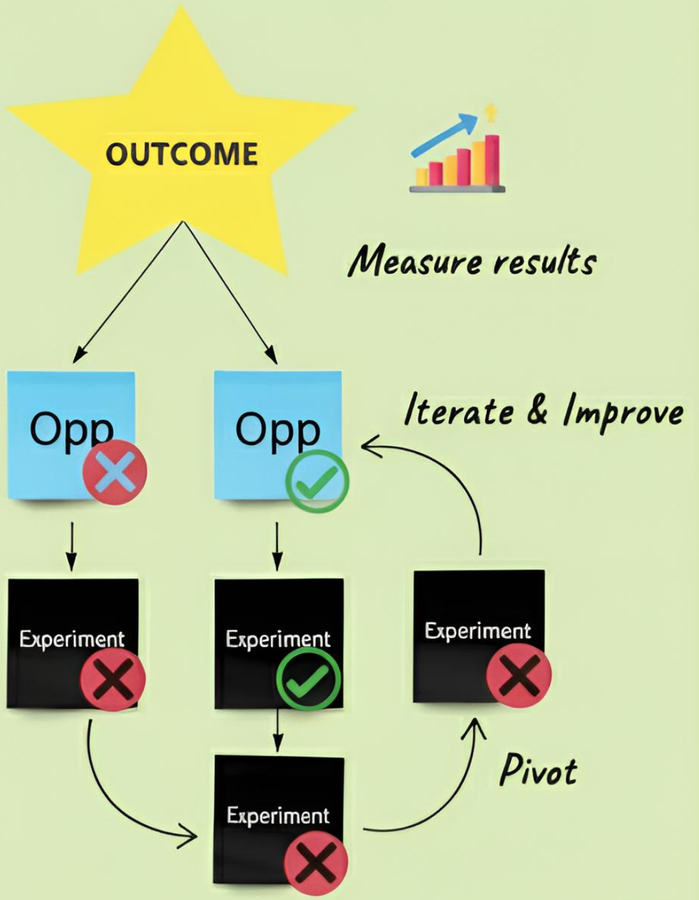
Measurement

FROM THIS

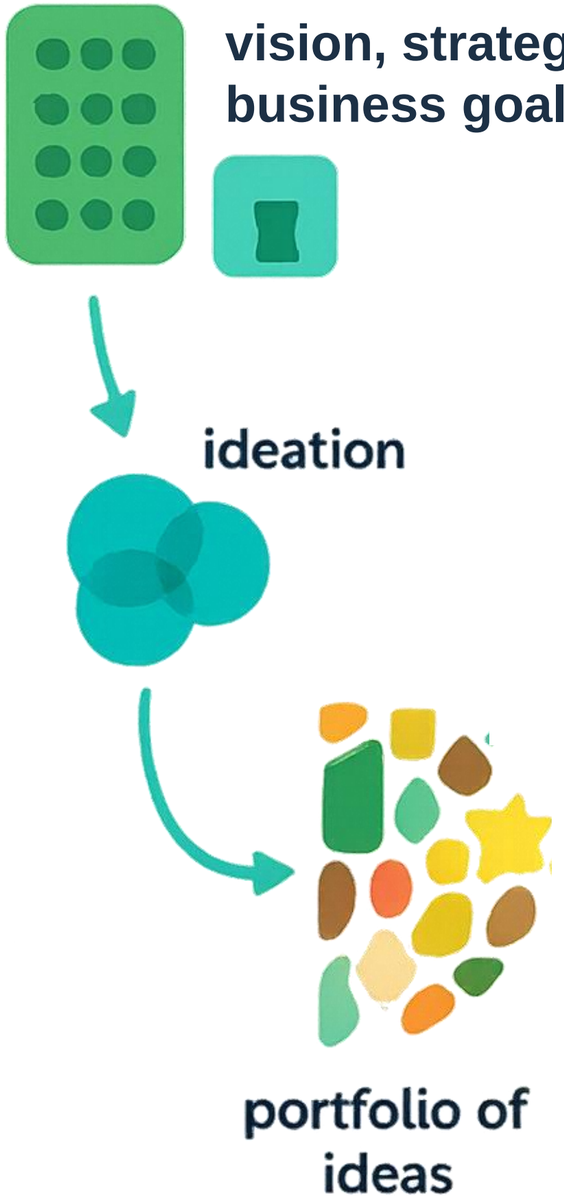


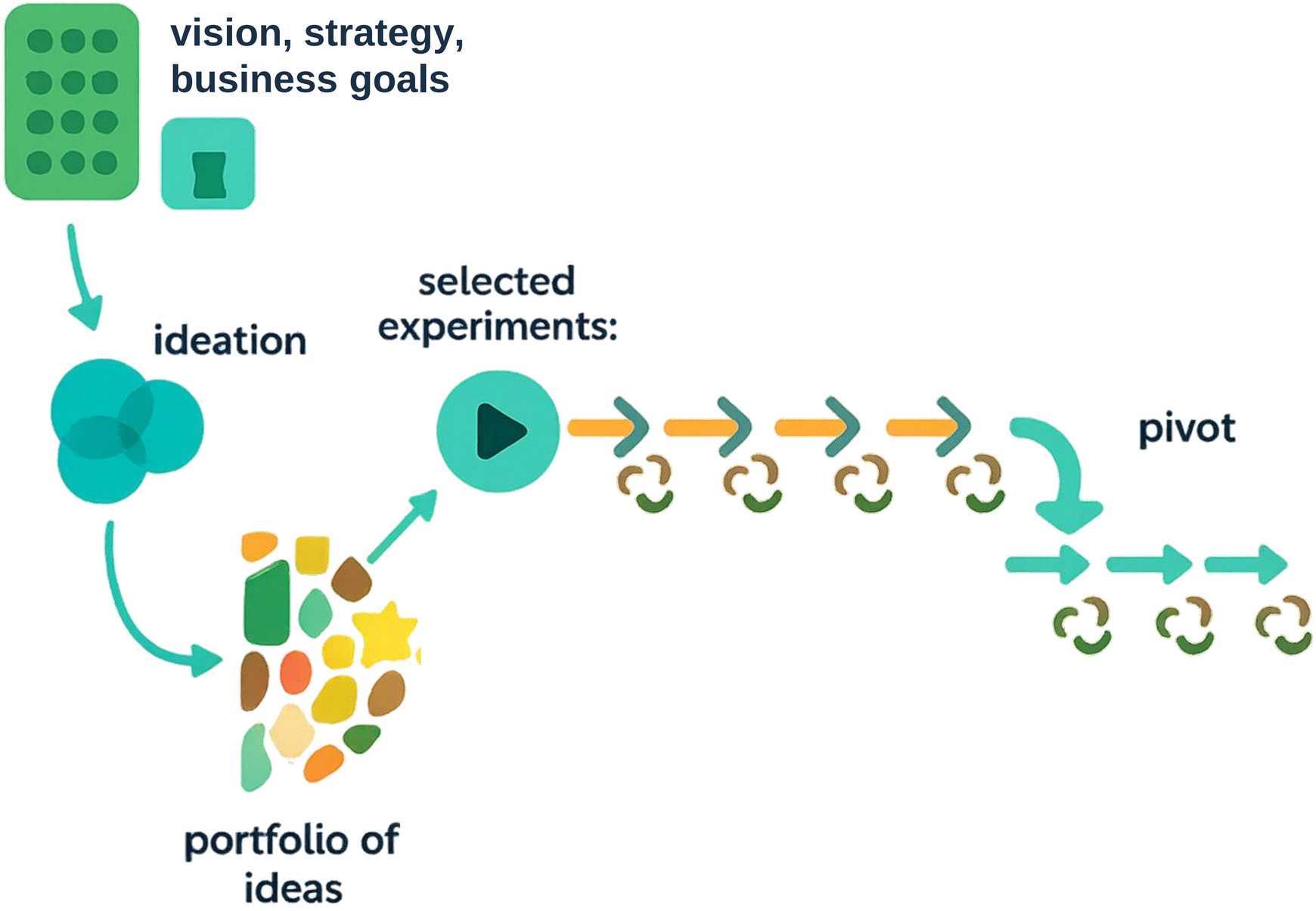
Leads to big design up front

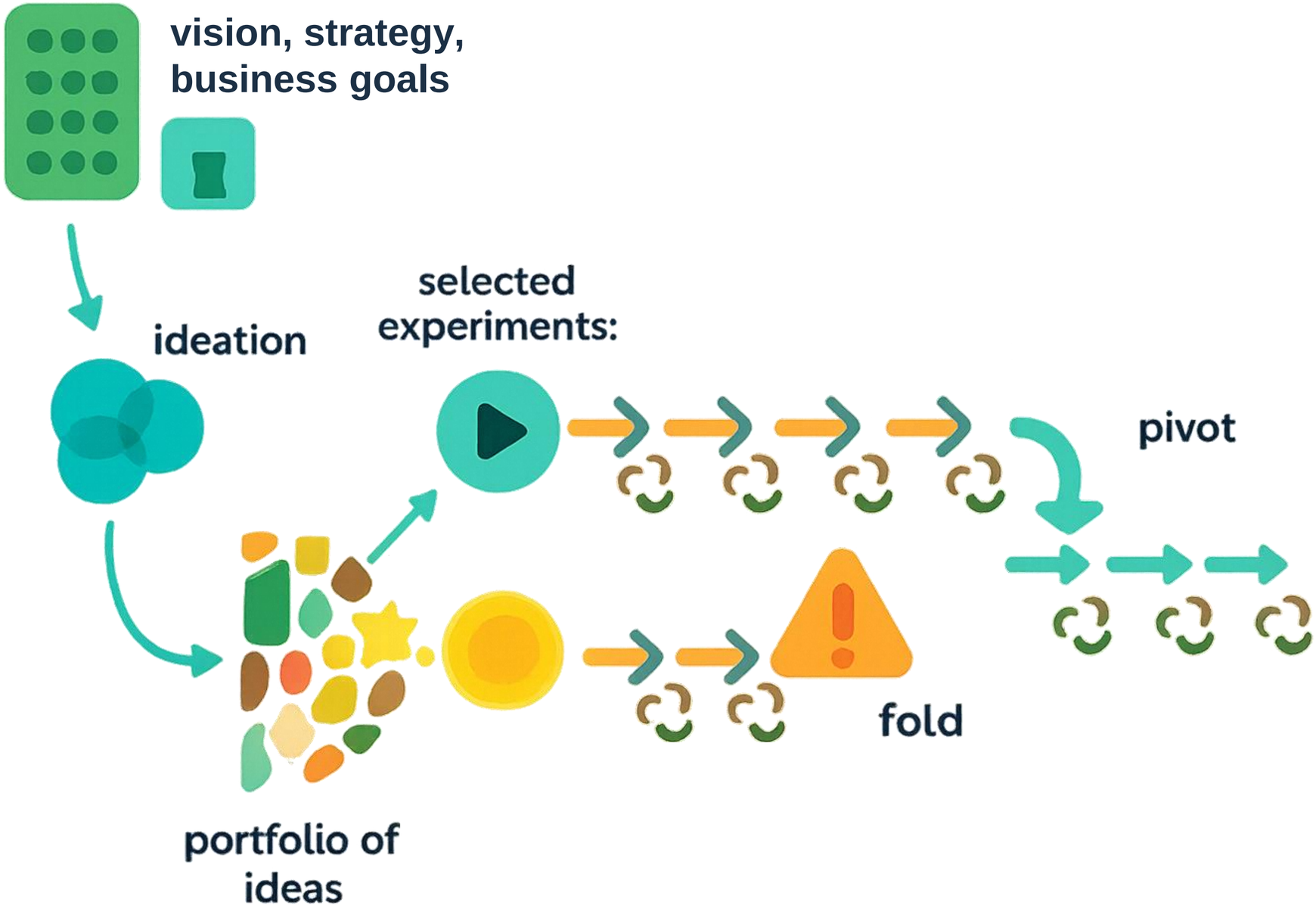
TO THIS

