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?