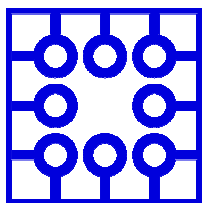


**MUNI**  
**FI**



Laboratoř  
servisních  
systémů

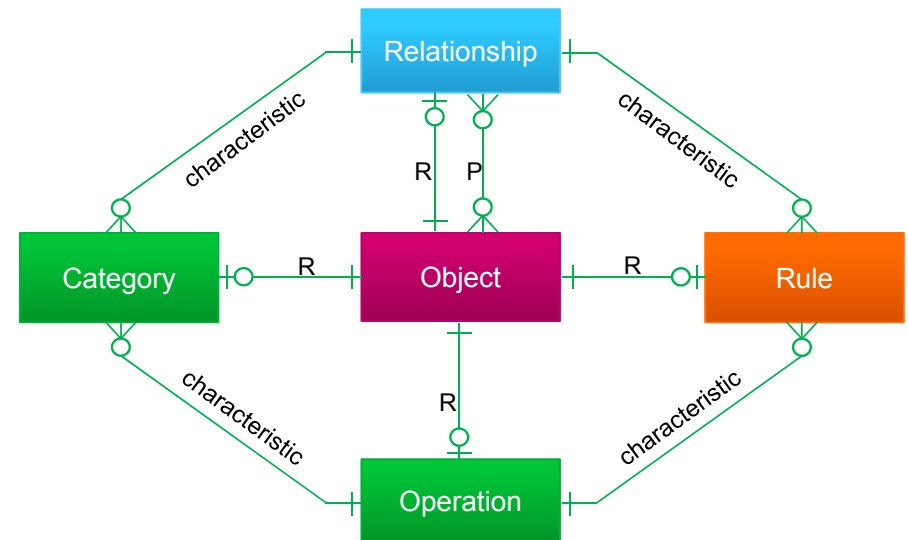
# **Diamond Path – Part 2**

Leonard Walletzký  
PA181  
2024



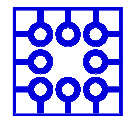
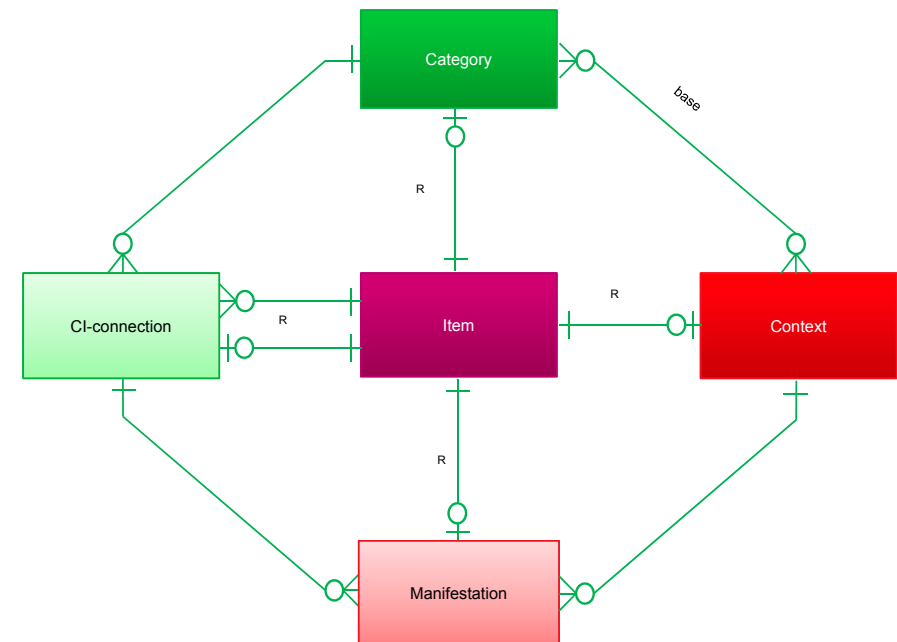
# Diamond of Attention Focussing

- Objects and relationships between them
- Mention-use duality
- It is mind model

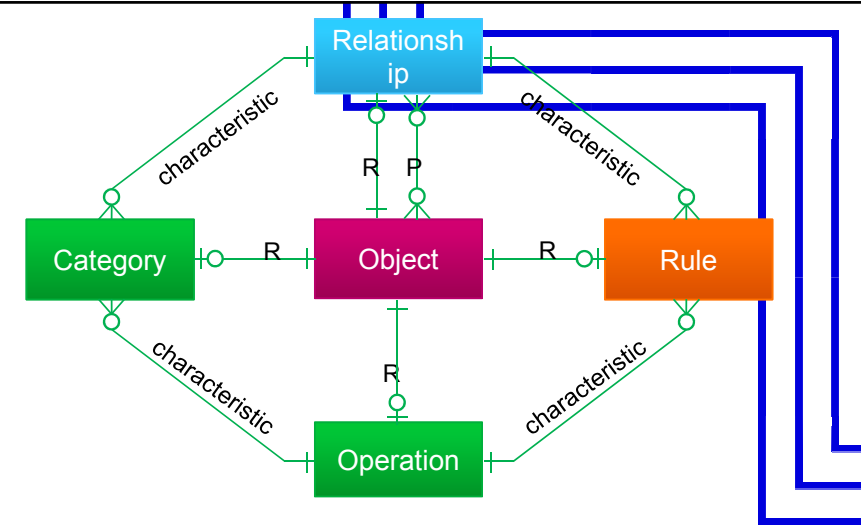


# Diamond of Cognitive Elements

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



# What does the street mean?



- How the buildings look like
- How they are arranged
- How they are designed

Architecture



- Energy
- Data
- Water
- Other

Infrastructure



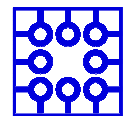
- Public transport
- Pedestrians
- Immobile persons
- Cars
- E-mobility

