

IKS Public Report

2009

2010

2011

2012

IKS – Interactive Knowledge Stack is a Research Project part-funded by the European Commission to provide an open source technology platform for semantically enhanced content management systems.

“Today most of us are simply managing content, and not really involved in managing organisational knowledge. From a customer perspective, the lacking sense of semantics with an ever growing list of content and content types is one of the remaining fundamental problems of content management.”

<http://jboye.com/blogpost/semantic-technologies-what-is-in-it-for-the-unhappy-cms-customer/>

Summary 2011

Use Cases, Apache Stanbol and the User Experience

2011 was the “make or break” year for IKS: we followed some of the recommendations of our advisory board, notably Hans Akkermans who suggested that we should be more conscious of the trade-offs between “academic” and “industrial” objectives. We opted to focus on the industrial objectives and in the course of 2011, we were able to strengthen the profile of IKS in this respect.

During 2011 research and industrial partners developed half a dozen Use Case Scenarios and used the emerging tools of IKS for their implementation. One of the early use cases was a project controlling tool which did not yet, use much of the IKS portfolio. The Ambient Intelligence Use Case with the “intelligent bathroom” combined technologies for the Internet of Things (IoT) with semantic web ontologies. Each of the industrial partners as well as the early adopters developed CMS applications that made use of the “semantic lifting” components developed in Apache Stanbol.

Later in 2011, we also made progress on the interface layer for CMS: the VIE environment allows to combine HTML5 and RDFa to enable web-based application development that connects to semantic back-ends.

The focus on industrial applicability paid off in the Early Adopter Programme and in late 2011, we ran a contest for developing applications with semantically enhanced user experiences. Five early adopters were awarded contracts between 10,000 and 40,000 Euro to develop the applications that were chosen by a panel of experts.

As coordinator, I want to thank all researchers and developers involved, for their contributions and for following a route that requires everybody to leave their “comfort zones”: researchers who need to worry about practicalities such as browser incompatibilities and industrial CMS developers who need to consider the use of RDF as a description format.

2012 will be all about integration with other emergent technologies: the linked data movement, enterprise information integration, natural language processors and getting another 20 or more CMS providers on board for our technology adoption programme.

Wernher Behrendt
IKS Principal Investigator/Project Manager



Important Areas of Work

IKS Community Workshops & Hackathons

- The IKS Community Workshops is an open forum for principal developers from respective communities to join the dialogue and development process in IKS.

The workshops are held every six months to bring together CMS industry representatives and experts to learn about and test the latest IKS results.

The goals of the workshops have moved from initially, raising awareness within communities and gathering requirements, to now supporting collaboration between existing networks of open source semantic web communities and IKS.

There are three major development communities that are addressed:

- The IKS RTD Team including the core industrial partners who act as scouts and high-risk early adopters
- The external "early adopter" CMS firms and their developers who are being given the opportunity to test and explore IKS through short contracts.
- The wider open source communities that are doing work to which IKS is complementary.

The fifth IKS community workshop took place 5-6 July 2011 in Paris. More than 90 participants, representing a diverse group of stakeholders came together to learn how semantic technologies can extend current content management experiences.

Apache Stanbol semantic engine, VIE user interface for semantics on the client's browser

The IKS community workshops provide an open platform for discussion around the deployment of



IKS technology. In Paris the focus was on the IKS technologies that are now available as part of Apache Stanbol and VIE. Apache Stanbol is an open source semantic engine for content management systems, it is freely available (permissive license) and through its modularity has been proven to be easily usable in various contexts. Currently stable features include named entity extraction and linking, several experimental components were also on display - among them support for local taxonomies as linking target, document categorization and term disambiguation as well as the use of rules to refactor results and to make

them traceable. Another IKS technology on show in Paris was VIE, a way of making RDFa encoded semantics interactive. VIE is based on client-side javascript libraries that make it easy

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IKS Community Workshops & Hackathons

for user interface developers to leverage semantic annotations irrespective of whether they come from Stanbol or from elsewhere.

Talking “semantics”

The event included selected industry opinion leaders and innovators sharing their views on various aspects of semantic content management: Seth Grimes (Alta Plana) focussed on text analytics and Lynda Moulton (Outsell’s Gilbane Group) provided a succinct look at the current semantic technology provider market. Stephane Croisier (Jahia) as well as Janus Boye (Janus Boye) highlighted the tensions arising from the lack of maturity of semantic technologies on the one hand, the missing semantic applications and the high expectations of customers, on the other hand. Mark Greaves (Vulcan) showcased various examples of applications on the basis of semantic wiki technology.



