

Memi Beltrame

Scope & co.

Management of medium
and large size projects

Who am I?

- PM / Interaction designer at Liip in Zurich
- Working on the web since 1997
- 10 years of php
- Degree in cinematography
- Film & foto enthusiast
- Pet project: artypedia.org
- Twitter: [bratwurstkomet](https://twitter.com/bratwurstkomet)

What is
a large
project



Typical indicators

Trivial

Non-trivial

Typical indicators

Trivial
Size

Non-trivial
Complexity

Typical indicators

Trivial
Size

- Easy to measure
- Obviuous
- Impressive!

Non-trivial
Complexity

Typical indicators

Trivial Size

- Easy to measure
- Obviuous
- Impressive!

Non-trivial Complexity

- Hard to evaluate
- Vague, hidden
- Interesting...

Typical indicators

Size

- Money involved
- Size of team needed
- Duration of project and development
- Size of customer's company
- Amount of Data used for the project

Typical indicators

Complexity

- Types of systems involved
- The customer's organizational structure
- Workflows
- Data structure & quality
- Legacy

Complexity is underrated.

A too familiar scenario

A too familiar scenario



www.projectcartoon.com
How the customer explained it



www.projectcartoon.com
How the project leader understood it



www.projectcartoon.com
How the programmer wrote it



www.projectcartoon.com
How the sales guy described it



www.projectcartoon.com
What the customer really needed

Credit: www.projectcartoon.com
<http://bes.tw/zaq>

Now that you have

mvc framework

Agile methods

Unit & functional tests

Continuous integration

Code reviews

Coding standards

Valid markup

...

Now that you have

mvc framework XYZ
Agile methods
Unit & Functional Tests
Continuous Integration
Code reviews
Coding standards
Valid markup

Why do
projects
still fail?

Why projects fail:

Running out of time

Use shortcuts & hacks

Negligence on both sides

You work more than planned

You lose money.

How ~~Why~~ projects fail:

Running out of time

Use shortcuts & hacks

Negligence on both sides

You work more than planned

You lose money.

What can you do to keep software projects from failing?

