VSR | EDU

XML

XML

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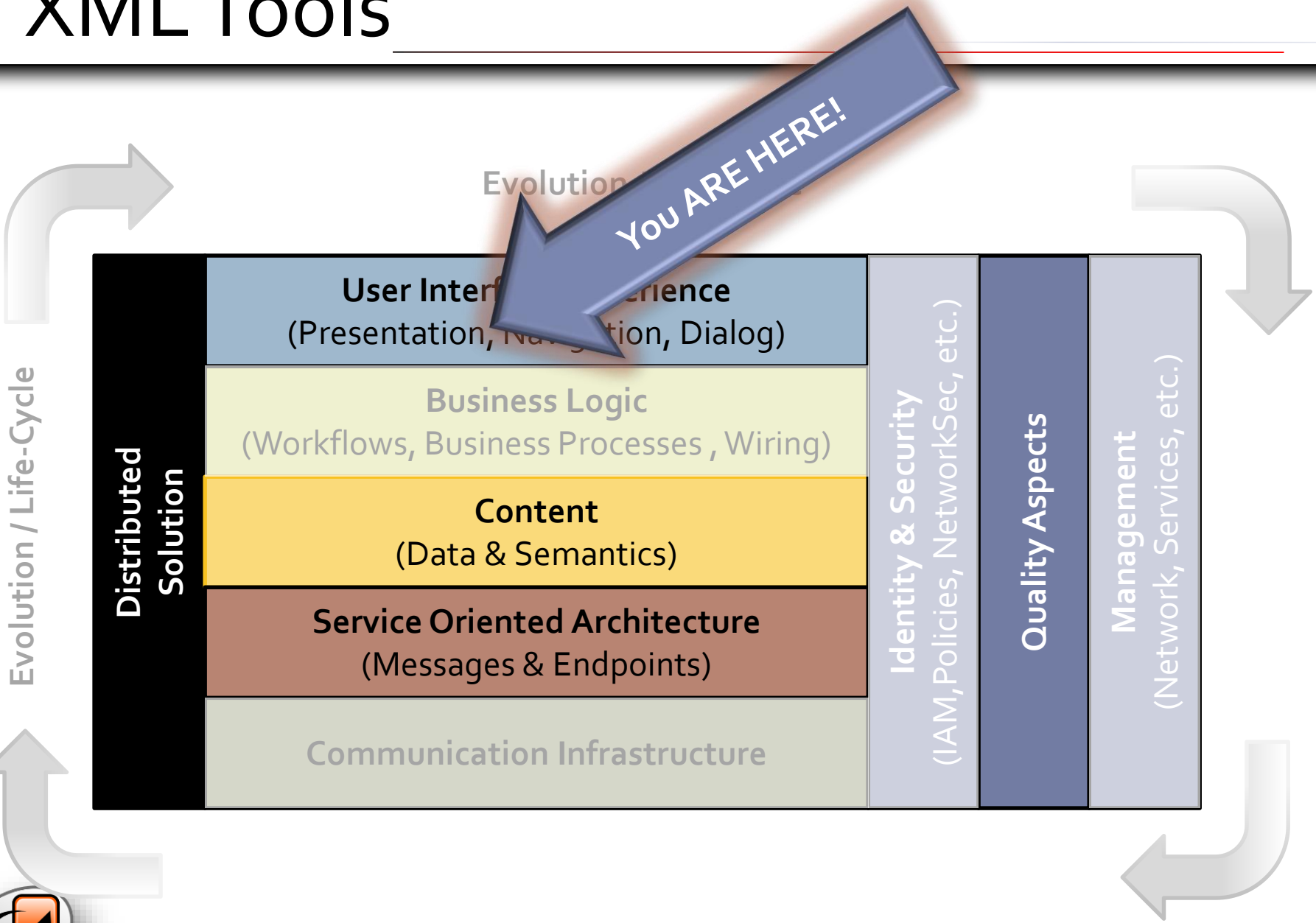
XML Tools


You ARE HERE!
Evolution
Evolution / Life-Cycle
Distributed Solution
User Interface
(Presentation, Navigation, Dialog)
Business Logic
(Workflows, Business Processes , Wiring)
Content
(Data & Semantics)
Service Oriented Architecture
(Messages & Endpoints)
Communication Infrastructure
Identity & Security
(IAM,Policies, NetworkSec, etc.)
Quality Aspects
Management
(Network, Services, etc.)