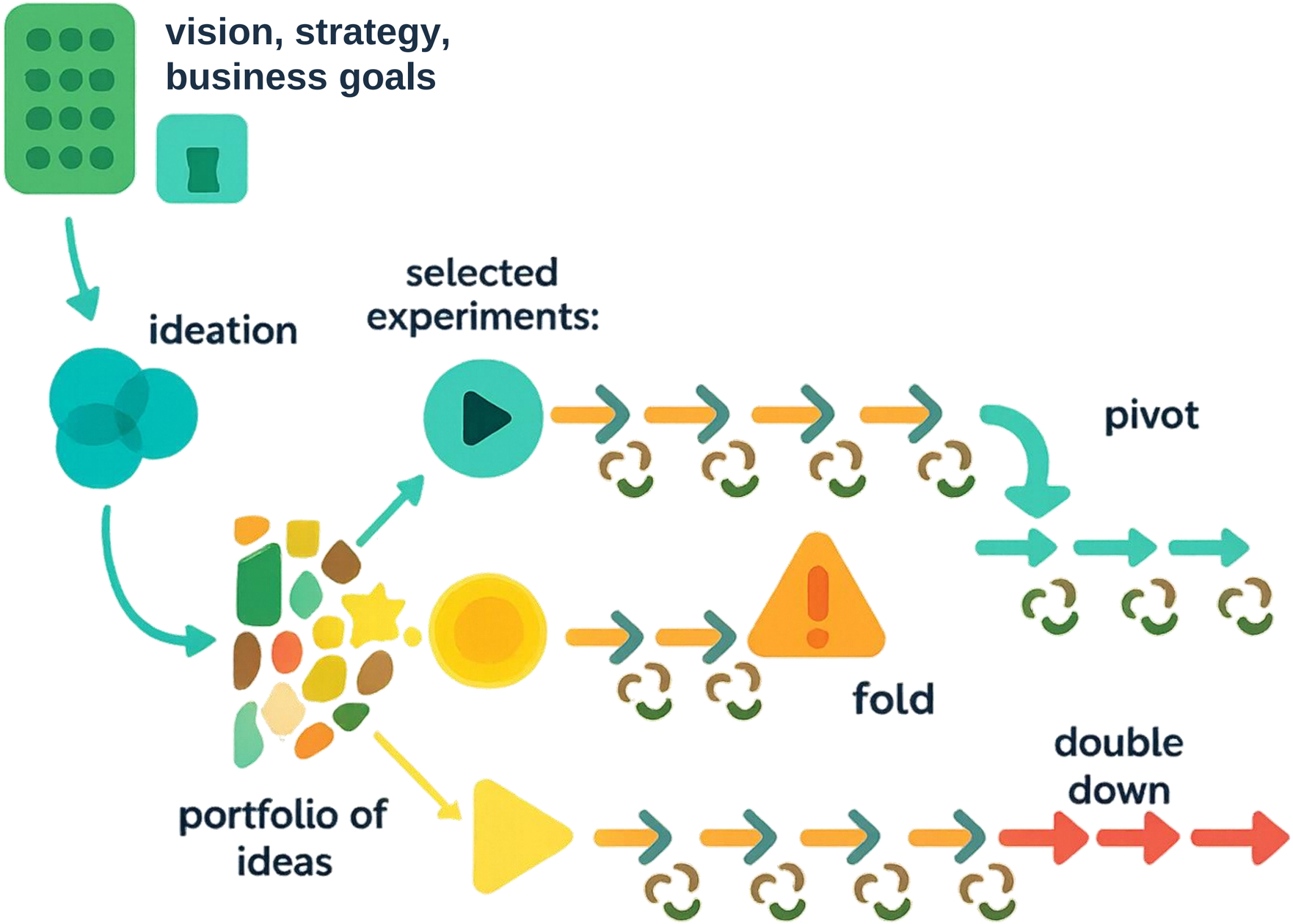


Leads to lean architecture

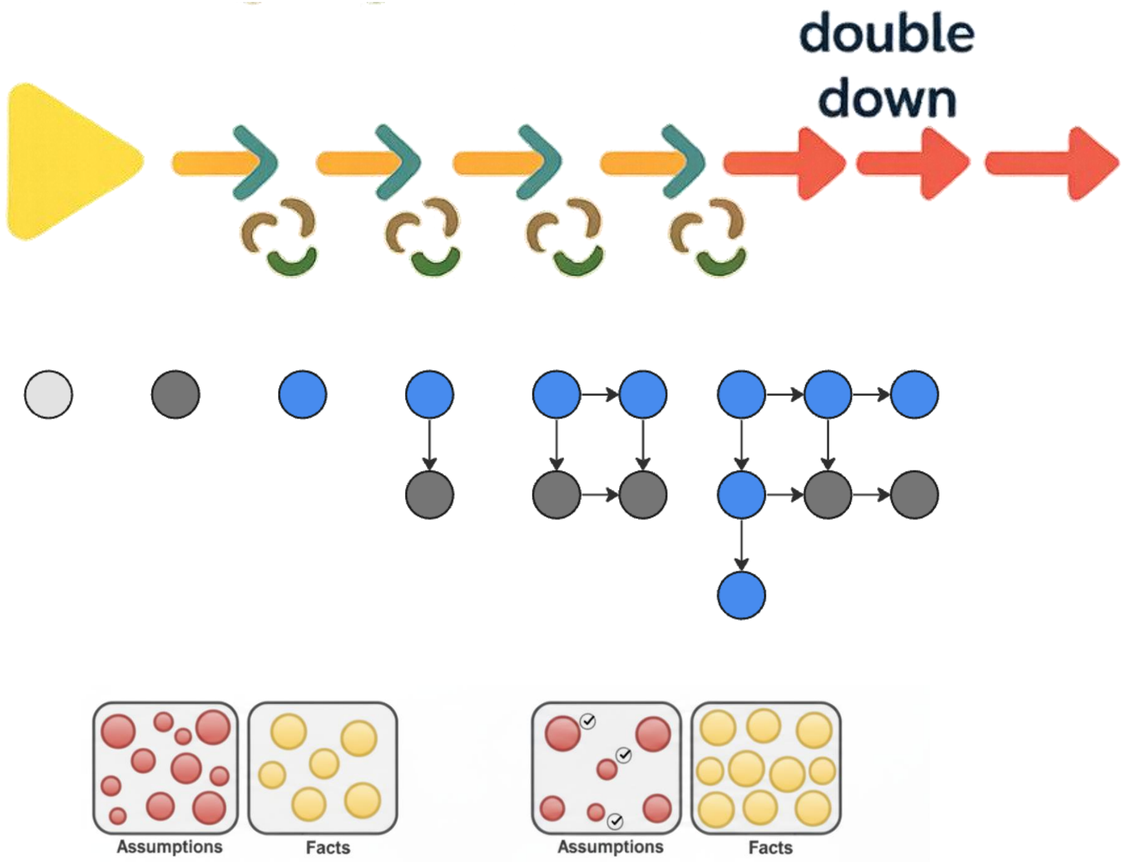

vision, strategy,
business goals
ideation
portfolio of
ideas


vision, strategy,
business goals
ideation
selected
experiments:
pivot
portfolio of
ideas

