You’re at a party...  

- Someone asks you what your line of work is...
You’re at a party...  

Someone asks you what your line of work is...  

What I would answer...  

- Find a plan that brings about a desired goal/action/state  
- Given:  
  - knowledge of how the world works...  
  - and how our actions change it
Tourists in São Paulo

- **Goal:** eat at a Churrascaria
- **Knowledge:**
  - metric map
  - topological map
  - semantic map
  - transportation modes
  - time estimates
  - relative locations
  - restaurant taxonomy
  - commonsense knowledge
  - ...
Tourists in São Paulo

- **Goal:** eat at a Churrascaria
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  - ...
Was this a planning problem?

- Causal knowledge
  - PDDL, HTN/STN, State variables, …
- Temporal knowledge
  - LTL, TCSP/STP, DTP, Allen’s Intervals, INDU, …
- Resource knowledge
  - Consumable, reusable, multi-capacity, binary, …
- Spatial knowledge
  - RCC, Cardinal Relations, Point Algebras, …
- Ontologies, commonsense knowledge
  - OWL-DL, OpenMind (Indoor Robot Commonsense), OpenCyc, …
- …
If the answer is “Yes”...

... let’s remember that we have inference procedures / solvers for many of these sub-problems.

... and that integration methodologies which leverage these capabilities have been developed.

Causal reasoning
Resource reasoning
Temporal reasoning
Spatial reasoning
Ontological reasoning
Not just an academic curiosity...
Not just an academic curiosity... 

... just ask Tony Cohn! (and go see his invited talk tomorrow)