Business Architecture Implementation

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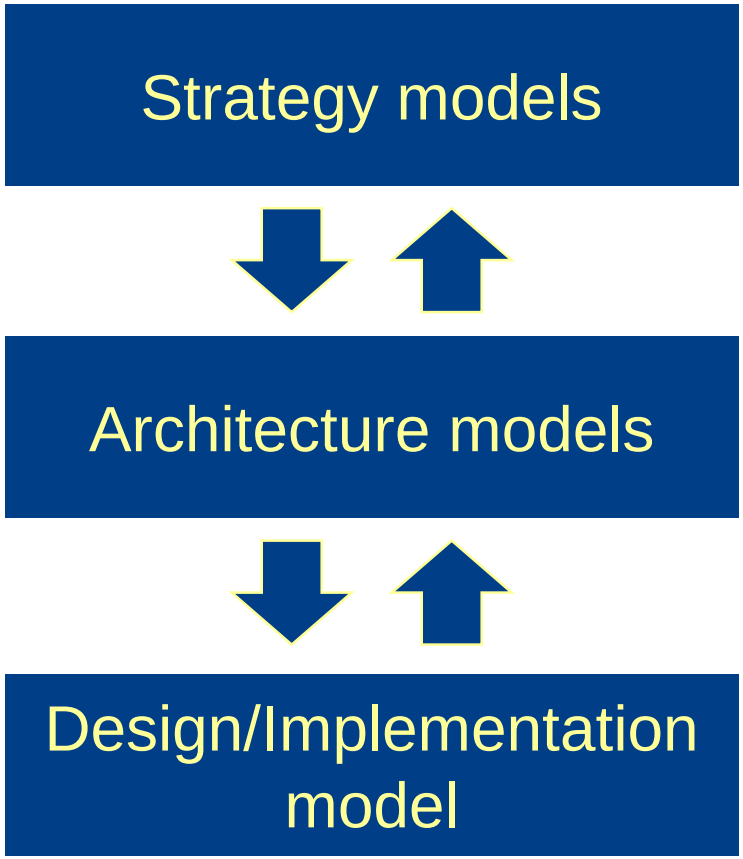
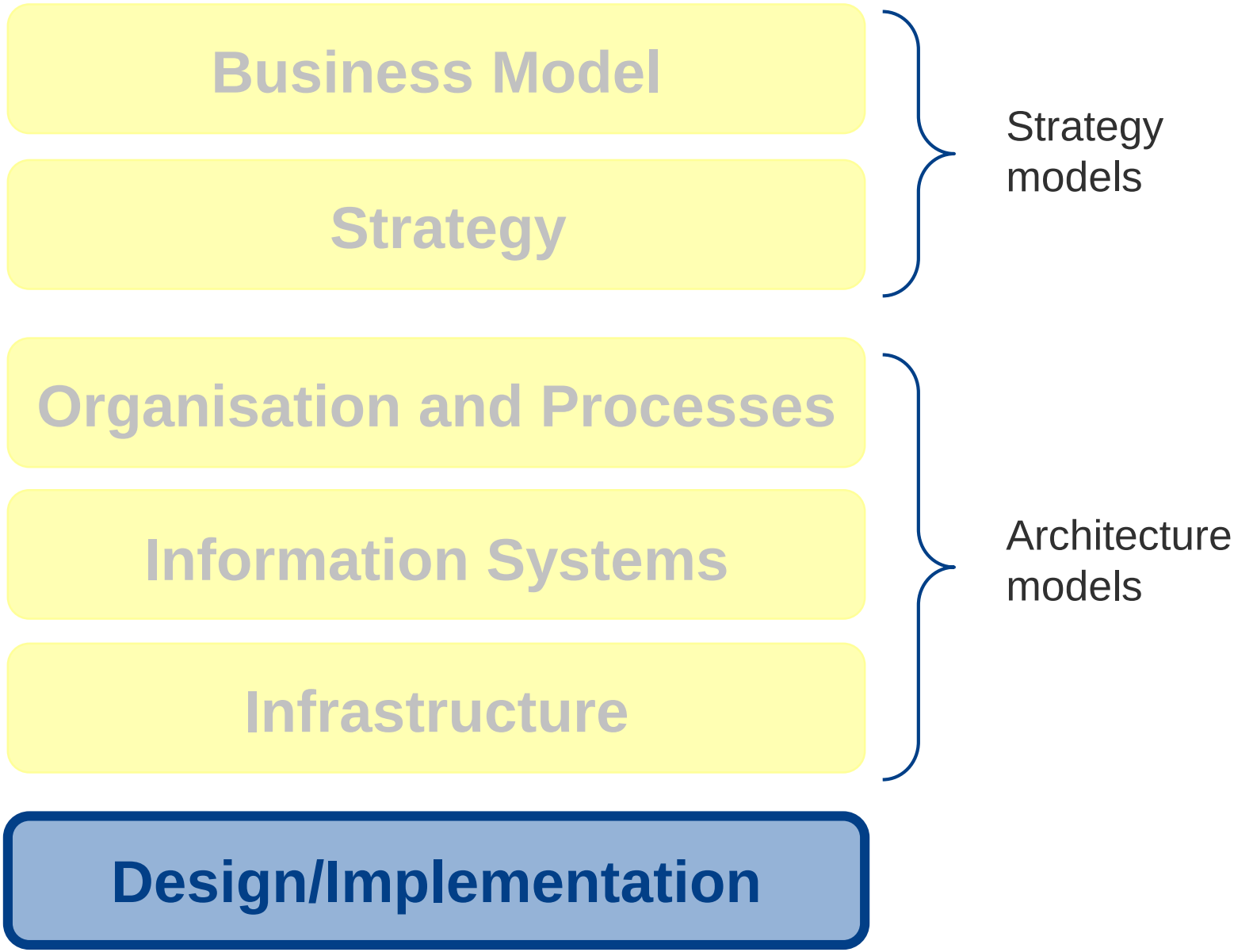
Position Enterprise Architecture



