Group 3

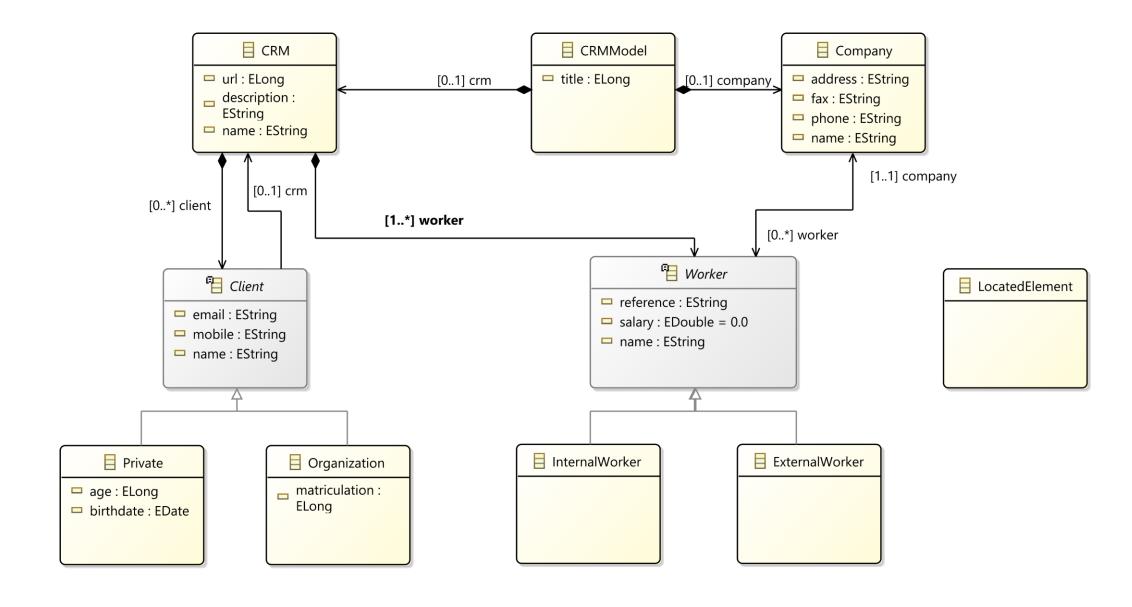
validation

Experimental setup

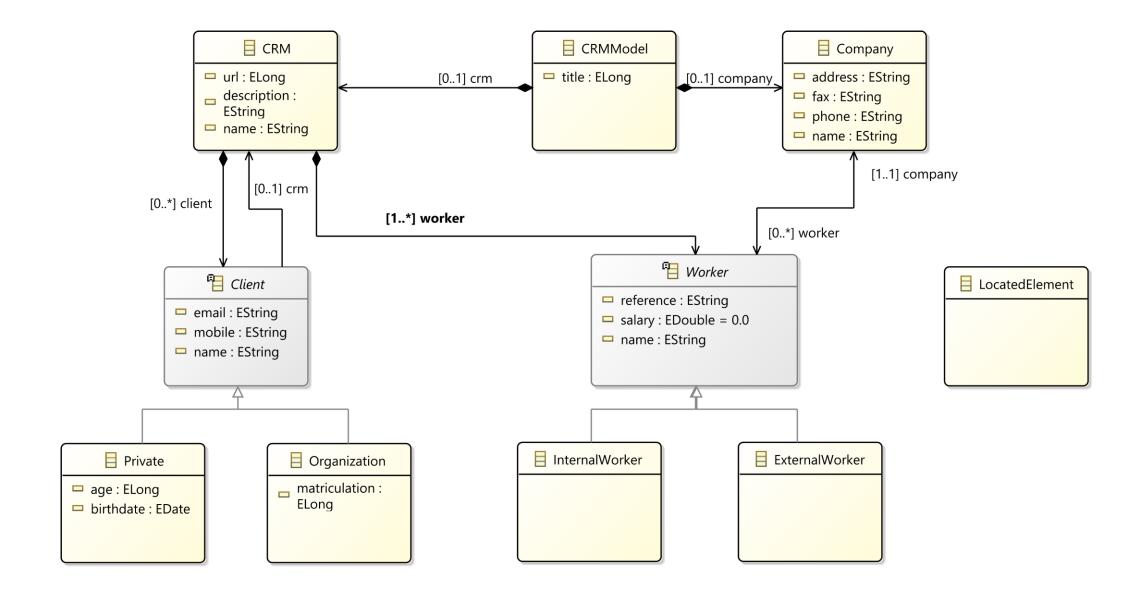
- Thank you for your participation!
- We are comparing the performance of some approaches that refactor metamodels
- 3 metamodels (or parts of metamodels)
- The design might be not perfect
- 4 questions for each metamodel with different levels of difficulty
- I will show you a metamodel and a question and you can take your time to give me your final answer ...
- Let's start!

