# HSG-EDPO-SS23 / Exercise 3 and 4

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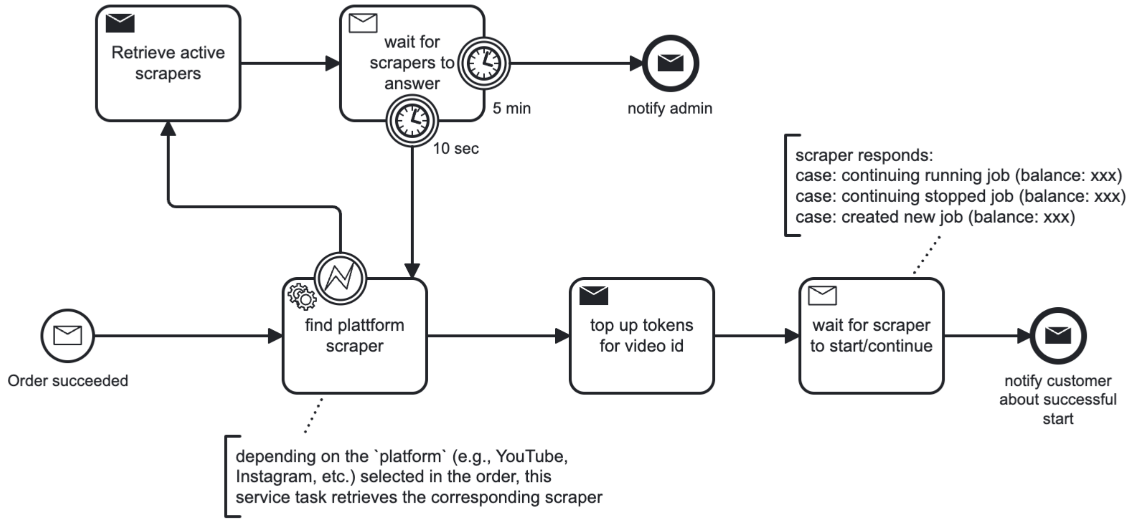
| Group | 2 |
| Members | Johannes, Luka, Philipp |
| Date | March 21, 2023 |

## Exercise 3

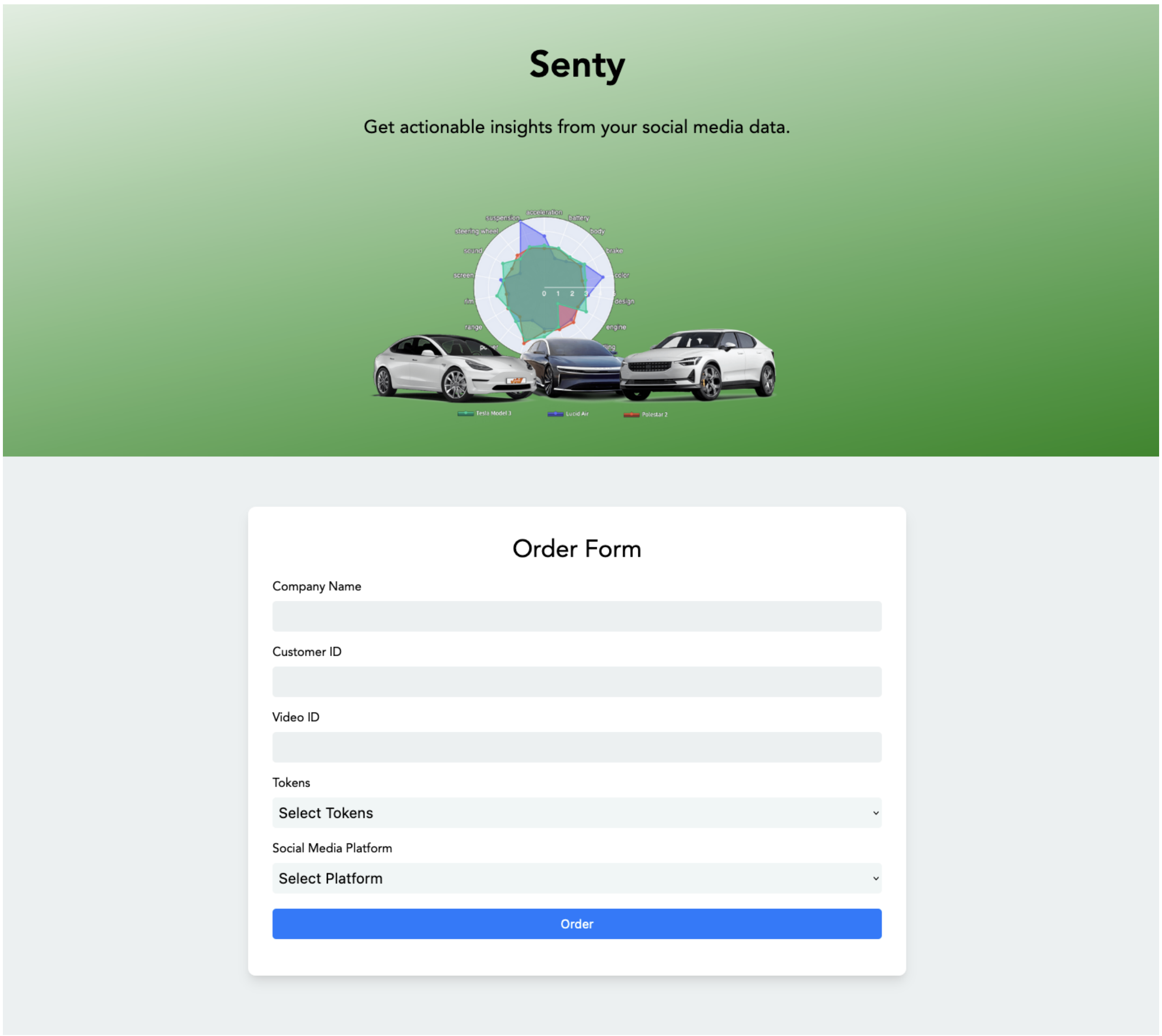
As elaborated in `adr/0002`, the decision has been made to use Camunda for process orchestration and Kafka for messaging, utilizing Kafka topics for exchanging messages and ensuring decoupling between services, with the consequence of increased scalability and efficiency but requiring more careful integration and potential increased complexity.

