The State of Kansas gradually increases in elevation from the east to the west. As such, "Mount" Sunflower, while the highest point in the state in terms of elevation, is virtually indistinguishable from the surrounding terrain.


Tuttle Creek!


Manhattan, KS

DaSe Lab

MODL: A Modular Ontology Design Library

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Outline

- What is MODL?
- Why do this?
- How did we do this?
- Next Steps

MODL

DaSe Lab

A well-documented, curated collection of ontology design patterns for use in Modular Ontology Modeling.

Purpose

DaSe Lab

- Improve Approachability of Pattern-Based Modular Ontology Engineering
- Improve Pattern Discovery
- A shareable *artifact*
- An easier way to interface with tools

Methodology

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- Documentation
  - Schema Diagram
  - Summary of Use
  - Axiomatization
  - Explanation / Natural Language of Axioms
  - Example Competency Questions
- OWL File
  - OPLa annotations
- Top Level OPLa Ontology

Categories and Patterns

DaSe Lab

- The categories are informal, yet hopefully intuitive way of organizing the patterns
- Metapatterns are “patterns for patterns” and are also known as “structural patterns” in other literature.
- Specializations of some patterns are included due to their usefulness and frequent recurrence

Category	Patterns
Metapatterns	Explicit Typing Property Reification Stubs
Organization of Data	Aggregation, Bag, Collection Sequence, List Tree
Space, Time, and Movement	Spatiotemporal Extent Spatial Extent Temporal Extent Trajectory Event
Agents and Roles	AgentRole ParticipantRole Name Stub
Description and Details	Quantities and Units Partonymy/Meronymy Provenance Identifier

Next Steps

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- More patterns (Processes, Plans, Activities)
- Landing Pages, resolvable URIs?
- Improve Use case documentation
- Utilize OPLa extensions
- Alternate Pattern Representations
  - Popular Upper level ontology alignments (BFO, UFO, Dolce)
  - OTTR
- Tooling Infrastructure
  - Bespoke MODLs
  - Automatic Documentation
  - CoModIDE

Thanks!!
Any Questions or Comments?

Offline questions can be e-mailed to: cogan@coganshimizu.com