PyCRAM

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Robots

Robots in Human Households

Problems in Household Environments

- Humans
- Objects do not have fixed poses
- Execution errors need to be recognized and corrected
- Plans need to be dynamically adapted to a changing environment
- Not all sources of problems are known

How to Solve this?

- Robots need to understand what they are doing
- They need to understand what the motions are intended to achieve
- Robots need to reason about the next steps and apply the result to the current plan

What PyCRAM does

- PyCRAM provides tools to semantically describe Actions, Objects and Locations
- Descriptions are resolved at runtime and grounded in the current context
- PyCRAM provides a belief state which integrates knowledge and observations from different sources
- An ORM model to save previous executions and learn from them
- …

Links

- https://github.com/cram2/pycram
- https://pycram.readthedocs.io/en/latest/index.html
- https://vib.ai.uni-bremen.de/page/labs/