MUNI FI

Laboratoř servisních systémů

Diamond Do

Diamond-Path Framework

- Paradigm aimed to help understand and act in a service-system environment
- Theoretical concept
- 4 diamond-shaped models

Attention Focusing

Cognitive Elements

Agent-Team Organization

Predictive Behavior

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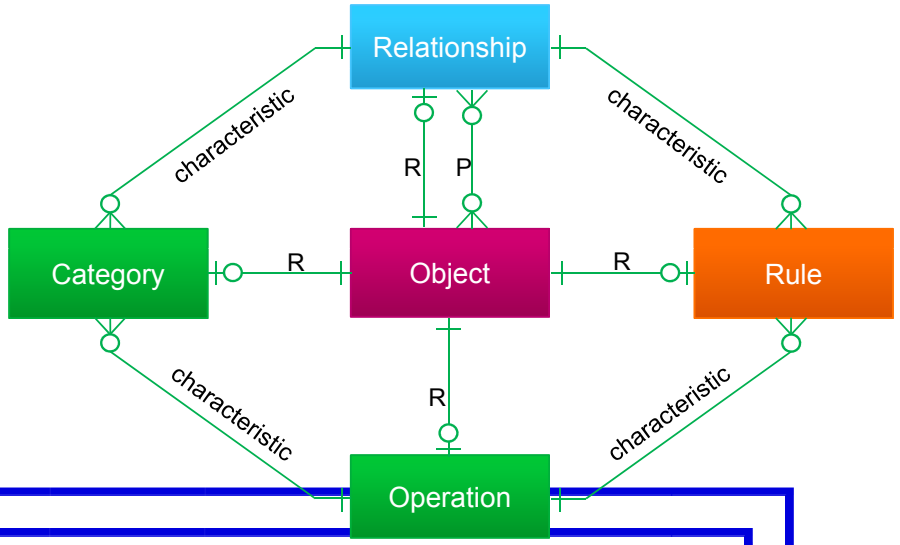
Diamond of Attention Focussing

- Objects and relationships between them
- Mention-use duality
  - Modelling a modelling tool
  - Referring to itself



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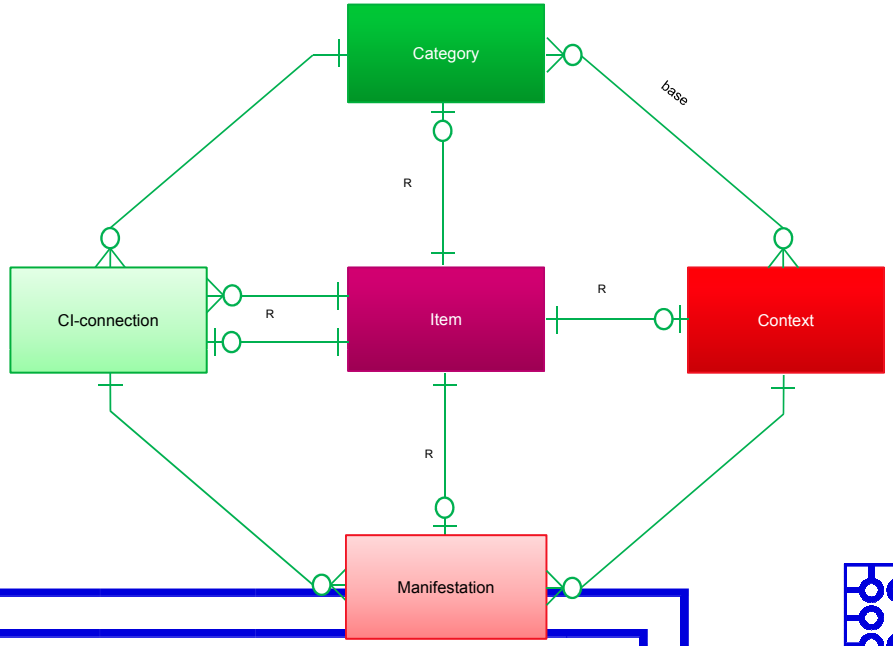
Diamond of Cognitive Elements

- Working within the context
- Given level of certainty
- Mention-use duality



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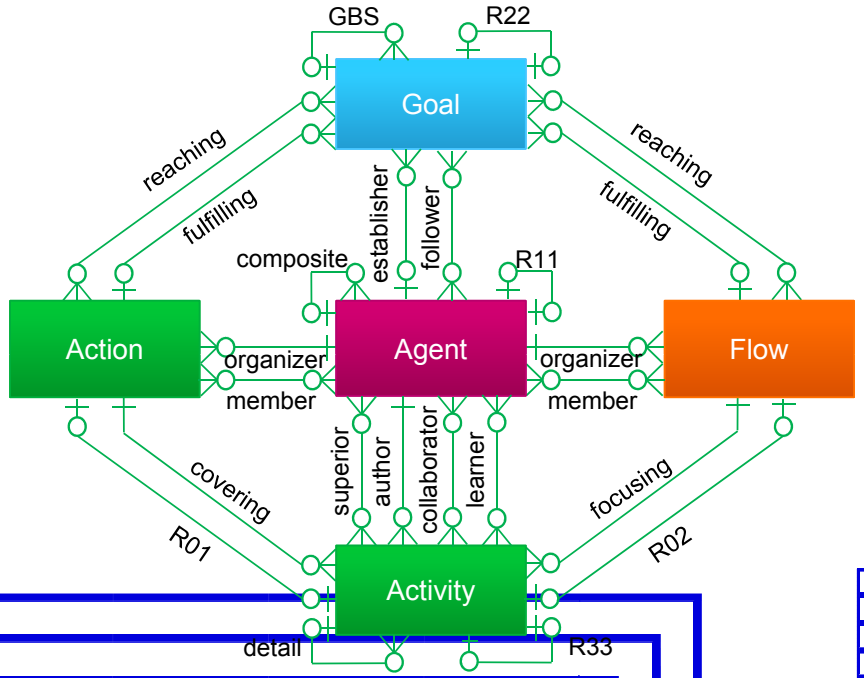
Diamond of Agent – Team Organization