Purpose of the Next Chapter

- Get to know XML tools for user interface
  - ***Requirement***: User interfaces these days have to be inspiring – they must be seen as a positive experience
  - ***Goal***: XML tools available in this context of a positive user interface experience: **XML tools in context UIX** (User Inter Experience)
- User Interface Experience (UIX)
  - **Presentation** (supports: layout and design)
  - **Dialog** (supports: user interaction)
  - **Navigation** (supports: hypertext paradigm)

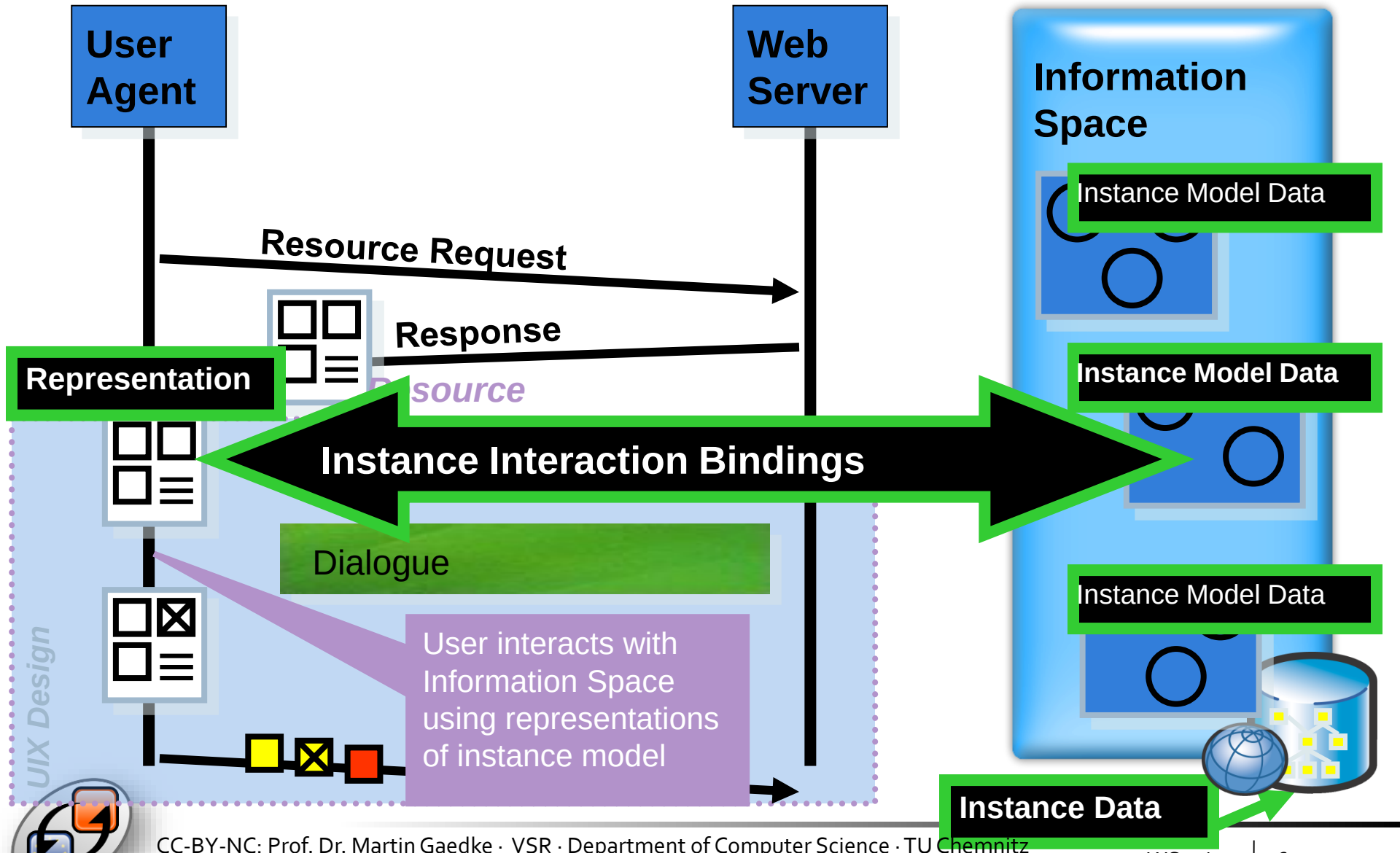
Chapter 21

XML DIALECTS FOR UIX (DIALOG)

