

Dr Jim Hague

Contact 89 Poplar Grove, Oxford OX1 5QR, UK
Tel: +44 1865 980647, Mobile: +44 7941 697732
Email: jim.hague@acm.org, GitHub: [banburybill](https://github.com/banburybill)

Date of birth 16th November 1961

Nationality British.

Education

PhD Computer Science, University of Kent at Canterbury. 1984-88.

BSc (Hons, I) Computer Science, University of Liverpool. 1981-84.

Technical skills

Languages: C, C++, Python, Unix shell and tools, Typescript, Perl, Java, various assemblers.

Environments: Linux, AIX and older UNIXs, Android, Windows (3.0 to 10), various embedded OS including µITRON, VxWorks, WinCE.

GUIs, libraries etc.: React, JUCE, Qt, ODS Toolbox (v5), ZeroMQ, Django, Motif, MFC, Win32 SDK. Jenkins, DEB and RPM packaging, Mercurial, Git, Linux sysadmin.

Experience

June 2021 – date, InMusic, Cambridge, UK (remote role)

I am currently lead developer at [InMusic](#) on a forthcoming electronic drum product. My team is responsible for implementing the required functionality of the Drum Module, the engine of the system, on a company standard Linux based embedded platform integrating two major C++ codebases with a new UI using Typescript, based on [react-juce](#), a JUCE backend for React.

March 2016 – June 2021, Sinodun Internet Technologies, Oxford, UK

As senior software engineer at Sinodun, I worked chiefly on a project monitoring performance of the L-Root DNS root server network operated by ICANN. This included designing a space-efficient storage format C-DNS for captured DNS traffic, participating in its IETF standardisation process (C-DNS is now standardised as [RFC8618](#)), writing an open source C++ tool [dns-stats-compact](#) to capture DNS traffic to C-DNS files, developing Python-based tooling to import the data to a database cluster running ClickHouse and also developing visualisation tools for that data using Grafana. This latter work included extending an existing Grafana plugin to allow convenient display of bar charts in Grafana. I was also responsible for packaging the system for deployment and supporting the customer in installation and maintenance. The public-facing view of this system, now in production and importing over 12 billion records daily from roughly 280 hosts worldwide, can be viewed at <https://stats.dns.icann.org>. It is open sourced as [dns-stats-visualizer](#). I presented this work at several DNS conferences.

I also performed consultancy work on assessing support for Internationalised Domain Names, contributed to the [getdns](#) application library, and contributed to various other DNS open source projects.

August 2003 – February 2016, Ifield Computer Consultancy/LAIC AG group, East Grinstead, UK and Prague, Czech Republic (remote role)

I was senior software engineer and technical lead responsible for all aspects of design and development on ICC's ATC surveillance HMI, [ATRAK-IDP](#). This HMI is in current operational use with [Air Navigation Services of the Czech Republic](#) (ANS CR). The system is deployed on AIX and Linux, and developed in C and C++ with [ODS Toolbox](#) and its IDM script language. I also initiated and prototyped a project to replace ODS Toolbox/IDM with Python/Qt, and oversaw its initial development. This project is now in production service at ANS CR.

Apart from design and development, my team's responsibilities on this project also included regulatory compliance, internal and customer acceptance testing, and provision of support,

both internally and directly to end users. My technical duties also included technology selection, feature development, development infrastructure provision and management (version control, continuous integration etc. services), deployment infrastructure and the deployment production environment, including screen recording.

Prior to working on the surveillance HMI, I was responsible for the detailed design and implementation of ICC's Aeronautical Information Management system, [ATRAK-AIM](#). This system is written in Java and deployed on AIX and Linux systems. The primary source of aeronautical information, ATRAK-AIM is in operational use in all controller roles at ANS CR.

I was also responsible for provision and management of the company email and calendaring system, external website, internal website, and internal instant message system.

August 1999 – June 2003, Insignia Solutions plc, High Wycombe, UK

As a Senior Software Engineer in Insignia's Profession Services Group, I was responsible for all technical aspects of porting Insignia's Java Virtual Machines (JVMs) for embedded systems to a variety of customer target platforms. With a colleague I also wrote and presented the week long course given to source code licensees.

November 1998 – July 1999, Purple Interactive, Chiswick, London, UK

I implemented the publication system used by Purple for their flagship website, www.formula1.com and worked on an online banking system for Barclays Offshore. I also administered the Linux servers that served content for Purple websites.

October 1996 - September 1998, Canon Information Systems Research Australia (CISRA), Sydney, Australia

Senior developer in a team of 10 working on core software for HyperPhoto, a digital imaging and print system. Other activities included a prototype Java version of CISRA's web page rendered for print, and team lead on a project to develop driver software for a new high-speed page rendering processor.

Details on other earlier employment available on request.

Other professional activities

Member of [ACM](#) (the Association for Computing Machinery) since 1990, and [ACCU](#) (the Association of C and C++ Users) since 2002. I am a regular speaker at the annual ACCU conference, a member of the ACCU committee, responsible for ACCU website and email provision, and founder of the Oxford ACCU Local Group. In 2019 I initiated a project to replace the ACCU website with a completely new site. The new site launched in September 2020, succeeding where several other attempts had failed over the previous decade.

Pre-Covid, I ran a Code Club at a local primary school. In the past, I have worked on various open source projects, including an NNTP server, Ethernet card boot ROM, and a Linux kernel frame buffer driver.

In 1986, I won the 'Worst Abuse of the Preprocessor' category of the 3rd [International Obfuscated C Code Contest](#).

Publications

J. Dickinson, J. Hague, S. Dickinson, T. Manderson, J. Bond: *RFC8618: Compacted-DNS (C-DNS): A Format for DNS Packet Capture*, <https://tools.ietf.org/html/rfc8618>

A. Mayrhofer; J. Hague: *The Internationalized Deliberately Unreadable Network NOTation (I-DUNNO)*, <https://tools.ietf.org/html/rfc8771> (Note: Not entirely serious RFC published 1st April 2020.)

Yi Zheng, Jim Hague: *DMT-a Demonstration Tool*. Software - Practice & Experience (John Wiley) 21(9): 949-961 (1991).

Other

I hold a full clean UK car and motorcycle driving licence.

Outside work

I am Squire (chair and public appearance organiser) of my local [Morris dance side](#), as well as being their website and email admin. I play the English concertina badly. I am a regular volunteer worker at the Oxford Beer Festival and in 2012 was an IT volunteer at the London Olympics.