

MELINDA BRADBURY

Looking for fresh challenges and opportunities to develop in my career, I have an ability to drive projects, reviews and designs to completion. I am enthusiastic and want to do a great job for customers and my company.

Honeywell Life Safety (HLS), Burgess Hill

Embedded Software Engineer (Notifier Future Products)

Honeywell is a large manufacturing company operating in many industries. The HLS Burgess Hill site houses 60+ staff and develops specific brands of fire detection systems. Such systems can contain hundreds of panels networked and each panel is in communication with thousands of sensors and output devices. I design and develop these complex embedded systems to add value for customers and meet industry safety standards.

Embedded Software for Low-Cost Interim Panel

October 2010 to date. New multi-processor platform also aimed to fill gap in existing product range.

- Responsible for inter-processor communications management software and documentation.
 - Integrated power supply monitoring software and related user interface, utilising code developed by other team members.
 - Currently developing software architecture and code for plug-in card that expands the number of serial ports in the panel.
- Technologies: C++; Object-oriented programming; MKS source control; V1/V2/V3 Coldfire; RTOS; CAN.

User Interface (UI) Design and Embedded Software for Next-Generation Premium Panels

December 2008 to September 2010. Multi-lingual UI for multiple markets and full site configuration capabilities.

- Delivered detailed PC-based mock-up of new UI navigation methods. Proposed and carried out customer evaluations.
 - Key team player in overarching software architecture (team spread between Burgess Hill, Leicester and India).
 - Ensured UI quality through usability studies, analysis of standards documents, documentation and chairing reviews.
 - Embraced project technologies, tools and new document formats from CMMI level 3 processes.
 - Enabled UI code to be developed in UML by integrating a graphics library into Rhapsody.
 - Awarded for good performance when producing interim software for customer road-shows in Europe.
- Technologies: C#; MKS; PEG+ (graphics library); UML; Rhapsody code generation; V3 Coldfire; C++; RTOS.

Software Architecture for Notifier Next-Generation Panels

September 2007 to December 2008. New modular, safe, software architecture for Next-Generation Notifier.

- Facilitated RTOS selection process and drove it to conclusion. Liaised with suppliers. Organised training.
 - Brought together engineers and developed a distributable software architecture. Documented and chaired reviews.
 - Planned test strategy and defined processes, handled marketing requirements and interviewed contractors.
 - Specified a software component for implementation by team members in India.
- Technologies: MISRA-C++; VBA; MKS Integrity (manipulating requirements), SCIOPTA RTOS.

Thales Missile Electronics (TME), Basingstoke

Embedded Systems Engineer / Work Package Manager

TME is a relatively small business unit (~300 staff) within a large French company operating in many industries. TME researches, develops and manufactures electronic components for missiles and bombs, primarily for the MOD or its prime contractors. Here my wide-ranging skill set and flexible attitude to job role was essential.

Electronics Design and Programmable Logic for Vehicle Mounted Battlefield Identification System

June 2006 to September 2007. Project to turn prototype hardware into a modular, low-cost system, suitable for production.

- Core team player for system design with full responsibility for FPGA/CPLD selection in control logic for an intermediate frequency circuit board.
 - My creative solution for synchronisation of units across the system was chosen, and I was responsible for prototyping.
 - Able to delegate, I made use of an Army officer on placement to develop some of the test harness for the prototypes.
- Technologies: Artisan Studio; UML; C; dsPIC; Actel; VHDL; PLLs.

Work Package Management and Embedded Software for Devices used to Survey Power Levels on Ships

August 2005 to June 2006. One-off system commissioned to increase customer productivity and crew safety.

- Responsible for two other engineers and £48,000 labour budget to deliver tested software.
 - Co-ordinated with other work packages, worked with an external contractor, and motivated my team.
 - Estimated, planned and ensured processes were carried out. I negotiated an achievable schedule and goals.
 - Delivered software to trial under tight timescales, overall on-time delivery of quality software for a project where this was highly important to customer relations.
 - Designed overall structure of software and specified functions and test data that my team were able to deliver.
 - Developed mathematical operations and algorithms that efficiently and effectively carried out power measurements.
- Technologies: DOORS; Analog Devices Blackfin Dual Core; MISRA-C; Wi-Fi; Matlab; FFTs; Fractional Number Format; Visual Basic.

Embedded Software for Dongle / Logging Device

May 2005 to June 2005. Prototype for imminent trial opportunity.

Brought about a change in resourcing which enabled the team to meet its deadlines. Worked closely with others in a time-pressured situation. Technologies: PIC18; C; SD Cards; FAT16 file system; C.

Evaluating Working Methods for Reliable Software Development / Test Equipment Design / Circuit Design

March 2005 to August 2005. Large Development Project.

Evaluated embedded software testing tools, planned tests based on requirements, designed production test equipment, sourced components and helped design circuitry. Technologies: MISRA-C; TESSY; DOORS; PSPICE; Cadence.

Participating in Customer-Facing Field Trial for Hard-Target Missile

January 2005 to February 2005. Trial of expensive, non-recoverable equipment - several companies working together.

Established trial procedures for utilising logging; organised post-trial log data recovery. Technologies: PIC16.

Verifying FPGA Schematics and Developing Algorithms for a Sea-to-Air Missile

July 2004 to February 2005. Large, long-running development and production programme.

Rigorously tested complex graphical designs with simulation to assess compliance with customer requirements. Employed statistics to analyse performance and devised an algorithm design changes to combat production variances. Technologies: Altera; MATLAB.

Software for Flight Path Visualisation

December 2004 to August 2004. Customer-sponsored study to demonstrate algorithms.

Gathered requirements and implemented software to display 3D images flight paths. Technologies: Matlab GUIDE.

Hardware in the Loop Test Bed for Guided Bomb Control Algorithms

December 2004 to August 2004. Customer-sponsored research study to demonstrate and prove patented technology.

Integrated software on two PCs and two DSP PCI boards to show real-time operation, whilst meeting formal requirements. Technologies: PCI04; Analog Devices DSPs; Visual Studio; C; Matlab.

Electronics & Embedded Software for Data Logger

October 2003 to March 2004. Customisation of low-volume product for specific customer.

Brought help capability to PC software. Detailed the circuit design and carried out software and document updates. Post production, I was responsible for all testing. Technologies: Cadence; Visual Basic; HTML Help; PIC16; Assembler.

Battery Selection and User Interface Solution for Man Portable Battlefield Target Identification

September 2003 to January 2004. Risk-reduction prototype.

Education

2:1 Masters Degree in Electronic and Electrical Engineering (MEng with Honours)

September 1999 to July 2003. The University of Birmingham, Edgbaston. 4 year combined bachelors and masters.

Final year individual project: Embedded PIC software and electronics to control focus of a long-range camera lens. Major group project (team leader): Remote control of equipment over the internet. Key modules: C Programming, UML, Embedded Software (PIC), Computer Networking, Human Centred Technology, Project Management.

Full A-levels: Mathematics (A), Physics (A), Psychology (B), General Studies (A)

September 1997 to June 1999. King George IV College, Southport.

10 GCSEs all grade A/A*. Mathematics A* gained in June 1996. Includes French GCSE and 2 years basic Spanish.

September 1992 to June 1997. Greenbank High School, Southport.

Interests / Extra activities

Body Combat and Body Pump Aerobics; recently Squash; Walking and Camping; Cooking; Member of the IET (Institute of Engineering and Technology – an association for Electronics Engineers and related professions); Staff representative in the Joint Communications Body; Planned refurbishment of the staff canteen (Sept. 10).