

# **PRAGMATIC ARCHITECTURE, TODAY**

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**BART BLOMMAERTS**  
@DAGGIEBE

## BART BLOMMAERTS

- ▶ Application Architect
- ▶ Ordina Belgium
- ▶ JWorks
- ▶ @DaggieBe

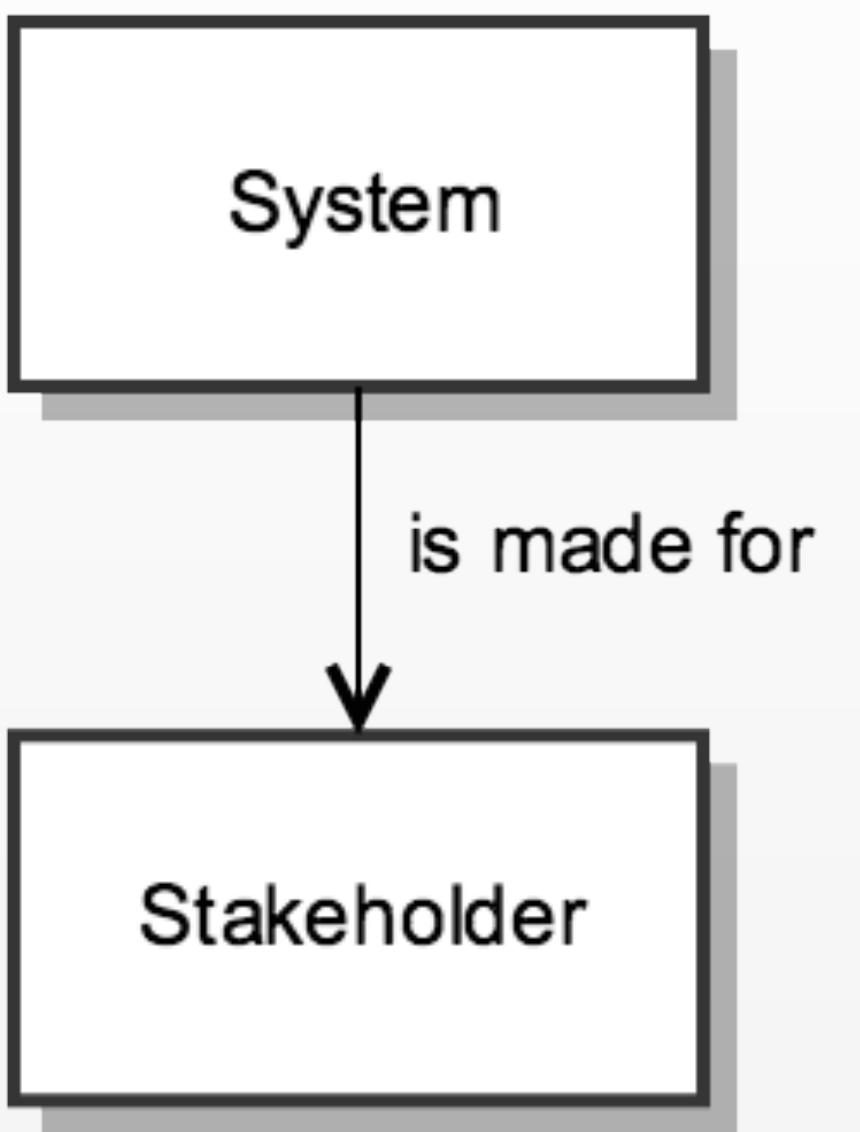


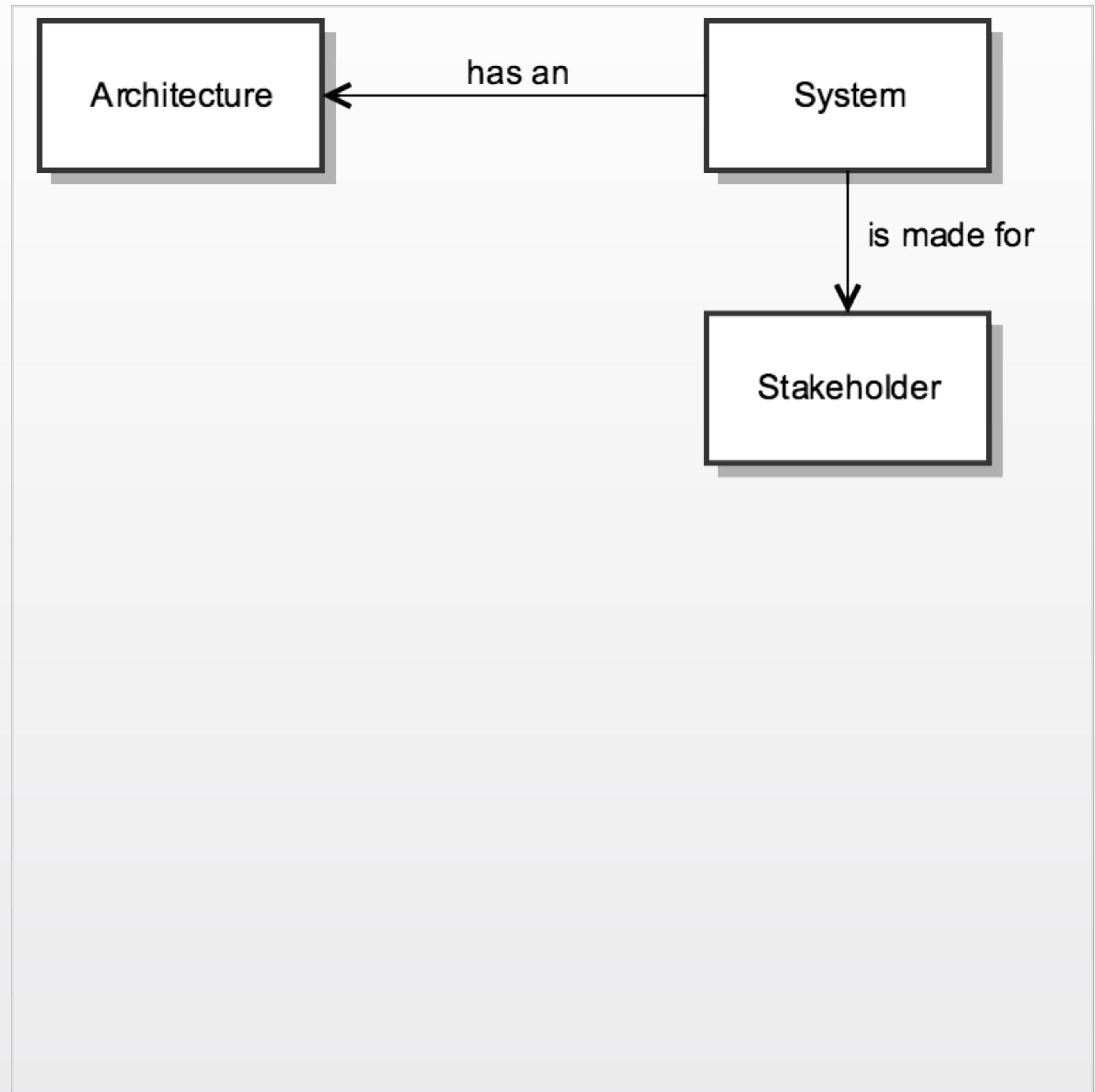
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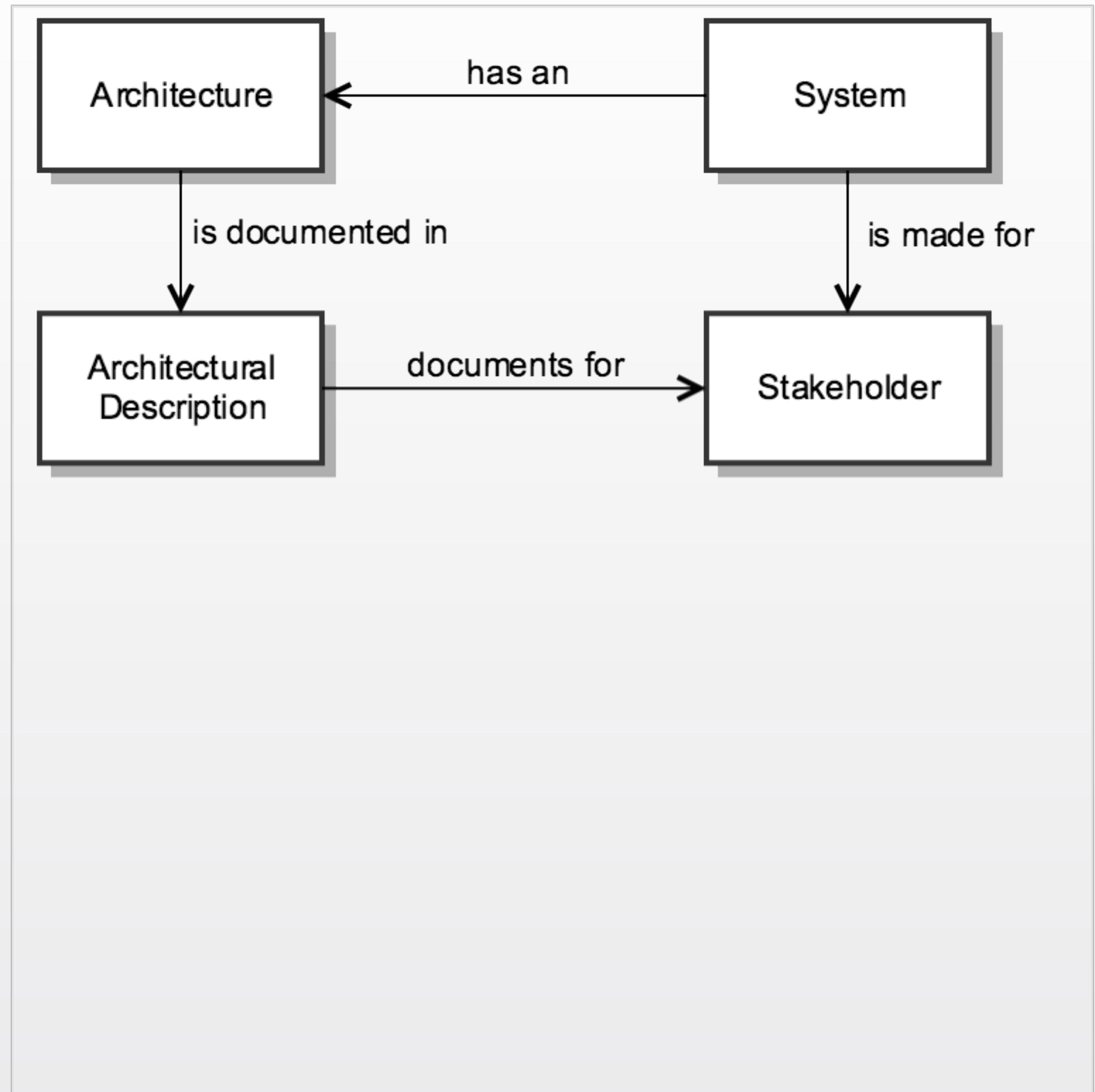