Action vs. Flow

Agent Behavior

R-edge: context



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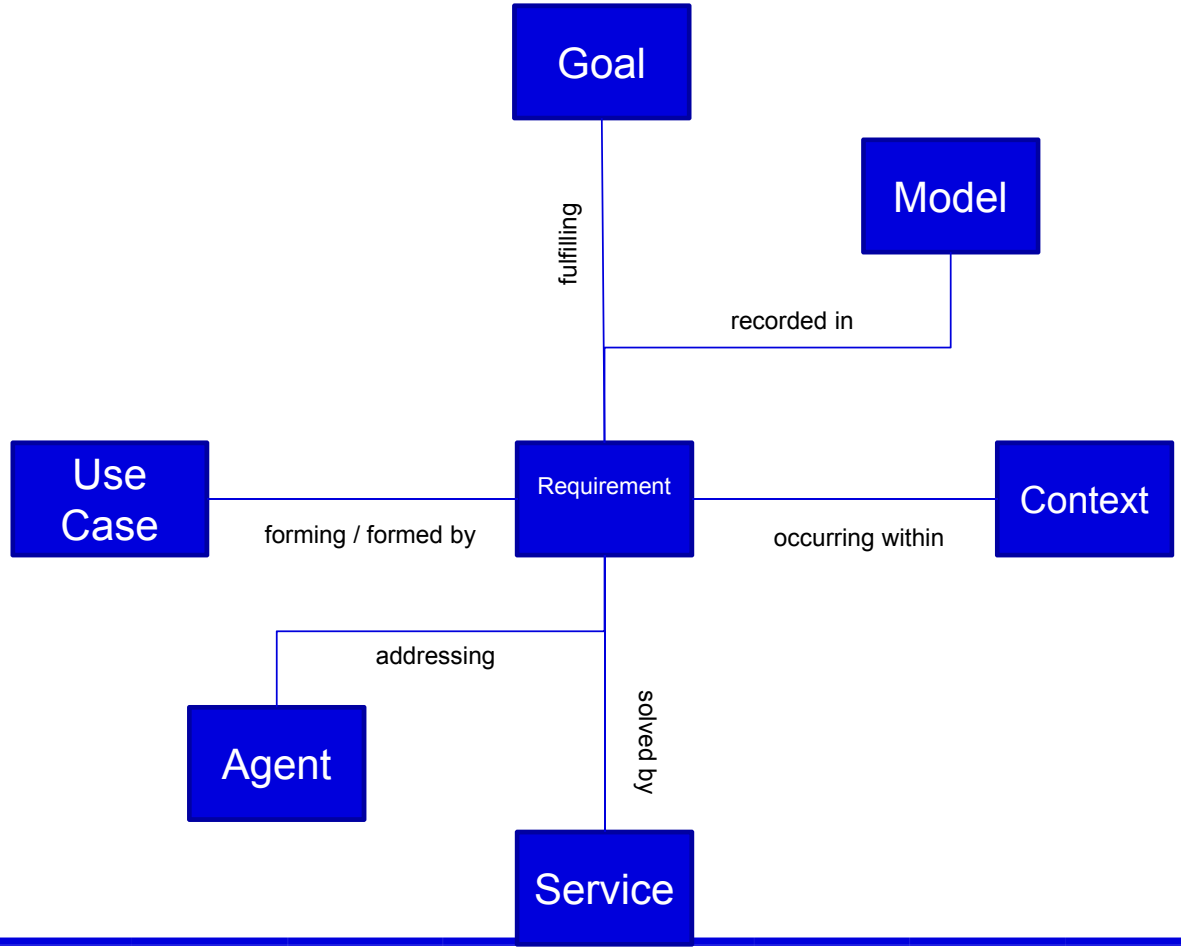
Analysis of the Agent

- What can be centered in the agent role?
- Agent has requirements
- Requirements can be modelled

What is related to requirements?



