

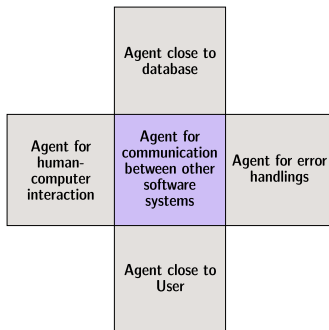
# PRESENTATION-ABSTRACTION-CONTROL

Gruppen H und I

Software Engineering WS 17/18

December 5, 2017

# PROBLEM



There are three main Problems based on that:

- Agents often maintain their own state and data
- Interactive agents provide their own user interface
- Systems evolve over time

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PAC  
└ Problem

└ Problem

Ann-Kathrin

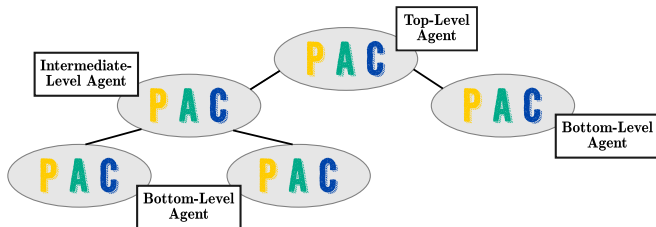
## PROBLEM



There are three main Problems based on that:

- Agents often maintain their own state and data
- Interactive agents provide their own user interface
- Systems evolve over time

### SOLUTION



- Tree-like hierarchy of PAC agents
- every PAC agents consist of:
  - **Presentation** component (visible behavior)
  - **Abstraction** comp.(data model with functional operations)
  - **Control** comp. (connects data model and view; provides communication between other agents)

2017-12-05

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└ Solution

└ Solution

Lucas

## SOLUTION



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# TOP-LEVEL AGENT

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PAC  
└ Structure  
    └ Top-Level Agent  
        └ Top-Level Agent

TOP-LEVEL AGENT

Nicole, Jaqueline

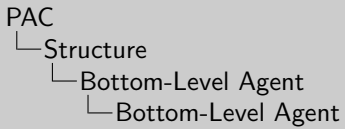


# BOTTOM-LEVEL AGENT

- Presentation component
  - specific view on the object
  - provides access to functions
  - maintains information
- Abstraction component
  - maintains agent-specific data
- Control component
  - manages relation between abstraction and presentation component
  - communication to intermediate agents



2017-12-05



## BOTTOM-LEVEL AGENT

- Presentation component
  - specific view on the object
  - provides access to functions
  - maintains information
- Abstraction component
  - maintains agent-specific data
- Control component
  - manages relation between abstraction and presentation component
  - communication to intermediate agents

Vera

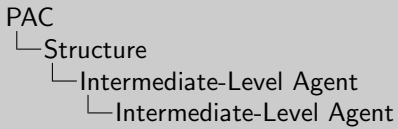


## INTERMEDIATE-LEVEL AGENT

Responsibility:

- coordinate lower-level PAC agents
- Composes lower-level PAC agents to a single unit of higher abstraction

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#### INTERMEDIATE-LEVEL AGENT

##### Responsibility:

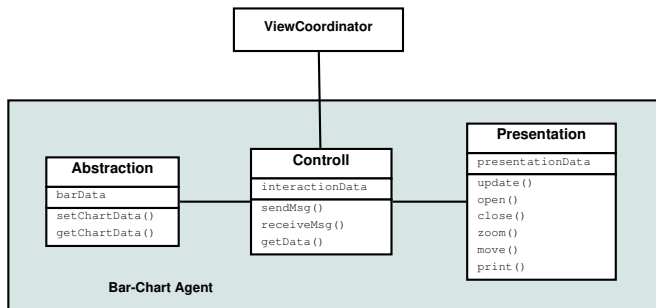
- coordinate lower-level PAC agents
- Composes lower-level PAC agents to a single unit of higher abstraction

Anna

Kann raus bei Platzmangel



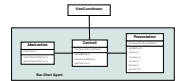
# INTERMEDIATE-LEVEL AGENT



- abstract component manages the data
- presentation component implements user interface
- control component communicates with top-level and bottom-level agents

# PAC

- Structure
  - Intermediate-Level Agent
    - Intermediate-Level Agent



- abstract component manages the data
- presentation component implements user interface
- control component communicates with top-level and bottom-level agents

Anna

gekürzt, lange Version:

- abstract component manages the data → responsible for all currently active views
- presentation component implements user interface → creates a tool to view the election data for example in bar or pie charts
- control component communicates with top-level and bottom-level agents → control all subordinate agents

