

THE ARCHITECT?

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even by our industry's
standards, "architect" and
"architecture" are terribly
overloaded words.

MARTIN FOWLER

THOUGHTWORKS
CHIEF TECHNOLOGY SCIENTIST

**“THE HIGHEST LEVEL
CONCEPT OF A SYSTEM
IN ITS ENVIRONMENT”**



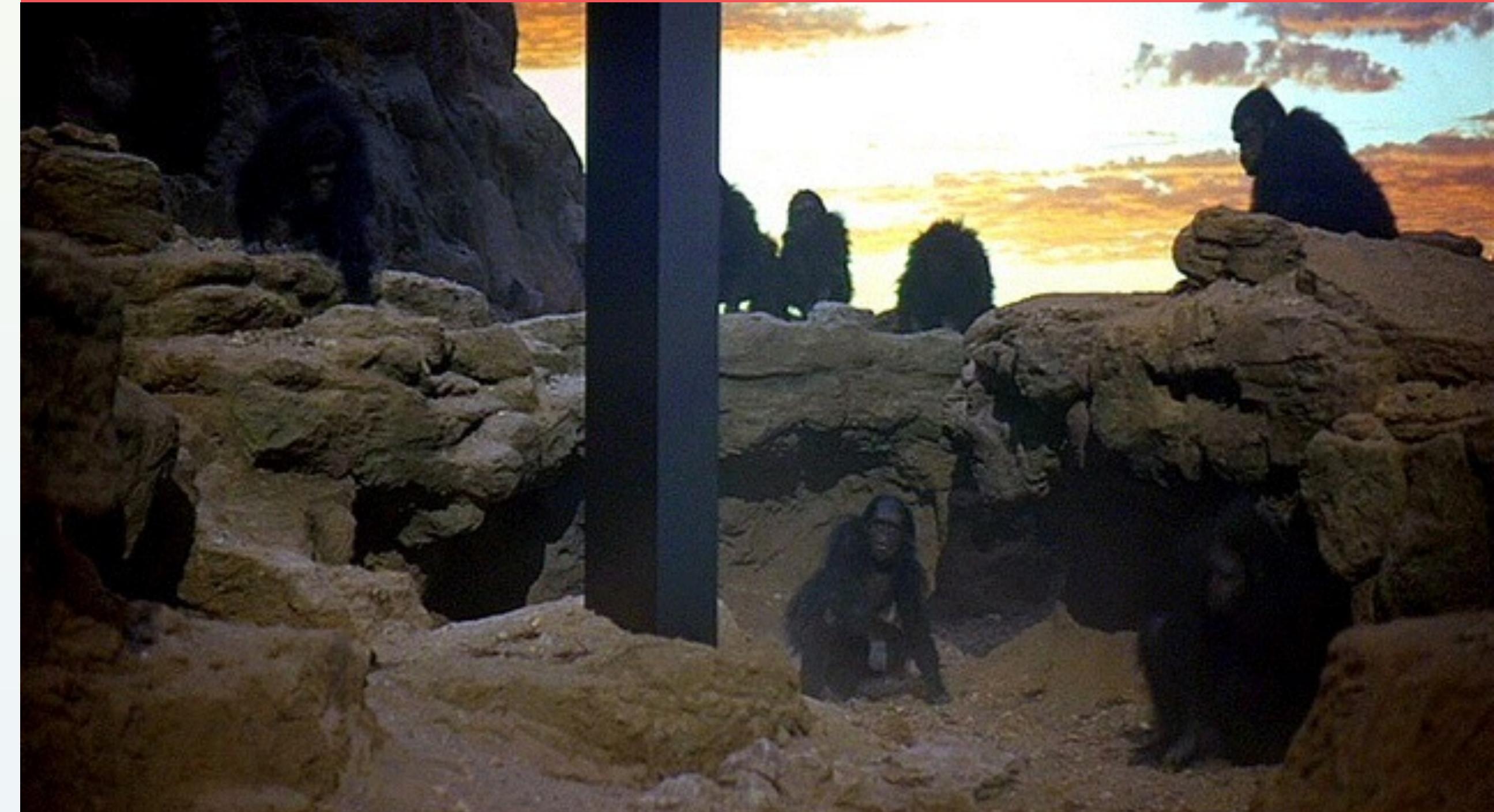
IEEE

**“THE HIGHEST LEVEL
CONCEPT OF A SYSTEM
IN ITS ENVIRONMENT”**



IEEE

**DEVELOPERS WHO
TRANSCENDED THEIR
OWN NATURE**



A
SINGLE MIND

IS NEEDED TO
ENSURE A SYSTEM'S

**CONCEPTUAL
INTEGRITY**

A **SINGLE MIND**

IS NEEDED TO ENSURE A SYSTEM'S

CONCEPTUAL INTEGRITY



jasongorman
@jasongorman



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We measure the quality of a cake by tasting it. Conformance to the recipe is a poor metric in that respect.

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Building a large, complex, enterprise-wide information system without an enterprise architect is like trying to build a city **without a city planner.**

Can you build a city without a city planner?
Probably.

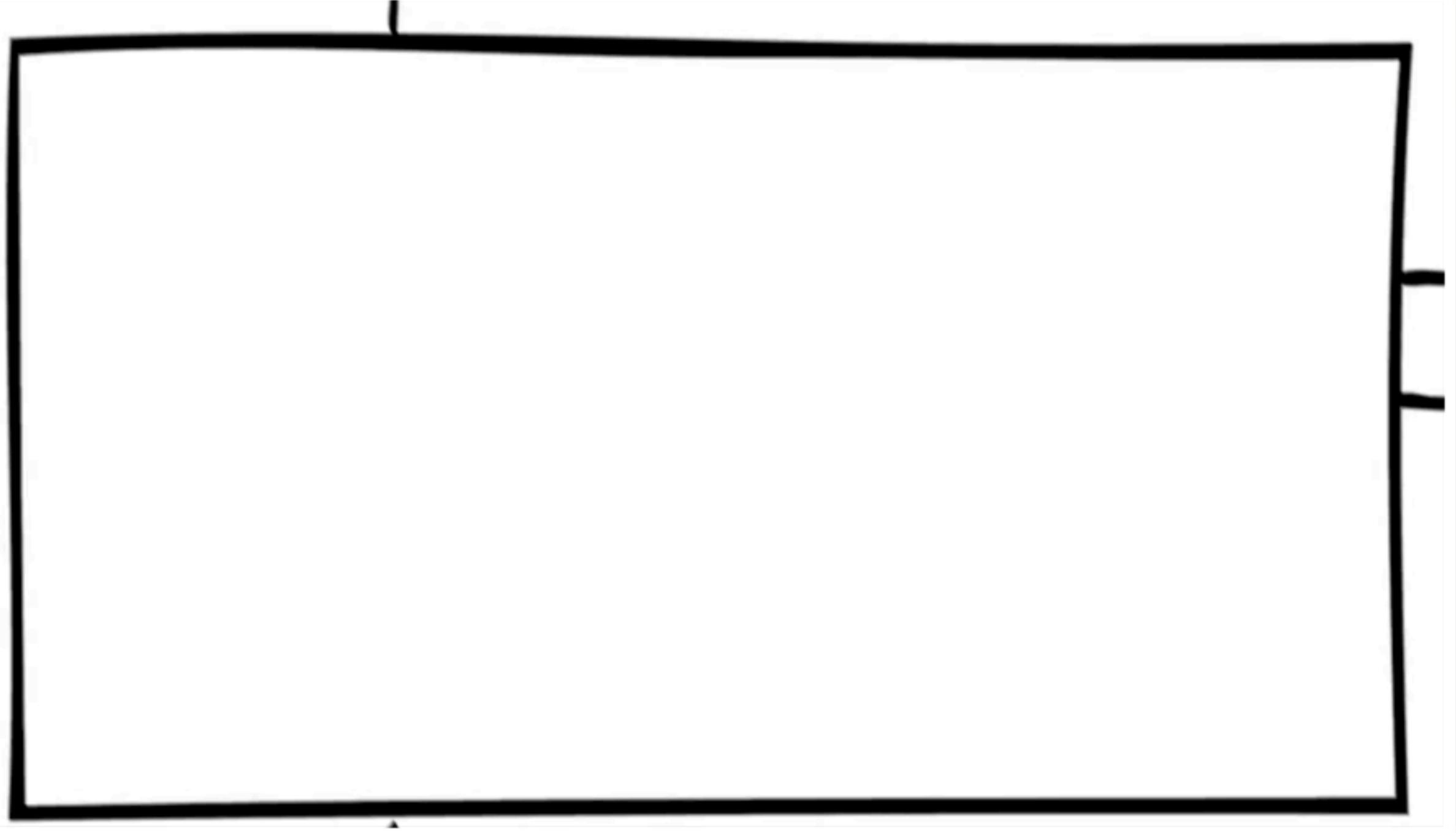
Would you want to live in such a city?
Probably not.

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FACEBOOK



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Around the world introducing an Enterprise Architecture has been an initiative for most financial institutions for the last five years or so, and it is not over. I have been working with such companies and helped some of them to avoid making the worst mistakes.

Most EA initiatives failed.

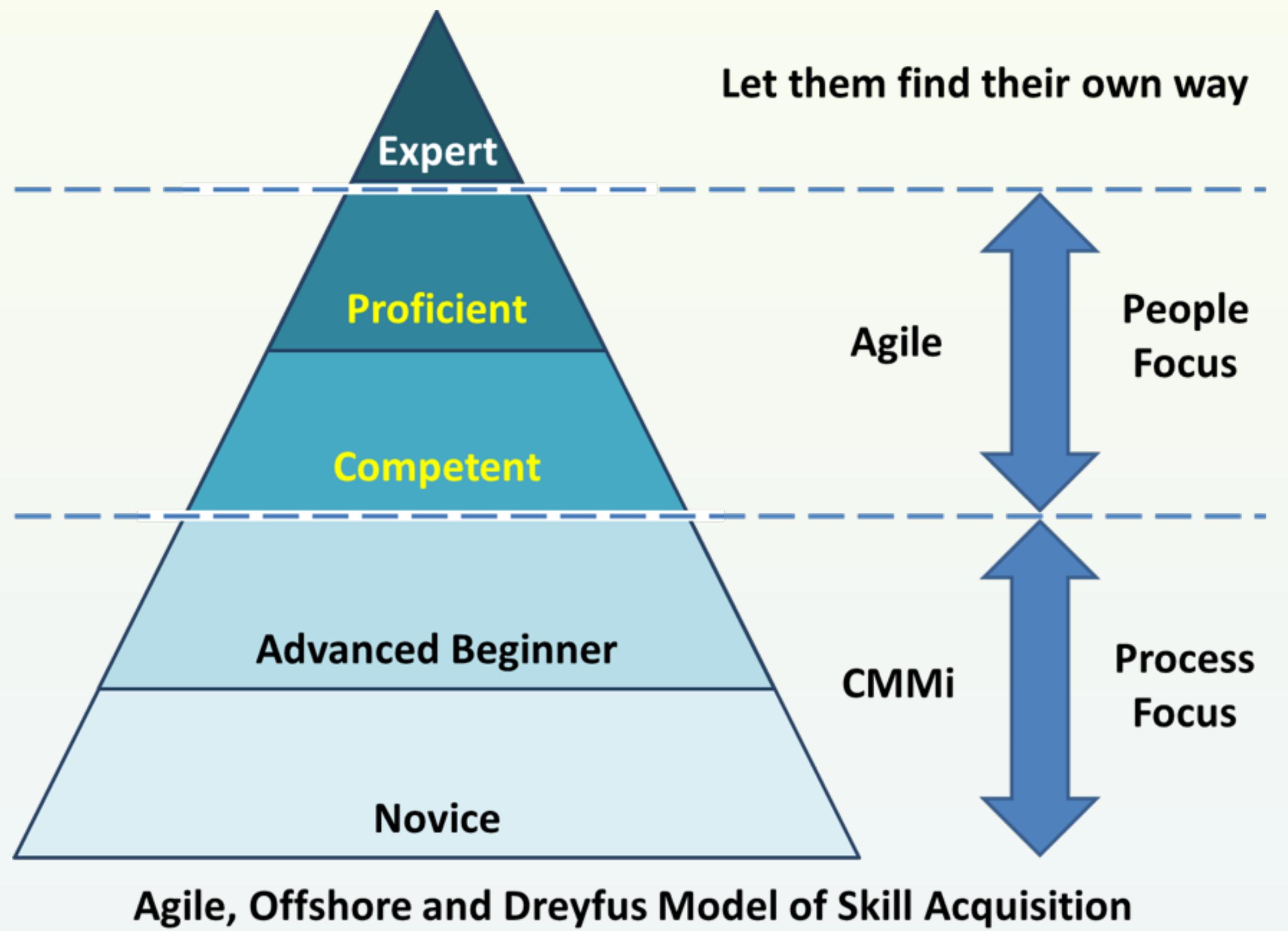
My guess is that more than 90% never really resulted in anything useful.