Business Model Canvas
SWOT
Balanced Scorecard

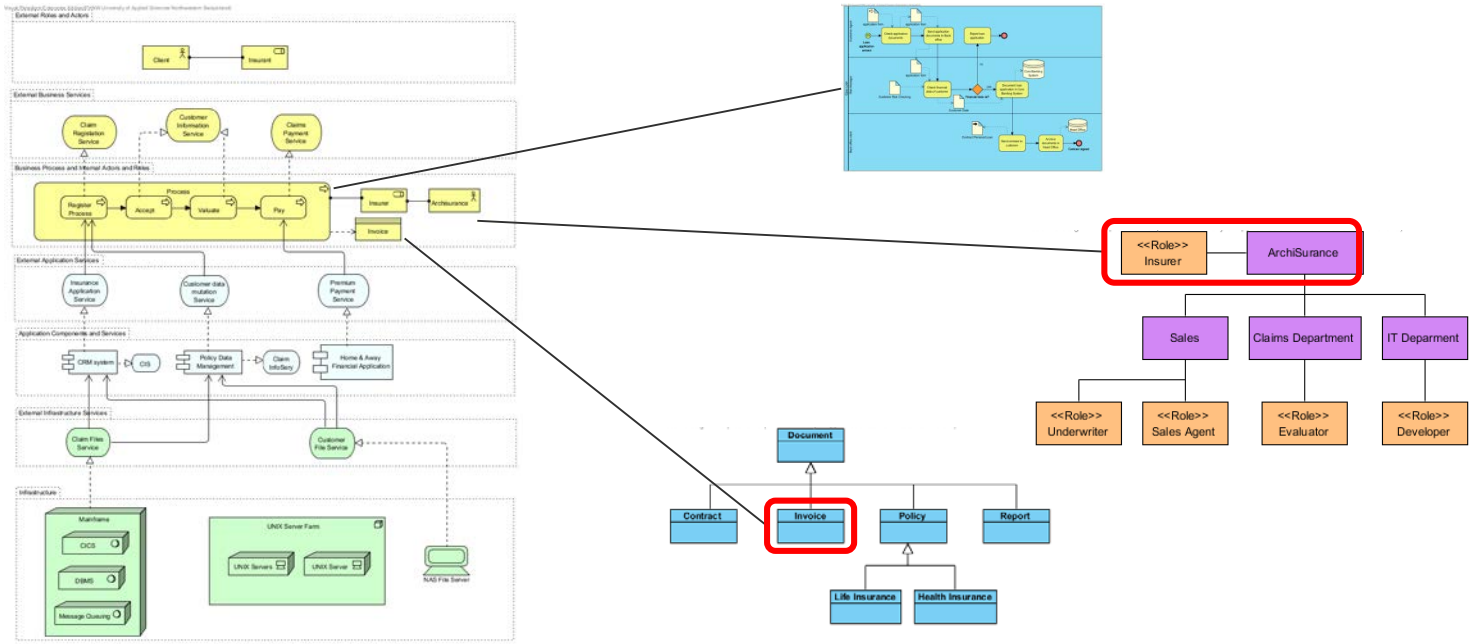
Archimate models

BPMN models
CMMN models
DMN models
UML models


Business Model
Strategy
Strategy models
Organisation and Processes
Information Systems
Infrastructure
Architecture models
Design/Implementation

Referencing Detail Models from ArchiMate

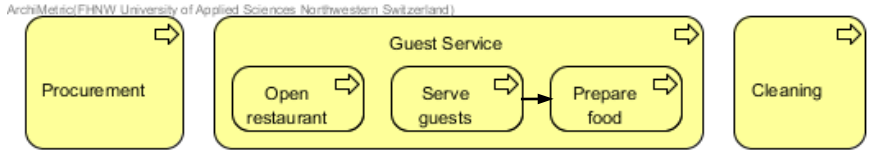
- ArchiMate represents an overall architecture
- Elements in an ArchiMate model can be modeled more detailed in a separate model (e.g. modeling conditional flows and events of a business process in BPMN)
- Detail models can show the context of buiness architecture elements (e.g. actors and roles arepart of an organisation model, business objects are part of a data model)



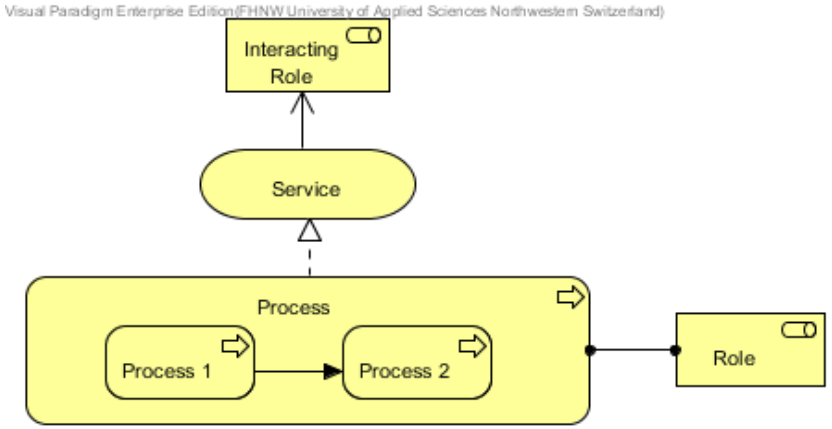
Example: Implementation Level for Business Processes

Business Processes on Architecture Level

- ArchiMate represents processes on an architecture level. It shows relationships
  - Between processes (subprocess, trigger, logical order)