# DYNAMICS

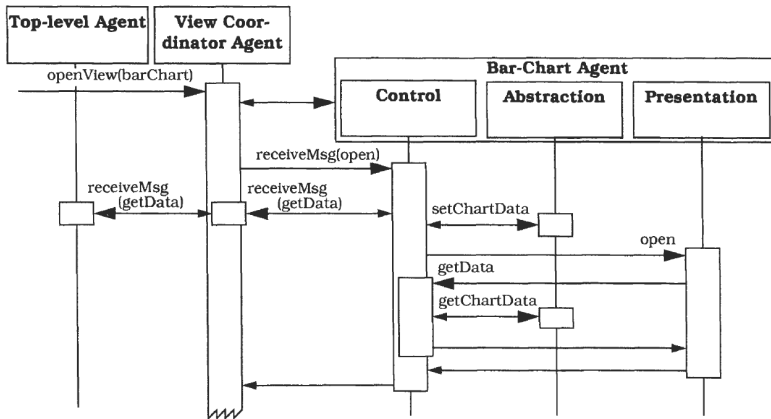


FIGURE: Dynamics: first scenario<sup>1</sup>

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PAC  
└─ Dynamics

└─ Dynamics

Nicole

## DYNAMICS

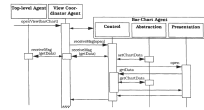


FIGURE: Dynamics: first scenario<sup>5</sup>

# DYNAMICS

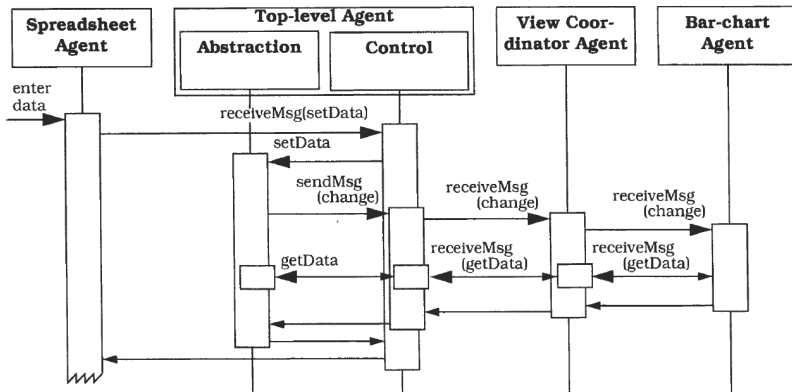


FIGURE: Dynamics: second scenario<sup>1</sup>



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└ Dynamics

└ Dynamics

Nicole

#### DYNAMICS

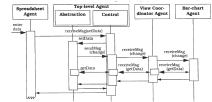


FIGURE: Dynamics: second scenario<sup>3</sup>



# CONTEXT

- interactive software
- multi-user applications
- dynamic systems

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└ Context

└ Context

CONTEXT

- interactive software
- multi-user applications
- dynamic systems

Fabian

# KNOWN ISSUES: NETWORK TRAFFIC MANAGEMENT

- displays traffic in network
- frequently collects data from units for evaluation
- allows change of network topology

## └ Known Issues: Network Traffic Management

- displays traffic in network
- frequently collects data from units for evaluation
- allows change of network topology

Fabian

```

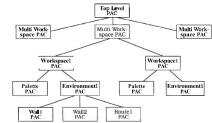
graph TD
    TopLevelPAC[Top Level PAC] --> MWSPAC1[Multi Work-space PAC]
    TopLevelPAC --> MWSPAC2[Multi Work-space PAC]
    TopLevelPAC --> MWSPAC3[Multi Work-space PAC]
    MWSPAC2 --> WS1PAC1[Workspace1 PAC]
    MWSPAC2 --> WS1PAC2[Workspace1 PAC]
    WS1PAC1 --> Pal1PAC[Palette PAC]
    WS1PAC1 --> Env1PAC1[Environment1 PAC]
    WS1PAC2 --> Pal2PAC[Palette PAC]
    WS1PAC2 --> Env1PAC2[Environment1 PAC]
    Env1PAC1 --> Wall1PAC[Wall1 PAC]
    Env1PAC1 --> Wall2PAC[Wall2 PAC]
    Env1PAC1 --> Route1PAC[Route1 PAC]
  
```

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# PAC

- Known Uses

- Known Issues: Network Traffic Management



Fabian

# QUELLEN

<sup>1</sup>Buschmann, F., Meunier, R., Rohnert, H., Sommerlad, P., Stal, M.: Pattern-Oriented Software Architecture, A System of Patterns; Wiley 1996



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PAC

└ Known Uses

└ Quellen

QUELLEN

<sup>1</sup>Buschmann, F., Meunier, R., Rohrer, H., Sommerlad, P., Stal, M.: Pattern-Oriented Software Architecture, A System of Patterns, Wiley 1996

Rebecca