Metamodel 1

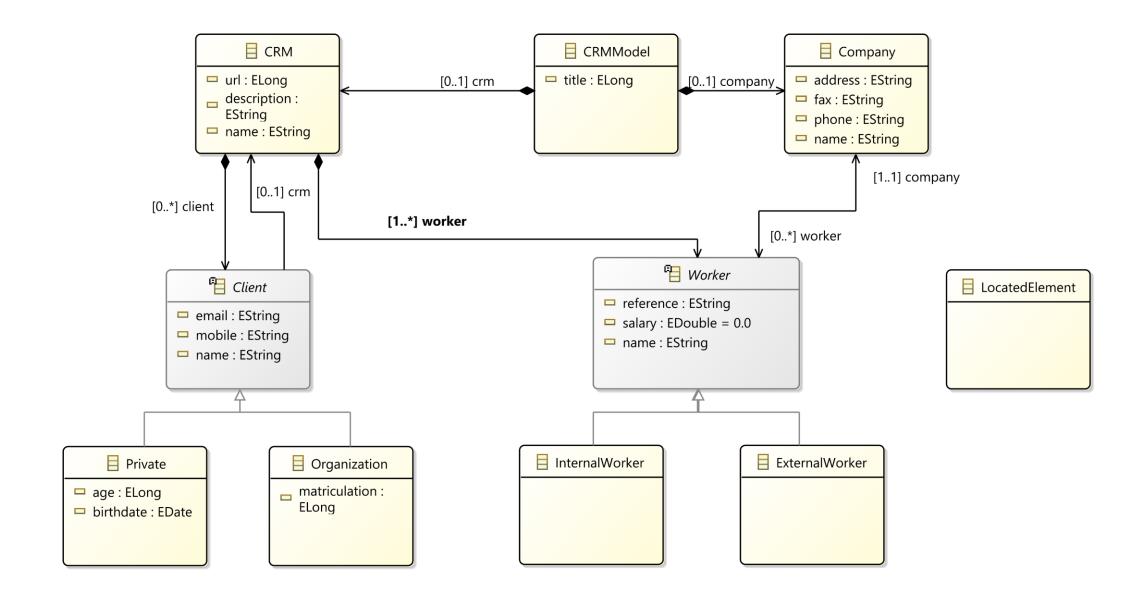
1. Who are the users of the CRM system (A Customer Relationship Management system allows managing company's relationships and interactions with customers and potential customers.)?



