ONIRI

PROJECT PORTFOLIO

17 years of hardcore software engineering

v 2024.1

Industries
we were happy to work with

- ☑ **Public Employment Services**
- ☑ **Classifieds (E-commerce)**
- ☑ **Loyalty programs**
- ☑ **Retail and Manufacturing**
- ☑ **Broadcasting**
- ☑ **Traffic management**

Reliability
is our main KPI

Our major clients come from the Netherlands, from which we have adopted the **transparent** and **direct business culture**. We have built strong and long-lasting business relationships - as long as 17 years. We persist until the common goals have been reached.

WCC

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LOGOS TRGOVINE

EyeQuestion® Innovate Smarter and Faster

KEEN INTEGRATIONS

Public Employment Services Framework

(Client) WCC group, The Netherlands
(End-users) Public employment services, jobseekers, employers, recruitment consultants
(Duration) 7+ years
(Team size) 5 to 10

Objectives

Build a set of advanced Job Matching, Referral, and Gap Analysis modules to help Governmental Public Employment Services in facilitating the employment of different target groups. Build Analytical tools to examine and visually present the state of the labour market.

Achievements

Entering a long-lasting strategic partnership on this project, NIRI was entrusted with the development of a constellation of 10 different yet related modules: foundation modules were partially developed, and several modules had to be built from scratch. Development was performed through Scrum project management methodology with a strong focus on Quality Assurance.

Our client successfully deployed the Framework in multiple countries across Europe, Asia, and the Americas.

Tech

Java 11, Spring, Spring Boot, Hibernate JPA, AngularJS, Angular, Maven, Mockito and JMockit, Jenkins, Sonar, Docker, Selenium + Cucumber, Bitbucket, Swagger

WCC

Taxonomy Manager

Client WCC group, The Netherlands

End-users Authorities managing Standard Classification of Occupations and Skills

Duration 3+ years

Team size 5

Objectives

Public Employment Services utilize Standard Classifications of Occupations and Skills such as **ESCO** or **ISCO** taxonomy. Such taxonomies need frequent changes and adaptation to the needs of specific legislations, regions, and markets.

Build a system which will support (1) regulated and efficient change management of taxonomies and (2) offers seamless integration of such taxonomies with other parts of the Public Employment Services Framework and 3rd party systems.

Achievements

After taking the initial project from our Client, the development was completed over the period of 3+ years adding numerous new features. The work was performed in close cooperation with the client's designers and product managers. Taxonomy Manager is an integral part of our client's offering in the Employment domain and has been deployed to multiple clients.

Tech

Java 11, Akka event sourcing, Spring Boot 2.7, Angular 14

WCC

Managed Input Completion Service

Client	WCC group, The Netherlands
End-users	Jobseekers, employers, recruitment consultants, taxonomy managers
Duration	1 year
Team size	5

Objectives

Users have a challenge of choosing the right name when typing-in job titles or skill names. This is due to the many different ways one specific job or skill can be named.

Develop a highly performant and scalable service which will provide meaningful input completion suggestions based on the text already typed in. For the service, develop a managing application for the maintenance of the "interchangeable words clusters" based on which input completion suggestions will be generated.

Achievements

Development of the input completion service asked for many performance optimizations in order to deliver the required responsiveness of the service. The service management application, next to all the data management functionality it offers, also comes equipped with comprehensive statistics about the usage of the service.

Input completion service became a standard part of our client's Employment product suite.

Tech
Java 11, Spring Boot 2.7, Angular
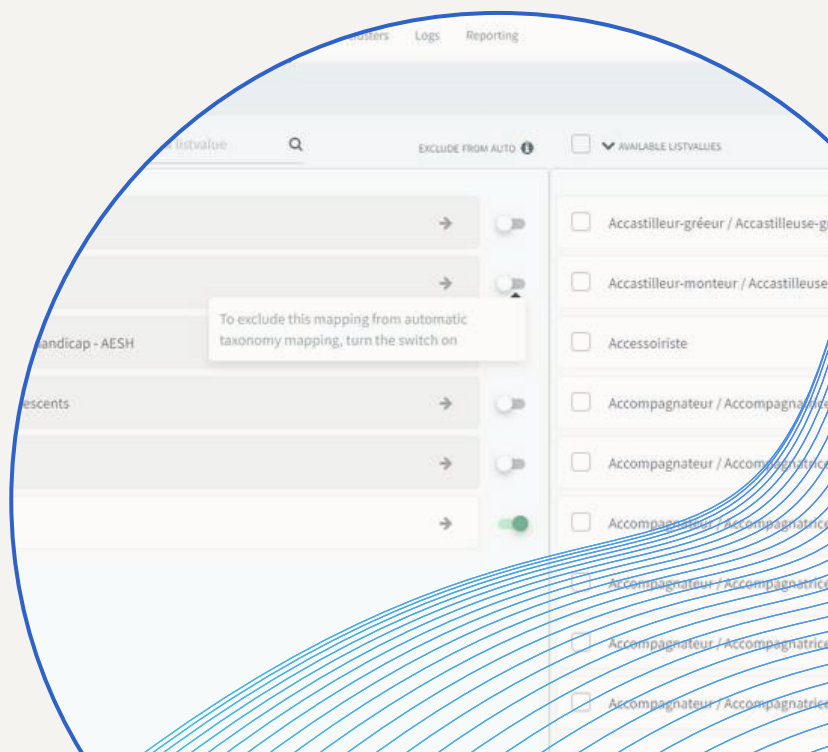
Employment Web Portals