Market adoption of Apache Stanbol

The two IKS technologies Apache Stanbol and VIE are now available for market adoption. The first phase of adoption was

already on display in Paris. Two industrial IKS partners demonstrated their integration of Stanbol and VIE in their CMS products – Nuxeo DM and the Midgard CMS. But not only IKS partners showed the value of the semantic engine, also early external adopters from the CMS vendors and integrators community demonstrated how they had used Stanbol to extend their systems: GOSS Interactive and XIMDEX for their own product, Zaizi for Alfresco, punkt.netServices for Drupal, and in one use case for the re-search department of the French energy provider EDF.

Semantic Vendors Market

Several semantic vendors and academic organizations presented their incumbent tools in the area of semantic knowledge extraction (Saplo), document analysis (SalsaDev), vocabulary creation (Semantic Web Company/Poolparty), linked data aggregation (University of Leipzig/LIMES) and a linked media framework (Salzburg New Media Lab/LMF). IKS acknowledges their contributions to the semantic CMS community and aims at leveraging added value for both, Apache Stanbol as an easy to use unifying semantic platform and semantic tools vendors as producers of specialized engines.

Hackathons

The workshop was also aimed at hands-on developers. One hackathon with about 20 participants was dedicated to Apache Stanbol, its architecture and use. The demand for multilingual support, vocabulary definition, taxonomy extraction and linking with the Stanbol soft-ware emerged as

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themes for future work. The second hackathon was around the VIE set of libraries that make up the IKS component for managing semantics at the user interface.

What's next?

IKS will keep its focus on providing the semantic engine for content management systems with a growing number of high-quality, dedicated engines – we are indebted to an increasing number of developers and early adopters forming a great community

The sixth IKS community workshop “Web and Intranet Professionals” took place 9th November 2011 in Aarhus, Denmark in the context of the J.Boye “Web and Intranet Conference”.

**WEB AND INTRANET CONFERENCE
JBOYE AARHUS 11**

What you get

- 10 tracks
- 50+ sessions with relevant cases
- 10 expert tutorials
- Inspiration a cross industries
- Face-time with peers and experts
- Evening social events

Why you should go

- Learn how to turn digital challenges into successful projects
- Hype-free input on trends and developments
- Quality time out of hte office with other online professionals

This workshop brought together a broad range of web and intranet professionals eager to learn more about the ideas and solutions behind semantic (Web) Technologies. The workshop was framed as a “demo and dialogue” event to better align the capabilities of IKS technology to the challenges facing “real” end users of Content Management Systems. It took place on Wednesday, 9 November 2011 within the context of the J.Boye Conference, which is an event tailored towards web and intranet professionals.

With the support of the J.Boye organisation we were able to contact 451 Web and Intranet Professionals with an invitation to the workshop. A total of 21 professionals accepted the invitation.

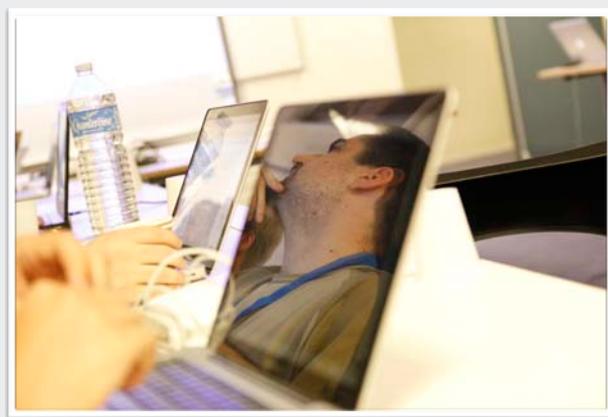
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Incubating Apache Stanbol

■ In 2010, we decided to apply for Incubation at Apache and we were granted that status a few weeks later. The code name of the incubation project is “stanbol” (<http://incubator.apache.org/stanbol/>). With this early move to Apache, we ensure sustainability of the project results, and we will contribute a code base which embraces the advanced concepts of IKS at a level of maturity that makes industrial adoption realistic.



For 2011 we introduced a roadmap for IKS with quarterly releases used for the building of semantics-based CMS applications. In the final year (2012) the emphasis will be on demonstrating the benefits of IKS via external showcases.



We are working together with other groups in order to foster governance and convergence in web-based CMS applications. There are several Apache projects that are complementary to IKS. Among them are OpenNLP, Solr and Tika, Jena and our co-podling Clerezza.

