



LISBON
SCHOOL OF
ECONOMICS &
MANAGEMENT

UNIVERSIDADE DE LISBOA

Activity Diagram

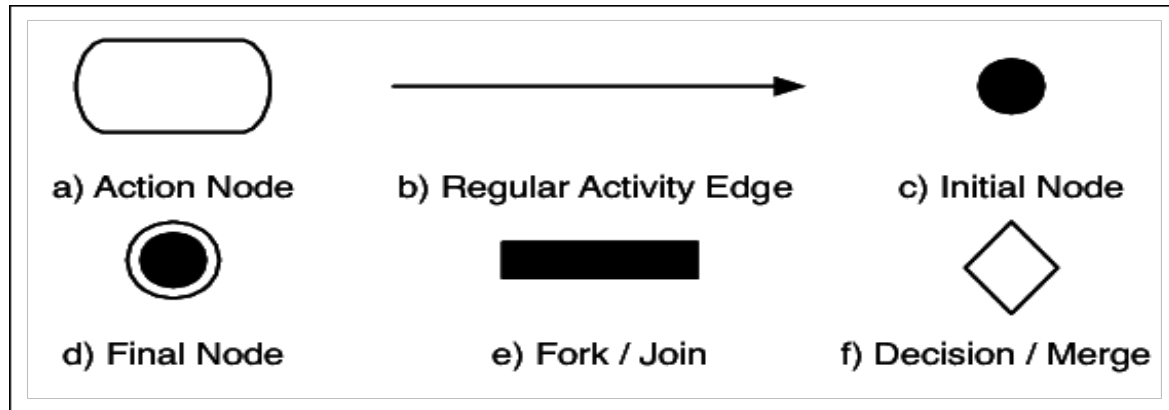
Carlos J. Costa

Activity Diagram

Activity Diagrams are typically used for:

1. Modelling business processes
2. Modelling the logic of a use case or scenario
3. Modelling the detailed logic of a business rule

Activity Diagram



Activity Diagram

- In case of use case logic modelling or scenario (2)



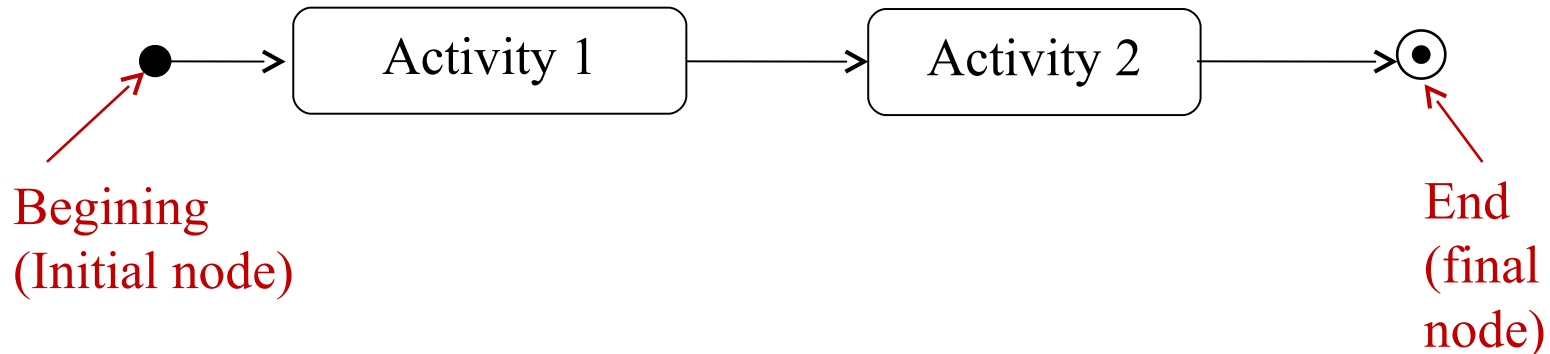
- Activity diagrams are usually created from the descriptions of the use cases and corresponding scenario!!!

Activity Diagram

- AD is suitable for the modelling of the functional vision of a system, because it allows to describe the
 - logic of its processes
 - its functions

Activity Diagram

- AD describes the internal behaviour of its processes or functions.
- AD represents a series of actions and / or activities and explains the dependencies between them



Activity Diagram

- Activity is a step of a process where some work is done (calculation, manipulation, research, etc.)

