

How to make use of enterprise and system models in healthcare: From requirements to implementation of HIS

Lecture

Health Information Systems, 21 June – 3 July, 2021 Stockholm university







Enterprise and systems models can be used in healthcare in the following way:

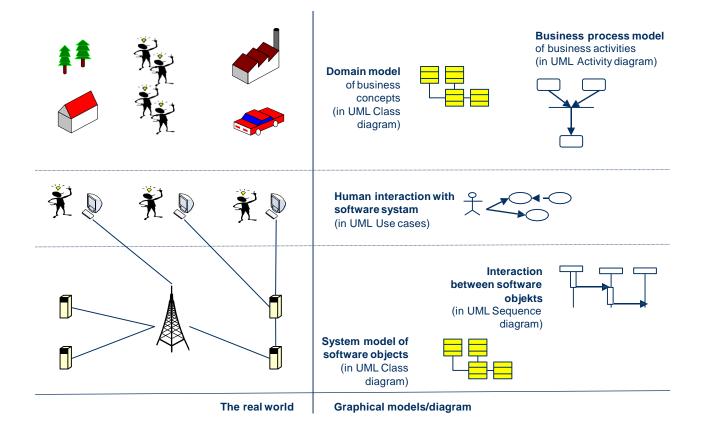
- Specifying and analysing health care processes (see lecture about business processes)
- Specifying and analysing health care concepts (see lecture about conceptual models)
- Defining requirements (see lecture about requirements, plus slides in this presentations)
- Supporting model-driven implementation of IT systems (slides in this presentation)
- Specifying health information standards (slides in this presentation)



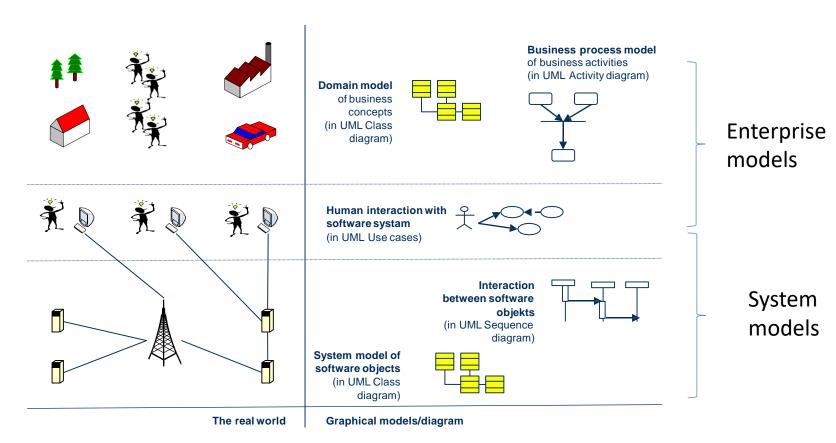


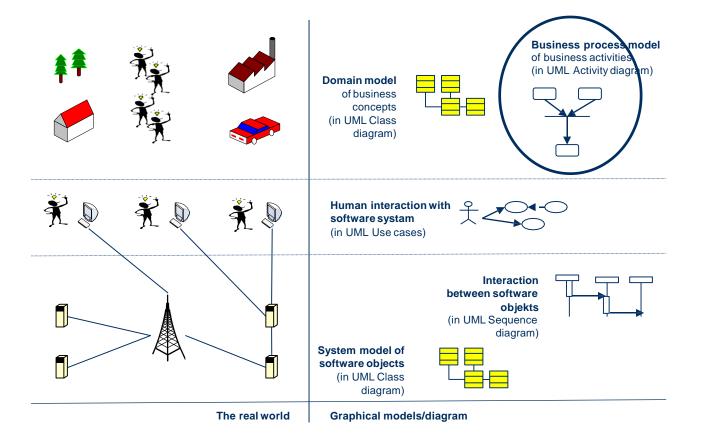
From enterprise and systems models to defining requirements on health information systems (HIS)



