Teaching DevOps at the Graduate Level:
A report from Polytech Nice Sophia

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For us, DevOps doesn't mean that
"one single guy handle both Devs and Ops"

It means that Devs OR ops
can be "on call"

The Dream Team

Software Architecture

OO Design & Tests

Software Engineering

HCI & RE

Guilhem

Philippe

Ben

Seb

Anne-Marie

Course Organisation

Full day course (Friday), 55 students max.

Optional, 12 weeks (96h for students)

Project-driven approach (coaching)

Spectrum: From Software Architecture to Ops

Lectures (16h) + Project Lab (73h) + Eval (7h)

Week	Friday Morning		Friday Afternoon	
	08:00 - 09:00	*09:15 - 12:15*	*13:30 - 14:30*	*14:45 - 17:45*
6	**Introduction to Software Architecture**		**DevOps Overview**	*Mutation Testing Lab*
7	*Poly'Event Architecture definition (unsupervised)*		**Arch. for Testing**	*Mutation Testing Lab*
8	*Mutation Testing Lab (unsupervised until further notice)*		**Func. & Int. Tests**	*Poly'Event Architecture definition*
9	**Soft. Components**	*Poly'Event Project*	**Arch Dojo #1**	*Poly'Event Project*
10	**Winter break**			
11	**Interoperability & WS**	*Poly'Event Project*	**Cont. Integration**	*Poly'Event Project*
12	**Cont. Integration**	*Poly'Event Project*	**Build plan & Pipeline**	*Poly'Event Project*
13	**Technical interview (Minimal & Viable Product)**		*Poly'Event Project (unsupervised)*	
14	**Persistence**	*Poly'Event Project*	**Deployment**	*Poly'Event Project*
15	**Arch Dojo #2**	*Poly'Event Project*	**Soft. Containers**	*Poly'Event Project*
16	**Q&A, Stepback**	*Poly'Event Project*	Scaling	*Poly'Event Project*
17	**Easter Break**			
18	*Poly'Event Project (unsupervised)*		**Technical Interview (Almost-final Product)**	
19				
20		**Architecture Exam (3 hours)**		**DevOps Exam (3 hours)**