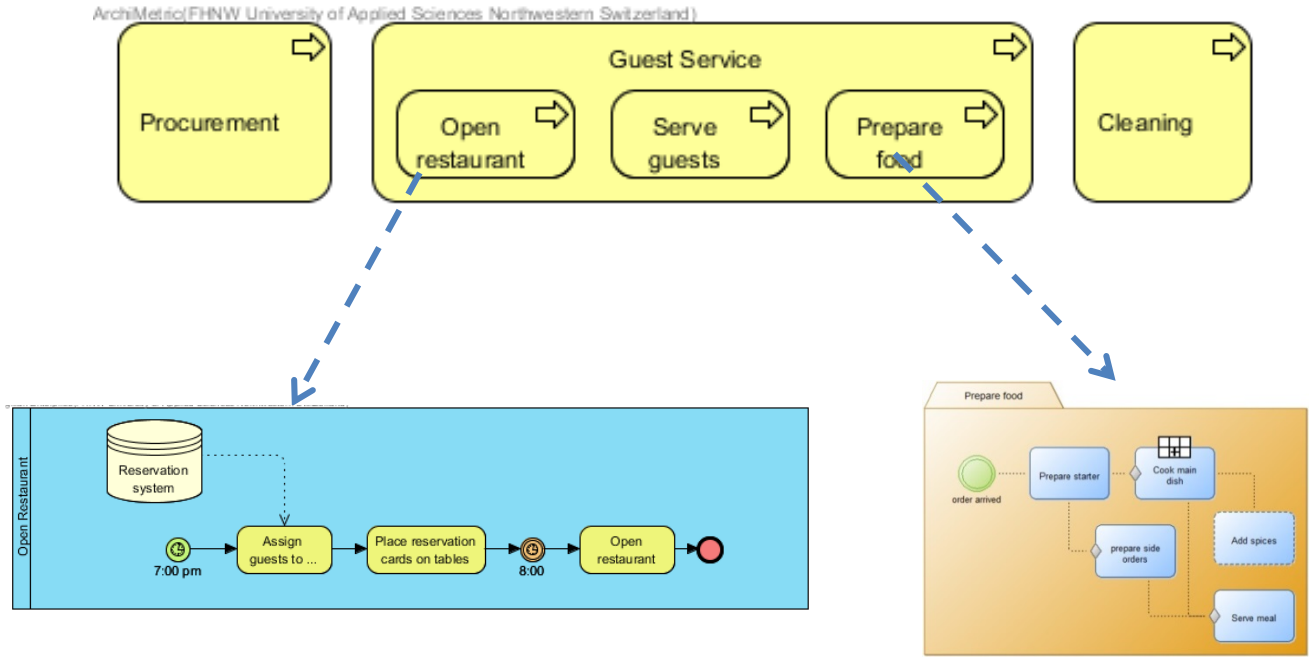


  - Between processes and other elements (application services used, business services realized, roles assigned, …)



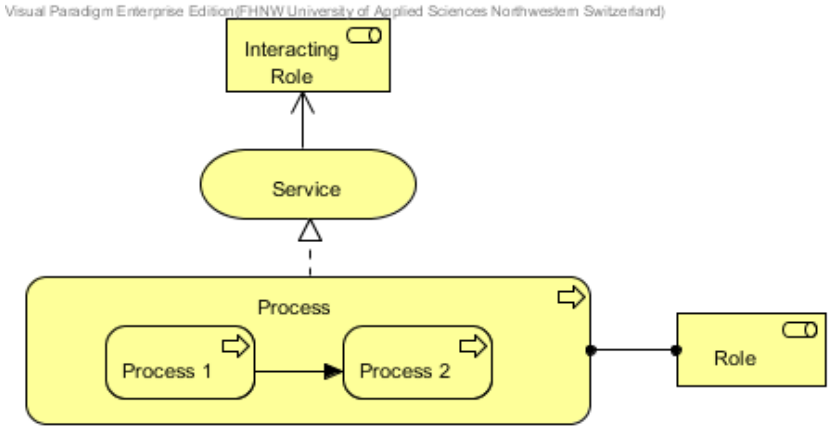
Hierarchical Process Maps

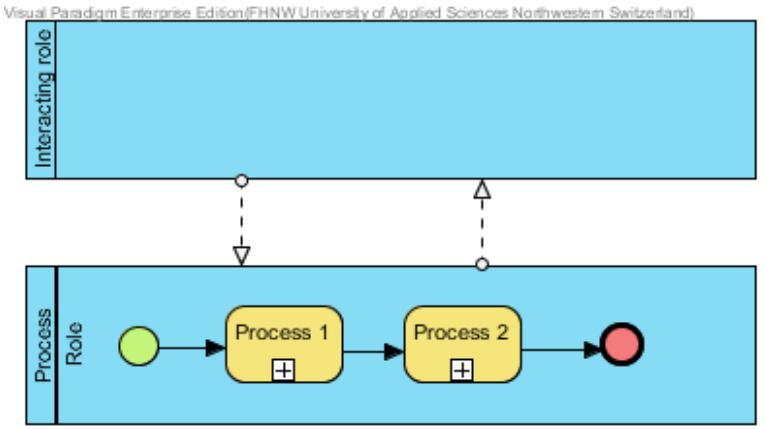
- An ArchiMate Model is an overall representation of an Enterprise Architecture
- To model details of elements (e.g. conditional flows and events of a process) one can use specific models
- Example: Modeling process logic in BPMN and CMMN



