University of St.Gallen

School of Computer Science

Event-driven and Process-oriented Architectures, FS2023
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Exercise 4: Orchestration vs Choreography in Flowing Retail

Deadline: 21.03.2023; 23:59 CET

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[1]: 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[2] 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 Project Portfolio

For your project portfolio 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.

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 (portfolio)-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 project portfolio 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 1 and 2 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.

[1] https://github.com/scs-edpo/lab04-flowing-retail/tree/master/kafka/java
[2] https://github.com/scs-edpo/lab04-flowing-retail/blob/master/runner/docker-compose/docker-compose-kafka-java-order-camunda.yml