

## Pier Fumagalli

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# Summary

I am an experienced technology leader, passionate about all aspects of software, hardware and networking, from server side, large scale distributed architectures to small hardware prototypes and projects.

My experience stems from a solid background in open source and open development having participated in the growth of Apache from a group of individuals into one of the biggest open source foundations, and as an advisor in numerous specifications behind the Java platform.

Throughout my career I have lead numerous technology teams in highly disruptive environments.

I have extensive experience at an executive level growing highly disruptive startups in extremely fast-paced environments, and I have a proven track record driving high-profile projects in larger corporations, aligning technology growth and budgets to the demands of the business.

On a more personal note I am both a security enthusiast and hardware tinkerer, and spend a considerable part of my free time hacking away on security projects or tiny, low powered hardware devices.

# Experience

## Lead Systems Architect at **Körber Digital**

December 2017 to present, Berlin, Germany

Körber Digital is the digital transformation and innovation arm of Körber AG, one of the leading manufacturer of industrial machines in the world.

As the Lead Systems Architect within the areas of smart factories during my tenure I designed and helped building the infrastructure connecting industrial machines to the cloud, developing the software and protocols to extract data from PLCs and industrial computers, and architecting the network to connect those to Amazon Web Services.

Amongst the various technologies used, I gained extreme and in-depth knowledge of PLC communication (Siemens S7 and Rockwell/Allan Bradley in particular), 4G/LTE networking (used as in most factories network access is severely limited), MQTT (the backbone of our solution) and time series database (specifically IronDB)

Also, leading a small team of extremely talented engineers, we built a handful of customer-facing applications using micro-services on AWS Lambda and a React front-end, analysing telemetry data from the factories using A.I., and presenting it to machine operators, shift leaders and factory managers giving more insight in the operation of production lines.

## Interim CTO, Consultant at Relocately

October 2016 to November 2017, Berlin, Germany

Relocately is a German startup innovating the way in which personal and corporate overseas relocations are handled.

I joined the Relocately co-founders in the early stages of the company and served as the interim CTO for the first six months until March 2016, then continued as technical and management consultant after successfully hiring their permanent CTO.

During this time I outlined the initial vision and architecture for the technical platform and lead the outsourced teams in charge with the first implementation, while at the same time building the initial in-house technical team.

Starting with a quick-and-dirty prototype built using Bubble.IS, the redesigned platform was centered around Salesforce for both customer and partner management, and was augmented by several in-house external services dealing with the more specialized aspects of the relocation workflow (pricing, logistics and inventory management).

The in-house technology stack was built on JavaScript using Node.js and Express on the server side and AngularJS for client.

## CTO at Leomo

July 2015 to July 2016, Tokyo, Japan

Leomo is a Japanese startup focusing on a hardware and software solution for professional cyclists.

My primary focus at Leomo was to structure the 20-strong technology team and introduce solid development practices, after the company's pivot from a software-only activity tracking app to a complex hardware and software solution.

Alongside the high level organization of product development, project management and development practices, I also directly drove the product re-architecture from two monolithic blocks (a Python/Django website and backend, and a single on-device Android application) to a flexible, testable, separate set of micro-services and applications/libraries.

During my time at Leomo I also learnt in depth about hardware development (especially custom Android devices, and low powered external sensors) and gathered some invaluable hands-on experience on Android internals and the STM32/ARM Cortex M4 hardware platform.

## Engineering Manager (Contract) at **Groupon**

January 2015 to July 2015, Tokyo, Japan

I joined Groupon as a consultant to provide help and guidance to the local Tokyo team during their migration of the Japanese-specific site and infrastructure onto Groupon's global infrastructure platform.

On top of coordinating the platform and data migration from a monolithic PHP code base to Groupon's international microservices based platform, I've also been responsible for training the local team on the new architecture and coding practices.

## Founder at **USRZ.com**

December 2013 to December 2014, Tokyo, Japan

Under the USRZ umbrella, I spent approximately one year consulting smaller startups and more established companies approaching the complex task of building high-profile technology teams in Japan.

Throughout this time I also focused on a few projects focused on applied cryptography, specifically trying to address the problems of user, directory, and single-sign-on management across web, devices, and connected services (e.g. SSH) for small to medium enterprises.

## CTO at **Gilt Groupe, Japan**

August 2010 to November 2013, Tokyo, Japan

I joined Gilt Groupe Japan in order to build and lead the technology team in Tokyo.

During my tenure, the team grew from 3 people to more than 20 developers and QA engineers, while we shifted the focus from primarily translating and customising our US-developed platform to a locally-led and developed system, better answering the demands of the Japanese business.

Over the course of three years, we entirely re-engineered the main e-commerce website and moved from a monolithic Ruby on Rails system to a multiple tiered microservices architecture employing Java and Node.JS REST back end services communicating with a fully responsive Angular.JS front end.