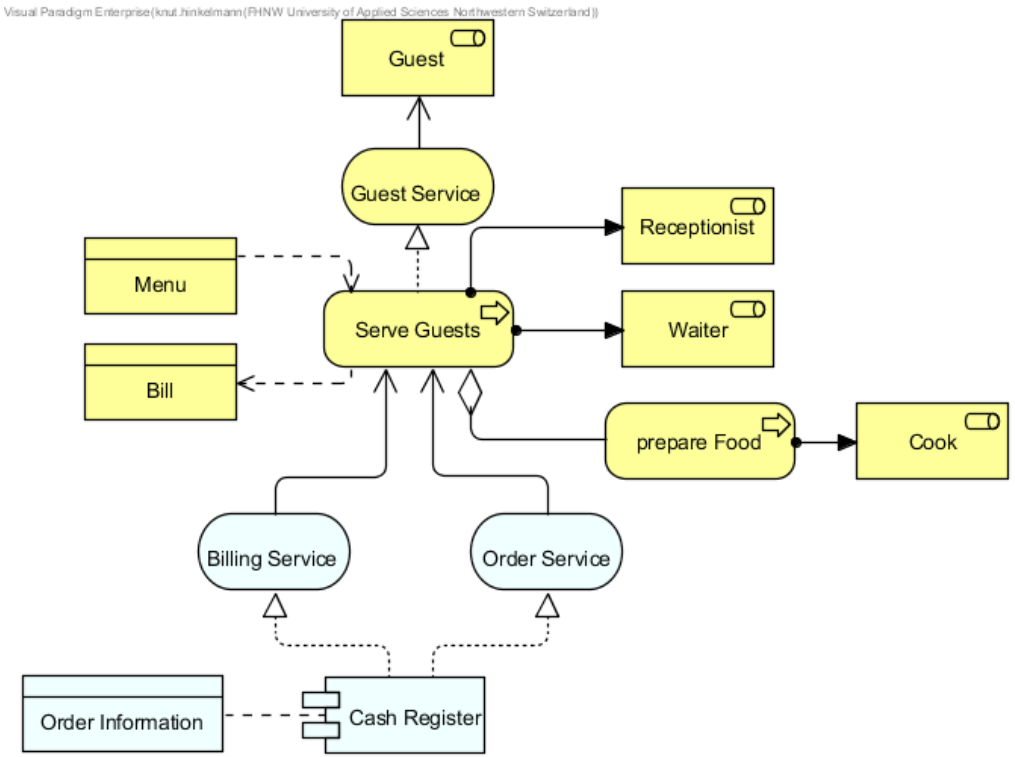
Distinction between Participants

- There are two ways a role can be related to a process
  - Participants executing (part of) the process are connected via the "assign to" relation – they ar represented as lanes in BPMN
  - Participants for whom the process "produces" something are assigned via services – they are represented as pools (external participants) in BPMN



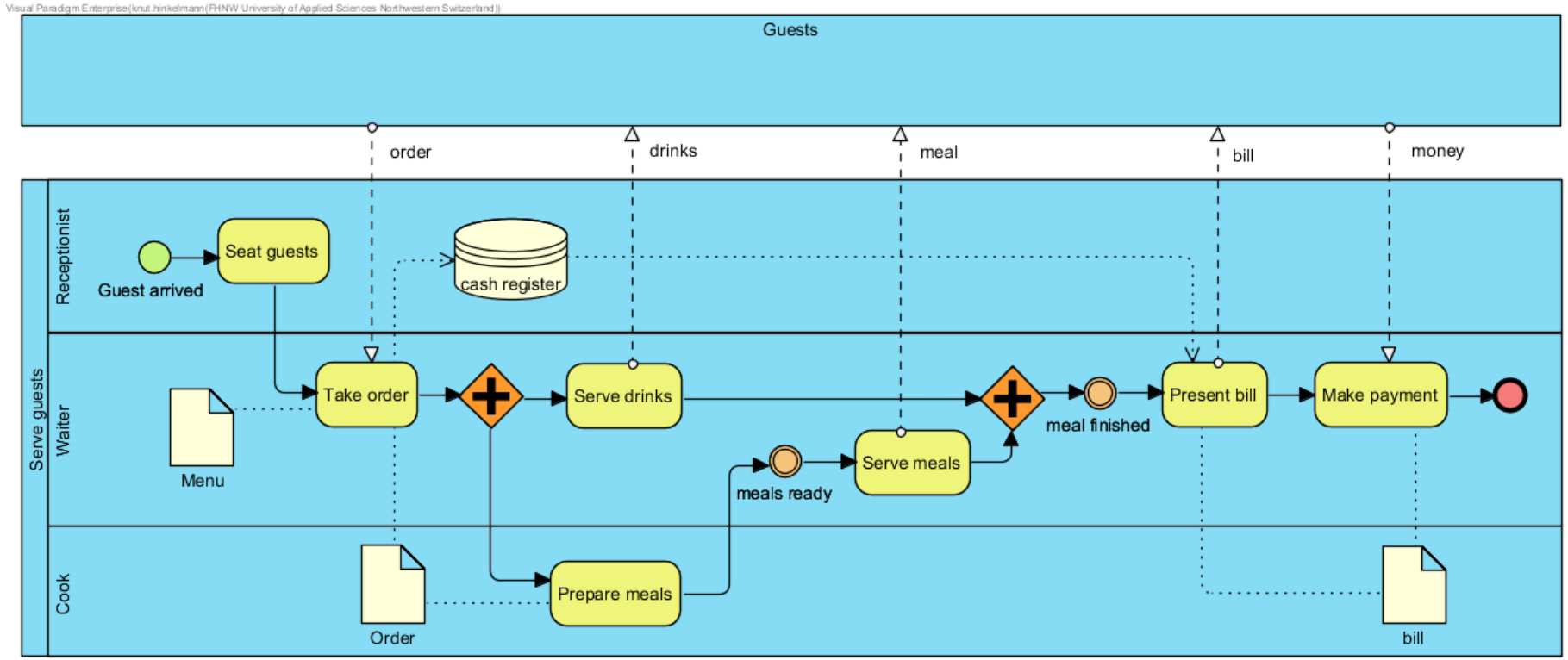


- This is a view on the Enterprise Architecture from the viewpoint of the process manager for guest services at Portia