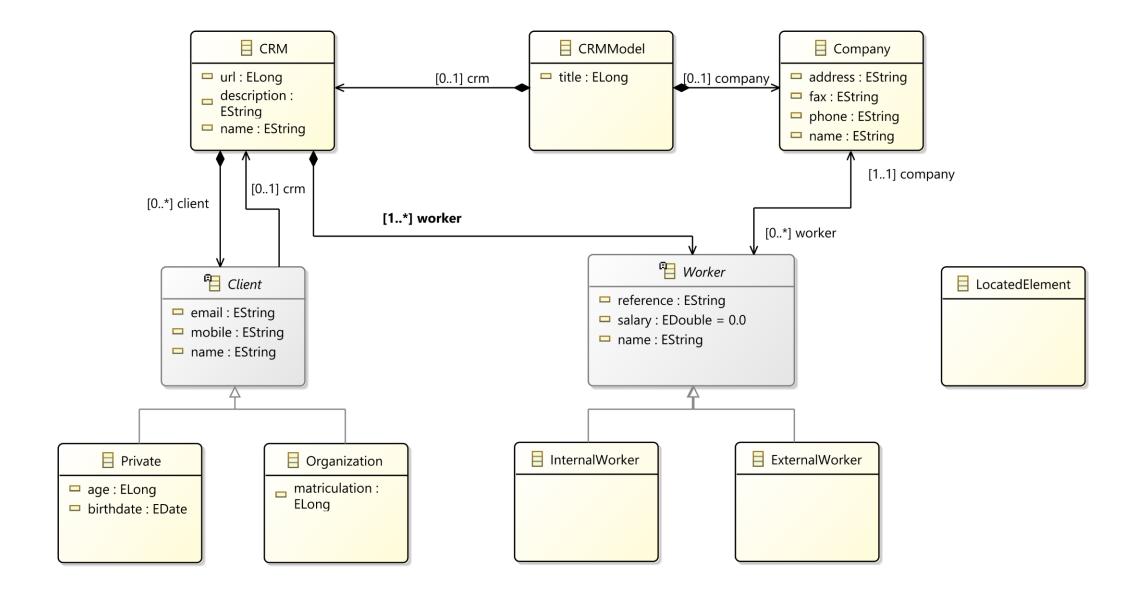
2. What is the profile information of each user?



3. We want to include temporary workers to the CRM metamodel. What are the necessary modifications?



4. We want to extend the metamodel so that workers could supply services to clients who are able to book appointments with workers. An appointment has a time and a description. What are the required changes?