From an infrastructure point of view, while at the beginning the site was hosted on a static set of Solaris servers, we focused on optimising our hardware investment through the use of Linux and Linux containers, achieving dynamic optimisation of hardware resources through pseudo-virtualisation and automated deployments, and using third party services such as Amazon's EC2 and S3 when needed.

On the integration side, we focused on achieving a better synergy with local partners, especially on the logistics front where we completed the integration with two different Japanese 3PL/WMS solutions for our local warehouses, and on the payment front as we integrated with Japanese credit card providers and local payment methods such as convenience store payments.

Lastly, I have also been directly involved in a more hands on role leading the engineering effort behind the main CRM platform overseeing user analysis, segmentation, targeting and email personalisation and delivery.

## Associate Director (Contract) at **UBS Bank**

April 2010 to July 2010, Tokyo, Japan

The focus of my contract at UBS was to develop a build an automated integration and test system (based on Apache Ant and Ivy) for a number of Java projects powering the bank's Asian trading engine.

## Reliability Architect (Contract) at **Ning**

January 2010 to April 2010, Palo Alto, CA, USA

I was contracted by Ning in order to architect and implement a prototype for a large-scale distributed cloud management infrastructure solution based on Linux containers managed via RESTful services.

The resulting product was designed to manage and optimize the deployment, monitoring, configuration and usage of Ning's internal software on a pool of 1500+ physical servers and approximately 5000 virtual machines.

## Senior Architect, Tech Lead at **Joost**

June 2006 to December 2009, Leiden, The Netherlands and New York, NY, USA

Joost was a startup company focusing on delivering video over the internet where initially I primarily focused on the architecture our back-end platforms.

While working from our Leiden office I dedicated most of my time ensuring that our meta-data and event collection services could be scaled horizontally in order to cope with traffic demands, and could be made fault tolerant.

In late 2007, I was asked to move to New York to manage a small team of 5 back-end engineers and during this phase I was given the responsibility of leading the architecture and re-implementation of our web platform.

The new web architecture was based on a set of autonomous RESTful services, fronted by a custom server-side publishing framework written in Java, using the Rhino JavaScript Engine as a logic controller and Apache Velocity for view rendering.

## Member at The **Apache Software Foundation**

June 1997 to June 2009

I joined the Apache Group in 1997 as one of the main contributors behind Apache JServ, the very first open source Java servlet container.

As a member of the Java Apache Project, I helped outline the path behind Sun's donation of the Java Servlet Development Kit (what later became Apache Tomcat), and contributed in the definition of the underlying initial structure of the Foundation.

When the Foundation was incorporated in 1999, I was instrumental in the creation of the Apache XML Project and I co-founded the Apache Jakarta Project.

On top of being a contributor to a number of Apache and non-Apache open source projects (Tomcat, Cocoon, HTTPd, JDom, Jetty and several others), under a mandate from the Apache development community I also participated in different standardization efforts: I was a member of the expert group of the Java Servlet and JSP specifications (JSR 53, 154 and 315), XML (JSR 5 and 63) and of the overall J2SE 5.0 specification (JSR 176).

## Principal Architect at **VNU Publications**

February 2002 to May 2006, London, England, UK

I joined VNU (now Incisive Media), one of the biggest B2B publishing companies in Europe, in early 2002 as a senior developer and technical lead.

Leading a small team of Java and XML engineers, at VNU I focused on a number of different projects.

- VNU's subscriber information database: a unique database collecting demographic data across on-line users and print subscribers.
- VNU's web presence: focusing on a cost-effective, open-source based (MySQL, Linux, Apache, Java, Cocoon/XML) replacement of a number of proprietary and extremely expensive systems (mainly Oracle, Sun).
- VNU's news work flow: a complete back-office re-architecture, integrating the new websites back-end with a new content management system (Hippo), a taxonomy-based knowledge and search engine (Autonomy), Quark DMS (digital asset management and off-line publications) and others.

In 2005 I started working on VNU's pan-European architecture, bringing the platform my team and I designed for the UK and scaling it to power the other 6 European countries where VNU was present.

## Senior J2EE Developer at **Sun Microsystems**

August 2000 to November 2001, Cupertino, CA, USA and Dublin, Ireland

I joined Sun's J2EE development team in August 2000 where my primary task was to work on the Servlet API reference implementation: Apache Tomcat.

Alongside with my primary duties as a software developer, I participated in a number of JSRs including the Servlet and JSP, XML Processing, and Java Daemons specifications.

## Senior Developer at **Exoffice**

January 2000 to April 2000, Millbrae, CA, USA

With the sponsorship of Exoffice (now Intalio) I participated in the Apache Cocoon project (an XML-based publishing framework) where I spearheaded the complete rewrite of version 2.0's code base.

## Developer at **IBM**

June 1999 to December 1999, Cupertino, CA, USA

I joined IBM as a developer in their XML team at the Java Technology Center. Alongside my regular developer duties, as an Apache member, I was instrumental in the creation of the Apache XML Project with the donation of IBM's XML4J parser and LotusXSL transformer (now Apache Xerces and Xalan).