# Protégé 4.1 and WebProtégé

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Ontolog call
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# Protégé 4.1

- Protégé 4.1 is a comprehensive pluggable ontology development platform
- Java-Based (portability)
- Plugin Platform: OSGi + Eclipse Plugin Registry
- OWL API 3.0
  - OWL 2 Support

http://protege.stanford.edu

# Protégé 4.1 – In Development

- Exist Working Versions for
  - Client-Server
  - Database Backend
- Planned
  - Collaborative Extensions

# Protégé 4.1 Graphical Interface

# Protégé 4.1 UI Principles

- Views show recently selected entities
- Based on familiar Protege 3.* UI
- Inference Built in to most views
- UI based on principles that follow the OWL 2.0 specification.

# Protégé 4.1 Visualization

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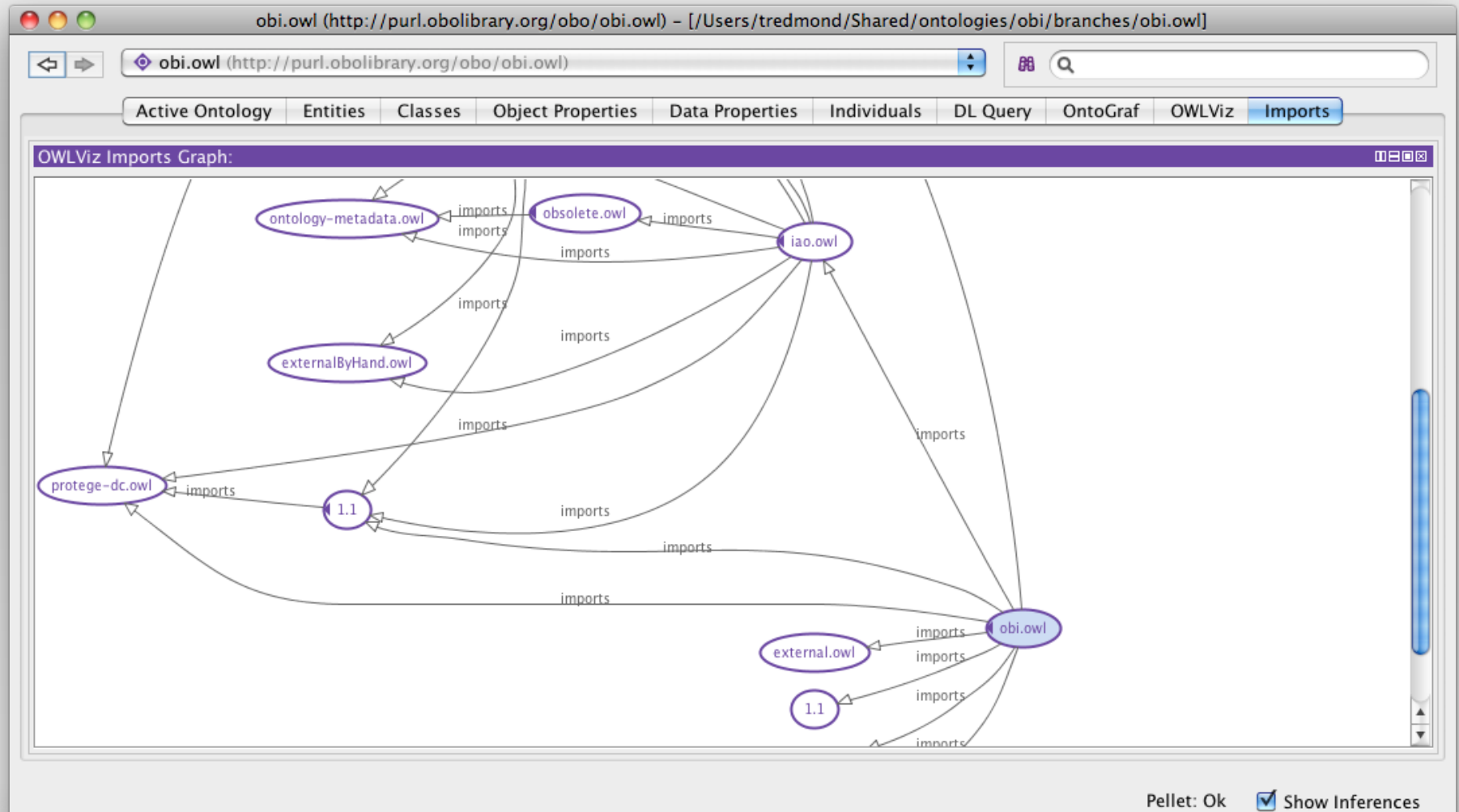
# Protégé 4 Plugins