The standard Project Structure

Offer

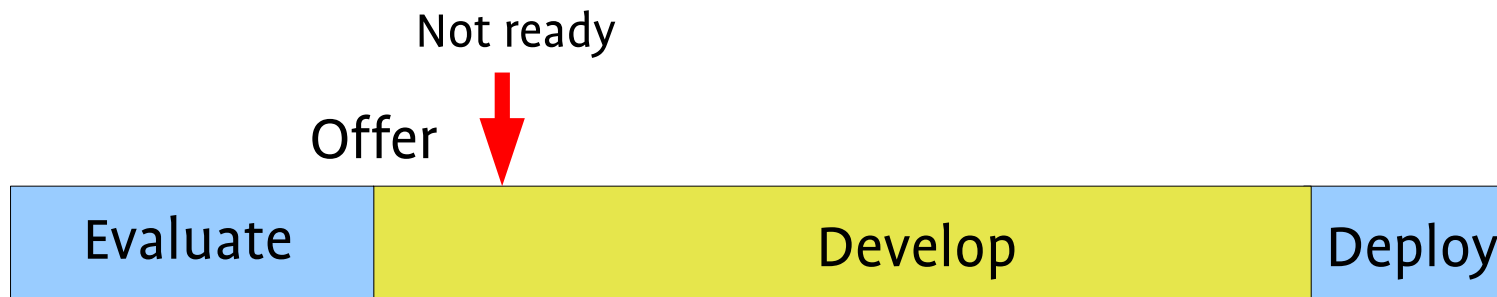


The standard Project Structure **SUCKS**

Offer

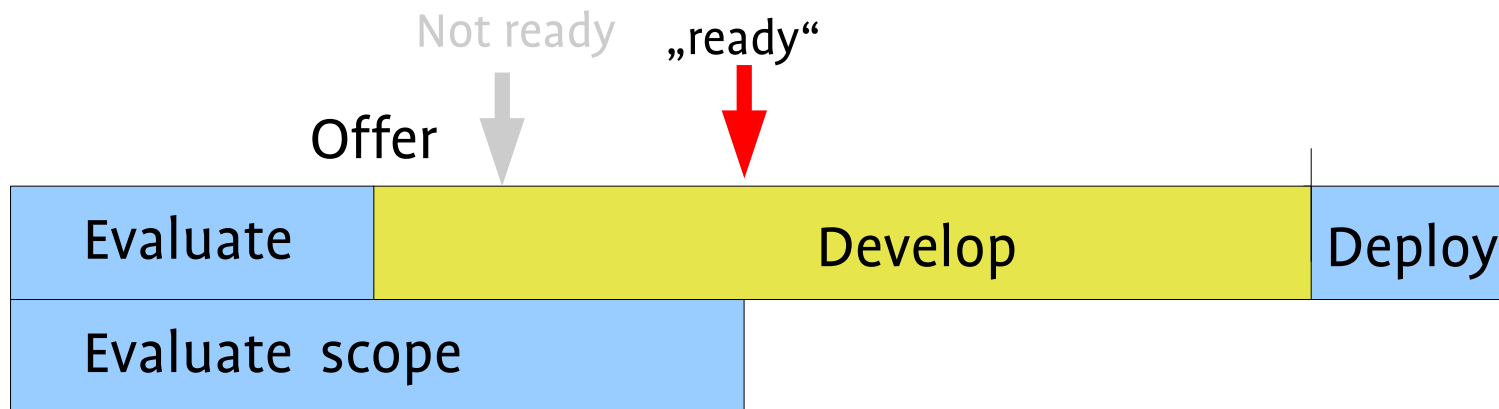


The standard Project Structure **SUCKS**



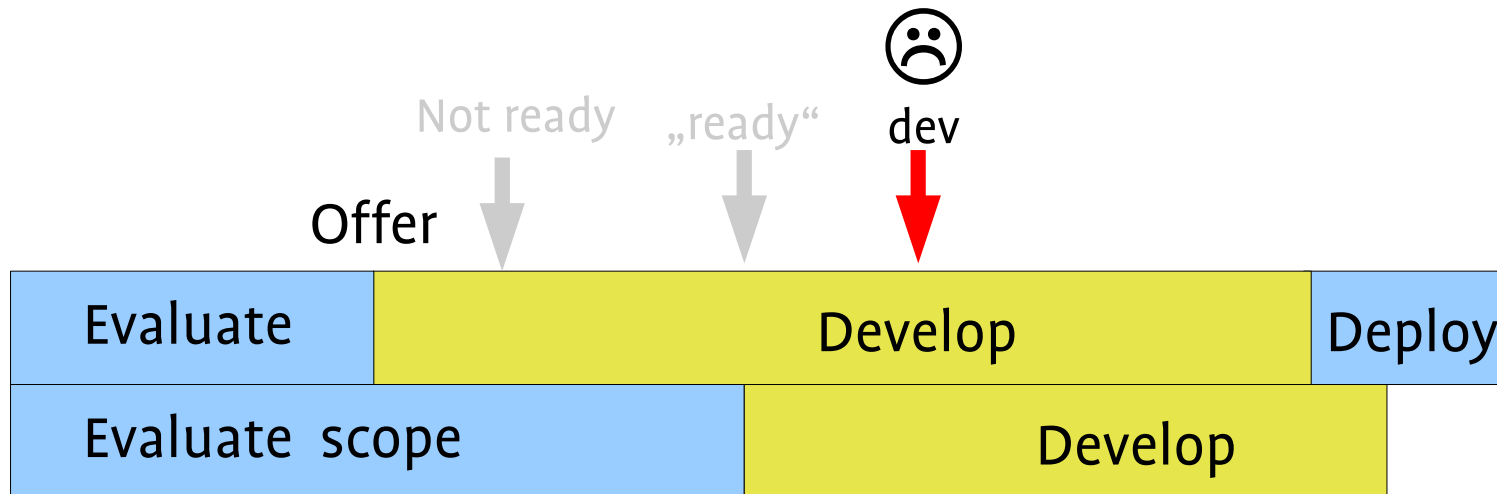
Delay because important infos are missing

