
CURRICULUM VITAE FOR GRAHAM ALEXANDER HARPER

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OBJECTIVE

I am a confident, adventurous, motivated and adaptable individual seeking to return to my career as a professional software engineer following a year of jointly running a limited company. I have previously specialised in embedded software design and development, but my interest in software engineering and technology is broad and I am always keen to apply my skills to other areas. I am particularly interested in further developing leadership and managerial skills and applying these to solving technical challenges.

SKILLS AND EXPERIENCE

Embedded software development

- + ANSI C software development with proprietary extensions on the Microchip PIC micro platform (particularly the 18F series), including low-level work in assembly language.
- + Development on a variety of other processor families and development environments, including Analog Devices Blackfin processors; worked on a wide variety of products in distinctly different applications including hand-held wireless control/human interface devices, automated probe control systems and programming tools for use in product assembly.

Microsoft .NET application development (C#)

- + Application development for communicating with embedded devices over serial connections for programming, testing and data acquisition.
- + Refactoring and porting of unsupported legacy VB6 applications to recent versions of the .NET framework in C# to adhere to modern design and coding practices.

Real-time software architecture modelling

- + Multi-level modelling of user interface processes down to system architecture level; modelled a complete hand-held wireless machine tool interface using the Yourdon Systems Analysis methodology. This model went on to inform improvements in the machine tool control system itself.
- + Proprietary RTOS modelling using Insoft's Prosa SA modelling tool (with real-time modelling extensions).
- + Desktop software application modelling in UML using System and Enterprise Architect.

Communication Protocols

- + RS232, I²C, USB; developed components to translate between these protocols.

Software development lifecycle

- + Worked through a number of self-contained projects from their inception to design and development phases, all the way through to their final deployment.
- + Used linear and iterative development processes, though the majority of my experience in embedded software development was based around a modified Waterfall process.

System, software and driver testing

- + Development and standardisation of driver testing procedures; developed a series of standard procedures for Microsoft WHQL driver testing.
- + Software application testing procedures; re-organised the test network and image deployment process in tandem with this.

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ACHIEVEMENTS

- + Delivered a software and firmware package for the programming and calibration of an optical encoder that resulted in **>90% reduction of set-up times**. The package allowed for programming and calibration to be carried out in a single step (previously a two-stop process), and provided **real-time inspection capability** for the setting of the optical components, an improvement on the iterative trial-and-error method originally employed.
- + **Raised funds for an entirely self-organised voluntary expedition** to a school in central Mozambique as part of my gap year. I lived and worked in Mozambique for around 6 months, during which time I **learned basic Portuguese, and assisted with the teaching of English and Physics**. I **designed and procured equipment for the school's first ever practical physics demonstrations**, and extended these demonstrations across the entire range of ages being taught at the school, including adult night classes.
- + My supervisors chose to informally include me in the annual employee appraisal process during my undergraduate placement year and **ranked my performance at least equal to that of the department's graduate engineers** at the time. I received extremely positive assessments in later appraisals and was **promoted to a full technical grade after less than 6 months**.

EMPLOYMENT HISTORY

August 2010 – present:	Bristol Digital Ltd. Company Director; Designer and Developer
September 2007 – August 2009:	Renishaw Plc Software Engineer, Embedded Software Development team (Group Engineering division); progressed from trainee to a full technical role in this position.
October 2005 – September 2006:	Renishaw Plc Industrial Placement: Student Software Engineer, Embedded Software Development team and Independent Software Test team (Group Engineering division).
June 2004 – August 2004:	Motorola Ltd Summer Placement: Student Software Engineer.
March 2003 – July 2003:	Escola Secundaria da Sonja Uster, Mozambique Gap year, Pro Bono employment teaching Physics and English.

PERSONAL DETAILS

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Mobile Phone: 07XX XXX XXXX

Nationality: British

Driving Licence: Full, no endorsements

EDUCATION HISTORY

2009-2010: **UWE, Bristol**
Engineering (General - Automation and Manufacturing)

2003-2007: **University of Bristol**
Engineering Design (Design Information Systems option)

1995-2002: **Adams' Grammar School**
A-Level VIth form studies
Physics, Mathematics, Chemistry, and General Studies