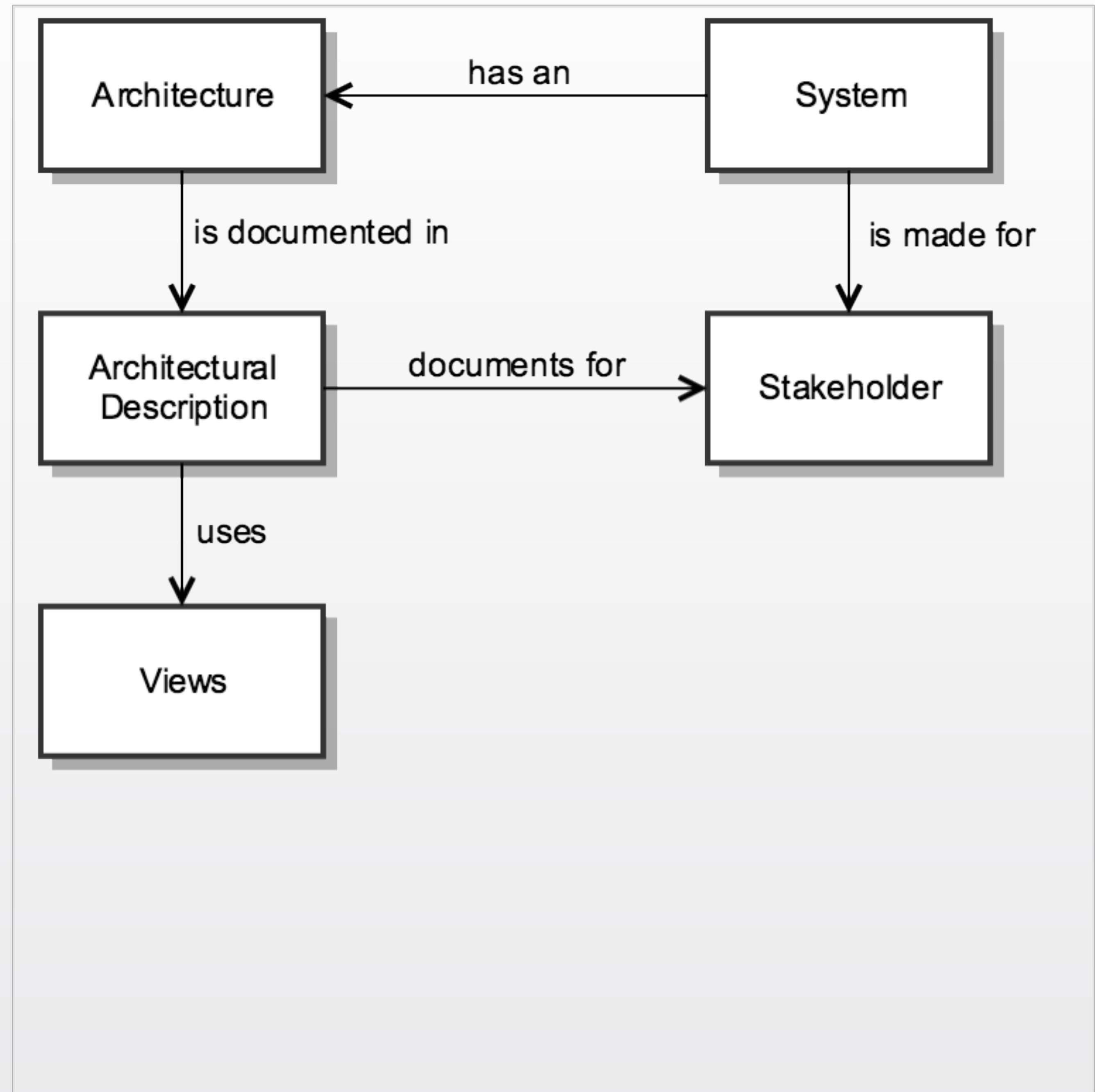
# Architecture **WHAT?**

System



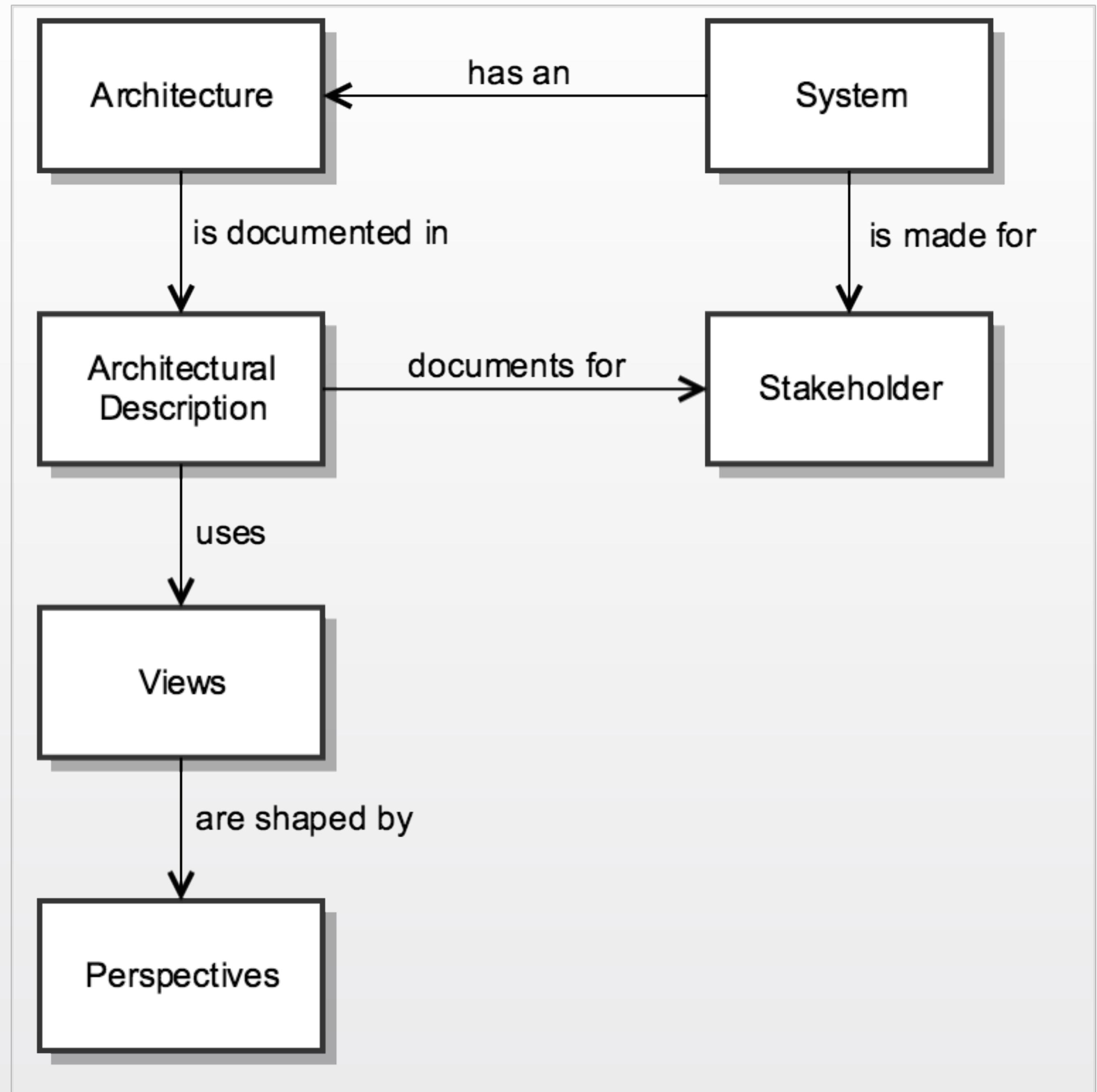






## VIEWPOINTS

- ▶ Context
- ▶ Functional
- ▶ Information
- ▶ Concurrency
- ▶ Development
- ▶ Deployment
- ▶ Operational



## PERSPECTIVES

- ▶ Accessibility
- ▶ Availability and Resilience
- ▶ Development Resource
- ▶ **Evolution**
- ▶ Internationalization
- ▶ Location
- ▶ Performance and Scalability
- ▶ Regulation
- ▶ Security
- ▶ Usability