Inserir pedido

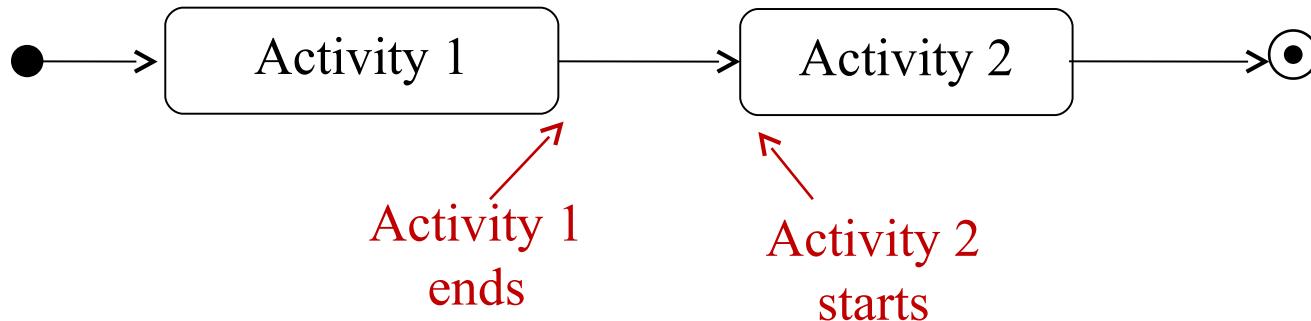
Activity Diagram: Edges

- represented by arrows,
- connect the individual components of activity diagrams
- illustrate the control flow of the activity



Activity Diagram

- Sequential activities - an activity can only be performed when all the activities that depend on it have already been performed.

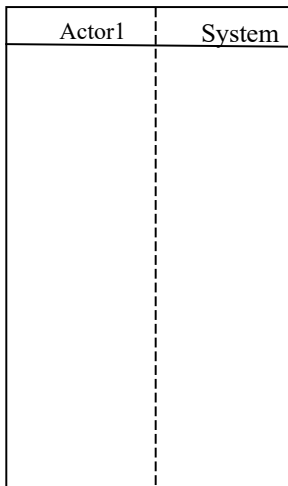


Activity Diagram

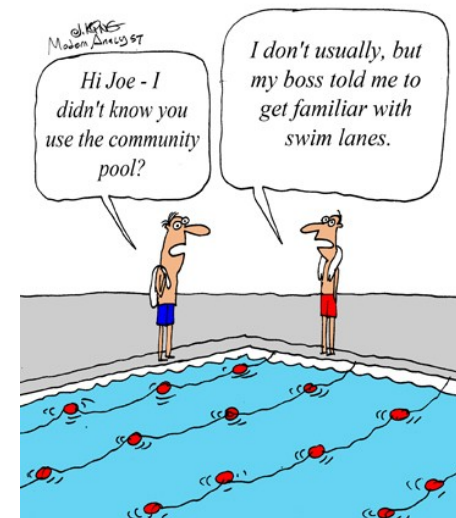
- Competing activities - activities can be performed in parallel.

Activity Diagram: Swimlanes

- The individual elements of an activity diagram can be divided into individual areas or 'partitions'.
- Various criteria can lead to the creation of these partitions:

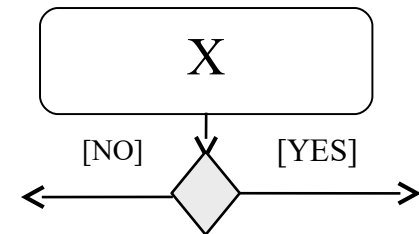


- organization entities,
- cost centres,
- locations,
- ...



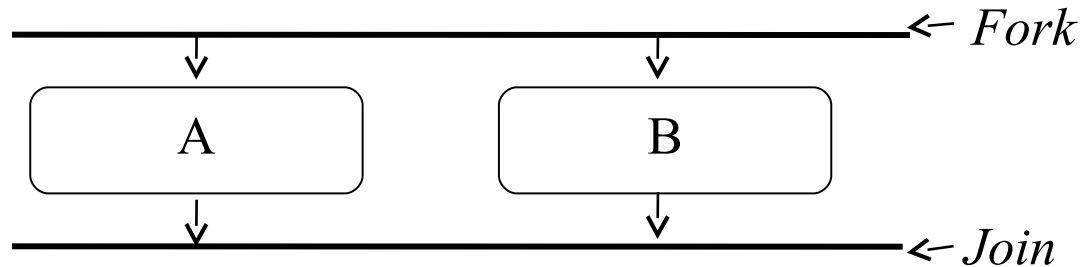
Activity Diagram: Decision nodes

- Decision node is a control node that accepts tokens on one or two incoming edges and selects one outgoing edge from one or more outgoing flows.
- Decision nodes were introduced in UML to support conditionals in activities.
- The notation for a decision node is a diamond-shaped symbol