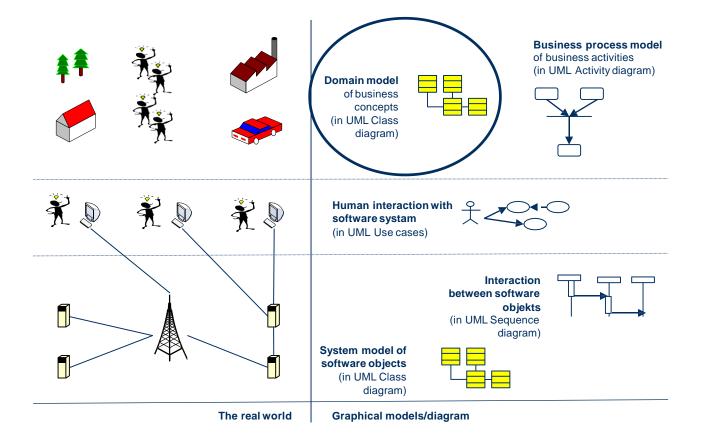




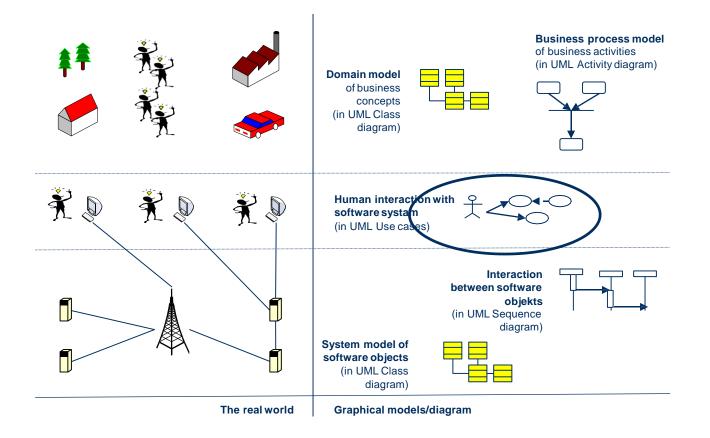




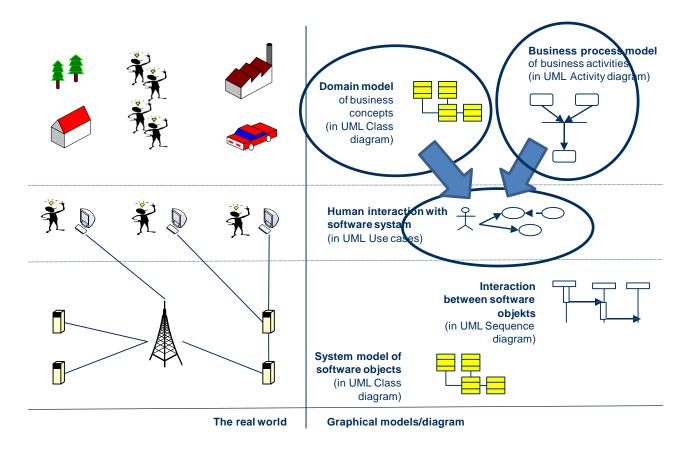




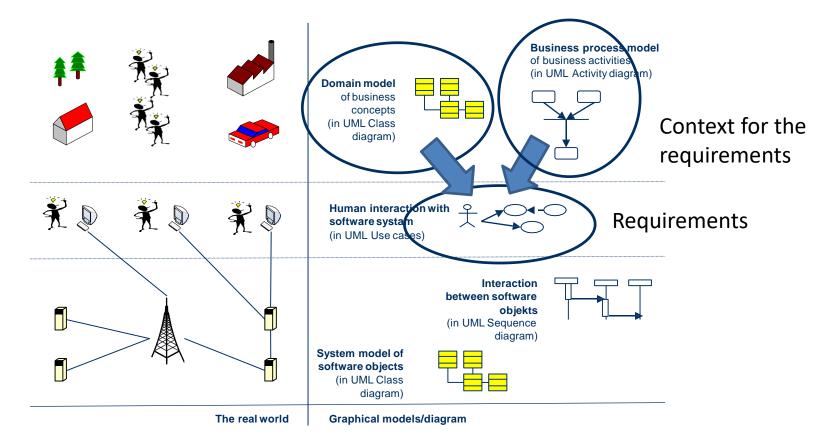


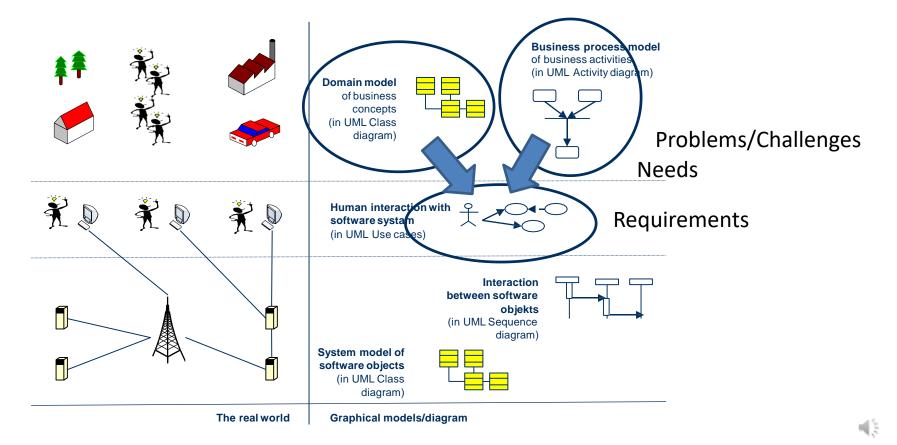










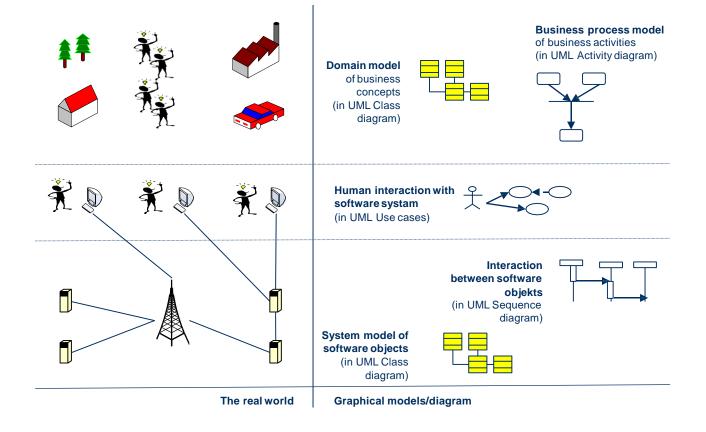




