

# John Lawrence Aspden

**Contract Programmer (Assembler, Embedded C, C++, Java, Python, Lisp, Scheme)**  
**Cambridge, England**

£45/hour

Will negotiate fixed price contracts.

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I'm looking for contract programming work in Cambridge. I like challenges.

I have a degree in mathematics from the University of Cambridge. I'm also interested in Computer Science.

My favourite computer books are: The C Programming Language, Structure and Interpretation of Computer Programs, Structured Analysis and Design, The C++ Programming Language, The Mythical Man-month, Peopleware, The Practical Guide to Structured Systems Design, Dive into Python and the 1979 TRS80 Basic manual.

## **Commercial Contracts**

**2006 Brain Mapping Unit, University of Cambridge**

**Python, C, SWIG, Signal Processing (wavelets, Hurst exponent), MATLAB, Octave**

I wrote software to calculate statistics on the output of a brain scanner. The initial prototyping and tests were in python for speed of development, and the final program was a C library. I used SWIG keep the original unit test framework.

**2005 Sepura**

**( 3 separate contracts )**

**Embedded C, Python, Visual C++, make, Subversion, CVS, Frontpage, Windows Comms, Unicode, CJK fonts, LGPL**

I solved some mysterious bugs in a project to split DSP code across several code pages, and then automated the build process and dependency generation. I debugged a browser-based error tracking/change control system. I converted an ancient program to use Windows Comms and work with Chinese, Korean and Japanese scripts.

**2004 Alphamosaic**

**Embedded C, Assembler, SIMD/Vector Processor, VideoCore, WMV9, Video Codecs**

I ported the Microsoft WMV9 Codec to run on an embedded graphics chip.

**2003 Sepura**

**Embedded C, Assembler, AVR, Mega128, Codevision, High Speed Serial Comms, Device Drivers, Delphi**

I designed the software for a dashboard mounted police radio console, as well as a PC test harness in Delphi. I wrote drivers for a 900kb serial link over a 10 metre cable (lots of fun with oscilloscopes!).

**2001 Simoco Digital Systems**

**ClearCase, HTML, UI Design, Toolbook Instructor**

I was engaged to implement a new UI for a portable radio. I could see from the specifications that it would be less easy to use than the current UI, so I simulated it as part of the design work and showed the marketing people the simulator. This got the project cancelled and saved the company a fortune, partly at my expense.

**2000 European Telecom/ET Voice****Java, Swing, MATLAB, Mathematica, Research, Speech Recognition, TESPAPAR**

I ran a small research project into embedded speech recognition using TESPAPAR, a newly discovered signal processing technique.

**1999 Advantra****Delphi, UI Design**

I designed an application to test and configure pagers in shops.

**1999 CLMP Software Research / Salomon Brothers****Java, Solaris**

I wrote a library of graphical java objects to display financial time series.

**1998 Green Cathedral****C++, HTML, Linux**

I wrote a program to translate very large web server log files into readable html statistics and graphs.

**1997-98 Philips Paging****Keil C and Assembler for 8051, Structured Analysis & Design, Protocols**

I helped design the software architecture for a pager. I implemented a tiny filesystem which was considered for patent. In my own time I wrote a memory map and stack analyser for the Keil C compiler which was thought to have shortened the project several months by directing our optimisation efforts.

**1996-97 Philips Telecom****Borland C, Serial and Wireless Comms, ClearCase**

I maintained and extended a vast undocumented C program. I automated regression testing and version control.

**1989-96 King's College Cambridge****dBase IV**

I designed and implemented databases for the college hardship fund, teaching activity (including my own!) and admissions as three separate fixed price contracts over six years, while I was still a student.

***Education*****1992-96 Imperial College London****Finite Element Analysis, Financial Analysis, C, Fortran**

I investigated computer solution of non-linear diffusion problems, using Functional Analysis and the Finite Element method. I taught mathematics and Fortran in London and microeconomics in Cambridge. I realised that I liked computers more than research and went and got a proper job instead.

**1988-91 King's College Cambridge****Degree in Pure and Applied Mathematics (2:1)**

Interests: Functional Analysis, Dynamical Systems, Topology, Markov Chains, Numerical Analysis, Quantum Mechanics.

**1981-86 Abbeydale Grange School**

8 O Levels, 5 A Levels (AAAAB), STEP & S Levels Maths(1) Physics (1) Further Maths(1). The usual stuff with TRS80s, ZX81s, Spectrums, BBCs and Amstrad 1640s.