DOAS

(**Interactive response system for crisis management**)

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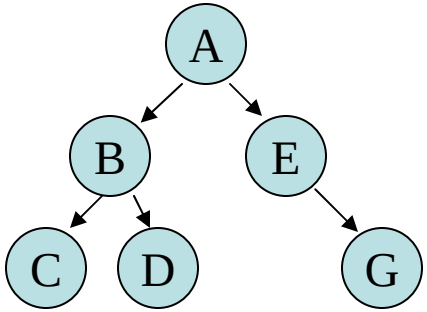
DPN

- Bayesian network :: Distributed AI
- Non leaf nodes :: fusion agents
- Leaf nodes :: sensor agents

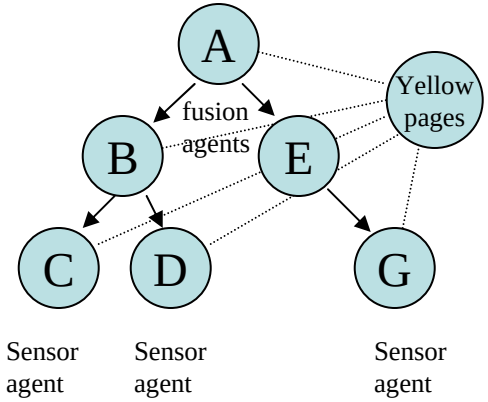
- Communication between agents: Yellow Pages Agent

BN vs DPN

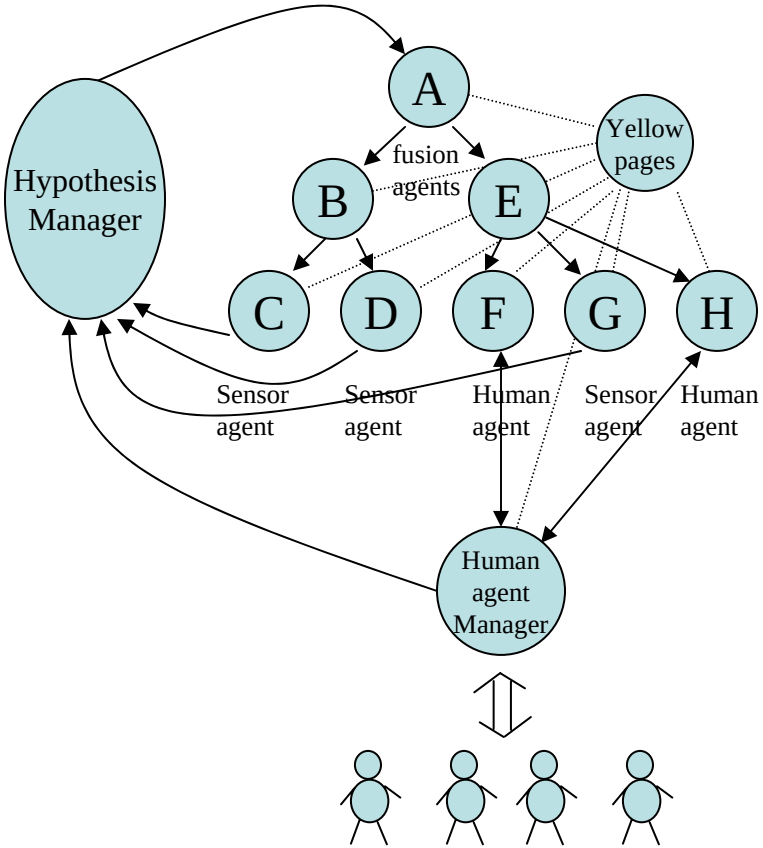
- Bayesian Network



- Distributed Perception Network



Our task


A
Yellow pages
fusion agents
Hypothesis Manager
B
E
C
D
F
G
H
Sensor agent
Sensor agent
Human agent
Sensor agent
Human agent
Human agent Manager

Hypothesis Manager

- Continuous sensor input (simulated)

  (temperature, smoke, co2)

  (Humans?)
- If significant change: trigger network
- spawn ‘hypotheses’ that caused the change in sensor values
- Result: local world model

‘Fusion Agent Filter’

- If network is created, you want to know if there is enough information about the hypothes(i|e)s
  - Over time
  - Several methods
- If not, Query the human agent manager

Human Agent Manager

- Selection of human agents that can answer the query
  - By location
  - Proffesion
  - Age
  - ...[other properties]
- Assign weights to possible answers wrt properties

Interface with “Humans”

- Via SMS
  - Otherwise: simulation
- Handle the response(s)
  - Over time
  - With different priorities
- Inform the Hypothesis manager

And then...

- Reconsider the network
- If catastrophic event, dial 911

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- If catastrophic event, dial 911

- (simulated)