

THE BRIEF HISTORY OF NEXTVAL LTD.

The company was founded in 2007 to provide information technology services, such as architectural planning, consulting, and software development.

In the early years, long-term contracts with established partners led to a financially stable and predictable business model, which served the company well. Yet in 2018, the owners decided to try out a new, more inspiring model, shifting the company's focus and work methodology to a more agile and modern approach, while keeping the experience and values learned in the past.

The key phrase of this transformation comes from the company's name the NextValue; we aim to provide the solutions of the future. The company's profile was vastly widened, new talent was brought in, and a new technology stack adopted. Now we work with more than 20 developers and several proven contractors. The transformation proved to be the right move, as the many successful projects and satisfied customers in recent years indicate.

OUR VALUES

Our core value is quality and innovation. We pride ourselves in applying the latest technologies to solve the challenges laid out before us in a future proof manner.

Our development culture endorses innovation and progress; we distinguish ourselves by introducing new technologies and concepts to a well-established, more traditional market. NextVal developers are encouraged to share their ideas and pursue the latest technology trends while working on their projects under the experienced management's guiding hand.

We believe that good software should not only satisfy the present requirements of a customer but also should have the ability to adapt to future changes. Therefore we are firm believers of the concept "choosing the right tool for the right job" with our vast technological knowledge; we always aim to find the best solution for the given problem.



TECHNOLOGY AND EXPERIENCES

Our knowledgebase comes from two primary sources: our past project experiences and our R&D activities in strong collaboration with the academic sector.

We provide complete solutions from architectural planning to development and operation. We have substantial experience in both front and backend development and infrastructure planning as well.

The core of our technology stack is based on open-source projects. We write code in Java, C#, TypeScript, and JavaScript. Our database choices include more traditional RDBMS such as Oracle or Postgres and newer, NoSQL variants such as ElasticSearch or MongoDB and Redis. We are fluent in Cloud Native and Container technologies such as Kubernetes and Docker.

Our academic activities also mean that we have a strong understanding of the theoretical background of the field, which is a unique advantage in the market. Several of our colleagues have international publications and patent applications and given classes at the Budapest University of Technology and Economics. We have experience in the field of Machine Learning, Cyber-physical Systems, Fault-Tolerant Systems, and Distributed Systems.

PROJECT REFERENCES

Below is the list of notable projects done by our company or participated by our experts in a leading position.

Digital Property-Register

Date: 2019 –

Short description: The aim of the project is to establish the electronic administration of land procedures with creating the necessary legal framework and to consolidate the existing land registries. The task of the project is to develop a unified electronic data and record management system with an efficient connectivity to various government databases, to serve the connected registers with land registry data and to digitalize the real estate archives.

Technologies: Java 11, Spring Framework, Camunda, Oracle, Docker, Kubernetes, Rancher, KeyCloak, Elasticsearch, Kibana, Logstash, Angular

Tasks: Logical and physical architecture design, professional management of execution, development tasks, coordinating multiple subcontractors and integrator work. Develop and support a workflow based (Camunda) development methodology.

Healthcare Outpatient Support System

Date: 2018 -

Short description: The aim of the National Healthcare Service Centre with the project is to develop the components within the prescribed framework for an Outpatient Support System, an Asset Management Tool and a Central Appointment System and to implement this modern IT system to support the integrated outpatient care processes for the care centres involved in the project.

Technologies: Java 11, Spring Framework, Camunda, PostgreSQL, Docker, Kubernetes, Rancher, KeyCloak, Elasticsearch, Kibana, Logstash, Angular

Tasks: Logical and physical architecture design, professional management of execution, development tasks, coordinating multiple subcontractors and integrator work.

International pharmaceutical company's internal workflow optimization system

Date: 2018

Short description: Designing and implementing a system to support the optimization and management of internal workflows of a foreign-based pharmaceutical company.

Tasks: Architecture design, execution, operation support

Implementation of a geographical information application for a U.S public library based on demographic databases

Date: 2016 - 2017

Short description: The development of a complex and efficient reporting service and interface based on the specification of the American customer. The completed system provides libraries with competent tools to determine their target audiences and for making strategic decisions. As part of the project, real-time complex queries had to be planned and implemented efficiently on large heterogeneous databases.

Technologies: Node.JS, Express Framework, PostgreSQL, Docker, Angular

Tasks: Physical architecture design, databases design, professional management, and execution of implementation

Infrastructure design of a video streaming platform

Date: 2016 - 2019

Short description: Our colleagues were part of a project regarding the design and development of infrastructure of a high-traffic video streaming platform. The main requirements for the system was high availability and flexible scaling.