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VIE – Making semantic entities interactive on the Web

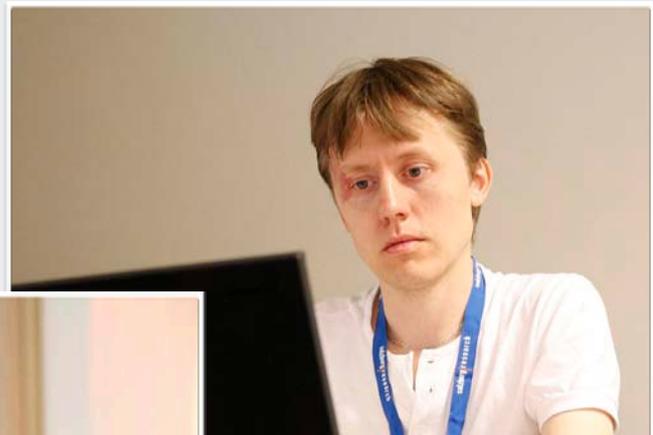


It took IKS a while to find a practical approach to handling interaction with content at the semantic level. The researched semantic web approaches often lack a professional „look and feel“ and when web-based applications look cool then they are typically void of any semantic web technology.

VIE tackles the problem from the CMS developer’s angle: too much effort is spent on building bespoke content editing facilities for the multitude of smaller CMS. The sector would benefit from basic machinery that can be picked up quickly and that offers a road towards semantic applications. The biggest stumbling block was that LAMP stacks are too monolithic when it comes to interaction between user and displayed content.

VIE [viejs.org] uses HTML5, backbone.js and RDFa to enable the communication between a web-based, HTML5 front end and an RDF-capable, semantic back-end.

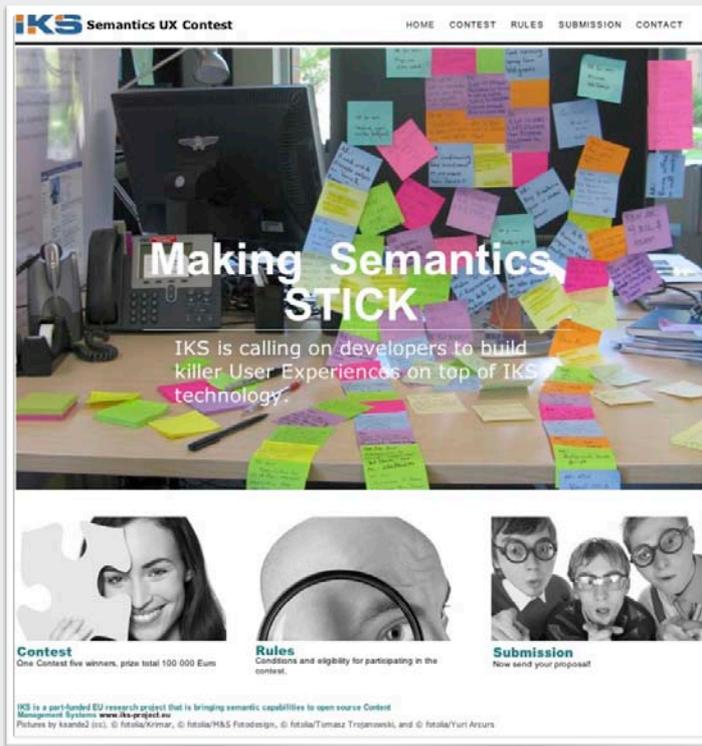
Several semantically enabled web editors are currently being implemented using the VIE technology.



Important Areas of Work

IKS – UI/X Challenge 2011

The experience from the first round of early adopter contracts was that CMS vendors and providers required more convincing user focused applications that demonstrated the value of the underlying IKS technologies.



Therefore after consultation with some members of the IKS Industrial Advisory Board the decision was made to seek the assistance of the community to build richer user applications that showcased IKS technology.

There were a total of 19 full proposals received for the IKS UI/X Challenge.

The topics ranged from browser and CMS plugins to easily annotate or search for semantically enhanced content, fully integrated components for CMS and ECMS frameworks - for example extending current editors with semantic annotation capabilities, online applications in such areas as learning platforms, music platforms, web history and analytics that bring

new semantic enhanced features and business and data analytics applications for example enhancing business workflows with automatic annotation techniques.

Evaluation Process

The IKS UI/X Challenge followed a two-step evaluation process. The first evaluation was performed by the IKS Consortium plus from the IKS Industrial Advisory Board Stephane Croisier. They agreed on a short list of the top-five.

The top-five proposals from the first evaluation round were:

- Semantic Enhanced CMS Editor – Liip
- WordLift 2.0 – InsideOut10
- Personal Web Analytics – The Open University (KMI)

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- Semantic Search Tool on Alfresco – Zaizi
- The Extended SearchBox and Augmented Content Highlighter Plugins – Salsadev

They were invited to make their final 10 minute pitch at the J. Boye CMS end user conference in Aarhus, Denmark 8 November 2011 <http://aarhus11.jboye.com/>.

