

Resource Summary Report

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Protege

RRID:SCR_003299

Type: Tool

Proper Citation

Protege (RRID:SCR_003299)

Resource Information

URL: <http://protege.stanford.edu>

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Description: Protege is a free, open-source platform that provides a growing user community with a suite of tools to construct domain models and knowledge-based applications with ontologies. At its core, Protege implements a rich set of knowledge-modeling structures and actions that support the creation, visualization, and manipulation of ontologies in various representation formats. Protege can be customized to provide domain-friendly support for creating knowledge models and entering data. Further, Protege can be extended by way of a plug-in architecture and a Java-based Application Programming Interface (API) for building knowledge-based tools and applications. An ontology describes the concepts and relationships that are important in a particular domain, providing a vocabulary for that domain as well as a computerized specification of the meaning of terms used in the vocabulary. Ontologies range from taxonomies and classifications, database schemas, to fully axiomatized theories. In recent years, ontologies have been adopted in many business and scientific communities as a way to share, reuse and process domain knowledge. Ontologies are now central to many applications such as scientific knowledge portals, information management and integration systems, electronic commerce, and semantic web services. The Protege platform supports two main ways of modeling ontologies: * The Protege-Frames editor enables users to build and populate ontologies that are frame-based, in accordance with the Open Knowledge Base Connectivity protocol (OKBC). In this model, an ontology consists of a set of classes organized in a subsumption hierarchy to represent a domain's salient concepts, a set of slots associated to classes to describe their properties and relationships, and a set of instances of those classes - individual exemplars of the concepts that hold specific values for their properties. * The Protege-OWL editor enables users to build ontologies for the Semantic Web, in particular in the W3C's Web Ontology Language (OWL). An OWL ontology may include descriptions of classes, properties and their instances. Given such an ontology, the OWL formal semantics specifies how to derive its logical consequences, i.e. facts not literally present in the ontology, but entailed by the semantics. These entailments may be based on a single document or multiple

distributed documents that have been combined using defined OWL mechanisms (see the OWL Web Ontology Language Guide). Protege is based on Java, is extensible, and provides a plug-and-play environment that makes it a flexible base for rapid prototyping and application development.

Abbreviations: Protege

Synonyms: Prot??g??, Protege Project

Resource Type: authoring tool, software application, software resource

Defining Citation: [PMID:17687607](#)

Keywords: ontology, java, develop, manage, edit, plug-in, FASEB list

Funding: Defense Advanced Research Projects Agency ;
eBay ;
NCI ;
NIST - National Institute of Standards and Technology ;
National Centers for Biomedical Computing ;
NSF ;
Neural ElectroMagnetic Ontologies NEMO ;
Pfizer ;
NLM LM007885

Availability: Free, download Freely available

Resource Name: Protege

Resource ID: SCR_003299

Alternate IDs: nif-0000-31708

Record Creation Time: 20220129T080218+0000

Record Last Update: 20260905T132501+0000

Ratings and Alerts

No rating or validation information has been found for Protege.

No alerts have been found for Protege.

Data and Source Information

Source: [SciCrunch Registry](#)

Usage and Citation Metrics

We found 165 mentions in open access literature.

Listed below are recent publications. The full list is available at [Kravitz](#) .

Monickaraj J, et al. (2026) Vaxjo 2.0: An ontology- and large language model-powered knowledge base of vaccine adjuvants and mechanisms. *Frontiers in cellular and infection microbiology*, 16, 1763384.

Pitarch B, et al. (2025) A review on Gene Ontology evaluations. *Database : the journal of biological databases and curation*, 2025.

Zheng J, et al. (2025) VO: The Vaccine Ontology. *bioRxiv : the preprint server for biology*.

Bello SM, et al. (2025) Expanding and refining the Mammalian Phenotype Ontology to enhance disease model discovery. *Disease models & mechanisms*, 18(10).

Consoli S, et al. (2025) An epidemiological knowledge graph extracted from the World Health Organization's Disease Outbreak News. *Scientific data*, 12(1), 970.

Ngounou GM, et al. (2025) An Ontology-Based Expert System Approach for Hearing Aid Fitting in a Chaotic Environment. *Audiology research*, 15(2).

Bueckle A, et al. (2025) Construction, Deployment, and Usage of the Human Reference Atlas Knowledge Graph. *Scientific data*, 12(1), 1100.

Diab M, et al. (2025) TICK: A Knowledge Processing Infrastructure for Cognitive Trust in Human-Robot Interaction. *International journal of social robotics*, 17(12), 2905.

Vollbrecht M, et al. (2025) An integrated data pipeline for semantic data representation of the flame spray pyrolysis process. *F1000Research*, 14, 173.

Shojaee-Mend H, et al. (2024) A fuzzy ontology-based case-based reasoning system for stomach dyspepsia in Persian medicine. *PloS one*, 19(10), e0309722.

Manias G, et al. (2024) Advanced Data Processing of Pancreatic Cancer Data Integrating Ontologies and Machine Learning Techniques to Create Holistic Health Records. *Sensors (Basel, Switzerland)*, 24(6).

Bai H, et al. (2024) Indications, technical aspects, and outcomes of stent placement in chronic iliofemoral venous obstruction. *Journal of vascular surgery. Venous and lymphatic disorders*, 12(5), 101904.

Mehta D, et al. (2024) Expanding the Ontology of Organizational Structures of Trauma Centers and Trauma Systems. *CEUR workshop proceedings*, 3939.

Beverley J, et al. (2024) Coordinating virus research: The Virus Infectious Disease Ontology. *PloS one*, 19(1), e0285093.

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Mohsin SF, et al. (2024) An automated information extraction system from the knowledge graph based annual financial reports. *PeerJ. Computer science*, 10, e2004.

Yamagata Y, et al. (2024) Prototyping an Ontological Framework for Cellular Senescence Mechanisms: A Homeostasis Imbalance Perspective. *Scientific data*, 11(1), 485.

Schenk PM, et al. (2024) An ontological framework for organising and describing behaviours: The Human Behaviour Ontology. *Wellcome open research*, 9, 237.

Mora S, et al. (2024) Transforming Ontology Web Language Elements into Common Terminology Service 2 Terminology Resources. *Journal of personalized medicine*, 14(7).

Harrison MC, et al. (2024) Exploring Saccharomycotina Yeast Ecology Through an Ecological Ontology Framework. *Yeast (Chichester, England)*, 41(10), 615.