Technologies: Kubernetes, Docker, Nomad, Consul

Tasks: Infrastructure design and scaling, configuration

Big Data migration POC for a large company

Date: 2015 - 2016

Short description: Migrating data from previous fleet tracking solutions into Big Data environment.

Tasks: Creating Big Data test lab, design and develop migration tool, migration

Development of a mobile application for remote audio recording and position tracking

Date: 2015

Short description: Application for AndroidOs and the development of related background systems. The aim of the project was to track (position, activity etc.) and control (start/stop remote audio stream, start/stop tracking etc.) mobile devices. The main requirements for the system was high availability and high fault tolerance communication.

Tasks: Specification preparation, architecture design, professional management, and execution of implementation

Product development of an End-to-End test automation tool

Date:	2012 – 2018
Short description:	A stand-alone End-to-End test automation tool based on the company's own designs and requirements specification. A fully virtualized Test Lab and toolkit to support automated testing of applications developed with various technologies. The product implements the execution of tests, the combinatorial creation of test cases and the complete administration process with high-level automations. It is able to test BlackBox, WhiteBox and performance of applications running on various platforms (Windows, Linux, AIX, Mac), designed and developed on different technologies (MS, Java, Delphi, Web, Oracle, J2EE, SOA etc.).
Technologies:	Oracle SOA, J2EE, Python, Web2, Java, Ajax, Spring, c/C++/C#, Delphi, Visual Basic, Apache, SAP
Tasks:	Architecture design, professional management, and execution of implementation

Hungarian State Treasury - Agricultural and Environmental Information System project

Date:	2013 – 2014
Short description:	Design and preparation of a Sector-wide Information System and institutional-level SOA architecture within an EU funded project led by the Hungarian State Treasury. The information system provides a sector-wide repository and a geographic information system service.
Technologies:	Oracle DB, BI, Oracle SOA, J2EE, Spring EAI, GIS, Apache
Tasks:	Architecture design, professional management, and execution of implementation

Hungarian Oil and Gas PLC (MOL) - Retail Information System (RIS) HeadOffice-BackOffice (HBO)

Date:	2004-2013
Short description:	MOL RIS HBO is a retail system with high-reliability and high-availability designed with J2EE architecture created as a result of a two-year long development project. The system is built in a 3-tier, fault-tolerant, clustered server-client architecture with Oracle RDBMS and Oracle Weblogic servers on IBM AIX operating system. The system handled all business transactions online, data storage and processing took place solely on the server-side components, every event at the service stations were implemented in real-time management on server-side servers. Immediate and scheduled data delivery to external connected systems was also implemented.

Tasks: Architecture design, professional management, and execution of implementation, coordination, and management of operation support

National eHealth Infrastructure (EESZT)

Date: 2010 – 2011

Short description: Professional designing of IT developments projects of the healthcare sector on various EU funded projects. Planning a sector-wide reporting and repository, creating a sector-wide model of information flow and B2B communication then development of an inclusive National eHealth Infrastructure concept. Synchronization of the framework and goals of various eHealth related projects and the National eHealth Infrastructure concept. Defining the IT requirements and specifying the connection of different projects based on the concept of the National eHealth Infrastructure. Completion of a detailed feasibility study and an IT plan on two projects.

Technologies: SOA, Enterprise IT, HA technologies, EIT monitoring

Tasks: Concept design, IT execution, professional management of architecture design

Electronic archive

Date: 2009 – 2010

Short description: The conceptualization and the IT planning of the Electronic Archives System for the National Archives of Hungary and the Budapest City Archives led by Kopint-Datorg (Government owned infocommunication service provider). Creating the framework of the implementation as a Technical Annex to the procurement notice.

Technologies: SOA, J2EE, OAIS kompatibilis repository.

Tasks: Concept design, planning of IT execution, architecture design

R&D REFERENCES

Our colleagues have the following publications and patent applications.

Publications

L. V. Jánoky, J. Levendovszky, and P. Ekler, **"An analysis on the revoking mechanisms for JSON Web Tokens"** International Journal of Distributed Sensor Networks, vol. 14, no. 9, p. 1550147718801535, 2018.

L. V. Jánoky and P. Ekler, **"Participatory Systems - A Paradigm Shift to Answer the Challenges of an Integrated World"** INTERNATIONAL SCIENTIFIC JOURNAL INDUSTRY 4.0, vol. 5, pp. 208–211, 2017.

