

# Renoir Boulanger

Expert in Front-End Ops, UI Libraries who crafts accessible web experiences with precision

## SUMMARY

Experienced full-stack developer dedicated to creating framework-agnostic web solutions that excel in Accessibility, Performance, and Code Quality. Strong emphasis on Web Standards, continuous testing, and test-driven development (TDD). A polyglot programmer contributing to open-source projects and architecting robust package management systems. Designed and maintained hosting infrastructure for high-visibility sites with expertise in Cloud IaC, Containers, and continuous deployment systems focusing on reproducible builds and consistent environments.

- Polyglot programmer implementing precise solutions in Deno, TypeScript, ECMAScript, JavaScript, PHP, Bash, GNU Make, C#, Python
- Expertise in Web Standards, Accessibility (WCAG), Internationalization (i18n), and Localization (l10n)
- Experience in Infrastructure As Code with Salt Stack, Vagrant, Ansible, Puppet
- Technical contributor to open-source projects with publicly available implementations: Nuxt.js documentation, Alpine Linux package maintenance, MediaWiki compatibility tables, and Mozilla Firefox Accounts
- Developed and documented reusable technical solutions like type-safe bitmask operations in JavaScript, Salt Stack infrastructure states, and automated MediaWiki content conversion tools
- Architected documented hosting infrastructure for high-visibility sites including W3C's WebPlatform Docs project <https://webplatform.github.io/> and The World Wide Web's 25th anniversary site <https://www.w3.org/webat25/>

## EXPERIENCE

### Self-Employed — *Open Source Web Components Specialist* (part time)

2024-09 - Present

Developing framework-agnostic "headless UI" web component libraries using native browser capabilities and Web Standards. Implementing modern serverless architectures with Deno and CloudFlare Workers for edge computing. Creating a modular system that implements W3C Web Components Community Group "Context" community protocol to enable seamless integration across any JavaScript framework environment.

- Creating and documenting implementations of the W3C Web Components Community Group's Context API protocol, enabling sophisticated component communication without direct dependencies
- Architected renoirb-esm-modules (<https://github.com/renoirb/renoirb-esm-modules/>): A collection of unstyled, framework-agnostic Web Components that consume structured data to generate consistent, accessible experiences
- Developed a data-driven document generation system where a single YAML source produces both PDF documents and interactive web experiences
- Created Archivator (npm: archivator): A system for content preservation enabling historical comparison, indexing, and offline search capabilities (<https://renoirb.github.io/archivator-demo/>)
- Created tuples-boolean-bitmasker (npm: tuples-boolean-bitmasker): A library that converts object boolean properties into bitmasks for efficient, type-safe testing of complex conditional states in JavaScript applications

Montréal, Quebec

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<https://renoirboulanger.com>

<https://renoirb.com/resume/rework.html>

<https://linkedin.com/in/renoirb>

<https://github.com/renoirb>

<https://gitlab.com/renoirb>

## SKILLS

### Programming

PHP, C#, VCL, Bash, Python

### Web Development Languages

TypeScript, JavaScript, ECMAScript, HTML/CSS

### PHP Frameworks

Symfony, Slim, Composer/Packagist

### Frontend Frameworks

Nuxt.js, Vue.js, Koa.js, Element UI, Backbone.js, Marionette.js, Angular

### Web Development Libraries

Rollup, Bili, Rush.js

### Frontend Testing Frameworks

Jest, CodeceptJS, Playwright, AVA, Mocha, Jasmine

### Web Platform

Accessibility, Adaptive, Bundling, Deployment, HTML/CSS Architecture, Polyfills, Promises, Responsive, Transpilation

### Web Operations

Configuration Management, Docker Swarm, Dockerflow, Elasticsearch, Node.js, Prometheus, Redis, Salt Stack, Self-Healing event handlers, Service Monitoring, Varnish

## **Full-time parenting — *Father***

2022-06 - 2024-09

Full-time caregiver for children.

## **GoTo Inc. — *Staff Software Developer***

2021-01 - 2022-05

Contributed to an established micro-frontend architecture based on Web Components and lit-element, helping teams leverage its framework-agnostic foundations. Provided technical guidance on native Web Platform capabilities, demonstrating how to maintain accessibility and performance while integrating with React, and other frameworks. Created documentation and working examples showing how to effectively use the existing component system across different technology stacks.