IVAR JACOBSON

There is no highest level concept of a system. Customers have a different concept than developers. Customers do not care at all about the structure of significant components. So, perhaps an architecture is the highest level concept that developers have of a system in its environment. Let's forget the developers who just understand their little piece. Architecture is the highest level concept of the expert developers. What makes a component significant? It is significant because the expert developers say so.

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DREYFUS MODEL



DREYFUS MODEL

```
balance = database.read("account-number")  
  
new_balance = balance - amount  
  
database.write("account-number", new_balance)  
  
dispense_cash(amount)
```

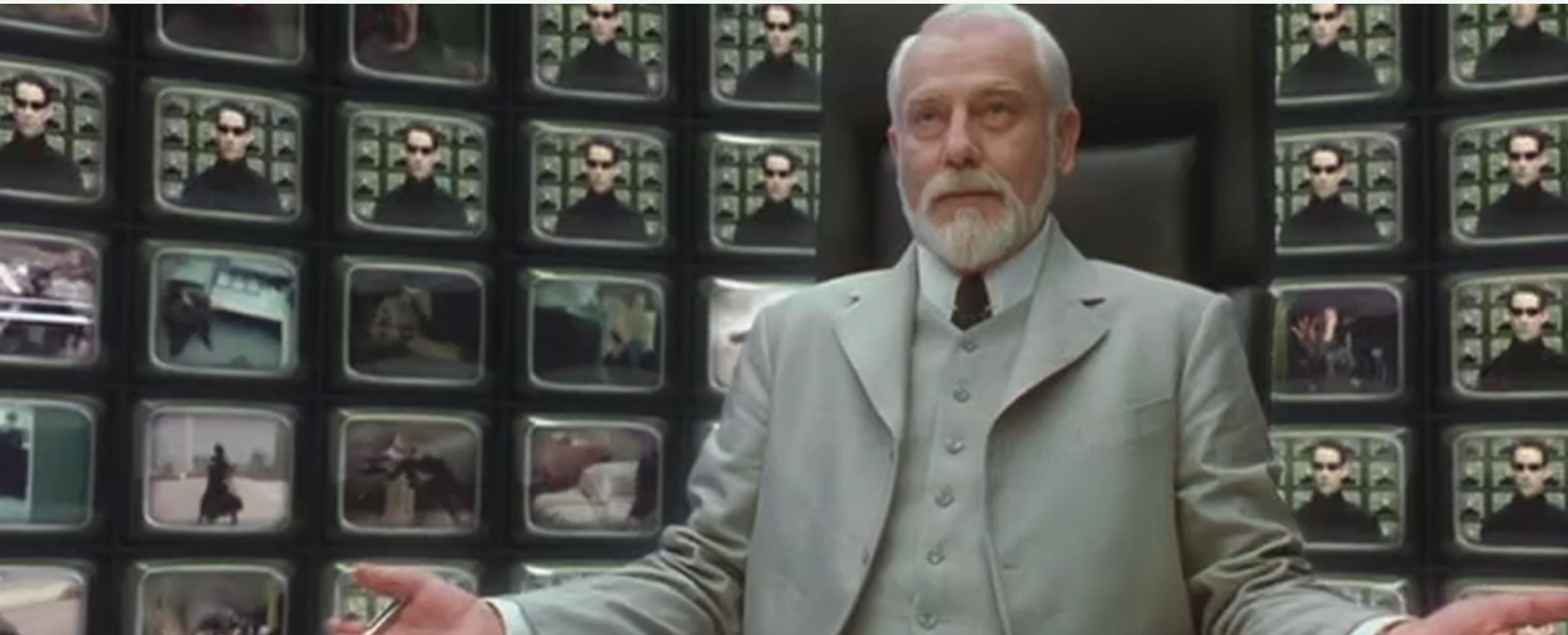
ARCHITECTUS **RELOADUS**

IS THE PERSON WHO
MAKES ALL THE
IMPORTANT
DECISIONS



ARCHITECTUS **RELOADUS**

IS THE PERSON WHO
MAKES ALL THE
IMPORTANT
DECISIONS



ARCHITECTUS **OZYRUS**

IS THE PERSON WHO
IS AWARE OF
WHAT'S GOING ON



The most important activity of Architectus Oryzus is to mentor the development team, to raise their level so that they can take on more complex issues.

