

John Fremlin

Email jtf24@cantab.net or john@freml.in. UK citizen.

Education

- *2001-2004*. BA Mathematics, Cambridge University (2.i every year).
- *2001*. 4 As at A-level: Further mathematics, Mathematics, Physics, German (school prize). 12 GCSEs - 7 A* including German, French and Portuguese (national prize), 3A, 2B.

Experience

- *September 2009 - December 2009*. Travelled from Japan to England without flying.
- *December 2008 - September 2009*. Mathematical Systems, Tokyo: statistical software consultancy. Member of Knowledge Engineering team doing custom development in Common Lisp for NTT.
 - Monitoring system for large numbers (100k) of routers, with Holt-Winters' seasonal exponential time series forecasting to detect aberrations.
 - Visualisation of large (cyclic) directed graphs by condensing nodes while attempting to preserve the graph structure.
 - Efficient storage and retrieval of routing tables.
 - Portable persistent memory-mapped object database integrating into Lisp object system with the Meta-Object Protocol (MOP), including a precise compacting garbage collector and atomic transactions (manardb).
- *January 2006 - November 2008*. Travelled in the Middle East, South East Asia, China, North Korea, India, and Japan.
- *October 2004 - December 2005*. Alphamosaic (bought by Broadcom), Cambridge: semiconductor company specialising in low-power video. Engineer on the software research team.
 - Embedded C software development: system-wide and video codec performance optimization, dynamic DMA resource management infrastructure, lightweight reliable mutual exclusion without malloc, H.264 video decode (dramatically increased performance of an already heavily optimized system, directly benefiting the video iPod project), virtual filesystem layer, device drivers.
 - Algorithm evaluation for hardware design: image sensor pipeline (image processing in Matlab), and simulated performance of different i-cache and d-cache sizes and associativities.
 - On-site customer support at Samsung on DMB (mobile TV) phone project. Starting with a dysfunctional project, rebuilt trust with Samsung.
 - High-level ASIC design and software emulation of components for next generation platform (JPEG acceleration).
- *Winter 2003*. Volunteer at NGO wifi ISP in Mozambique.
- *Easter 2003*. Hospital in Bethlehem. Volunteer IT system administrator. Continued regularly until 2007.
- *2002-2004*. Trinity College Students' Union.
- *2001-2002*. Cambridge University Computing Society. Chairman.
- *Summer 2000*. Linux Information Systems AG, Munich: productivity software start-up. Intern.
- *Spring 2000*. Linux kernel. Contributor. USB driver for a scanner; accepted and integrated into the Linux kernel (drivers/usb/microtek.c). Userspace program to assist reverse engineering (usb-robot).
- *1998*. Unreleased game framework in C++ with dynamic code generation.

Recent hobby projects

- teepedee2, a high-performance web application platform in Common Lisp, directly calling Linux system calls. Benchmarked serving more than 10k dynamically generated pages per second on one processor core.
- dysfunkycom, ranked seventh out of about three hundred teams in the ICFP 2009 programming competition.