

I* Tutorial

DAT230, Requirements Engineering

Ali Shahrokni, 2010-09-16

Requirement Modelling & Stakeholder Analysis

- *Early phase of RE*
- *Understanding the organizational context and rationales that lead up to requirements*
- Support reasoning about organizational objectives, system and environment alternatives, implications for stakeholders

I* (1)

- <http://www.cs.toronto.edu/km/istar/>
- Agent & goal oriented
- developed for modelling and reasoning about organizational environments and their information systems
- Consists of two components
 - Strategic Dependency (SD) model: describe the dependency relationships among actors.
 - Strategic Rationale (SR) model: describe stakeholder interests and concerns

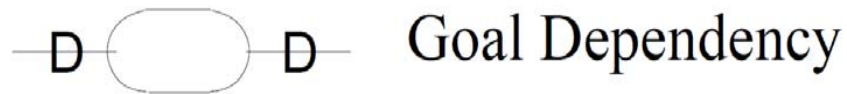
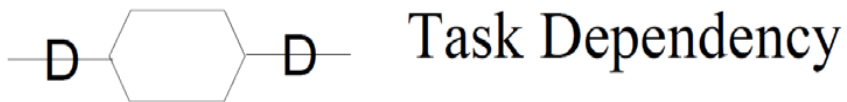
I* (2)

- Actors are viewed as having intentional properties such as goals, beliefs, abilities, and commitments.
- Actors depend on each other for goals to be achieved, tasks to be performed, and resources to be provided.
- The meeting planner examples are taken from Erik Yu, "Towards Modelling and Reasoning Support for Early-Phase Requirements Engineering", 1997

I* Symbols

SD

Depender Dependee



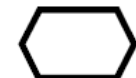
O Open (uncommitted)