A GUIDE



**AN ARCHITECT'S
VALUE IS**

**INVERSELY
PROPORTIONAL**

**TO THE NUMBER
OF DECISIONS HE
OR SHE MAKES.**

**WHAT'S BETTER
THAN AN
ARCHITECT?**

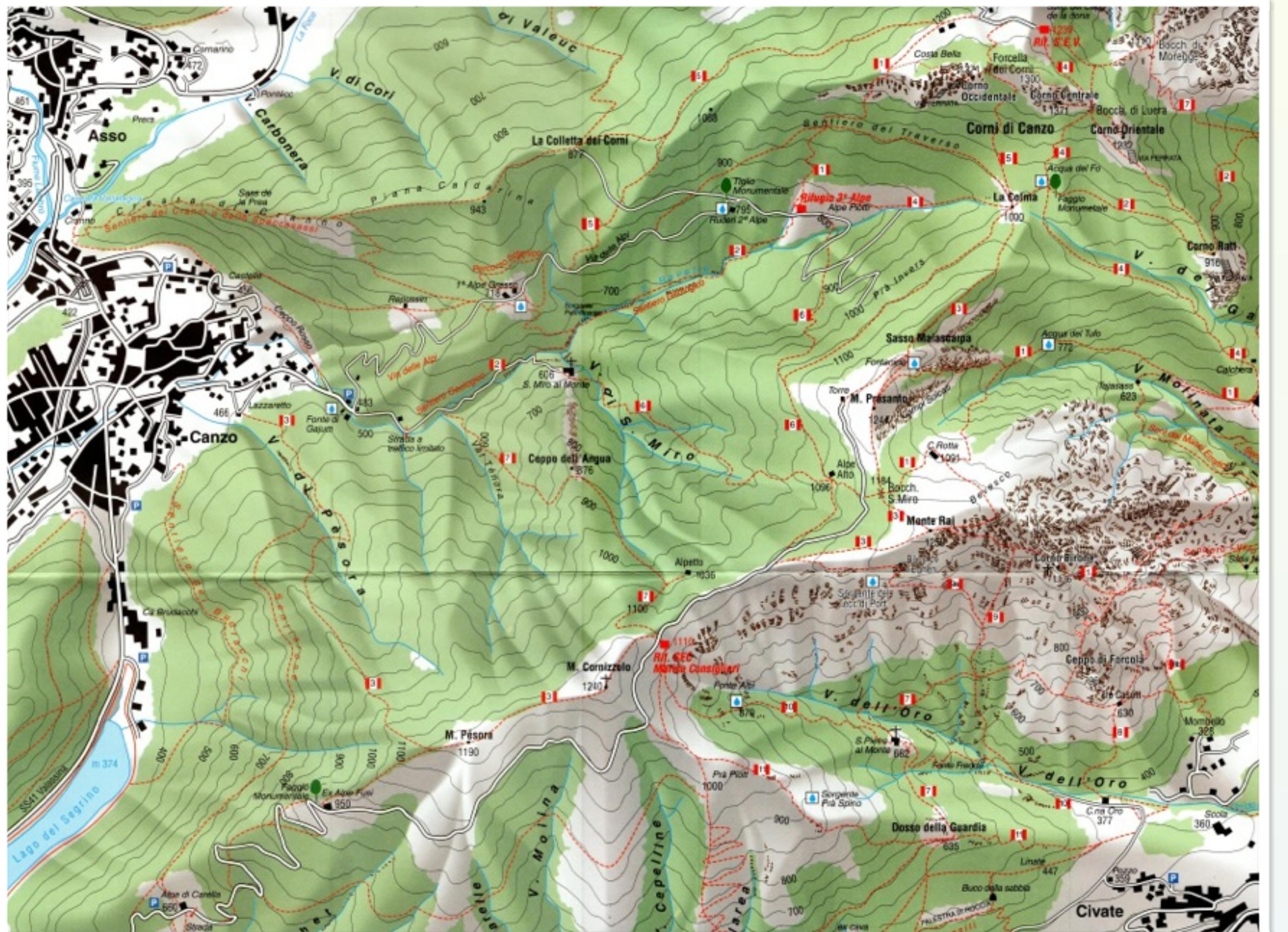
NO ARCHITECTS

**AN ARCHITECT'S
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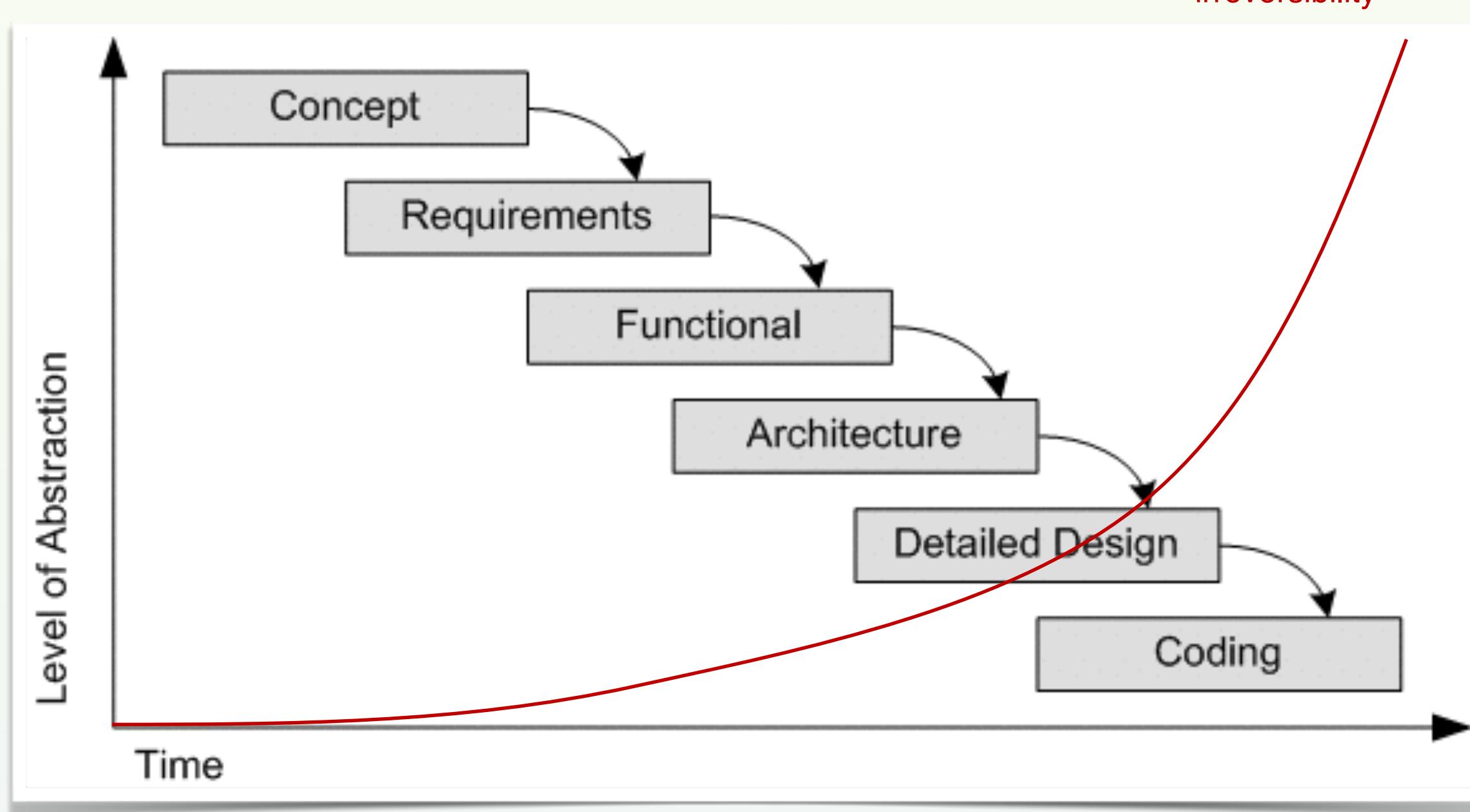
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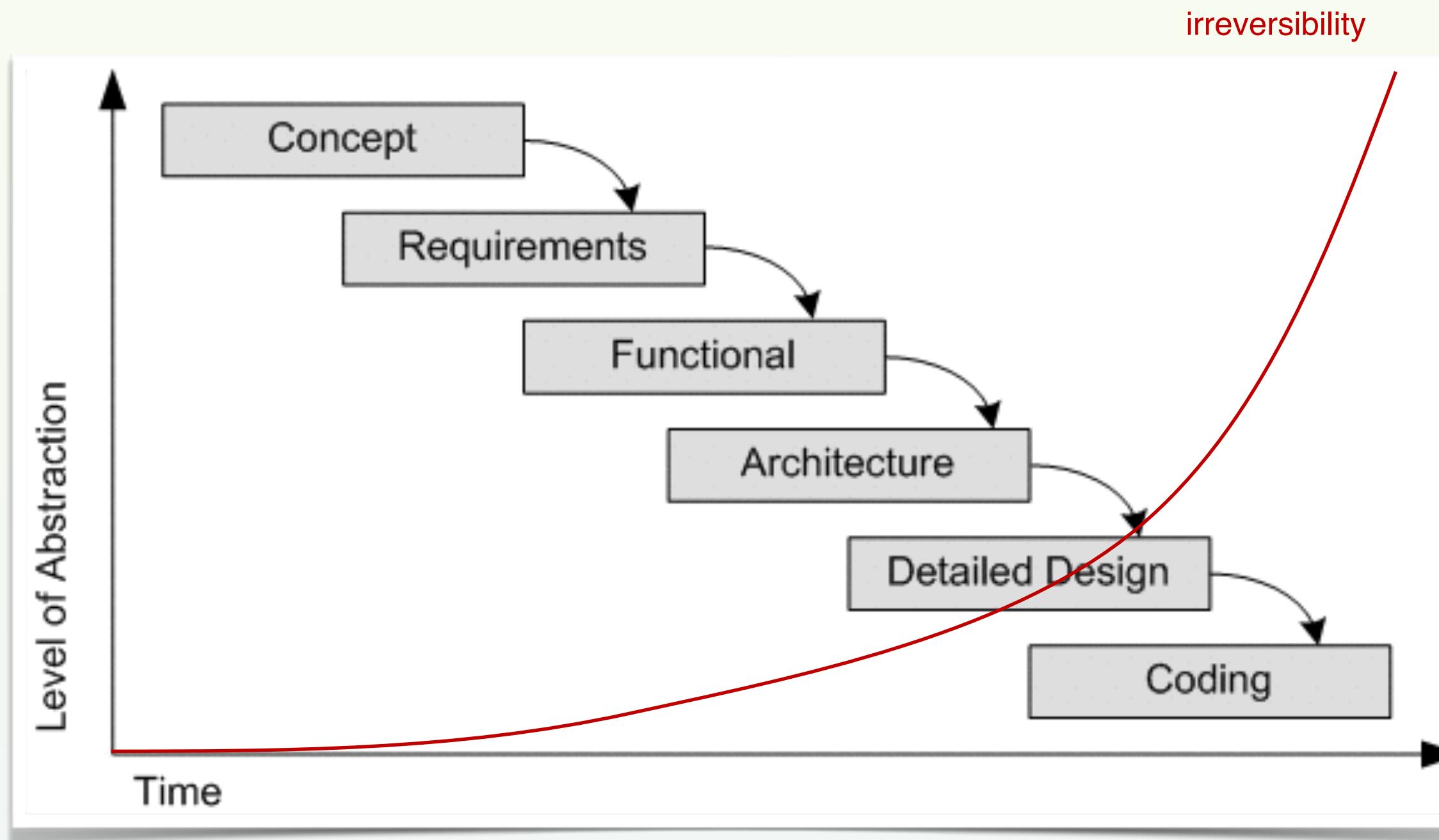
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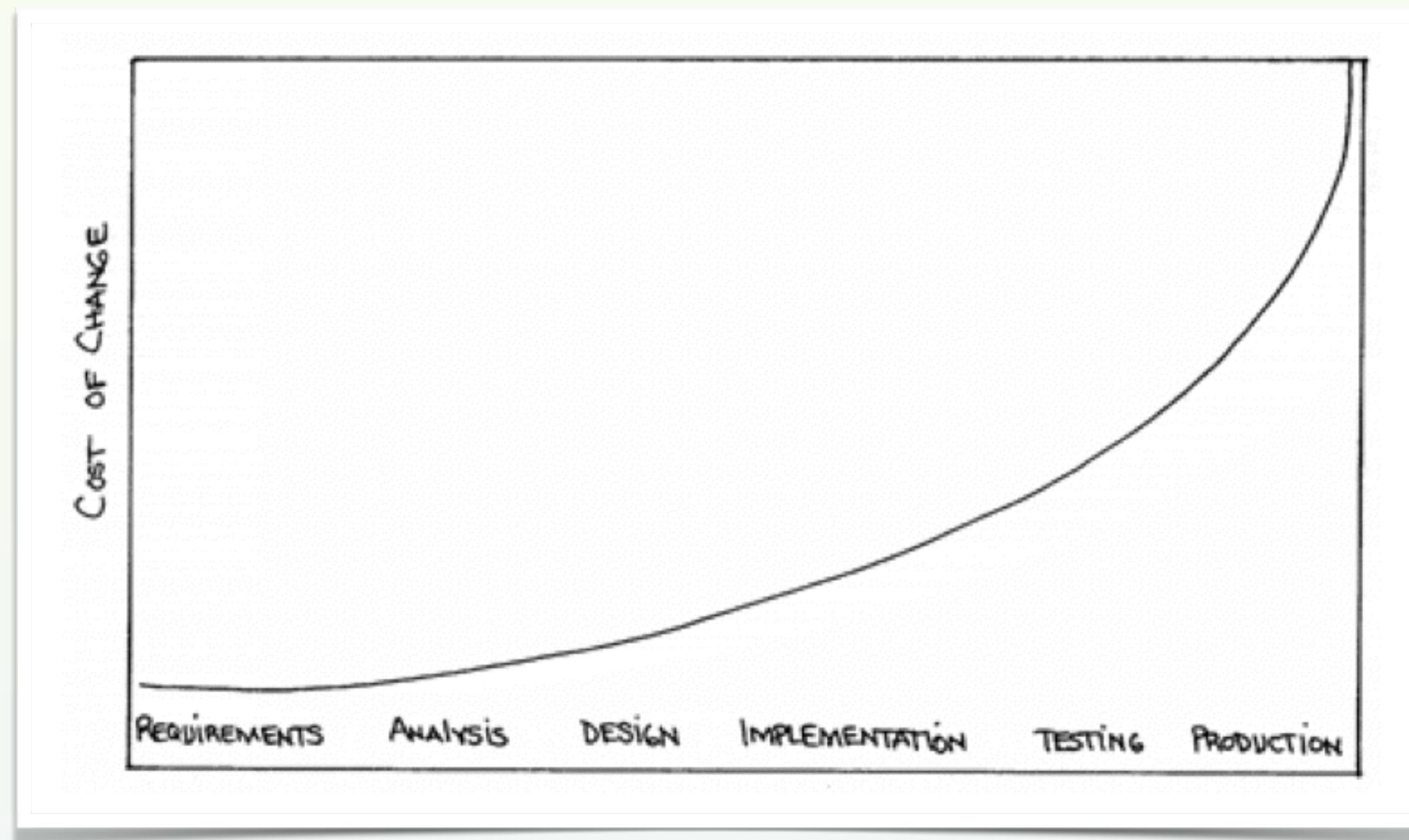
ABSTRACTION IRREVERSIBILITY