Mobility



- Types of areas
- Grass
- Flowers, bushes and trees
- Air pollution

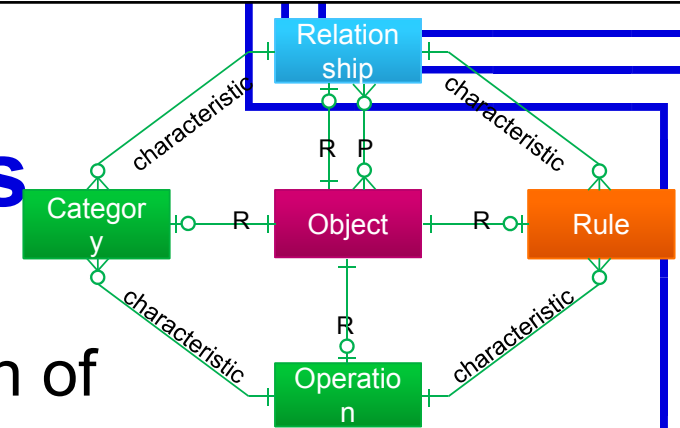
Environment



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servisních  
systémů



# Objects and their relationships



- Each point of view means different identification of the objects and their relationships



## Objects



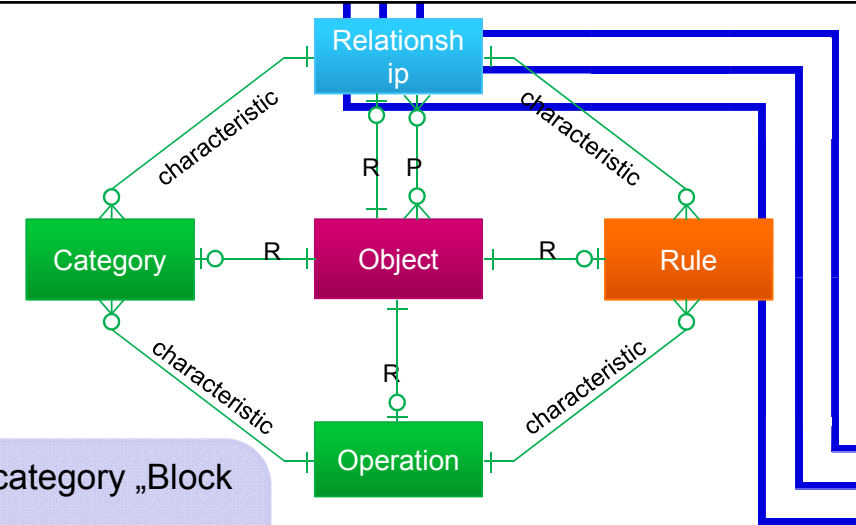
- Houses
- Shops and restaurants
- Windows
- Cars
- Lamps
- Pedestrian ways

## Relationships



- are adjacent to
- are interconnected with
- are designed in
- are linked to

# Identification of categories

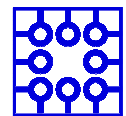


Object we find interesting in our primary point of view

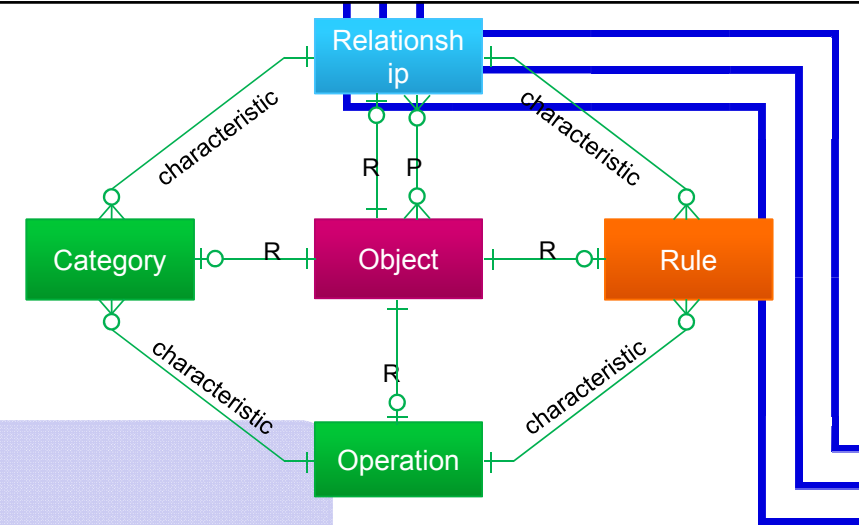
- Houses in adjacent to each other belong into category „Block of flats“
- Houses in selected design belong into category „Historical houses“
- Windows designed for historical house belongs into „Historical windows“

Objects we find interesting generally

- Lamps, Cars and Houses belong to „Street objects“



# Setting of operations



For block of flats

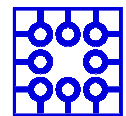
- Operation „Select flat for living“
- Operation „Clear the frontage“

For historical windows

- Operation „Open“ and „Close“
- Operation „Clean“
- Operation „Change“

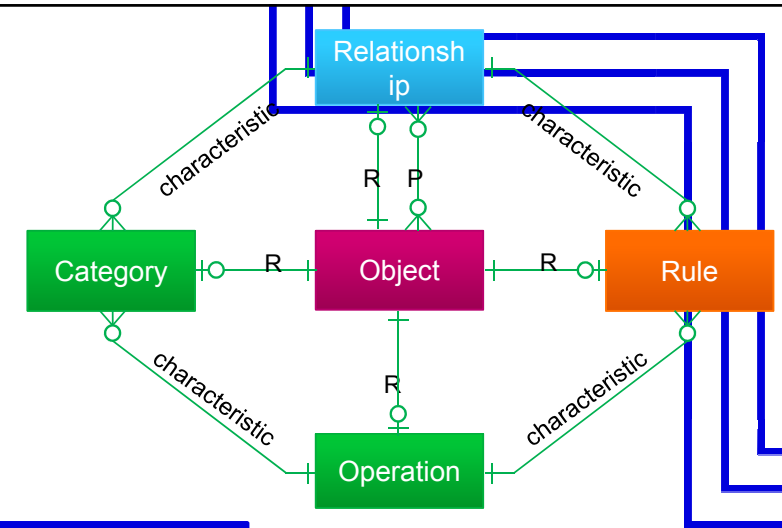
For equipment on the street

- Operation „Switch On“ and „Switch Off“
- Operation „Change intensity of light“
- Operation „Change“ and „Maintain“



# We define the rules

- Rules can also potentially identify the link to other contexts
- They are linked to **Relationships!**