X Critical

SR



Goal



Task



Resource



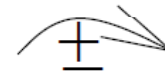
Soft-Goal



Task-Decomposition link



Means-ends link



Contribution to softgoals



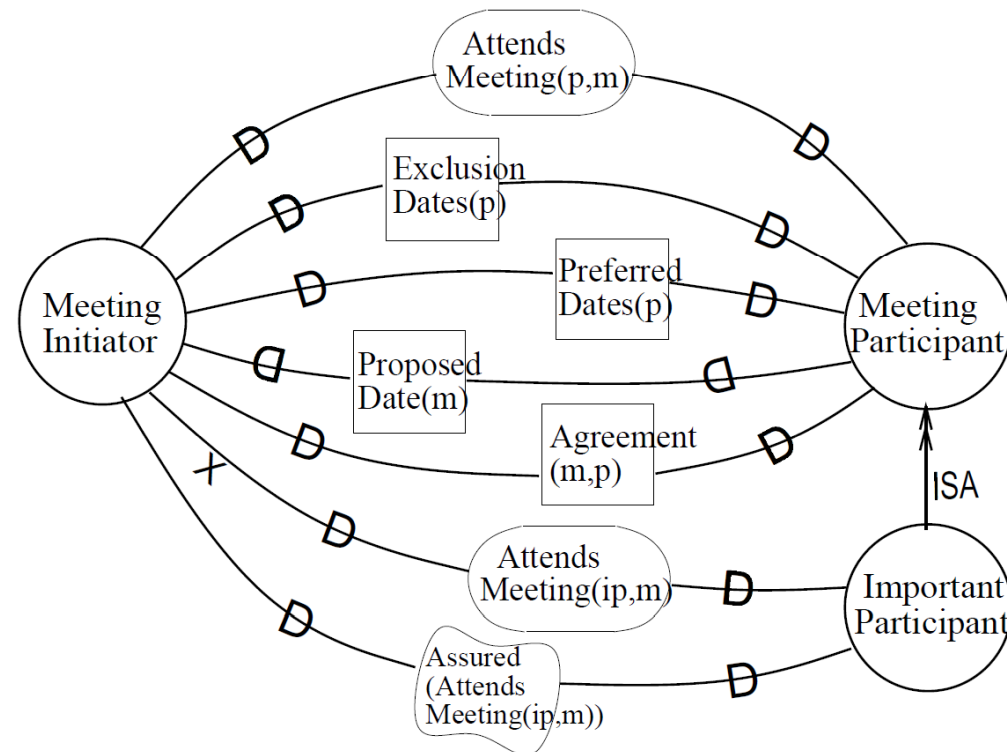
Actor



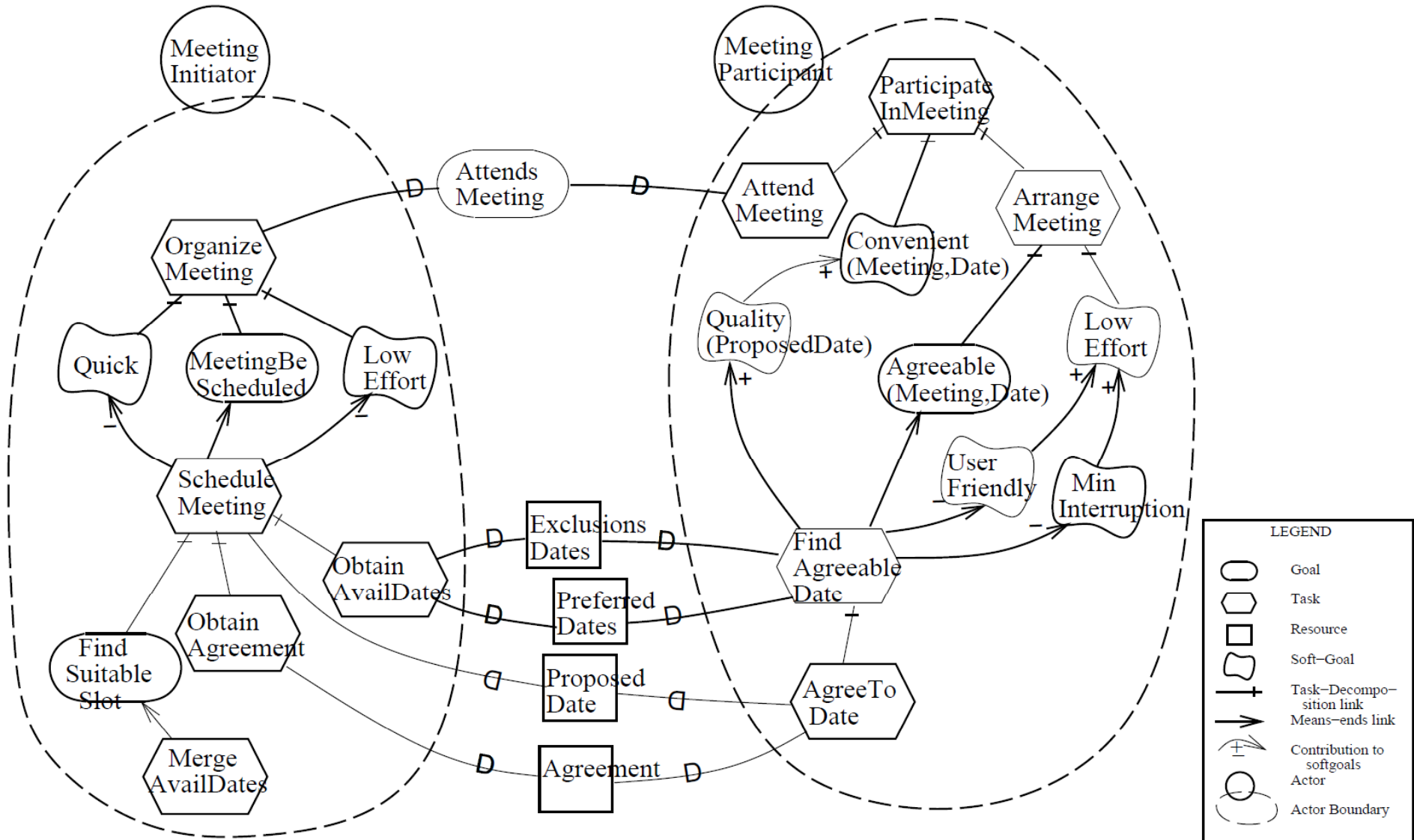
Actor Boundary

Meeting Planning (SD)

- Goal: Determine meeting (m) date and location so that most intended participants (p) can participate effectively

