

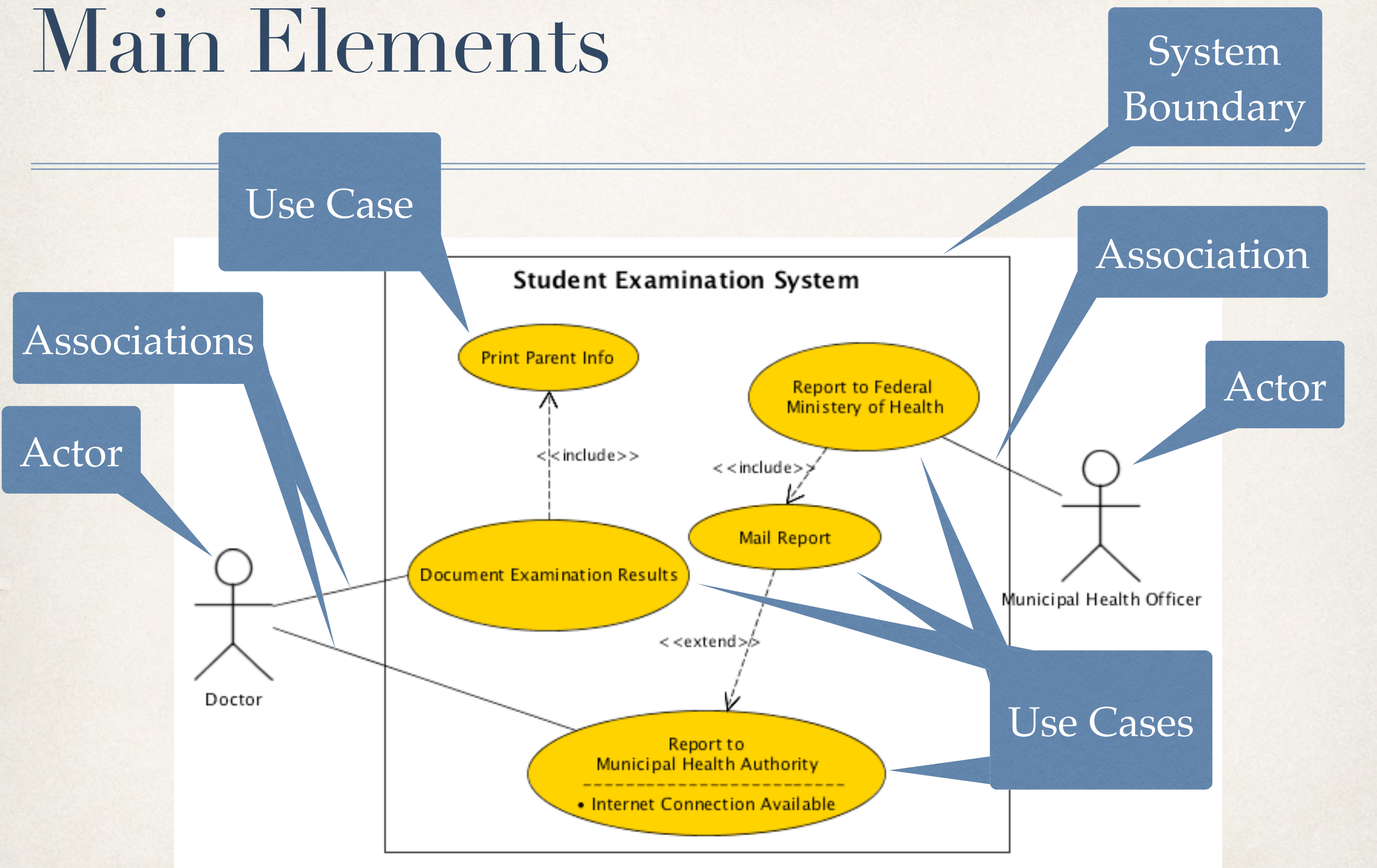
Project Development (IV_SYP_PRE)