- Contributed architectural improvements to the Application Shell infrastructure, enabling seamless integration of diverse product experiences
- Helped development teams understand and effectively utilize the Web Components architecture, ensuring consistent implementation across different framework contexts
- Built and documented integration patterns demonstrating how to properly implement new features within the established component system
- Developed examples and test suites validating accessibility and internationalization implementation within the architecture

## **RBC Royal Bank of Canada Inc. — *Senior Full Stack Developer***

2020-03 - 2020-12

At RBC, I served as a Senior Full-Stack Developer, leading the implementation of scalable modules for the RBC Omni platform (Online Business Banking). I collaborated closely with cross-functional teams to deliver solutions aligned with business objectives. Noteworthy achievements include streamlining developer onboarding processes and enhancing legacy systems for improved performance and reliability.

- Make implementation proposals driven by the requirements and agenda set by product owners and business analysts.
- Build scalable and reusable modules by collaborating with other production teams, including the design system/platform team.
- Rewritten new developer onboarding documentation and completely automated how to properly setup the current password to be used properly through Git and other scripting, including the Bank's authoritative self-signed certificate that would cause many headaches.

## **CGI Inc. — *Senior Technical Consultant (Lead Frontend)***

2017-05 - 2020-02

As a Senior Technical Consultant, I led the development of Unify360, a Multi-Cloud Management Platform. Leveraging microservices architecture and atomic design principles, I orchestrated the design and implementation of a robust frontend solution deployed across multiple regions. My role involved extensive experimentation with modern technologies and mentoring team members to foster a culture of innovation.

- Experiment and document Frontend software development platform technological choices
- Lead the team that work and coach for writing code with tests, making self-contained and re-usable packages

## **EDUCATION**

### **Université de Sherbrooke, CeFTI**

**INF731 - Object-Oriented  
Programming in C#**

**INF743 - Software Architecture  
INF747 - Designing and managing  
Enterprise Information Systems**  
June 2024

### **Udemy**

**Nuxt.js - Vue.js on Steroids  
Understanding TypeScript**

### **EggHead.io**

**Use Types Effectively in  
TypeScript  
Up and Running with TypeScript  
Get Started with Elasticsearch  
Build a Server Rendered Vue.js  
App with Nuxt and Vuex**

### **VueMastery**

**Real World Vue.js  
Mastering Vuex  
Next-Level Vue  
Scaling Vue with Nuxt.js  
Advanced Components**

### **Pearson Vue**

**Zend Certified Engineer PHP 5.3**  
July 2013

### **McGill University**

**CEEN-421-761 - English in Written  
Communication Contexts  
CMSC-000-781 - Foundations of  
Mathematics  
CMSC-101-771 - College Algebra  
and Functions**  
December 2013

**University of Montreal  
Web Accessibility (WCAG 1) at  
the Nazareth & Louis Braille  
institute**

July 2008

## **AlayaCare — Senior Software Developer** (contract)

2016-11 - 2017-02

During my time at AlayaCare, I focused on infrastructure automation and developer experience improvements. I implemented comprehensive Docker Compose configurations that standardized development environments, reducing new developer onboarding time from days to hours. I also developed automated testing infrastructure using headless browsers in Docker containers with Ansible configuration management, improving their quality assurance processes.

- Designed and implemented a complete workspace automation system that reduced developer onboarding time from multiple days to approximately one hour through consistent Docker Compose configurations.
- Created a headless browser testing infrastructure using Docker and Ansible playbooks for automated end-to-end testing, allowing to have tailored testing environments run locally and within infrastructure with the same runtime configuration as production
- Prototyped an HTML/CSS solution for complex medical form generation that converted structured API data into print-ready documents, using DOM visibility calculations to automatically distribute content between form fields and annexes

## **Colloquial / Betastream — DevOps Automation Specialist** (remote, contract)

2016-01 - 2016-06

Designed and implemented a comprehensive infrastructure architecture to replace manual AWS deployments, establishing a vendor-neutral cloud orchestration system with standardized deployment patterns across environments. Created a security-focused approach with clear separation between public-facing and administrative interfaces, mandatory TLS encryption, and consistent naming conventions across all system components.

- Architected complete cloud orchestration solution using SaltStack that worked consistently across AWS, Google Cloud, and Azure, with standardized naming conventions and deployment paths
- Established comprehensive security model separating public origins from admin interfaces with distinct hostnames, IP restrictions, and client certificate authentication
- Implemented atomic deployment system using timestamped archives and symbolic links, enabling zero-downtime deployments and instant rollbacks across all application servers
- Integrated Fastly CDN with custom Varnish Configuration Language (VCL) testing environment and consistent TLS implementation across all communication layers

## **CAE — DevOps Automation Specialist** (part-time, contract)

2016-03 - 2016-06

Deliberately brought in as a "disruptor" to introduce modern Infrastructure as Code (IaC) practices to CAE's established environment. While another department used Chef (Ruby-based), I implemented accessible solutions using Bash scripts - a language the existing team was already comfortable with. I developed deployment and monitoring solutions for air-gapped networks with self-managed TLS certificate authorities, establishing patterns for securely automating systems that were previously manually configured, while meeting strict aerospace industry security requirements.

