

Views of agency in EM

Empirical Modelling reflects commonsense in viewing agents as having a different character according to previous experience and knowledge of a system, and the current context for its study.

Lecture 1 on concurrent systems:

.../em/teaching/cs405-0809/concsys/

Sample views of agency in EM

View 1: every observable or object is an agent, as is the external observer

Every observable / family of co-existent observables can potentially serve as an agent, being the cause, cue or trigger for some action of the part of another agent (be it only the modeller).

Sample views of agency in EM

View 2: agents are objects responsible for particular state changes

Potential state changes may be invariably correlated with the presence of a particular agent (flag moves only if there's a wind, cell door can be opened if and only if it's been unlocked by the guard, train can depart only if the stationmaster has authorised its departure). A stronger association between agent and state change is also possible ("I saw you do that").

Sample views of agency in EM

View 3: virtual agency in the closed-world

The context for observation of a system is so circumscribed, the presumption of agent existence and presence is so secure, and the stimulus-response operation of agents is so reliable that an account of the behaviour of agents adds nothing to an account of the behaviour of the system ("Yours is not to reason why").

Animation in EM

Knowledge about the behaviour of a system can be classified in terms of 3 views closely associated with the 3 views of agency introduced above. A duality between agency and system behaviour is evident: where we perceive only View 1 agents, the system behaviour is ill-constrained, where we perceive only View 3 agents, the behaviour is tightly circumscribed.

Lecture 3 on concurrent systems:

.../em/teaching/cs405-0809/concsys/

Sample views of behaviour in EM

View 1 behaviour: Agent identification

Observables for the agents have been partially identified and classified according to the role they play in interaction within the system. The behaviour of the system is such that we can account for what happens with reference to the agents we have identified, but only by referring to interactions that are not preconceived.

Sample views of behaviour in EM

View 2 behaviour: Animation via superagent

The observables and agents have been so comprehensively identified and classified that it appears that all possible behaviours of the system can be explained in terms of them. The interactions between agents, expressed as privileges for action in certain contexts, have also been identified and any system behaviour can be simulated by intelligent execution of these privileges.

Sample views of behaviour in EM

View 3 behaviour: Automation of behaviour

The behaviour of the system is circumscribed and can be realised through the automatic execution of agent protocols.

In the Empirical Modelling process, each of these views [of agency and behaviour] has a different status, and there is a tendency towards progression from the first to last views.

The degree to which automatic animation is possible depends upon the extent to which behaviour has been circumscribed: where there are View 1 and View 2 agents, animation has to rely upon intelligent interaction on the part of the modeller.

Latour Guarantee 4

"Words and worlds do not represent two statues facing one another and marking the respective territories of two kingdoms - only to one of them will loyalty be sworn. Rather, words and worlds mark possible and not very interesting extremities, end points of a complex set of practices, mediations, instruments, forms of life, engagements, involvements through which new associations are generated."