From enterprise and system models to implementation

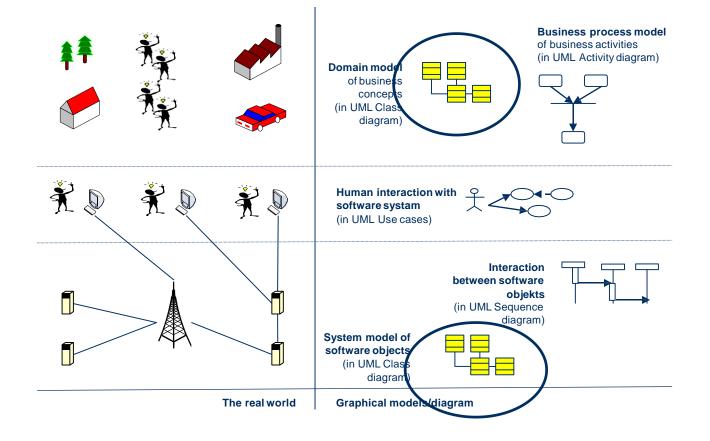






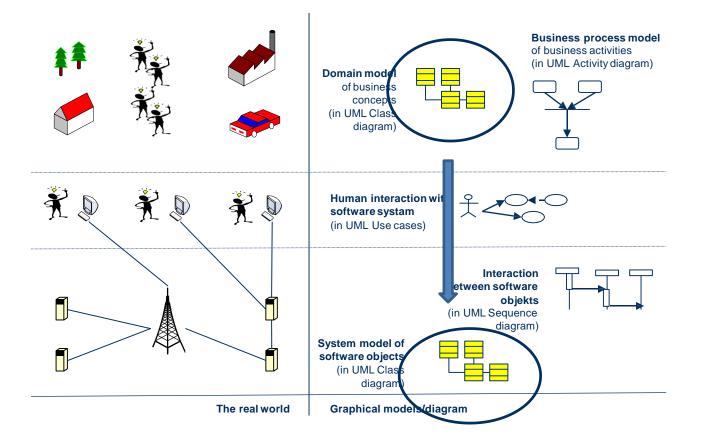
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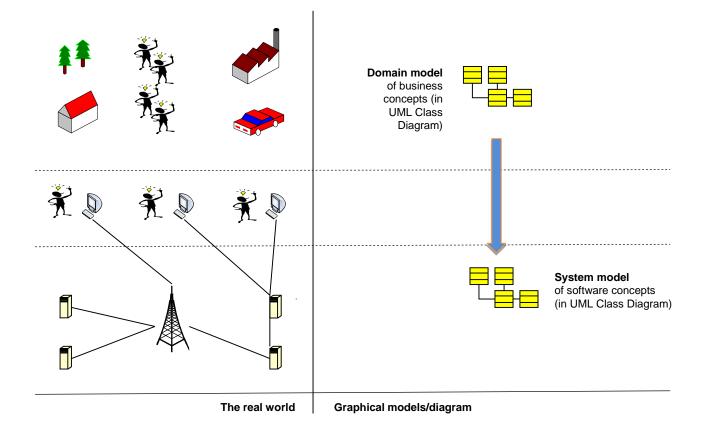