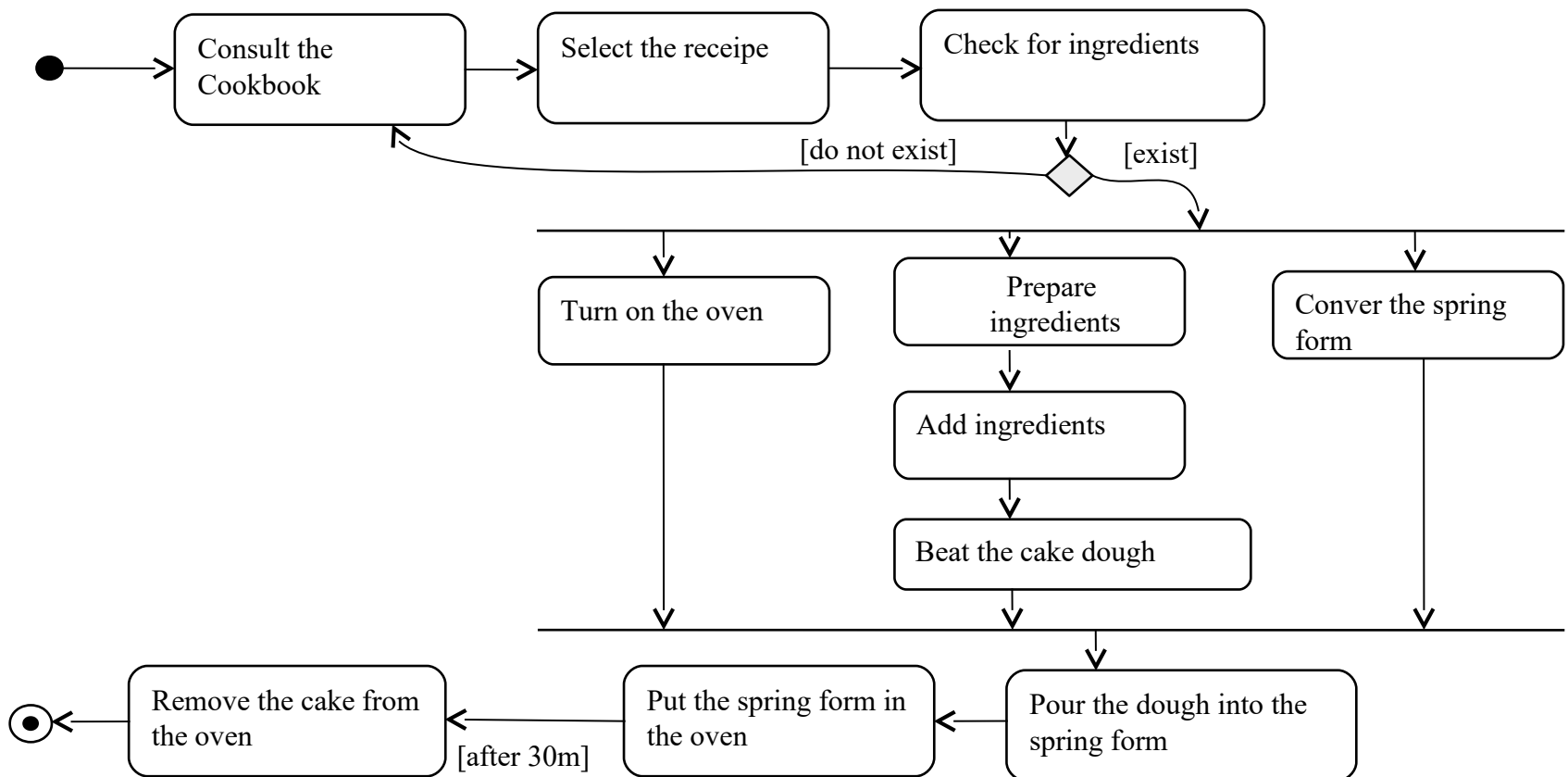
Activity Diagram: Fork/Join node

- Fork node and join node: describe a set of activities that should be performed, but where the order of execution is not relevant