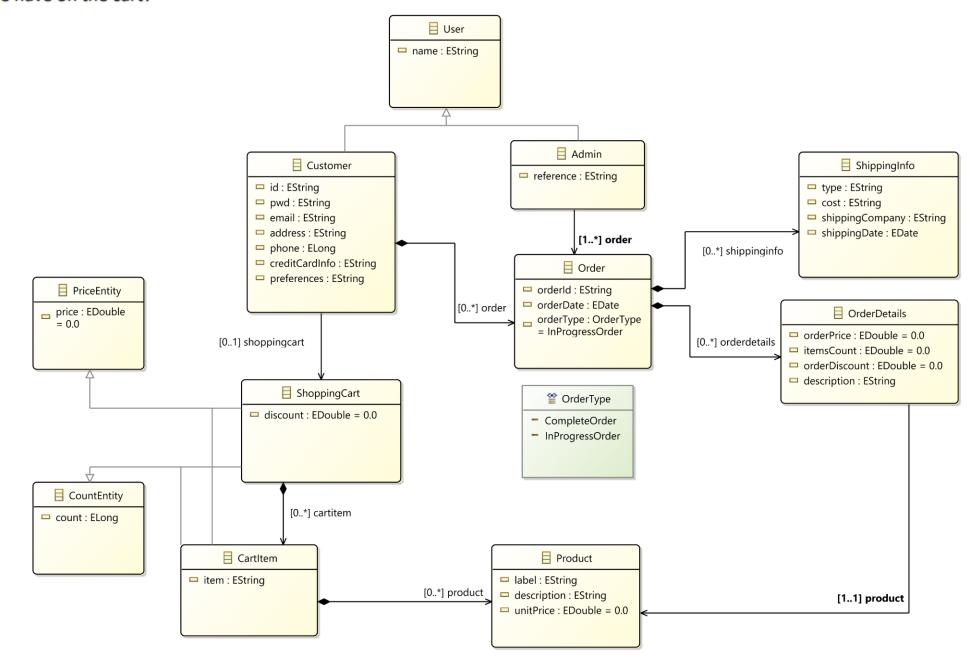


Metamodel 2

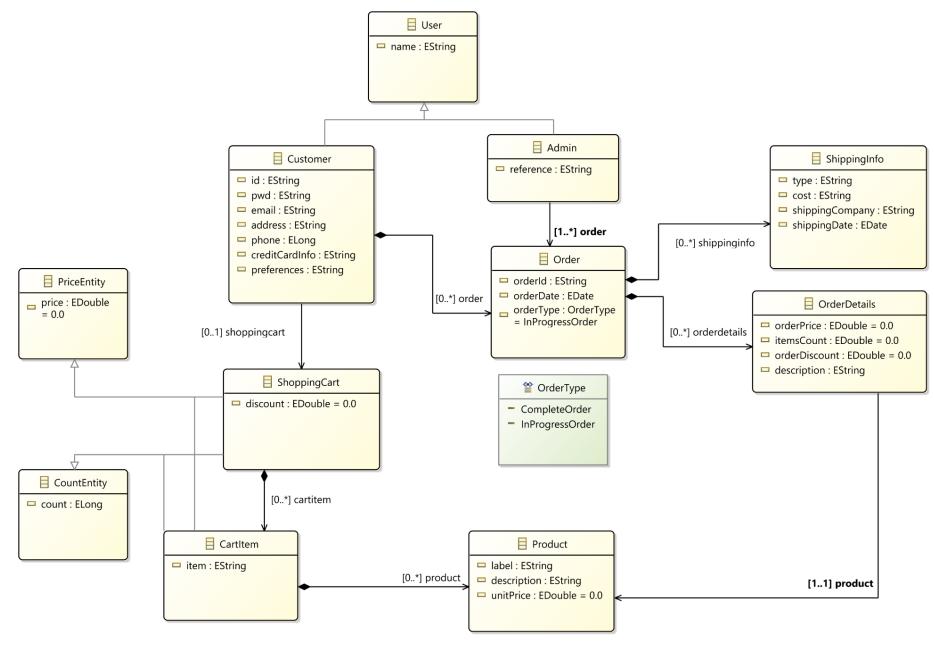
1. What are the different order statuses?

User name : EString Admin Customer ShippingInfo reference : EString □ id : EString type : EString cost : EString pwd : EString email : EString shippingCompany : EString shippingDate : EDate address : EString [1..*] order phone : ELong [0..*] shippinginfo creditCardInfo : EString Order preferences : EString PriceEntity orderld : EString orderDate : EDate price : EDouble = 0.0 [0..*] order ■ OrderDetails orderType : OrderType = InProgressOrder orderPrice : EDouble = 0.0 [0..*] orderdetails [0..1] shoppingcart □ itemsCount : EDouble = 0.0 □ orderDiscount : EDouble = 0.0 description : EString ShoppingCart **OrderType □ discount : EDouble = 0.0 CompleteOrder InProgressOrder CountEntity [0..*] cartitem count : ELong CartItem Product □ item : EString □ label : EString [0..*] product description : EString [1..1] product unitPrice : EDouble = 0.0

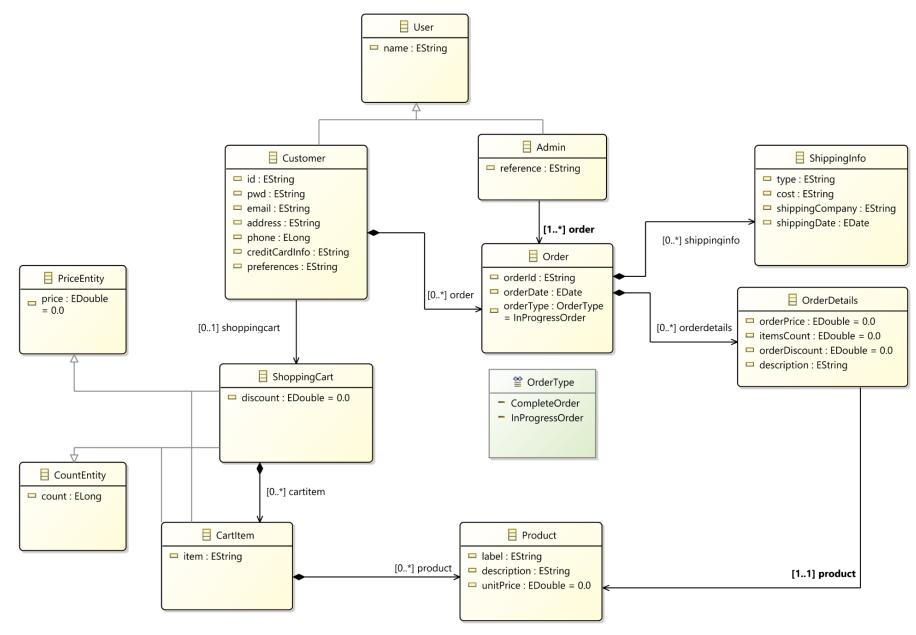
2. What is the information we have on the cart?