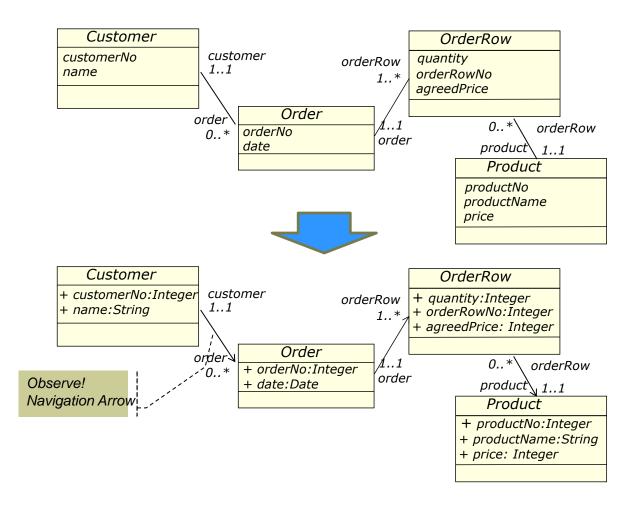




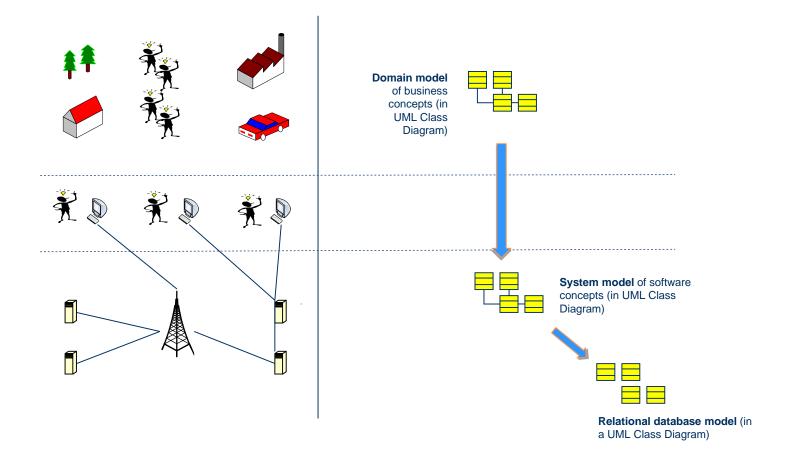




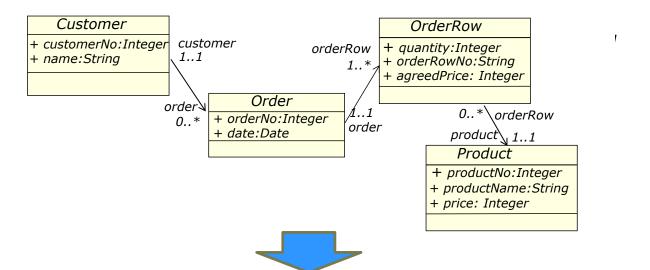












Customer

customerID:Integer (PK) customerNo:Integer name:Varchar

Order

orderID:Integer (PK) orderNo:Integer date:Date customerID:Integer (FK)