The standard Project Structure **SUCKS**



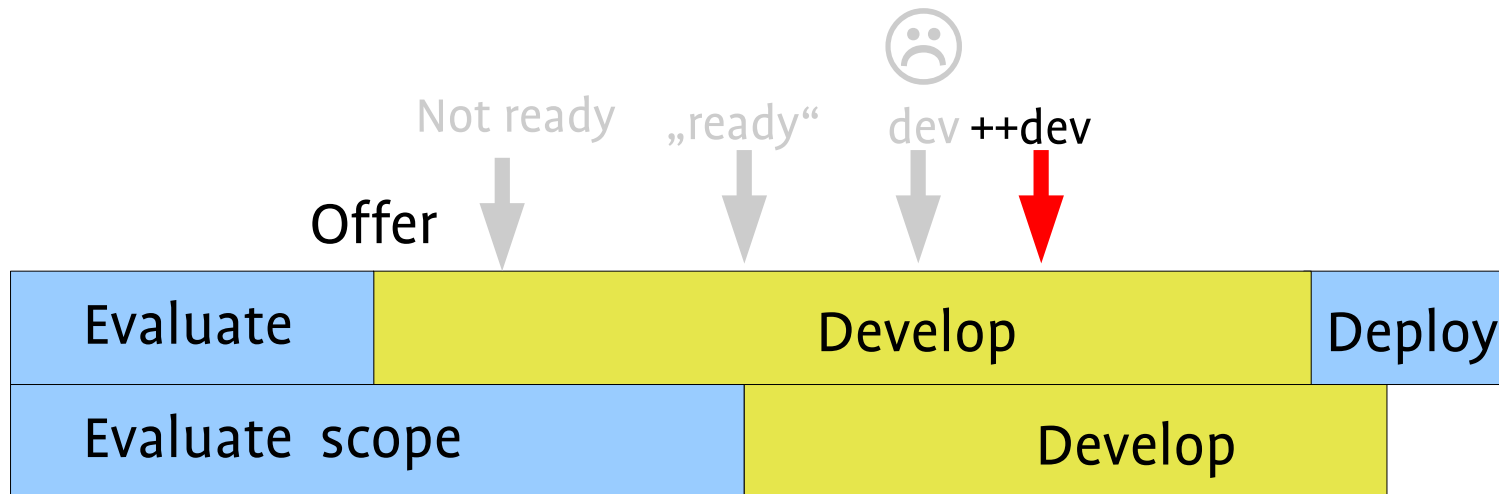
Important dev-time is already consumed

The standard Project Structure **SUCKS**



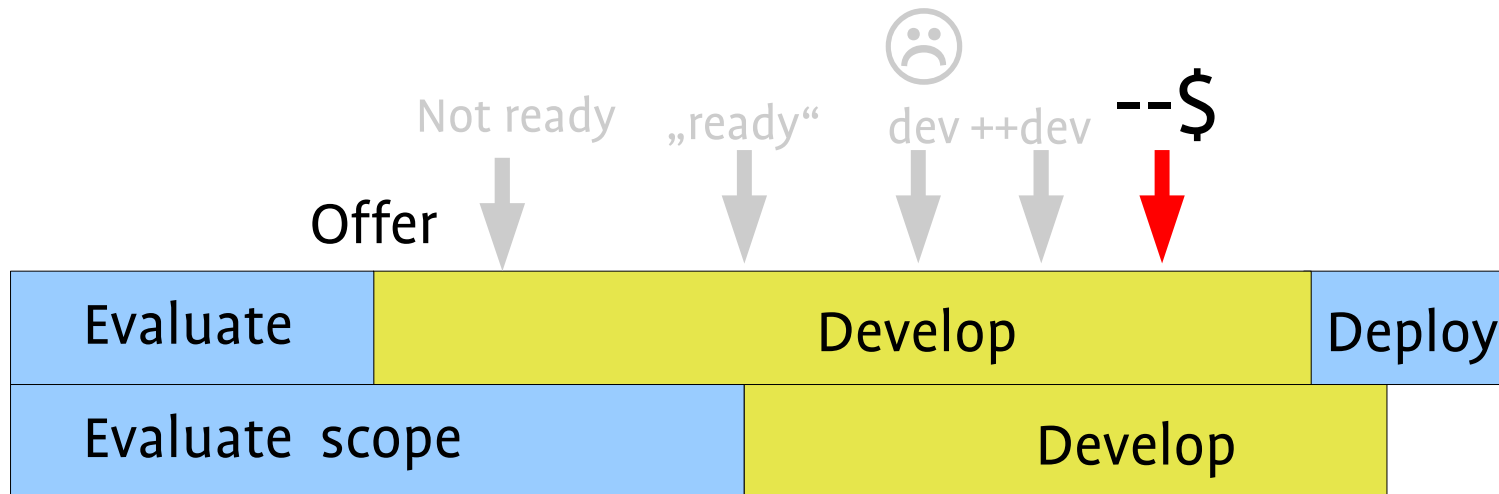
Unrealistic expectations:
Developers motivation drops.