L. V. Jánoky, **"Participatory Systems and Their Potential for IoT Applications"** in Proceedings of the Automation and Applied Computer Science Workshop 2017 (AACS'17), 2017, pp. 103–114.

L. V. Jánoky and P. Ekler, **"The Analysis of Participatory Computing in Dynamic Web Environments"** in SAMI 2017: IEEE 15th International Symposium on Applied Machine Intelligence and Informatics, 2017, pp. 67–72.

L. V. Jánoky, J. Levendovszky, and P. Ekler, **"Designing participatory computing systems using statistical modeling"** in Proceedings of the Automation and Applied Computer Science Workshop 2018, 2018, pp. 86–92.

L. V. Jánoky, J. Levendovszky, and P. Ekler, **"Application of Statistical Modeling and Participatory Computing for Private Blockchains"** in 18th International Multidisciplinary Scientific Geoconference SGEM 2018 Conference Proceedings, vol. 18, 2018, pp. 149–156.

L. V. Jánoky, J. Levendovszky, and P. Ekler, **"New Solutions in the Design of Private and Permissioned Blockchains"** in Proceedings of the Automation and Applied Computer Science Workshop 2019, 2019, p. 154.

Burján Dezső, Gönczy László, **"Data quality and usability requirement analysis with visualization techniques and domain-specific constraints"** In Proceedings of the 26th Minisymposium of the Department of Measurement and Information Systems (2019) pp. 8-11.

Burján Dezső, Gönczy László, Pataricza András, **"Data Analysis Based Dependability Assurance in Cyber-Physical Systems"** In Conference on Software Technology and Cyber Security STCS 2019

Patent applications

M. Medard, L. Jánoky, and P. Braun, **"System and Technique for Generating, Transmitting and Receiving Network Coded (nc) Quick Udp Internet Connections (quic) Packets,"** WO/2019/090289, 09-May-2019.

J. Szöllősy et al., **"Eljárás és berendezés kis mágneses terek és térváltozások mérésére, valamint magnetométer szonda,"** HU216204B, May 28, 1999.

KEY PEOPLE

While our strength comes from the diverse knowledge of our colleagues and the environment that supports them, some of the key people are introduced in the following section.

Chief Executive Officer

Name: Jánoky László

Birth date: Budapest 1962.08.10

Positions

2002 ->	Innosys Kft. owner, director
2007 – 2018	ProofIT Kft. owner, director
2007 ->	NextVal Kft. owner, director

Relevant experiences

Operating systems:	IBM AX, HP-UX, SCO, Novell, Linux, MS-Windows, QNX, OSX
Programming languages:	C/C++, PL/SQL, Python, SofTC, VFP, x86ASM
Databases:	Oracle RDBMS, MySQL, MS-SQL, PostgreSQL

DATE	CLIENT	ACTIVITY / PROJECT	TASKS AND RESPONSIBILITIES
2019->	LTK	E-INGATLAN project	Project coordination, Architect
2018->	ÁEEK	E1 JTR project	Project coordination
2017	MKB	Performance testing and SQL code-review	Project coordination, Architect
2017	ÁNTSZ	IT Screening	Architect
2016->	IdomSoft Zrt	Introduction of automatic testing framework	Project coordination
2016	AUDI Motor Hungary	Developing and introducing the ARSCAM system	Project coordination, Architect
2016->	Szerencsejáték ZRt.	Betting terminal system automatic testing	Project coordination
2016->	X-Apt Zrt.	Introduction of automatic testing framework	Project coordination
2015-2016	Magyar Államkincstár	Introduction of automatic testing for the KSzR system	Project coordination, Architect
2014-2015	MÁV SzK	JÉ Project: performance testing and screening	Project coordination, Architect
2014	OEP	Increasing the reliability model, introduction of a SOA architecture	Project coordination
2014	MTVA	Testing and review of the Provys system	Project coordination, Architect
2013-2014	MVH	Developing the MEKIR system, organization level architecture design	Project coordination, Architect
2012-2013	Gyemszi	Conceptual and technical design of the cooperative space (later known as EESzT)	Project coordination, Architect
2012-2013	Kopint-Datorg	Designing the digital archive	Project coordination, Architect
2012->		Developing an automated testing framework	Project coordination, Architect
2012	KIFÜ	KGR projekt screening	Project coordination, Architect
2007-2013	MOL Nyrt.	Developing and maintaining the RIS HBO system	Project coordination, Architect
2010	Lombard Lízing	IT maintenance, rationalization and audit	Project coordination, Architect
2004-2007	MOL Nyrt.	Developing and introducing the RIS HBO system	Developer, Architect, Project manager
2004	Raiffeisen	Oracle RDBMS migration	Developer
2003	GySEV-Raaberlag	Developing a warehouse management system	Developer, Architect, Project manager
2002-2003	Axel Springer	FotoCash real-time photo management system	Developer, Architect
2002	Universum Kft.	CD catalog and on-line sales system	Lead developer, Architect, Project manager
1998-2002	Láng Kft.	Introduction of an ERP, designing a logistic system, developing and maintaining a CD based and online sales system	IT Director
1994-1998	Centrál Lízing Kft.	Design and development of an integrated leasing system	Developer, Architect
1995		Real-time data collection system	Developer
1992-1994	Mátrix Kft.	Development and design of a multiplatform ERP	Developer, Architect
1990-1992	Okta Kft.	3D magnetic field measuring system	Developer