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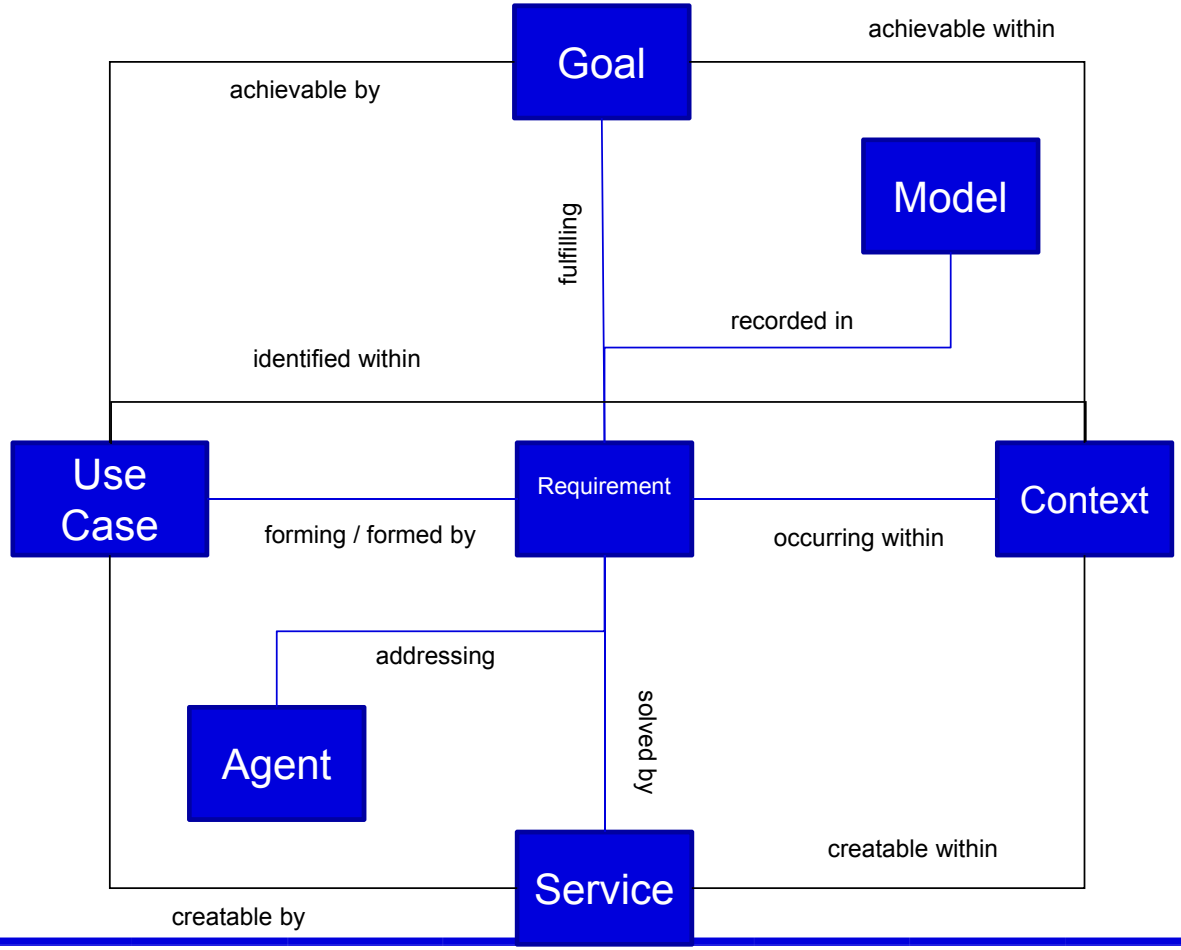
What is related to requirements?



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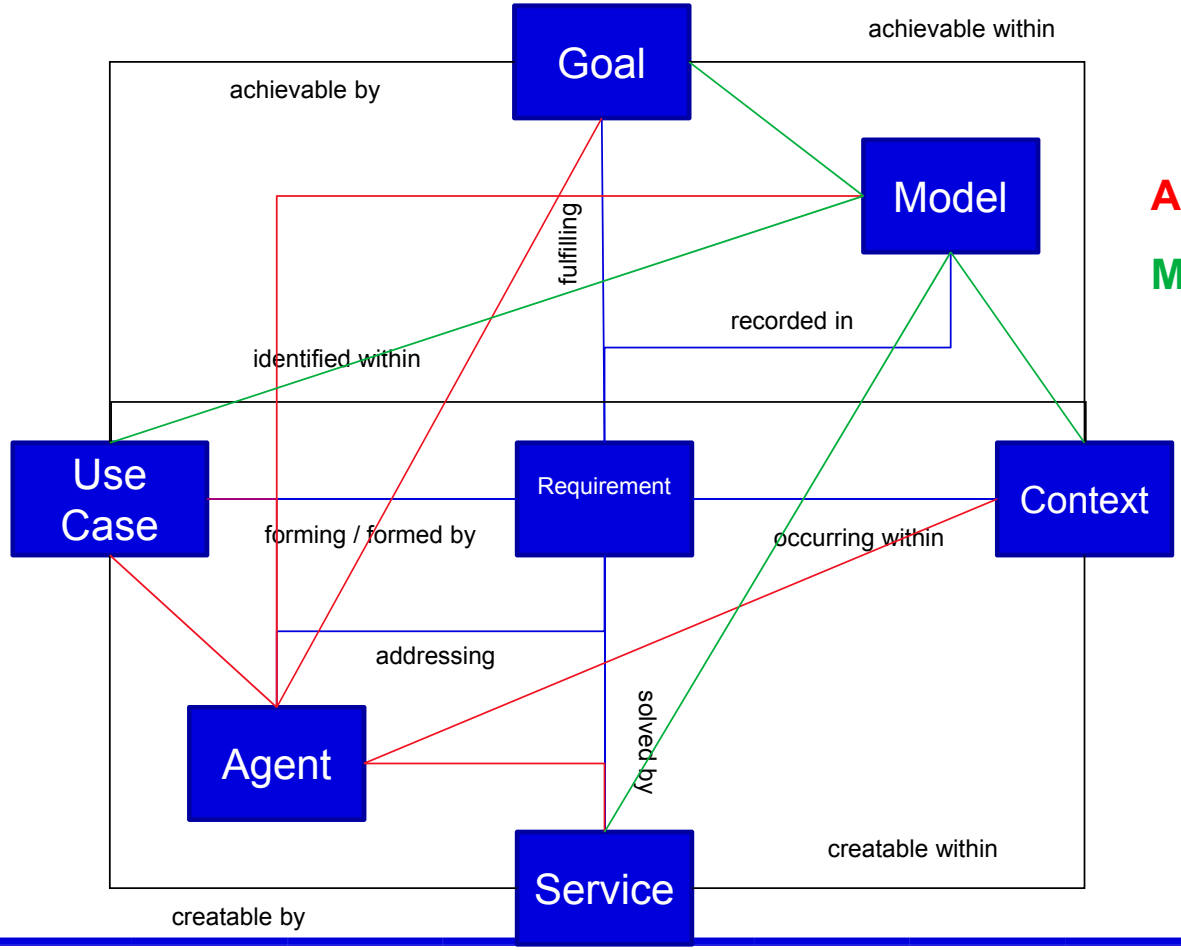
rent a car like rent a bike, pick up the car along the road and go, any time, anywhere