## Houses in historical design

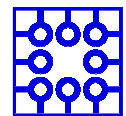
- Every change must be verified by municipality
- They are excluded from energy certification
- The flats can be given to selected persons

## Windows in historical house

- Cannot be changed to plastic
- Can be opened in clear air only
- Must be maintained in different way than modern one

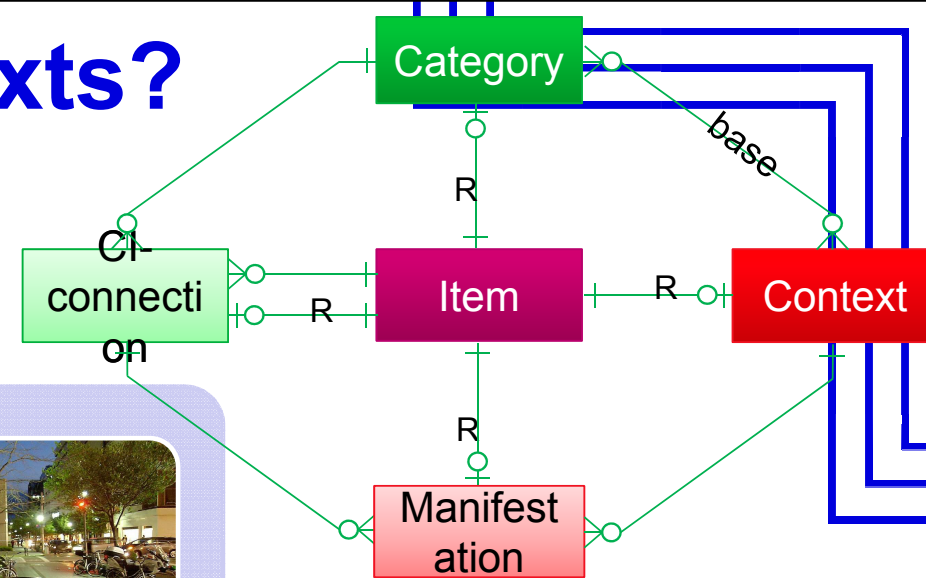
## Pedestrian way linked with lamps

- Lamps can switch off only if intensity of daylight increase some level
- Pedestrian way should detect the movement to inform the lamp to intensify the lighting



# Objects in more contexts?

- There are objects that belongs into more categories
- Those categories should mean different context too



## Historical houses

- We look to their historical value
- We should keep the same or similar design



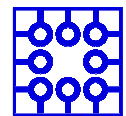
## Block of flats

- We look to them as providers of accommodation and hospitality services



## Objects of the street

- We identify them as the part of the street infrastructure





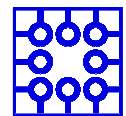
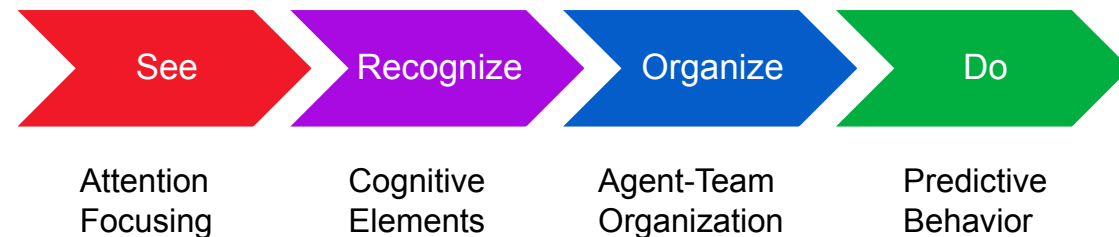
Category



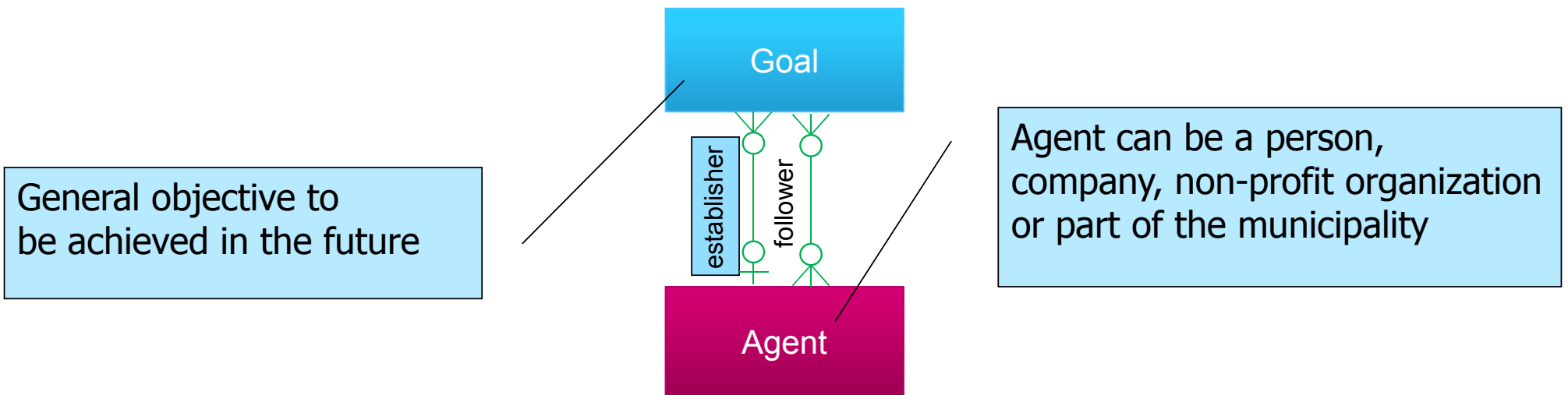
text

# Diamond-Path Framework

- We continue the journey
- Now we focus to living entities
- Subjects or Agents

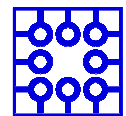


# Diamond of Agent-Team Organization



Example:

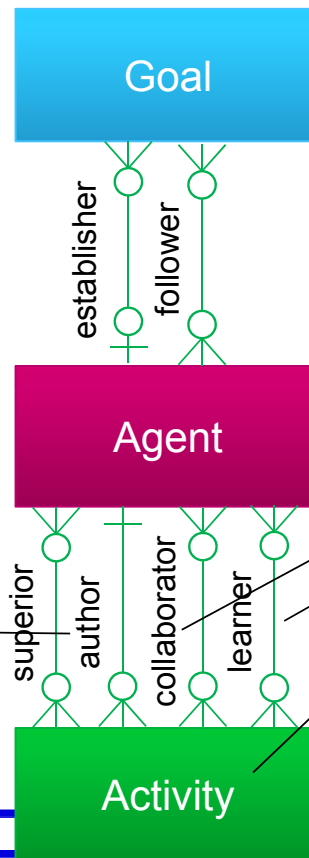
A city citizen has a goal to have **nice life**, without intermissions from the state, secured **job and good** public services.