The final decision was a combination of audience voting with the final decision taken by the jury. The Jury consisted of Wernher Behrendt (IKS project manager), Sandro Groganz (OS Consultant) and Janus Boye (CMS user advisor). The Jury was permitted to ask questions after each short presentation.



The final winners were Semantic Enhanced CMS Editor Liip and WordLift 2.0 – InsideOut10. They were offered a contract for 40 000 Euro.

The runners-up Personal Web Analytics – The Open University (KMI); Semantic Search Tool on Alfresco – Zaizi; and The Extended SearchBox and Augmented Content Highlighter Plugins – Salsadev were offered a contract of 10 000 Euro to bring their proposal to demo stage.



Important Areas of Work

IKS Early Adopters Programme

■ A total of 26 early adopter proposals were ready and online at <http://wiki.iks-project.eu/index.php/> Participants of which 20 are signed contracts. The recruiting especially in the first half of 2011 was with longstanding contacts. In the second half of 2011 effort was again placed on attracting new contacts but with a focus on CMS end-users such as web and intranet professionals. The two workshops both in Paris and Aarhus targeted CMS end-users. We were able to increase IKS visibility in these new markets; from a broad range of vertical markets such as finance, energy, health, government, news and media, and non-government organisations.

In 2011 there were a total of 11 new contracts signed, plus the 5 contracts for the IKS UI/X Challenge. The new contracts included validation of new IKS components such as Ontonet, the Refactor Engine, and VIE.

In 2011 all early adopters were asked along with their required validation contractual requirements such as online demo to also blog about their experiences and results on the official IKS blog site. Along with this they were also asked to share their experiences on the various development mailing lists such as the Apache Stanbol list. This dialogue between industry validators and IKS developers is proving a major success in driving both development and early adopter recruitment. The immediate availability of developer support on the mailing lists is compensating for the lack of documentation or tutorial material online for the early adopters.

In fact the policy is now that interested early adopters discuss their validation and use case ideas with the IKS development community in advance of any contractual negotiations. This new policy emphasizes the fact that in a vibrant open source software project “conversation matters” and this also applies to the early adopters.



IKS Facts

Strategic Positioning of IKS and Main Elements

Our starting point was that many organisations already have CMSs, ranging from corporate document management to global web content management. Some CMS providers have even got close relationships with eBusiness system providers. In other words, CMS providers often have a foot in the door when it comes to their customer base and they may be in a position to extend their business by adding services to their current portfolio. At the same time, there is a danger particularly for SMEs that their technology base is becoming inadequate. This is due to the fact that many CMS started off as simple aggregations of web-management functionality, quickly built upon the so-called LAMP Stack (Linux, Apache, MySQL, PHP). These smaller organisations cannot handle a complete system overhaul and significant R&D unless they get some assistance from outside. IKS is an attempt to redress the economic balance again, in order to give customers more choice by keeping more technology players in the game. Better even, if those technology players get additional tools in order to access more niche markets with well-suited solutions then the danger of content-monopolies or customer-access monopolies can be abated to some degree.

We therefore designed the IKS technology project as follows:

- It is addressed primarily at European SME CMS technology providers
- It delivers software components which are organised as a well-defined technology stack
- It focuses on functionality which enables knowledge-based interaction with content
- It does not advocate semantic web technology per se, but focuses on utility gained from enhancing existing CMSs with semantic features
- It contributes to moving from one-of-a-kind design to a reference architecture as a means of fostering standardisation and governance within the CMS industry
- It uses RESTful services as a safe way of ensuring integration with existing CMSs
- It uses a strict, BSD-based open source approach to ensure re-use without

Quick Facts

Duration: January 2009 - December 2012
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European Commission Grant: 6.580.00
Euro

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Quick Links

- IKS Blog: <http://blog.iks-project.eu/>
- IKS Wiki: <http://wiki.iks-project.eu>
- IKS Dev Server: <http://dev.iks-project.eu/>
- IKS Demos: <http://www.iks-project.eu/Demos>
- IKS EU Consortium: <http://www.iks-project.eu/community/partners?keys=&tid=24>
- IKS Community: <http://www.iks-project.eu/community/partners?keys=&tid=29>
- IKS Early Adopters: <http://www.iks-project.eu/community/partners?keys=&tid=25>
- Apache Stanbol: <http://incubator.apache.org/stanbol/>
- IKS Stack Code: <http://code.google.com/p/iks-project/>
- VIE.js: <http://viejs.org/>
- Create.js: <http://createjs.org/>

**Join the
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Community**

www.iks-project.eu