Introduction

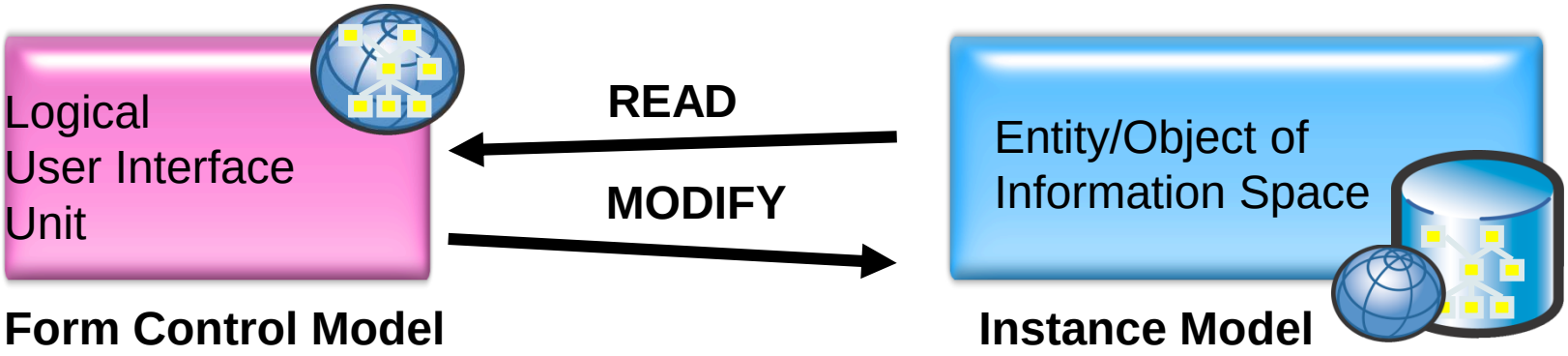
- Dialog focuses on the target of the user request (so, no decisions w.r.t. navigation)
- Is typically realized via forms
- The dialog enables representation and modification of objects in information space
  - Additionally, creation and removal of information space objects is usually allowed

Dialog between UA and IS



Motivation

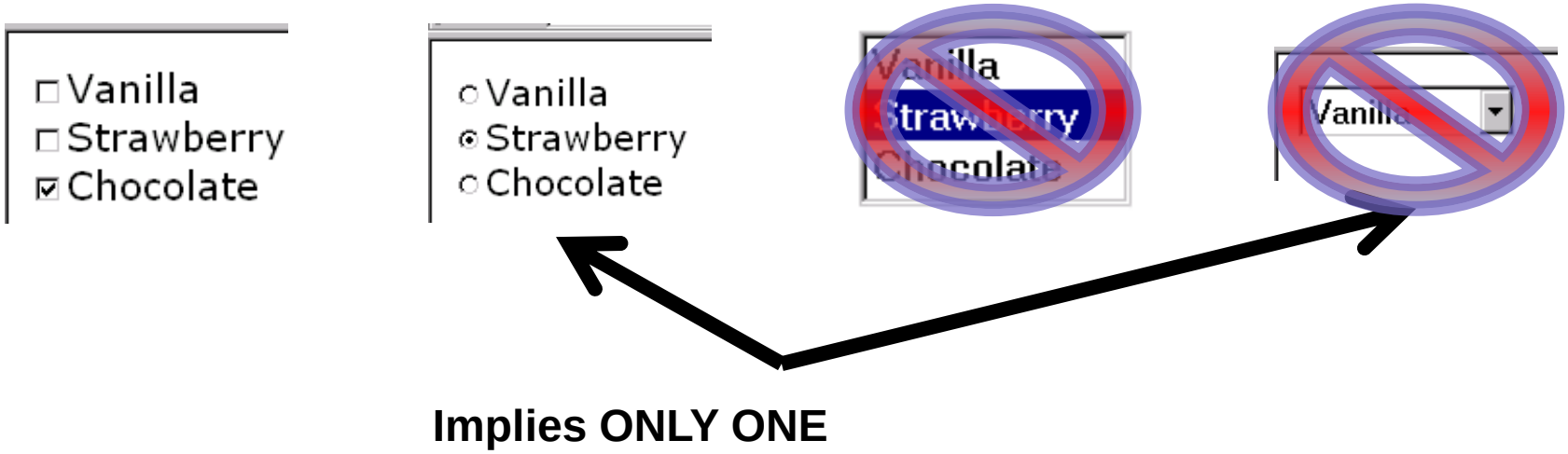
- Dialog elements define various aspects
  - Representation (same semantics?)
  - Security (seen, greyed out, active etc.)
  - Modification (read vs. write etc.)
  - Rules (select one or many)