https://github.com/mosser/isa-devops

Project = Call for bids

2-pages describing a Product Vision

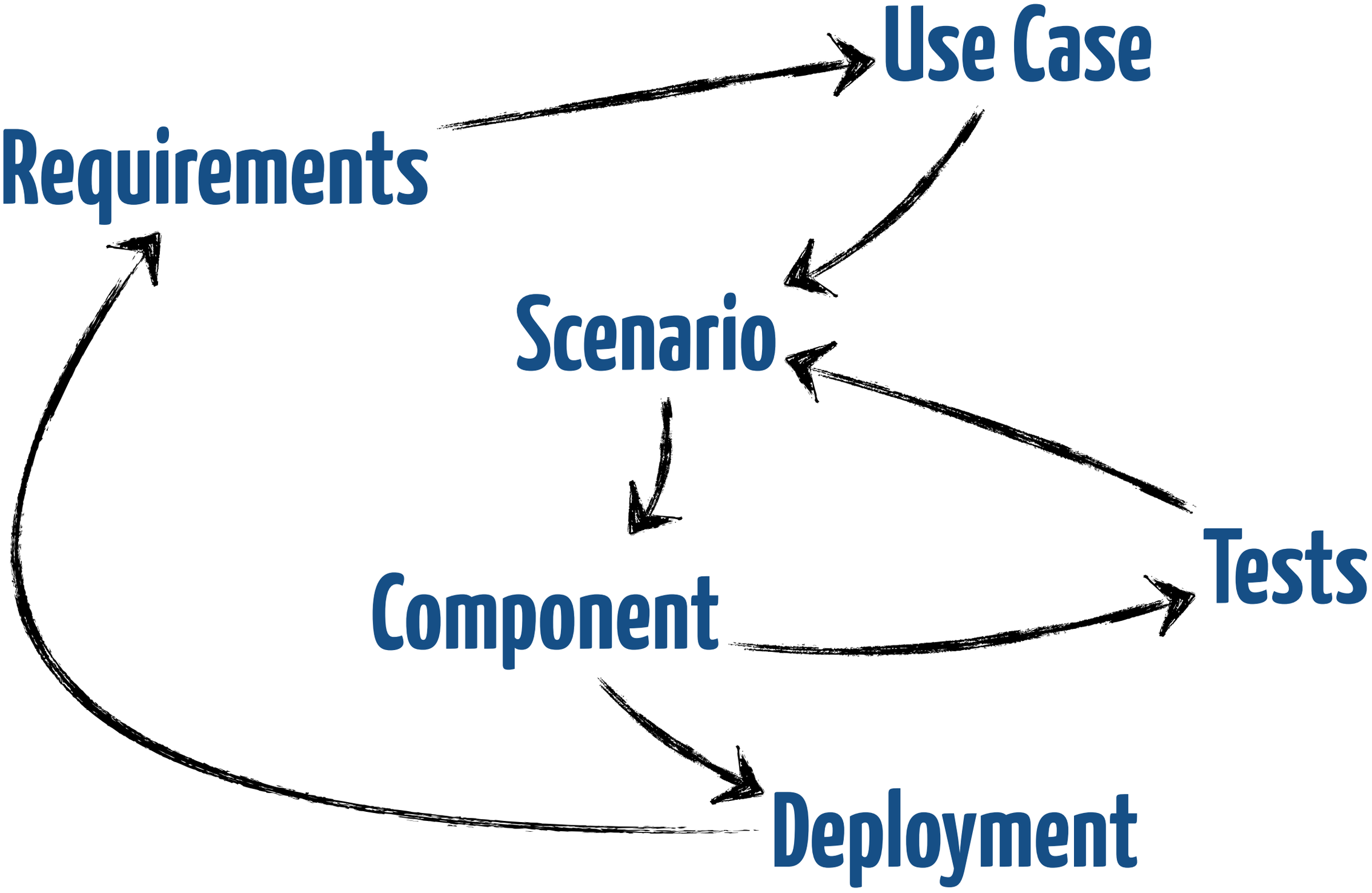
Ski resort management

Un-loyalty program

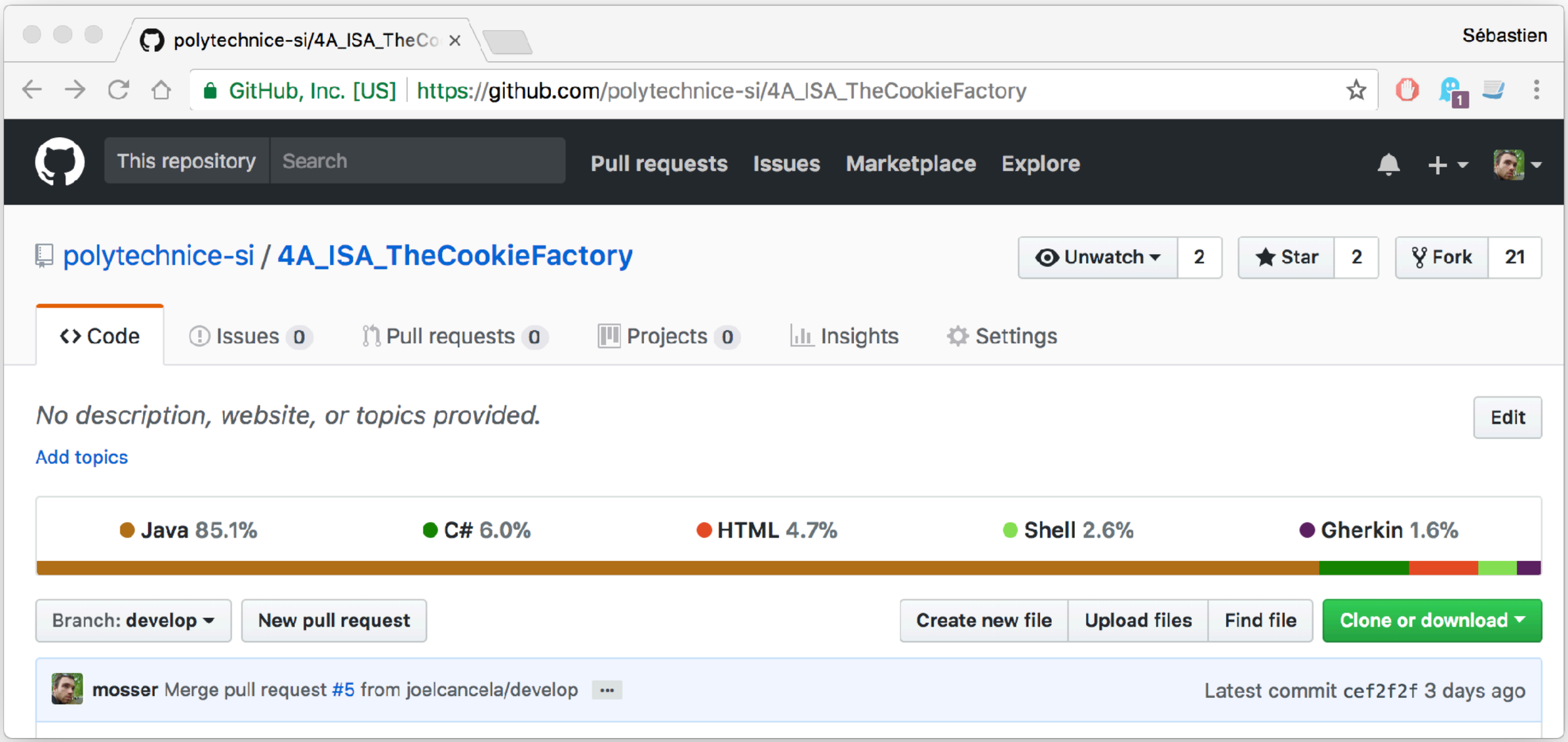
The Cookie Factory

Messaging System