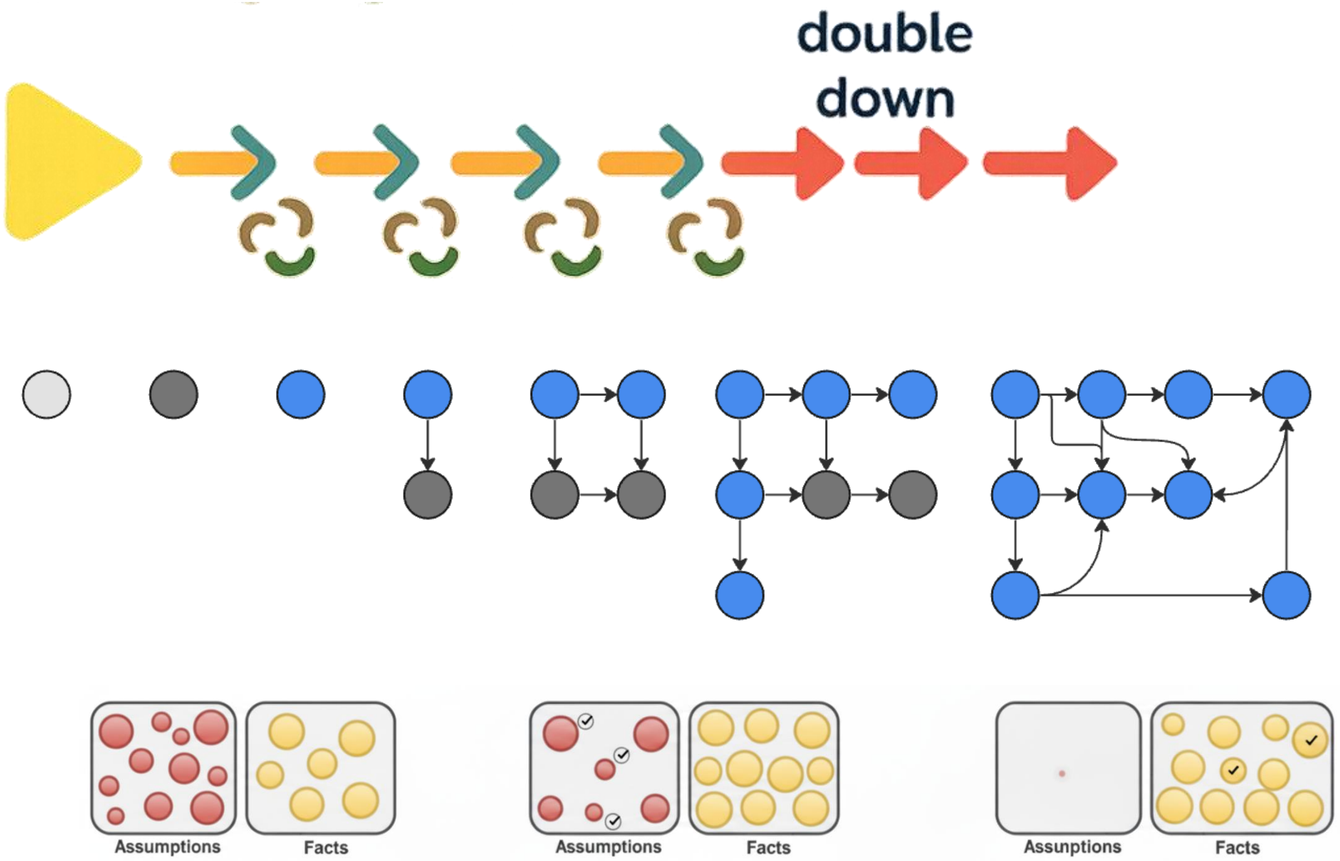

vision, strategy,
business goals
ideation
selected
experiments:
pivot
fold
portfolio of
ideas


vision, strategy,
business goals
ideation
selected
experiments:
pivot
fold
portfolio of
ideas
double
down