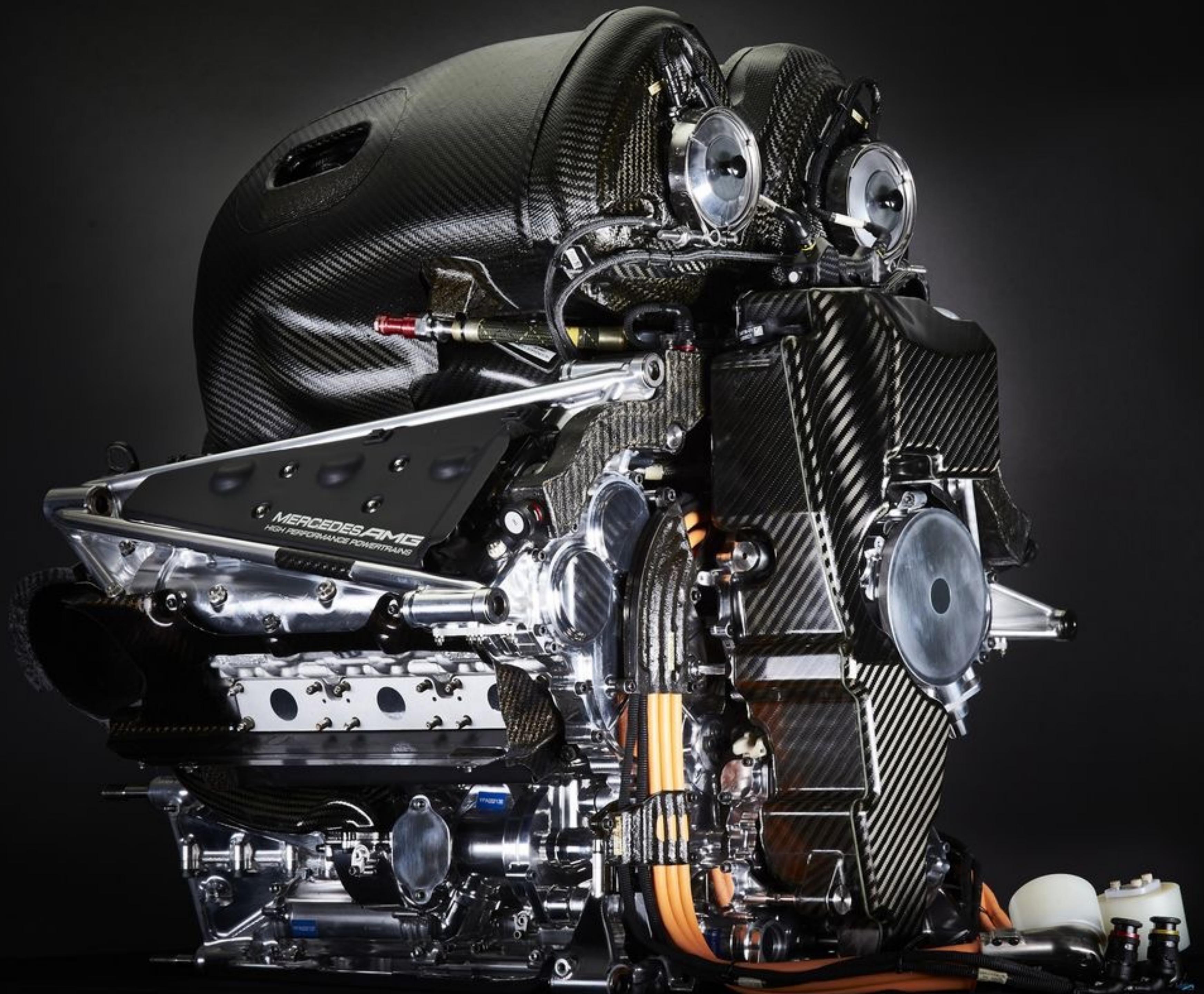
Architecture  
**REALLY?**



**ABILITY TO  
CHANGE**

ARCHITECTURE REPRESENTS THE SIGNIFICANT DESIGN DECISIONS THAT SHAPE A SYSTEM, WHERE SIGNIFICANT IS MEASURED BY COST OF CHANGE.

Grady Booch



**BE PART OF THE  
TEAM  
ACTIVITY OVER ROLE**

## AS A TEAM

- ▶ Facilitating
- ▶ Collaborating
- ▶ Modelling
- ▶ Sharing
- ▶ Resolving
- ▶ Improving
- ▶ ...

**INVOLVED IN  
CODE?**

**YES**

**EXPERIENCE THE SAME PAIN AS  
EVERYBODY ELSE ON THE TEAM**

## CODE

- ▶ Support and **coaching**
- ▶ Best practices
- ▶ Code reviews
- ▶ Proof of Concepts
- ▶ Reusable building blocks
- ▶ Etc.

**SYSTEM  
STAKEHOLDERS  
EVOLUTIONARY  
TEAM MEMBER  
INVOLVED IN  
CODE**



Architecture  
**VISUAL**

ONE CANNOT SEE THE OCEAN'S  
CURRENTS BY STUDYING DROPS OF  
WATER.

Grady Booch

## **VISUALISATION - GOAL**

- ▶ Consistency
- ▶ Reporting
- ▶ Checking and validation
- ▶ **Sharing information**

## VISUALISATION - GROUND RULES

- ▶ UML is usually not necessary
  - ▶ *Can* be used for model-driven development
- ▶ Boxes and lines
  - ▶ Be consistent
  - ▶ Provide a legend
  - ▶ Make sure stakeholders understand

## VISUALISATION - GROUND RULES

- ▶ Decision log
- ▶ Document your decisions and alternatives
- ▶ Avoid fluffy diagrams
- ▶ Avoid mixed abstractions
- ▶ Only document what's useful



# Architecture **WHY?**

## UP-FRONT DESIGN

- ▶ Think about the big picture
  - ▶ eg. used technology
  - ▶ automation
  - ▶ patterns (monolith, distributed, ...)
  - ▶ layering
- ▶ And it's evolution
- ▶ But ... be pragmatic

JUST ENOUGH UP FRONT DESIGN TO  
CREATE FIRM FOUNDATIONS FOR THE  
SOFTWARE PRODUCT AND ITS  
DELIVERY.