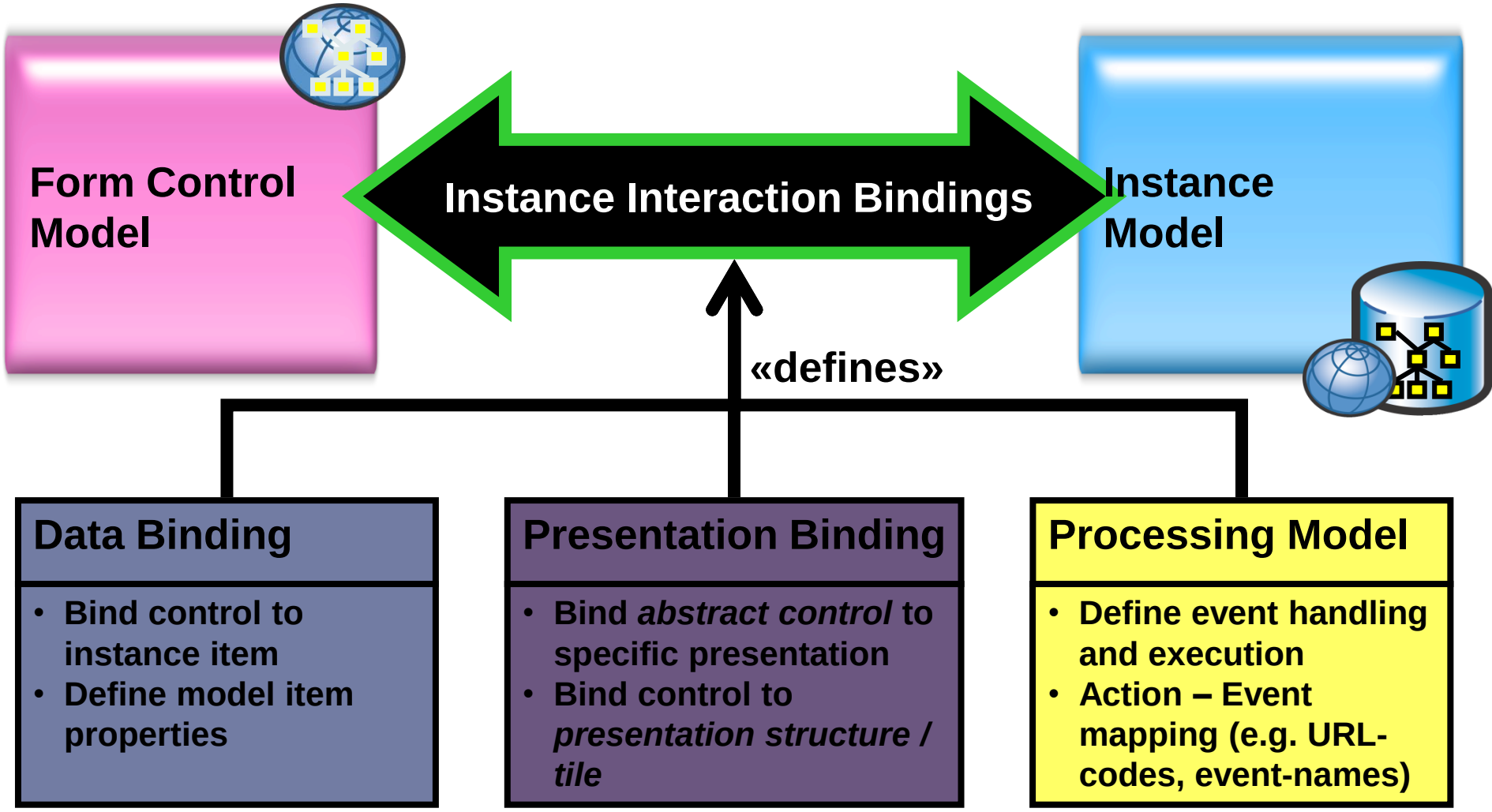
Example

Example – Interaction Binding

- Choice of ice cream flavor



Interaction Binding



Interaction and Dialog

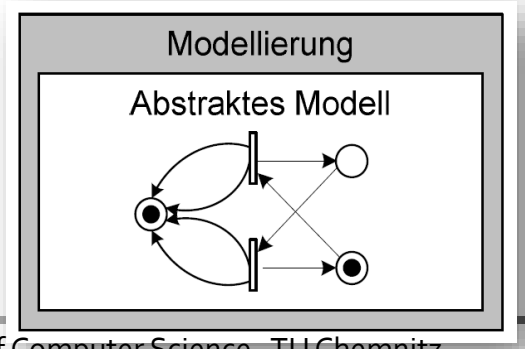
- *In form-based web application the user has an opportunity to navigate via an interaction unit, modify data and make those changes seen within the interaction unit.*
- Interaction in Web is realized via *interaction primitives*
  - *Navigation, modification and feedback*
- As we proceed, the modification and feedback interaction primitives will be regarded in more detail.