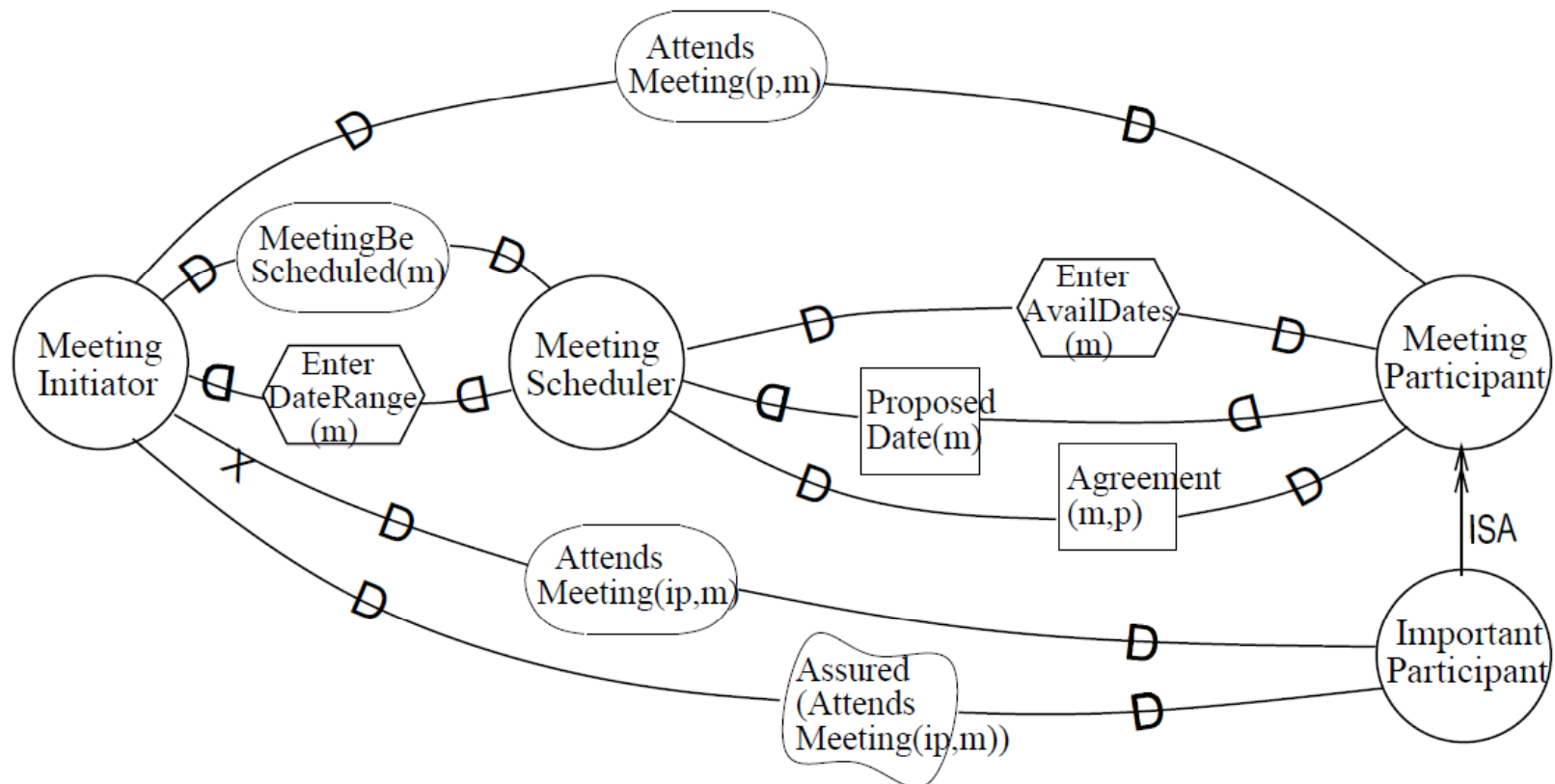


Meeting Planning (SR)