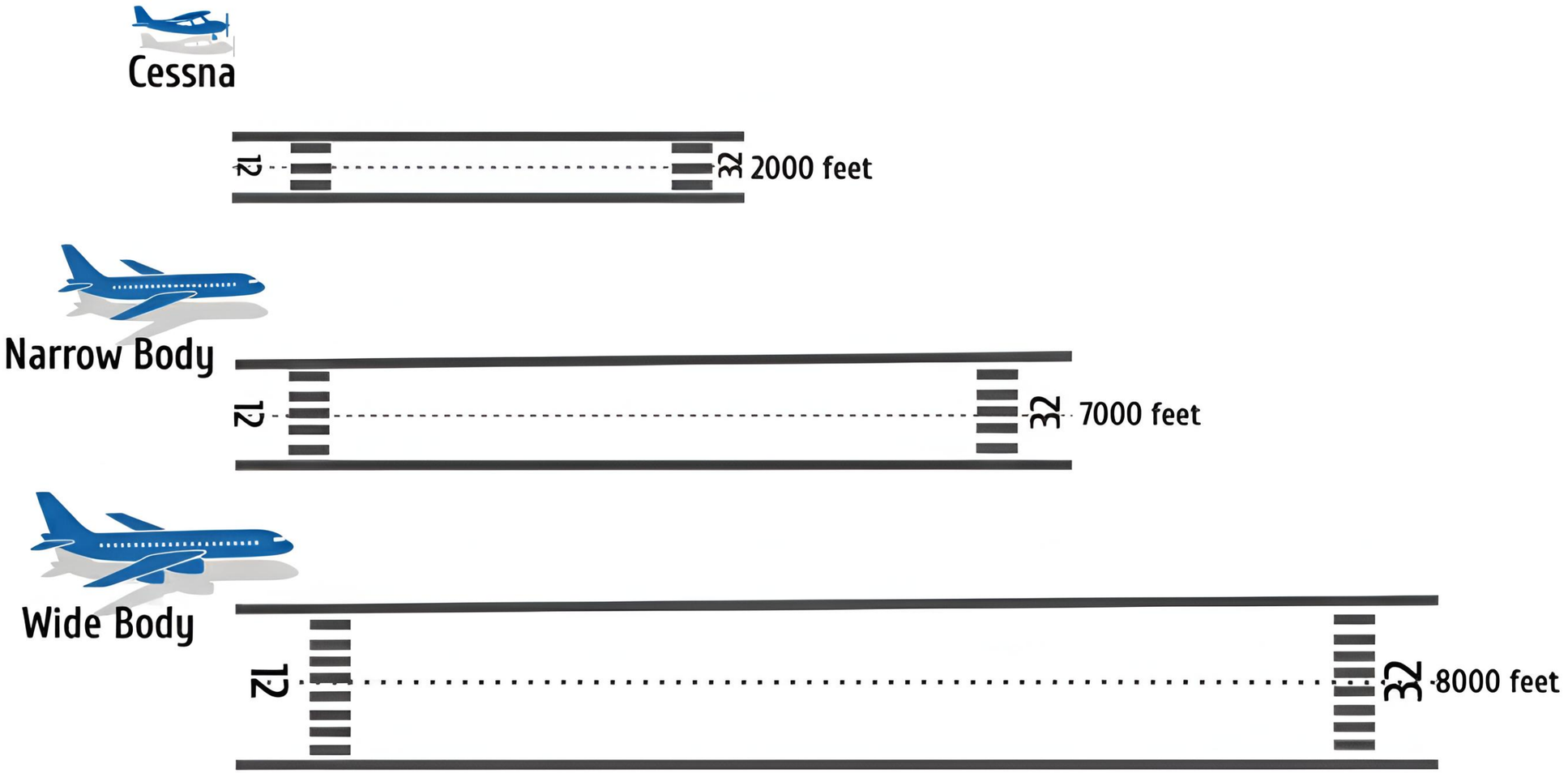
Lean Architecture



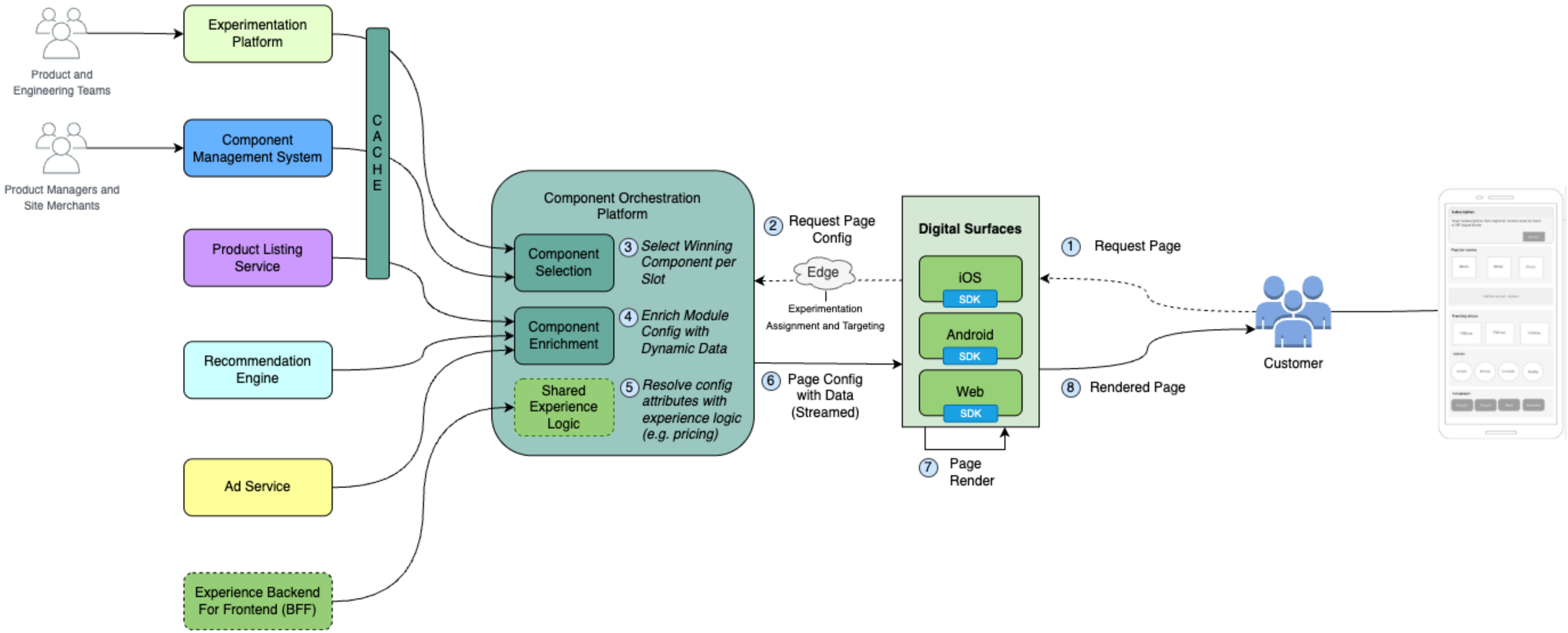
Lean Architecture



Lean Architecture



Server Driven UI



How you build solutions: steel threads

Steel Thread Framework

Iterative approach

Cuts across the whole stack (UI → backend → database → external services).

Runs in a real or near-production environment.

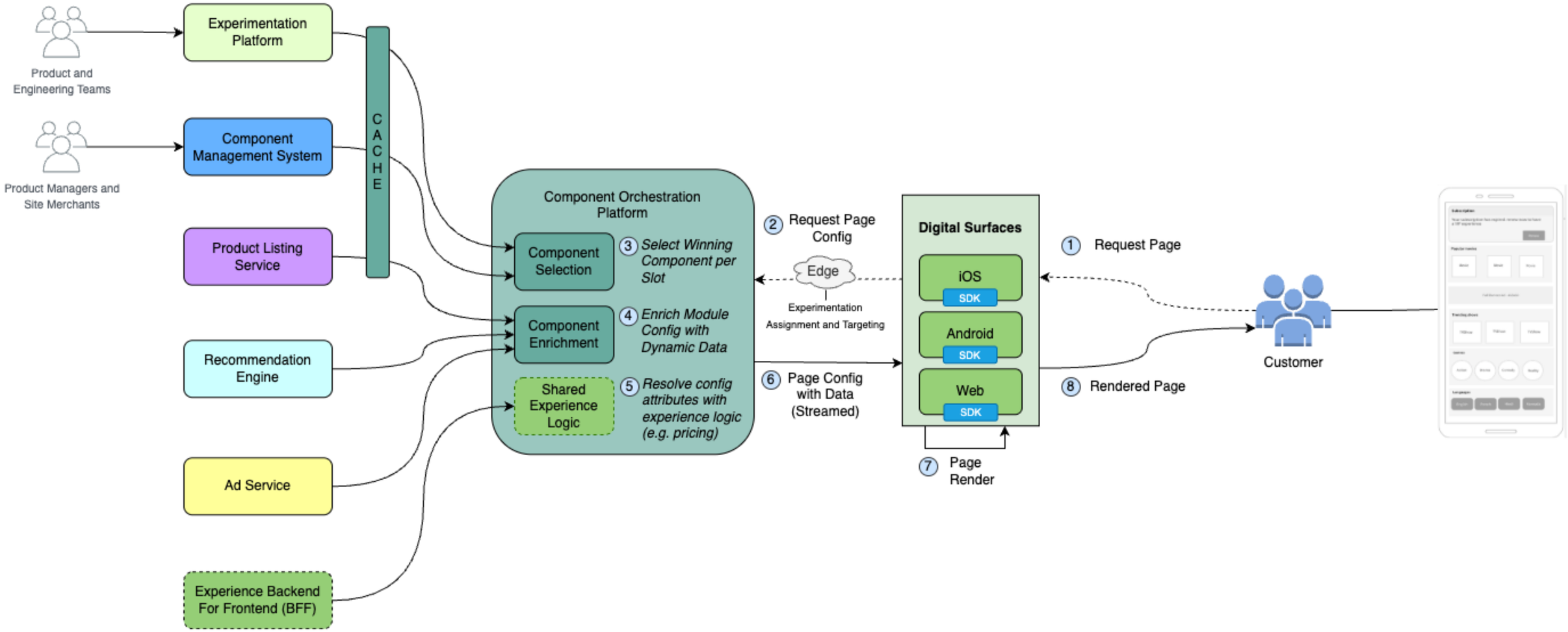
Is observable – metrics, logs, traces, the works.

Can be demoed to stakeholders.

