Orkes Conductor Workflow Implementation

Introduction

In this project, we have utilised Orkes Conductor to manage a complex sender-receiver workflow for the Food Waste Management System. The system aims to reduce food wa

Use Case Scenario

The workflow facilitates interactions between a sender (who posts information about available food) and a receiver (who expresses interest in the food). It handles validation, negotiation, payment processing, and distribution decisions.

Process Flow

1. Food Posting by Sender (Initial Task): The workflow begins when the sender posts information about the available food (location, quantity, price, and time).
2. Validation (Operator Task): An operator checks if the posted information (including image footage) is valid. If deemed invalid, the process terminates.
3. Receiver Notification (Parallel Tasks): Once validated, the workflow branches into two parallel tasks using a fork-join:
   - Notification Task: The receiver is notified via app or message about the available food.
   - Feed Task: The post is displayed on the feed for the receiver.
4. Decision Point (Operator Task): The receiver can either proceed with viewing the feed or ignore it. If ignored, the process terminates.
5. Receiver Actions:
   - If the receiver proceeds, they can either accept the offer or request a price reduction.
   - If a reduction is requested, the sender receives a message but cannot accept a reduced price (as per business logic).
6. Payment and Finalization:
   - If the receiver accepts the price, they proceed to the payment task.
   - Based on the payment status (success or failure), the workflow determines the final outcome.
   - Upon successful payment, the receiver selects a distribution mode (self-pickup, distributor, etc.), and the process completes.

Parameters Used

The workflow uses several parameters at different stages:
- Location: The sender specifies the food's location.
- Price: Initial price set by the sender.
- Items and Quantity: Description of the food available.
- Preparation and Expiration Time: Specifies when the food was prepared and its expiration.
- Seen/Accept/Valid Flags: Tracks the receiver's actions, validation checks, and offer acceptance.
- Negotiation Message: If the receiver requests a price reduction.
- Payment Status: Tracks whether the payment was successful.
- Distribution Mode: Specifies the method of food collection or distribution.

Conclusion

Orkes Conductor seamlessly integrates with our Food Waste Management System, providing an efficient orchestration layer to handle complex decision-making, branching, and parallel task execution.