# Diamond of Agent-Team Organization

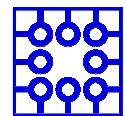
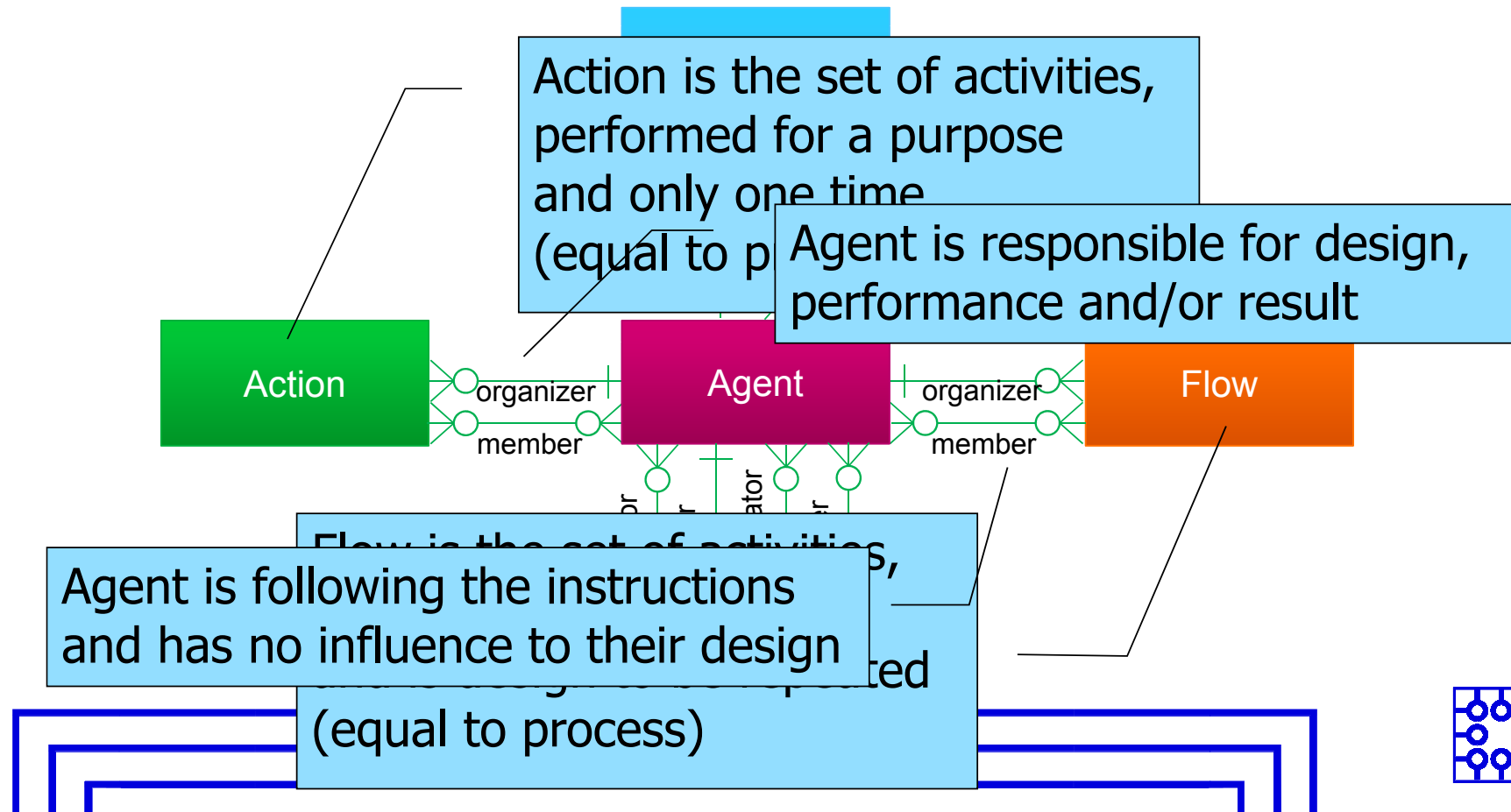
Agent is leading the activity  
Agent is author of the activity  
Company is providing the developed service



Agent is collaborating on the activity  
Agent is observing the activity  
New product manager is shadowing the experienced one.