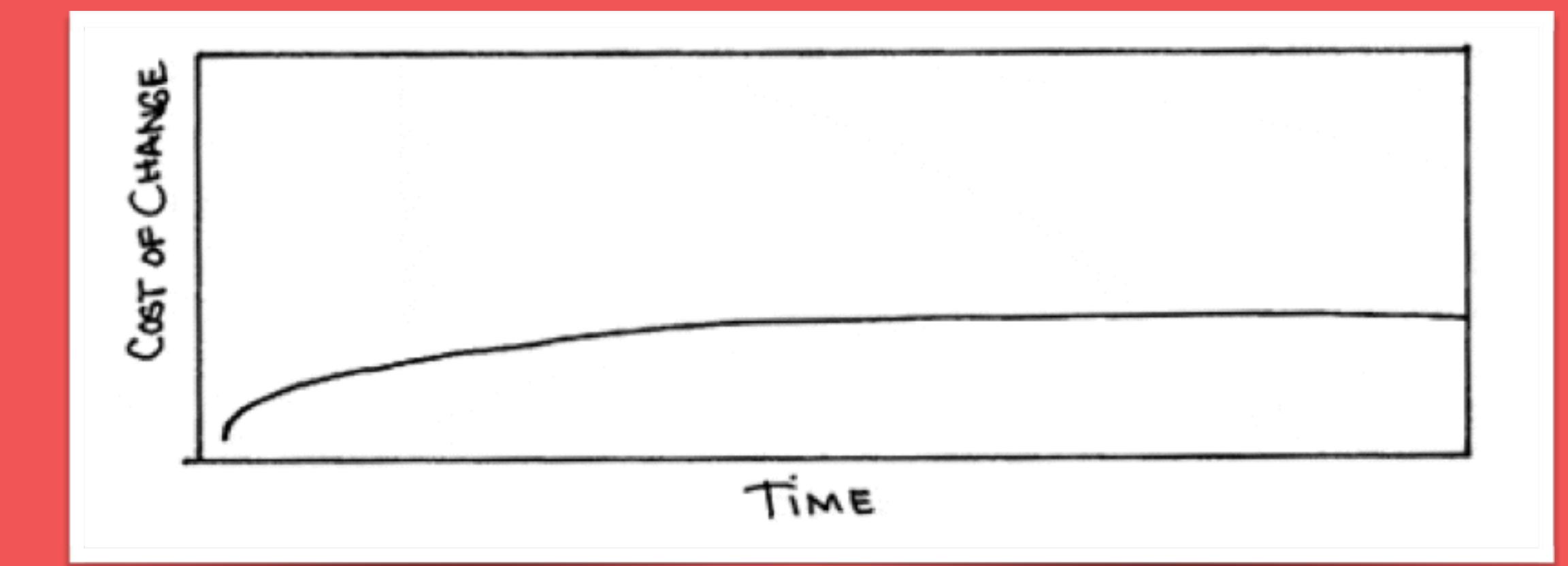
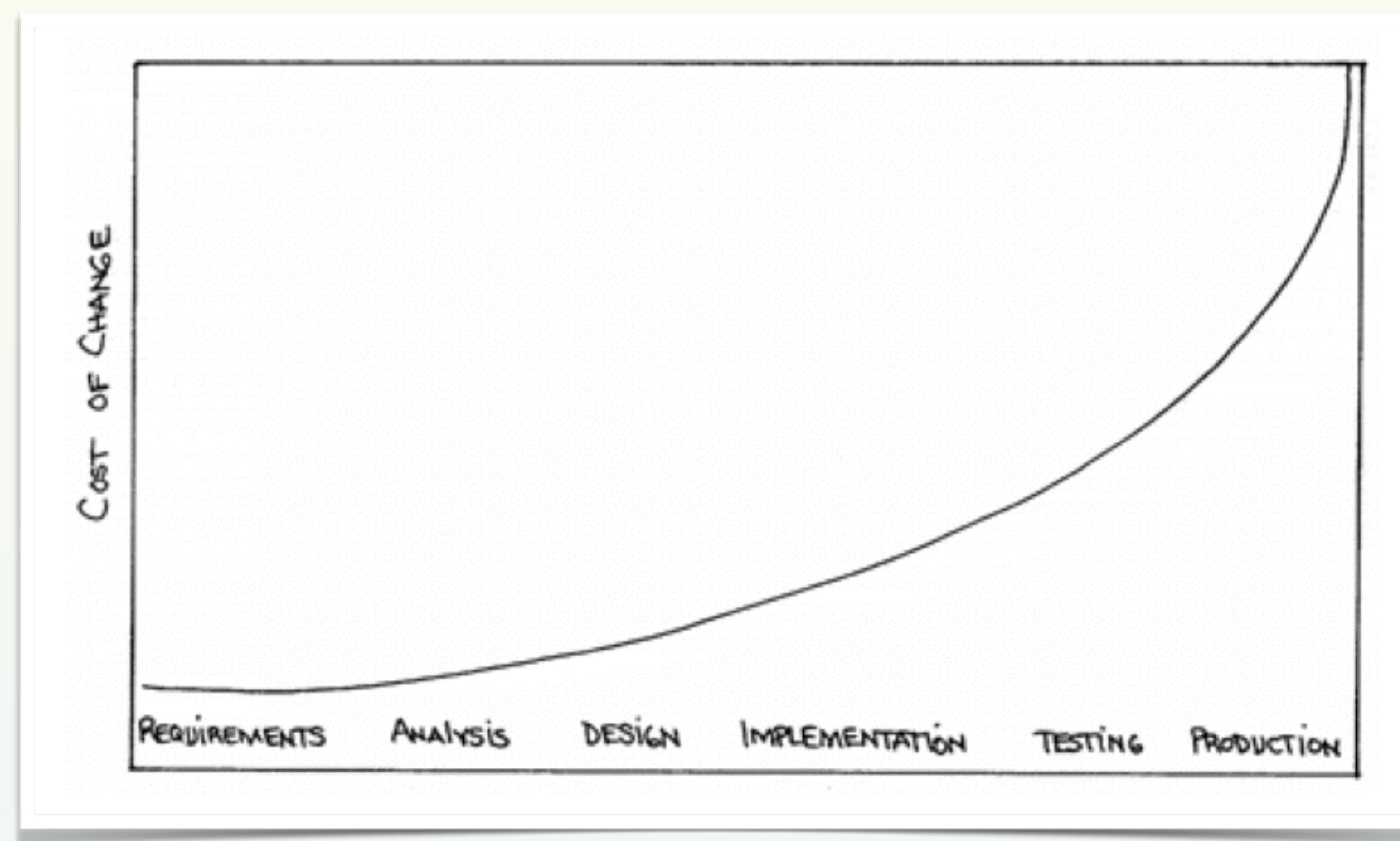
ABSTRACTION IRREVERSIBILITY



COST OF CHANGE



COST OF CHANGE



PROBLEM

BUILD + DEBUG + MAINTAIN

LARGE

COMPLICATED

SOLUTION



Experts, usually an **AUTHORITY**, will architect the system. They won't be bothered with technical implementation details because **THEIR TIME IS VALUABLE**.

The team will be required to **FOLLOW** the architecture so that the good qualities of the system are assured.

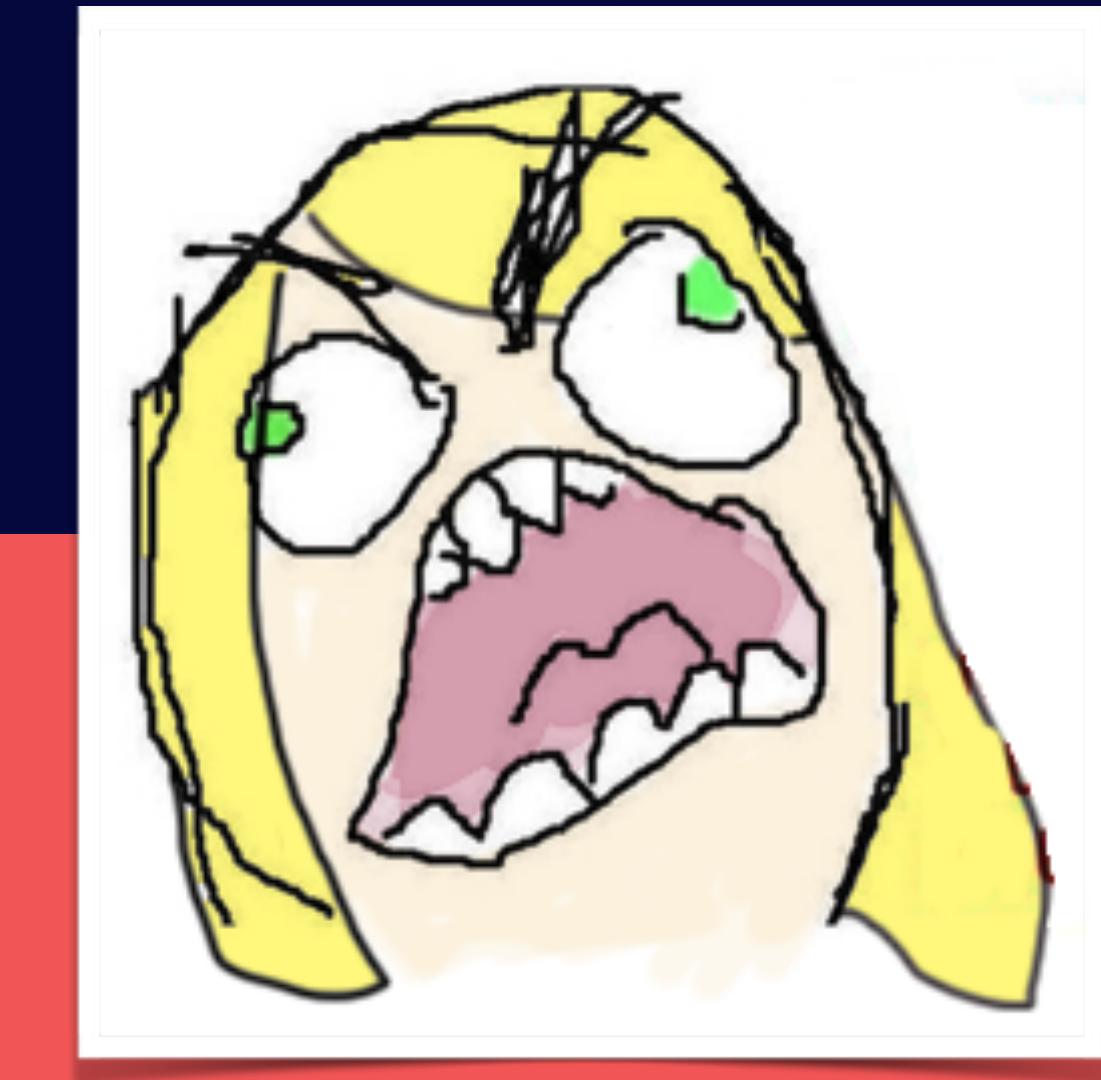
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RESULT



Implementation lags and finger pointings.

Whoever has the most **AUTHORITY** wins

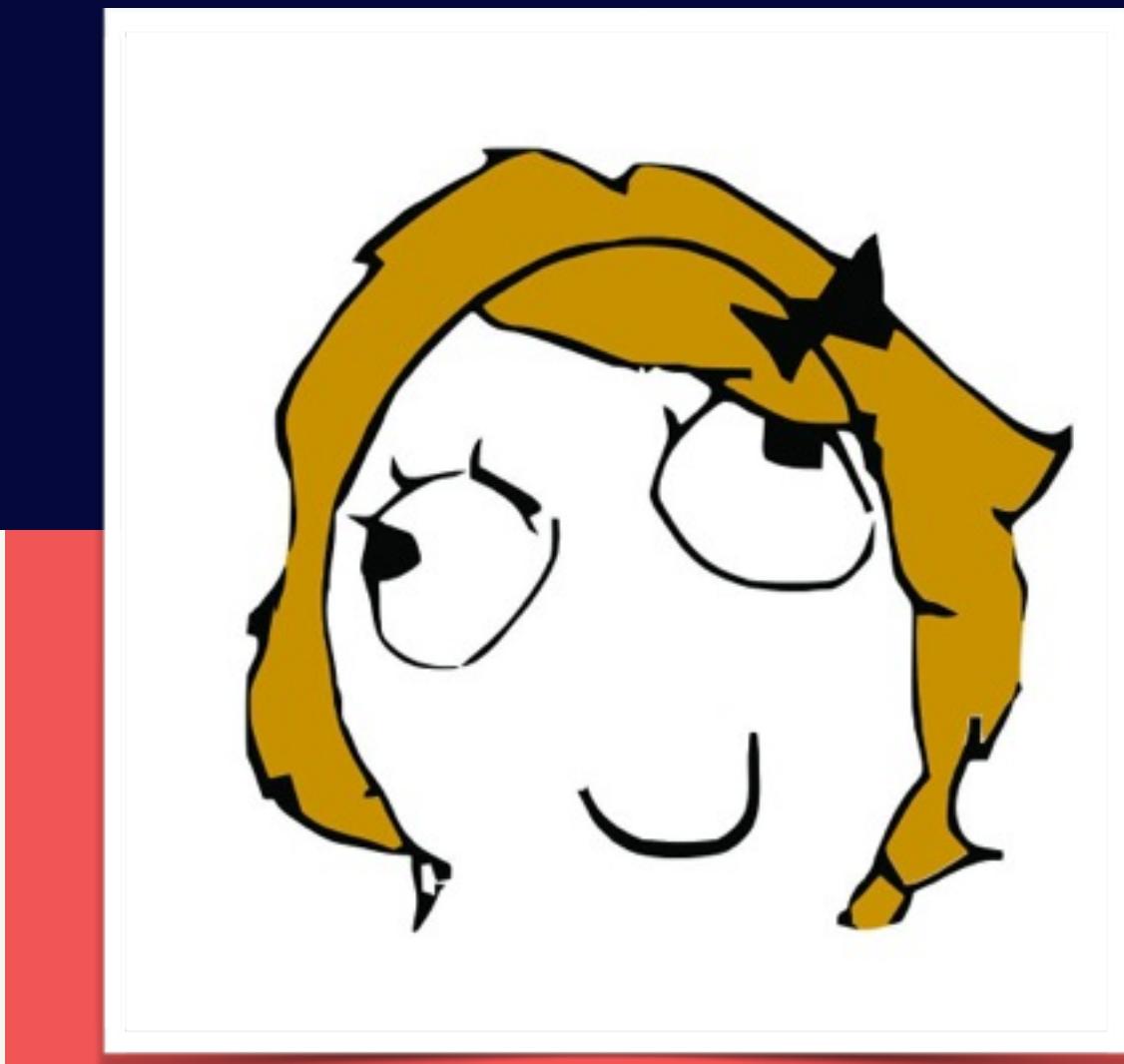
The programmers deemed not to be "team players" because of arguing with the architect.