- Requirement: we want to solve the transportation issues
- Agent: the city or municipality, citizens, tourists
- Model: which type of transportation at which time for which group of people
- goal: drive green! car sharing! reduce traffic jam and arrange the transportation better
- Use case: Smart transportation projects, Car sharing projects
- Service: real-time car booking service, service centre, reg. services etc.
- Context: Smart City

Two special containers



Agent wishes, defines, does.

Model records.

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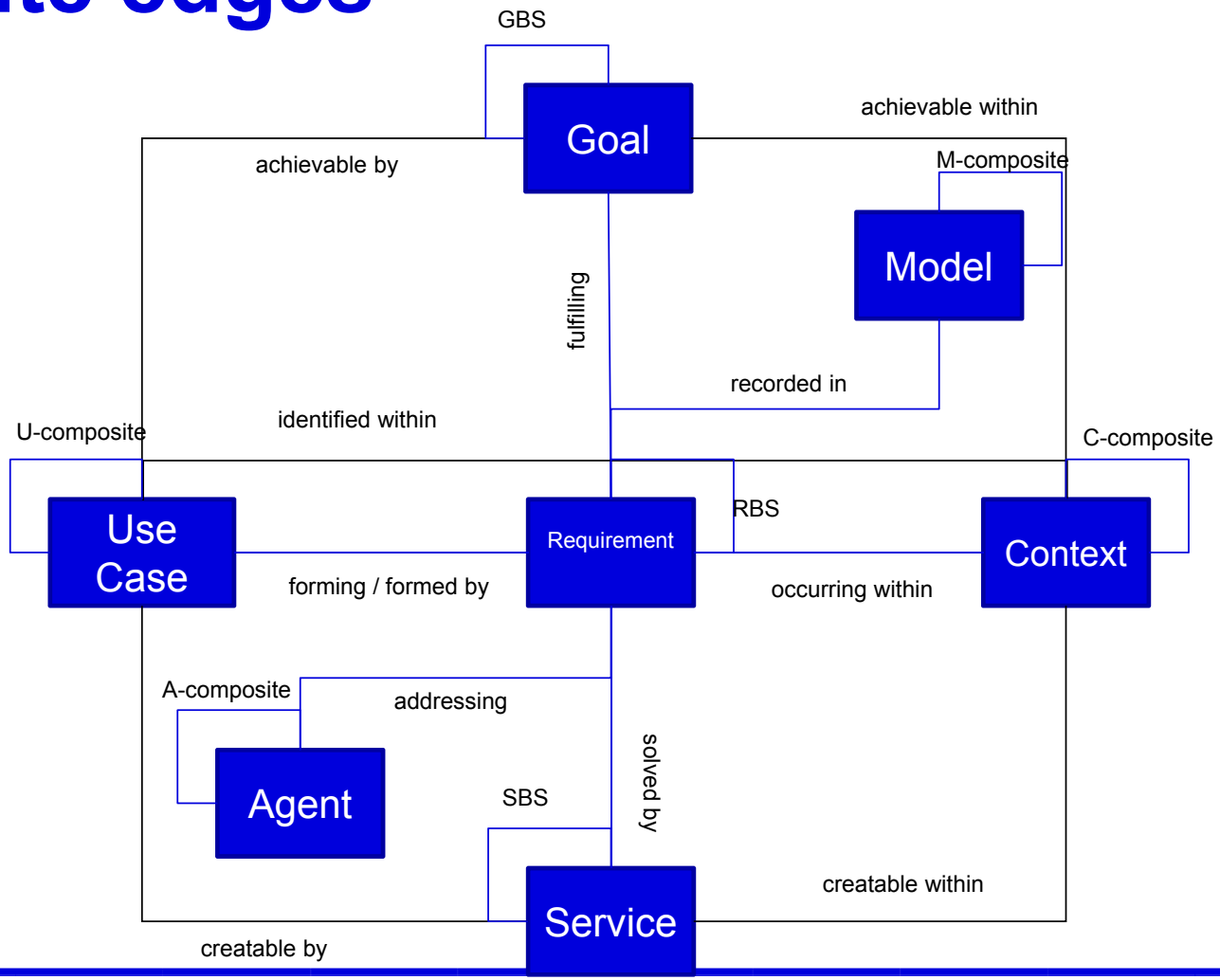
Composite edges