UML – Use Case Diagrams

Overview

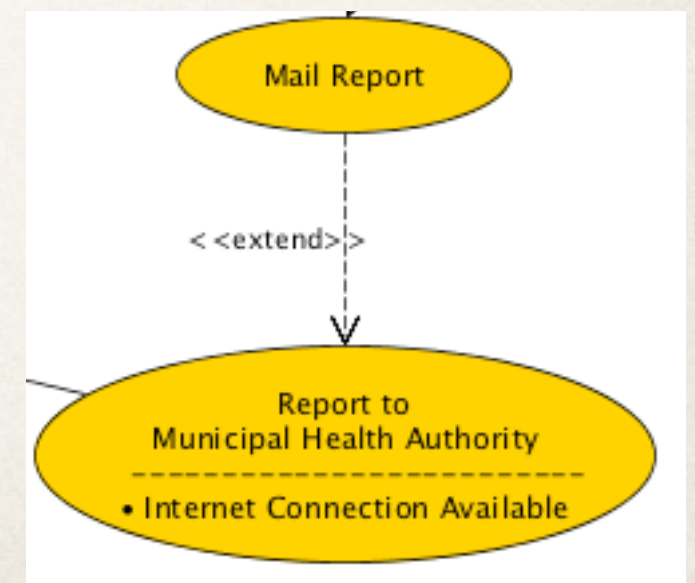
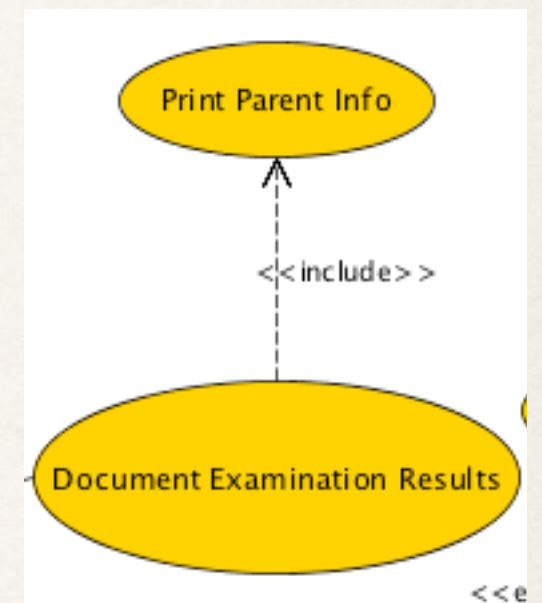
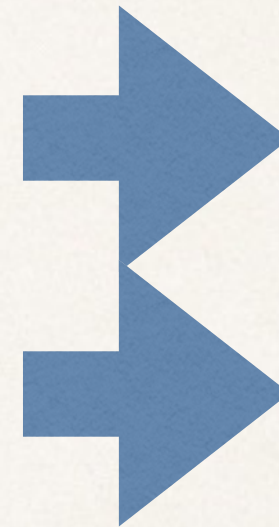
- ❖ Use cases: Describe **what** a system is supposed to do
- ❖ Use case diagram
 - ❖ Tool to describe use cases in a graphical way
 - ❖ Standardized elements having a defined meaning
 - ❖ Supports developer – developer communication
 - ❖ Supports developer – customer communication