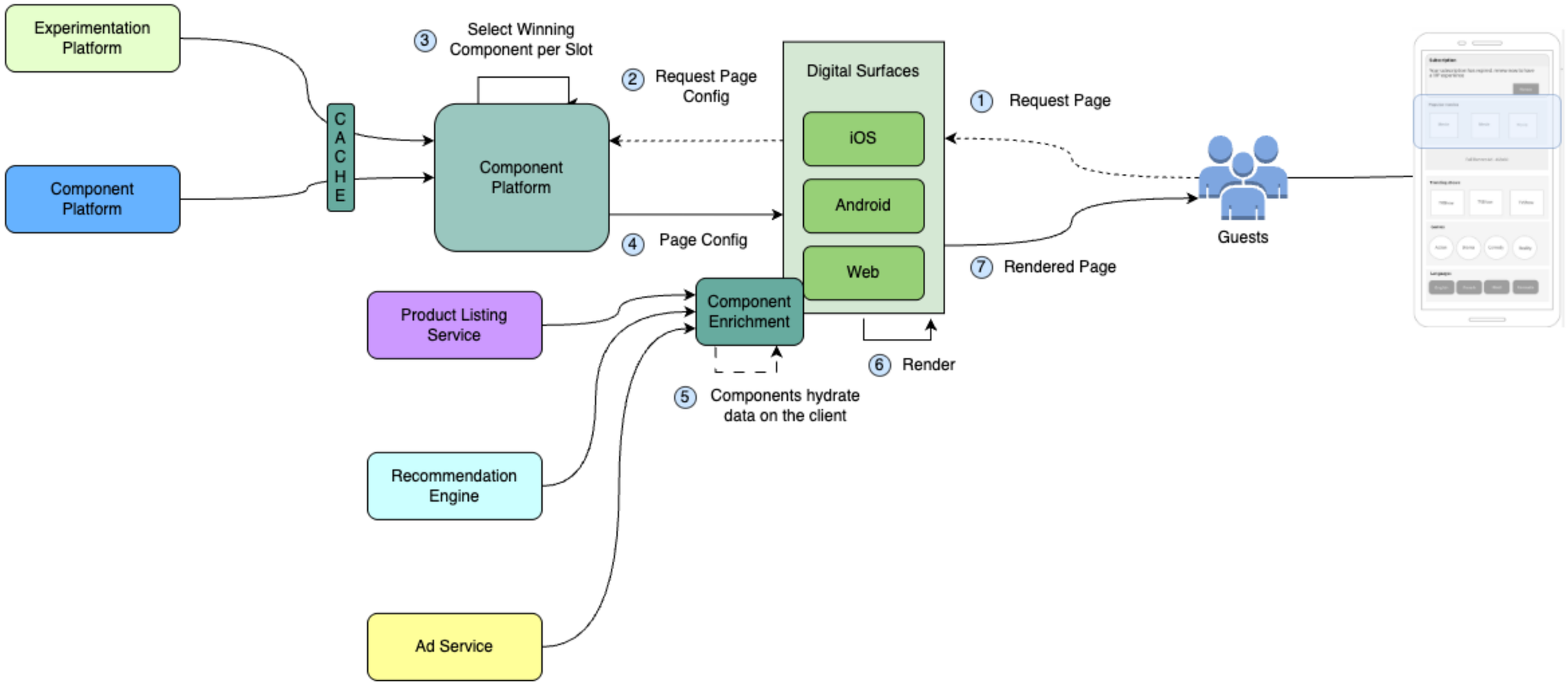
“The lines are more interesting than the boxes.”

Gregor Hohpe

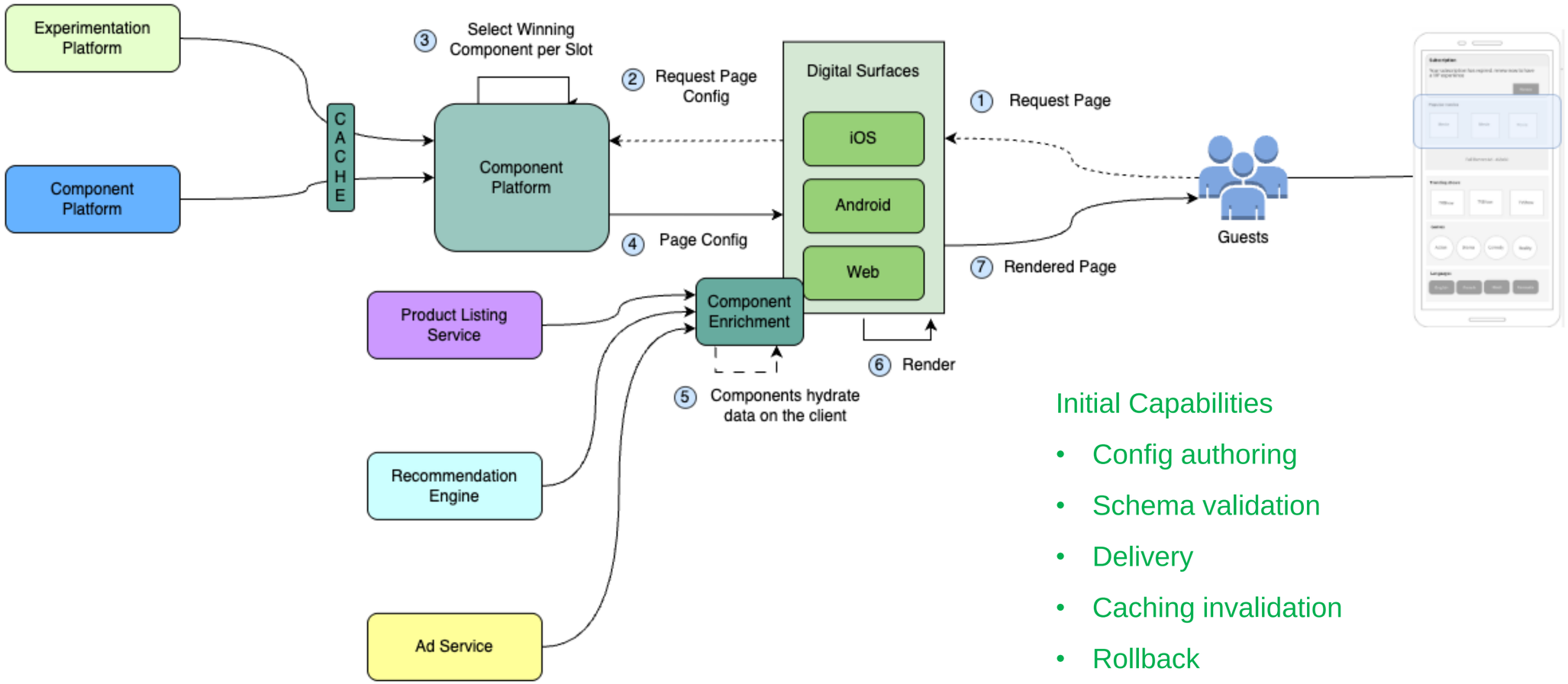
Server Driven UI



Server-Driven UI without data enrichment



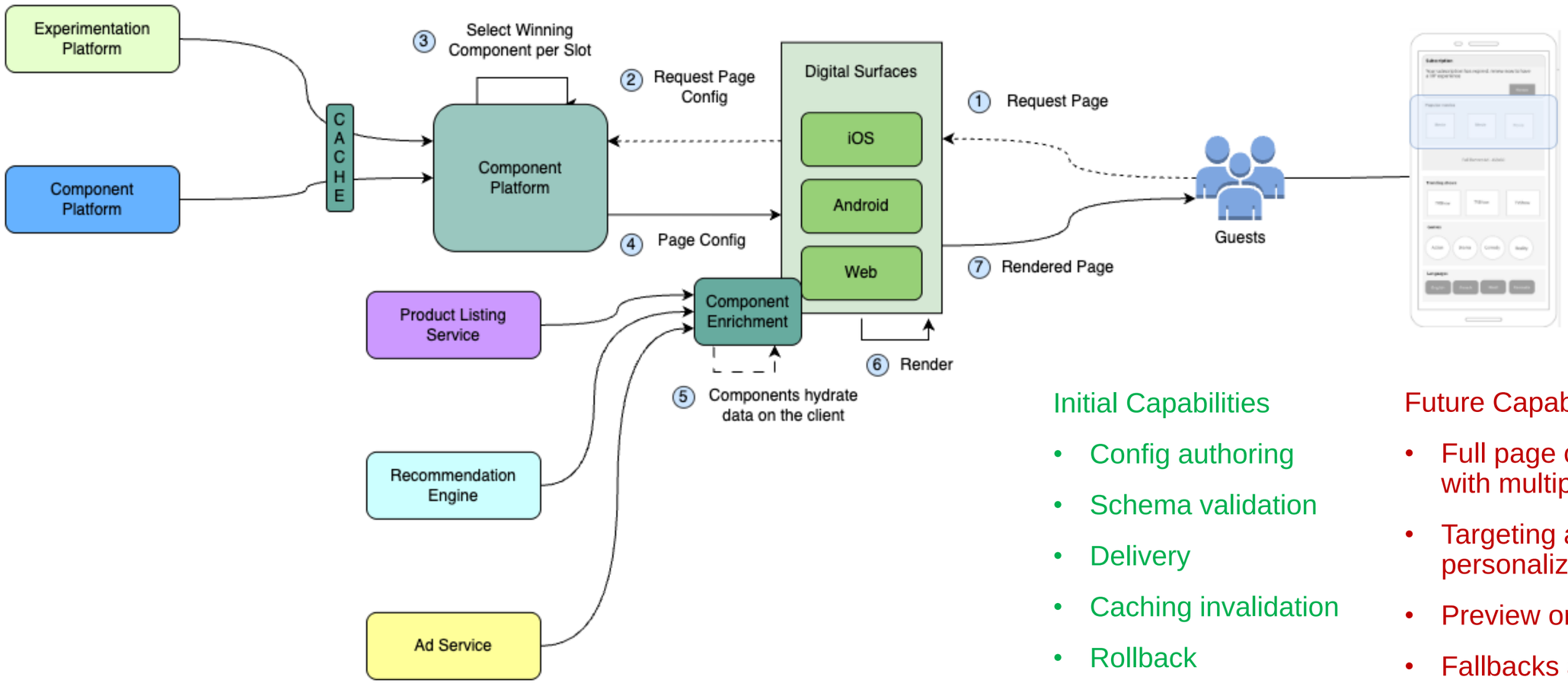
Server-Driven UI without data enrichment