The `project-manager-camunda` (prev. `project-manager`), implements this decision and orchestrates the following workflow:


Retrieve active scrapers
wait for scrapers to answer
5 min
10 sec
notify admin
scraper responds:
case: continuing running job (balance: xxx)
case: continuing stopped job (balance: xxx)
case: created new job (balance: xxx)
Order succeeded
find plattform scraper
top up tokens for video id
wait for scraper to start/continue
notify customer about successful start
depending on the `platform` (e.g., YouTube, Instagram, etc.) selected in the order, this service task retrieves the corresponding scraper

To accomplish the correlation between Kafka and Camunda, the `project-manager-camunda` uses a `MessageListener` that correlates a Kafka message to a Camunda process instance using the traceId provided in the Kafka message.

Moreover, as suggested for Task 2, we implemented a simple HTML user interface to start the order process in our `checkout` service:



Senty

Get actionable insights from your social media data.

Order Form

Company Name

Customer ID

Video ID

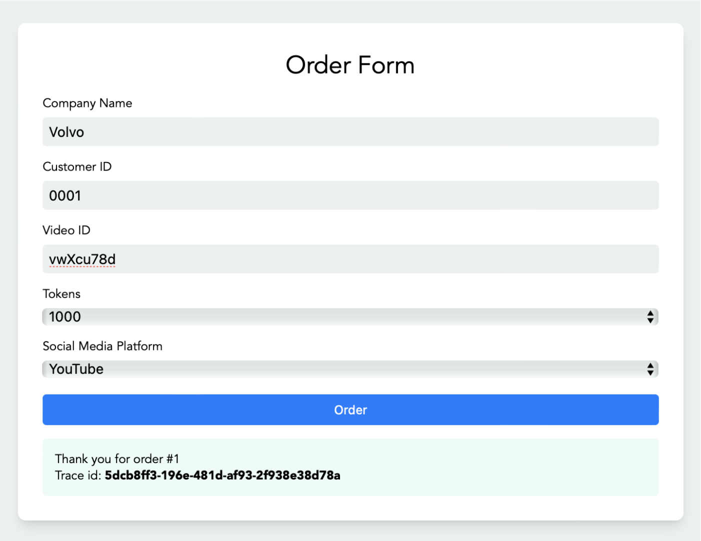
Tokens

Select Tokens

Social Media Platform

Select Platform

The form has some user support to display success and error messages:



