

## Exercise 4: Orchestration vs Choreography in Flowing Retail

Deadline: 19.03.2024; 23:59 CET

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### Project Abstract

In the fourth week's exercise on Event-driven and Process-oriented Architectures we will discuss the use of orchestration versus choreography for coordination.

### ① Labs

In the practical part of the lecture we ask you to work on the following lab to investigate and compare the implementations of the *Flowing Retail* project with each other:

- Lab07 – Flowing Retail Camunda Version<sup>1</sup>: This lab shows an alternative implementation of the *Flowing Retail* project from Lab4, which was based on a pure choreography approach. We now look at the alternative implementation using the Camunda BPM platform at various points in the order fulfillment process. Have a look at the corresponding docker-compose file<sup>2</sup> to see which services are now involved, study the source code and try to run the project and sample process. Find out what has changed compared to the choreography-based version, discuss the associated trade-offs and consequences. Try to trigger some of the exceptions/timeouts in the BPMN models.

### ② Suggestions for Software Project

For your software application you could think about either extending the order flow of the given *Flowing Retail* project with additional commands, events and other process elements. Alternatively, you could think about developing your own prototype of a small event-driven system where you try to find a balance between events and commands.

### Software Project Expectations

The labs in Part 1 of this sheet are meant to be done during class and are **not graded**. In Part 2 we expect you to prepare a report on the project-related implementations that you have done in your group.

### Hand-in Instructions

The report and implementation for project-related Part 2 will **be graded** as part of the software application for your group to be handed in for the first part of the lecture until after the semester break. An intermediate hand-in of the results from Exercise 4 is expected together with the results from Exercise 3 via Canvas by the deadline indicated on the top of this sheet. Please submit a PDF file documenting your work on the project-related part of Exercises 3 and 4 via Canvas. Include GitHub links in case there is already relevant source code. Each group member **must explicitly indicate** which part she/he/they has/have been working on. Please approach the tutors for individual feedback regarding your submission for this assignment.

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<sup>1</sup><https://github.com/scs-edpo/lab04-flowing-retail/tree/master/kafka/java>

<sup>2</sup><https://github.com/scs-edpo/lab04-flowing-retail/blob/master/runner/docker-compose/docker-compose-kafka-java-order-camunda.yml>