SOLUTION



Experts, usually an **AUTHORITY**, will architect the system. They won't be bothered with technical implementation details because **THEIR TIME IS VALUABLE**.

The team will be required to **FOLLOW** the architecture so that the good qualities of the system are assured.



SOLUTION

Get architects **INVOLVED AT AN IMPLEMENTATION LEVEL**.
They need to be **AWARE** of how changes in their design affect the project.

DEDICATED ARCHITECT



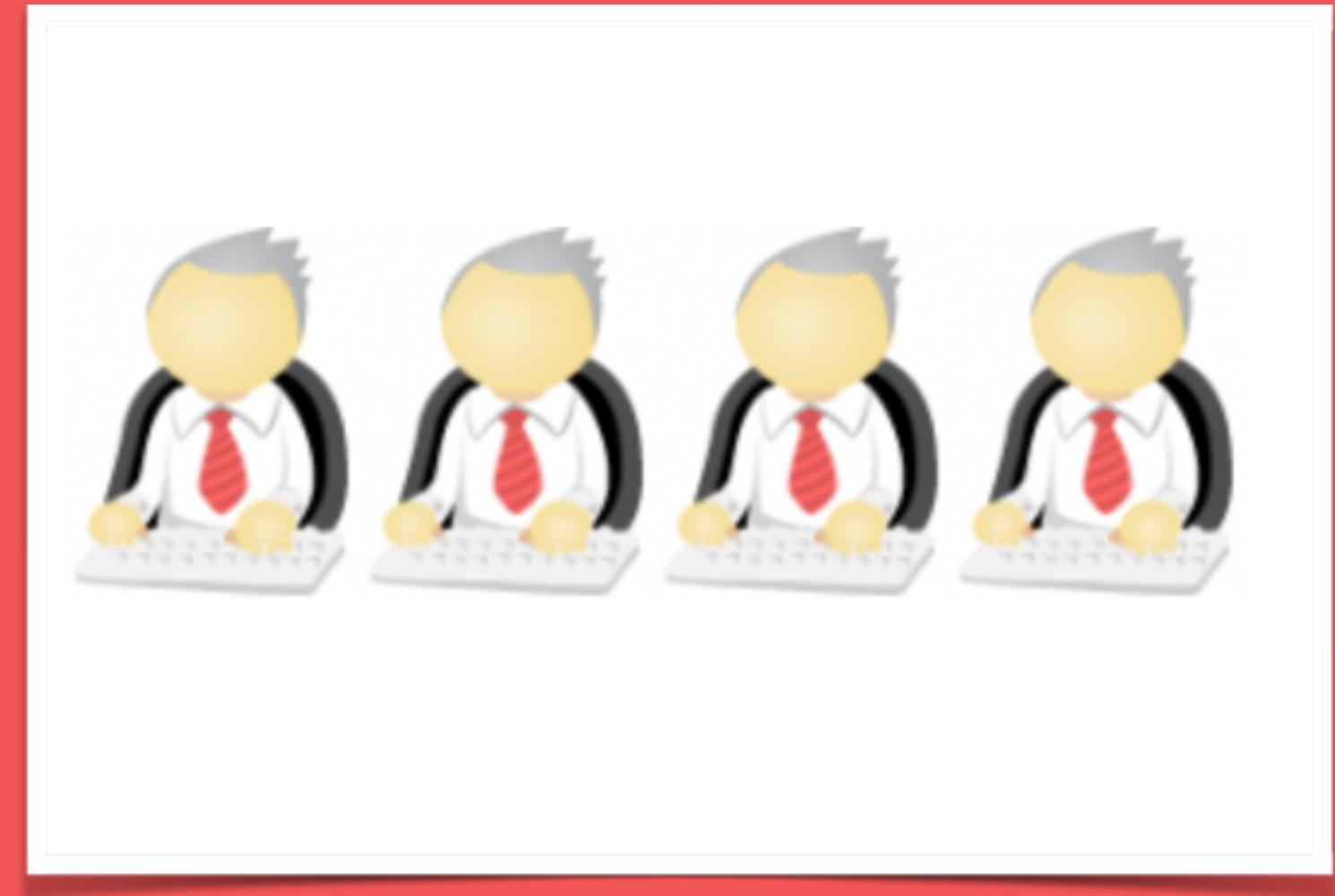
SINGLE POINT OF
RESPONSIBILITY

DEDICATED ARCHITECT



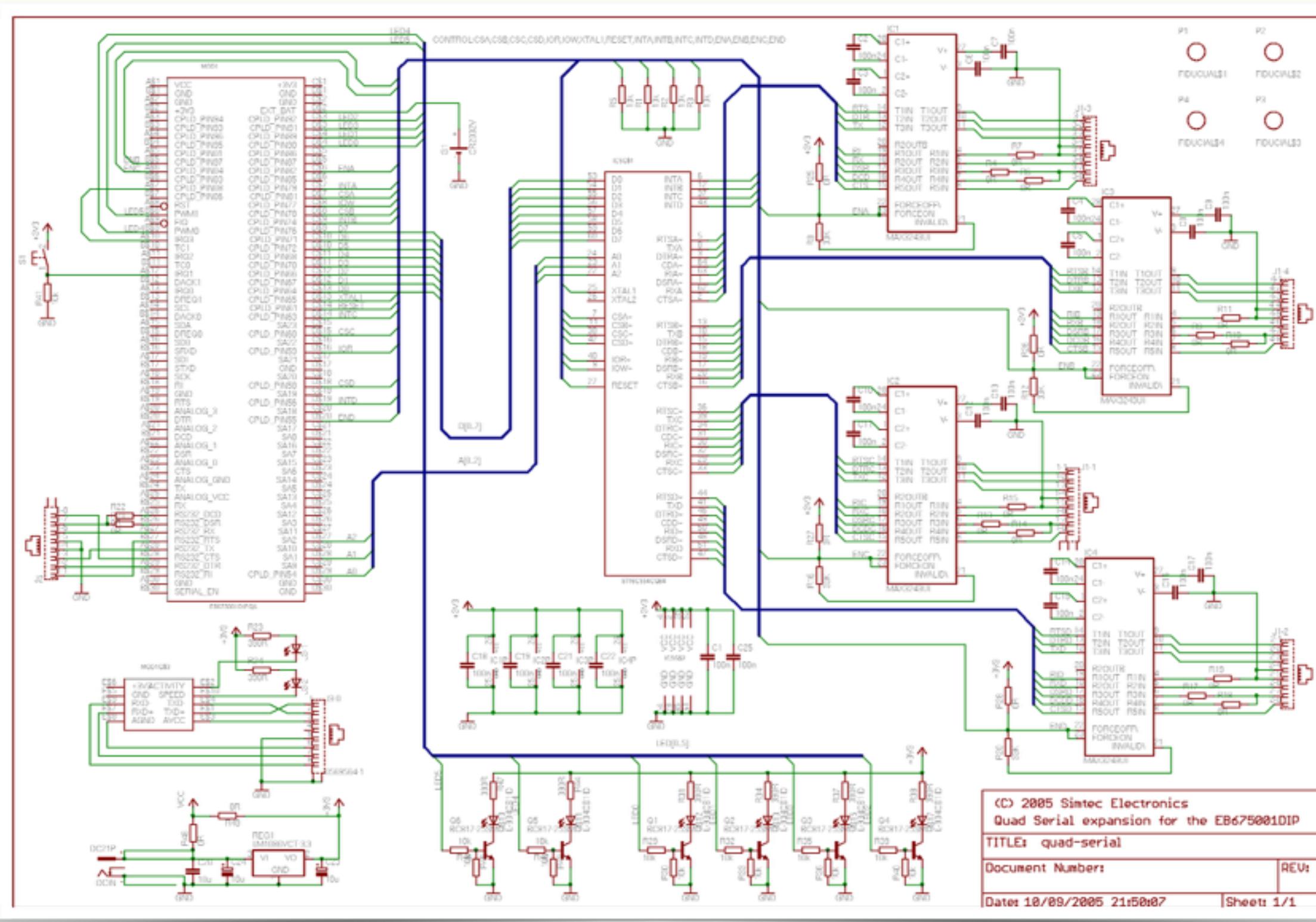
SINGLE POINT OF
RESPONSIBILITY

EVERYBODY IS AN ARCHITECT



JOINT
RESPONSIBILITY

CONFFLICT IN PROCESS



UP-FRONT DESIGN

```
(defun repl-fun (noprint)
  (/show0 "entering REPL").
  (loop
    ( unwind-protect
      (progn
        (scrub-control-stack).
        (sb!thread::get-foreground).
        (unless noprint.
          (flush-standard-output-streams).
          (funcall *repl-prompt-fun* *standard-output*).
          (force-output *standard-output*)).
        (let* ((form (funcall *repl-read-form-fun*
                               *standard-input*.
                               *standard-output*))
               (results (multiple-value-list (interactive-eval form))).
               (unless noprint.
                 (dolist (result results).
                   (fresh-line).
                   (prin1 result))))).
      (enable-stepping))).
  (disable-stepping)))).
```