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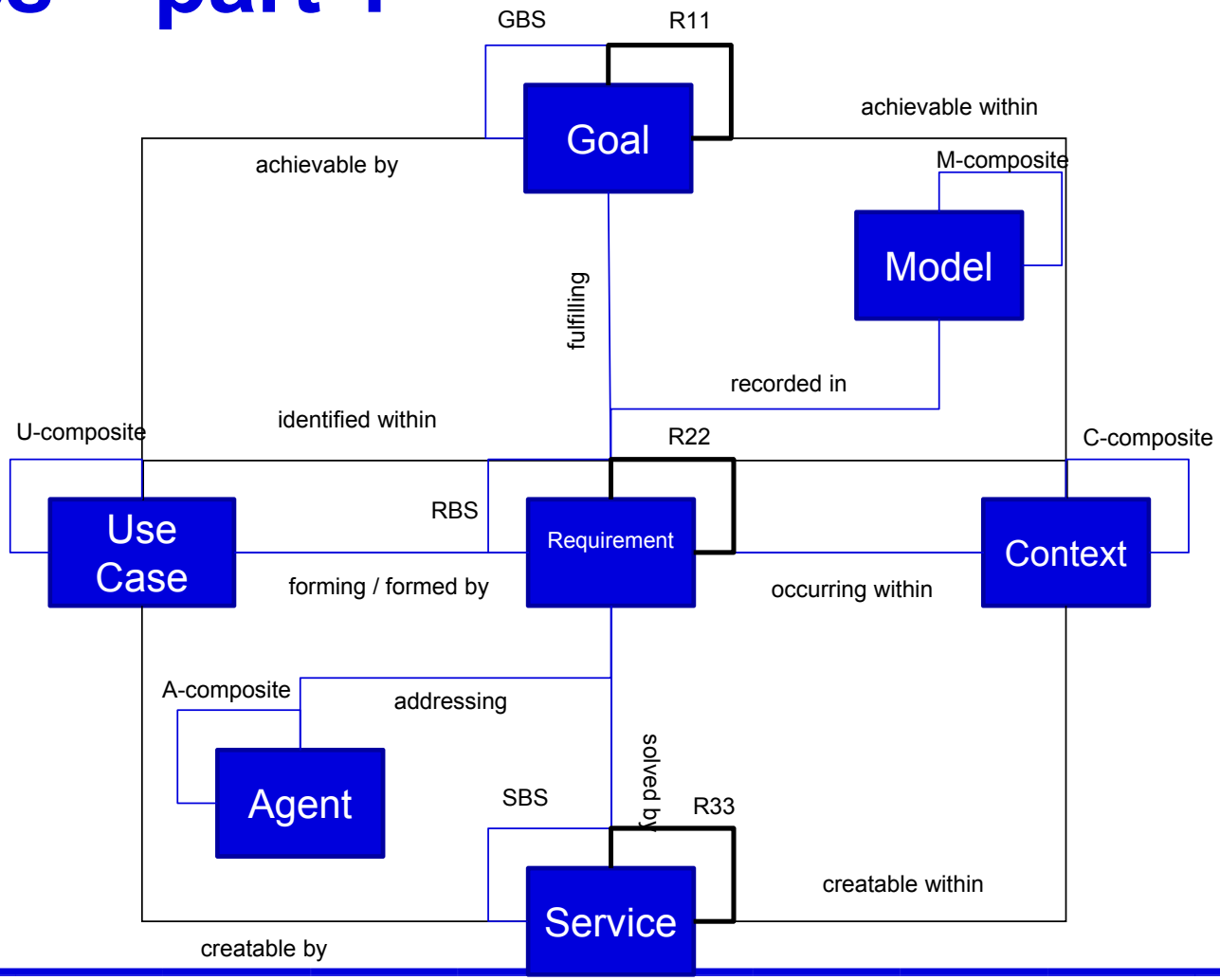
R – edges – part 1



