Interactive response system for crisis management

Project proposal
DOAS 2005

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Crisis Management.
It may be needed any moment

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Gas leaks from a tank,
resulting in fire and panic

gas cloud

Interactive response system for Crisis
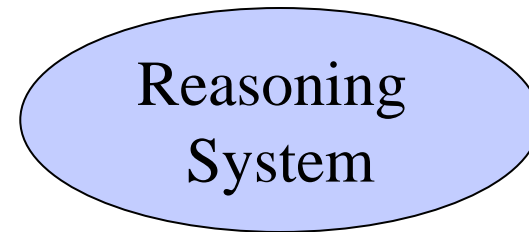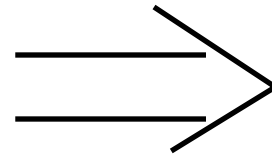Management, UvA, January, 2005

Countermeasures
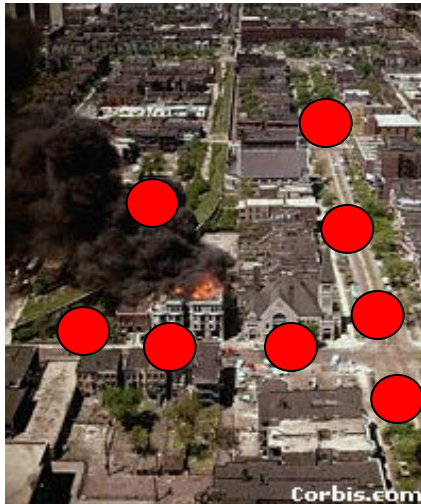

AND …….

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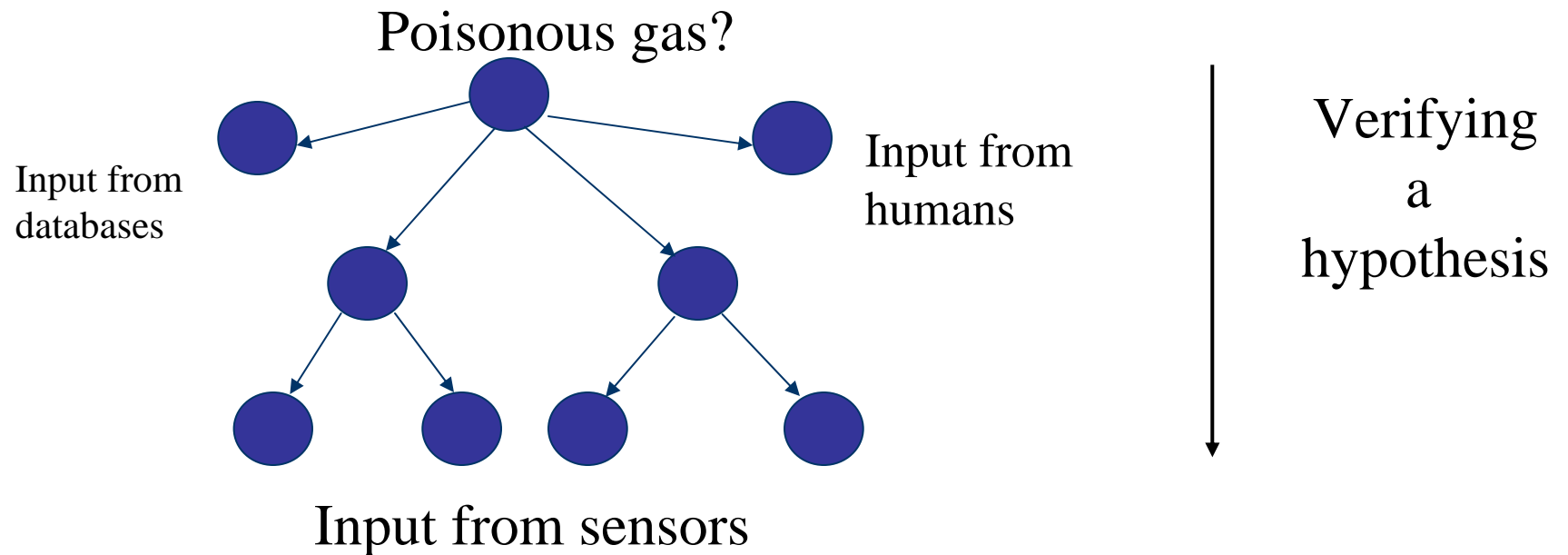# Sensors !
Measure the gas
and report to a reasoning system

The reasoning system must determine which gas
is escaping and whether it is dangerous

An advanced Reasoning System

Poisonous gas?

Input from
databases

Input from
humans

Verifying
a
hypothesis

Input from sensors

Distributed Perception System (DPN)

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What if ?

What if the results of the measurements are ambiguous, **the DPN cannot clearly calculate a result**.

In that case, the DPN network needs more information.

It gets that by asking people nearby the area

Asking help from people

By asking educated questions using a fixed set of possible answers, the DPN can improve its certainty about the hypotheses.

Example call by the DPN

John: (picks up the phone) Hello, with John.
DPN: This is the emergency response system.
John: Oh, OK, what can I do for you?
DPN: We need your help. Could you please tell us whether you see people around with a bleeding nose? Please press "1" if yes or "2" if not.
John: In fact I do (he presses "1").
DPN: Thanks for your help, please leave the area as soon as you can !

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Project Assignments

1. Make such a phone-interface (for example by exchanging SMS-messages). It should be a bi-directional link, the user should respond by pressing buttons on the phone.

2. Create an example scenario and show the principle functionality of your system based on improving the evidence for a certain hypothesis.

3. Write a report

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Reading more….

Backgroundd on DPN:
Pavlin, G., Maris, M., and Nunnink, J. An Agent-Based Approach to Distributed Data and Information Fusion. In Proceedings of Intelligent Agent Technology. Peking, China, 2004.

SMS library:
http://javasmslib.sourceforge.net/overview/