

Software development manager and lead with international experience building embedded, web, and desktop products. Complementary business skills in product management, project management, process improvement, business mergers and acquisitions, operation analysis and optimization, and sales.

Software Toolbox

JavaScript/TypeScript, C, C++, assembler, shell script
AngularJS, Angular, Node.js, Meteor, AppRun
Apollo, GraphQL, Auth0, D3.js, Stripe
MongoDB, Redis, Firebase
Docker, Kubernetes, GitLabs
Linux/Un*x/POSIX, Windows
VxWorks, INTEGRITY, ThreadX, pSOS+
JIRA, Git, Mercurial, Subversion

Areas of Expertise

Leading Local and Distributed Teams
Software Design and Development
Project Planning and Execution
Test Driven Development
Agile Collaboration
Process Improvement
Product Management
Sales and Sales Support

Experience

2005 – now **Principal**, *Independent*, Various locations in Canada and USA

Independent principal consultant and contractor responsible for locating and completing technology engagements in industries ranging from aerospace to security to consumer. Work during this time includes:

- Architecting and implementing a web client and server for a real time auction website.
- Implementing a secure chain of trust bootrom for a key fob sized battery powered FIPS 140-2 compliant multi-factor authentication biometric security device built on a custom secure ARM9E SoC.
- Developing, as the software and architecture prime of a multi-disciplinary team, a custom and commercial off the shelf graphics card based around the ATI Mobility Radeon 9000 graphics chip. Additionally, provided customized on-site customer demos and follow up support to help the sales team close the first \$10 million dollars in sales of this new product.
- Building a diverse set of data visualization websites and data automation projects.
- Implementing a Docker, Kubernetes, and GitLabs based CD/CI pipeline and improving a legacy B2C web client/admin/server product.
- Quickly constructing a Microsoft Excel Add-In for cleaning and filtering large datasets through a remote API.

Toolbox Used: TypeScript, JavaScript, C++, C, Assembly, Python, C#, Visual Basic, Bash, AngularJS, Angular, Auth0, GraphQL, WebSockets, Node.js, Tornado, MongoDB, Redis, Firebase, D3, OpenGL, AWS (ECS, EKS, S3), Docker, Kubernetes, Excel VSTO/Interop, USB, FAT, bare metal, VxWorks, velOSity, ThreadX, INTEGRITY, Linux, Windows, Device Driver, Board Support Package, Cryptography, Hardware Bring Up, JIRA, Jenkins, Git, Mercurial, Subversion, Agile, TDD, DevOps, Project Management, Product Development, Product Architecting, Project Management, Vendor Management, Sales Support.

Experience Continued

2001 – 2005 **Software and Product Manager**, *TransGaming Technologies*, Ottawa and Toronto, CA

Managed global team responsible for developing all Linux products including near monthly releases for subscribers, OEM, and published titles.

- Designed and instituted agile development processes resulting in a doubling of release frequency, a reduction in defects, and a 100% increase in revenue.
- Managed a development team that spanned 12 time zones.
- Lead developer for Kohan series of games ported from Windows to Linux. Performance enhancements made the Linux version faster than original native version.
- TransGaming Technologies lead for multi-company proof of concept binary port of x86/Windows game title to MIPS/Linux target.

Toolbox Used: C++, C, Assembler, OpenGL, x86, MIPS, Linux, Windows, Wine, Graphics, Agile, Portability, People Management, Process Development, Product Management, Release Management.

1994 – 2001 **Team Leader and Platform Architect**, *Nortel Networks*, Ottawa, CA and Harlow, UK

Progressive software development and leadership responsibilities on 3 separate telecommunication data products in Canada and the United Kingdom.

- As team leader oversaw a group of 6 full-time employees, contractors, and students.
- Reduced load build time 6-fold, resulting in greater designer productivity.
- Greatly improved product reliability, as platform architect, by ensuring the quality of all software design and submission.
- Analyzed and implemented real-time enhancements to processing rates which reduced call set-up time from >100ms to <10ms.
- Adapted an automated code test framework to embedded platform/OS and created an automated regression suite for low-level system software.
- Implemented support for a hardware upgrade from copper to optical inter-node links including initial board bring-up. The increased capacity resulted in the sale of at least 500 upgrades to customers.

Toolbox Used: C++, C, assembler, PROTEL, VxWorks, pSOS+, SOS, People Management, Product Architecting, ATM, VoATM, VoIP, CUnit, Clearcase.

Open Source Contributions

For recent open source projects see <https://github.com/phBalance>.

Past contributor to several open source software projects (available on request).

Education

1991-1996 Bachelor of Applied Science (B.A.Sc.), Engineering Science, University of Toronto

2008-2010 Master of Business Administration (M.B.A.), University of Victoria