

# Ivan Babak

Software Architect, Web Frontend Engineer

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Proficient in architecting, building, and maintaining complex web applications and components. Has got over 9 years of professional experience. Passionate about the future of web technologies while keeping the balance between cutting-edge and solid battle-tested solutions. Extensive software engineering background ranging from software architecture, computer graphics, and information systems to network protocols, compilers, operating systems, and low-level hardware programming.

## Experience

### RealtyShares

#### Software Architect

2016 – Present

- Designed complex software systems to develop technology solutions to business problems; oversaw software architecture within the scope of assigned and adjacent systems.
  - Architected, implemented, and maintained the web application platform for the RealtyShares Website & Dashboards using leading-edge component-oriented, reactive, data-driven technologies: React, Redux, Redux-Saga, Webpack, Node.js.
  - Implemented a frontend web app and a backend service for an internal real-time tool for rapid servicing of incoming leads. Features: tracking of user data updates, data-driven scoring, phone call scheduling, browser notifications, integration with dialer browser extensions, tracking of call events. Technologies: React (create-react-app), Redux, C++ (backend).
  - Implemented a web visualizer for the data schema of the proprietary NoSQL strongly-typed event-log-based storage. Technologies: React, TypeScript, Eclipse Layout Kernel.
  - Architected and implemented a near-real-time data replication service from the proprietary NoSQL strongly-typed event-log-based storage into a SQL relational database. Features: schema translation, event log mutation translation, resilience to intermittent failures, resume after restart. Technologies: TypeScript, Redux, Redux-Saga, Node.js, SQL.
  - Re-designed the architecture and re-implemented several product platform frontend and backend components to remove the dependency on a legacy subsystem.
- Determined overall architectural principles, frameworks, and standards to ensure enterprise capabilities of the designed systems (scalability, fault tolerance, extensibility, maintainability, etc.).
  - Established web engineering and coding style guidelines, patterns, and methodologies; integrated modern web technologies, best practices, component-oriented and data-driven approaches; ensured long-term maintainability of the web products.
  - Maintained high-quality standards for the web engineers.
- Provided leadership, technical guidance, teaching, coaching, mentorship to engineers.
- Provided engineering expertise to product managers and product stakeholders.
- Drove research, case studies, and prototypes on leading edge technologies and how they can be leveraged.
- Performed engineering effort estimation of technology projects and engineering tasks.
- Analyzed and provided feedback on product strategy, architecture, and design.

# Ivideon

## Lead Web Developer

2010 – 2016

- Developed a component-oriented front-end architecture, and most of the core frontend components, notably:
  - web-based video player that enables live video streaming playback across platforms and devices;
  - video archive timeline and calendar with support for timezones and localization;
  - motion zones real-time display and configuration UI;
  - UIs to add devices, manage access rights, public access, map location, and more.
- Architected and implemented an internationalization system with support for white-label overrides; it is used in both server-side and browser-side rendering. Developed a web-based UI for external translators to edit the translations.
- Architected and implemented an automatic error reporting system that collects detailed info on runtime errors from both browser side and server side.
- Architected and implemented the Ivideon customer web portal that can be customized to serve as a white-label solution.
- Developed a single-page version of Ivideon TV – a web application to watch live streams from Ivideon-enabled cameras published by the users around the world.
- Developed UI / UX wireframes for some of the UIs.
- Developed the Standalone Web SDK that provides a set of ready-to-use components for making offline web applications that integrate with Ivideon software.
- Architected the Cloud Web SDK that provides an up-to-date cloud-based version of the components for making online web applications that integrate with Ivideon Cloud.
- Ensured cross-browser support for desktop Google Chrome, Microsoft Internet Explorer 11, 10, 9, 8, Mozilla Firefox, Opera, Mac OS X Safari; mobile iOS Safari, Android Google Chrome.
- Developed and successfully conducted a compiler-based automated code refactoring to upgrade the large code base to modern standards and technologies in an almost automatic way.
- Developed a set of reusable components to streamline the development of the company website.
- Developed a set of tools to speed up the highly-concurrent development process.
- Enabled automatic documentation generation from the source code.
- Established web engineering and coding style guidelines, patterns, and methodologies.
- Evangelized and integrated modern web technologies and best practices.
- Ensured long-term maintainability of the web products.
- Conducted code reviews, providing technical guidance; applied pair programming techniques.
- Performed project planning, controlled execution of the Web team.
- With the Cloud team, architected a set of APIs, both internal and public-facing.
- With the QA and Customer Support team, established and improved the user feedback loop to leverage the quality of the product.

### Technologies:

- JavaScript (ES2015, ES5, ES3, jQuery, React.js, Redux, and more).
- Node.js (Webpack, Babel, Gulp, and more).
- HTML (HTML5, including video streaming), Flash (video streaming).
- CSS, LESS, applying BEM methodology.
- PHP (PHP5, Yii Framework, MODx).
- Git, Mercurial.

## Fintech (OAO Finansy, Informaciya, Tehnologiya)

### Software Engineer

2008 – 2010

- Developed an architecture of a single-page application, including full-stack communication with the data layer on the backend.
- Developed a reliable preloader of the browser-side application components, with error handling, for slow internet connections.
- Developed a web-based desktop-like user role selector UI similar to the Logon Screen of Microsoft Windows 7.
- Developed a jQuery UI-compatible web-based desktop-like Microsoft Fluent User Interface (similar to the Ribbon toolbar, the Orb menu, and the collapsible panel layout of Microsoft Office 2007).
- Developed a jQuery UI-compatible tree view component with asynchronous loading of the subnodes, and evented API for inter-component communication.
- Developed a component that orchestrates the UI so that only the operations applicable to the selected entity by the current user, are enabled in the tree node's context menu and the toolbars.
- With a teammate, developed a customizable grid view component for the financial reports; the non-trivial grid layout and mixed media content is obtained from the data layer.
- Ensured cross-browser support for Microsoft Internet Explorer 7, 8, Mozilla Firefox, Opera, and Google Chrome.

#### Technologies:

- Frontend: JavaScript (ES3, jQuery, jQuery UI, Prototype.js), HTML, CSS.
- Backend: ASP.NET MVC (C#).
- Microsoft Visual Studio; Team Foundation Server.

#### Other experience and skills

- Confident in Git, GitHub, GitFlow.
- Experienced in BDD (Karma, Mocha, Chai, Jasmine, Selenium), TDD, familiar with Jenkins.
- Familiar with modern MVC, MVVM frameworks (Angular.js, Ember.js, Backbone, Knockout, and more).
- Confident in Bash scripting.
- Developed software in C#, C++, ActionScript.
- Experienced user of Adobe Photoshop, familiar with Sketch and InVision.
- Experienced user of Atlassian JIRA, Confluence, Bitbucket.
- Experienced user of Mac OS X, Windows, Linux (Ubuntu).
- Speak English (proficient), Russian (native speaker).

## Education

### Bauman Moscow State Technical University

2005 – 2011

- M.S. in Computer Science, GPA 4.86 of 5.0, with honors. Thesis on "A Method for Adaptive Distribution of Tasks in a Computing Cloud".
- B.S. in Computer Science, GPA 4.72 of 5.0, with honors. Thesis on "Software for User Authentication Using Voice".