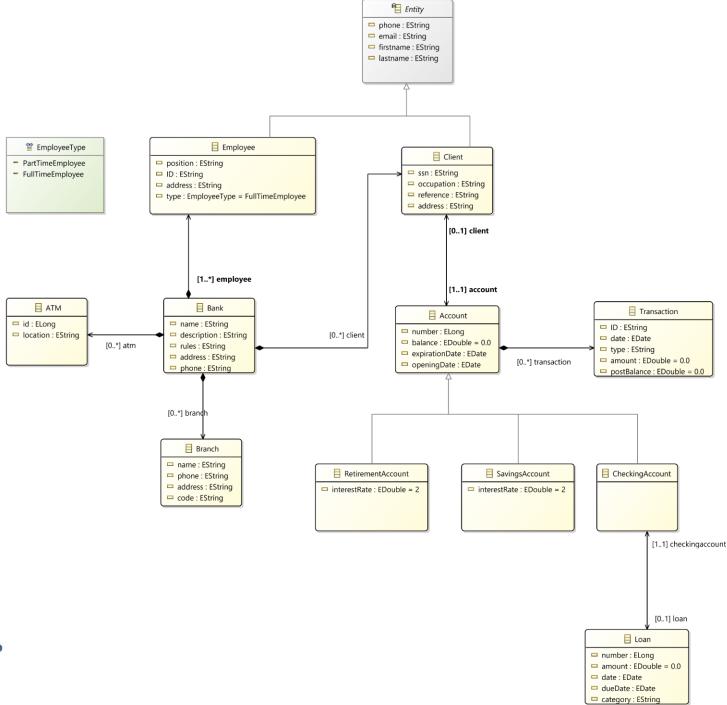
3. We want to extend the metamodel to support multiple administrator accounts. Administrators should have access to the e-store platform using email and password. What are the required changes on the metamodel?



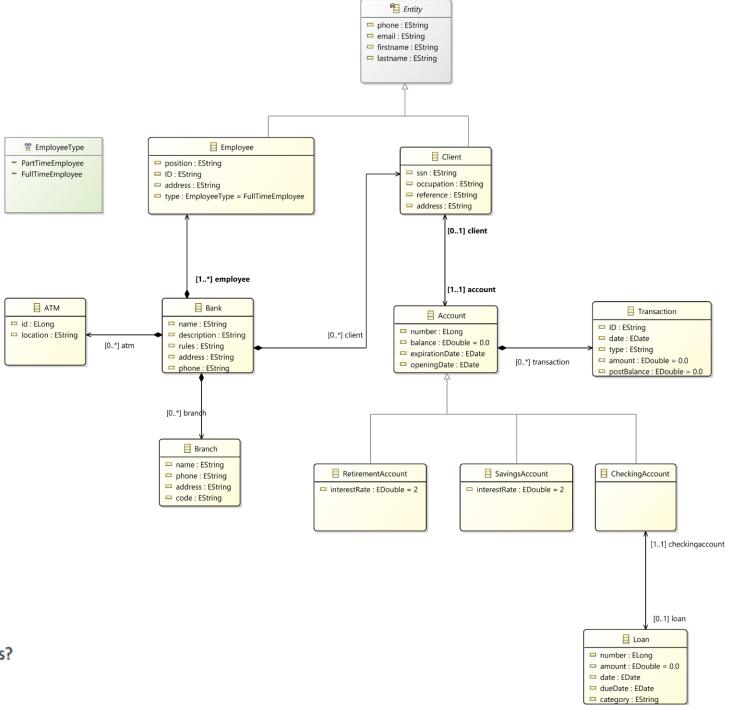
4. We want to evolve the metamodel by adding another type of users (carriers) who are responsible for delivering orders and who has a *reference*, *name*, *phone*, *password*, *and email*. What are the required modifications on the metamodel?