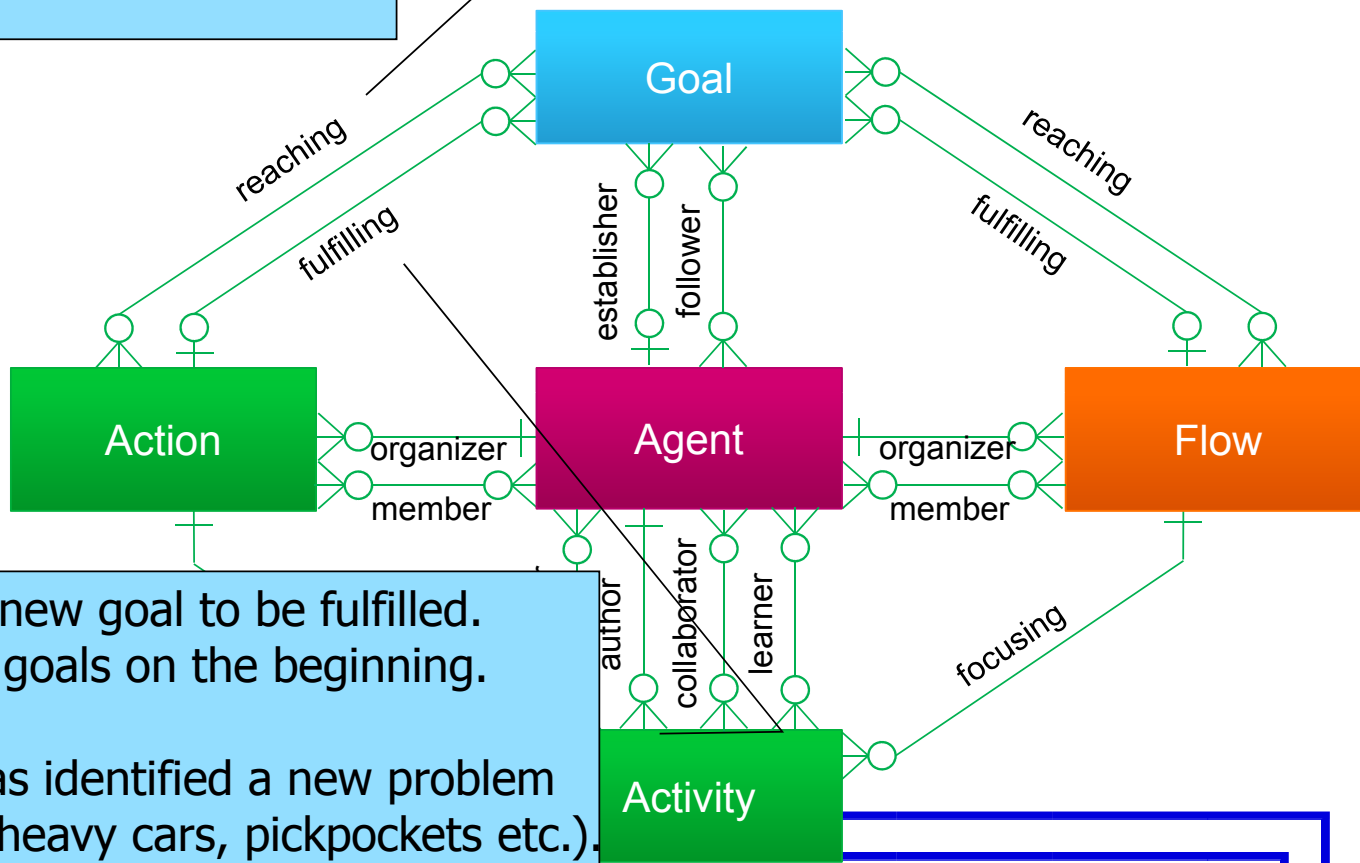
Activity is any performance, (mental or physical) done by agent

# Diamond of Agent-Team Organization

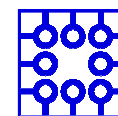


# Agent-Team Organization

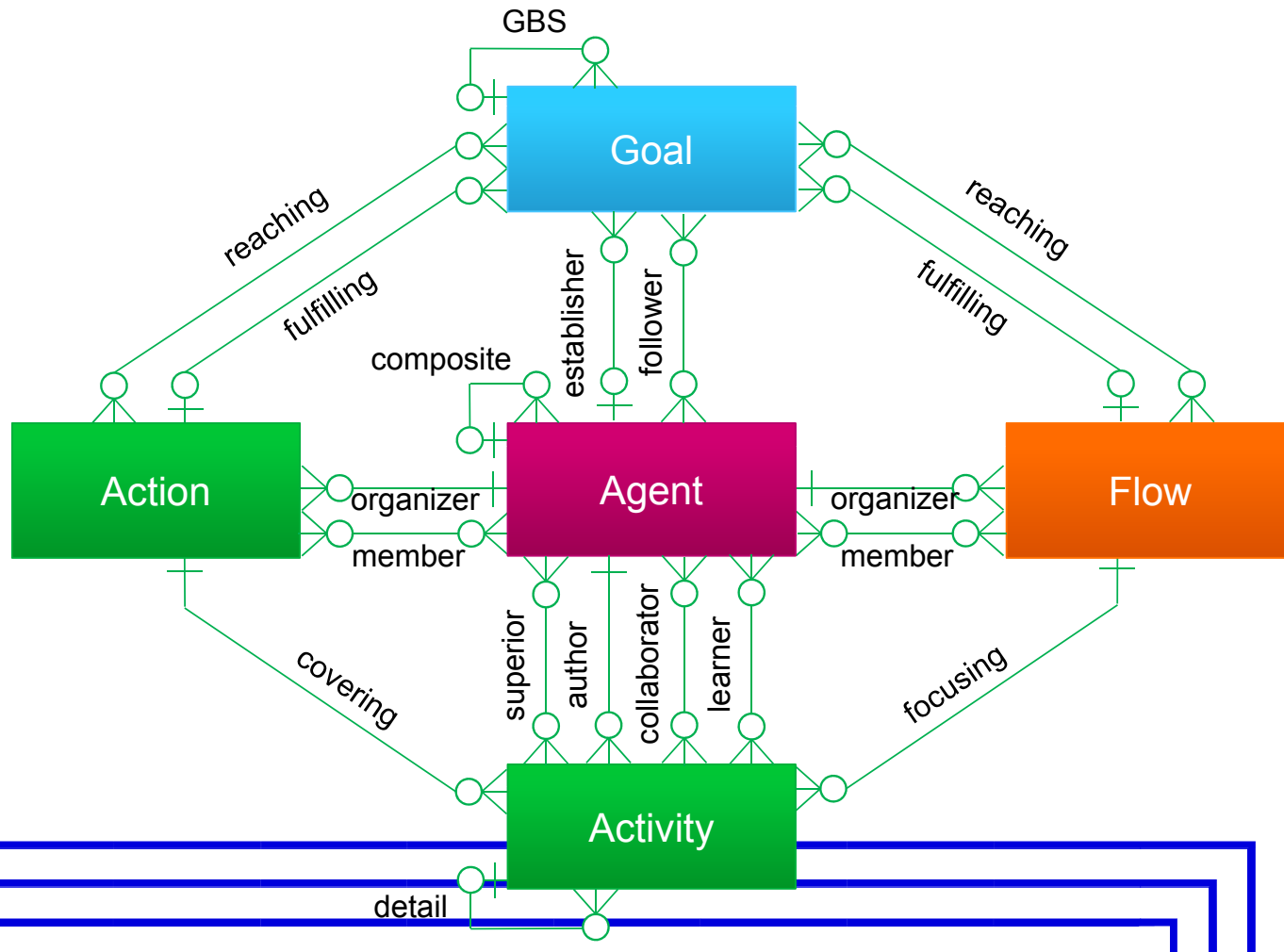
Action contributes on reaching the goal  
Installing the new cameras is reaching the goal of city security