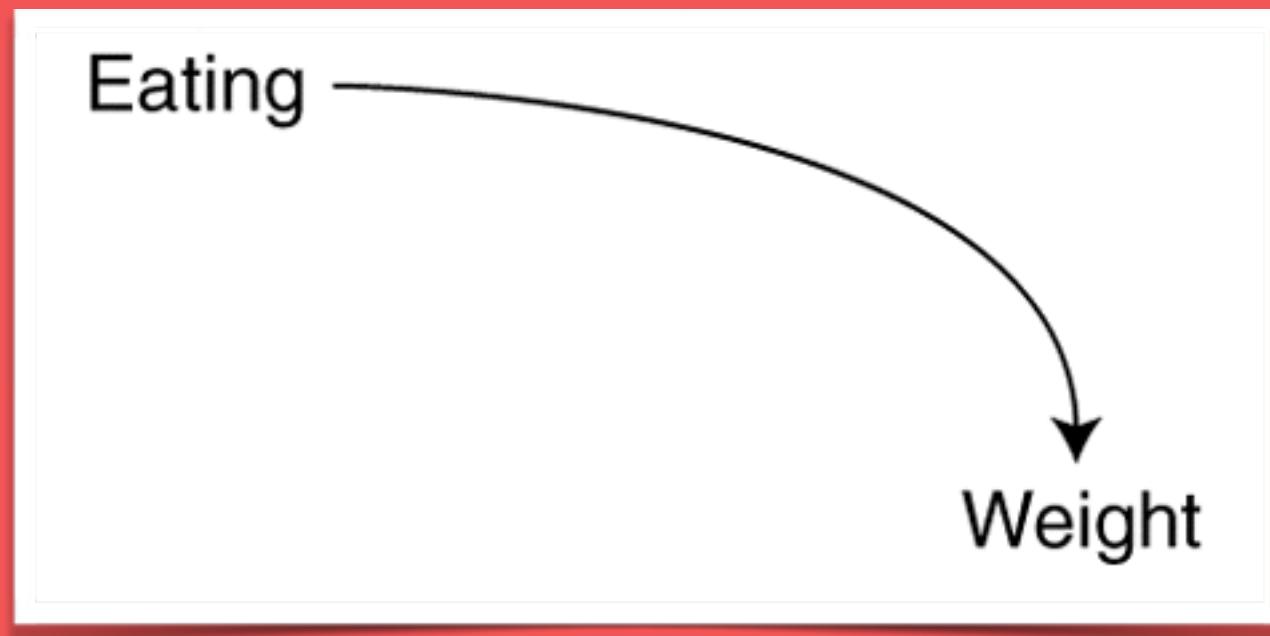
EVOLUTIONARY ARCHITECTURE

CONFLICT IN PROCESS

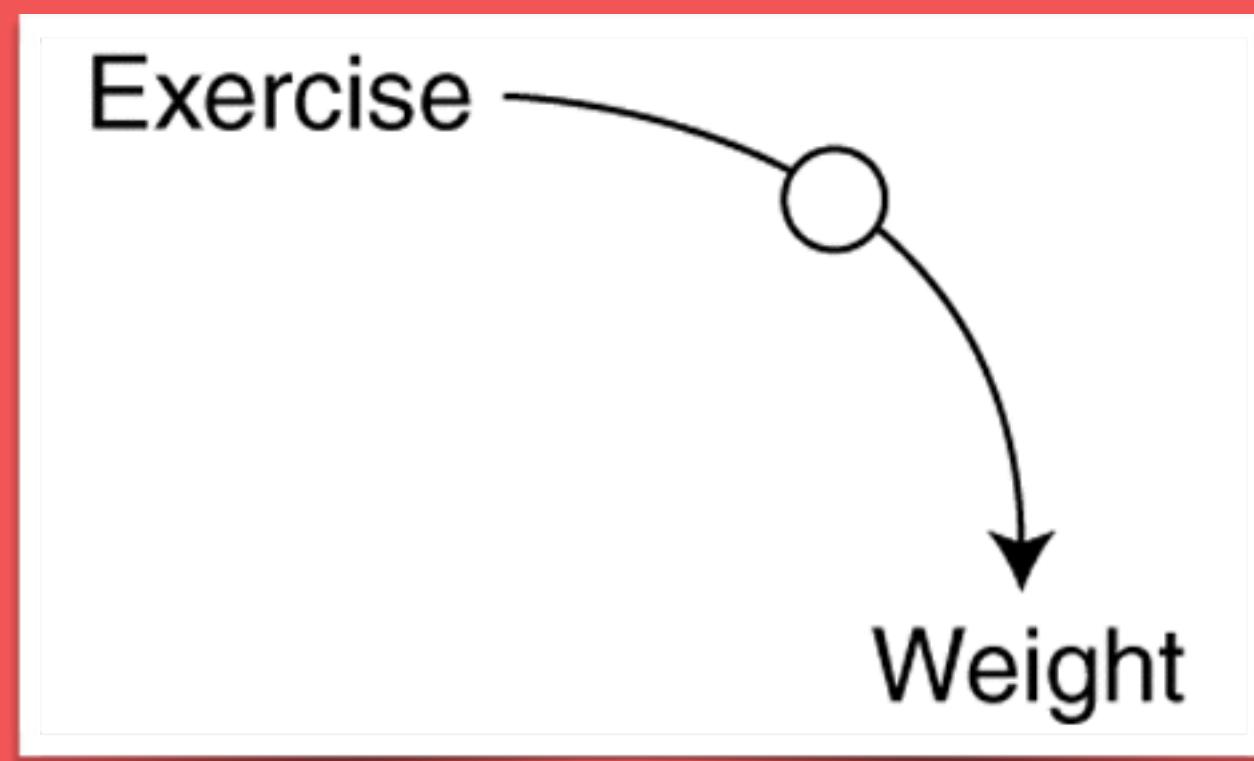
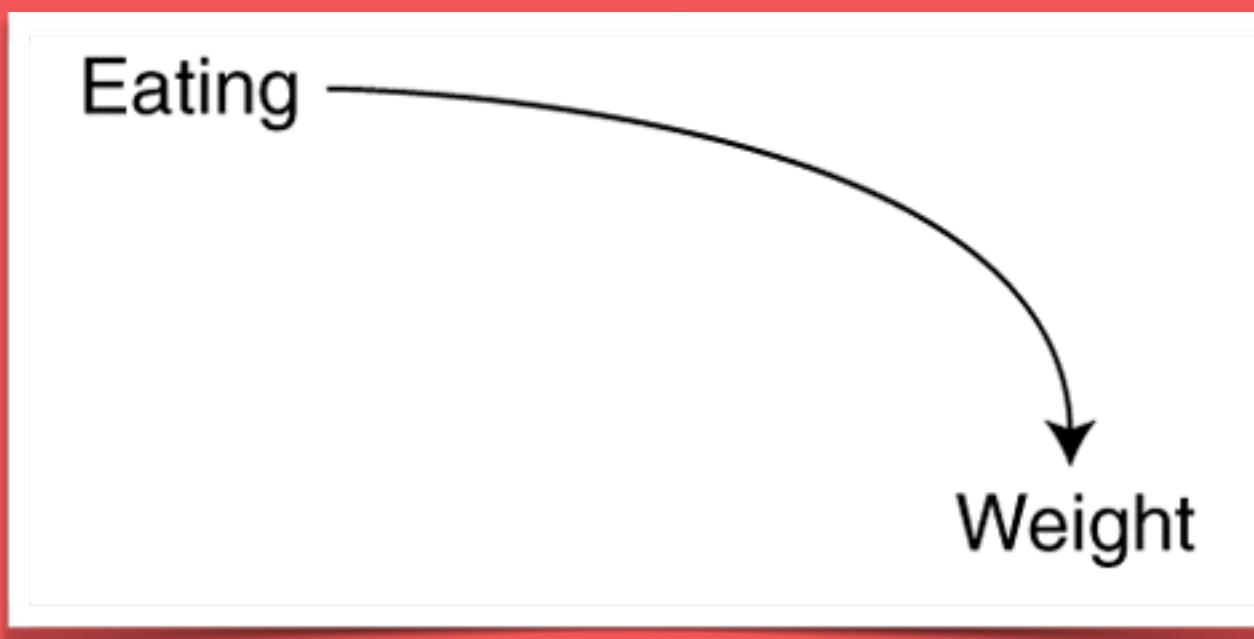
COMPREHENSIVE DOCUMENTATION

