Chapter 6

Business Object Model

Preface to Part 2 – From requirements via architectural design to software release

- **Business Object Model** (BOM) – enterprise model
- **Domain Object Model** (DOM) – conceptual model of a domain of interest
  - business use case model
  - business class model
- Business context diagram – to depict the scope of an enterprise core business
- **Artifact** – any documented information produced by a system developer and used in a development lifecycle
  - Glossary of terms and definitions – an important artifact
Topics

- Advertising Expenditure Measurement (AEM) – the business
- Business context diagram
- Business use case model
- Business glossary
- Business class model

Advertising Expenditure Measurement (AEM) - the business

- Market research company
- Obtains, processes and sells information about advertisements in various media
- Capturing ads:
  - automatic data capture
  - manual data capture
  - matching of advertisements
- The advertising content:
  - external verification
  - internal verification
  - electronic log files
- Two areas of reporting to the AEM customers:
  - campaign monitoring
  - expenditure reporting
**Business context diagram**

- A simplified business use case model to depict the overall “system behavior”, to present the core business activity, and to express the scope (boundaries) of the system under development.
- The idea of business context diagram borrows from Data Flow Diagrams (DFDs) – a non-UML modeling technique.

**Business use cases and business actors**

- **Business use case** is a high-level usage case (case of business use) within the system under consideration
  - major functional module (business activity) in the enterprise
- **Actor** is a role played by a person, system, device, etc. when using or otherwise communicating with the services of a use case
- **Business actor** can be:
  - a role, which is internal to the system
    - a primary actor (it interacts directly with the system)
  - an external entity (i.e. outside the scope of the system)
    - a secondary actor (a role that communicates with the system via an intermediary – normally a primary actor)
- **Relationships:**
  - association – between business use cases
  - «communicate» – between an actor and a use case
  - generalization – between business use cases and/or between business actors
Business use case model

Business actors:
- Media Outlet
- Client
- Expenditure Adjuster
- Valorization
- Reporting
- Auto Matching
- Manual Matching
- Data Collection
- Data Verification
- Client

Relationships:
- <<communicate>> relationship
- Generalization relationship
- Association

Alternative business use case model

Business actors:
- Contact Management
- Employee
- Contact
- Data Collection Employee
- Customer Department Employee
- Customer
- Quality Control Employee
- Quality Control
- Rates Consultant
- Data Administrator

Relationships:
- Generalization relationship on business actors

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**Business glossary**

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition and Explanations</th>
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<tbody>
<tr>
<td>ad advertisement</td>
<td>A unique piece of creative that may be broadcast, screened, published or otherwise exposed any number of times. Each ad exposure by a media outlet is known in the AEM system as an ad instance.</td>
</tr>
<tr>
<td>ad instance</td>
<td>A particular occurrence of an ad, i.e. each incidence of an ad broadcast, screening or publication.</td>
</tr>
<tr>
<td>product</td>
<td>A merchandise or service that may be advertised. Products may be categorized (i.e. a product can belong to a category of products). Categories are classifications of products as envisaged by AEM. The AEM system supports a hierarchical grouping of categories with an unlimited number of levels in the hierarchy. Products may only be categorized at the lowest level of the category hierarchy.</td>
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**Business entities**

- **Elements of a business class model**
  - **Business entity** = “business object”
    - a classifier (class) that characterizes and participates in the conduct of organization’s main business activities
    - to be contrasted with other UML classes necessary in an IS system, such as the classes responsible for handling the Graphical User Interface (GUI), program logic, or access to a database
    - an IS modeling representation of a term defined in the Glossary
- **Relationships on business entities** – association, generalization and aggregation
- **Multiplicities on associations and aggregations**
  - one-to-one
  - many-to-many
  - one-to-many
  - can contain the definition of participation (optionality).
Business class model

Alternative business class model
Summary

- Business Object Model (BOM) is an object-oriented model that describes the core business of an enterprise.
- A model artifact contains classifiers – model elements that describe behavioral and structural features of an enterprise or system.
- Business context diagram consists of one business use case representing the enterprise and input/output data flows from/to external entities.
- Business use case model defines business use cases, business actors, and relationships between them.
- Business glossary is a list of business terms and definitions.
- The existence of glossary facilitates development of Business Class Model, which defines business entities and relationships between them.