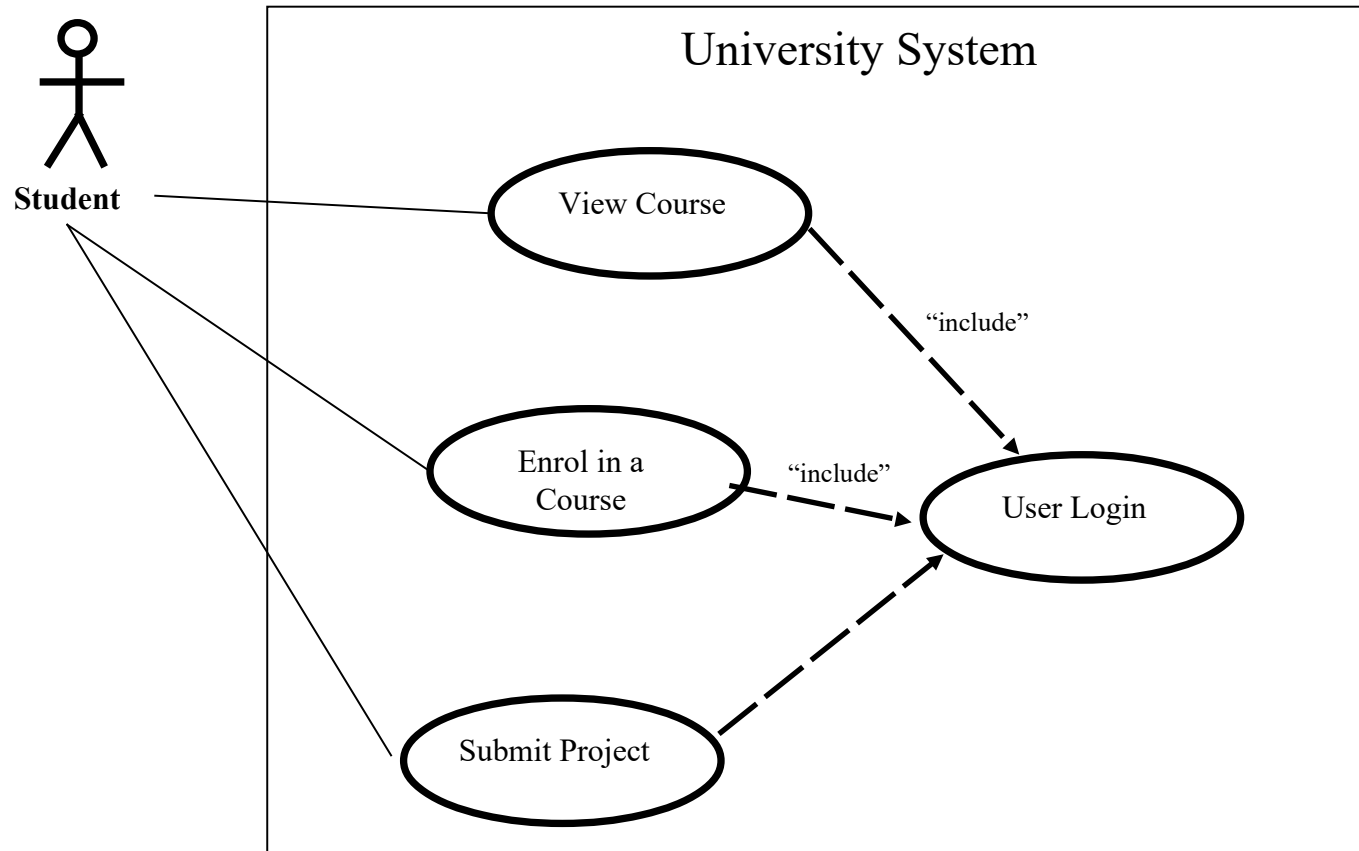


Example 1

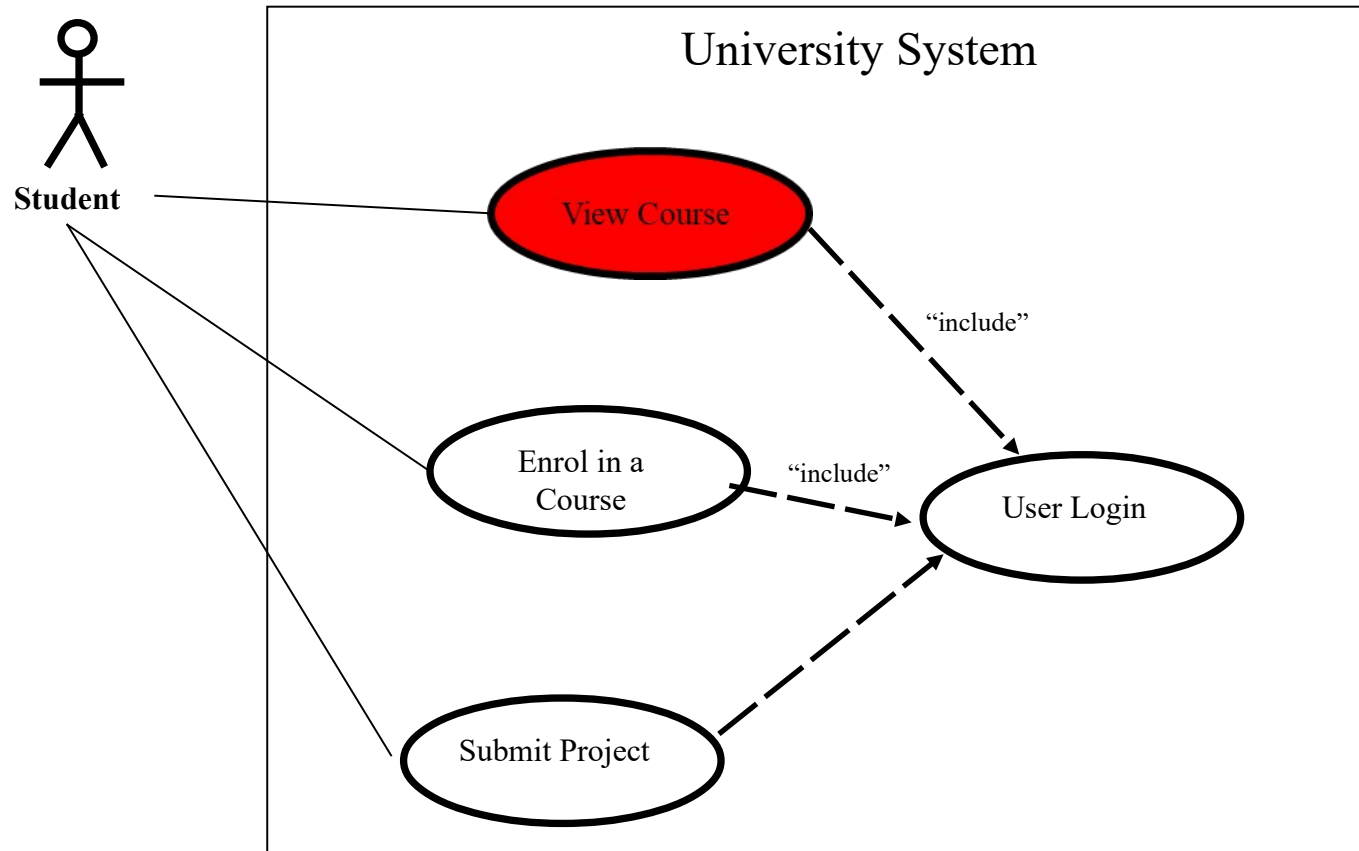
Use Case: To bake a cake