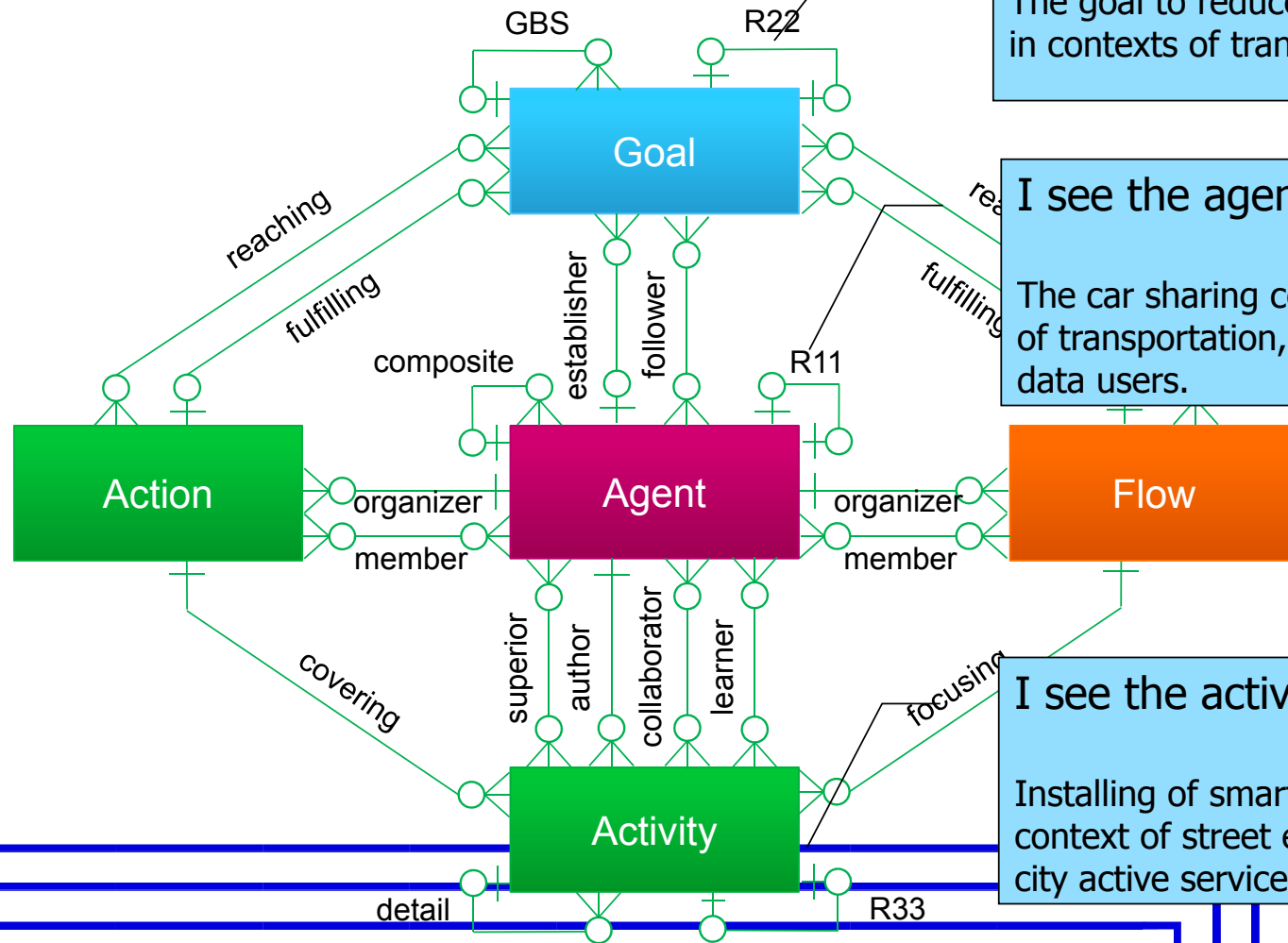
Action is defining a new goal to be fulfilled.  
We do not know all goals on the beginning.  
The security cameras identified a new problem to be solved (no of heavy cars, pickpockets etc.)



# Diamond of Agent-Team Organization



# Diamond of Agent-Team Orga



I see the goal in other context  
The goal to reduce the traffic is present in contexts of transportation and air pollution

I see the agent in other context  
The car sharing company is actin in context of transportation, and also in context of city data users.

I see the activity in other context  
Installing of smart benches is present in context of street equipment, and also in city active services.