The standard Project Structure **SUCKS**



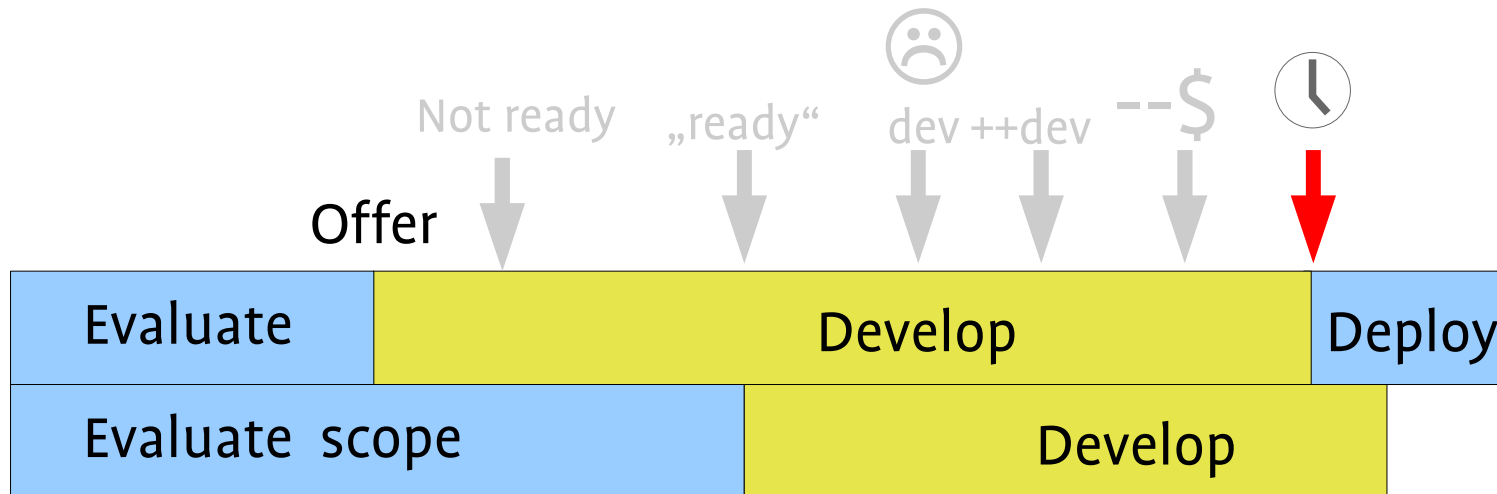
Putting more devs on a late project

The standard Project Structure **SUCKS**



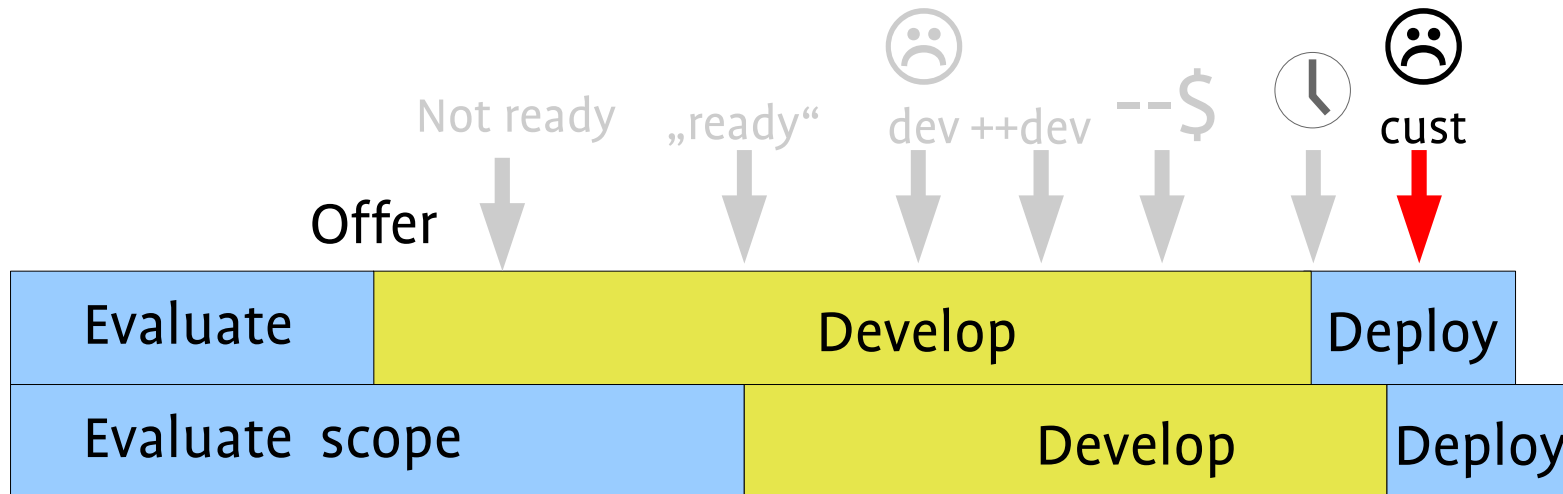
This is the day you run out of budget

The standard Project Structure **SUCKS**



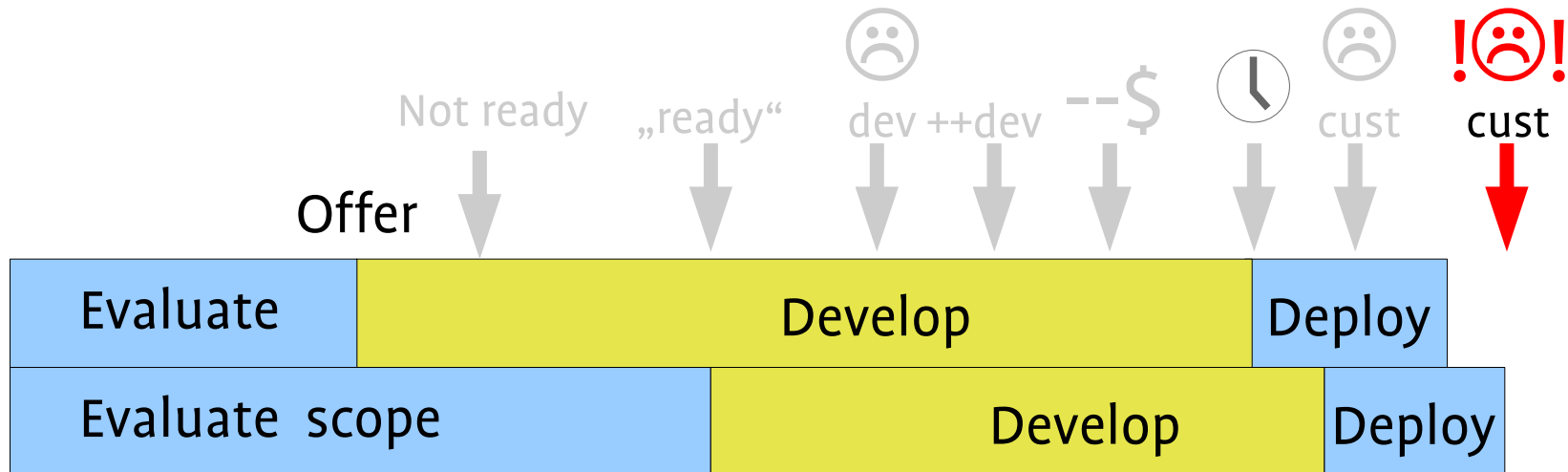
On delivery you go and ask for more time

