

# DAML-S: Semantic Markup for Web Services

- Authors (in alphabetical order)

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## Summary / Contributions

- Semantic Web services vision
- Use cases
  - Service discovery, composition, monitoring, ...
- Upper ontology for service description
  - Evolved into OWL-S
  - Profile / Process Model / Grounding
  - Functional and non-functional properties
- One of the first substantial / collaborative / widely shared ontologies in DAML+OIL
  - Provided a “language” for people to start building SWS apps
- Identified many expressiveness requirements
  - Provided inputs to (OWL) language definition team
  - Also influenced the development of rule languages

## A Few Points of Context

- 2000/8: DAML program officially kicked off
- 2001/1: 1<sup>st</sup> release of DAML+OIL
- 2001/3: WSDL 1.1 published as W3C Note
- 2001/4: Scientific American article on Semantic Web
- 2001/5: 1<sup>st</sup> public version of DAML-S
- 2001/7: SWWS @ Stanford
- 2002/7: 1<sup>st</sup> draft of OWL published
- 2003/5: OWL-S first version (0.9, with 1.0 in 2004/1)
- 2004/1: Initial FP6 Semantic Web projects underway
- 2004/11: OWL-S submission to W3C
- 2005/6: WSMO submission to W3C
- 2005/9: SWSL submission to W3C
- 2005/11: WSDL-S submission to W3C
- 2007/8: SAWSDL becomes W3C Recommendation

## SWS: A Flourishing Research Area

- Several major research initiatives
- Several industry standards
- Dozen or so very significant sub-areas
  - Description, process/interaction representation, discovery, enactment, composition, monitoring, architecture, tools and environments, methodology, security, mobile/ubiquitous usage, evaluation, social aspects, ....
- Dozens of workshops
- Dozens of open-source components
- Many excellent theses/dissertations
- Thousands of publications
- Thousands of cool innovative ideas

# Why the Impact?

- Convergence
  - Semantic Web
  - Web services & larger e-commerce objectives
  - Distributed Web-based computing, service lifecycle / ecosystem / scalable use
  - Agent technology
  - Mobile computing
- Compelling vision
  - Agent-oriented Web
    - Reasoning-based automation of activities
    - A web with “behavioral intelligence” to complement “information intelligence”
  - Global infrastructure for transactions, activities & virtual organizations
    - Adaptive, composable workflows
  - Real needs & challenges
    - Recognized by industry as well as researchers
- Standards activities
- *Looking forward, the significance will continue*
  - Cloud computing, Web of Things, new areas of interest in process R&R...

# SWS Research Challenge

- Funding for research related to Semantic Web services
- Proposer must be a student
  - Collaborators/team members can be non-students
- One recipient will be selected based on short research proposals
  
- Award
  - \$1000
  - Recognition at ISWC 2012
  - Poster presentation spot at ISWC 2012
  
- Complete information will be available soon at

***<http://swsprize.semanticweb.org/>***