

RE I

Discussion Exercise 2

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General Issue

- Read the assignments thoroughly!!!

Ex 1

- Did you distinguish between direct and indirect stakeholders?
- Did you explain why you think the chosen techniques fit?
- Does your interview help you in discovering requirements?

Ex 2

- Does your class diagram consider all important system aspects?
- Does each “system” have a class “system”?
- Is a user a person or a person a user?
- Did you name the associations you identified?
- Did you check the names of your classes?
- Did you use class diagrams to show a scenario?

Ex 2

- Did you analyze a domain or did you design a system?
- Did you represent a relationship with both an association and an attribute?

Ex 3a

- Which system are you referring to?
- Who starts your scenario?
- Which scenarios do your diagrams represent (order vs. delivery)?
- What about the granularity of your models?

Ex 3b

- What is the start state?
- What are the final states?
- Can you reach a final state?
- How can you reach a final state?

Ex 3d

- All models refer to the same system
- Take care that models are consistent and complete
 - Language change
 - Missing elements
 - ...

Ex 4

- You don't have to assign values to each output (it suffices to say that it is member of a given set)
- No order of execution (all lines must be evaluated to true)
- IF THEN ELSE... is a conditional expression (like the "cond ? X : Y" expression in Java)

Ex 4 – A possible Solution

DeliveryAdministration

households : $\mathbb{P} \text{Household}$

deliverers : $\mathbb{P} \text{Deliverer}$

distances : $(\text{Deliverer} \times \text{Household}) \rightarrow \{\text{near}, \text{intermediate}, \text{far}\}$

assignments : $\text{Deliverer} \rightarrow \text{Household}$

$\text{dom } \text{distances} \subseteq \text{households} \times \text{deliverers}$

$\text{dom } \text{assignments} \subseteq \text{deliverers}$

$\text{ran } \text{assignments} \subseteq \text{households}$

SelectDeliverer

$\Delta \text{DeliveryAdministration}$

household? : Household

distance! : $\{\text{near}, \text{intermediate}, \text{far}, \text{none available}\}$

deliverer! : Deliverer

nearAvailableDeliverers : $\mathbb{P} \text{Deliverer}$

interAvailableDeliverers : $\mathbb{P} \text{Deliverer}$

farAvailableDeliverers : $\mathbb{P} \text{Deliverer}$

$\text{nearAvailableDeliverers} = \{d : \text{deliverers} \mid \text{distances}(d, \text{household?}) = \text{near}\} \setminus \text{dom } \text{assignments}$

$\text{interAvailableDeliverers} = \{d : \text{deliverers} \mid \text{distances}(d, \text{household?}) = \text{intermediate}\} \setminus \text{dom } \text{assignments}$

$\text{farAvailableDeliverers} = \{d : \text{deliverers} \mid \text{distances}(d, \text{household?}) = \text{far}\} \setminus \text{dom } \text{assignments}$

$\text{nearAvailableDeliverers} \neq \emptyset \Rightarrow \text{deliverer!} \in \text{nearAvailableDeliverers} \wedge \text{distance!} = \text{near}$

$\text{nearAvailableDeliverers} = \emptyset \wedge \text{interAvailableDeliverers} \neq \emptyset \Rightarrow \text{deliverer!} \in \text{interAvailableDeliverers} \wedge \text{distance!} = \text{intermediate}$

$\text{nearAvailableDeliverers} = \emptyset \wedge \text{interAvailableDeliverers} = \emptyset \wedge \text{farAvailableDeliverers} \neq \emptyset \Rightarrow \text{deliverer!} \in \text{farAvailableDeliverers} \wedge \text{distance!} = \text{far}$

$\text{nearAvailableDeliverers} = \emptyset \wedge \text{interAvailableDeliverers} = \emptyset \wedge \text{farAvailableDeliverers} = \emptyset \Rightarrow \text{distance!} = \text{none available}$

$\text{assignments}' = \text{if } \text{distance!} = \text{none available} \text{ then } \text{assignments} \text{ else } \text{assignments} \cup \{(\text{deliverer!}, \text{household?})\}$

$\text{distances}' = \text{distances}$

$\text{deliverers}' = \text{deliverers}$

$\text{households}' = \text{households}$