Business Process Automation

Ü2 BPMN Specification with Camunda Exercise

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For the implementation of our movie reservation process in Camunda 8, we select a fragment of the model from Ü1 and adjusted it to fulfill the model requirements. We decided to simplify the model by removing certain components that were not essential for the implementation or impact on the execution of the user and service tasks, as well as the external service. This includes all events, tasks and gateways that are not represented in Figure 1. We also excluded the message flows, as they were not mandatory.

We decided to update the process from an online reservation process to an in-person movie reservation, eliminating the need for a customer pool, since the cinema employees will perform the tasks, which were originally performed by the customer online.

We made sure our model would still meet the requirements by keeping a minimum of 15 elements (including activities, gates, and events), two AND-split/joins, two XOR-split/joins, for which we added a loop and made sure to implement two user tasks, two service tasks and one external service. We fixed several errors so the automation would run smoothly.

The updated process starts with the submission of the reservation request. The start event is followed by two user tasks, where the employee has to choose the preferred movie and time of the customer. We intuitively selected the "Select a Movie" and "Select a Seat" as user tasks, because the customer is actively making choices here. Thus, the tasks require user input and decision-making, which cannot be automated.

The two user tasks are followed by a service task, where the availability of the movie is checked. If the chosen movie is not available, a loop allows the employee to make a different selection. Once the selected movie and time are available, seating options are presented.

The reservation and price calculation occur concurrently, with the price calculation being implemented as another service task. We considered "Calculate Price" and "Check Availability" as service tasks, since they can be performed by the system automatically, without the need for user interaction. In our system, they must be performed manually by activating them via the terminal. The "Check Availability" task determines which seats can be offered, while "Calculate Price" would take the selected movie into account to determine the final price.

Then, the offer and payment details are created, the payment checked.

Finally, we implemented an external service to create a payment confirmation via Google Docs. Therefore, we used the Google Docs and Google Drive API. We selected this task for the external service task because it involves generating a confirmation which is involves assembling data from different parts of the system and integrating with communication platforms to create the confirmation for the customer. It is a task that is distinct from the core functionality of the movie reservation process and hence can be outsourced to an external service.

In the end, a reservation confirmation is created, and the process ends.

Further information regarding the assignment can be found in the respective GitHub repository: https://github.com/yannick0711/cinema-reservation.git

Link to the Camunda project:
https://modeler.cloud.camunda.io/projects/daf384e8-df8e-4d14-a1b2-3075720f56d8--cinema-reservation-system

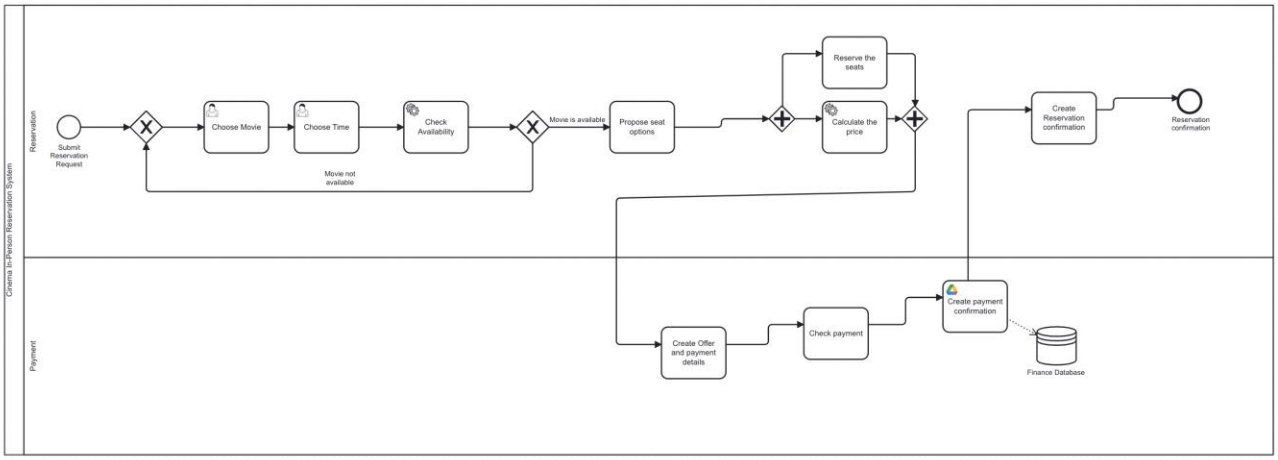

Figure 1