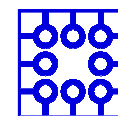
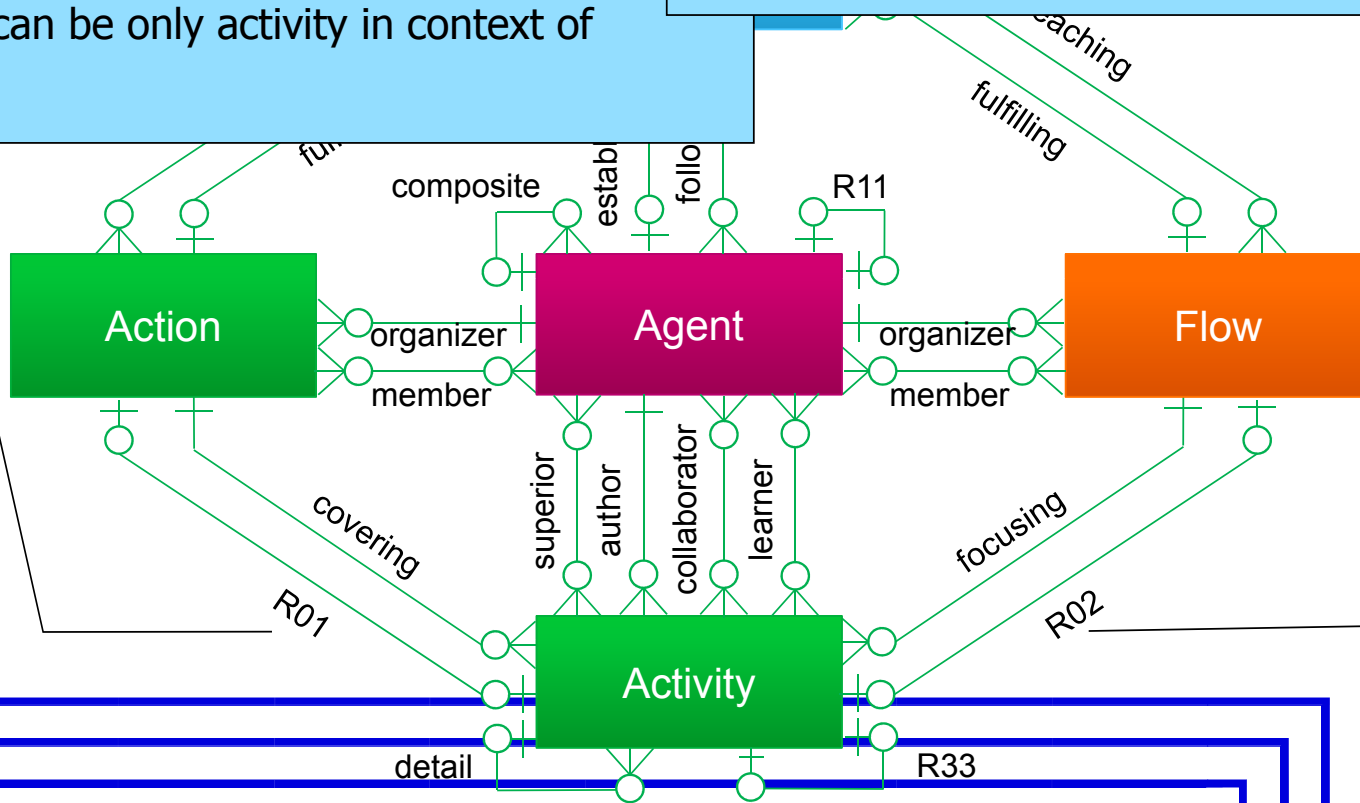
# Diamond of Agent Team Organization

Action in one context can be an activity in other

Implementation of bike sharing is an action in context of transportation, but can be only activity in context of carbon neutral city.

Flow in one context can be an activity in other

Annual evaluation of air pollution process is the flow in the context of city environment, but only activity in context of sustainable city context.



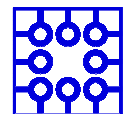
# Example of usage of Diamond Organize

Organization schema of Smart concept's implementation

Goal is only one – Strategies are used intensively and interconnected to territory

- It meant that strategies formulated by central administration are really used and implemented in the projects developed by municipalities
- Municipalities are independent – central administration can recommend only in general
- The only exception is the grant or financing of the project from the central budget – the administration can set the conditions of support

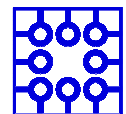
Assignment: To identify main activities (actions, flows) for the main actors and define necessary context



# Contexts

Context 1: Ministry of regional development is the supervisor of implementation

Context 2: The same ministry is also responsible for implementation of specific activities (as many other ministries) related to implementation





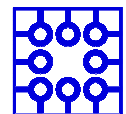
# Context 1: Actions and Flows

## Action:

- Development of supporting materials
- Formulation of instructions how to use it
- Prepare the plan of implementation
- Define the flows

## Flow:

- Control of strategies' actualization
- Organizing annual meetings with other ministries
- Monitoring of feedback from municipalities



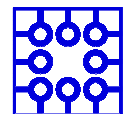
## Context 2: Flows and Actions

### Actions:

- Formulate the first proposal of priorities for specific activities
- Get the skills to work with the application
- Participate on implementation

### Flows:

- Maintenance of relevant information in every relevant material (link to the strategies, sources of financing)
- Monitoring of feedback from municipalities
- Participating in the meetings with other ministries



# What can we see?

## Some flows are the same – but do they contain same activities?

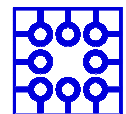
- Monitoring the feedback from municipalities
- Context 1: Feedback is focused to the usage of the whole SMART concept, if it is useful and helps the municipalities to define their projects easier.
- Context 2: Feedback is about relevance of the activity, if does it fit to the strategy of the municipality and can be linked with strategy of specific ministry.

## Same actions are affecting actions in the same context:

- Development of Application affects it maintenance and making the materials

## Same actions are affecting actions and flows in different context

- Instruction material in Context 1 is affecting the most of Flows and Actions in Context 2



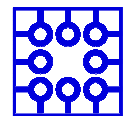
# Smart Street Example

What agents can we identify?

