Introduction to **Software Architecture**

Philippe Collet
(95%. of slides from Sébastien Mosser)
Lecture #1

Architecture?

" The **art** or **science** of building; esp. the art or practice of **designing** and **building** edifices for **human use**, taking both **aesthetic** and **practical factors** into account.

[Oxford English Dictionary, 2002]

Architect?

" **Beautiful** architectures

do **more** with **less**.

[Stephen J. Mellor]

Organization

ISA & DevOps as a Single Module

Week	Date	Friday Morning				Friday Afternoon			
		08:00 - 09:00	09:00 - 10:00	10:15 - 11:15	11:15 - 12:15	13:30 - 14:30	14:30 - 15:30	15:45 - 16:45	16:45 - 17:45
4	29/01/2021	Kickoff J2E EJB (3h pre-recorded)			Project kick-off	DevOps overview	TD DevOps on TCF		
5	05/02/2021	Ski Week (canceled)							
6	12/02/2021	Project work			EJB ORM	Test	Project work		
7	19/02/2021	Project work		View point	Interoperability & WS	Artifactory	Multi-plan CI	Project work	
8	26/02/2021	Project work				Project work			
9	05/03/2021	Winter Break							
10	12/03/2021	Project work			(buffer)	Whiteboard	Project work		
11	19/03/2021	Technical interview (Minimal & Viable Product)				Technical interview (Minimal & Viable Product)			
12	26/03/2021	Project work			Arch Dojo	Docker	Project work		
13	02/04/2021	Project work			Persistence	Compose	Project work		
14	09/04/2021	Project work			Stateful Services	Kubernetes	Project work		
15	16/04/2021	Project work			Interceptors	tbd	Project work		
16	23/04/2021	Project work			(buffer)	(buffer)	Project work		
17	30/04/2021	Easter Break							
18	07/05/2021	Technical interview (Final Deliverable)				Technical interview (Final Deliverable)			
19	14/05/2021	Exam				Exam	Project work		

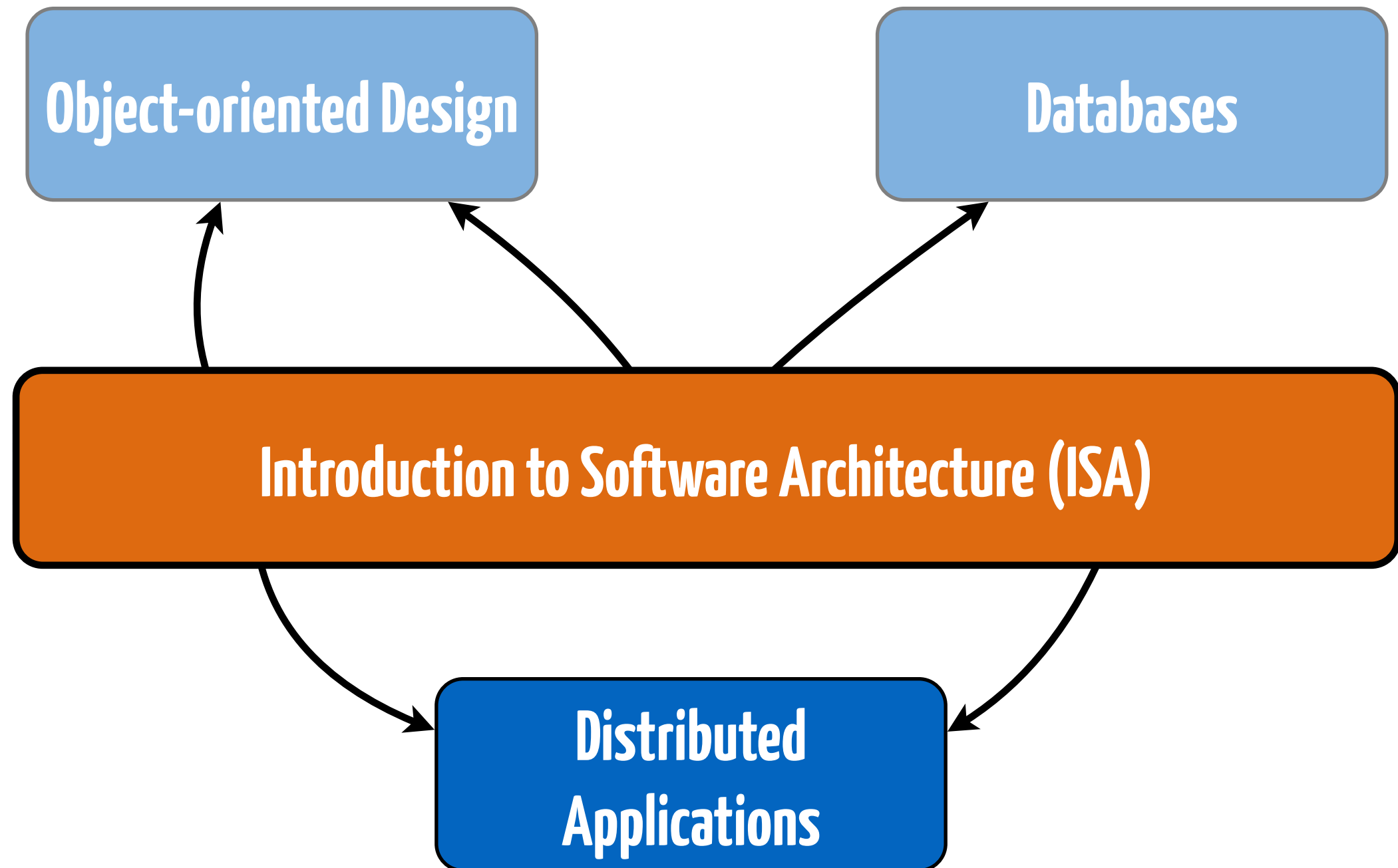## Shared Case study & Technological Stack