An Example Process

- This is a simplified version of the process for serving guests



Relationships from and to Business Process Diagrams

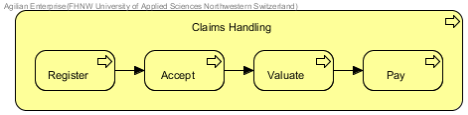
There are two kinds of relations from/to BPMN

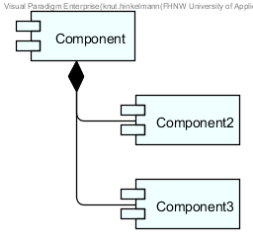
- Relations **to process models** as a whole from
  - Architecture model (ArchiMate)
- Relations **from process elements** to elements in other models
  - its element(s) in the architecture model
  - from lanes to organisation units or roles in organisation models/views
  - from lanes to applications and application services in application models/views
  - from data objects to elements document models and data models
  - to products in product models/views
  - to business rules

References in BPMN

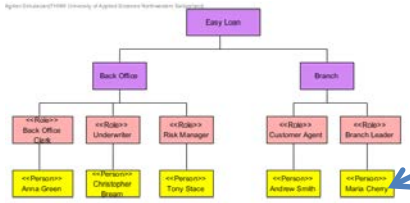
- Processes are related to other aspects of business
- These are represented by references to other models.

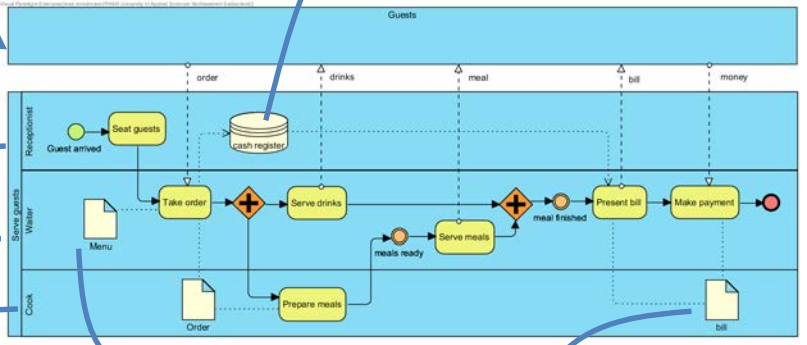
A process element in the architecture refers to a process diagram and vice versa

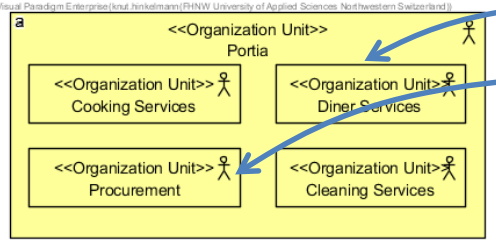




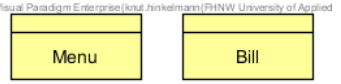
Data stores may refer to applications

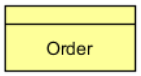


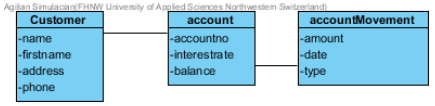




Lanes refer to elements in an organisation model



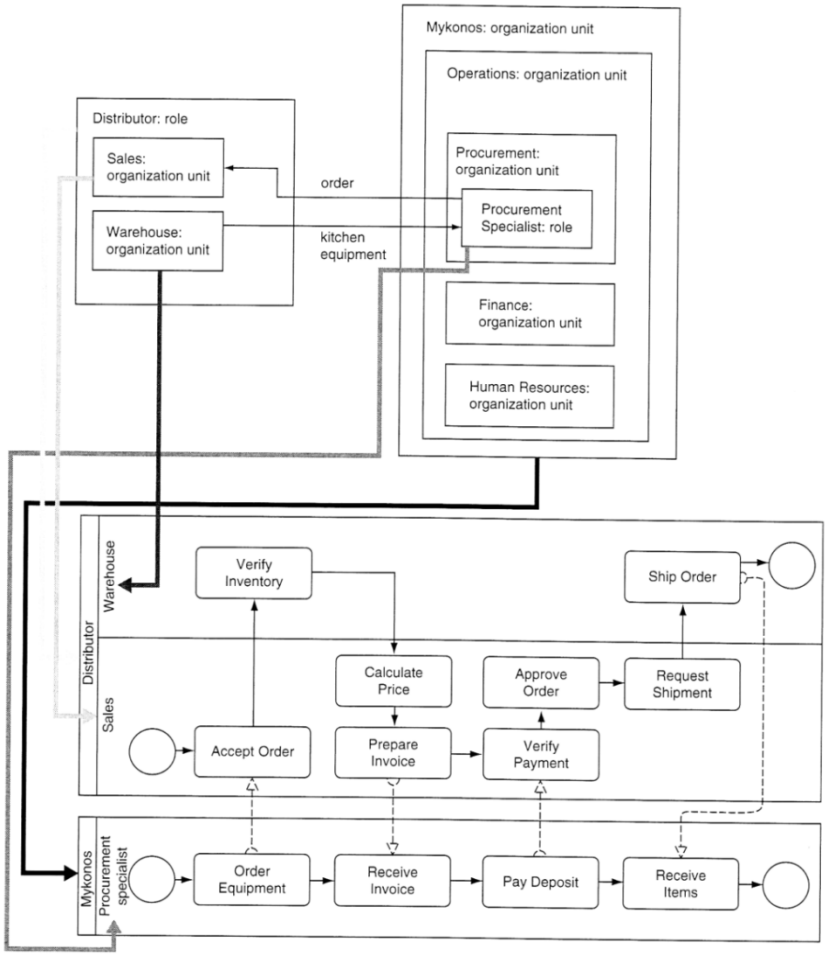




Data Objects can refer to
- *data models*
- *document models*

Business Processes, Organisations, and Interactions

- A pool contains a process
  - The pool is labeled with the participant who manages this process
- A lane in a process model is labeled with the participant who performs the action
  - an role or organisation in the pool
- Interactions to external roles/organisations are modeled as message flows in a process