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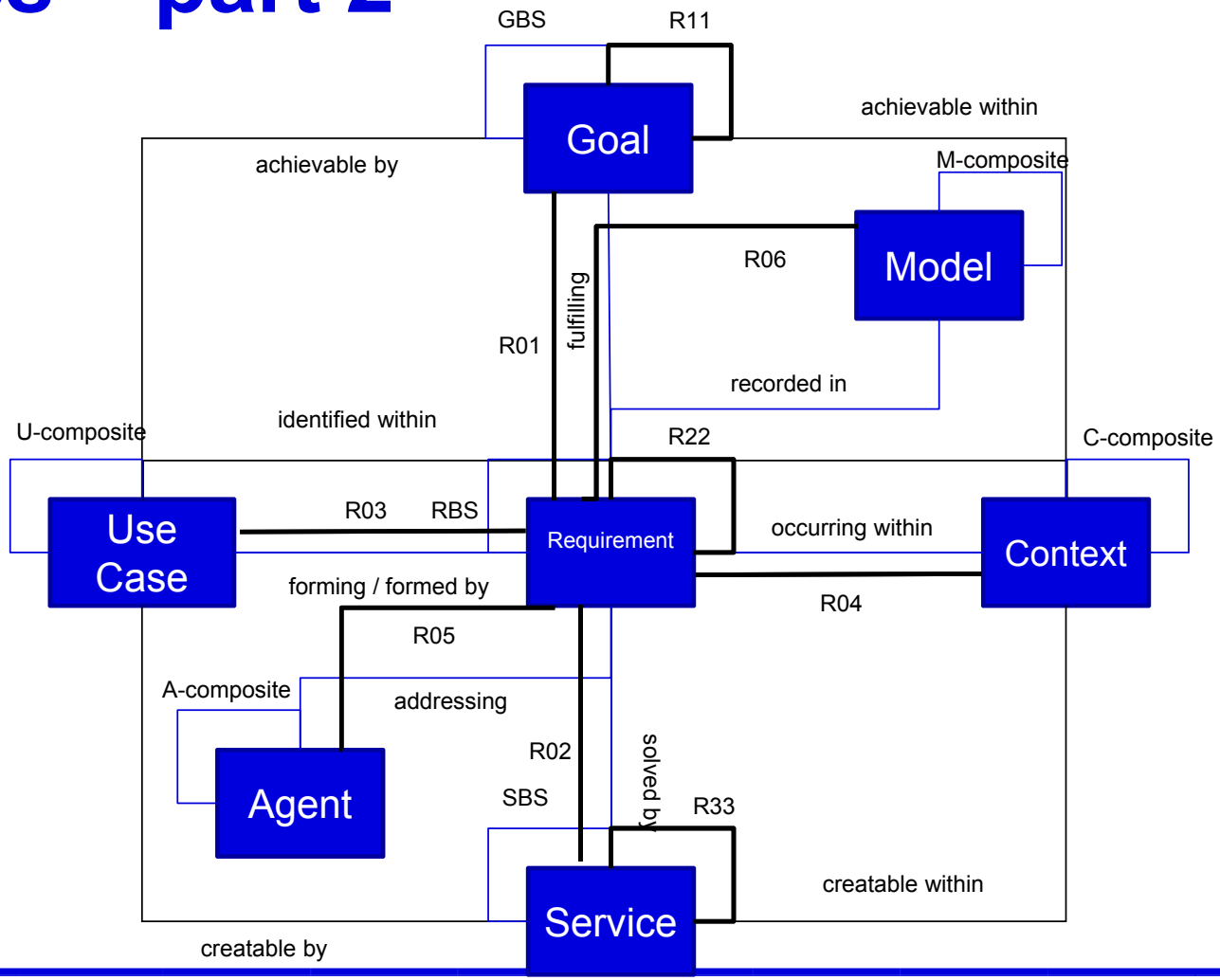
R – edges – part 2



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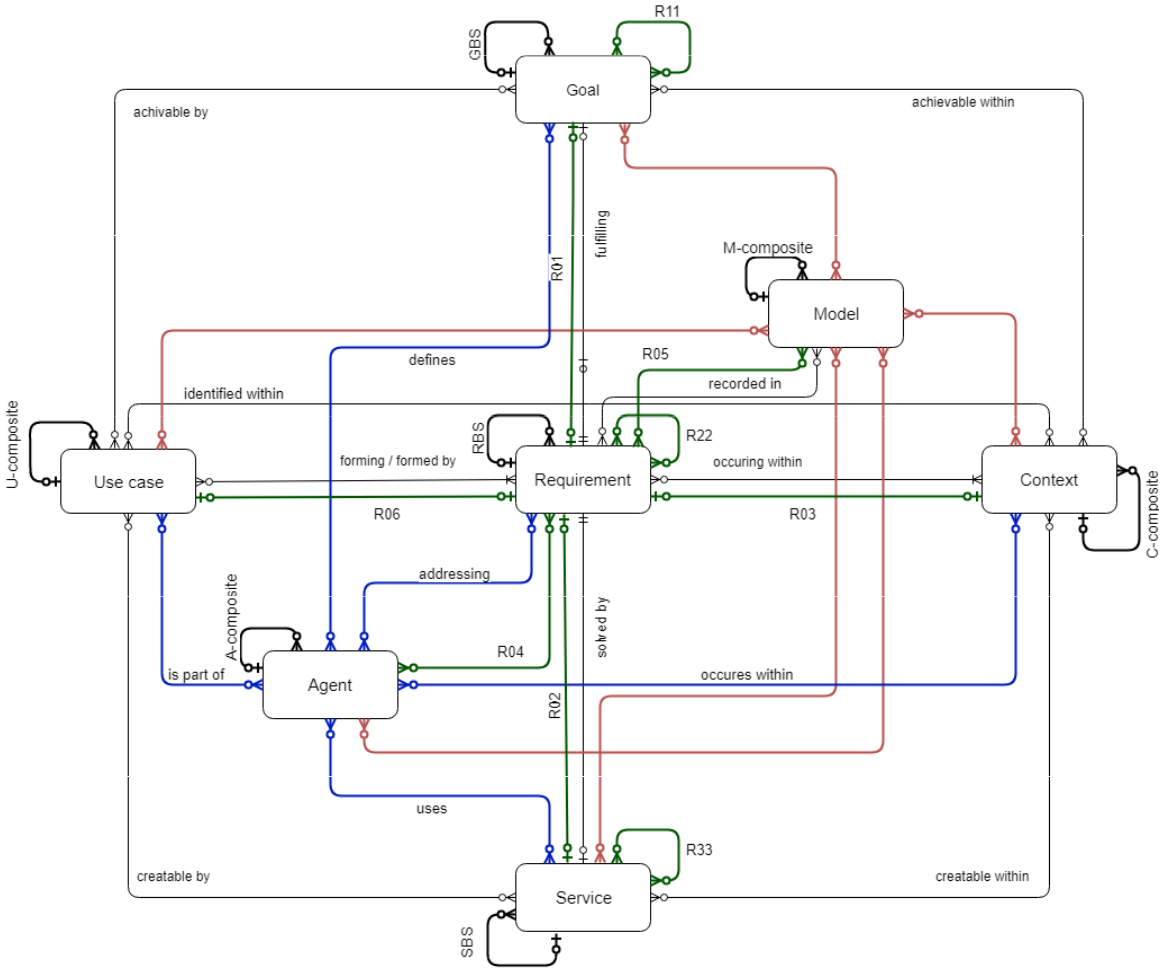
Do diamond – nicer