Initial Capabilities

- Config authoring
- Schema validation
- Delivery
- Caching invalidation
- Rollback
- Analytics

Server-Driven UI without data enrichment



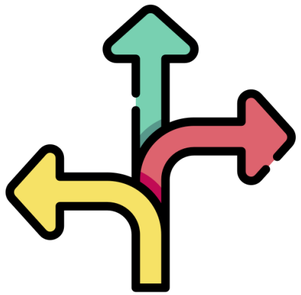
Initial Capabilities

- Config authoring
- Schema validation
- Delivery
- Caching invalidation
- Rollback
- Analytics

Future Capabilities:

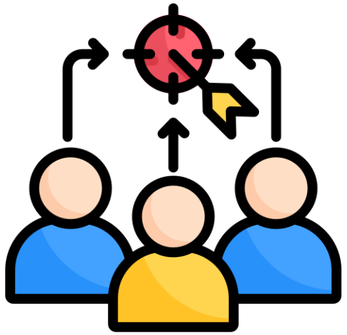
- Full page composition with multiple modules
- Targeting and personalization
- Preview or approvals
- Fallbacks and version pinning

Steel Threads as a Leadership Tool



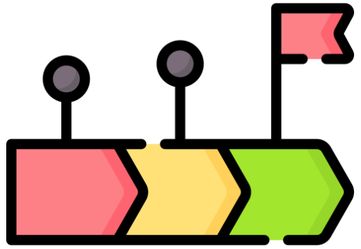
Justify Direction

Demonstrate the effects of a decision rather than presenting theoretical cases.



Align Teams

No team can hide in its silo. Everyone makes real decisions instead of bikeshedding in the abstract.



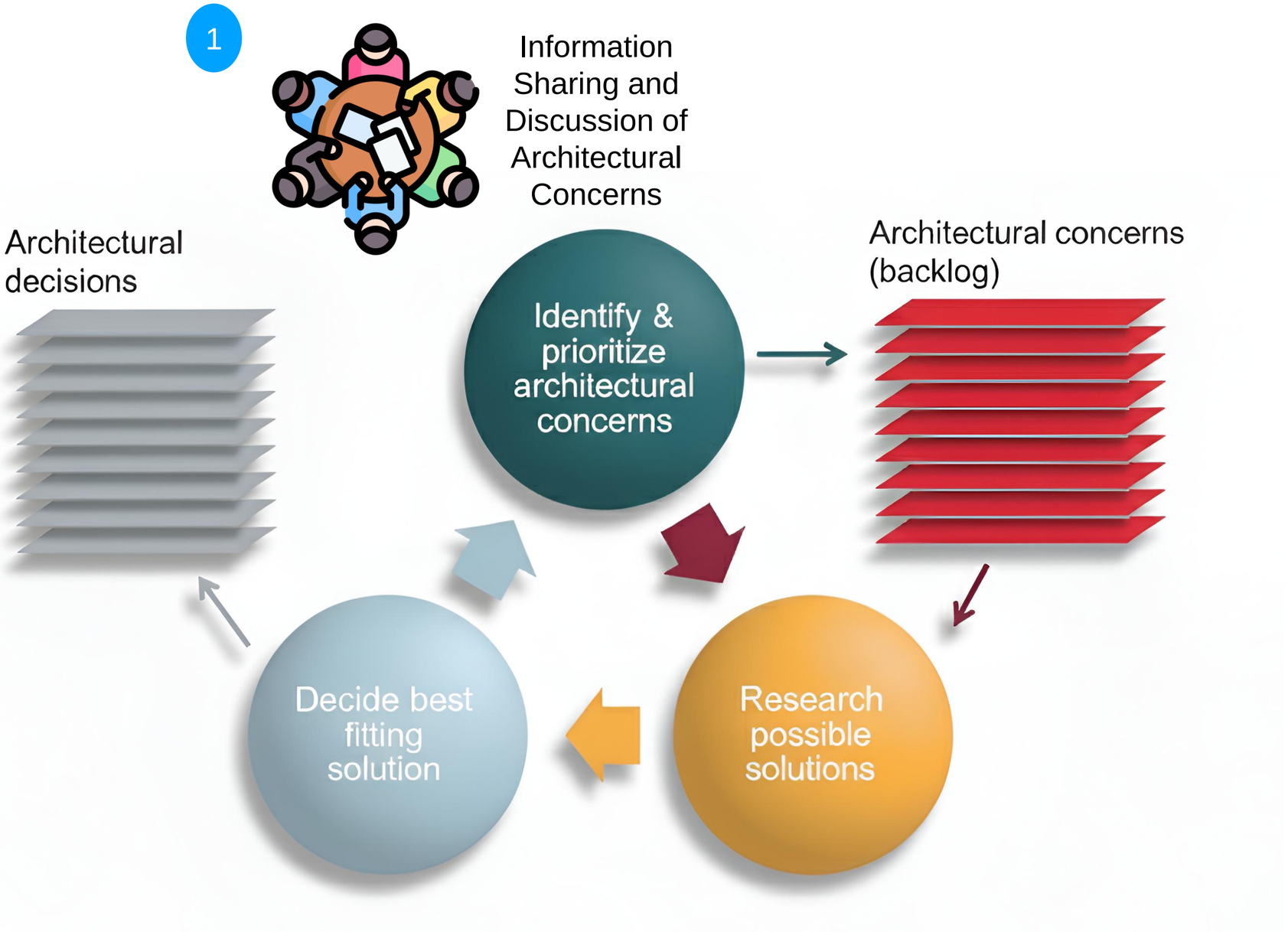
Show Progress

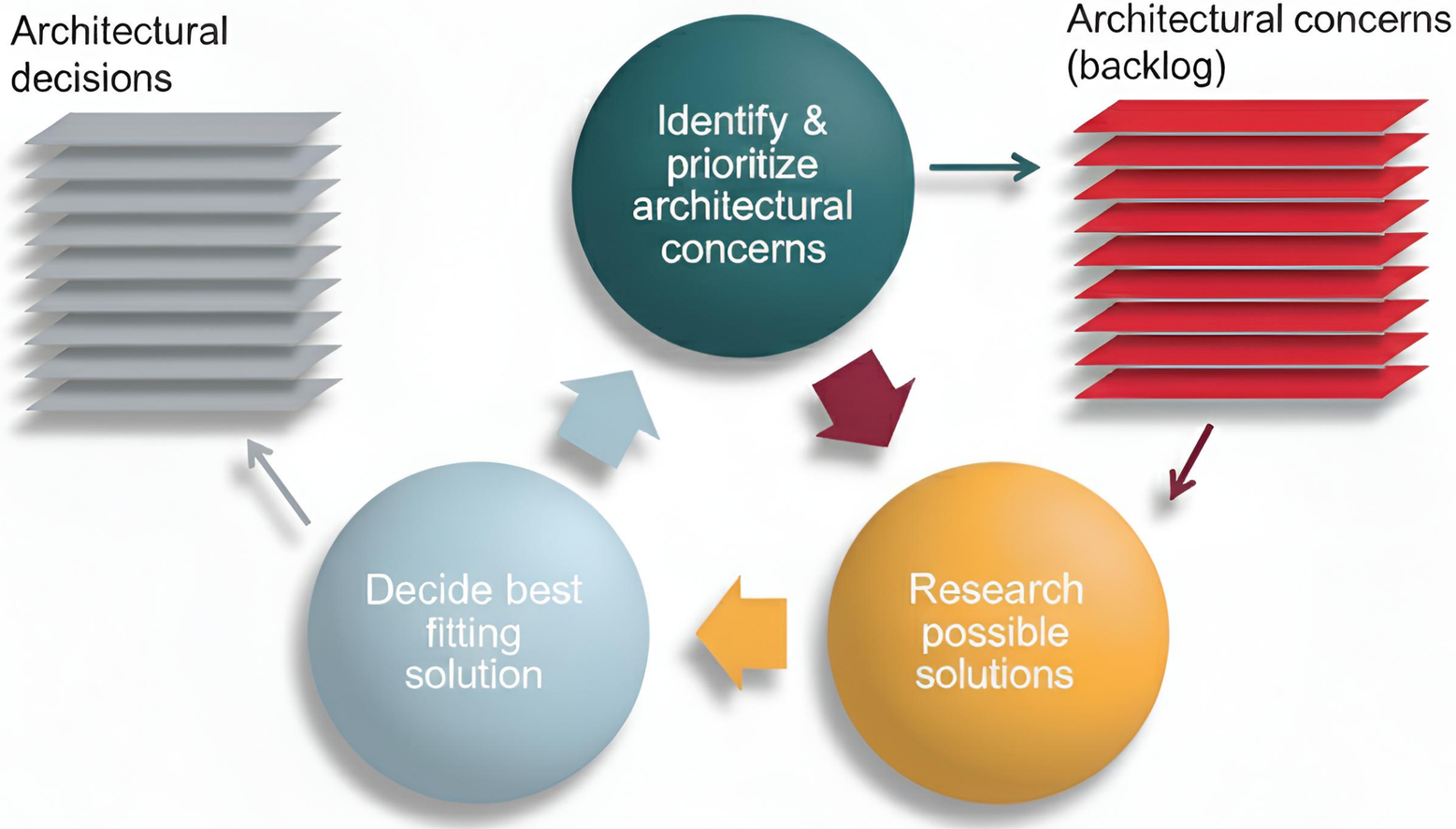
Stakeholders can see and interact with the product early. And most importantly, early learnings prevent costly late-stage rework.