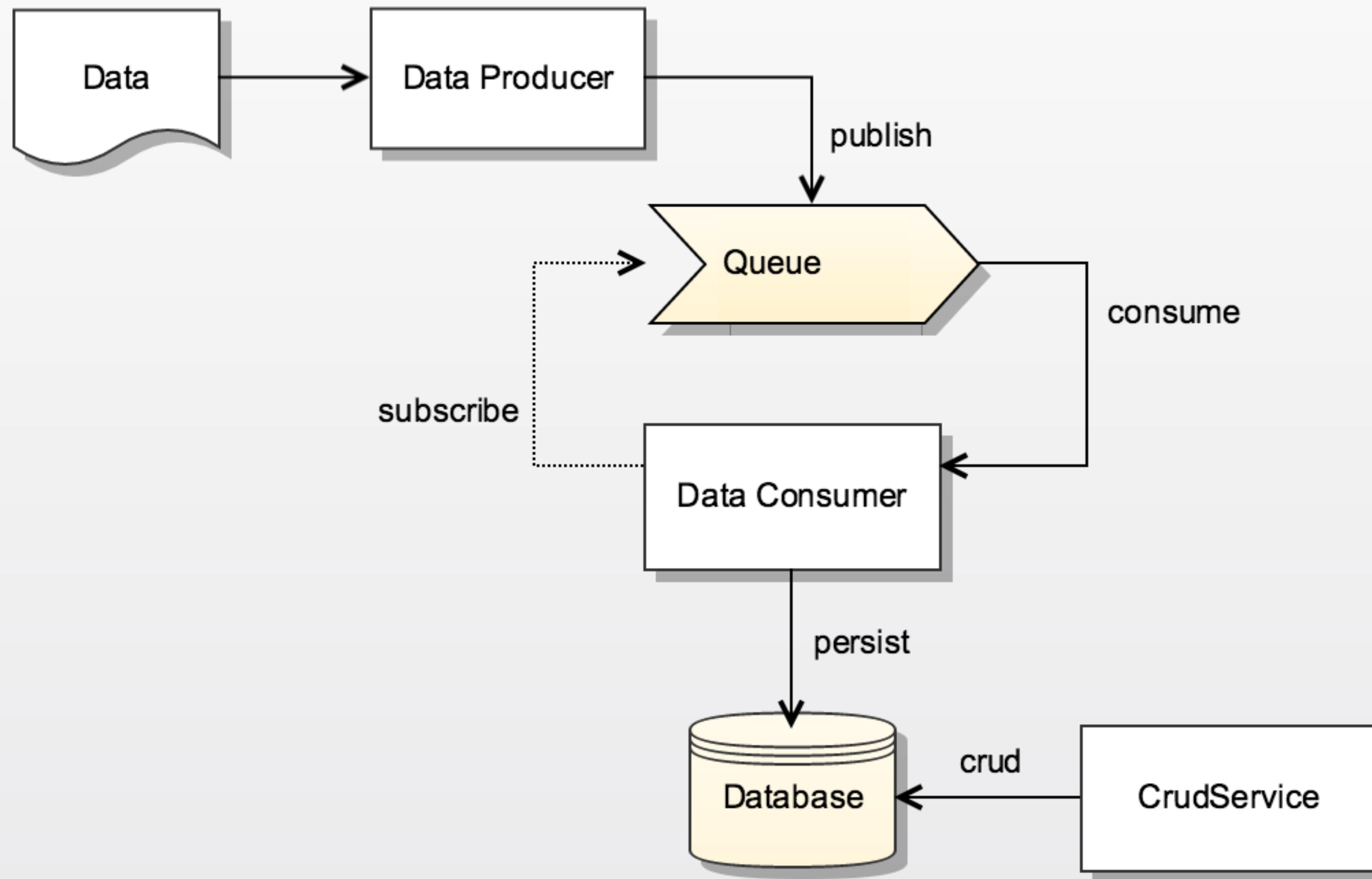
Simon Brown

**JUST ENOUGH?**

## JUST ENOUGH?

- ▶ Greenfield
- ▶ All the components of the system
- ▶ High-level
- ▶ Add details later

# JUST ENOUGH? GREENFIELD



## JUST ENOUGH?

- ▶ Existing system
- ▶ As-is situation
- ▶ Domain of change
- ▶ Extension points

## COMMUNICATION

- ▶ During inception
- ▶ Many stakeholders
- ▶ Many desires
- ▶ Many questions ...

## COMMUNICATION

- ▶ During development process
- ▶ Sharing a technical vision
- ▶ Everybody collaborates to the same end-goal

## POLITICS

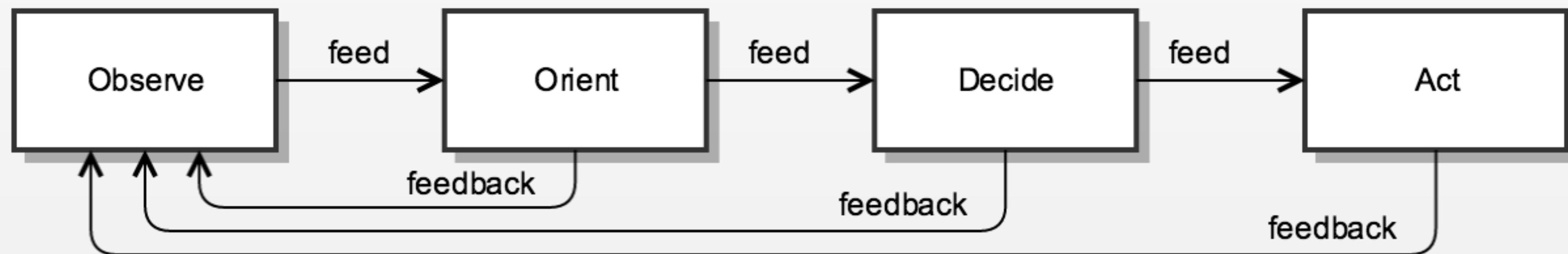
- ▶ Decisions
- ▶ Stakeholders will question many decisions
- ▶ Focus on the system as a whole
- ▶ Fear of change at corporate IT
- ▶ Creating systems “nobody wants to touch”