WORKING SOFTWARE

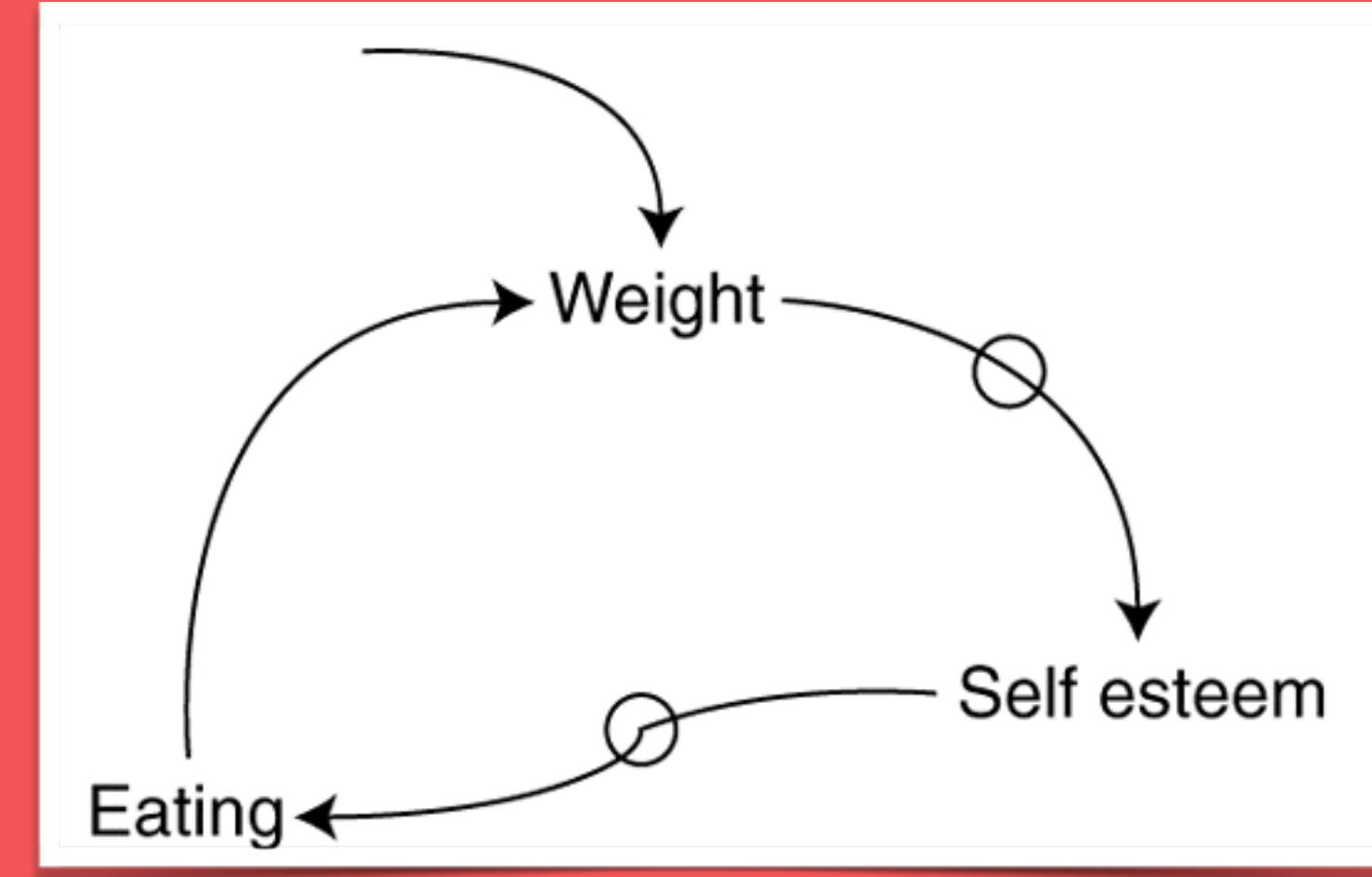
INFLUENCEDIAGRAMS



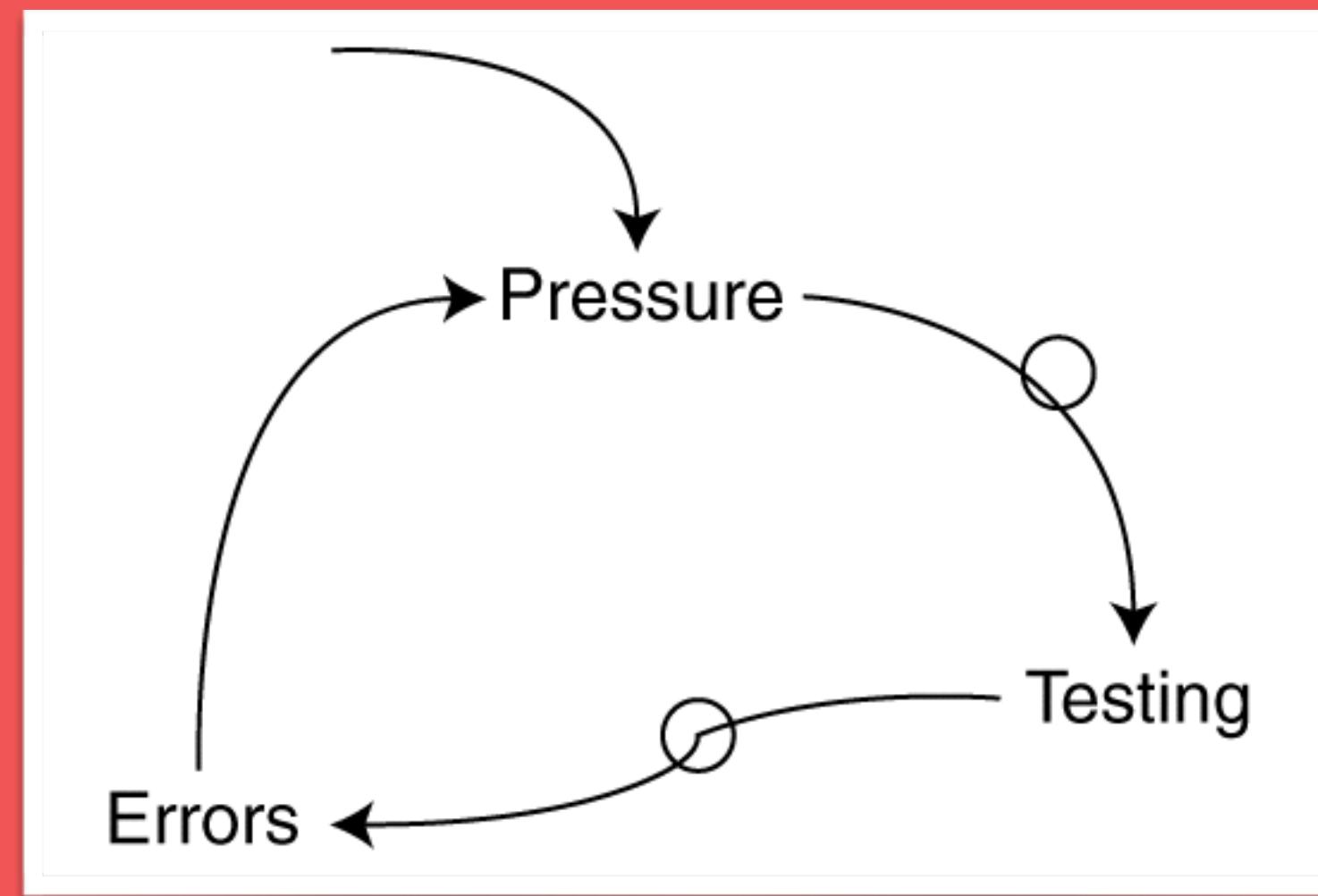
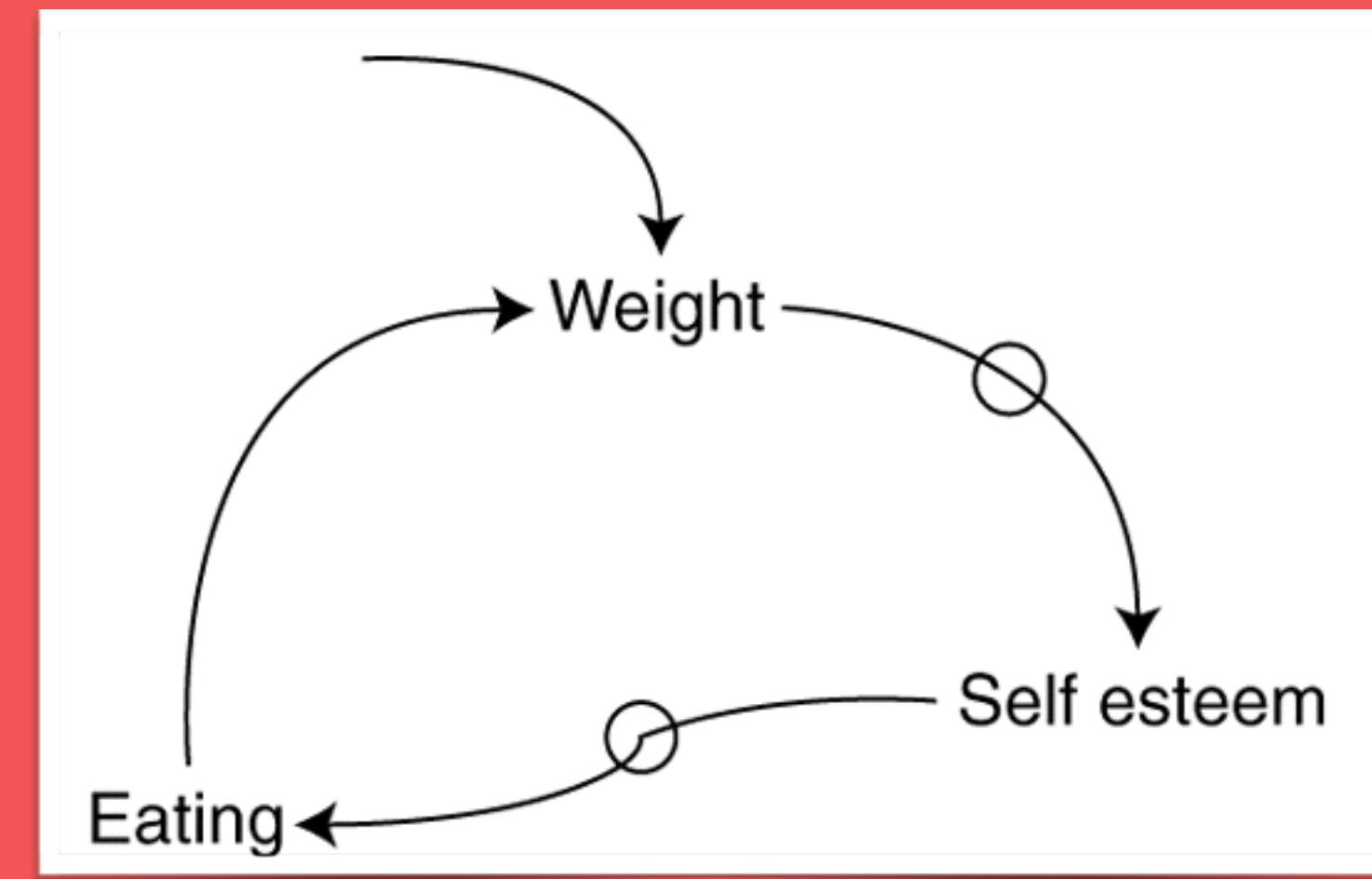
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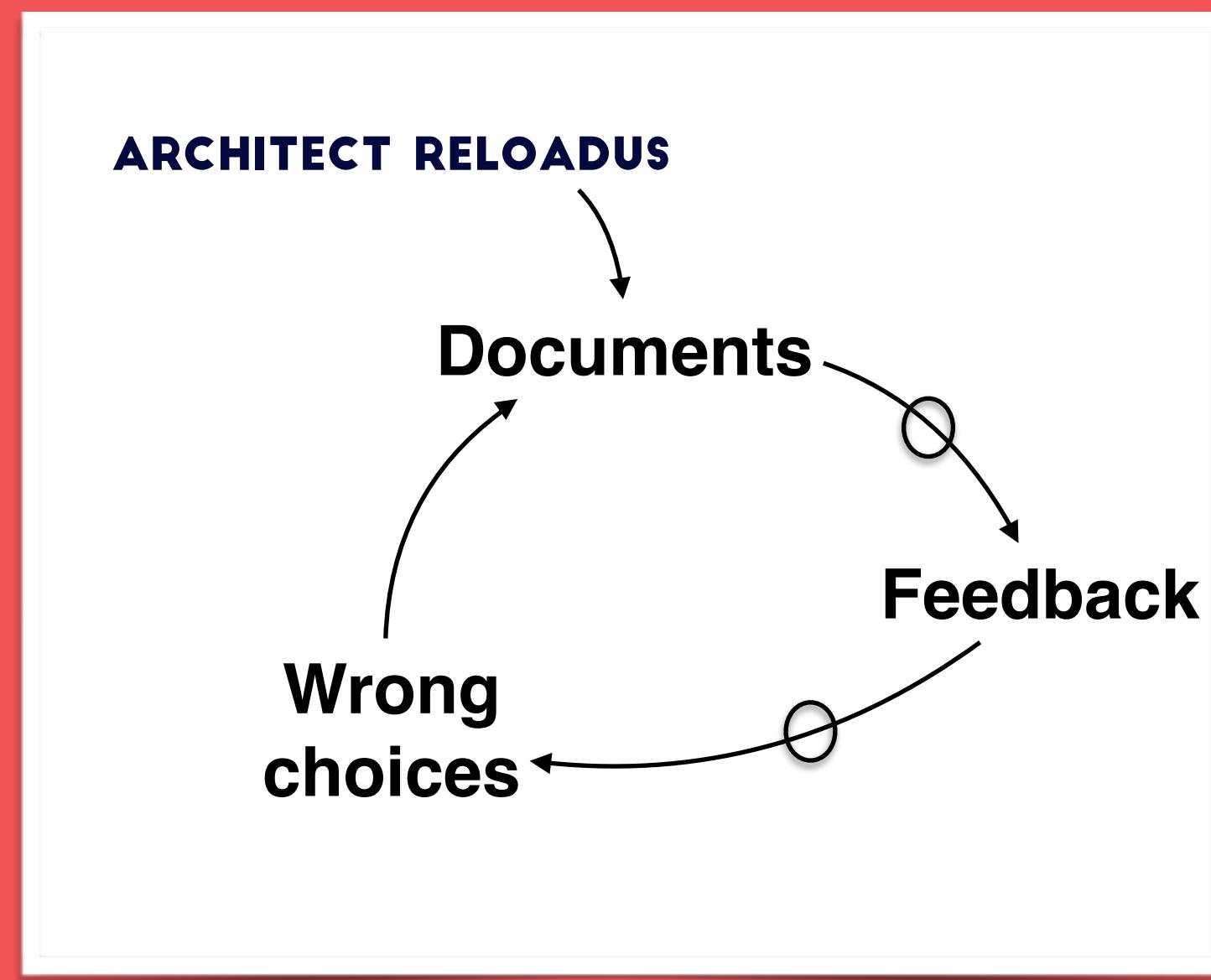
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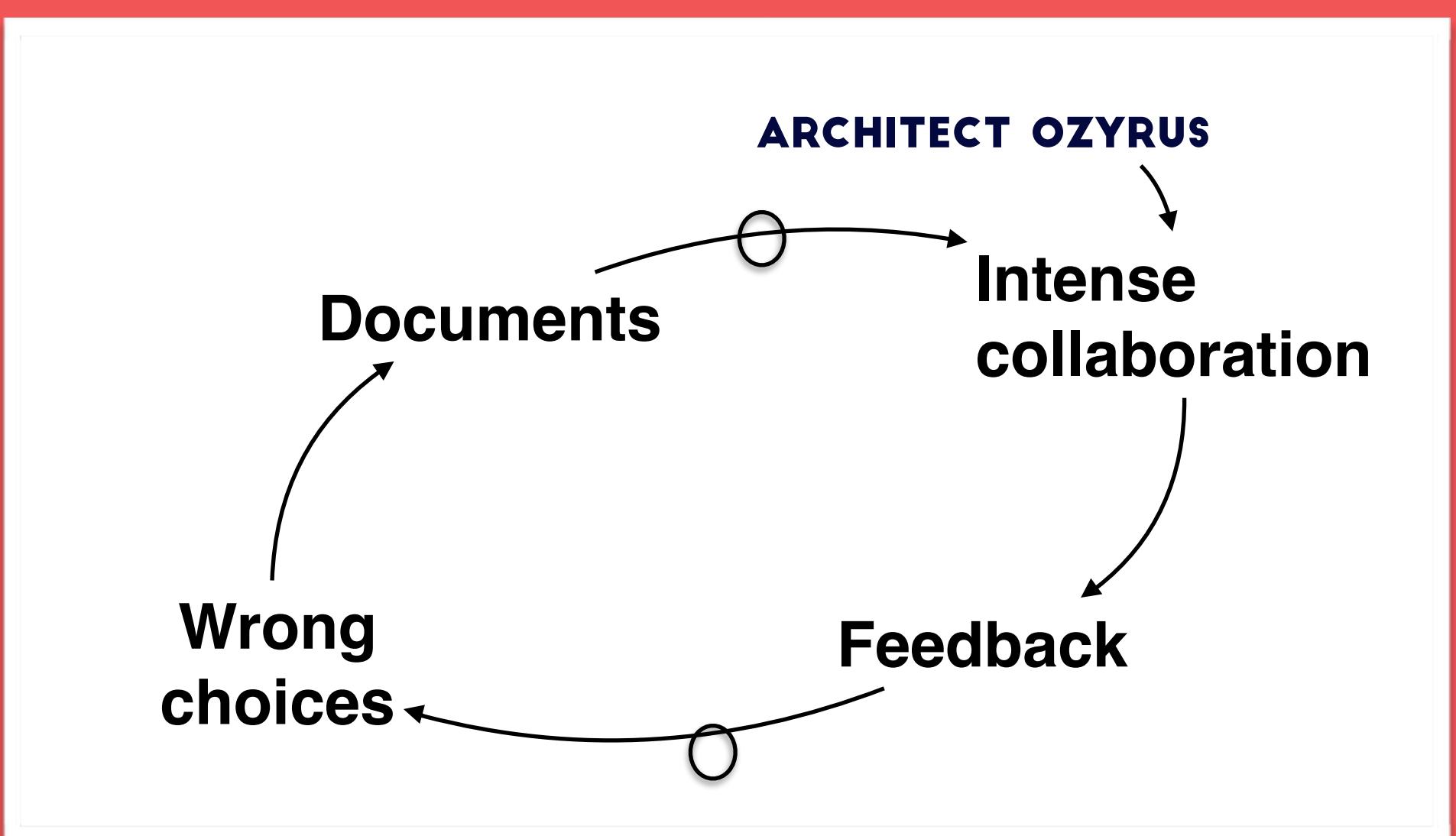
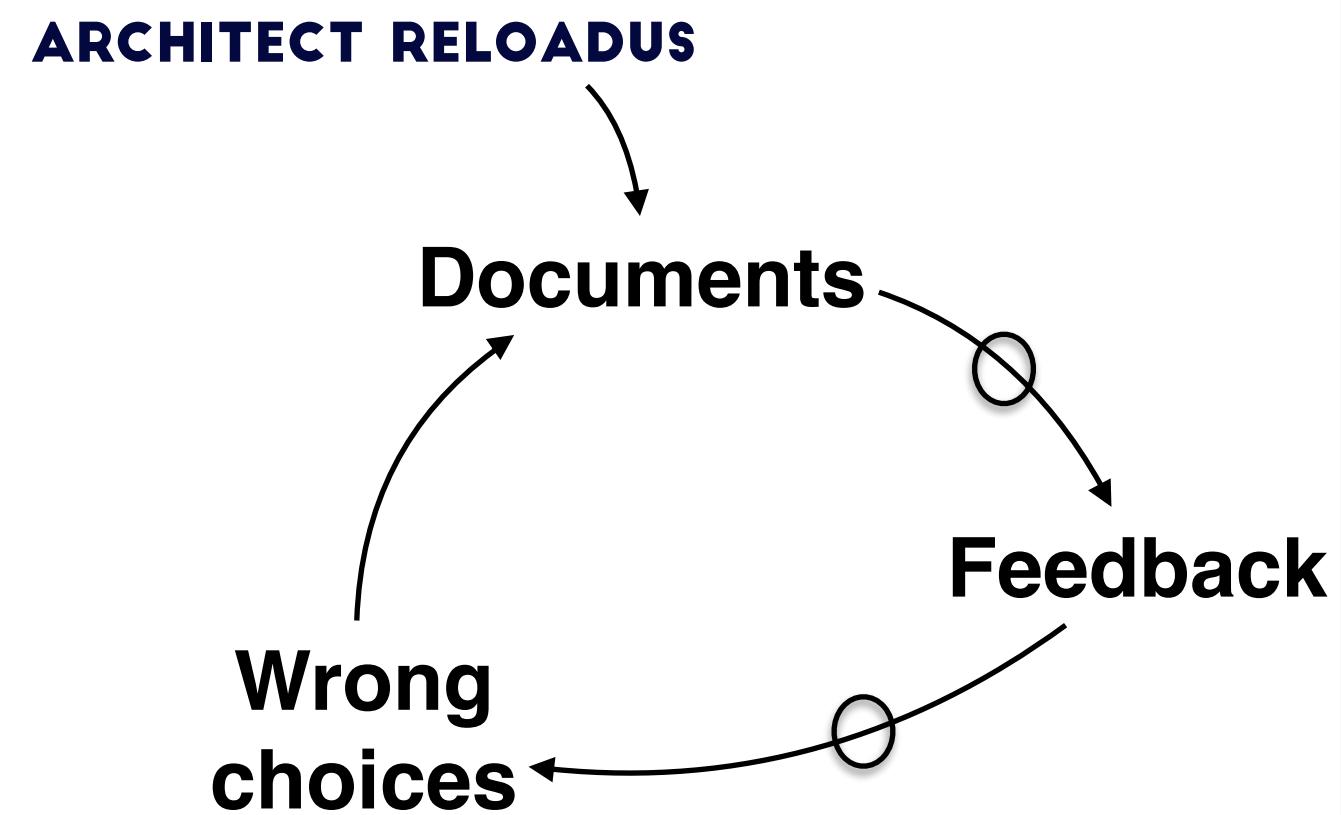
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INFLUENCE DIAGRAMS