Metamodel 3

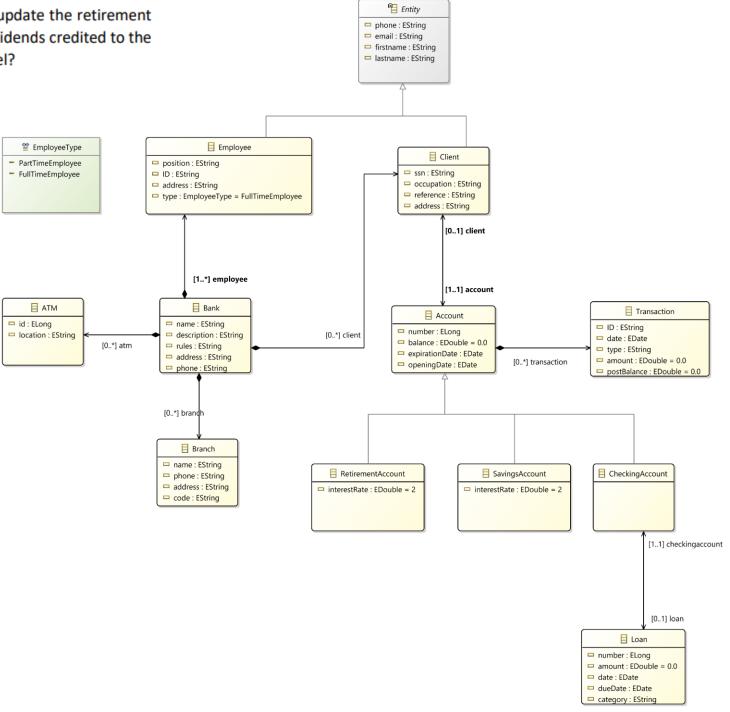


1. What information does the bank have on saving accounts?

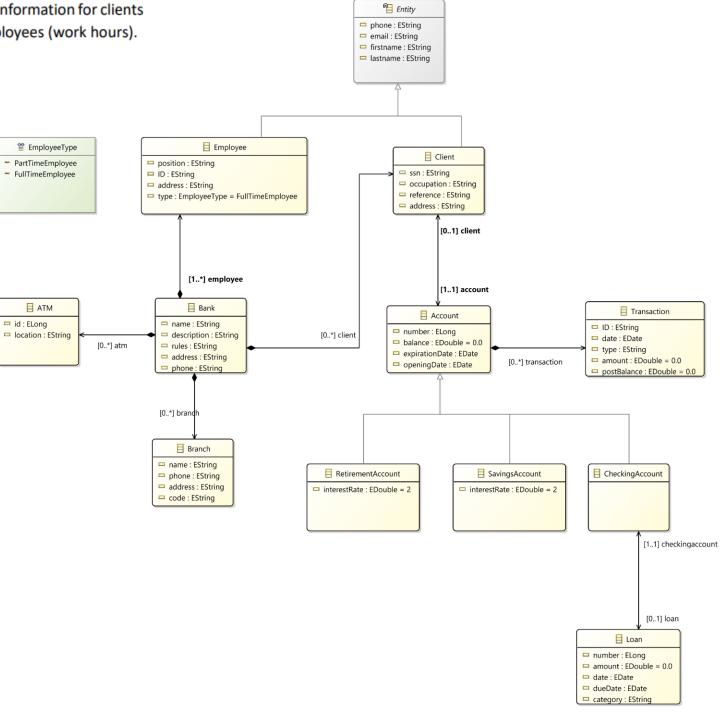


2. What information does the bank have on its clients and employees?

3. Due to the present situation of COVID-19 pandemic, the bank decided to update the retirement accounts. Instead of proposing fixed rates, there would be accumulated dividends credited to the retirement account. What are the required modifications on the metamodel?



4. Additionally, the bank wants to update the metamodel to include additional information for clients (postal code, city and apt number), bank (website and open hours) and employees (work hours). What are the required modifications on the metamodel?



Thank you!