OrderRow

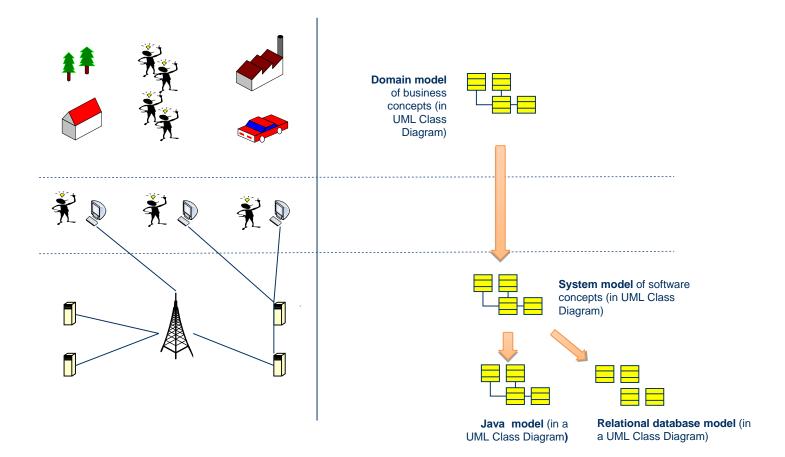
orderRowID:Integer (PK) quantity:Integer orderRowNo:Integer agreedPrice: Integer orderID:Integer (FK) productID:Integer (FK)

(Relationsschema)

Product

productID:Integer (PK) productNo:Integer procuctName:Varchar price: Integer









+ customerNo:Integer

+ name:String

customer orderRow 1..1

+ quantity:Integer

+ orderRowNo:Integer + agreedPrice: Integer

OrderRow



Customer

- customerNo:Integer
- name:String
- orders:Order[]

+getCustomerNo():Integer +setCustomerNo(customer

No :Integer)

+getName():String

+setName(name:String) +getOrders():Order[]

Note! No set Attribute

Order

- orderNo:Inteaer
- date:Date
- orderRows:OrderRow[]

+getOrderNo():Integer

+setOrderNo(orderNo:Integer)

+aetDate():Date

+setDate(date:Date)

+getOrderRows():OrderRow[]

Note! No set Attribute

Order

order

+ orderNo:Integer

+ date:Date

order

0..*\orderRow $product \setminus 1...1$

Product

+ productNo:Integer

+ productName:String

+ price: Integer

OrderRow

- quantity:Integer
- orderRowNo:Integer
- agreedPrice:Integer
- product:Product

+getQuantity():Integer

+setQuantity(quantity:Integer)

+getOrderRowNo():Integer

+setOrderRowNo(orderRowNo:)

+getAgreedPrice():Integer

+setAgreedPrice(agreedPrice: Integer)

+ *qetProduct():Product*

+ setProduct(product:Product)

Java-schema

Product

-productNo:Integer

-productName:String - price: Integer

+getProductNo():Integer

+setProductNo(productNo :Integer)

+getProductName

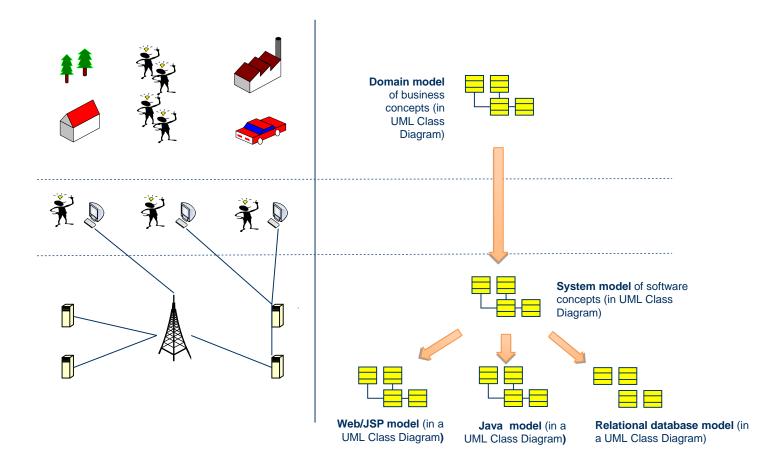
+setProductName(product

Name:String)