The standard Project Structure **SUCKS**



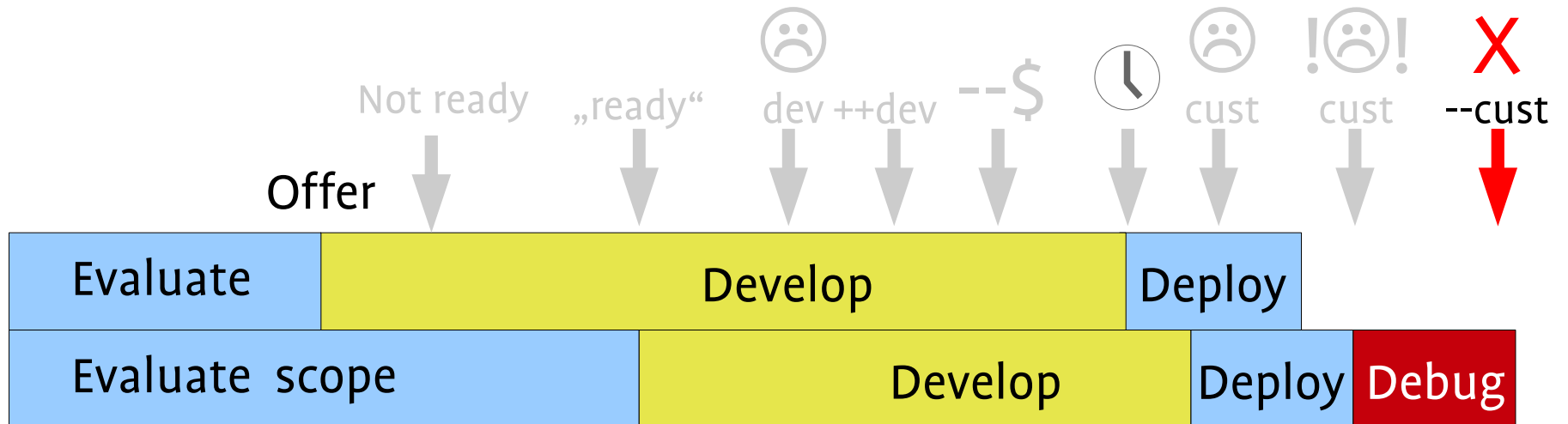
Now the customer is worried & frustrated

The standard Project Structure **SUCKS**



Deadline missed, customer pissed.

The standard Project Structure **SUCKS**



Low quality on a late project.

Wave goodbye.

The standard Project Structure

Problem #1

It doesn't scale

The standard Project Structure

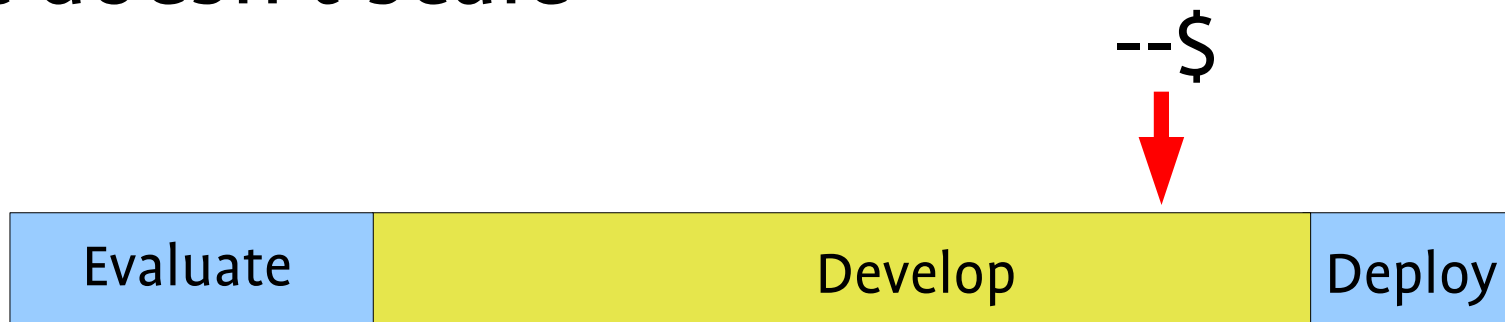
Problem #2

It isn't agile

The standard Project Structure

Problem #1

It doesn't scale



If this happens in a small project you might get away with it.
On a large project it might put your company at risk.