Client WCC group, The Netherlands
End-users Public employment services, jobseekers, employers, recruitment consultants
Duration 5 years
Team size 7 to 12

Objectives

Our client's business strategy was to provide a turn-key solution for Public Employment Services and Staffing Agencies. The vision was to create a set of Web applications – Portals - on top of the existing Employment Platform Services Backend: portals for jobseekers, employers, and employment agents.

Achievements

Portals, i.e., Web applications, were built using a predefined architecture based on Spring Boot microservices and Project Reactor. NIRI successfully conquered the predefined paradigm and developed all the intended functionality and all different types of portals. This includes user registration and user management, job search, job match, and other hiring enablement activities provided by the Employment Platform Services.

Web Portals are deployed in South Amerika and Asia.

Tech

Java 11, Spring 5 (Spring Boot, Spring Cloud, Spring Reactive Web, Spring Data JPA), SOAP, REST, RxJs, Angular 11, Couchbase 6, Keycloak 12, ActiveMQ 5, Actonomy xMP 5, Automating testing (Mockito, Fluentlenium, Selenium, Karma, Jasmin), AWS, Git, Maven, NPM, Jenkins

WCC

Future Up

Client WCC group, The Netherlands
End-users Public Employment Services, Jobseekers
Duration 1 year
Team size 7

Objectives

Our client envisioned a Web application to be used in Costa Rica for providing skills learning pathways for individuals based on employer needs. NIRI was asked to develop the app.

Achievements

Technical implementation of the application was fully entrusted to NIRI – building it from scratch. Results were delivered and deployed as expected – helping the project become **another success story** of our Client.

Tech

Java 11, Spring 5 (Spring Boot, Spring Data JPA), AWS Java SDK, REST, Angular 11, Automating testing, Mockito, Fluentlenium, Selenium, Jasmin), Postgres database (12 and above), HashiCorp Consul, Strapi, CMS, Keycloak 12, AWS Fargate, Webpack 4, Docker, Git, Maven, NPM, Jenkins

Audience Measurement System (backend)

Client Multinational media company (non-disclosure)
End-users Streaming media publishers
Duration 6 months
Team size 3

Objectives

As a part of the development team, build the backend of the Web Application which will aggregate and display real-time and historic viewership data of a media broadcaster.

Achievements

NIRI team built the backend of the system using the microservice architecture. Raw viewing data from various sources was collected, aggregated, and transformed into rating and share values. REST endpoints were provided for the front-end team to get the needed information.

The system was immediately deployed in two countries where the client had its media operations.

Tech

Java 17, Gradle, PostgreSQL, ClickHouse

Hierarchical Text Classifier

Client Quable B.V. (KupujemProdajem.com)

End-users Users and administrators of C2C e-commerce platforms

Duration 1 year

Team size 5

Objectives

Our client was not satisfied with its existing search-based ad classification tools so far used in production. NIRI was asked to propose and build a modern and performant AI based classification solution.

Achievements

NIRI has developed a general-purpose AI text classifier capable of choosing Top-N best categories for an ad being published on the platform. The developed classifier supports an arbitrary hierarchies of categories, and has excellent performance with modest resource consumption.

When trained on Clinet's data, the Classifier achieved very high accuracy of more than 90%. The classifier includes an explainability function making it possible for humans to inspect how was a classification decision made.

The process of AI model training for the classifier is a bit more resource intensive and is thus periodically performed in-house by NIRI. Demo of the classifier is available at demo.niri-ic.com

Tech

Java, C++, Liblinear

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Correct & Complete Service for Classifieds

(Client) Quable B.V. (i.e., KupujemProdajem.com), The Netherlands/Serbia
(End-users) Customers using the C2C e-commerce platform
(Duration) 8 months
(Team size) 2

Objectives

Develop a Correct & Complete service to help users when typing-in product search queries in the context of a C2C e-commerce site. The service must provide suggestions based on what is currently being sold on the C2C site by means of real-time updates. The service should also be able to handle typos.

Achievements

The service was developed with special attention to performance and scalability. It comes equipped with the ability to perform near real-time updates (addition and removal of advertisements), without the interruption of the service.

Tech

Java, Docker-Swarm, Nginx, Apache ActiveMQ

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Morphological Search

(Client) Quable B.V. (KupujemProdajem.com)
(End-users) Users of search engines
(Duration) 9 months
(Team size) 3

Objectives

Finding a specific item in a multimillion collection of items available on a C2C site can be challenging due to many ways an item can be named. Synonyms, cases, gender, plurals, dialects, all that combined with typos are the search challenge to overcome. NIRI came forward and offered a solution to this problem: the idea was to create a search system which will "see through" these countless morphological alternatives of a single phrase.