Order Form

Company Name: Volvo

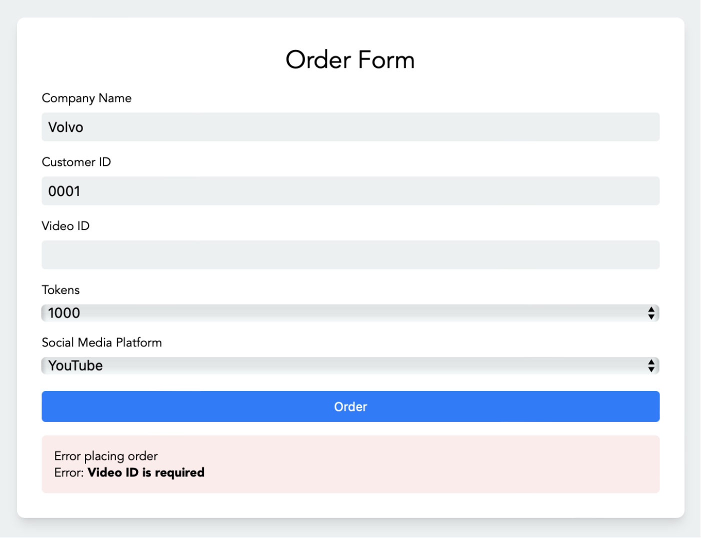
Customer ID: 0001

Video ID: vwXcu78d

Tokens: 1000

Social Media Platform: YouTube

Thank you for order #1
Trace id: **5dcb8ff3-196e-481d-af93-2f938e38d78a**



Order Form

Company Name: Volvo

Customer ID: 0001

Video ID:

Tokens: 1000

Social Media Platform: YouTube

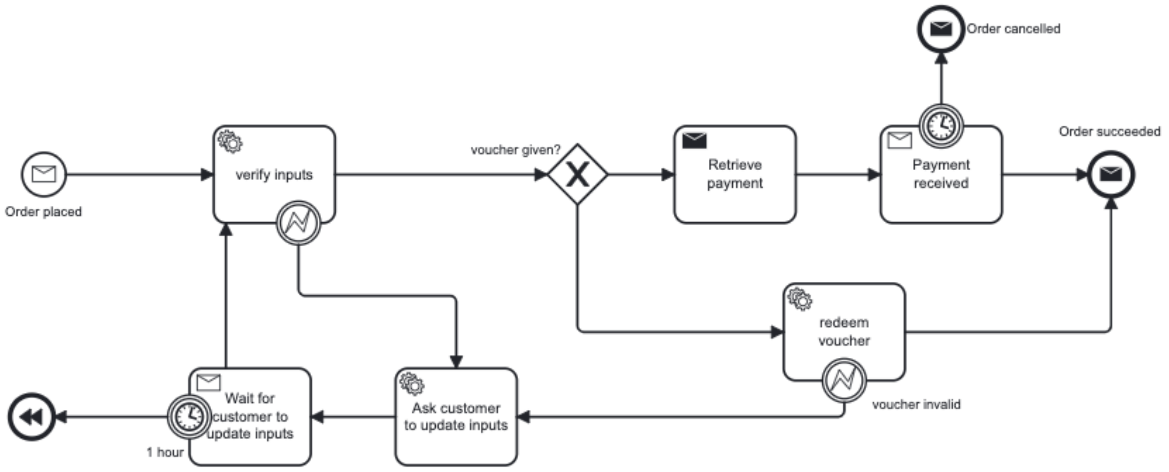
Error placing order
Error: **Video ID is required**

# Exercise 4

We have extended our project to realize the following flow:

`checkout` --> `order` (see BPMN below) --> `project-manager-camunda` (see BMPN above) --> `scraper` --> `comment-analysis`

`order` BPMN:



Currently, mostly the "happy path" has been covered, and we plan to add a payment service similar to the flowing retail example. Moreover, we will still have to improve the naming and refactor our project a bit.

As we further explored the implementation of our system, we recognized the importance of applying the concepts of commands and events as learned in the lecture. Although we are still in the process of implementing these concepts, we have considered their application to our system design.

To optimize the sequence of crucial actions and ensure that they are executed reliably, we have chosen to implement payment retrieval and topUp messages as commands. The payment service and the selected scraper service are solely responsible for their actions, respectively. We have also incorporated an answer verification step in the project manager's BPMN to ensure that the designated scraper takes on the required job.

While determining the optimal approach for the order succeeded/placed event, we have implemented it as an event for the time being. Additionally, we have decided to implement the retrieve active scrapers step as an event to guarantee that all active scrapers respond to the "call" and indicate their availability.

## Contributions:

| | **Johannes** | **Luka** | **Philipp** |
|---|---|---|---|
| Backend | ++ | + | + |
| Frontend | + | + | ++ |
| BPMN | ++ | ++ | ++ |
| ADR | ++ | + | ++ |