Stephen Mayne

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PROFILE

A self-motivated, adaptable and creative Design Engineer with experience of a wide range of digital systems. First class analytical and design skills, able to work on own initiative and as part of a project team to meet project targets and deadlines. Team leading and mentoring experience, current SC clearance.

KEY SKILLS

- FPGA definition, design, synthesis and verification using VHDL, some knowledge of Verilog.
- Use of Xilinx, Altera and Lattice devices, Mentor Graphics and Altera design tools, some experience with Cadence FPGA/ASIC design and simulation environments, also digital schematic design and capture using Design Architect.
- Experience with ATA, AES, Flash, VME, digital video and communications systems.
- Conversant with DOORS, RTCA DO-254 lifecycle, use of MRP tools for BOM control and product base-lining.

EMPLOYMENT HISTORY

FGPA Design Engineer, Stonewood Group, Wareham Dorset, 2005 to date

Overview: Product design and realization within the hardware and FPGA environments for AES encrypted hardware data storage systems. Working within a smaller company provided the opportunity to be involved in the whole product lifecycle process from inception to production with the following responsibilities:

- Capture of design and verification requirements using DOORS;
- Systems and FPGA design of service processors to control product access and management, cipher key administration and interfaces for control of peripheral devices;
- Organize and perform functional verification, environmental (EMC) testing and cryptographic testing of products;
- Prepare and review design documentation and product user manuals;
- Prepare and review designs and data for CESG assessment and accreditation of products and systems;
- Provide support to hardware, test and production for product release;
- Process champion for FPGA design methodology, HDL coding standards and DO-254 translation of these methods;
- Member of company Health and Safety committee.

Senior Development Engineer, BAE Systems, Edinburgh, 2000 to 2005

Overview: Definition, design and test of FPGAs and PCBs for avionic displays, display processors and communication systems with the following responsibilities:

- Design of readback and re-configuration system for Xilinx FPGAs to mitigate single event upset issues;
- Design of FPGA controller for NAND and NOR Flash data storage system;
- Design of FPGA based communications interfaces, packet protocol development and implementation for a gigabit backplane router (part of BAE bronze award for innovation team for this development);

- Team leader and designer of PCB development for multi channel video display system;
- FPGA design for video processing and mixing system (re-size/picture-in-picture);
- PCB development of VME motherboard for display processor cards.

Development Engineer, BAE Systems, Christchurch, Dorset, 1998 to 2000
Overview: FPGA development, design, test and PCB design for military communications systems with the following responsibilities:

- Development of digital system emulator card for adaptive phase array radar system including design of system test and communication CPLDs and FPGAs (Cowes site);
- Design of FPGA for CVSD to PCM speech transcoding module for ISDN interface;
- Systems analysis and development of error detection and correction methods for communications systems.

EDUCATION
2.1 BEng(Hons) Electronics Systems Design, Bournemouth University (1995 to 1998)
Modules Studied: Linear, non-linear and neuro-fuzzy control systems design using MATLAB. DSP systems analysis and design. FPGA and cell based ASIC design in Verilog. Software design using C and object orientated methods using C++. Microelectronics, microprocessor, hardware systems and PSPICE simulation. Project and business management studies. 2 year business French course.
Bournemouth and Poole Technical College (1977 to 1980)
City& Guilds: 236 Parts 1 & 2 Electrical Installation.
Beaufort Secondary School, Bournemouth, Dorset (1972 to 1977)
GCE O-Level: Mathematics, English.

VOCATIONAL TRAINING
Cobham Technical Services: Complex Hardware Development using RTCA DO-254 (2010);
Ian Alexander: Managing Requirements with DOORS (2009);
Cherry Clough/Elmec Services: Electronic Fundamentals for Good EMC (2008);
BAE Systems (Internal): Six Sigma Methodologies (2004);
Mentor Graphics (Rod Strange): Signal Integrity and High Speed Methodology (2003);
Mentor Graphics: High Speed Electronic Design Using Interconnect Synthesis (2003);
Doulos: Xilinx VHDL TechClass (2002), Expert VHDL Design and Verification courses (2000);
Mentor Graphics: HDL Tool training [Renoir/Modelsim/Leonardo Spectrum] (1999);
Doulos: Comprehensive VHDL for FPGA/ASIC (1998);
Mentor Graphics: Quicksim II schematic Simulation (1998).

PREVIOUS WORK EXPERIENCE
Apprenticed and self-employed Electrician (1977-1995)

PERSONAL DETAILS
Date of Birth: 1st June 1961.
Nationality: British.
Personal Status: Married (2 children at home).
Driving License: Full, UK.

PERSONAL INTERESTS
Hillwalking (Scotland), long distance running/walking events (up to 100 miles), reading.