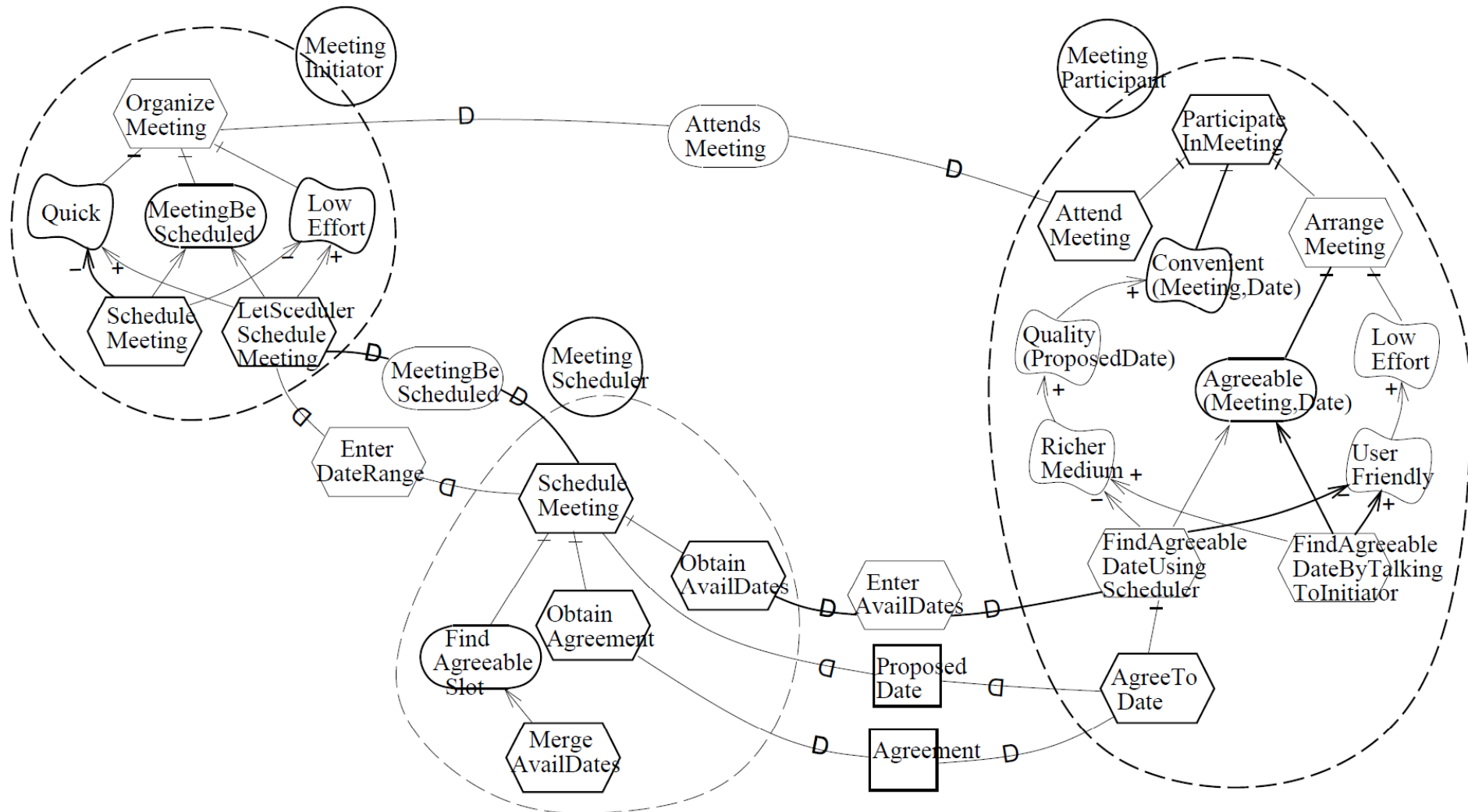


Automatic Meeting Planner (SD)

- Goal: Determine meeting (m) date and location so that most intended participants (p) can participate effectively



