# Martin York

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## Goals

*A position where I can contribute directly to the software development processes (architectural design and hands on coding) while at the same time mentoring, guiding junior team members in coding and best practices and supervising validating decisions of senior team members.*

## Leadership:

*Experienced with managing multiple teams and projects towards common architectural and organizational goals. Amazon certified SCRUM Master and agile proponent. Responsible for team performance, project completion, requirements analysis, design, defect impact evaluation, deliverable, and time-frame negotiation. Successfully managed to balance user requirements against scope creep and project timeline.*

## Experience

- *Team/Project Management: Worked directly with CTO to define organizational goals, defined organizational architectural goals*
- *SCRUM Master: Full application life cycle, 'OO' Design/Development*
- *Big Data: Processing Huge volumes of Data (Petabytes), use of Map Reduce and SOA*
- *Design Patterns: Reusable components design, parallel optimization techniques*
- *Build Framework (Build/Test/Report): Distributed Service Based Application*
- *Experience with highly parallel systems and designs.*

## Development Languages:

*• C++ (20 years) • C (24 years) • Perl (6 years) • HTML/CSS/Javascript (5 years) • PHP (4 years) • SQL (10 years) • UNIX shells (24 years)*

## Technical Skills

**Likes:** c++, soa, rest, multithreading, algorithms, compilers

## Experience

**Director Of Engineering** – Moz *July 2011 – Current*
c++, soa, services, bigdata, rest, java, hadoop

**Apr 2014:Director of Engineering**
A recent look at the index and this year.
Main focus is Big Data and the technology we use. Maintaining backwards compatibility and focusing on expanding index size and decreasing maintenance burden. Major new initiative is the development of continuously updating web index built on top of Kiji/Hadoop/Hbase cluster.

**Feb 2013:Manager of Big Data**
Took on architectural/lead/management role of all "Big Data" operations. Responsible of aligning "Big Data" architectural requirements with new product requirements and coordinating Big Data with Inbound marketing and Analytic teams.

**Jul 2012:Manager Scheduler/Crawler Teams**
Took on management of Scheduler and Crawler team. Led the architectural re-design of the scheduler system to increase schedule size/maintain politeness/provide feedback and add the ability to tune how the scheduler works dynamically.

Doubled the size of the schedule without increasing crawl time. The original schedule was constrained by politeness and parallelism dropped measurably during crawl, while the new schedule maintaining a diversity of usable domains to maintain parallelism.

**Jul 2011:Lead Crawler system**
Brought in to stabilize and improve crawler. Added monitoring and metrics generation to identify where the actual issues were and measure changes as code was fixed. Increased crawl velocity from 200 million to 800 million URLs per day while maintaining error rate and politeness.

**Senior Lead SDE** – Microsoft *March 2009 – June 2011*
c++, soa, services, mobile, mobile-device

**Mobile Coupon Service:**
Designed and built original prototyping for the project; subsequently managed 4 developers and organized the larger team including 3 testers and 4 pms during implementation. Instrumental in cross team integration planning and deployment with the other service's team leads.

The project was originally designed for geolocation in 3 data-centers over 2 continents and integrated with several existing major services: Generic Ad-Server, Mobile Ad Provider, Coupon Creation Portal for Advertiser.

The coupon service consisted of two new services: Service1 which performs user coupon management and tracked/throttled coupon issue on a per user basis; Service2 which is a coupon minting services that provided uniquely identifiable (and traceable) coupon images on the fly.

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**SDE III** – Amazon.com *March 2007 – March 2009*
c++, java, perl, db, soa, services

**Data Collection Layer:**
Senior developer of the team: Defined a high level API for guaranteeing the complete delivery of all 'accounting relevant information' from multiple client services. The API was designed to replace the previous tightly coupled CRON/Perl system and evenly distribute load, reducing peak Data Base load by 90%.
**Accounting Domain Language:**
In conjunction with another senior developer, defined a domain specific language for accounting. The goal was to provide an easy to read/use declarative language for mapping business events to the 'Chart of Accounts'. A prototype service that utilizes the language has demonstrated that it was as efficient as the current code, and additionally provides a GUI interface for viewing/modifying and testing new constructs.

