Sindice Widgets:
Lightweight embedding of Semantic Web capabilities into existing user applications.

Adam Westerski, Aftab Iqbal, Giovanni Tummarello, and Stefan Decker

Digital Enterprise Research Institute, NUI Galway,Ireland*
{firstname.lastname}@deri.org

Abstract. In this paper we present a methodology by which it is possible to enhance existing web applications and directly deliver to the end users aggregated "views" of information. These views are accessed by clicking on buttons which are injected into the HTML of the existing application by lightweight plugins.

Key words: search, aggregation, methodology, social software, bug-tracking

1 Introduction

Semantic Web Technologies aim to interconnect information produced on the web. In this work we present "Sindice based Widgets", a pragmatic methodology to deliver information aggregation to the end users.

2 Solution Architecture

Harvesting by the Sindice semantic indexing Engine

The Sindice engine [1] provides indexing and search services for RDF documents. The public API[1], that Sindice exposes, allows to form a query with triple patterns that requested RDF documents should contain.

Extended API Web Services

Sindice results very often need to be analyzed and refined before they can be directly used for a particular use case. In our solution, the required logic is wrapped in a domain specific web service. The Extended API uses the basic Sindice service, but also performs several steps to clean, aggregate and cache the data. With respect to this part, our ultimate goal is to provide a set of packages and practices that will guide the developer how to easily and fast create an solution based on Sindice (see Fig. 1).

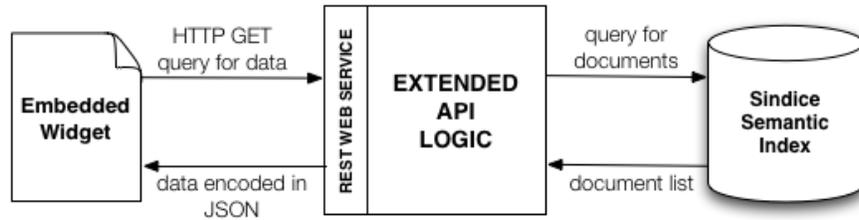[1] http://sindice.com/developers/api

Fig. 1. Message flow in the Sindice Widgets solution.

Embedded widgets

The final part of the solution is a visual component that can be injected into some web system such as a blog or a bug tracker. The widget utilizes services from the Extended API to search for information and present it to the user. Additionally the component makes sure that information is not only consumed but also produced. Therefore it publishes and sends notifications to Sindice so it can index the new or modified resources.

3   Implementation

The SindiceSIOC API [2] and the SindiceBAETLE API are built on top of public Sindice API and offer a set of discovery and search services. For both of the APIs we have supplied sample widgets that present the capabilities of services and let to demonstrate the described architecture in practice.

The current version of SindiceSIOC API[2] tracks the user activity and link mentions in posts and comments in social spaces. The widget[3] that lets to take advantage of this service is built for the WordPress blog[4].

The current version of SindiceBAETLE API demo[5] enables to get related bugs based on bug URI and track bugs connected to a specified user for JIRA bug-tracker.

References

1. Tummarello, G. , Delbru, R., Oren, E.: Sindice.com: Weaving the open linked data. In Proceedings of the International Semantic Web Conference (ISWC 2007), Busan, South Korea, 2007.
2. Westerski, A., Corneti, F., Tummarello, G.: SindiceSIOC: Widgets and APIs for interconnected online communities, Faculty Research Day, Faculty of Engineering, National University of Ireland, Galway, 2008

---

[2] http://sindice.com/developers/siocapi

[3] http://sindice.com/developers/siocwidget

[4] http://wordpress.org/

[5] http://140.203.154.158:8083/secure/Dashboard.jspa