E-Film Hiring Project

SECOND MACRO-ACTIVITY: APPLICATION DOMAIN MODEL

Deliveries: Application Domain Model

Second Step: Building the Application Domain Model

A domain model illustrates meaningful (to the modelers) conceptual classes in a problem domain and it is the most important artifact to create during object-oriented analysis. A domain model is a representation of real-world concepts, not of software components. It is not a set of diagrams describing software classes, or software objects with responsibilities. We will use it as a source of inspiration for designing software objects.

The domain model is the main candidate for reuse in software development. It derives from the business model by filtering the application meaningful business objects. So, the domain model step usually precedes or is carried out concurrently with the use case model step. During Software Requirements Analysis the reused domain model will be only updated from the requirements analysis.

In our case we derive the domain model directly from both the business model and use cases. Here is the procedure of the domain model construction:

a. Identify the domain concepts from the problem statement and use case descriptions.

The domain concepts from the problem statement

Owner	DVD
Shop	Video cassette
Software system	Form
Hiring	Subscription
Film (Movie)	Identity card
Administrator	Movies list
Cashier	Receipt
Client	Sales slip
Request	Copy
Format	

Other domain concepts from the use cases description:
Stock

b. Promote the domain concepts as classes in the domain model.

Shop	Identity card
Hiring	Movies list
Movie	Receipt
Person	Sales slip
DVD	Copy
Video cassette	DataLoss
Subscription	Stock
Form	

c. Identify conceptual connections between concepts from the problem statement and use case descriptions.
Form-Shop
Form-Person
Person-Subscription
Person-IdentityCard
Hiring-Person
Hiring- Copy
Hiring-Receipt

Receipt-Shop
Movie-Copy
MoviesList-Movie
DataLoss- SalesSlip
SalesSlip-Shop
Stock-Copy

d. For the objects of each class identified at the previous step, identify and analyze the application-meaningful properties.

Shop: name
Hiring: return date, cost, period
Movie: name, category, appearance year
Person: first and last names, phone number
DVD: available
VideoCassette: available
Form
Subscription: period, cost, number (unique)
IdentityCard: series, number
MoviesList:
Receipt:
SalesSlip:
Copy: number
DataLoss: cost
Stock:

e. Promote conceptual connections as associations between corresponding classes in the domain model. Refine them identifying the compositions (eventually aggregations).