Contract

- Students:

  - **Be on time** (lectures, labs)

  - Project **involvement**

  - **Prepare** when asked for

- Staff:

  - One-week latency feedback

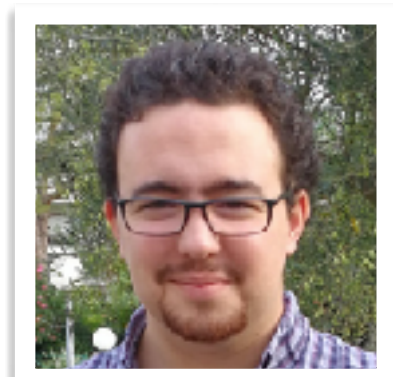 - Availability (slack)

Intro. to Soft. Arch.: Dependencies

The team

POLYTECH NICE SOPHIA | UNIVERSITÉ CÔTE D'AZUR
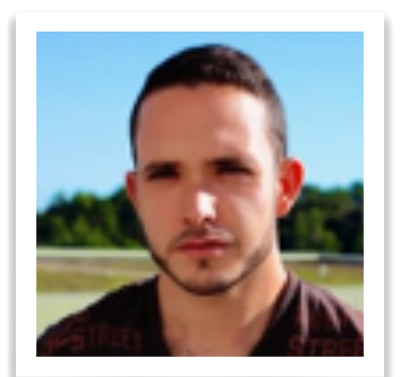
ISA

Anne-Marie Déry
Polytech

Nassim Bounouas
SQUAD (AL 2019)

Philippe Collet
Polytech

Laura Lopez
Greencom (AL 2020)

Nathan Strobbe
TriPica (AL 2020)

DEVOPS

Guilhem Molines
IBM

Salah Dahmoul
Sequoiasoft (AL 2017)
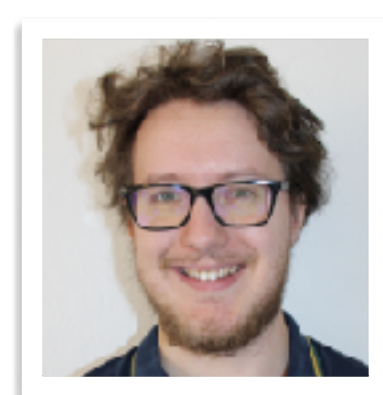
Nikita Rousseau
SQUAD (AL 2019)