## **IBM**

**IBM WebSphere DataPower SOA**

**Appliance**

July 2007

## **Canadian Armed Forces**

**Basic training at Royal Military**

**College Saint-Jean**

**Private (Basic), assigned to**

**Sherbrooke 714th**

**Communication Squadron**

**Wired and wireless**

**communication and information**  
**systems (Introductory training)**

**Winter warfare training**

January 2000

## **PUBLICATIONS**

- Santachè, A. "Mobile development using web technologies focusing on games", ACM, ISBN 978-1-4503-2559-2  
Participated in chapters related to "Markup architecture", "Events" and "Web Storage"
- Kumar, J. "Apache Solr PHP Integration", Pakt Publishing, ISBN 9781782164920  
Book review
- « Techniques pour déployer WordPress de façon consistante et les rendre résilients », WordCamp Montréal 2016  
Talk given at WordCamp Montréal 2016
- "Packaging for easier redeployment", DevOps Montréal  
Presented at two events, DevOps Montréal, PHP Québec.
- « Comment évaluer le niveau de qualité d'un site web selon les techniques d'intégration web d'actualité. », Web à Québec 2013  
Presented at two conferences

### **Mozilla — *Subject Matter Expert Compatibility Data Project*** (remote)

2015-08 - 2016-01

Contracted as a Product Owner for the Browser Compatibility Data project based on my previous experience with W3C's WebPlatform project. My role primarily involved participating in discussions regarding identifier systems for browser compatibility data, attending meetings, and preparing documentation and slide decks to communicate technical concepts to stakeholders.

- Communicated with various stakeholders about the requirements and features for the compatibility data system
- Participated in discussions about identifier schema designs for browser compatibility data
- Created presentation materials and documentation explaining technical concepts

### **W3C/MIT — *Developer Operations Engineer*** (remote, contract)

2013-08 - 2015-08

At W3C/MIT, my role was to maintain stability, improve features, strengthen the infrastructure of the WebPlatform Docs project site, and act as a technical liaison with Open-source communities. The project lost its funding in August 2015 and was meant to become an independent Web Developer documentation site maintained by an international community of contributors, sponsored by Adobe, Apple, DreamHost, Fastly, Facebook, Google, Intel, Mozilla, Microsoft, Nokia, and Opera.

- Convert and preserve many hundred thousand edits, and keep trace of the content edition contributors and date of the change from MediaWiki into Static site generators and Git (2015)
- Improved Infrastructure deployment code so that any service could be rebuilt systematically (2015)
- Designed and Implemented Single Sign-On solution using OAuth2 (2014)

### **Ericsson — *Web Developer*** (contract)

2012-02 - 2013-06

As a Web Developer at Ericsson, I led the development of a web-based virtualization provisioning portal, enabling users to initiate virtual machines across geographically dispersed data centers. My role involved architecting and implementing innovative solutions using cutting-edge technologies, driving improvements in scalability and performance.

- Architect, build and lead a Web-based "Virtualization provisioning" portal.

### **Evocatio Solutions technologiques Inc. — *Senior Web Developer, Co-Founder***

2010-01 - 2012-03

As Senior Web Developer and Co-Founder of Evocatio Solutions, I led web development projects for prestigious clients, including UDA and Astral Media. My responsibilities encompassed architecting frontend solutions, collaborating with graphic designers, and optimizing web applications for performance and usability. Notable achievements include spearheading major website rewrites and implementing advanced e-mail delivery systems.

- Lead and architect all Web Development work related to the FrontEnd layer of the stack.
- In touch with Graphic Designers and Project Managers to create valid HTML/CSS markup that reflects the designs, and to work on all Web Browsers of the moment.

**Groupe Informatique TechSolCom Inc. — *Web Developer***

2006-10 - 2009-08

During my tenure at Groupe Informatique TechSolCom Inc., I played a pivotal role in maintaining the company's web presence and contributing to internal R&D projects. I led the front-end development aspect of a proprietary CI server web application and participated in building inventory management systems. My contributions enhanced operational efficiency and scalability across various projects.

**Câble Axion Digital — *Web Developer***

2005-10 - 2006-11

My role was to rewrite the corporate website, maintain internal applications and answer to level-2 support calls from subscribers.

**INEXIS Solution web Inc. — *Web Developer, Owner***

2002-02 - 2006-11

INEXIS Solution web Inc., was a one-man web development service provider firm I founded to serve graphic design agencies in the region of the Eastern Townships. Services included managing own private Web hosting infrastructure and building HTML/CSS pages based on PDF files provided by graphic designers, creating e-mail templates.