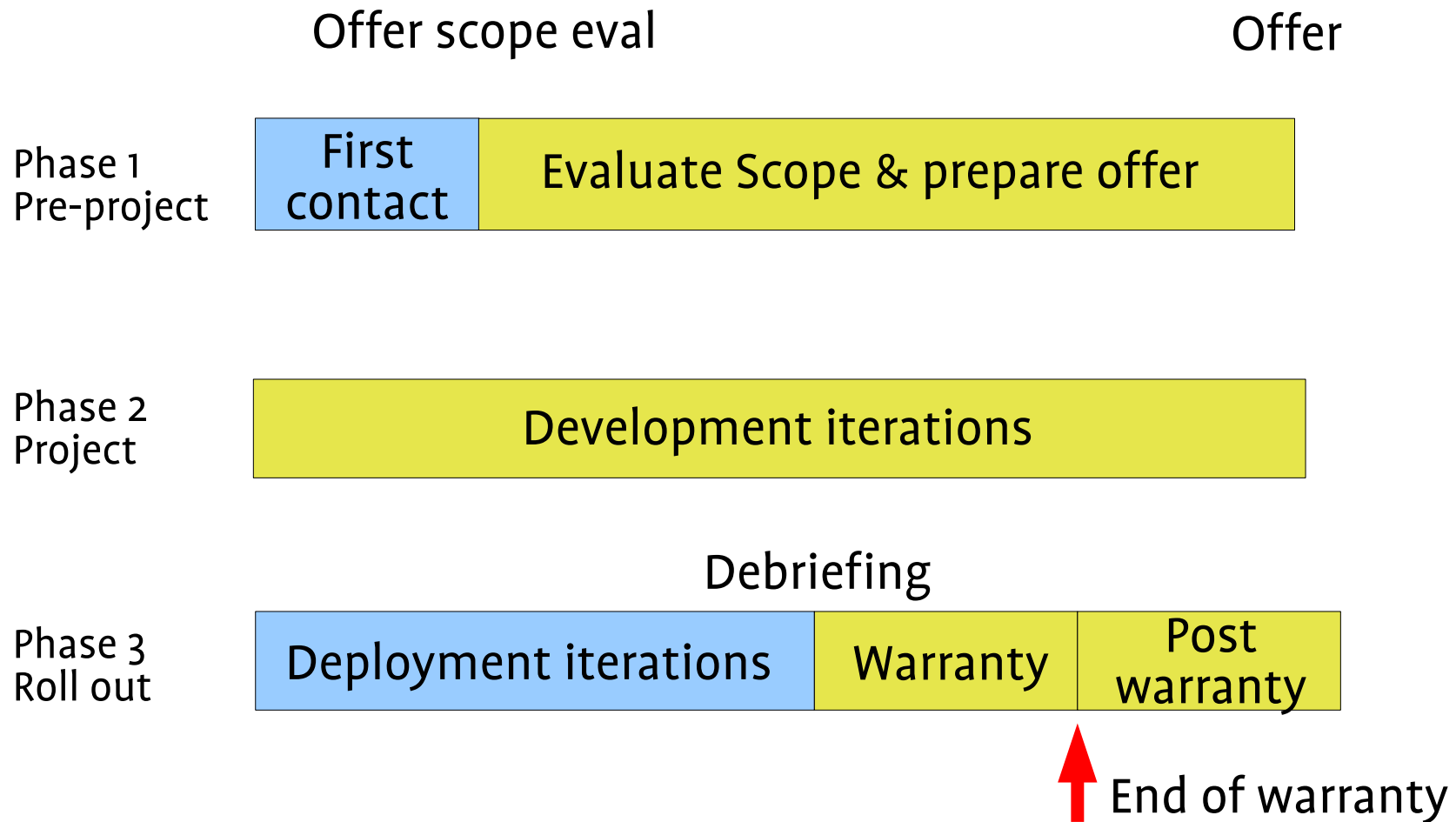
The standard Project Structure

Problem #2

It isn't agile.

Customers need a defined project they can sell internally to a superior instance

An Alternative Project Structure



An Alternative Project Structure

Phase 1
Pre-project

Initiate First contact

Plan Evaluate Scope

Phase 2
Project

Execute & Control Develop

Phase 3
Roll out

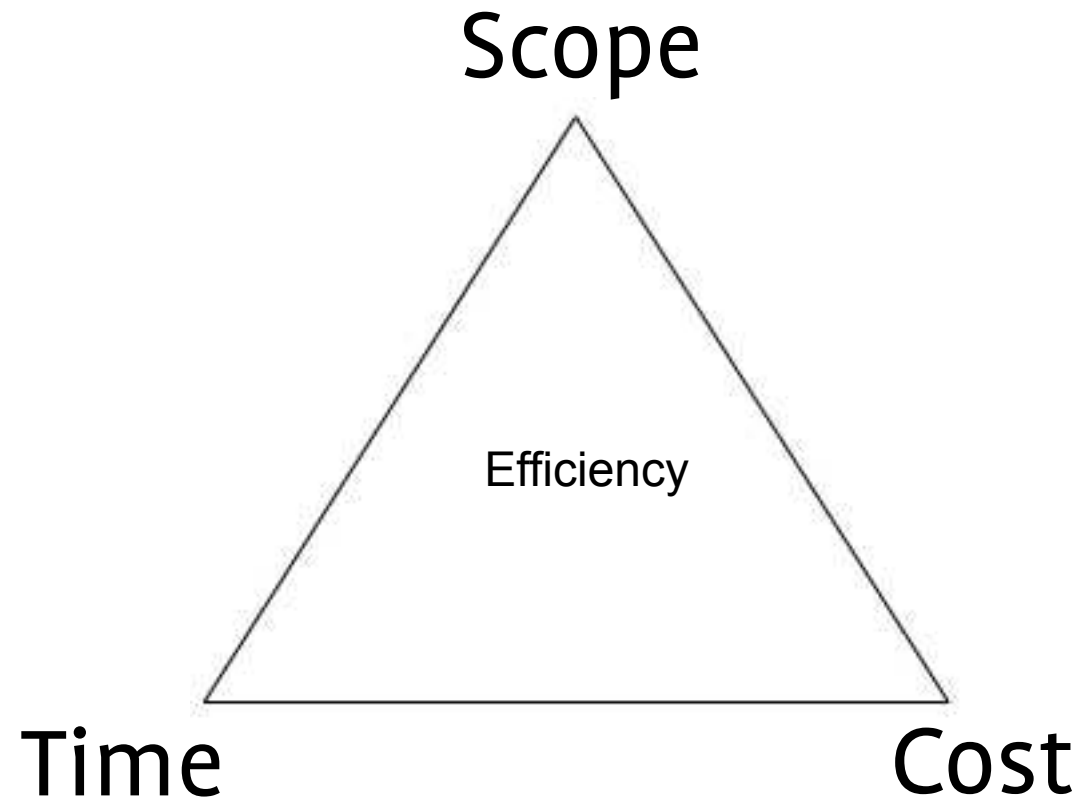
Close
Deployment
Debriefing
Warranty
Post warranty