Example 2

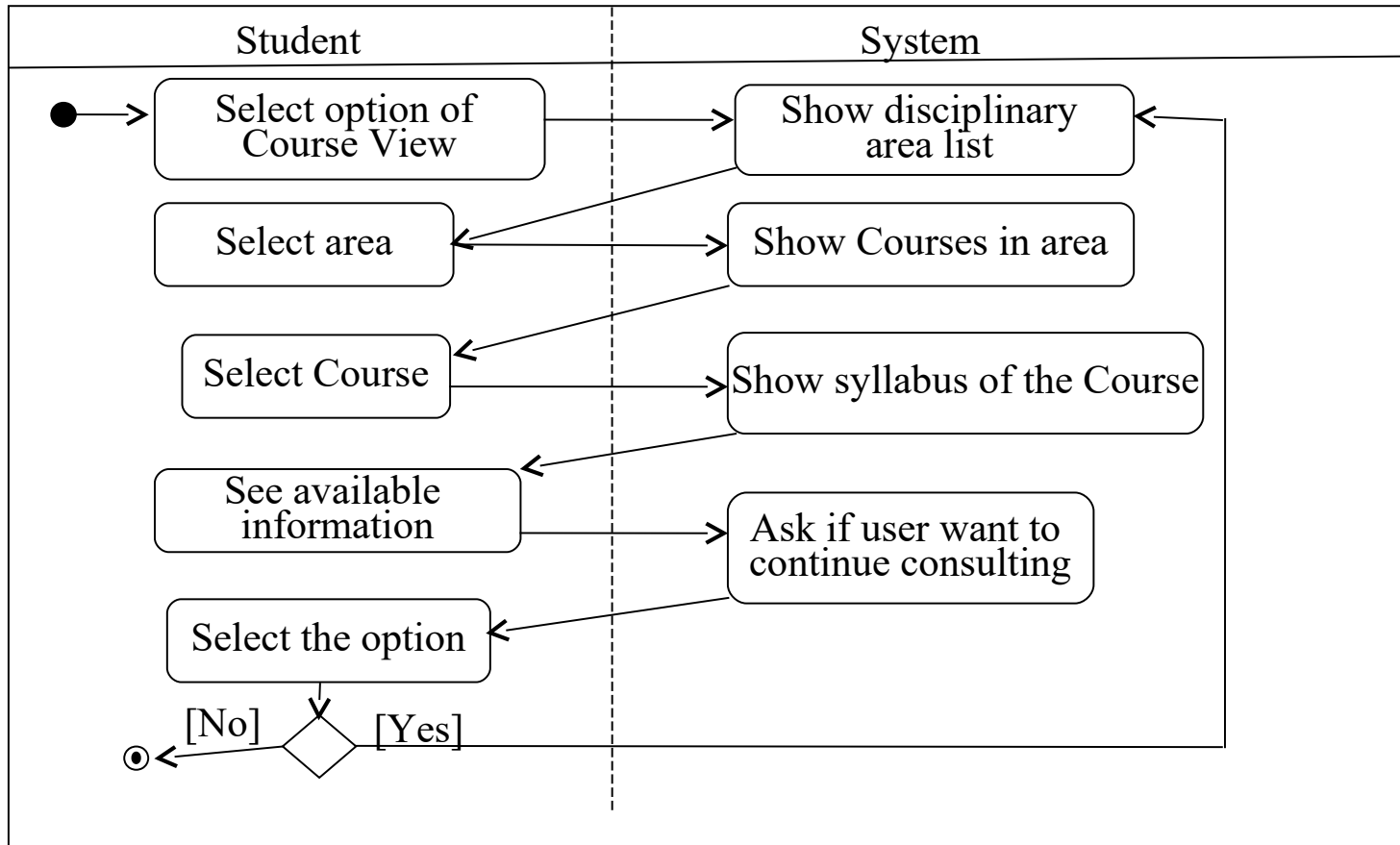


Example 2

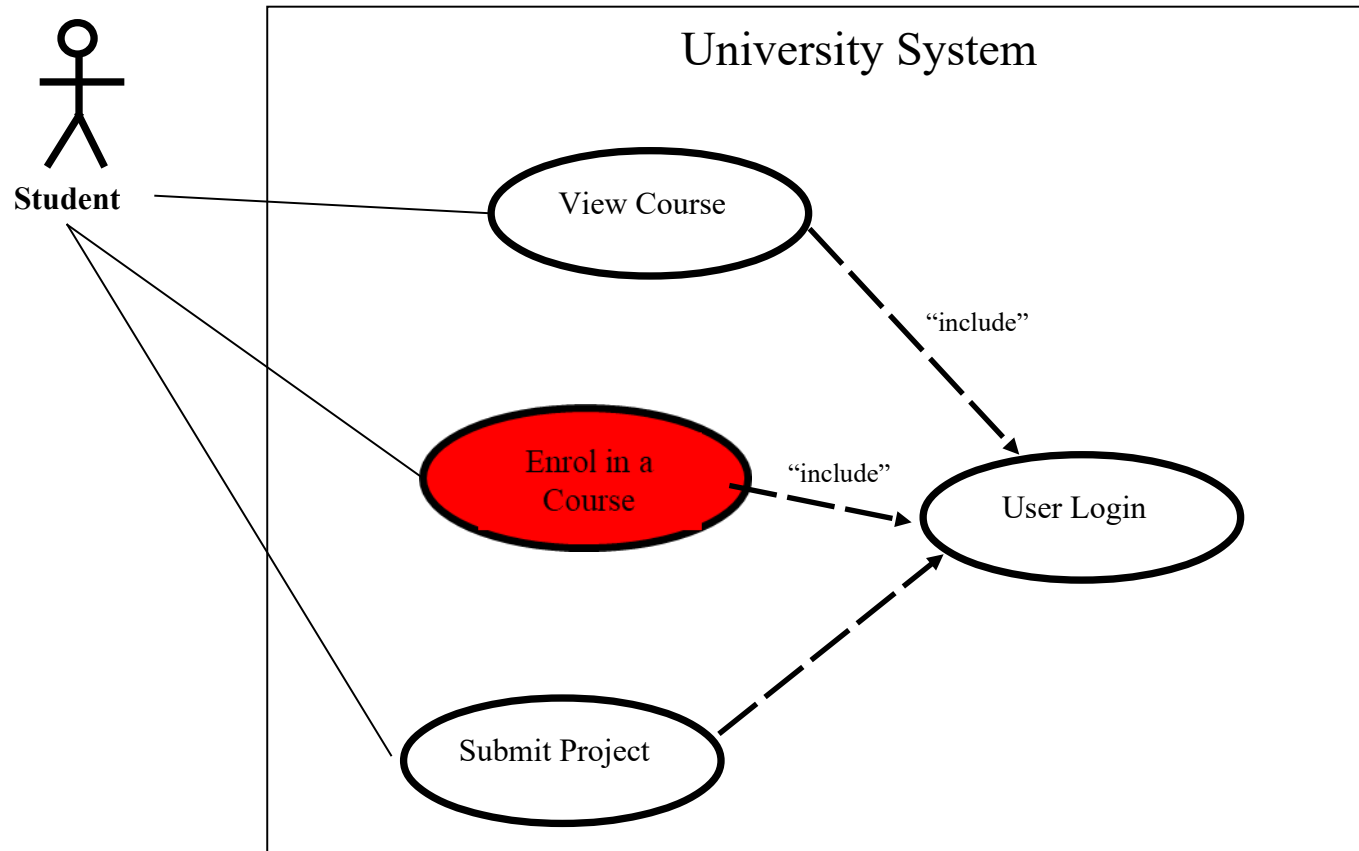


Example 2