Achievements

NIRI has first developed a PoC and then the full methodology and a set of tools to solve the problem. The semantic AI technique known as Word Embedding was combined with a set of techniques for measuring syntactic similarity of words – both put in use to automatically generate so called morphoClusters – groups of words "meaning the same thing".

The approach gave excellent results when applied to the huge historic database of ads of our client (tens of millions of ads) resulting in the creation of several thousand morphoClusters.

To convince the Client to put this tool in production, an in-depth analysis was also performed to observe the impact which the use of morphoClusters will have on the search behavior of the KupujemProdajem.com. The system was given a green light and successfully deployed.

Tech

Java, Python

Parking Enforcement System

Client ARS Traffic & Transport Technology
End-users Parking enforcement personnel
Duration 1.5 years
Team size 2

Objectives

Our client was changing software development providers at the stage where the project was partially completed. NIRI was asked to take over, finish the development, and to help with the deployment to new customers.

Achievements

NIRI successfully took over the project and completed the development. The software was responsible for visually overseeing the process of automated license plate recognition, submission of suspicious situations to human validators, and the follow up issuing of the fines. User interface included map with geolocation of the bad parking cases and the location of the parking recording vehicles. The system communicated with several external services to acquire all the necessary data.

During our engagement the system was deployed to three Dutch municipalities.

Tech

Java, Spring, React

ARS | Traffic & Transport Technology

Manufacturing Scheduling (consulting)

Client Food packaging factory in Serbia
End-users Manufacturing planning personnel
Duration ongoing
Team size 2

Objectives

A food packaging company in Serbia hired NIRI to help in the selection and the implementation of the selection of the software for Scheduling Optimization for Production.

Achievements

NIRI analyzed the factory needs and modeled the problem of manufacturing optimization. NIRI participated in the selection of vendors of the production scheduling software. Upon the selection of the vendor from Belgium, NIRI took the task of remodeling the data in the factory's ERP system into the form expected by the planning software.

For this project, NIRI partnered with a professor from the University of Niš, Serbia - a specialist in the field of optimization algorithms.

Go live is planned for autumn of 2023.

Tech

Python

UNDISCLOSED

Inventory optimization

Client Logos Trgovine
End-users Inventory planners, procurement personnel
Duration 1 year
Team size 3

Objectives

The client wanted to improve its retail business by optimizing its inventory in several retail locations as well as in the central distribution warehouse.

Achievements

NIRI developed an AI based system which uses the history of sales to predict the sales in the coming weeks, and based on that, proposes the exact time and the amount of the goods to be procured. Numerous challenges had to be solved including the data cleansing approach, and the treatment of "similar products". A Web application was built which also included stock level alarms, detection of "passive articles", and other tools for managing the inventory optimization process.

Tech

Java, Spring, Python, Angular

	Proizvođač	Dostava	Stanje
	INTERFLEKS	COL	
ROFY 25CM BEOROL	BEOROL	Eksterna ▾	4 (92) ko
KRIL PODLOGA 1/9 MAXIMA	MAXIMA	COL ▾	27 (219)
M 16 25 KG CERESIT	CERESIT	COL ▾	10 (399)
GLETOLIN 25 KG MAXIMA	MAXIMA	COL ▾	44 (-34)
KREP TRAKA 50*50 BODY	BODY	COL ▾	17 (411)
GER PLASTICNI BEOROL	BEOROL	COL ▾	4 (6 ko
SPRIC KIT 5+1 BODY	BODY	COL ▾	ko
SINTELAN 130 GR.	ELAN	COL	6 (114) ko
DRZAC SMIRGLE SA MEHANIZMOM TELE KOPSKI BEOROL	BEOROL	Eksterna ▾	3 (45) ko
ESIT CL 51 5 KG	CERESIT	COL ▾	1 (971) ko

Software platform for sensory and consumer research

(Client) EyeQuestion Software (Logic8 B.V.)
(End-users) Leading organizations globally, maintaining and improving the quality of their products
(Duration) 2023 - ongoing
(Team size) 3

Objectives

Client hired NIRI to help expedite software development.

Achievements

Through tight collaborative work NIRI has:
- implemented improvements to the development process
- improved the quality of the output
- increased the development capacity of the client

Tech

Java, Spring, MySQL, Microsoft SQL

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Advanced plugins for AFAS ERP system

Client KEEN Integrations BV
End-users Companies using or asking for AFAS ERP plugins
Duration 2023 – ongoing
Team size 2

Objectives

The client needed capacity growth for both backend and frontend development as well as development process modernization.

Achievements

NIRI analyzed client needs, proposed and implemented changes to elements of the development process, and increased the capacity of the client by engaging two software engineers. During the initial stages, NIRI also engaged a software architect.

Tech

Kotlin, Spring, React, PostreSQL

KEEN INTEGRATIONS

Humanity depends on technology.
Build it and use it wisely.

Together.

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