2 Key Processes:

Evaluating Scope Controlling

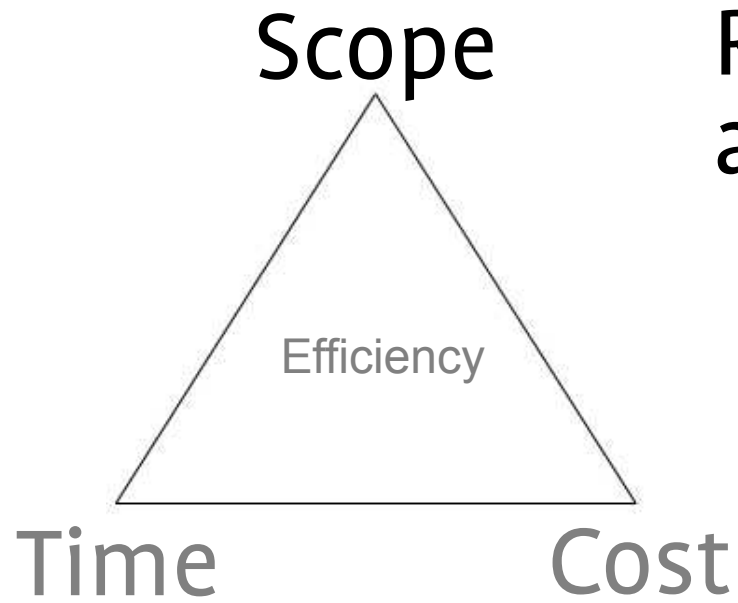
Scope

The project management triangle



Common Definition of Scope:

Requirements specified to achieve the end result.



Scope
is treated as equivalent to
Specifications

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Specifications

On Time, On Budget, On Specs

Scope \neq Specs

Scope \neq Specs

On Time, On Budget, On ~~Specs~~ Scope

A project plan based on the customer's specifications will **fail**.

Why?