Main Elements



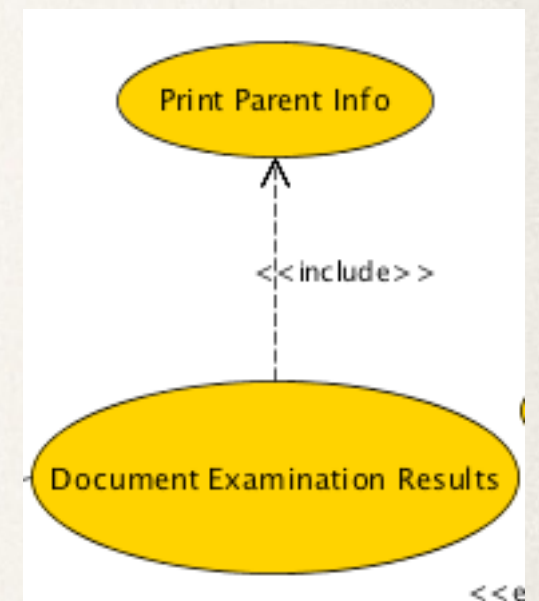
How To Read <<include>> and <<extend>>

- ❖ Read from arrow end to arrow head
 - ❖ Document Examination Results
 - ❖ includes
 - ❖ Print Parent Info
- ❖ Again from arrow end to arrow head
 - ❖ Mail Daily Report
 - ❖ extends
 - ❖ Print Daily Report



The Meaning of <<include>>

- ❖ For common parts of behavior of two or more use cases
- ❖ Base use case is usually not complete in itself
- ❖ Direction of the relationship indicates that base use case depends on the addition but not vice versa.
- ❖ Allows
 - ❖ hierarchical composition of use cases
 - ❖ reuse of use cases



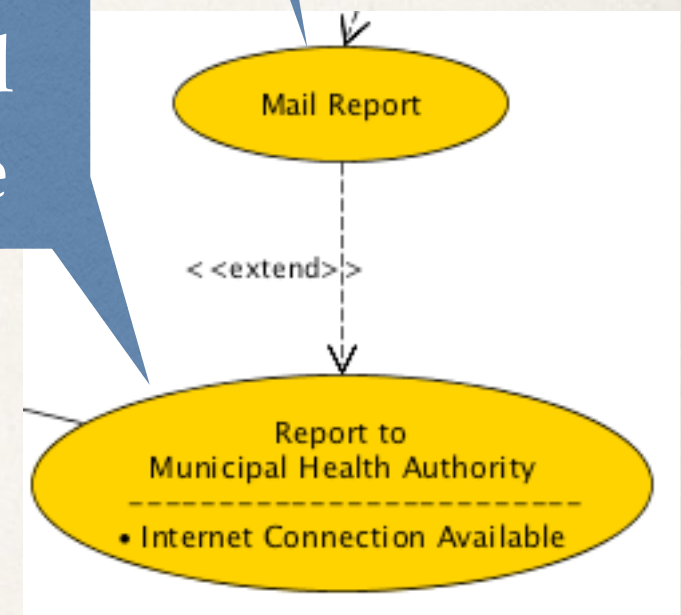
The Meaning of <<extend>>

Extending
Use Case

- ❖ When there is additional behavior that should be added
- ❖ Possibly conditional, to the behavior defined in one or more use cases.

Extended
Use Case

- ❖ Extended use case
 - ❖ Is defined independently of the extending use case
 - ❖ Is meaningful independently of the extending use case.
- ❖ Extending use case
 - ❖ Typically defines behavior that may not necessarily be meaningful by itself.
 - ❖ Defines a set of modular behavior increments that augment an execution of the extended use case under specific conditions



How to Proceed?

- ❖ Find the actors
 - ❖ Persons, Roles
- ❖ Find the central use case
 - ❖ What is the “main thing” to be done?
 - ❖ Wording: “<<Role>> uses the system in order to <<goal>>”
- ❖ Refine this use case
 - ❖ Check for common parts

Try yourself

- ❖ Trip booking
 - ❖ When booking a trip in a travel agency a flight and a hotel are booked. Some hotels offer a wellness program which can be booked in advance. Furthermore the customer has the possibility to take a travel insurance.

Summary

- ❖ Actor: Person or process who / which interacts with a system
- ❖ Association: Relation between actor and use case
- ❖ Use Case: Activity including the actor(s)
- ❖ include: Special relation between two use cases (extract common parts)
- ❖ extends: Special relation between two use cases (optional)
- ❖ Frame: System boundary