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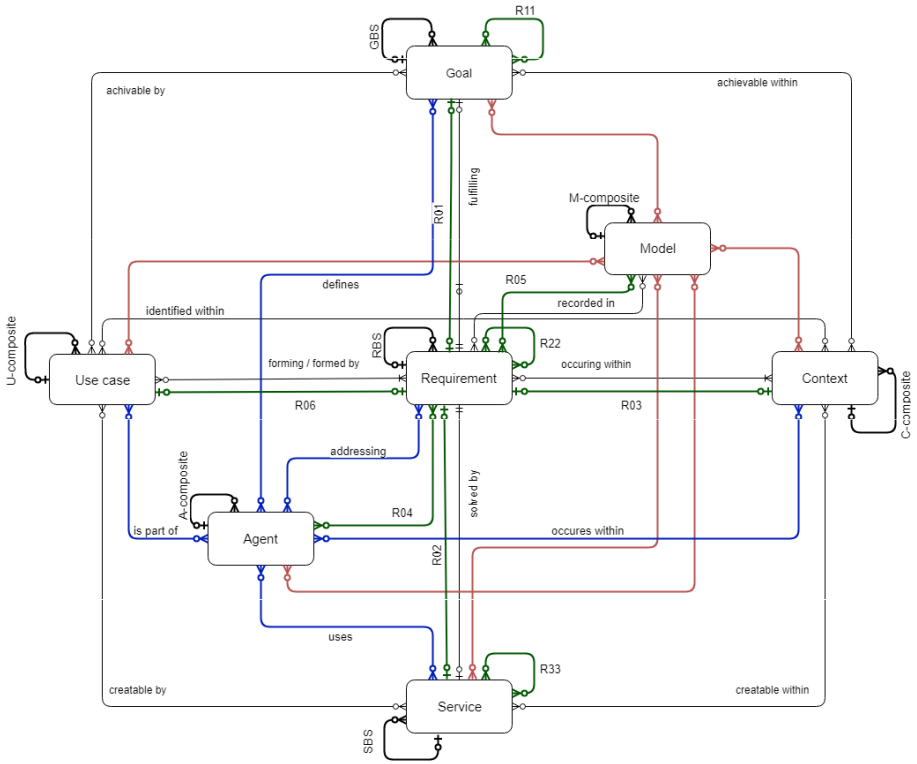
Diamond of Predictive Behaviour



- Depicts the motivation of agents to DO
- Everything can be seen as a requirement
- Forming and being formed by behavioral patterns
- Models as a system memory

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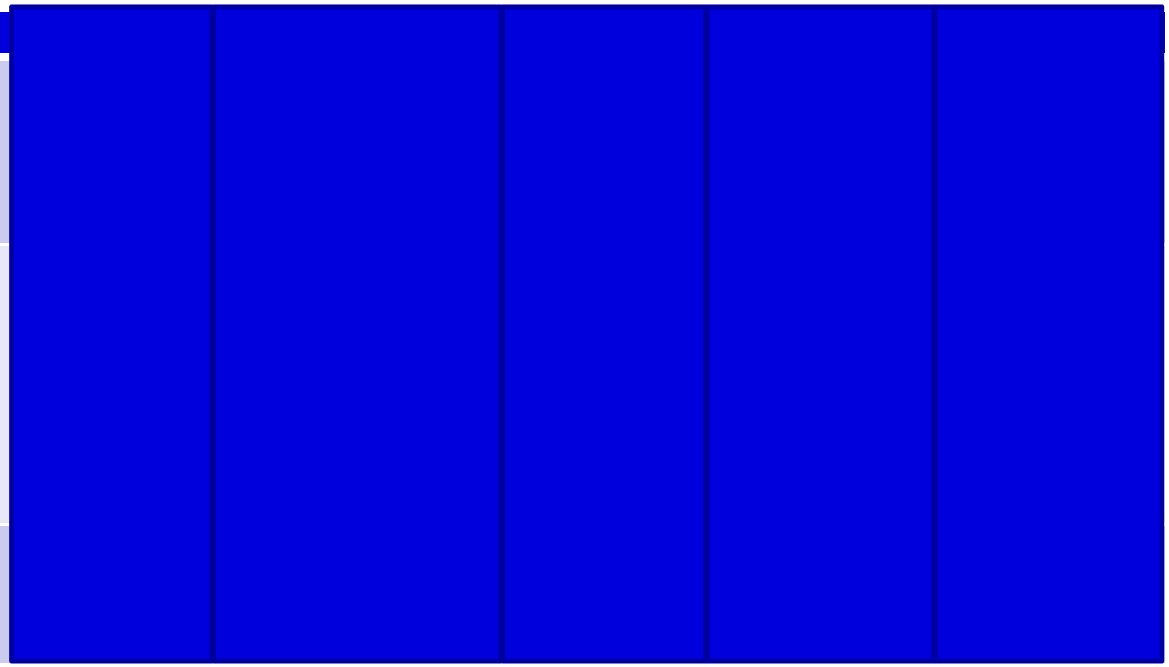
Context of the service

Context	Requirement
Healthy run of the citizen	To find optimal road
Race of the moto bikers	To find optimal road
Emergency service	To find optimal road



What are the principles?