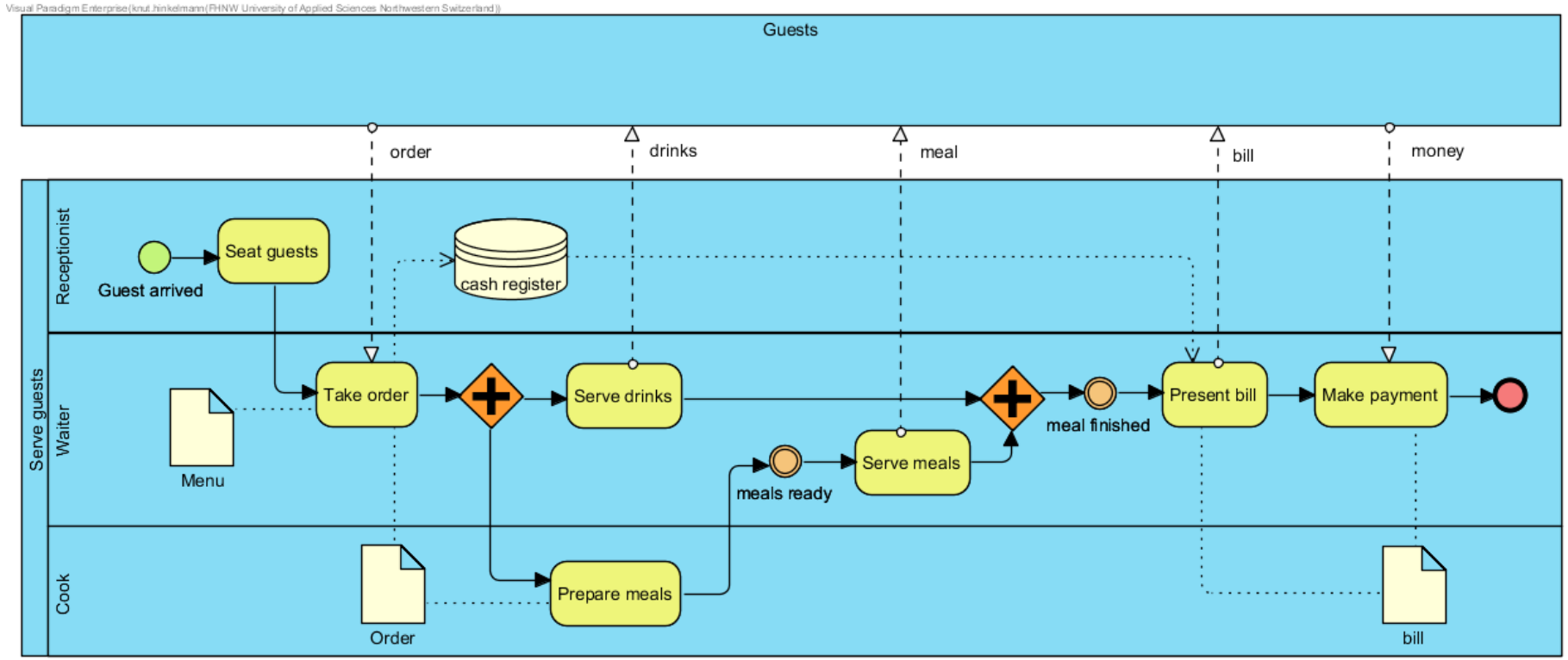


(Bridgeland & Zahavi 2009, p. 130f)

Modeling Data and Documents

An Example Process

- This is a simplified version of the process for serving guests
- There are three data objects. Can you see a difference between these data objects?



Modelling Data

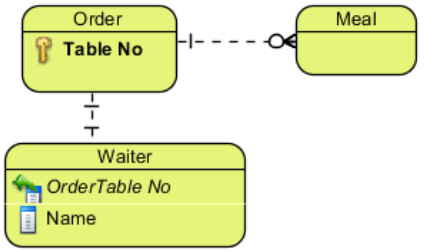
Business Objects and Data objects can represent different kinds of data

- **Structured data**
- **Documents**, which either represent
  - a **specific document**
    - Examples: An application form, the terms and conditions, the menu from which the guests can choose their meals
    - Hint: For a specific document we can specify a file name or a URL
  - **a document class,** i.e. a generic documents for which a specific instance is created during process execution
    - Examples: A bill or a filled application form

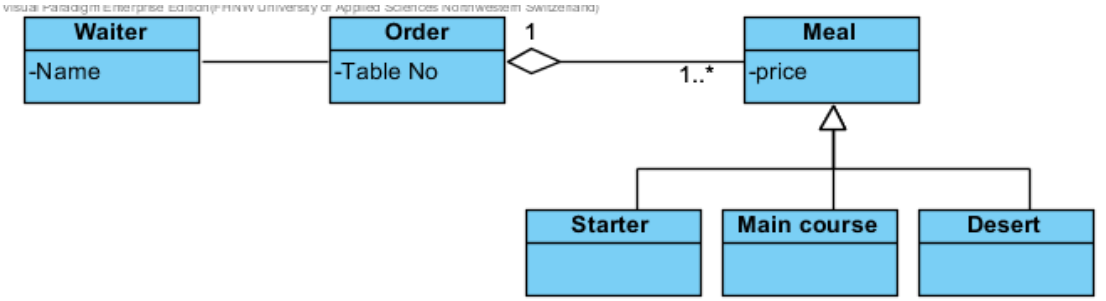
Modelling Structured Data

- Structured data can be represented for example as
  - Entity Relationship Diagram
  - UML Class Diagram/Object Diagram
- Data models represent
  - entities/classes
  - columns/attributes
  - relations/associations