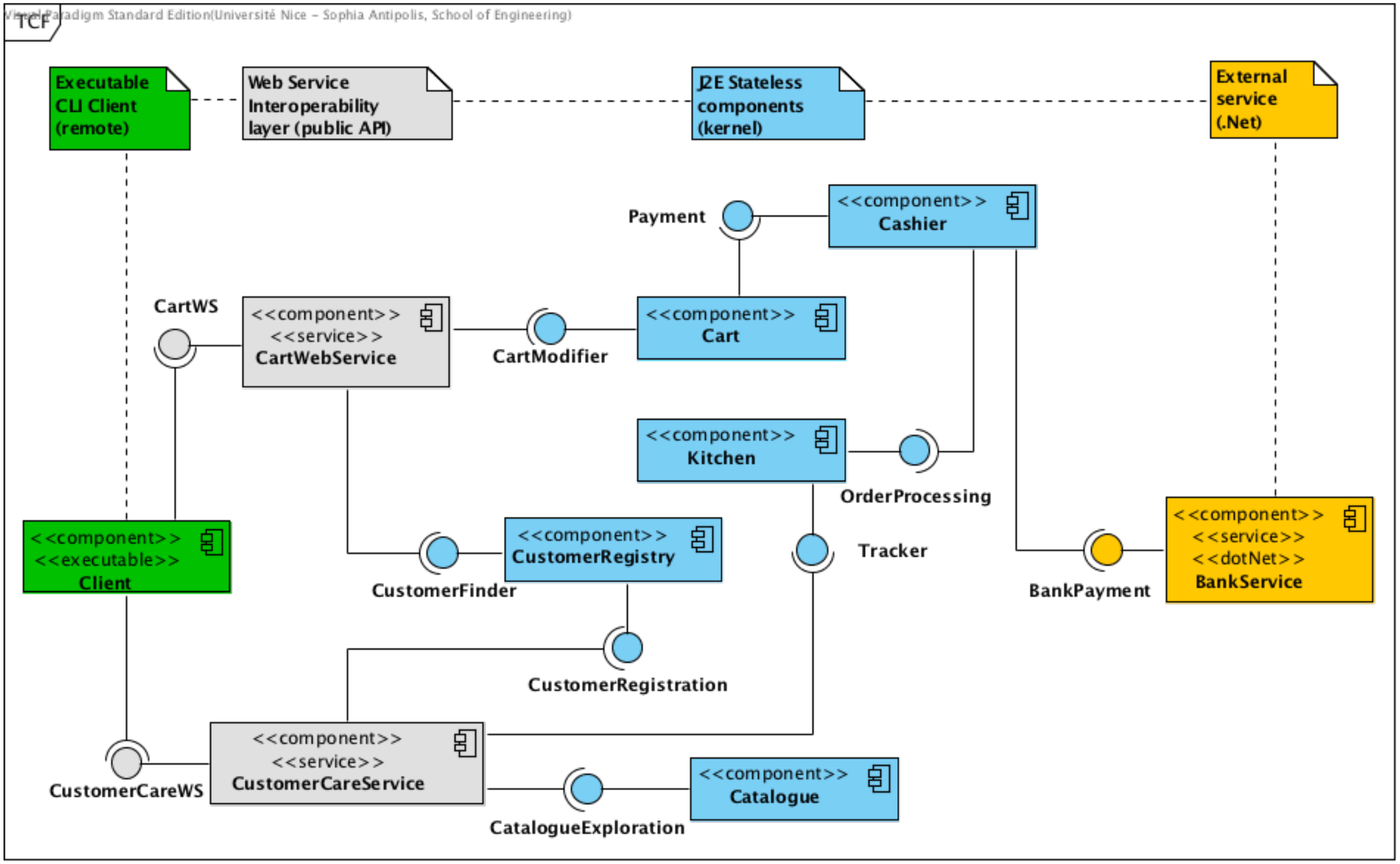
Expected Outcome



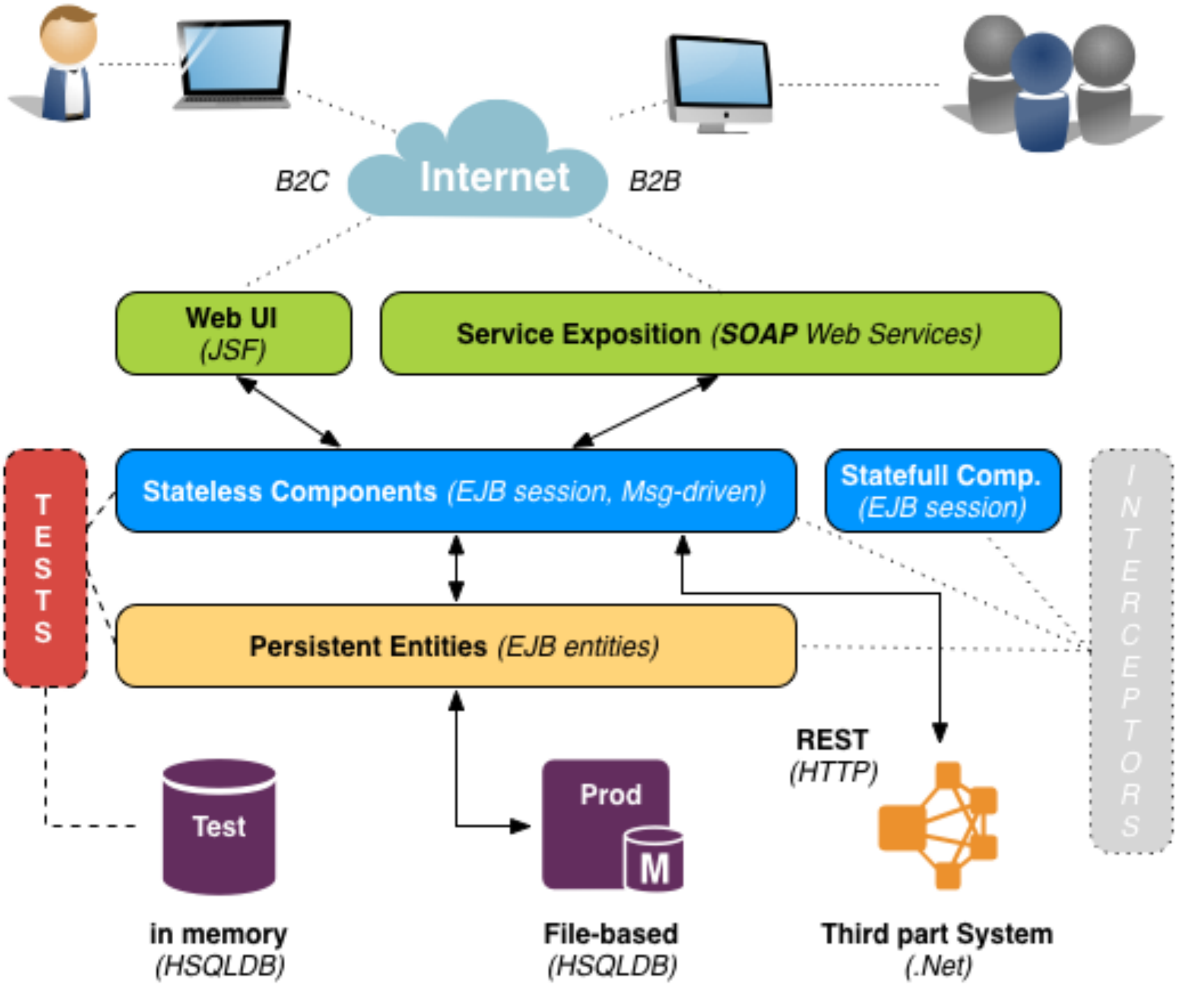
The Cookie Factory (TCF) system



https://github.com/polytechnice-si/4A_ISA_TheCookieFactory



Reference implementation for n-tiers architecture


B2C
Internet
B2B
Web UI
(JSF)
Service Exposition (SOAP Web Services)
TESTS
Stateless Components (EJB session, Msg-driven)
Statefull Comp.
(EJB session)
INTERCEPTORS
Persistent Entities (EJB entities)
REST
(HTTP)
Test
Prod
M
in memory
(HSQLDB)
File-based
(HSQLDB)
Third part System
(.Net)