+getPrice:Integer

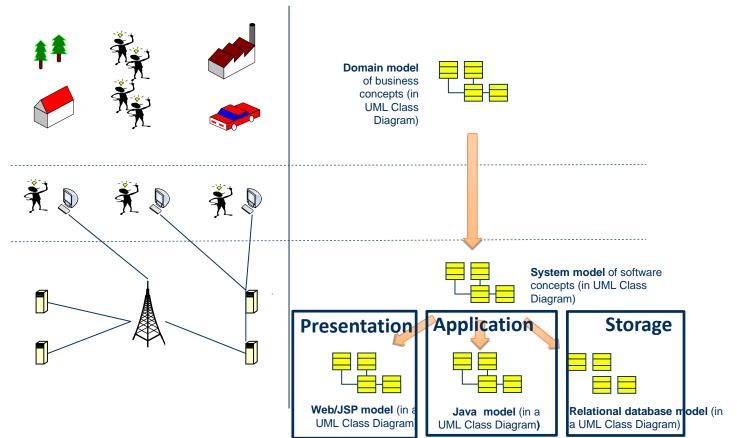
+setPrice(price:Integer)









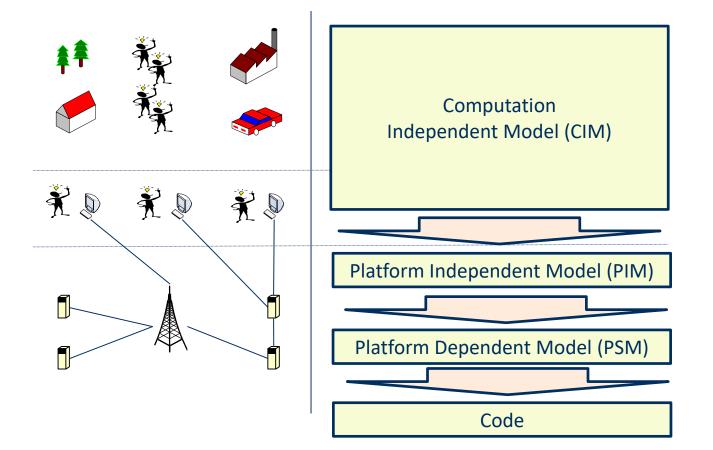






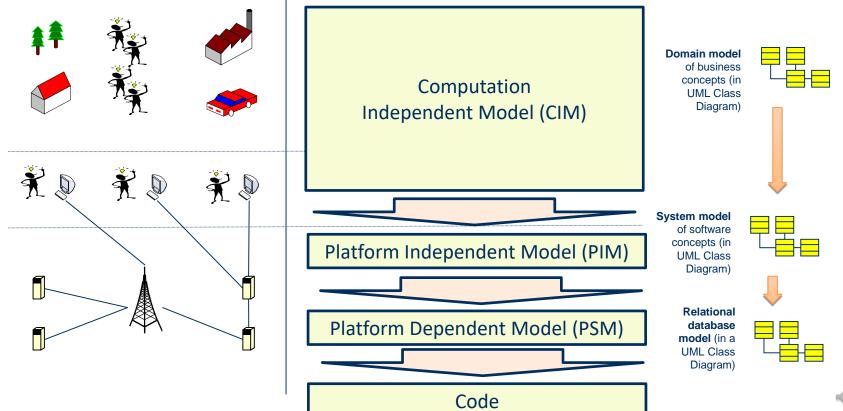




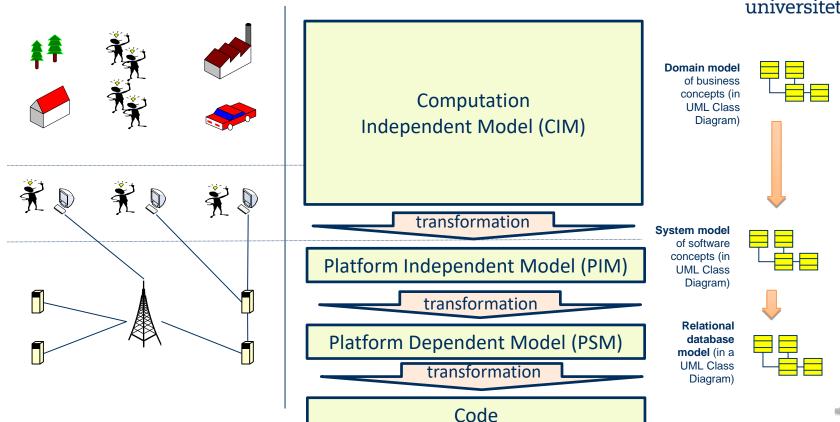














From enterprise and system models to information standards in healthcare



Healthcare standard

CONTSYS

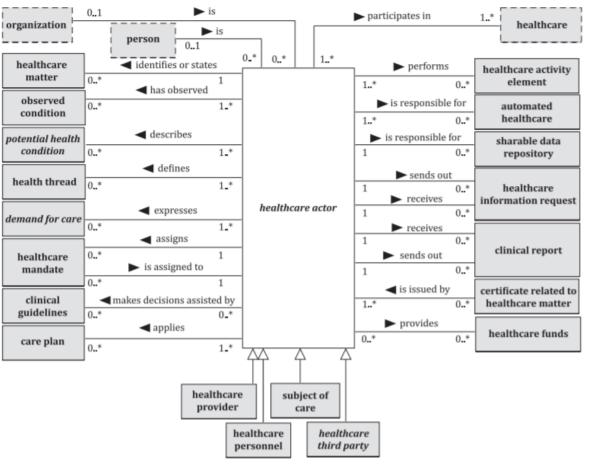


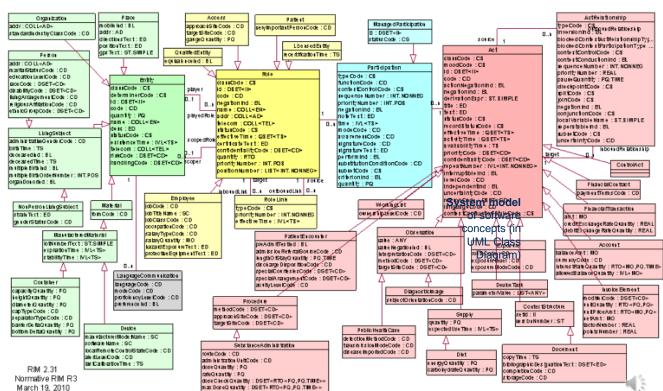
Figure 4 — — Healthcare actor (UML representation)