How you prioritize and change the architecture: architectural concerns backlog

“Big design up front is dumb.
Doing no design up front is even dumber.”

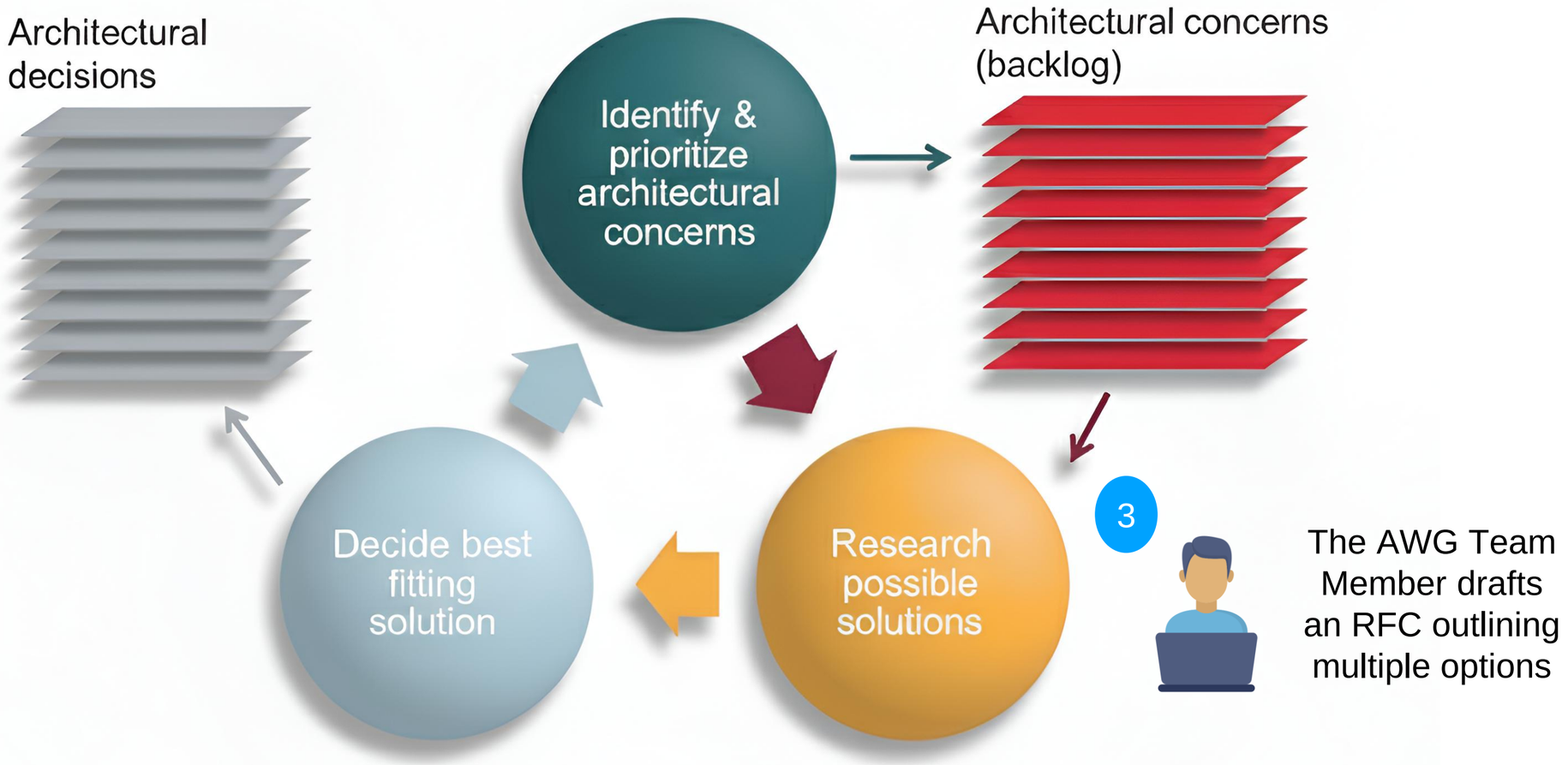
Dave Thomas

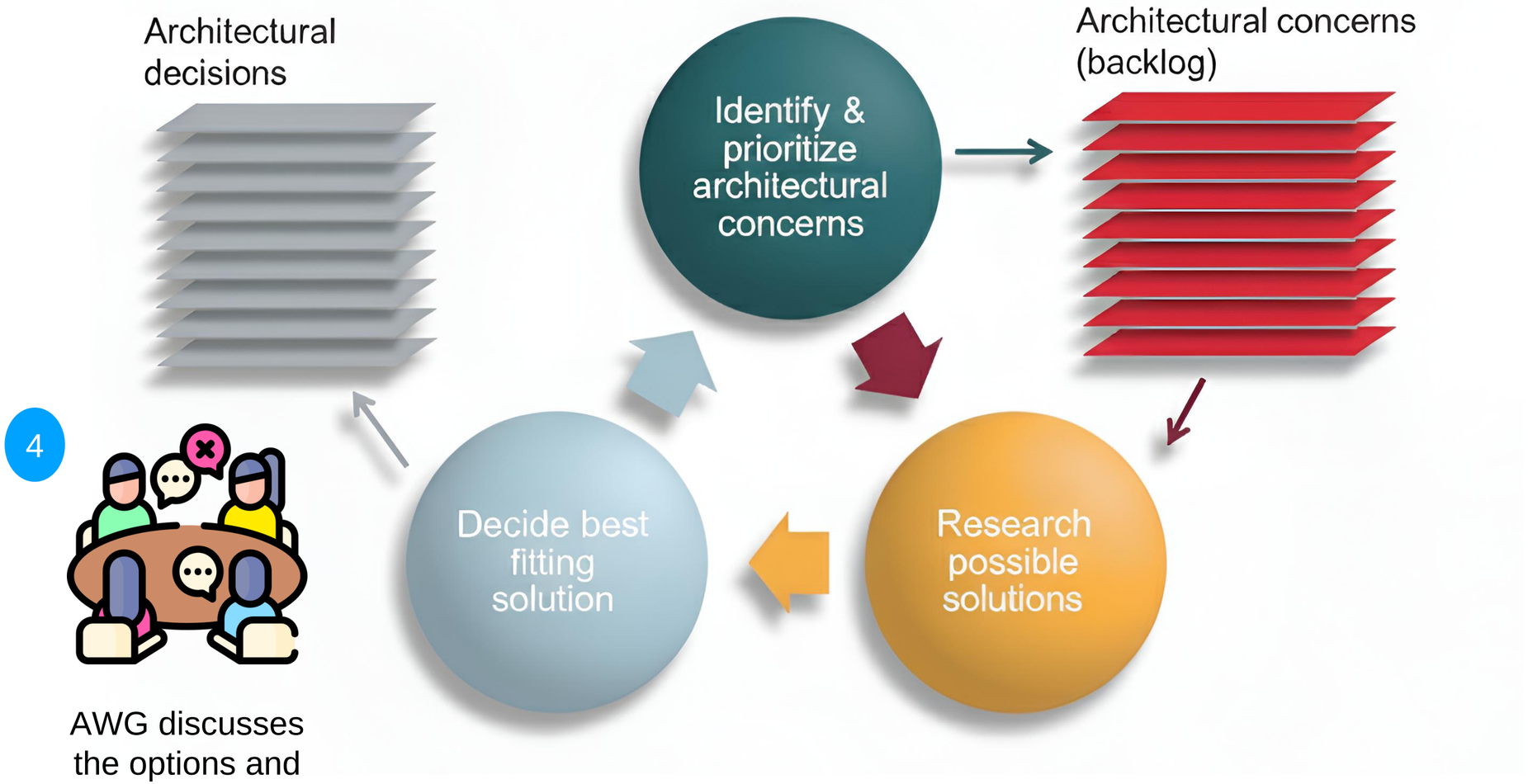

1
Information Sharing and Discussion of Architectural Concerns
Architectural decisions
Identify & prioritize architectural concerns
Architectural concerns (backlog)
Research possible solutions
Decide best fitting solution



