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Glossary

ADM (Abstract Definitive Machine): a tool that is used to animate an LSD account 37

ADTs (abstract data types): a programmer-defined data type whose logical behaviour is defined by a set of values and a set of operations on those values 163

agency: an attributed responsibility (or privilege) for a state change to an agent 25, 104, 106, 107

agent: an instigator of change to observables and dependencies 25, 104, 106, 107

a-modeller: the modeller in the E-modelling who performs modelling activity from the perspective of the component agent 87

A-modeller: the modeller in the I-modelling who performs modelling activity from the perspective of the component agent 91

A-node: the points of the star-type logical configuration in dtkeden that are occupied by the A-modellers 131

being-participant-observer: the person who participates in pretend play 93

broadcast mode: an interaction mode that allows each arriving message to be propagated to all A-modellers as if all A-modellers are in a meeting 147

client-server communication: a technique of network communication 132

construal: a means of interpreting unfamiliar experience and communicating one's trial interpretation 30, 78

definitive notation: a simple programming notation for formulating definitions 27,39

definitive script: a set of definitions 39

dependency: an empirically established relationship between observables 25

distributed cognition: cognition for a group activity as a process socially distributed between individuals and artefacts [Hut95] 82

dtkeden: a tool that is developed to support the distributed perspective on EM 127

E-modelling: an approach to modelling in which each modeller is an external observer 87

ethnomethodology: the empirical investigation of the methods people use to make sense of and at the same time accomplish communication, decision making, reasonableness, and action in everyday life 83

E-type software: software such that the software system itself and its operational domain are conceptually unbounded and continually change 66

evolutionary strategy: a strategy that develops a software system by treating it as an evolving system whose behaviour is adapted to its rapidly changing environment in a situated manner 120
experimental strategy: a strategy that develops a software system through experiments in order to provide the developer with experiential information about how the system will behave 115
experimentation: the modeller's exploratory interaction with the computer-based model or the referent in the real world 34
external observer: the modeller who focuses on attributing state change to a particular agent 88
external process: a process that is invoked by a human agent to change the state of his/her external environment 59
generalisation: a process that identifies certain observables with the same characteristics and leads the modeller to create a GO 158
GO (generic observable): an observable that is created to correspond to the modeller's experience, which is inside the modeller's mind and emerges from repeated description of certain observables with the same characteristics 157
Gruber and Sehl's shadow-box experiment: an experiment that indicates the features of construal 79
I-modelling: an approach to modelling in which modellers are internal observers 90
intentional strategy: a strategy for design that is informed by an intentional stance, in which an object is treated as a rational agent with beliefs, desires and other mental states exhibiting intentionality 112
interaction mode: the distributed environment that is provided to support the interpersonal communication between A-modellers 145
interference mode: an interaction mode that allows the S-modeller to intervene in the interaction between A-modellers 148
internal observer: a modeller who models the agency of agents from the perspective of a participating agent 92
internal process: a process that is invoked by a human agent to change his/her mental model 59
ISM (interactive situated model): a computer-based model that enables participants to collaborate interactively in order to cultivate requirements in an incremental fashion 232
knowledge construction: a process of capturing or constructing knowledge 60

knowledge representation: a process of recording knowledge by means of representational media 60
localisation: a process that associates a given definition with a particular virtual agent context 155
LSD (language for specification & description): an open-ended notation used to describe the modeller's observation of the referent in the real world 36
LSDagent: a system agent that is implemented in dtkeden for dealing with access privilege to observables 151
normal mode: an interaction mode in which the interaction between A-modellers is mediated by the computer with reference to specified privileges of A-modellers to access observables 149
observable: a characteristic of a subject to which an identity can be attributed 25
observation: the activity that is associated with identifying, monitoring and classifying features of the referent in a particular situation 33
ODM (open development model): a model that supports open development for software system development 53, 69
particularisation: a process that reuses the definitive pattern of a GO 160
pretend play: an A-modeller pretends to be an agent within the application by enacting the ordinary interaction with other agents 91
private mode: an interaction mode that allows each A-modeller to interact with the S-modeller individually 148
REP (requirements engineering process): a process of developing requirements 222
requirements cultivation: a central activity in the SPORE framework in which participants can collaboratively interact with each other and with their environment to develop requirements 234
requirements: a condition or capability that must be met or possessed by a system to satisfy the condition or capacity needed by a user to solve a problem or achieve an objective 222
S1-modelling: a modelling activity that is centred around an external observer who can examine the system behaviour 77
S2-modelling: a modelling activity that is performed by human agents from the perspectives of the component agent of a system 77
situated activity: a coherent sequence of situated actions 19

situated structural coupling: a structural change to the relationships amongst observables effected by coupling a new definitive script with the current structure through dependency maintenance 63

s-modeller: the modeller in E-modelling who performs modelling activity from the perspective of the whole system 86

S-modeller: the modeller in I-modelling who performs modelling activity from the perspective of the whole system 96

S-node: the centre of the star-type logical configuration in dtkeden that is occupied by the S-modeller 131

SPORE (situated process of requirements engineering): a human-centred framework whereby requirements as solutions to the identified problems in the application domain are developed in an open-ended and situated manner 233

star-type logical network configuration: a logical configuration for the network communication that is used to represent the logical interconnection between software components 131

S-type software: a software system that is completely defined by a fixed specification..... 66

tkeden: a tool that is used to support the concepts and principles of Empirical Modelling 37

virtual agent: a mechanism that generates definitions in a context *as if* they were being generated by an agent in a similar fashion 154