

Graham Pople

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Skilled senior programmer with 14 years+ experience, including 3 years JVM (Scala) and 10 years C++.

Senior programmer with 14 years+ experience, including 4 years working on Scala, Java and web development, and 10 years C++. Please checkout my demo site to see my more interesting recent projects.

Competencies

Backend (Core) Scala, Java, C++, SQL (Postgres)

Backend (Some) Spring Boot, C#, C, Fortran, Hibernate, Python

Web (Core) ScalaJS, Javascript, Typescript, Stylus, CSS, Thymeleaf

Web (Some) Angular, Grails

Frontend ScalaFX/JavaFX, GTK

Devtools ScalaTest, JUnit, IntelliJ, Mercurial, Git, SVN, Linux command line

Experience

April 2014 Senior Software Developer

August 2010

3.5 years Bloomberg LP

- ▶ Completed major project to rearchitect and rebuild the most-run Bloomberg function. It displays a condensed set of key info about stocks and is run 10+ million times daily. Designed and built a highly optimised low latency C++ backend to handle the load, to replace the previous Fortran system, together with an efficient Javascript UI. Delivered on schedule and with great feedback from clients (including the mayor of New York). This was a 2 person project and I was responsible for 80% of it.
- ▶ Architected and built a highly performant, highly optimised C++ multithreaded backend on UNIX, to process millions of trades daily from 40 equity exchanges in realtime. Made key architecture decisions early that gave huge wins in performance and time to deployment, particularly the use of skiplists as the central data structure. Also

architected and built the complex Javascript UI, which gets run over 25k times daily.

- ▶ Project managed a team of 12 and was one of two lead architects and developers in a major initiative to rebuild and integrate multiple legacy trading systems into a new microservices system, involving around 10 complex C++ backends handling millions of trades in real-time over a shared bus, plus multiple accompanying UIs in Javascript. Project was ongoing when I left, and was on-schedule and already getting great results and feedback.
- ▶ Extensive experience with both monoliths (2GB executables) and microservices. Bloomberg has a build-it/run-it philosophy, so teams take full ownership of their products including effectively 24/7 support.
- ▶ Mentored junior programmers and was a UX Rep, helping other teams with their UIs.

C++, Javascript, Fortran, Jenkins, Finance

Backend (Some)	Spring Boot, C#, C, Fortran, Hibernate, Python
Web (Core)	ScalaJS, Javascript, Typescript, Stylus, CSS, Thymeleaf
Web (Some)	Angular, Grails
Frontend	ScalaFX/JavaFX, GTK
Devtools	ScalaTest, JUnit, IntelliJ, Mercurial, Git, SVN, Linux command line

I feel I can help your team and business as I'm:

- Comfortable doing full-stack development in a variety of languages, including architecting and building complex multi-threaded backends in both a monolithic and microservices style, and building dynamic UIs, all in the challenging financial and telecomm sectors. Is language-agnostic, always keen to learn and use whatever tools are most appropriate to solve the problem, and is most experienced in Scala and C++.

- Taking a product or just a feature through the full software lifecycle: from clarifying initial client/business requirements, to working out the architecture and risks, working with others to make it a reality including building parts or the whole myself, unit testing, and iterating the process until it's right.

- Is a lover of unit testing and continuous integration – but also knows when it's appropriate (while adding a feature to a stable product: good, during rapid initial prototyping: not so great).

- Has a sensible, business-minded approach to software development. Keep it simple, avoid initial feature creep, release early (when appropriate), iterate, and stay agile.

- A focus on clean, readable code, using a pragmatic mix of OOP and FP.
- Knows how to fix the hard stuff. Plenty of experience optimising with Yourkit and I know my way round the low level JVM tools. And, the experience to avoid these problems in production (give each threads UUIDs and use them in logs, etc.)
- Has plenty of server maintance and devops experience, including database migrations and maintenance, managing JVMs, and all that good stuff.
- Is easy to get along with (I hope!), and works great both independently and in teams. Has mentored junior colleagues and generally shared tips and tricks with colleagues – while learning from others.

I am looking to:

- Use my years of experience building high-end C++ systems and transition to a JVM career, where I can...
- Work with and learn from experienced Scala and Java developers in order to hone my skills and build experience so I can...
- Be more productive and quickly build and ship lots of great products for your team and company!