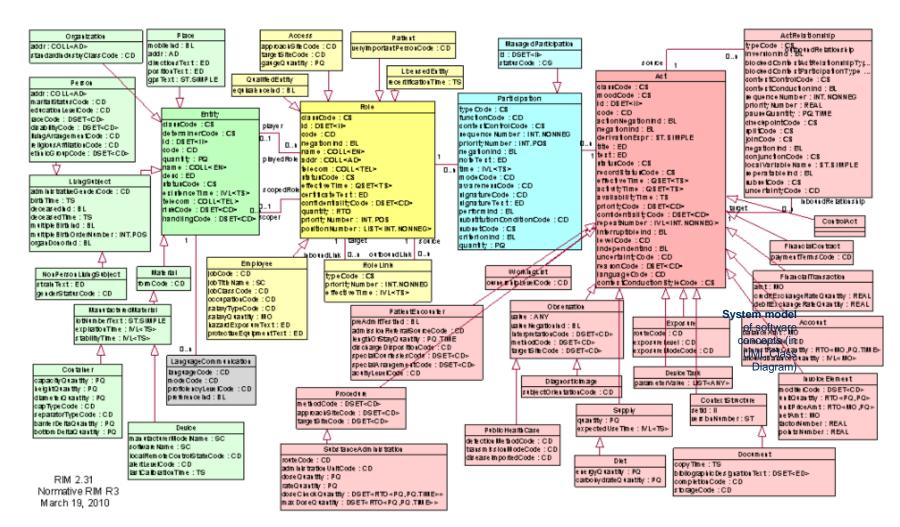


Stockholms

Healthcare standard

• HL7 RIM









To discuss

You are part of a project to implement and introduce in a new EHR that need support the healthcare practice but also communicate electronically with other health care providers, such as hospitals:

- What activities do you suggest to have a successful implementation and introduction?
- How would you work with information standards?