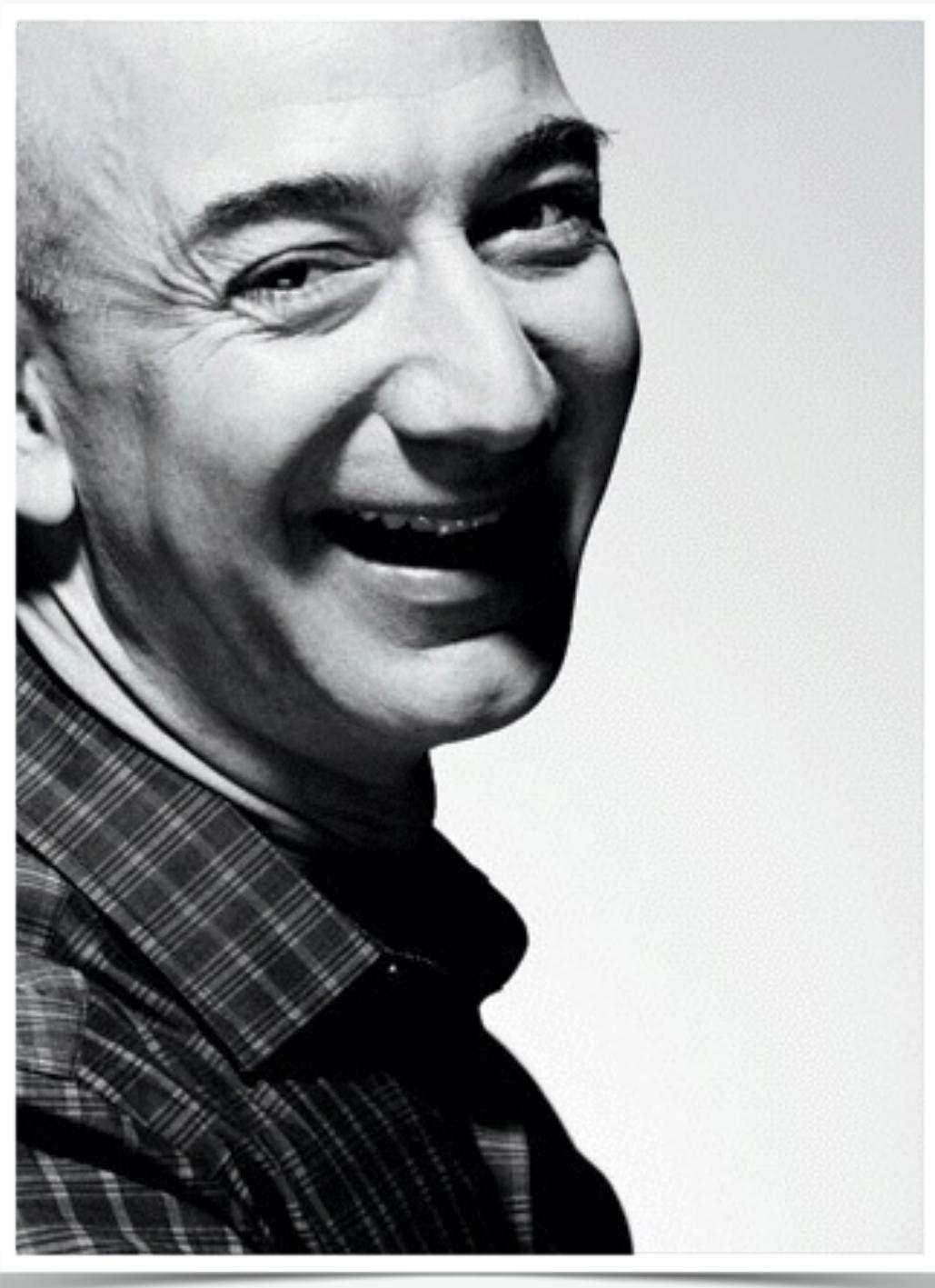
INFLUENCEDIAGRAMS



MICROSERVICE



MICROSERVICE



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