Media Service
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Digital sovereignty:
TU Graz is part of an EU project for independent web searching

Foundation stone for alternatives to Google and Co: The aim of the EU project OpenWebSearch.EU is to initiate an open European infrastructure in web search. In addition to TU Graz, 13 other European research and computing centres are involved.

The OpenWebSearch-EU project, which is now being funded to the tune of 8.5 million euros as part of the EU's Horizon Europe funding programme, is intended to contribute to the noble goals of a digitally sovereign Europe and an open, fair search engine market. The project is coordinated around 14 European research and computing centres by the University of Passau; Graz University of Technology (TU Graz) is centrally involved with the Institute of Interactive Systems and Data Science.

Imbalance in the search engine market

The project idea was born out of concern about the imbalance in the search engine market. The search for information on the internet is dominated by only a few private gatekeepers such as Google, Microsoft, Baidu and Yandex. Over the next three years, the researchers will therefore develop the core of a European Open Web Index (OWI) as the basis for a new internet search machine in Europe. "A free, open and unbiased access to information – these basic principles of web searching have been lost and we urgently need to restore them. That is why we will create an open European infrastructure for searching the web based on European values and rules," says project coordinator Michael Granitzer from the University of Passau and the Open Search Foundation.

Christian Gütl from the Cognitive and Digital Science (CoDiS) Lab at the Institute of Interactive Systems and Data Science at TU Graz continues: "Web searching in Europe is currently heavily dependent on Google. As a private company, Google could always shape search results to its liking, and it already does. But this could become even more massive. If websites are excluded from Google's search index for political or monetary reasons, then they are basically no longer undetectable."

Open search index

The new project is about concepts on how to deal differently with web searching and at the same time introduce more data protection and transparency. Alexander Nussbaumer, also from the CoDiS Lab at TU Graz, adds: "First of all, we have to work on our own search index, i.e. a kind of table of contents of the internet, which, however, in contrast to the directories of previous web search providers, should be open to all. Here we will certainly have to limit ourselves in the beginning, for example to websites of certain countries or on certain topics. Once the index of websites is established, the next step is to develop search applications."

The team at TU Graz in the CoDiS Lab will mainly work on the design and user-centred aspects of the search applications. This includes researching new search paradigms that give users control over search behaviour. The idea is that there are different search algorithms or that you can influence the behaviour of the search algorithms. This could be used, for example, to search specifically for scientific documents or documents with arguments, to include search terms that have been used before, or to include documents from the intranet in the search. Searchers can thus have a say in how the search takes place.

Also a work package of TU Graz is the technical integration of ethical values in the European search index. These include transparency and comprehensibility of search algorithms as well as privacy and access to one's own user data. According to the principle of "ethics by design", ethical considerations are already included in the development of the software. Alexander Nussbaumer continues: "If documents are analysed in advance, the search results can indicate whether they contain problematic content or come from problematic sources. Users should also be able to decide for themselves which personal data, such as location or interests, should be included in the search."

About OpenWebSearch.EU

The OpenWebSearch.EU multidisciplinary consortium of 14 European partners believes that the open web search infrastructure will contribute to Europe's sovereignty in navigating and searching the web. OpenWebSearch.EU is the first project funded by the EU to kick-start tomorrow' web searching. It will start in September 2022, for an initial period of three years. The project is funded to the amount of 8.5 million euros from the European Union's Horizon research and innovation programme under grant agreement no. 101070014. More information on the project is available at https://openwebsearch.eu/.

List of the project partners
1. University of Passau
2. Leibniz Computing Centre of the Bavarian Academy of Sciences and Humanities
3. Stichting Radboud Universiteit, Netherlands
4. Leipzig University
5. Graz University of Technology (TU Graz)
6. German Aerospace Center
7. VSB - Technical University of Ostrava, IT4Innovations, Czech Republic
8. European Organization for Nuclear Research – CERN
9. Open Search Foundation, Germany
10. A1 Slovenija, telekomunikacijske storitve, d. d.
11. CSC-Tieteen Tietotekniikan Keskus Oy, Finnland
12. Stichting NInet, Netherlands
13. Bauhaus University Weimar
14. SUMA-EV - Association for Free Access to Knowledge (e.V.), Germany (suma-ev.de)

About Horizon Europe
Horizon Europe is the EU's main funding programme for research and innovation. It aims to build a knowledge and innovation-based society and a competitive economy, while contributing to sustainable development and the implementation of the European Commission's guidelines.

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