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**Principal Software Engineer** – Symantec *December 2001 – March 2007*
c++, cross-platform

**Licensing Agent:**
Involved from project conception; managed requirements gathering, design and organization of resources during implementation. The Licensing Agent is a CORBA service implemented in C++ that became a standard component for all Symantec products.
**System Infrastructure:**
Managed the simultaneous delivery of 5 "Open Source" products across 25 platform configurations. Organized the delivery schedule of internal releases to product development teams, prioritized and tracked the closure of known defects.
**Build System:**
Implemented the initial upgrade to provide a consistent reproducible build of "System Infrastructure" doubling the support platforms and reducing build time by 50%. Negotiated the redeployment of resources from all build-system 'stake holders', making this a permanent project.

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**Compiler Engineer** – BOPS *January 1998 – November 2001*
c, c++

Worked as a team member building a standards compliant C compiler using C++ for a unique SOC.

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**Engineer** – Oxford Molecular *September 1994 – December 1997*
c, c++

Worked as a team member building molecular modeling software.

## Education

**PhD Computer Science ABD** – Manchester University *1992 – 1994*
distributed-memory, multiprocessor-architectu, compiler, sisal, c

Ported the SISAL compiler to the 64 processor, distributed memory KSR-1. Added compile time analysis of the interaction of hardware and software memory management for multi-threaded processes in order to provide timely pre-movement of data between processors at run time to avoid processor stalls.

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**MSc Computer Science** – Manchester University *1990 – 1992*
dataflow, compilers, parallel-processing, sisal, c

Modified the code generation phase of the SISAL compiler to produce efficient code for multidimensional array access. Extended the code generation phase to handle higher order functions and partial function closures.

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**BSc Computer Science** – Manchester University *1987 – 1990*
c, compilers, parallel-processing

1st Class Honors (American equivalent: summa cum laude)

http://en.wikipedia.org/wiki/British*undergraduate*degree*classification*
*http://en.wikipedia.org/wiki/Latin*honors

## Projects & Interests

**Stack Overflow** – http://stackoverflow.com/users/14065 *September 2008 - Current*

Written 2456 answers. Active in java, c++, c, arrays, string and 157 other tags.

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**GitHub - ThorsSerializer** – https://github.com/Loki-Astari/ThorsSerializer *April 2012 - August 2016*
c++, templates, template-meta-programming

C++ Serialization library for JSON

Author

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**GitHub - ThorSQL** – https://github.com/Loki-Astari/ThorsSQL *June 2015 - April 2016*
c++, c++14, mysql, api

A C++ API to SQL. This is not a wrapper around a C library. But an implementation from the binary protocol directly to a modern C++ interface.

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**GitHub - ThorStream** – https://github.com/Loki-Astari/ThorsStream *June 2015 - August 2015*
c++, c++14, io, sockets

A rudimentary Socket stream library used for examples.

## Writing

**Good News: We Launched a New Index Early! Let's Also Talk About 2015's Mozscape Index Woes - Moz** – https://moz.com/blog/mozscape-index-2015

Of late, we've faced some big challenges with the Mozscape index. Our Director of Engineering goes into detail about the recent troubles our index has endured, what went wrong, how we fixed it, and…

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**Smart-Pointer - Loki Astari** – http://lokiastari.com/blog/2014/12/30/c-plus-plus-by-example-smart-pointer

Writing you own implementation of a smart pointer is a bad idea (IMO). But because it is such a frequent request for review; I want to take a look at smart pointers as a teaching exercise. In the next couple of articles I will step through the processes of building a smart pointer and look at some of the common mistakes that I see (and probably make a few as I go).

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**Vector - Resource Management Allocation - Loki Astari** – http://lokiastari.com/blog/2016/02/27/vector

A lot of new developers to C++ attempt to build a Vector like container as a learning processes. Getting a simple version of this working for POD types (like int) is not that complicated. The next step in getting this working for arbitrary data types takes a significant leap forward in thinking in C++ especially when you start looking at efficiency and exception safety. This set of five articles looks at building an efficient Vector implementation. I show some of the common mistakes and explain why and how to resolve the problems:

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**Socket Programming in C - Loki Astari** – http://lokiastari.com/blog/2016/04/08/socket-programming-in-c-version-1

Building a simple client/server application is the common first internet based applications developers attempt. These applications are built on top of the socket communication library, but socket programming in C++ is not obvious as there are no standard libraries and thus you have to fall back to the C API. I am writing a series of articles that start with a basic C++ client/server application and walk through building a C++ communication library.

## Tools

**First Computer:** Zx Spectrum
**Favorite Editor:** vim