DOCUMENTATION OF ENTITY DIAGRAMS

Entity Diagram

The entity diagram contains abstract and physical entities and each entity has its own attribute and operations to perform. The CRS is the central entity of the system, meaning that this entity is responsible for the coordination between the control mechanisms between the subsystems, peripherals and external systems. Physical entities are imposed by the external boundaries of the system as shown in the context diagram. As for the abstract entities, they are imposed by the need to differentiate between the numerous information structures required to complete the use cases and the requirements of the system.

Abstract entities

1. Article : Captures information about a group of physical articles from the store's article catalogue. These articles should have the same name, id, price, description and belong to the same lot in order to be saved as one article.

2. Order : Captures information of identified articles in one check out process in form of a list and uses calculatePrice to add up the sum of the prices

3. Invoice : Captures information about a finished order and calculates the end price according to the priority rule

4. Payment : Captures information about the payment status, payment method (CC or DC) and payment amount of one order.

5. Payment Receipt : Captures information about the invoice and payment around one successful checkout process.

Abstract entities relationships and dependencies

During a check out process, articles are identified and added to an order. Two orders can exist simultaneously and the same article can exist in the two orders. After adding the last item to the order, an invoice is created. Once the invoice creation is confirmed, the original order is not needed and can be delted. The invoice includes information indicating the articles, quantities, final prices for products according to the priority rule and if the customer wants a cash payout. After payment using one of the payment methods is confirmed a payment receipt is then needed to document information about the invoice and payment around one successful checkout process.

Physical entities

The existence of physical entities in the model are quite self-explanatory. Interfaces are required to interact with and control peripherals and external systems. One exception is the conveyor belt; while our central system is responsible for initializing the belt and defining it's parameters, the control is done directly on the belt. Inspection of the responses from the belt can happen on our system.

GUI Settings

Interface to adjust language, legibility and usability of user interface.