- Core System consists of over 140 plugins
- Visualization Plugins
  - Ontograf, OWLViz
- Inference Plugins
  - HermiT, FaCT++, Pellet, Snorocket, others

# Protégé 4.1 Client-Server

- Server Interfaces
  - Checkout
  - Update
  - Commit
- Pluggable
  - Conflict Management
  - RPC
  - Server Backend

# Protégé 4.1 Client-Server

- Client modes:
  - **Online**
    - Sees updates as they happen
    - Modifies ontology in real time
  - **Offline**
    - Can edit but edits must be committed later.
  - **Manual**
    - Updates and commits by user request
  - **Hybrid**

# Protégé 4.1 Database

- Two OWL API database backends exist

- Integrated with Protege 4.1

- Some performance problems still exist

# WebProtégé

- A **web-based client** for browsing and editing ontologies

- Support for **collaboration**:

  - Notes, discussions, proposals

  - Watching entities & notifications

  - Review

  - Access policies

- Highly **customizable user interface**

- **Extensible** by plug-ins

- **Backends**:

  - Protégé 3 OWL API (used in production setting) – OWL 1

  - OWL-API 3.0 (alpha stage) – OWL 1 & 2

  - Protégé frames, RDF(S), etc.

http://protegewiki.stanford.edu/wiki/WebProtege

# WebProtégé – User Interface



Demo: http://webprotege.stanford.edu

# WebProtégé - User Interface

- Built as a **portal**: portlets provide pieces of functionality (similar to views in Protégé 4)

- Build a new user interface by simply rearranging portlets in tabs

- **Declarative user interface** in a XML file

- Configurations can be for a particular user, or per user per project, or default

- My WebProtégé page

- Goal: **easily adjust** the user interface based on the user expertise and tasks

Form-based editing and configuration of the user interface for the development of ICD-11

http://icatdemo.stanford.edu

# Other examples of form-based editing

**Cold or Heat 寒热**
- ○ Cold 寒證
- ○ Between heat and cold 寒中間証
- ○ Upper body heat and lower body cold 寒上熱下
- ○ Irritable heat sensation in hand and foot 手足煩熱
- ○ Severe coldness of extremities 厥冷
- ○ Cold abdominal colic 寒疝

**Understanding**
- ☐ Watching
- ☑ Listening
- ☐ Learning
- ☐ Focusing attention
- ☐ Reading
- ☐ Writing
- ☐ Calculating
- ☐ Solving Problems