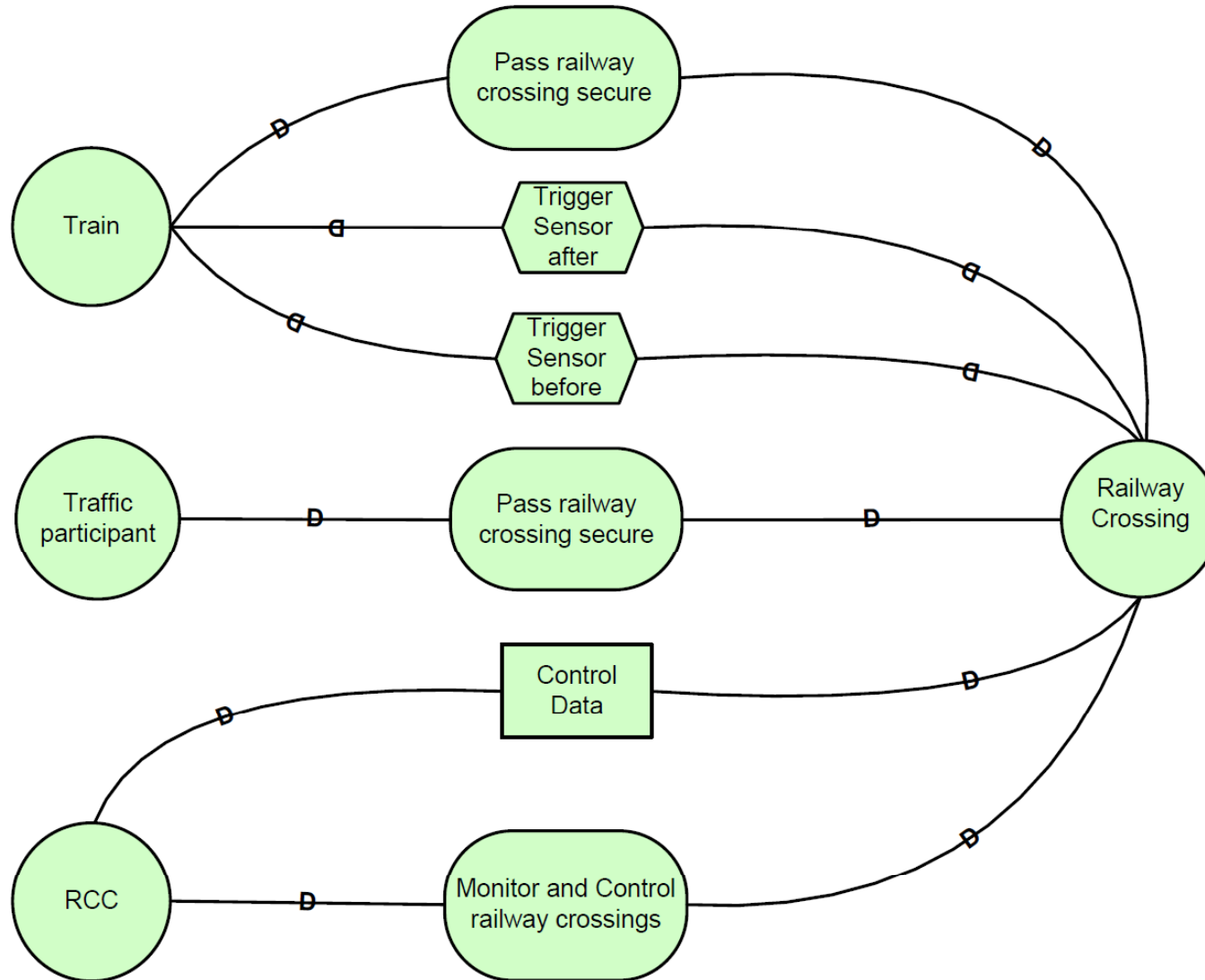
Automatic Meeting Planner (SR)



Railroad Crossing Assignment

- You are designing the software for a railway crossing.
- sensor on the rails detects when a train is arriving and lowers the bars over the road.
- The bars remains lowered until another sensor detects that the train has passed or until a signal from the Railway Control Centre (RCC) is received.
- If the sensors malfunction, or if the connection to the RCC is lost, the bars are lowered and shall remain lowered until everything is working again and they are reset from the RCC.
- While the bar is being lowered or raised and while the bar is in its lowered position, red lights will flash and a bell will ring.
- When the bars are in their upper, un-lowered position a white light is shown (not flashing).

Railroad crossing (SD)



Railroad crossing (SR)