2

AWG Periodically Grooms and Prioritizes the Backlog

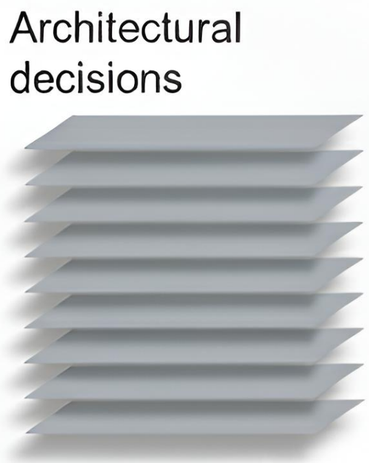

Architectural decisions
Identify & prioritize architectural concerns
Architectural concerns (backlog)
Decide best fitting solution
Research possible solutions
3
The AWG Team Member drafts an RFC outlining multiple options

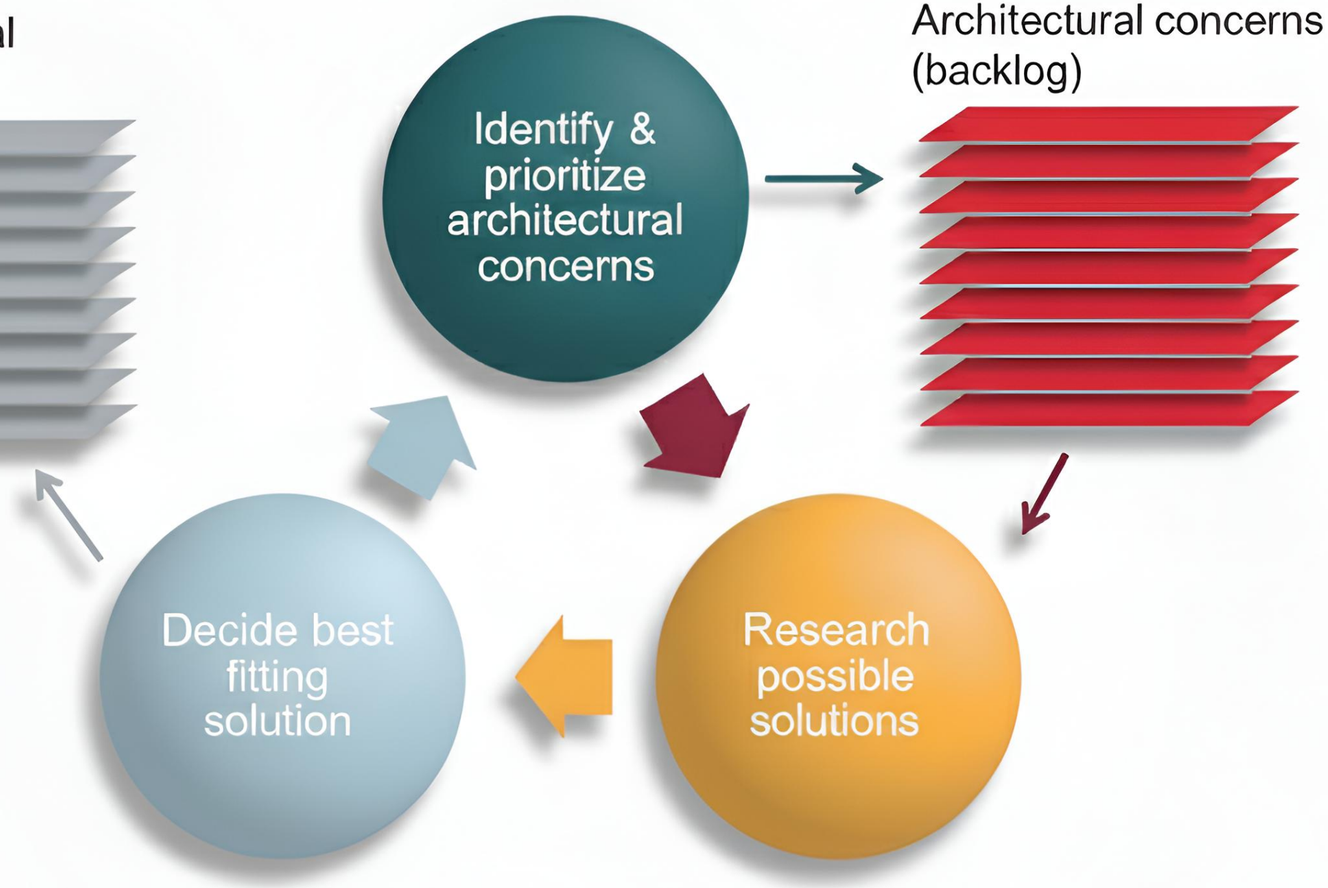


AWG discusses the options and builds a rough consensus.

5

AWG Team Member documents the decision





Recap…

- How you approach problems *(through Hypothesis Driven Development)*
- How you build solutions *(through Steel Threads)*
- How you prioritize change in your architecture *(through Architectural Concerns Backlog)*

Final Thoughts

The Steering Wheel Metaphor

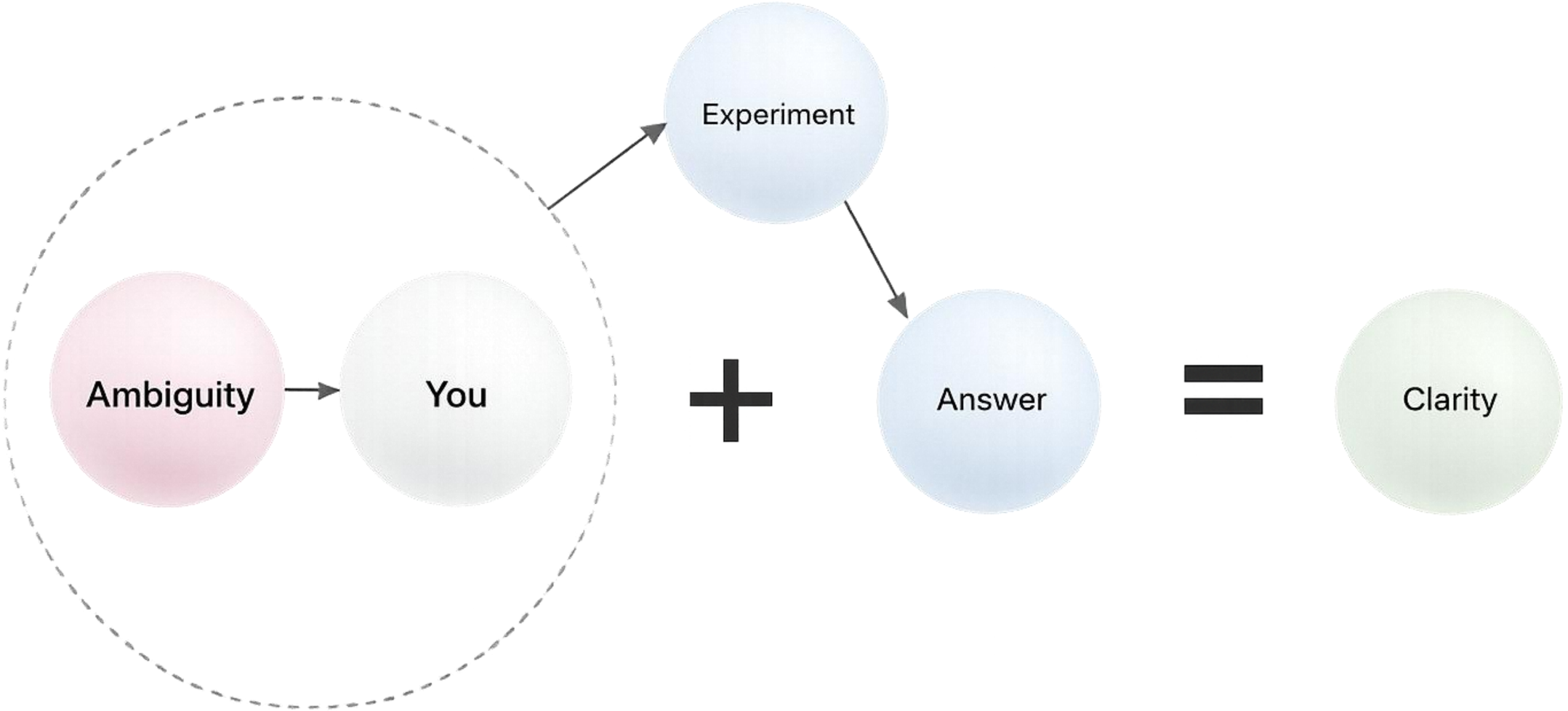
The Choluteca Bridge

The Choluteca Bridge

Before Hurricane

After Hurricane


ARCHITECTURAL DECISION?
SYSTEM
ADVANTAGES
MODULES


Experiment
Ambiguity
You
Answer
Clarity

Thank you