Chief Business Consultant

Name: Kulics Tünde

Birth date: Debrecen, 1968.09.10.

Relevant experiences

Project management	PRINCE2, PMBOK, SCRUM, KANBAN, LEAN
Workflow management	Camunda, BPMN1, BPMN2, Enterprise Architecture, Visio, Aris
Processes for the management of IT	COBIT
IT service management	ITIL

DATE	CLIENT	ACTIVITY / PROJECT	TASKS AND RESPONSIBILITIES
2019->	Lechner Knowledge Center	E-INGATLAN project	Chief Business Consultant
2015-2018	Hungarian State Treasury	Bank account management Project	Project Manager
2014	NKM Natural Gas Supplier	Fault management system Project	Scrum Master
2013	National Authority for Consumer Protection	National Authority for Consumer Protection System Project	Scrum Master
2012	MVM Electric power industry company	SAP 6.0 Project in Paks Nuclear Plant	Business Analyst
2009-2011	ELMÜ Electric utility Company	SAP ISU, FI, CO, SD Systems Implementations Project	Business and workflow Consultant
2008	Unicredit Bank	Factoring Systems Implementations Project	Project Manager
2007	Allianz Insurance	Workflow management Project	Workflow Consultant
2005-2006	Aegon Insurance	Workflow management Project	Workflow Consultant
2003-2004	OTP Bank OTP Voluntary Pension Fund OTP Property management	Workflow management Project	Workflow Consultant
2001-2002	Merkantil Bank	Bank account management Project	Chief Business Consultant
1998-2000	PK Claim Management Ltd	Bank account management Project	Chief Business Consultant/ Bank branch Manager
1996-1997	Realbank	Bank account management Project	Chief Business Consultant/ Head of forint and foreign currency account department
1990-1995	Budapest Bank	Bank account management Project	Chief Business Consultant/ Bank branch Manager

Chief Technology Officer

Name: Jánoky László Viktor

Birth date: Budapest 1991.07.29

Positions

2018 -> NextVal Ltd. CTO

Relevant experiences

Programming languages:	Java, Scala, JavaScript, Python, C#
Frameworks:	Spring Framework, Express.JS, Angular
Infrastructure:	Kubernetes, Docker, AWS, GCE, OpenShift
Databases:	PostgreSQL, MySQL, Oracle, MongoDB, Redis
Research areas:	Machine Learning, Distributed Systems, Blockchain technologies

DATE	CLIENT	ACTIVITY / PROJECT	TASKS AND RESPONSIBILITIES
2019->	LTK	E-INGATLAN project	Architect, Lead Developer
2018->	ÁEEK	E1 JTR project	Architect, Lead Developer
2018	MOL Nyrt.	MOL Go Application	Architect, Infrastructure advisor
2017-2018	MIT / CodeOn	Integrating the KODO Network Coding library to Google's QUIC protocol for forward error coding (R&D project)	Researcher, Development coordinator
2017	Roche Hungary	Developing a medical sales representative software	Architect, lead developer
2017	AutSoft Zrt.	InfoHUB mobile content management system	Developer
2016-2017	FGSZ Zrt.	Universal HMI for embedded industrial applications	Lead Developer
2015-2016	Magyar Telekom	Real-time mobile advertisement platform using cellular data	Lead Developer
2014	National Educational Authority	Interactive skill developing software	Developer
2014	TIT Telc	Foreign language teaching software	Developer