Better Internet Search - The ISIBUD Project

Summary

Better Internet Search project ISIBUD was supported by the Next Generation Internet - NGI Trust project. The project was run in collaboration with Edinburgh Napier University and was completed in July 2020. This resulted in a demonstrator for a unique ad-free privacy-preserving search engine being tested with 100+ live users.

The success of this project has led to the search engine being publicly released as an MVP and it continues to be developed by the company partly supported by a second grant from the NGI Trust. A future release with blockchain used to secure the token-based economy is planned for summer 2021.

Keywords

Search Engine, Privacy-preserving, Google, user focussed

Actors involved in the project

Better Internet Search Ltd collaborated with Edinburgh Napier University to deliver this project and is working with Danish company Partisia Blockchain to deliver the second ongoing project.

The project

Better Internet Search Ltd (BIS) was founded in 2019 by serial technology entrepreneur Dr Gordon Povey with the aim of developing a more user-focussed search engine, where personal data does not need to be gathered centrally and the user has inherent privacy and control of their data. The foundation of the business was laid after receiving funding from the NGI Trust in late 2019. A small development team was formed which included technical support from Edinburgh Napier University (ENU).

Figure 1. Dr Gordon Povey

With two part-time staff from ENU and two full-time, plus two part-time staff from BIS the platform was created and by the end of the project in July 2020, it was demonstrated using live users. The development continued beyond the end of the project and BIS launched an MVP version of the alternative ad-free search engine to paying customers on 22nd December 2020.
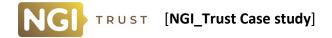
The business has now received additional funding allowing the development of its alternative revenue model which will deliver a privacy-preserving, ad-free search engine requiring no paid subscriptions. There are only a couple of hundred live users on the current platform, but this will be ramped-up significantly once the revenue model has been suitably refined for profitability.

The project aim was to build a demonstrator for the proposed alternative search engine. In collaboration with ENU, a platform which delivers Web searches as well as Image and Video searches was developed. The follow-on project's aim is to deliver the ad-free monetisation model and to secure the token economy system via blockchain.

The problem

The problem with current search engines is that you have become the product that they sell to advertisers, the ads are becoming increasingly unsafe with clickbait, fake news, phishing scams and the danger of filter bubbles. Privacy-preserving search engines such as Duck Duck Go and Ecosia do not harvest your personal data, but you are still exposed to the same unsafe advertising content. The results and general user experience are not well differentiated from the incumbent search engines like Google and Bing.

To achieve proper differentiation (and potential market disruption) we needed a search engine that is not only privacy-preserving, but that makes searching safe again. We need a user-focussed search engine where the user is the only customer to be served. We decided to build our alternative search engine based on a belief that an alternative revenue model exists that does not include advertising.

Our initial key challenge was to build a platform on which we could develop our new revenue model, and this required building an alternative search engine that our target customers would consider to be better than the incumbents' products. The second challenge was developing a working prototype of the alternative revenue model on this platform.

The solution

We began the project in August 2019 with the objective of delivering a demonstrator for our alternative search engine by July 2020. This would include demonstration of the alternative revenue model.

The project was built on the Azure cloud platform and utilised API access to Microsoft's comprehensive database of indexed URLs, which is essentially the same database used by the Bing search engine. We developed our own methods to process and present the data, allowing for future machine-learning work which can further improve the ranking of results.

The business model is unique and instead of advertising, where attracting user clicks is the primary metric, we developed an alternative brokerage model where delivering the requested results becomes the key metric. When there is a cost to delivering results we charge a fee (in the form of tokens), whereas, in the case where a search results in online sales, we can generate a revenue and credit multiple tokens back to the user. With worldwide online sales growing rapidly but on-line advertising revenues slowing, we believed our alternative ad-free model could now be viable. Thus, it was built into the demonstration system to prove its technical viability and to enable it to be further developed and refined.

Results

The final demonstrator was delivered at the end of the ISIBUD project in July 2020. It had been alpha tested with over 100 live users – mainly in the UK but including English speaking users in a number of different countries. The final version included general web search, image and video searches and the prototype of map and product searches. The token-based economy was also implemented enabling users to gain tokens via product searches as well as spend them through organic search.

NEWS   VIDEOS

WEB   IMAGES   PRODUCTS

Figure 2. Better Internet Search interface and search results

The project enabled us to demonstrate a unique user-focussed search engine that is both privacy-preserving and completely ad-free, and which aligns well with the values of the

NGI Trust project. Following completion of the project it was developed into a beta version and a minimum viable product (MVP) version was released publicly on 22nd December 2020. As the product search monetization model was in early prototype form this was removed from the MVP and instead early users purchased tokens.

The development of the monetization has continued towards a commercial build phase supported through additional grant funding from NGI Trust, and in collaboration with a new European partner, Partisia. This project will enable the search engine to be released commercially with the new monetization model fully operational via a cooperation with the company Kelkoo (beta release due in May 2021) and secured via blockchain technology (final release due in July 2021).

Testimonial

Developing a new user-focussed search engine is considered bold and risky, but NGI Trust were willing to support this, and the end result has clearly been very positive. The coaching and support for IP and networking has been excellent and resulted in the plans evolving into a commercially viable roadmap.

Computing magazine recently tested the search engine and noted "Computing tried the Beta, and it is certainly very quick and accurate, although of course this was not the production version."

The follow-on support funding from the NGI Trust has enabled the original demonstrator platform to be turned into a commercially viable product that will be released in 2021.

Future plans

On the conclusion of the current commercial project supported by NGI Trust, the company will release a new version with the full product search supported business model and with the token system secured on blockchain technology. The search engine is potentially disruptive because it is the first such product to have a working monetisation model that is both ad-free and subscription free. Further developments will focus on localising searches, especially product searches, enabling users to easily find sustainable and more locally sourced products, and to rank results by a number of ethical metrics.