

What is the Semantic Web Challenge?

The central idea of the Semantic Web is to extend the current human-readable web by encoding some of the semantics of resources in a machine-processable form.

Moving beyond syntax opens the door to more advanced applications and functionality on the Web. The core technological building blocks are now in place and widely available: ontology languages, flexible storage and querying facilities, reasoning engines, etc. Standards and guidelines for best practice are being formulated and disseminated by the W3C.

The **Semantic Web Challenge** offers participants the chance to show the best of the Semantic Web. The Challenge thus serves several purposes:

- ◆ Help us illustrate to society what the Semantic Web can provide
- ◆ Gives researchers and industry an opportunity to showcase their work and compare it to others
- ◆ Stimulates current research to a higher final goal by showing the state-of-the-art every year

What is the goal?

The overall objective of the challenge is to apply "Semantic Web techniques" in order to build an online application that integrates, combines, and deduces information needed to assist users in performing tasks. The challenge that started in 2003 will continue for at least five years and will be updated annually, according to the development of the Semantic Web.

How is the challenge organized?

Intentionally, the challenge does not define specific task, data set, application domain or technology to be used because the potential applicability of the Semantic Web is very broad. Instead, a number of minimal criteria have been defined which allow people to submit a broad range of applications. In addition to the criteria, a number of specific desires have been formulated. The more desires are met by the application, the higher the score will be.

The Semantic Web Challenge Advisory board also defines an additional goal every year based on the development of the Challenge. The board consists of experts working at universities and in private industry. It will also act as a jury and award the best applications at the ISWC conference.

The members are: Dean Allemang, Jürgen Angele, Mike Dean, Stefan Decker, Jérôme Euzenat, Jennifer Golbeck, Ian Horrocks, Atanas Kiryakov, Michel Klein, Deborah McGuinness, Peter Mika, Rob Shearer, Amit Sheth, York Sure, Hideaki Takeda and Ubbo Visser.

What is a Semantic Web Application?

A Semantic Web Application has to meet the following minimal requirements.

1. First, the meaning of data has to play a central role.
 - ◆ Meaning must be represented using formal descriptions
 - ◆ Data must be manipulated/processed in interesting ways to derive useful information and
 - ◆ This semantic information processing has to play a central role in achieving things that alternative technologies cannot do as well, or at all
2. Second, the information sources used
 - ◆ should have diverse ownerships
 - ◆ should be heterogeneous
 - ◆ should contain real world data
3. Finally, it is required that all applications assume an open world, i.e. assume that the information is never complete.

Semantic Web Challenge 2007

The challenge is open to everyone from academia and industry. The authors of the best applications will be awarded prizes and featured prominently at the 6th International Semantic Web Conference in Busan, Korea.

Applications submitted should demonstrate clear practical value that goes above and beyond what is possible with conventional web technologies alone. The submissions should at least satisfy the minimal requirements for a Semantic Web Application and preferably exhibit some of the additional desires.

A specific goal for the Semantic Web Challenge 2007 to encourage applications that not only reuse data and services of other applications, but also support the serendipitous reuse of their own data and services in situations that have not been foreseen by the original authors. To achieve this, participants should provide standards-compliant web interfaces to the data and services provided by their applications, e.g. SPARQL endpoints, RSS feeds, REST or Web Services interfaces.

What are the additional desires

Besides the minimal criteria, a number of desires are formulated. The more desires are met, the higher an application will score. The desires are:

- ◆ The application provides an attractive and functional Web interface (for human users)
- ◆ Rigorous evaluations have taken place that demonstrate the benefits of semantic technologies, or validate the results obtained
- ◆ The application should be scalable (in terms of the amount of data used and in terms of distributed components working together)
- ◆ Novelty, in applying semantic technology to a domain or task that have not been considered before
- ◆ Functionality is different from or goes beyond pure information retrieval
- ◆ The application has clear commercial potential and/or large existing user base
- ◆ Contextual information is used for ratings or rankings
- ◆ Multi-media documents are used in some way
- ◆ There is a use of dynamic data (e.g. workflows), perhaps in combination with static information
- ◆ There is support for multiple languages and accessibility on a range of devices

How to participate

Visit <http://challenge.semanticweb.org> in order to register for the Semantic Web Challenge by submitting the required information as well as a link to the application. The form will be open until **July 14, 2007, 12 a.m. CET**. The requirements of this entry are:

- 1.) Abstract: No more than 200 words.
- 2.) Description: The description will show details of the system including why the system is innovative, which features or functions the system provides, what design choices were made and what lessons were learned. Papers should not exceed eight pages and must be formatted according to the same guidelines as the papers in the Research Track
→ <http://iswc2007.semanticweb.org>
- 3.) Web access: The application should be accessible via the web. If the application is not publicly accessible, passwords should be provided. We also ask to provide a (short) instruction on how to start and use the application.

Examples for the Challenge

Here are two examples of Semantic Web Applications. Additionally, you find some suggestions about the information sources that can be used and about eligible goals. However, you are free to choose your own application and information sources.

Example 1: Disaster Management

Use and integrate data from various sources, in various formats to provide actual and accurate support in a disaster situation (e.g. Hurricane Katrina in the USA). Possible information sources are weather information, maps from geographical information systems, news sites, satellite images, etc.

Goal: The application should be able to provide answers to different queries, e. g.

- ◆ What is likely to happen in the next days?
- ◆ Which cities are not accessible anymore?
- ◆ What public transport services are still running?

Example 2: Personal information

Personal information can be found in great quantities on the Web, they are understood by anyone and they are arbitrarily difficult to find.

The data can be found in/on conference calendars, home pages, phone directories, etc. Connecting and integrating them is the first step towards the goal. It demonstrates the ability to merge heterogeneous information sources. It also demonstrates the ability to take advantage of the Web.

Goal: Dealing with these data on the Semantic Web can help answering questions like

- ◆ What is the homepage of this individual?
- ◆ What is the phone number of his assistant?
- ◆ Will I and he have an opportunity to meet within a month?

Prizes

The prizes for the winners will be available as travel support and book vouchers. The winners will also be asked to give a live demonstration of their application at the ISWC 2007 conference.

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