Use case: View a Course

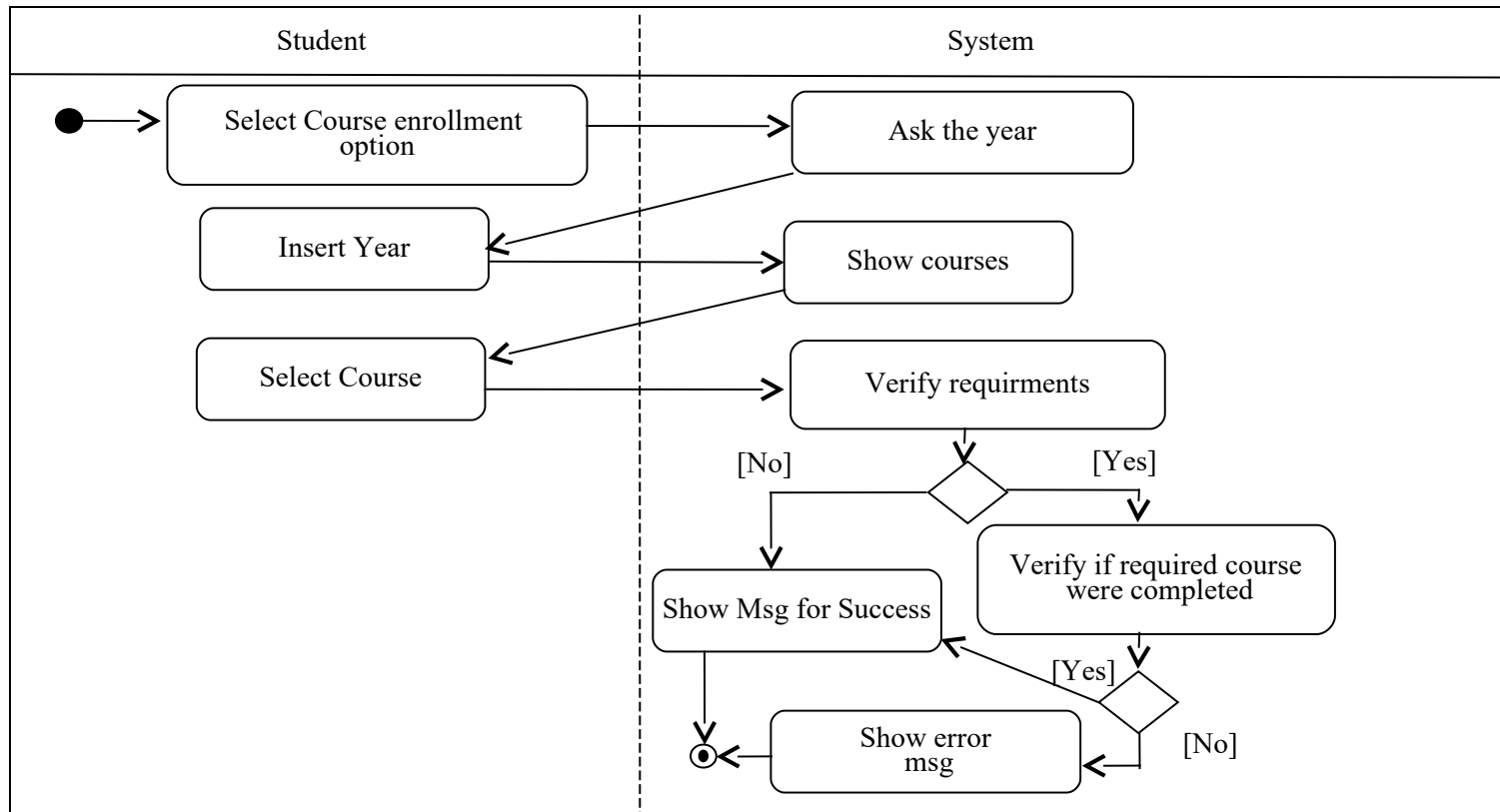


Example 2



example 3

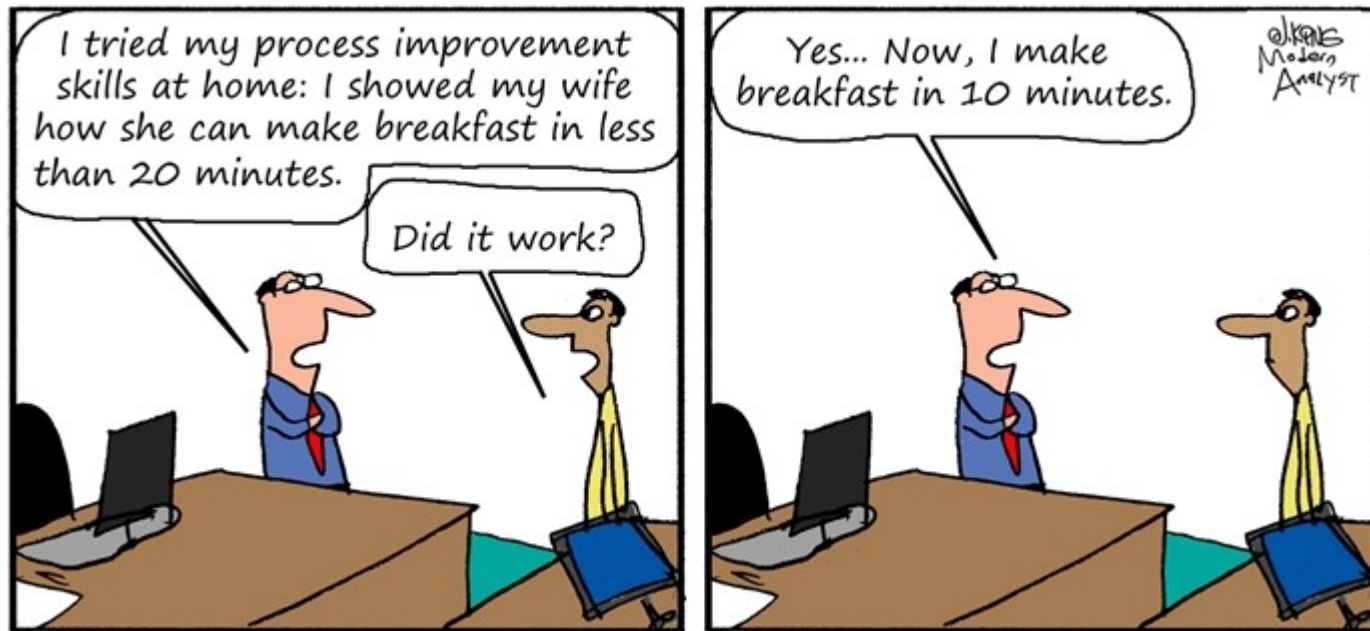
Use Case: Enrol in a course



How to Model

- Create a Use Case diagram for the entire project
- Create an activity diagram for each use case

Advantage of using Activity Diagrams



Bibliography

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