Inconsistency Handling

SUM 2010

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Inconsistency

- Inconsistency is everywhere
- But it is not necessarily bad – often it can be ignored
- Sometimes it is desirable

- Tax inspectors
- Murder detectives
- Lawyers in court
- ........
Inconsistency

- Inconsistency can cause problems
  - Following instructions,
  - Air traffic control,
  - Patient treatment plans,
  - Legislation,
  - .............

- But immediate resolution is not always possible!
Inconsistency

- Remove inconsistency
- Isolate inconsistency
- Paraconsistent reasoning
- Analyse inconsistency
- Argumentation
Questions

• The term “inconsistency” is used in many different ways, even in computer science, and so we need to better understand the range of concepts behind this?

• **Most approaches aim to suppress inconsistency** (e.g. multiple db, sensor fusion, knowledge merging, multiple ontologies, …..), yet it can be valuable to know about key inconsistencies.

• Dealing with **inconsistency is context-dependent**: Can uncertainty techniques be developed to help to find key inconsistencies; for example in information integration (e.g. tax records), or argumentation (e.g. negotiation system), ….?

• **Inconsistency is closely tied to language.** Can uncertainty techniques help to better characterise this correspondence?