

Using SEMANTIC-BASED **AI** to generate a template in the Finnish language

The organisation

The Finnish Population Register Centre (VRK) promotes digitalisation in Finland. The uninterrupted and smooth operation of the public entities and NGOs that fall under the organisation's responsibility is vital for the functioning of Finnish society. Along with other duties, VRK runs and continuously develops **Suomi.fi**, a website that provides information about public services for citizens and businesses in Finland. Details of the private and NGO operators that interact and cooperate with the public sector can also be found on Suomi.fi.



The service descriptions in the Finnish Service Catalogue (FSC) database are created and managed by the service providers themselves. The service providers' employees who write the descriptions comprise a ca. 1,500-person decentralised, information-producing network representing more than 500 organisations. As new service descriptions are added to the FSC database, or existing descriptions are updated, the information becomes accessible on the Suomi.fi website. The FSC content is open data; freely reusable by third parties.

AKU	1,892	12,349,000
SKK	3,480	238,681,000
HPL	1,062	85,678,000
KEE	485	8,349,600
MAH	8,549	189,301,000
OSK	5,402	102,698,000
TIE	890	24,697,000
WRO	5,280	74,002,000
AHD	2,434	57,610,000

THE SOLUTION

The Suomi.fi editorial team oversees the service description content, its quality and adherence to the FSC content rules. However, as of October 2019, there are more than 25,000 service descriptions and over 100,000 service delivery channels, including:



E-SERVICE



PHONE



**SERVICE
LOCATION**



**IN THE
FSC**

**AND MORE
ADDED
EVERY DAY**

To reduce the editorial board's workload,

VRK decided to create service description templates for various services in the FSC. VRK specifically focused on the local services that all Finnish municipalities are required to provide by law. These typically include social and health services for families, the disabled and the elderly, but also cultural services, such as libraries. The descriptions of these services need to be uniform and semantically interoperable. However, prior to the project there was significant room for improvement.

VRK reasons that offering uniform service description templates will improve the accuracy of service descriptions. This will reduce the need for the editing of descriptions and hands-on guidance for service providers, as well as improving the overall quality of content available on Suomi.fi.



Suomi.fi

A website that provides information about public services for citizens and businesses in Finland.

Due to the huge volume of services listed on the website, creating the templates manually would consume too much of the editorial board's time. To solve this problem, Digital Workforce developed a semantic-based AI solution for VRK that can automatically pick out contextually similar documents from VRK's service descriptions. The identified documents are then used to create a single topical summary document, which is then scanned to eliminate reiteration, redundancy, and out-of-topic sentences. The finalised summary can then be used as a template and distributed to people in the FSC network who work for the hundreds of service-delivering organisations when they write their service descriptions.



STRATEGIC INTELLIGENT AUTOMATION

for the Finnish Population Register Centre

At the beginning of 2020, the Finnish Population Register Centre and local registry offices will merge to form the new Digital and Population Data Services Agency. The Digital and Population Data Services Agency will promote the digitalisation of society, secure the availability of information and provide services related to customers' life events. Operations will be particularly focused on implementing national approaches, uniform practices, and exploiting the new service opportunities offered by digitalisation. The Digital and Population Data Services Agency will be a national authority operating out of several regional offices.

VRK and the future Population Data Services Agency

are bound by the Public Administration's general customer service strategy set by the Ministry of Finance. According to the strategy, Public Administration organisations must provide their customers with attractive e-services. The Ministry of Finance advises public organisations to focus on user-centric design, service process innovation, service interoperability, security, and data protection when building e-services.

VRK's management sees robotics

and other cognitive technologies as essential tools for reaching the organisation's current and future strategic goals. VRK seeks to develop solutions that enable the best build and delivery of e-services, improve cooperation between public administrations, and help to make internal processes more efficient.

THE MAIN GOALS

of the new Digital and Population Data Services Agency:

01

Offer citizens more comprehensive and life-situation-oriented services

02

Promote the digitalisation of public administration in Finland

03

Develop the public administration's cooperation across customer service operations

The next steps

By October 2019, the AI and Natural Language Processing had been successfully tested and used to create templates for two services listed on Suomi.fi. The two services were categorised by service type. The project has helped VRK to build internal knowledge about AI that will make it easier for it to identify where similar AI solutions could be deployed.

A new digital strategy, including a plan for the use of AI, will be formulated

by the parties which form the new Digital and Population Data Services Agency during the initial stages of the new national agency. Objectives related to the use of AI will likely include harmonising processes and improving information flow. It is likely that the local registry offices that will merge with VRK also have many resource-intensive processes of their own where cognitive technologies could be applied to create cost savings and improve customer service.