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**Body Part** ⓘ

➕ Find term

➕ Add term

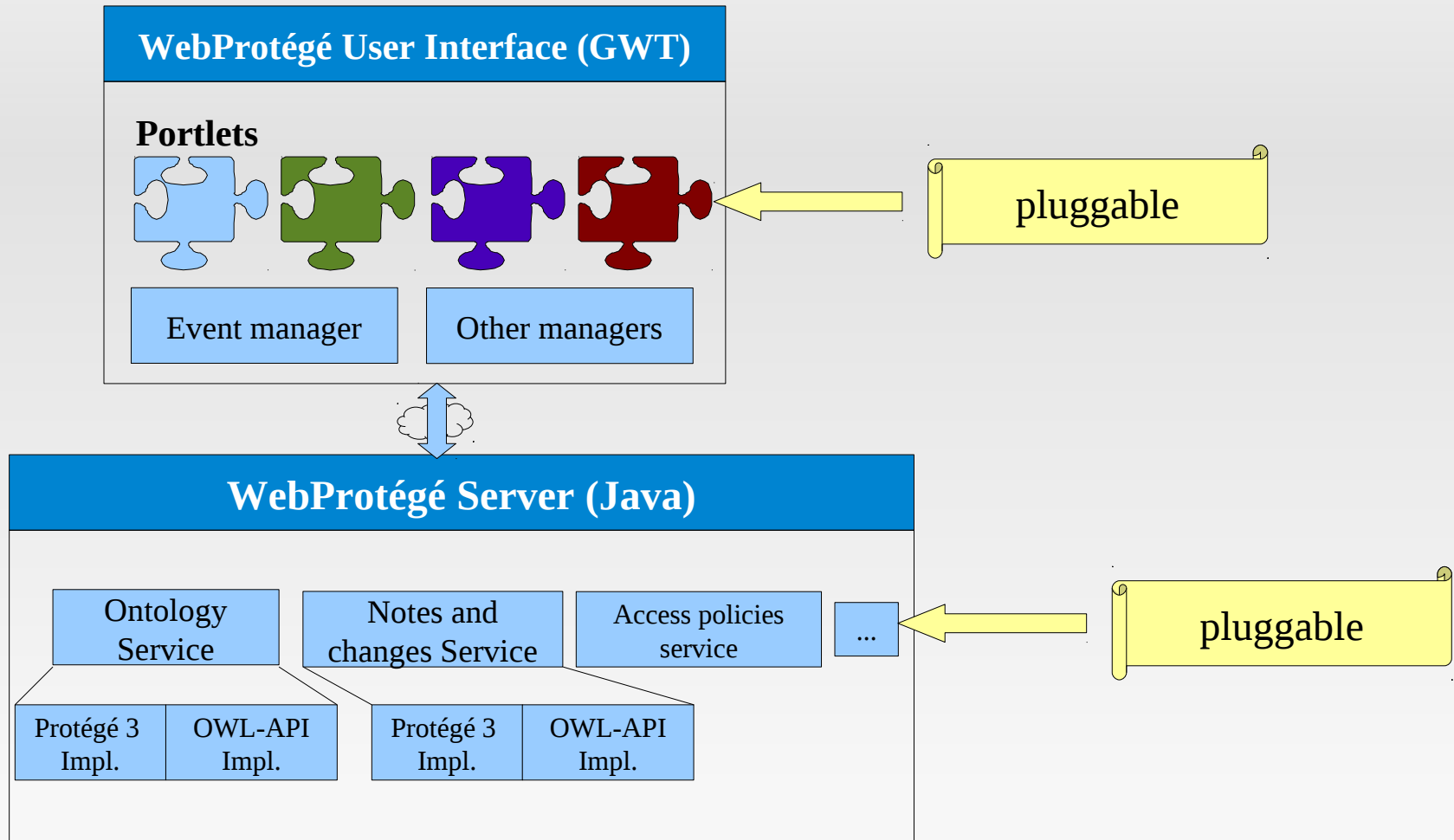| label | Term ID | Link | | |
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# WebProtégé pieces

# WebProtégé: Current status and future directions

- WebProtégé (with Protégé 3 backend) is stable and used in production for the development of ICD-11

- We are finalizing the implementation of the WebProtégé with the OWL-API backend. Missing pieces: access policies, integration with Protégé 4 client-server

- Add features based on user requests

# **WebProtégé Acknowledgements**

- Dilvan Moreira provided a concurrent OWL-API implementation using the Clojure library (used currently in the WebProtégé backend).