

# Tailor-made search tools for the Web

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Customers' and users' online opinions can be optimally evaluated using search technologies developed by Fraunhofer IAIS. Credit: Fraunhofer IAIS

For companies, customer feedback is a matter of strategic importance. Smart apps for the semantic analysis of user opinions from the Web help businesses keep an eye on feedback. Users benefit as well: with the "Eat and Drink" app, the user can quickly learn all about the special features of restaurants, cafes and bars.

Does my city have a nice, quiet beer garden with a grill? Which restaurant has spicy Asian cuisine on its menu, and which cafe dreamily delicious cakes? Who offers the quickest service for a tasty lunch? Nowadays, anyone turning to the Internet in search of the special features of the local restaurant scene can choose between a host of online reviews or starred listings in portals for general categories such as value for the money, food and service. What is often lacking, though, is the reasoning behind the good or bad review. A new, intelligent [smartphone](#) app now provides details about restaurants, bars and cafes: "Eat and Drink" analyzes more than 200,000 reviews from throughout the Internet, condensing opinions, bundling information, gleaning specific

features from the sources and providing restaurant recommendations. At a glance, the user can see whether or not the atmosphere is welcoming, the clientele is young, or the background music is a source of annoyance. "Our intelligent app makes the user's job easier. There's no need to read through lengthy restaurant reviews, instead the app provides a summary of the special features and main aspects of a particular establishment. 'Eat and Drink' provides information as to why a particular rating is positive or negative," Dr. Melanie Knapp of the Fraunhofer Institute [Intelligent Analysis](#) and Information Systems IAIS notes. "The user simply launches an area or keyword search. The result is displayed in the form of tags."

With "Eat and Drink," Knapp and her team have created an app that semantically analyzes and processes unstructured text. In contrast to keyword or rule-based processes like those used by well-known online search engines, this solution uses learning and pattern-recognizing methods to deliver results that are much more refined and far less cut-out in nature. The researchers call their intelligent search methods "Smart Semantics". This approach enables machine-driven classification of complex websites and detailed analysis of text, even at the sentence level. The method studies syntax, individual words, verbs, pronouns and nouns. The underlying technologies on which the app is based were developed by IAIS scientists in the THESEUS research program ([www.theseus-programm.de/en/index.php](http://www.theseus-programm.de/en/index.php)). "Customer opinions can be optimally evaluated using our search technology. It can be flexibly adapted for use with all kinds of topics and text. Apps and programs could also be developed for entirely different sectors, such as consumer goods or the automobile industry. 'Eat and Drink' is just one example of how technologies generated under the THESEUS program can be practically applied in the B2C and B2B areas," Knapp explains.

Just what such a B2B application might look like is demonstrated by the experts in the form of "Quote" – a semantic search engine for

quotations. This application has been trained to hunt down quotations by public figures found in online premium news providers. Angela Merkel, Magdalena Neuner or Till Schweiger are just some of the VIPs whose statements can be called up using the app. Users can also search for quotes on specific topics, such as Greece or the euro – "Quote" returns current quotations found on the content of interest. The app also generates a fact file on each person. The file provides a list of the topics on which the person in question has been quoted in recent months. "Press offices are not the only ones interested in 'Quote'. Politicians and managers in the public eye can also use the search engine as a research tool, or to analyze the competition," Knapp is convinced. Researchers will be demonstrating their Smart Semantic Apps in action from March 6 through 10 at the CeBIT trade fair, at the joint Fraunhofer stand located in Hall 9, Stand E08.

Provided by Fraunhofer-Gesellschaft

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