

Konstantin Burkalev

Principal Software architect, Team/Tech Lead

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👤 PROFILE

Experienced technical professional with over 20 years in software architecture, development, and project management. Proven success in establishing development workflows from scratch in startups and enterprise companies, leading teams of 5-25 people, cultivating collaborative environments, and providing effective leadership with a deep understanding of the IT landscape. The WAMP Protocol editor and implementations author, active open source contributor.

🧩 KEY COMPETENCIES

- Strategic System Architecture Design with a keen focus on component systems, emphasizing security, reliability, and maintainability.
- Technical Expertise across diverse technologies and programming languages, spanning database design, API architecture, software security, UI/UX design, and home automation.
- Achieving an efficient development process, using knowledge sharing, coaching, and mentorship to grow the team and establish a high-performance organizational culture.

🧠 SKILLS

Software Architecture, API Design, Software security, Database design, UI/UX Design, Development workflow, Project management, Mentoring, Home Automation, Internet of things, Workflow automation, Linux, Golang, JavaScript, Dart/Flutter, PHP, Python, Lua, Node.js, PostgreSQL, MySQL, Oracle DB, RabbitMQ, Redis, Ansible

📁 PROFESSIONAL EXPERIENCE

Jul 2022 – Dec 2023

Senior Software Architect

Simple Things, USA, IoT Platform 🔗

Formulated and Introduced an exhaustive security strategy for an IoT platform.

- Architected End-to-End Encryption across all system components, including services, web portal, and mobile app.
- Strengthened platform security by designing and implementing a customized WAMP Attribute-Based Access Control (ABAC) system.

Tech stack: Yocto-based Linux build, WAMP Protocol, Golang, Python, JavaScript, Node.js, Vue.js, Dart/Flutter, Arduino/C++, PostgreSQL, AWS.

Jun 2020 – May 2022

Chief Technical Officer

"Postnauka" Publishing House, edTech Company, LMS 🔗

Launched R&D by forming a full-stack team of 5 people and insourcing.

- Architected the Learning Management System (LMS) design.
- Organized development workflow lifecycle.
- Automated CI/CD pipelines, environments, and deployments.
- Initiated the product team to strategize the LMS roadmap, culminating in a successful product launch.
- Convinced the product team to prioritize tasks, resulting in the successful launch of a CRM system featuring statistics dashboards, email newsletters, and notifications.

Tech stack: API-first approach, PostgreSQL, Mysql, Redis, RabbitMQ, PHP/Symfony, Vue.js/Nuxt.js, SendGrid, Telegram API, Ansible.

Sep 2019 – Feb 2020

Head of the Portal Development Group

JSA Group, Digital Transformations, Various industries automation 🔗

Initiated and led the development of a plant construction monitoring system, successfully gathering and guiding an initial team of 7 people.

- Organized the dev team and set up the project development from the ground.
- Defined the architecture for the system.
- In collaboration with designer invented a distinctive UI solution for comparing photos over time.

Tech stack: PostgreSQL, React.js, Lua+Nginx, WAMP.

Apr 2013 – Sep 2019

Software Architect

JSC "Gollard", Enterprise-level Security Systems

Strengthened 3 product development teams (DB, web, and desktop) from 5 to 20+ people, successfully launching security system versions 2 and 3.

- Reorganized a disorderly development process into a structured system with defined roles and stages, product planning, and project documentation.
- Unified business deadlines with development goals.
- Guided several teammates from interns to lead developers.
- Revamped a modular architecture for combining independent installations into a unified information space.
- Enhanced application-level mechanisms for data migration between system installations.

Tech stack: own Linux build, PostgreSQL, PHP, JavaScript/React.js, Nginx+Lua, WAMP, C#.NET/WPF, ESRI ArcGIS

Apr 2009 – Apr 2013

Leading Specialist

JSC "Gollard", Enterprise-level Security Systems

Enhanced system security and investigated the system migration to Oracle DB.

- Implemented a Role-Based Access Control (RBAC) system, allowing flexible and convenient system administration.
- Assembled a mechanism for seamless system migration from Microsoft SQL Server to Oracle Database.

Tech stack: PHP, JavaScript, Oracle DB, MS SQL Server, ESRI ArcGIS

Apr 2006 – Apr 2009

Developer

JSC "Gollard", Enterprise-level Security Systems

Converted web clients from the legacy ASP to a modern PHP and JavaScript stack at that time.

Tech stack: PHP, JavaScript, ASP, MS SQL Server






PROJECTS

2014 – Present

WAMP

The Web Application Messaging Protocol

An active member of the Web Application Messaging Protocol (WAMP) development group.

- Author of *Progressive Call Invocations*, *Payload Passthru* and *End-2-End Encryption* specification.
- Author and maintainer of JavaScript WAMP client  implementation.
- Author and maintainer of Lua WAMP client  and router  implementations.
- Maintainer of Golang WAMP client and router  implementations.
- Maintainer of Dart WAMP client  implementation.

2017 – 2022

Ticket Sales System

Devised a ticket sales system in collaboration with a partner, currently operational at the Bolshoi Theatre of Russia, servicing 4k shows and 600k+ orders.

- Negotiated business requirements and proposed solutions.
- Designed the system architecture and data flows with a focus on security and fault tolerance.
- Automated servers and services configuration and deployment.
- Developed and implemented the API specification.
- Integrated with the payment system.
- Established a ticket sales website and a mobile web client for ticket inspectors.

2013 – Present

SDCasts

Software Development podCast

A podcast about software development featuring IT experts, including security specialists, project authors, architects, CTOs, engineers, and product managers, providing a broad industry perspective and tracking trends.

EDUCATION

Moscow, Russia

Master's Degree

MIEM, Moscow State Institute of Electronics and Mathematics 

Diploma with honors in the specialty "Computer-aided design systems"

Oracle Certified Expert, Oracle Certified Professional

Oracle