ERD:

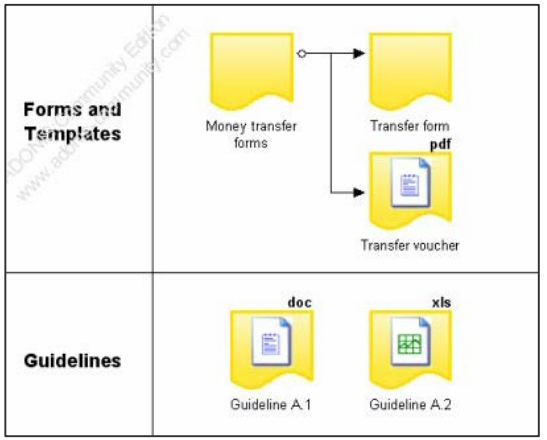


UML Class Diagram:

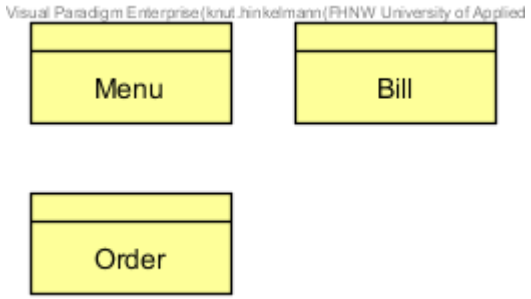


Document modeling

ADONIS document model:



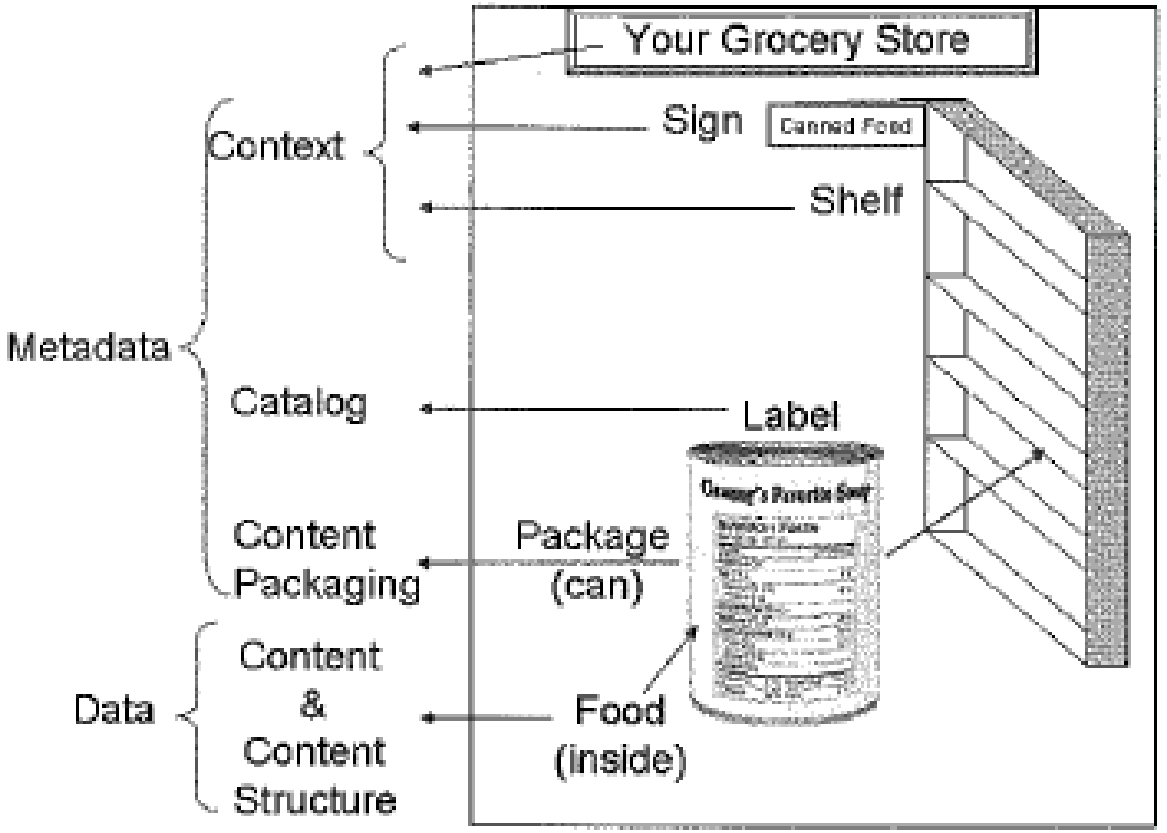
- Although some tools like ADONIS have a model type for documents, there is no standard for modeling documents
- However, we can
  - reuse a business object or data object views from Archimate or
  - use UML class diagrams and object diagrams to model documents [1)]



Document Models

- Documents can be grouped into ***document classes*** (also called document types) according to their usage:
  - Examples: invoice, application, menu, report
- There can be specialisations of document classes.
  - Example: There can be special kinds of reports like project report, expert opinions, or reviews.
- ***Metadata*** are attribute values which describe documents.
  - Example: a report might have an creator, a creation date and a subject.
- There are standards for metadata like the Dublin Core Metadata Initiative (http://dublincore.org)

