
JENNIFER LIDDLE

PROFILE

Jennifer is an experienced software engineer with a wide range of skills and an in-depth knowledge of software development and system design. In recent years she has concentrated on programming in Perl, C and C++ under various flavours of Unix; CGI scripts in Perl utilising Javascript, CSS and Ajax, and handling very large Oracle databases.

Having worked in the IT industry for the last thirty years, she has a solid grounding in all aspects of software engineering, ranging from coding through program and system design, to testing and system maintenance.

She has worked on several projects from their initial, customer requirement capture stages, and followed them through system design, program design, coding, testing, documenting and customer acceptance, and on to customer training and support. She has also worked on mature systems, performing maintenance work and responding to customer requests for bug fixes and enhancements.

EXPERIENCE

SENIOR DEVELOPER, SANGER INSTITUTE 2004 - CURRENT

During my first four years at the Sanger I worked with the Database Applications Group, mostly designing Laboratory Information Management Systems (LIMS) and tracking systems to record plates and samples as they moved through the various sequencing and genotyping pipelines. This work was done largely in Perl.

Since 2008 I have been part of the Variation Informatics team, working with the genotyping and sequencing laboratories to provide sample and QC pipelines. This work has been split fairly evenly between three main areas.

- Stand-alone programs making up the post genotyping pipeline, written in Perl and C++. These programs involved handling very large amounts of data, and had to be optimised for memory and speed.
- Tracking and QC systems. Many of these involved developing CGI scripts in Perl, making use of Javascript, CSS and Ajax to produce intuitive and efficient user interfaces for the researchers to use.
- Being responsible for creating and maintaining essential infrastructure for use by the rest of the team, including core Perl modules and the team's own apache web servers.

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All of my work at the Sanger has involved close collaboration with other programming teams, the Systems and Database teams, and the laboratory teams. The databases used were Oracle and mySQL.

I have also promoted the work done by my teams by giving talks and presentations to the rest of the institute.

TECHNICAL DIRECTOR, J-SQUARED LTD 2000 - 2004

While working at J-Squared I was involved in many different projects for many different clients, including

Tophat	Software development in C++ on a Viper single board computer from Arcom running embedded Linux and using the Qt graphics library. An NDA prevents me giving more details.
Novapal	Commissioning and installing a Linux server with Samba, FTP and remote CVS access.
Hydra	Hydra was J-Squared's own telemetry product. This was based around a PIC16F876 microcontroller for which I developed code using the CCS 'C' compiler and the MPLAB development system. Their two main customers have used this product for remote monitoring of the temperature of cold stores and for monitoring airport runway lights.
Simoco Limited	Interfacing a Wharton Clock to a Sun Sparcstation 10 to provide an accurate time source, and propagating this via a DMC microwave unit to the rest of the system.

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SOFTWARE ENGINEER, MUSCAT, 1997 - 2000

While working at Muscat (later bought by Dialog, then changing their name to Brightstation, then splitting into Smartlogic and Webtop) as a Software Engineer I was involved with developing their core information retrieval product and with producing bespoke versions to handle specific customer requirements.

The majority of the development was in C++ on Unix and NT systems for deployment on corporate intranets, and also included work in Java, Javascript, Perl scripts, XML parsing and generation, and Oracle.

- Worked on a Linux version of the Webcheck PDA for [Webtop](#), producing versions in both Java and C++ using the GTK graphic libraries.
- Designed and wrote an XML parser to index the [Royal Society of Chemistry's](#) bibliographic database.
- Installed and maintained an Oracle database, and developed a set of Perl modules and SQL scripts to read and index a large Oracle database for [Yellow Pages](#) using a combination of PL/SQL and the Perl DBD and DBI modules.
- Project managed Empower 2.0, the second major release of Muscat's core information retrieval product.
- Produced a bespoke information retrieval system for the [Institute of Electrical Engineers](#) for use with their [INSPEC database](#), containing bibliographic data relating to technical literature in physics, electrical engineering, electronics, communications, control engineering, and information technology.
- Produced NewsExplorer II for [Reuters](#). This was designed to allow Reuter's customers to filter their newsfeed and alert them automatically to news articles of interest to them, as well as providing powerful search capabilities.

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CONTRACTOR, BRITISH TELECOM, 1995 - 1997

Eighteen months as a contractor at the British Telecom Research Laboratories at Martlesham Heath working on their Meterlink project, which was concerned with the remote collection of data from water, gas and electricity meters via telephone lines. This consisted of a core system written in a combination of C, C++ and ProC (embedded SQL) running under Unix, together with a front-end developed using Oracle Forms and running on PCs under Windows. Information was stored in an Oracle database and accessed using a client/server architecture. During this time I fulfilled a number of roles:

- Developer. Part of the programming team using C and embedded SQL to develop the core programs.
- Maintenance. Designed and coded enhancements and bug fixes to an existing communications library written in C++ using a fully object-oriented design.
- Testing. Designed and developed a test harness written in C++ under Unix to simulate a Speech Applications Platform used to test the Meterlink application.
- Configuration management. Responsible for maintaining and enhancing a source code management system using PVCS. This included developing unix scripts to provide ease of access for developers, to integrate PVCS with the Oracle fault reporting database, and to provide management reports. Also responsible for producing builds of named versions of the software for release to the testing and integration team.
- Forms developer. Used Oracle Forms 4.5 to produce a Fault Reporting System for use by the developers, testers and users.

PRE - 1995

Earlier in my career I have been known to write document control and warehousing systems in Cobol on HP3000 minicomputers; a simulation of crystal diffraction from a spallation neutron source in Fortran on an IBM mainframe; a system for a reinsurance broker in a combination of Basic and Z80 assembler; utilities in 6502 assembler; my own 6502 assembler written in Commodore Basic; a Z80 disassembler running on CP/M; and an indexed sequential filing system in C.