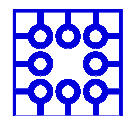
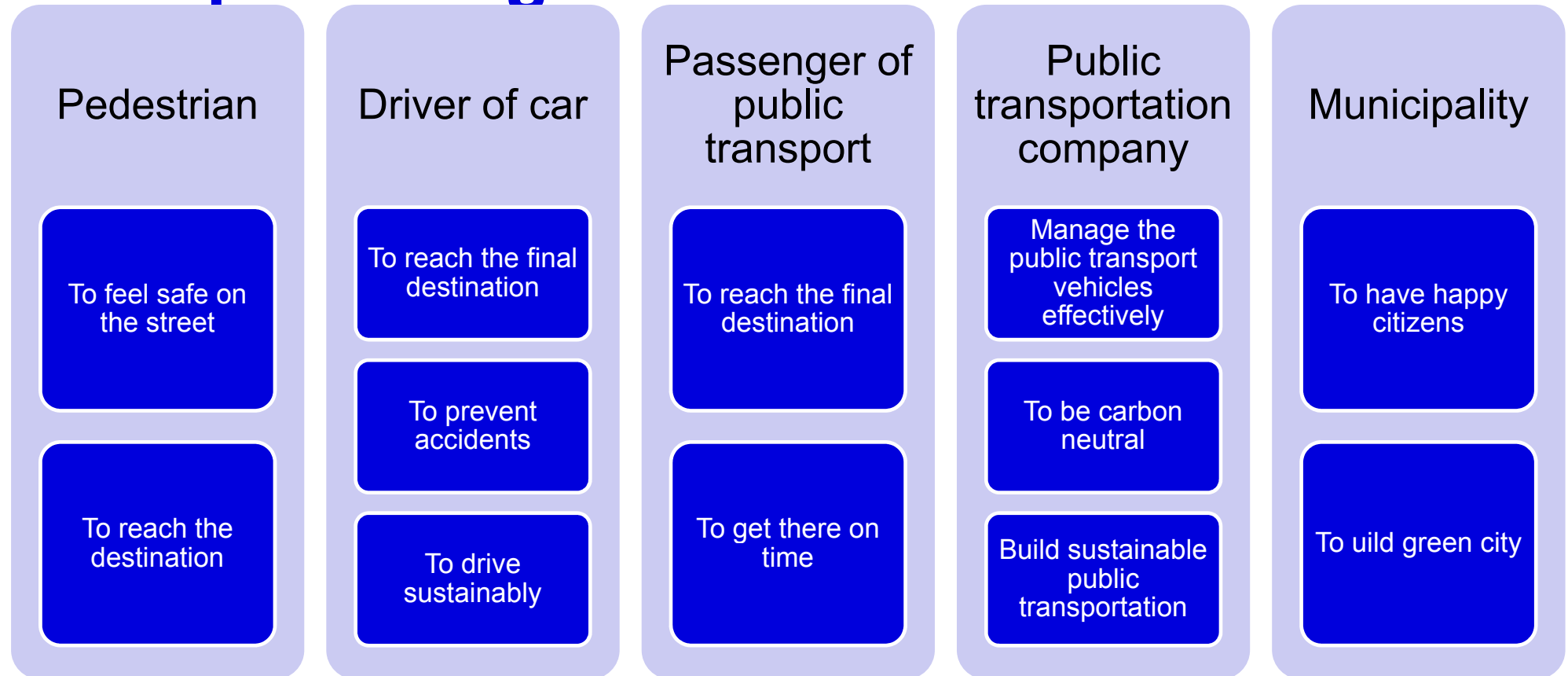
No matter what role they are playing

Just explore their Goals, Actions and Flows

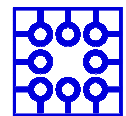
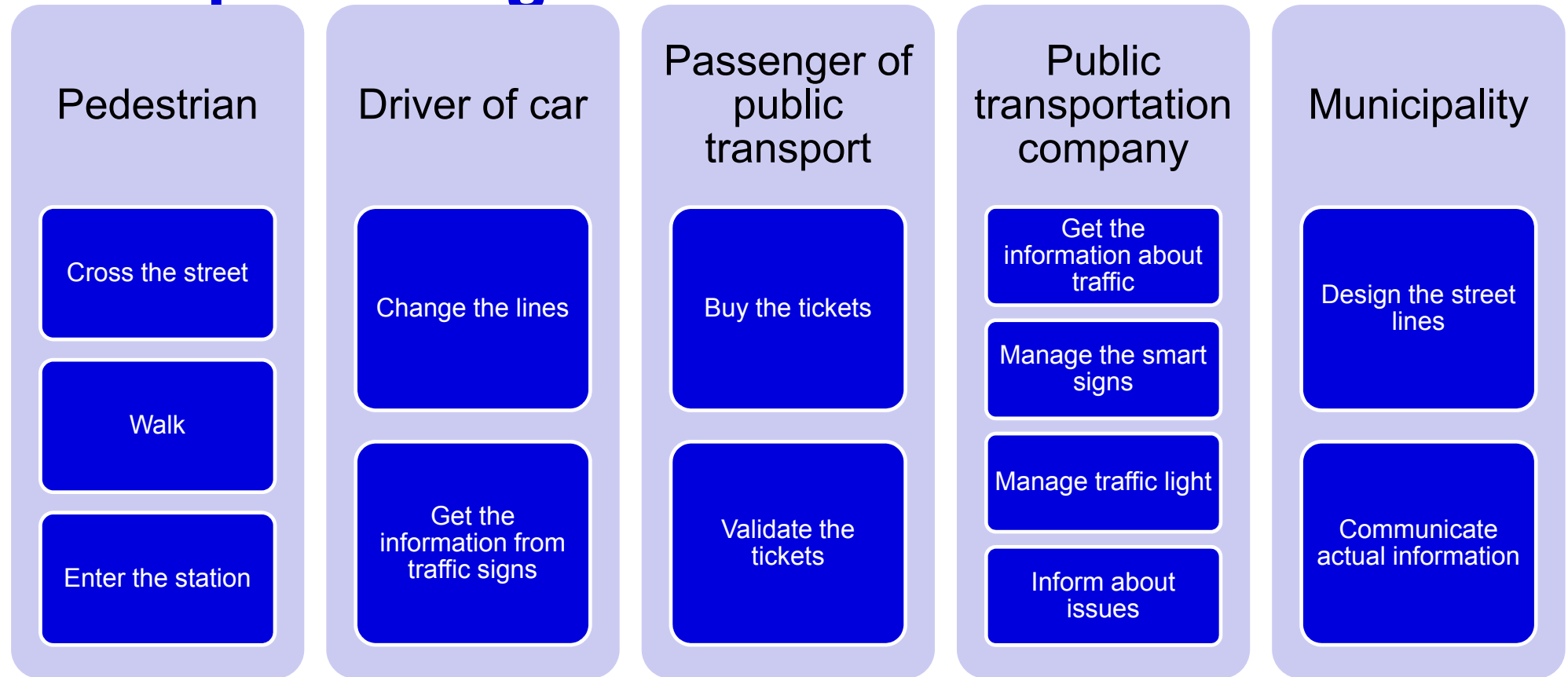
Can those agents act in more contexts?



# Examples of agents Goals on Smart Street



# Examples of agents on Smart Street



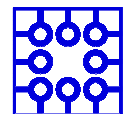
# The main results

The knowledge of the contexts and their meaning help to understand the value of application

The fact that one context will affect other is not an issue, but advantage

The main failure of every service is insufficient analysis of contextual overlaps

The knowledge how different stakeholders (agents) are reacting to the fulfillment of the same goal is the key for the formulation of the value proposition



# Diamond of Organization

## Summary

- Matrix-based organization: Action vs. Flow
- Activity vs. Action / Flow
- R-edges
- Examples
- Acknowledgement
  - This presentation was improved by using Microsoft Copilot