https://github.com/collet/isa-devops
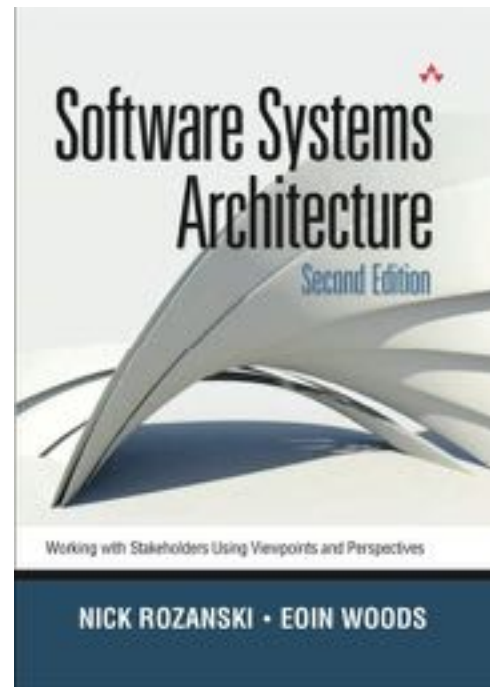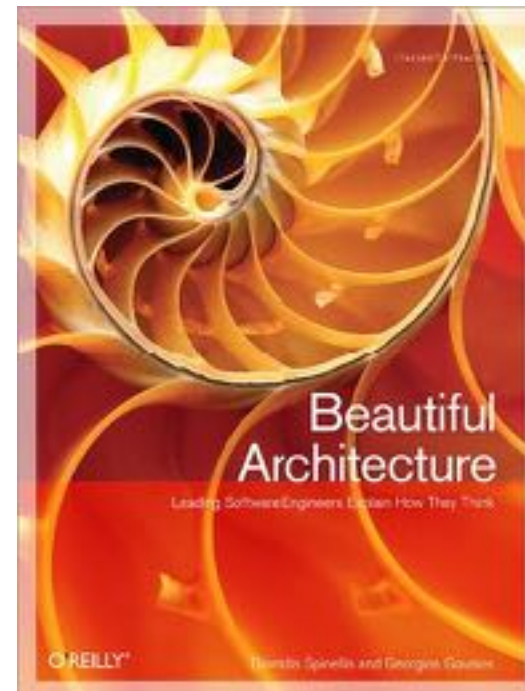
#slack **#si4-isa-devops-20-21**

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Bibliography (technologically independent)
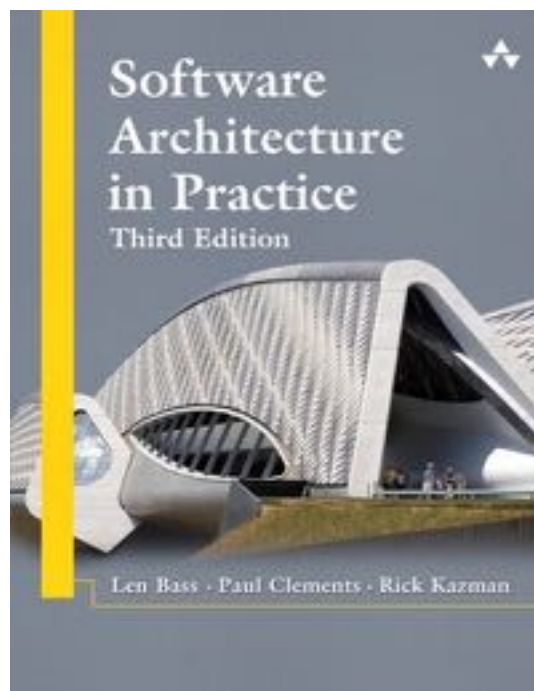
[SAiP, 2012]

[SSA, 2011]

[BA, 2009]

[PoEAA, 2002]

Internet

B2C   *B2B*

Web UI *(JSF)*

Service Exposition (*SOAP* Web Services)