Principle of service definition - vertical

- Service is not the most important element.
- The Requrement is the key to build successfull service environment
- The goals are the basement for the set of requirements

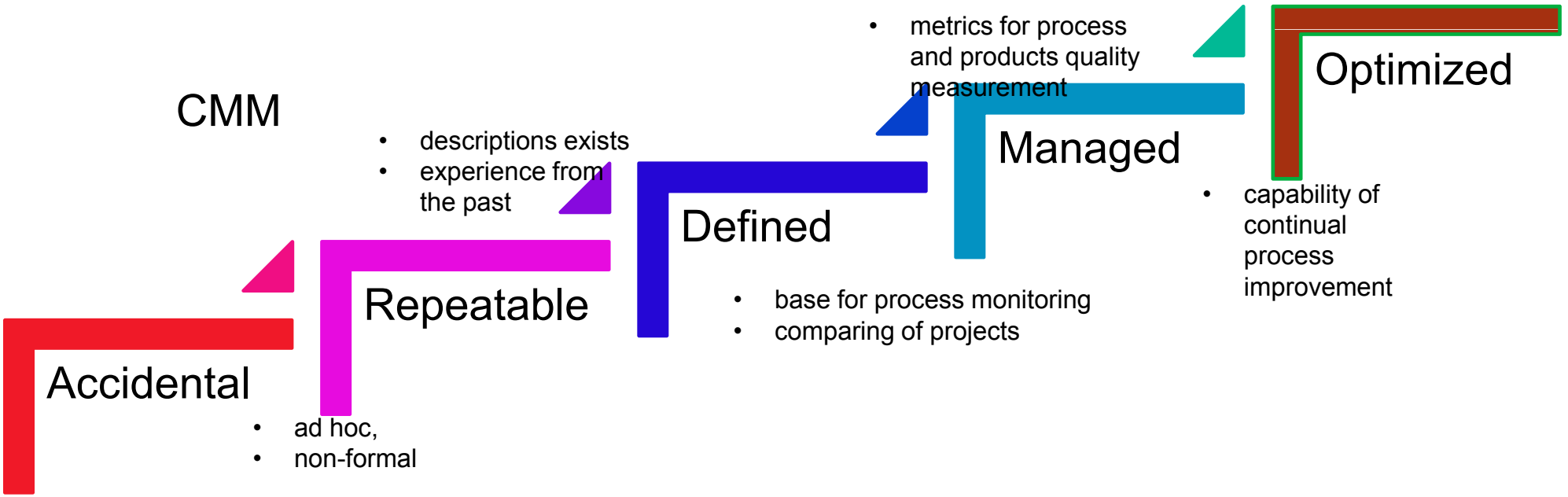
Principle of context understanding – horizontal

- Context is the part of the model, not the externality
- Use case is identified within the context (finding similar solutions)
- Requrement is forming and is formed by Use cases

Principle of completeness – z-axis

- Agents identification must be done in the relations with other elements
- Model must involve all other elements including itself

Universal modelling



How long does it take for regular ISs to adjust in order to support newly optimized processes?

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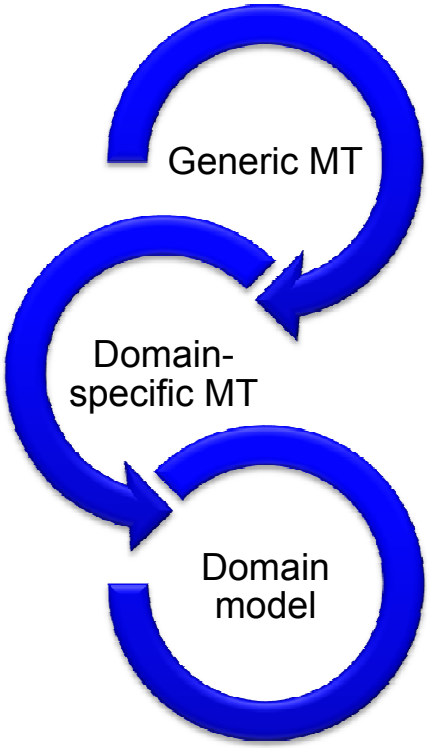
Current Modelling Tools

- Current CASE tools, BPMT, PMT, … allow to record only such objects and relationships, which had their creators in minds in the time when they were developing the tool.
- Objects and relationships, we focus on when modeling various aspects of business, are continually changing.
- Problem of effective communication within any IT project lies nearly always on boundaries of capability of a given modeling tool (… thus the model doesn't represent the reality appropriately)
- Except of some isolated cases, there are only few ways to extend used MT by constructs which are needed for current specific requirements.
- A problem arises in integration of some partial views into one common view.

Meta-modelling



- Ability to develop and adjust domain-specific modelling tools
- Helps to construct the domain in terms comprehensible to domain experts
- Hierarchy of modelling tools