Specifications reflect a feature-list

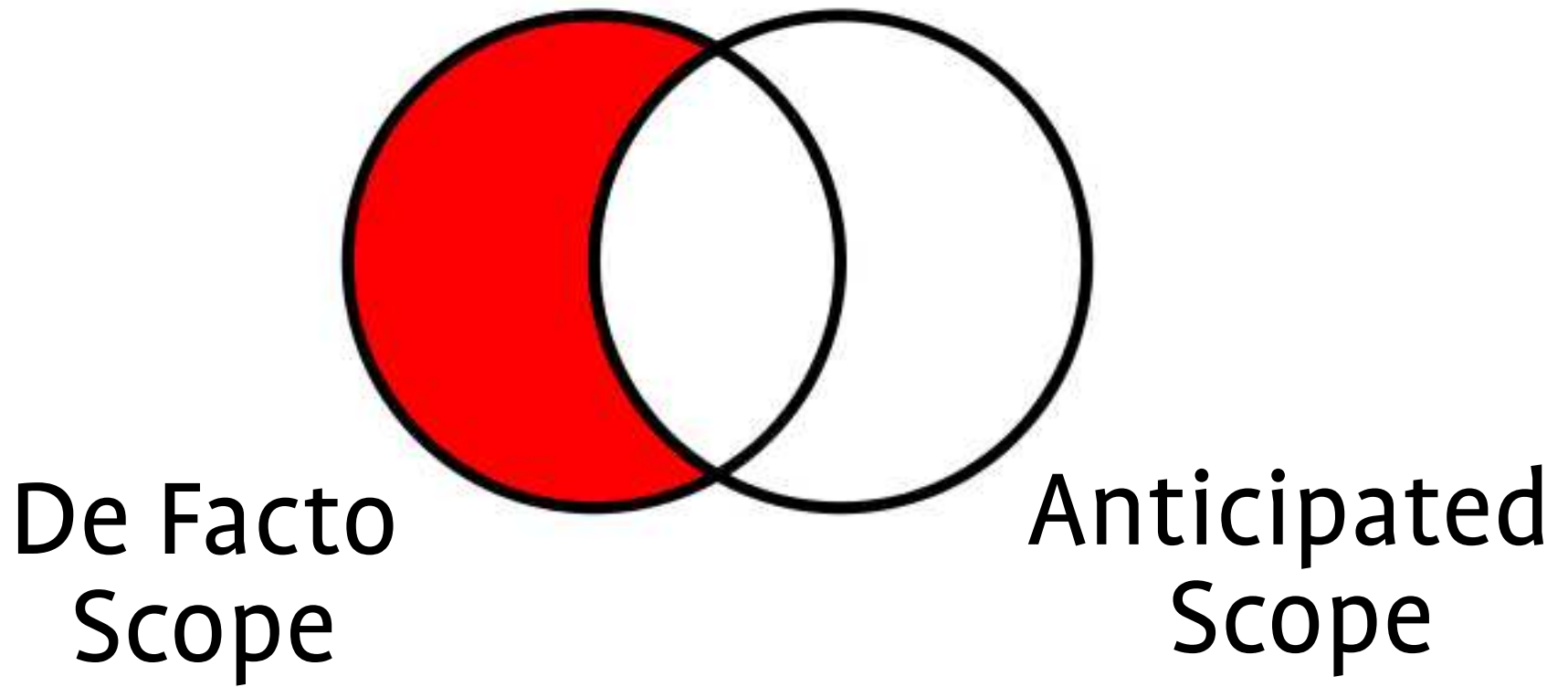
Specifications reflect a feature-list

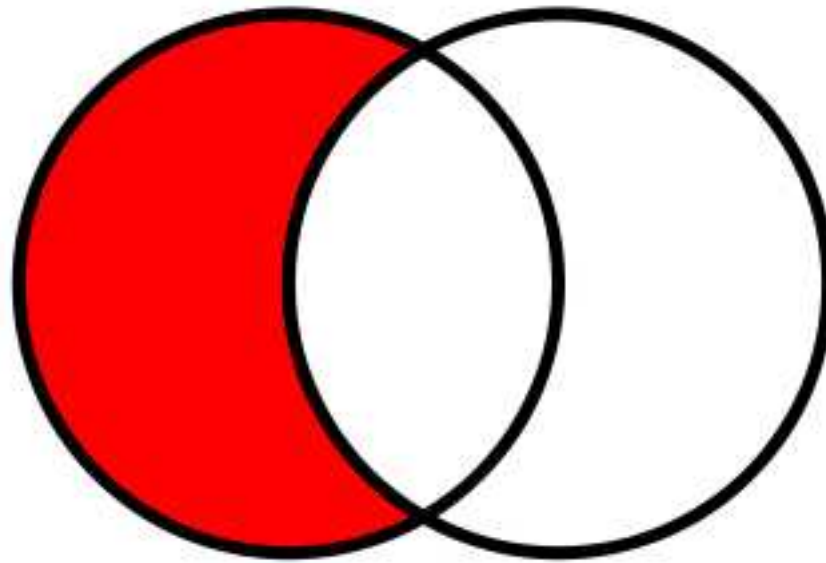
**Scope reflects the
production process**

The Scope of a project covers every

- Feature
- System
- API
- Department
- Third Party
- Process
- Investigation
- Administration
- Negotiation

Anticipate Scope





De Facto Scope



Anticipated Scope



Probability of Failure

The probability of a project's failure increases the more the anticipated scope fails to match the de facto scope.

The long list of underestimated & neglected items

Offering

- Don't offer to fit a budget
- Don't offer to fit a time frame

But most important:

Offering

- Don't offer to fit a budget
- Don't offer to fit a time frame

But most important:

**Don't lower your offer just
to beat the competition**

People

- Find out who is in charge. The board? Your contact?
- Know the project's priority for your customer and **all** involved entities?
- Brief 3rd parties. How fit are the other companies involved?
- Be aware of your resources.
- Take into account existing projects.
- Know your escalation paths.

Process

- Know your customer's processes
- Think through dependencies What elements are critical?
- Plan time for UX/Prototyping/Design
Technical reviews, handovers
- Plan enough time for quality assessment
- PM: In a large project it is a full time job
- Plan enough time for roll-out & closing

Technology

- Plan enough time for API negotiaton
- Find out about Environment.
Load Balancing, Master/Slave model
- Plan time for data modelling
- **Make a data audit**

Data audit

- Does the data exist?
- What is the form of the data? DB, XML, Excel...
- In what state is the data? Normalized? A mess?
- How much do you have to build from scratch?
- How much to refactor?
- How good is the data quality?
- What data-synchronisation processes are there?
- What is the amount of data in GigaBytes?
- Does the planned application cannibalize another?

In my experience

**most project disasters are
data related**

Knowing the scope of a project lets you:

- make projections
- identify risks
- make realistic budget
- make customers realize
 - What they need vs. what they want
 - What they can pay for

Controlling

Controlling

Ensuring project objectives are met.
Monitoring, correcting and measuring
progress.

Essential Tasks

#1 Know your numbers

#2 Keep scope

#3 Enforce deadlines

Know your numbers

At any time you must know:

- Your budget
- % of budget used
- % of work done
- When will you run out out of budget?

What does one hour of developer cost your company?

Basic costs like

- Wages
- Insurance
- Infrastructure

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Basic costs like

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basic costs = loss limit

What is the post calculation rate?

$$\text{Post calculation rate} = \frac{\text{Budget}}{\text{Hours spent}}$$

Example 1:

Your basic cost: 100 €

Post calculation rate: 145 €

Profit per hour: 45 €

Example 2:

Your basic cost: 100 €

Post calculation rate: 90 €

loss per hour: -10 €

Keep scope

- Stop and prevent feature creep
- Manage customer expectations
- Channel change requests

Enforce Deadlines

- Make the customer deliver!
- Sprint planning & reviews
- Insist on warranty period

Thank you!