Stateless Components *(EJB session, Msg-driven)*

Statefull Comp. *(EJB session)*

T E S T S

I N T E R C E P T O R S

Persistent Entities *(EJB entities)*

REST *(HTTP)*

Test

Prod M

in memory *(HSQLDB)*

File-based *(HSQLDB)*

Third part System *(.Net)*
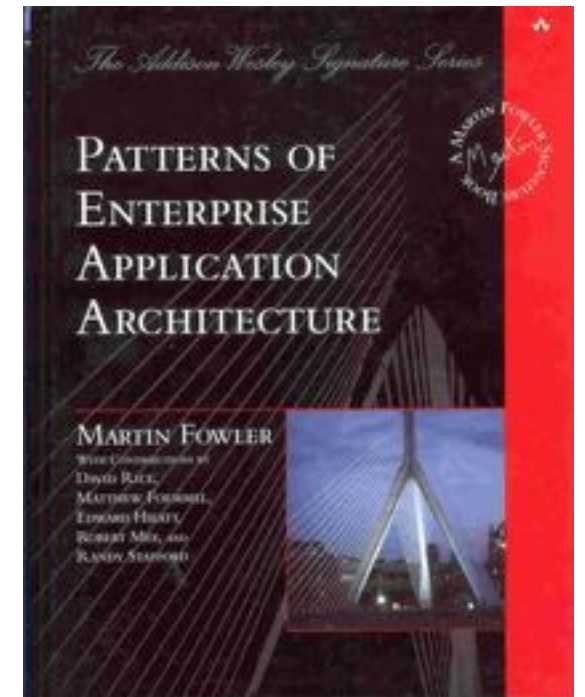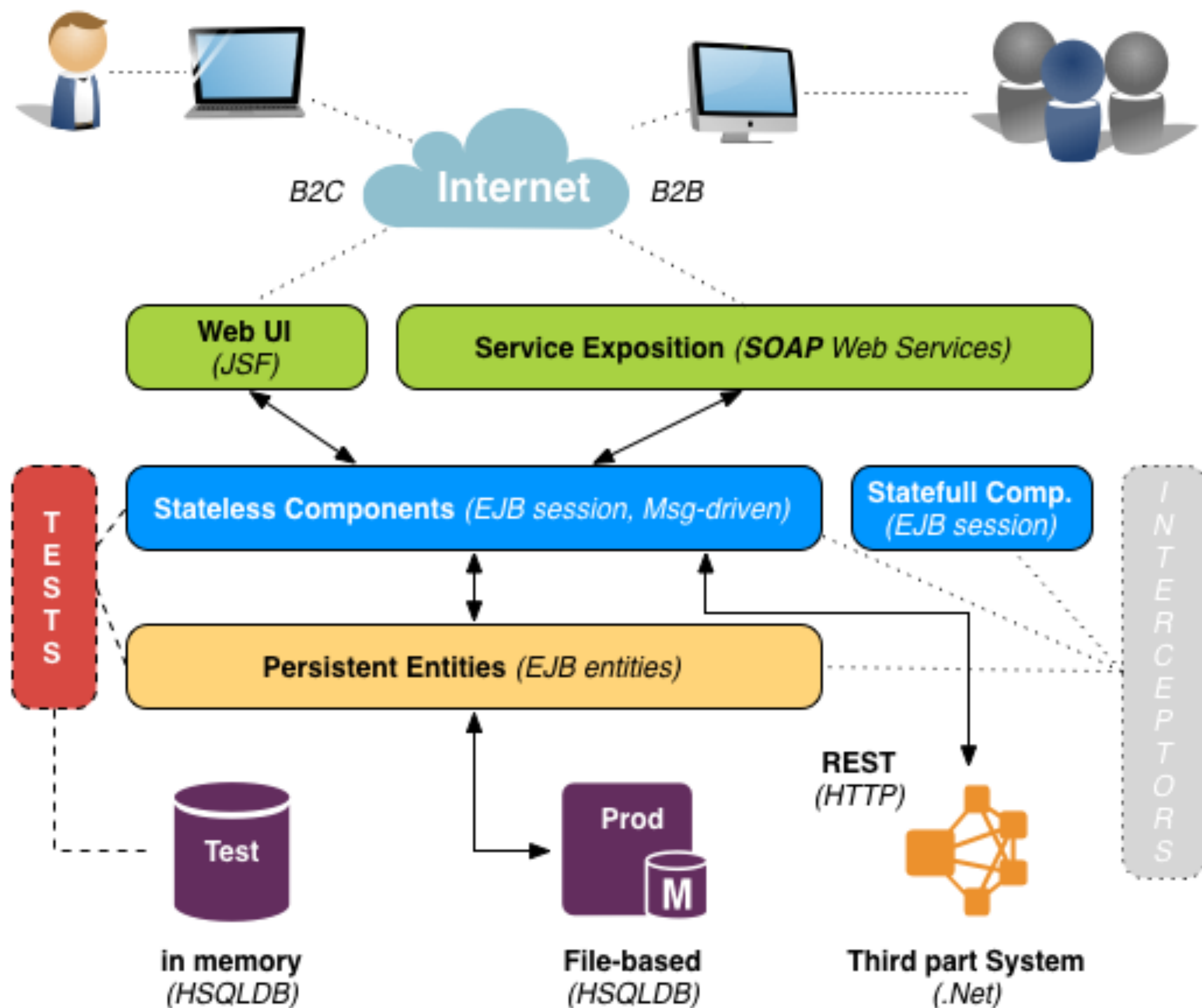
Evaluation (dependency graph)

15% **Architecture Report** (Feb 14th!)