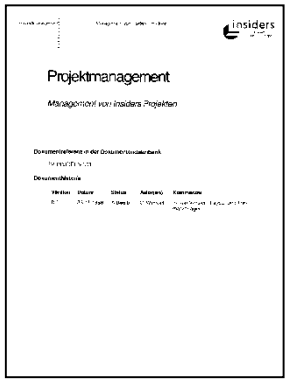
Information as product



Michael C. Daconta: Information as Product, 2007

Data and Meta-data – Examples

usage data (document)



meta-data

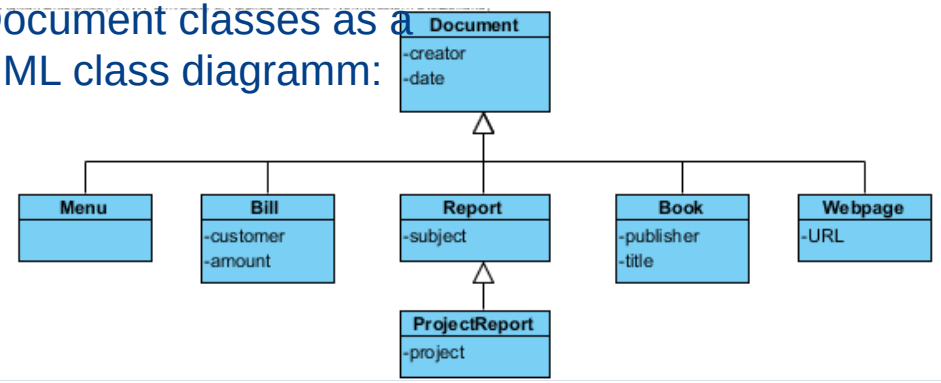
name:	Projektmanagement
creation:	18.3.2011
modification:	25.6.2011
format:	PDF
document type:	report
recipient:	All Life Insurance Inc.
author:	Smith

- Each document consists of the
  - usage data (document itself, content)
  - meta-data
- Kinds of meta-data
  - General metadata
    - can be used for any kind of information
    - Examples: author, date of creation, subject
  - Application-specific metadata
    - Examples:
      - For a letter: sender and recipient
      - For a report: project name
  - Meta-data are structured data and can easily be modeled in UML

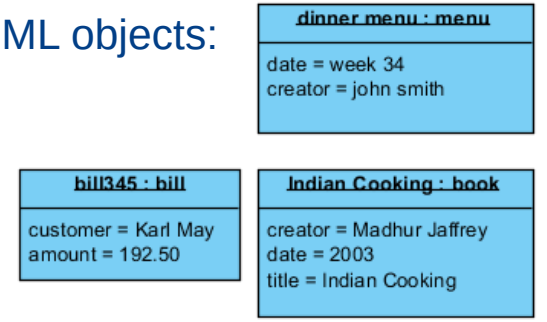
Document modeling as UML Diagrams

- In UML
  - A document class is represented as a class object with attributes describing the meta-data
  - A specific document is an object (i.e. an instance of a class)

Document classes as a UML class diagramm:

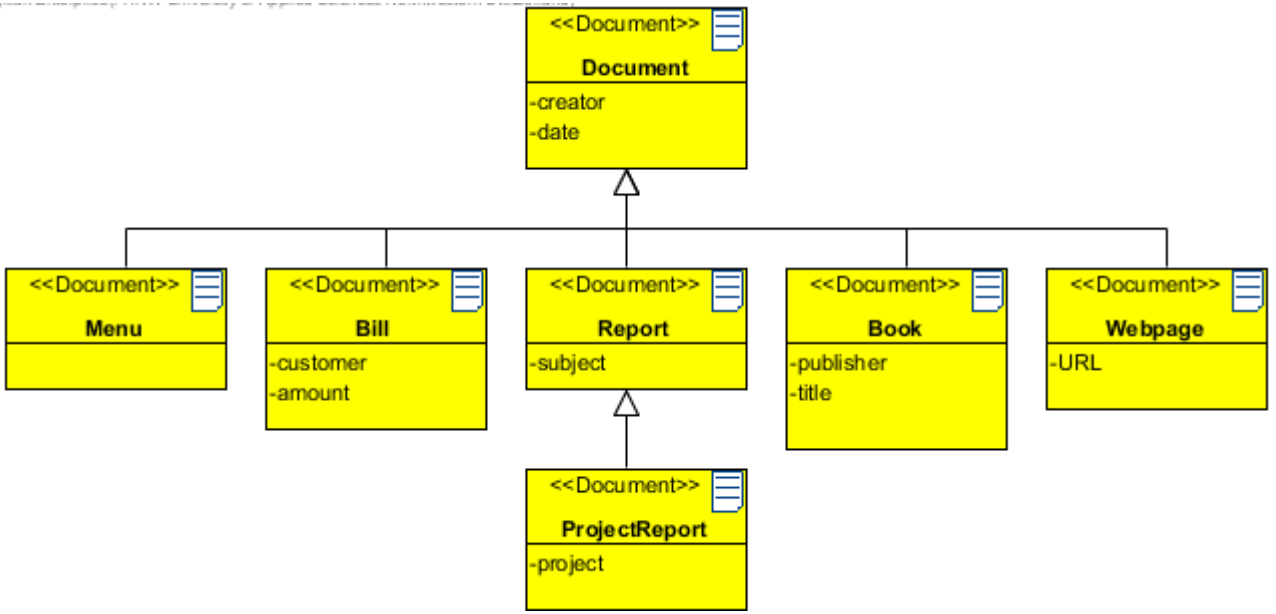


Specific documents as UML objects:



Modeling Documents in ArchiMetric

- In the Visual Paradigm tool we can use stereotypes to specialize UML class diagrams for modeling documents.
- We can define a new stereotype "Document" and
  - change color
  - add an icon



Combining Document and Data Modeling

Information about Documents and Data can be combined in one model

- Document classes
- Objects
- Structured Data
- Associations