Dialog Design // Interaction (1)

- Concept – Overview
  - Processing of „abstract" information space by the user
  - Focus on semantics of interaction between the user and information space
- Requirements:
  - Interaction with the information space
  - Dialog-controlled representation, creation, removal and modification of information space objects
- Solution idea
  - **Interaction Binding** – Logical connection of information space entities (objects, classes) with interaction structures
    - Example: Information space:
      Class Ice Cream Type;
    - Example: Information space entities:
      Objects: Chocolate ice cream, strawberry ice cream, vanilla ice cream
    - Interaction binding: Class Ice Cream Type – Interaction structure „1 scoop of ice cream"

Dialog Design // Interaction (2)

- Solution
  - **Interaction structure** – set of logical interaction elements
    - Interaction structure „Order Ice Cream“ (without problems): (IE(„cup or waffle“), IE(„number of scoops“), IE(„choose ice cream 1 scoop“)+,IE“pay“)
  - **Interaction element (IE)** – logical representation of an information space entity as well as logical description of entity manipulation when interacting with a user
    - Interaction element „choose ice cream 1 scoop“ → Choose ice cream flavour → SelectONE (ice cream flavour)
    - IE(„cup or waffle“)



Dialog Design // Interaction (3)

- Solution
  - **Interaction transfer** – transfer of data between information space and representation processor (User Agent)
    - Endpoint description for information space
    - Corresponds to address, binding, contract (endpoint-ABC) of information space intermediary or of the information space itself
  - Examples:
    - HTTP-POST, MAILTO, WS-Addressing, WS-Transfer

Dialog Design // Interaction (4)

- Solution
  - **Dialog design** – Procedure converting interaction bindings into real expressions (forms for given user agents), and also to define the required interaction transfer
    - Representation interaction „choose ice cream 1 scoop“
    - User Agent1: XHTML, Language: English, Display: X
    - User Agent2: XHTML, Language: English, Display: Y
    - Communication: HTTP-POST

HTML Form (1)

- HTML Form
  - Is a form of interaction binding
  - Is an interaction structure and interaction unit carrier
  - Describes communication mechanisms
- Example: HTML Form

```
<html>
<head>
<title>Example</title>
</head>

<body>

<p>Name and Age Form:</p>
<form method="POST" action= "mailto:gaedke@example.org">
  <p>Name: <input type="text" name="T1" size="20"></p>
  <p>Age:
        <select size="1" name="D1">
                <option value="15-30">29 and younger</option>
                <option value="age2">30 and above</option>
        </select>
  </p>
  <input type="submit" value="Submit" name="B1">
</form>

</body>

</html>
```

HTML Form (2)

- HTML Form
  - HTML 4.01 Specification
    W3C Recommendation 24 December 1999
  - Describes vocabulary (elements) for realization of interaction bindings and interaction units
  - Example: Interaction elements
    - Text input fields
    - Dropdown lists, checkboxes, radio buttons
    - Submit and reset buttons
- Interaction element: Element **input**
- Example <INPUT type="text" id="lastname">
  - Id → Binding to information space
  - Type → Representation

HTML Form (3)

- HTML Form – Problems
  - Bad/no separation of interaction concept and representation
  - Information space entity encoding
  - User input checks on the user agent side requires scripts
    - Data validation
    - Conformity w.r.t. data types
    - Calculations
    - Dynamic aspects in the form (example: form for US addresses with state input and addresses in Germany)

Forms in Web

Look Back	
1993	**HTML forms** <form…
1994–2000	**Minimal changes**
April 2000	**Ideas of XForms data model** <xform><model> <instance>…
March 2006	**XForms 1.0 (Second Edition)** **W3C Recommendation 14 March 2006**
October 2009	**XForms 1.1** **W3C Recommendation 20 October 2009**
August 2013	**HTML5 Forms** **W3C Candidate Recommendation 6 August 2013**