

Activity Diagrams

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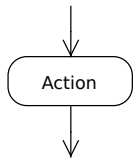
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Activity Diagrams

- Activity diagram: displays an entire business process
 - Procedures, processes, work flow, etc.
 - Involves several objects
 - Several use cases.
 - Decisions can be described
 - Parallel processes can be described with: “fork - join”.

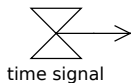
Diagram Elements

Control flow

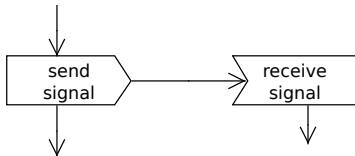


DataObject

Activity Start



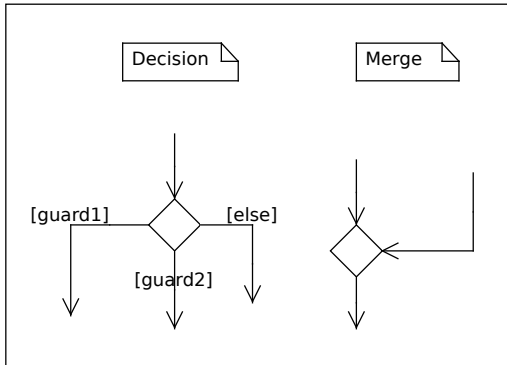
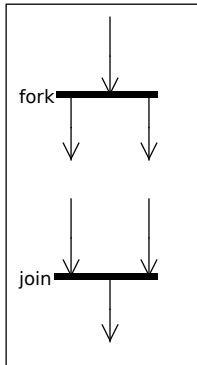
Activity End



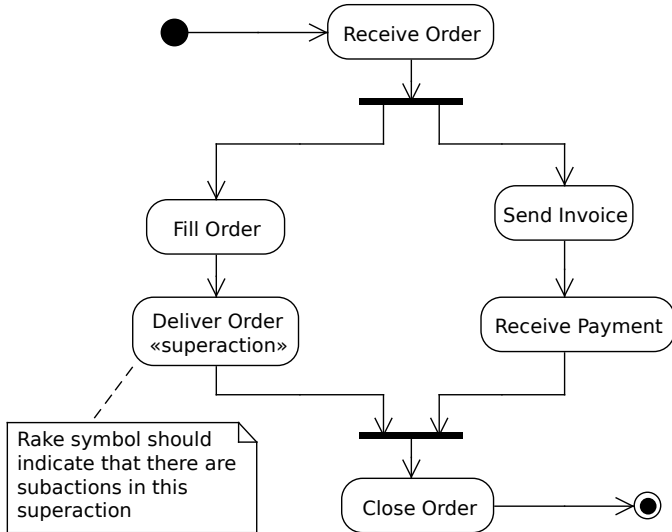
Flow End



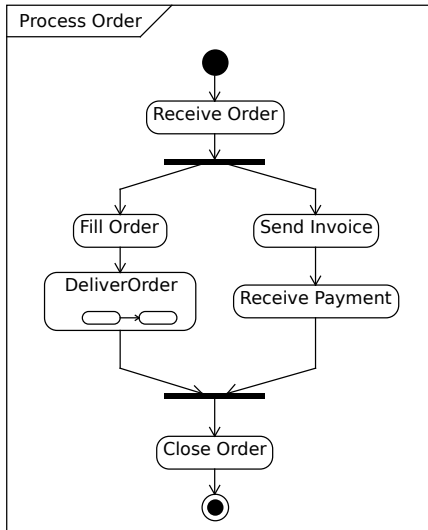
Fork - Join & Decision - Merge



Example: Order processing



Umllet: 'All in One' example



Decompose your actions

Actions are sometimes composed of several subactions. With a **rake-symbol** (see figure) one can also indicate that there are subactions present. Such an action could be called a superaction.

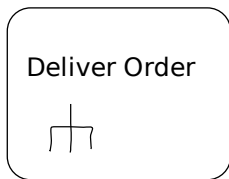
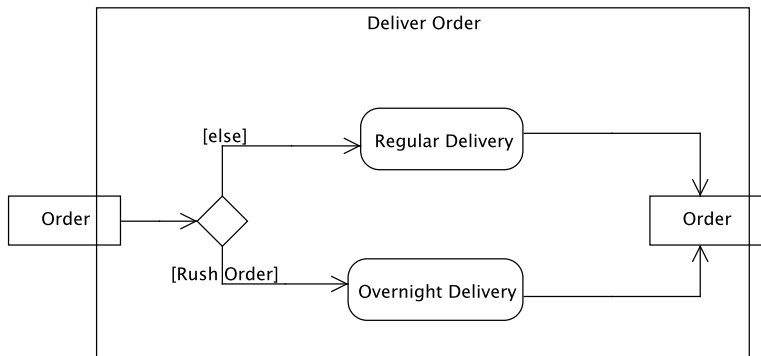


Figure : Action element with sub-action diagram.

- This symbol is not supported in every UML tool
- Draw by hand
- There should be an activity diagram with name: “Deliver Order”.

Deliver Order: subaction

On the left and right we see an Order as input and output parameter. The **control flow** has been turned into an **object flow**. The object is an Order, and that is being traced.

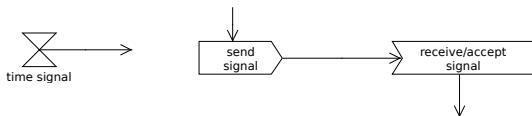


Partitions

- Lines may divide the activity diagram into two or more partitions. Each partition is a well defined part of the total system. For example a sales department and the repair department of a car sales,service and repairs company.
- These were formerly called “swimlanes”, implying that only straight lines are allowed, but since UML2, arbitray areas with straight lines and right angle corners are allowed.
- Partitions are used if more departments are involved in an activity.
- See Figure 11.4 in the book.

Signals

- Actions can also react on signals.
- For timing signals a special symbol is available, shaped as a sand clock.



- Other signals must be supplied with informative text.
- These signals may be send or received; a symbol for either case is available.
- The examples in the book are simple and clear.

Swimlanes: example