# Architecture **HOW?**



# OODA

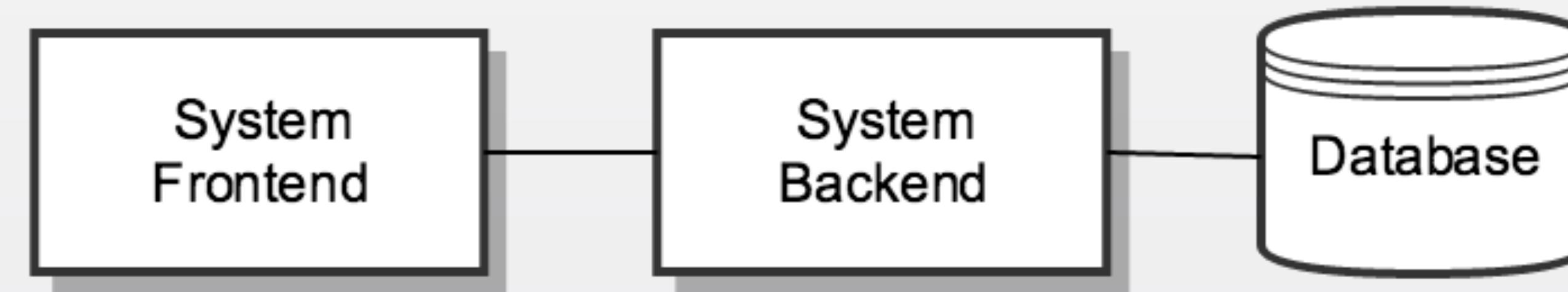


## OODA

- ▶ Observation
- ▶ Orientation
- ▶ Decision
- ▶ Action

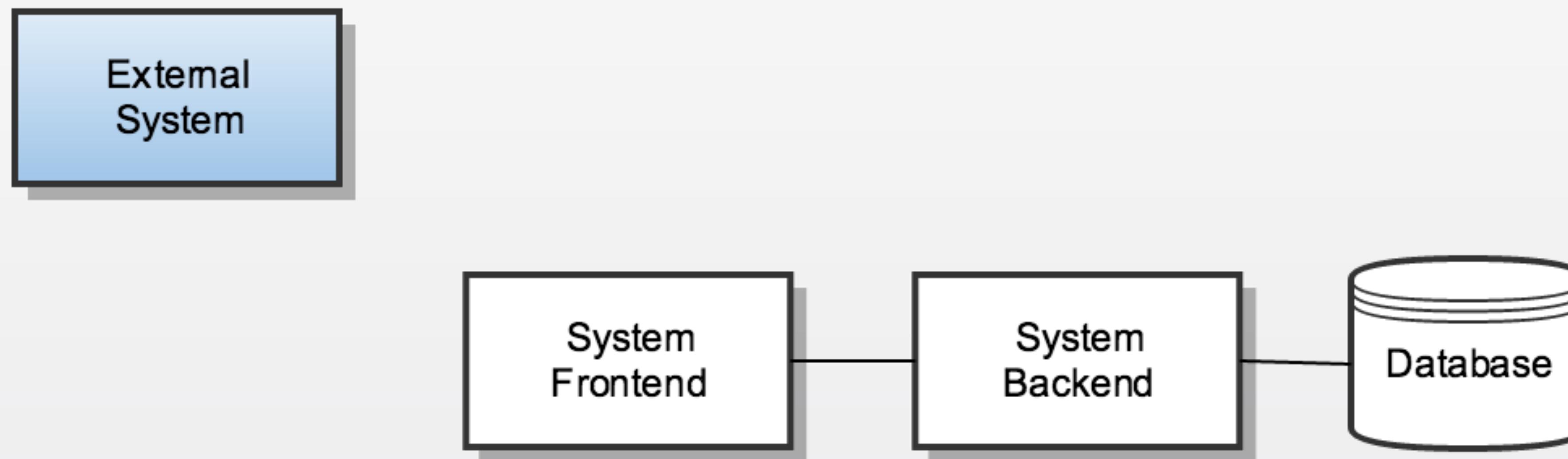
## OODA - EXAMPLE

### ► Context view



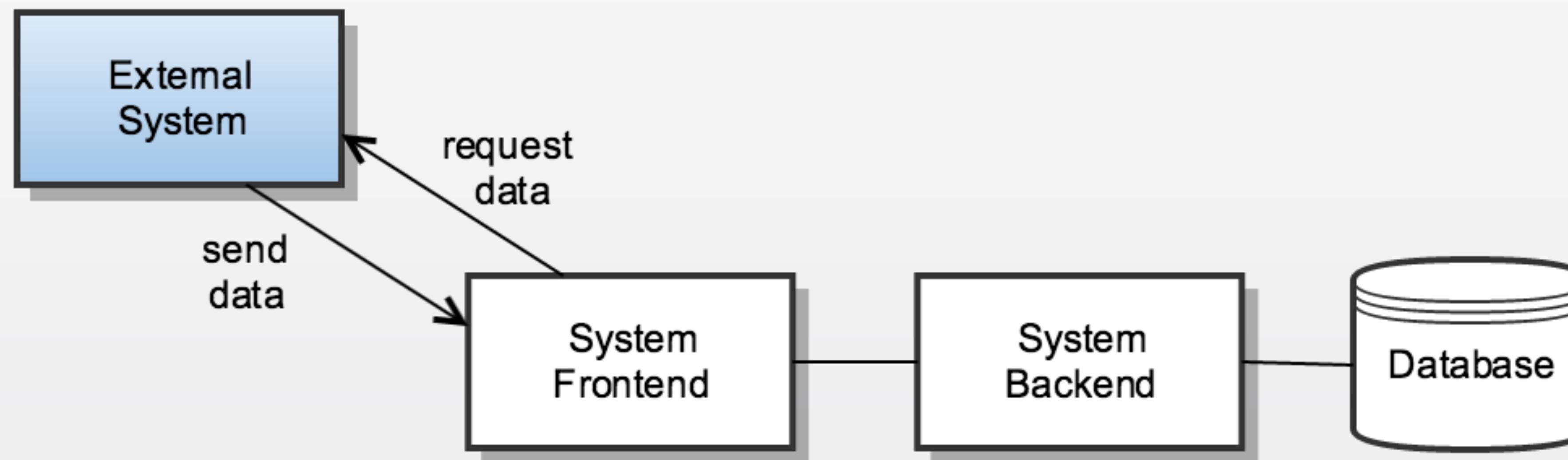
## OODA - EXAMPLE

### ► Context view



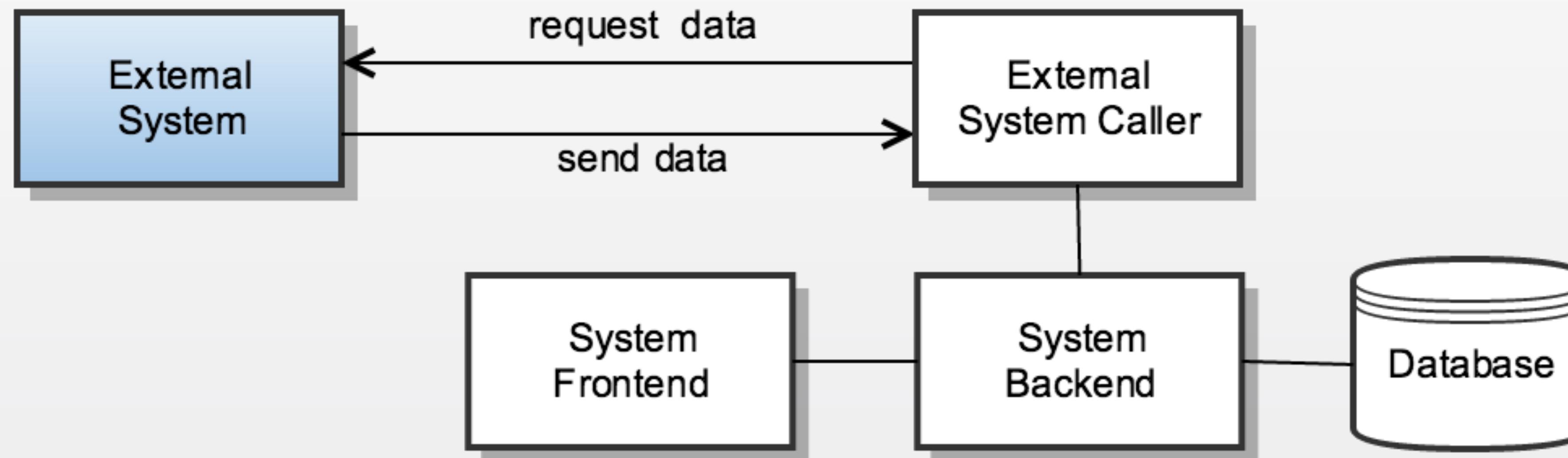
## OODA - EXAMPLE

### ► Context view



## OODA - EXAMPLE

### ► Context view



## RUNTIME OBSERVATIONS

- ▶ System composition
  - ▶ Cloud-native? Microservice dashboard
- ▶ Measuring value
- ▶ Application-driven
  - ▶ Capturing data

## READING MATERIAL

- ▶ Software Systems Architecture by Rozanski and Woods
- ▶ 37 Things One Architect Knows About IT Transformation by Gregor Hohpe
- ▶ Continuous architecture by Pureur and Erder
- ▶ Bredemeyer consulting - <http://www.bredemeyer.com/>
- ▶ Form follows function - <https://genehughson.wordpress.com/>
- ▶ A trace in the sand - <http://www.ruthmalan.com/Journal/JournalCurrent.htm>
- ▶ Coding the architecture - <http://www.codingthearchitecture.com/>
- ▶ Continuous architecture in practice - <https://pgppgp.wordpress.com/>
- ▶ Who needs an architect? - <http://martinfowler.com/ieeeSoftware/whoNeedsArchitect.pdf>

**THANK YOU**

**@DAGGIEBE**