Exam **40%**

15% **Tech. Interview (Final)**

.Net MVP   **Java MVP**

10% **Technical Interview (MVP)** → **Final Project** **20%**

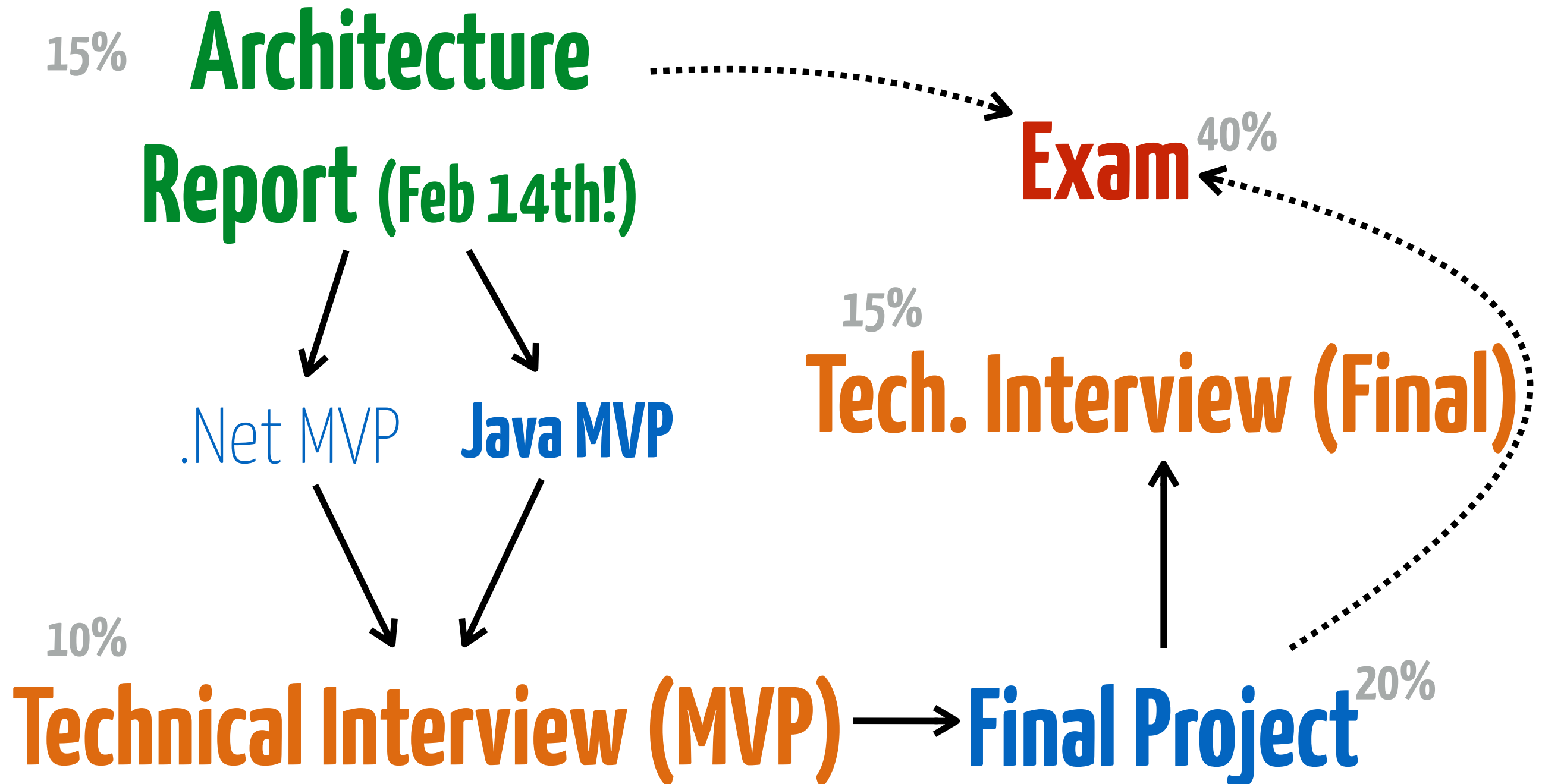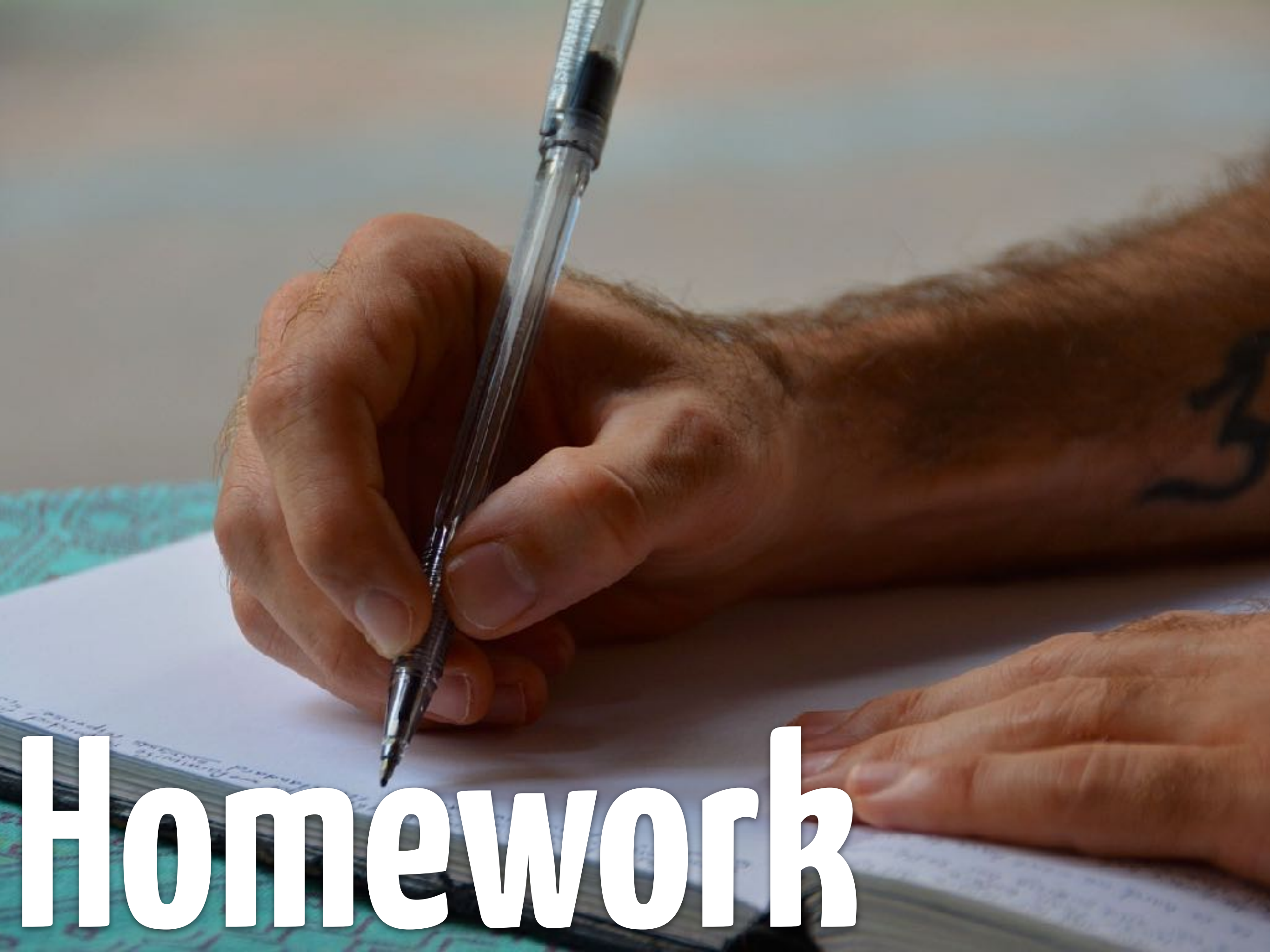Design   Code   Presentation   Exam

Homework

Today

Building teams of 5

Setup : GitHub classroom / repo / kanban

Compiling & Understanding TCF
(The Cookie Factory)

Start the project understanding

Delivery

Architecture document on the git (~10 pages long)

- Use cases diagrams;

- Business objects definition as class diagram;

- Interfaces pseudo-code definition (e.g., Java like);

- Components described by a component diagram;

Each artefact must be justified with respect to its relevance in your architecture.