Roles

Bloomberg LP

Tech-driven finance company

Senior Software Developer, Aug 2010 – April 2014

Notable achievements:

- Completed major project to rearchitect and rebuild the most-run Bloomberg function – it displays a condensed set of key info about stocks and is literally run several million times daily. Designed and built a highly optimised low latency C++ backend to handle the load, to replace the previous Fortran system, together with an efficient Javascript UI. Delivered on schedule and with great feedback from clients (including the mayor of New York). This was a 2 person project and I was responsible for ~80% of it.

- Architected and built a highly performant, highly optimised C++ multithreaded backend on UNIX, to process every single trade on 40 equity exchanges in realtime. Made key architecture decisions early that gave huge wins in performance and time to deployment, particularly the use of skiplists as the central data structure. Also architected and built the complex Javascript UI, which gets run over 25k times daily. This was a 2 person project but the other developer left the company early on, so I did around ~95%.

- Project-managed (team of 12) and was one of two lead architects in a major initiative to rebuild and integrate multiple legacy trading systems, involving around 10 complex C++ backends handling millions of trades in real-time over a shared bus, plus multiple accompanying UIs in Javascript. Project ongoing when I left, and was on-schedule and already getting great results. My PM approach was loosely based on Agile, keeping a focus on rapid iteration and client-contact, plus short daily standup meetings to quickly identify blockers, but without a dogmatic adherence to set-length sprints which wouldn't have worked with so many backends.

- Extensive experience with both monoliths (2GB executables!) and microservices. Bloomberg has a build-it/run-it philosophy, so teams take full ownership of their products including effectively 24/7 support.

- Mentored young programmers and was a UX Rep, helping other teams with their UIs.

Aculab Plc

Telecomms company

Software Engineer, 2003 - Aug 2010

- Worked on flagship product ApplianX, a turnkey Linux-based telecomms product that used a multithreaded C++ & Python engine to handle multiple channels of speech and fax across VoIP and regular calls. Strongly test-driven development and focus on multi-threading and optimisation.

- Extensive use of standard C++ development techniques and libraries, e.g. STL, Boost, RAI.

Since April 2014

Since early 2014 I have been taking a career break. Feeling stuck in a C++ rut, I took the opportunity to both travel and find a language that better fit my goals of producing readable and well-tested code, quickly – plus, to explore an entrepreneurial bent and see if I could get a small business going. I have used the time productively to learn Scala, Spring, Grails, Kotlin, Groovy, Typescript, and multiple other technologies, and have built multiple projects in them.

Notable achievements:

- Starting a travel blog, , with my partner, which has become quite popular and brings around 65k page views monthly. Built my own full stack in Scala, including a platform-independent UI layer that works on both the web & Android (for the web, ScalaJS is used to transpile to Javascript). This unusual approach allows a lot of productive code-sharing, and was part of a successful experiment to see if I could use solid engineering principles (including unit tests) in the webdev world. Parts of the site are fairly complex, with a single-page application dynamic approach and custom maps, e.g. this interactive map of Hanoi's street food scene . I built a lot of full-stack web development knowledge including CSS/SASS, HTML, and maintaining JVM+Linux servers. Plus a lot of less-relevant skills including SEO, design, marketing, writing and photography.

- Wrote a web-app expense tracking website and accompanying Android app, focussed around the needs of myself and partner that needed to track who owed whom across multiple currencies and timezones. Went through multiple revisions including pure Grails, Angular+Grails, Typescript+Grails, then ScalaJS+Scala, while I explored web development and hunted for a highly productive tech stack: the website's frontend, backend, and the Android app, are now all written in Scala and can share large amounts of code. The website is fully functional (I use it daily) and I should probably clean it up and make it generally available, but it's too ugly to share currently!

- Created a plugin for the very popular website platform Wordpress, which helps users optimise their content to rank highly on Google, along with tracking that position. Works well and is very useful. Backend is written in Scala, frontend mostly in ScalaJS with a little PHP. The backend is scalable and can handle hundreds of users in real-time.

- A scraping project in Scala that used Selenium and machine-learning (with Spark) to categorise websites and extract information.

- A simple Android app, published on the Google Play store, that I wrote in a week to learn how to develop Scala on Android.

I've also extensively used C#, Python, Grails, Groovy, Thymeleaf, Hibernate, Git, Mercurial, Maven, SBT, JUnit, ScalaTest, Angular and accompanying Javascript techs (Jasmine, Mocha).

Education

Education: 2000 – 2003 University of Warwick
BSc in Computer Science, 2(i)

1993 - 2000 Helena Romanes School, Essex

A levels - Mathematics A, History A, Physics B

A/S Level - Further Mathematics A, English Language A