Lee Griffiths

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Summary

Recent graduate of Computer Engineering looking to have a long career in a hardware related field and is especially interested in working in the embedded systems market. Has an aptitude for programming and possess a strong ability to abstract the concepts involved in a given task. Is comfortable working in groups and interacting with other developers and has done so reliably whilst at University. Possess good, thorough debugging and lateral thought skills, especially in regards to faulty low level code. A fast learner who has already gained some development experienced and aims to work up to becoming a senior developer in charge of a small team.

Course Modules

High Performance Microprocessors	From Transistors to Systems-on-Chip	Enterprise Management for Computer Scientists
Optical Computing	Digital Design Techniques	Compilers
Advanced Computer Graphics	Concurrency	Digital Media Processing
Systems On-Chip	Distributed Computing	Operating Systems

Final Year Project

Hand-picked by University staff. Tasked with creating a system which will be used in a new course-module as the base for coursework. Worked in a group with one other student - This was the only allowed joint project of the year. Given a very basic specification with large freedom of design. Only requirement was that it had to use two specific board-modules. Asked to design a complete, working system as well as sketch feasible applications that could be run on it, with a different app each year.

Final design was a hardware platform that involved a camera that could be rotated around two axes. Example application for the platform would be motion detection & automated tracking. Wrote a 18k word technical report on the project. Unlike other projects this one required an additional handover report documenting the structure and function of the code/system. Gained experience of the full development life-cycle, taking it from a basic spec. to a full working system. The new team has already started to continue the project (Application development + minor improvements) based off the reports with no problems.

Technical Skills used in the project

- Developed a basic RTOS for any application's use.
- Developed drivers for both PIC and ARM: Motor control (stepper, brushed DC), communication (I^2C, RS232), Character LED, FPGA interface/downloading, basic user-space stack-tracer.
- Programmed: PIC18, AT91SAM9 (ARM9), video decoder chip (ADV7183B), flash EEPROM, Xilinx Spartan 3.
- Developed the build process and tool chain for the project & course-module. Mix of Bash scripting, C (Linux) and ARM asm.
- Experience with Microchip's MPLAB software for programming & debugging the PIC.
- The project's software is written in C (PIC), some PIC assembly, and ARM assembly in addition to the tools developed for Linux in C.

Related Academic Projects

- Developed an I^2C peripheral for an AT91 (ARM7TDMI) in Verilog. Synthesized onto Xilinx Virtex FPGA.
- Developed a basic 16-bit RISC processor in VHDL, only simulated.
- Full custom layout for a ripple carry adder (Cadence)
- FAT12, process scheduler, virtual memory implementations.
- Written simple multi-threaded servers: telnet & ftp, booking servers.
- Written client software to book slots from a server running a booking database.
- Developed a compiler & interpreter for an artificial, C-like language
- Written basic MPEG audio encoding software in Java

Education

2008	**University of Manchester** B.Sc. Computer Engineering (Honours), Class 2:1
2005	**Cardinal Newman College, Preston** A-Levels in Computing(A), Maths(B), Environmental Science(B), General Studies (C), Accounting(D)
2002	**St. Bede's High School, Lytham** 11 GCSE grade A-C

Employment History

Sep 06 – Feb 08	Bartender & Venue Steward Manchester Academy (University of Manchester Student's Union)
June 07 – Sep 07	Summer Vacation Student APT group, University of Manchester
June 06 – Sep 06	Summer Vacation Student PEVE group, University of Manchester
Oct 02 – Aug 03	Commis Chef The Kingfisher Inn, Kirkham

Technical knowledge & Skills Summary

Micro-controllers	AT91SAM9621 (ARM9 based), AT91M40800 (ARM7), PIC18LF452, Xilinx Virtex & Spartan FPGAs, Analog Devices ADV7183B (Video decoder chip).
Hardware Tools	Cadence (Schematic & CMOS Layout editors. NC-Verilog & Verilog XL simulators), Mentor Graphics (Schematic),
Peripheral Hardware	I^2C, UART, USART, RS232, SPI. Analogue and digital PIOs. Interrupts, Power Management controllers etc. Motor control, Character LCDs. Watchdog/One-shot timers, 555 timers, etc.
Languages	C, C++, Java, C#. ARM, PIC18, x86 assembly. Verilog, VHDL. XHTML + CSS, Bash scripts, MySQL, PHP, Oracle SQL
Software Tools	MPLAB, MATLAB, Visual C++/C#, Eclipse, Java Netbeans, Dreamweaver, GDB, CVS, GNU/Linux & tools (gcc, grep, sed, awk, bash, LaTeX, etc), UML
Misc	Can use practical tools, e.g. Oscilloscopes, Signal Generators etc. Possess decent Soldering skills.

Misc Skills/Qualifications

- Degree qualifies for BCS and IET membership. Applications pending.
- Awarded a “Millennium Volunteer's Gold Certificate” for over 400 hours of volunteer work. This was primarily with Manchester Nightline between 2005 – 2008. Was “Technical Support Officer” on the committee for 2 years running, (2005 – 2007). Was responsible for making sure the phone lines for the service were fixed should they ever break, keeping the office computer's running and updated, constructed and ran the website, configured the email aliases for committee positions and mailboxes use for society-wide communication. Responsible for aiding the organisation move to a web-based rota system (externally developed).

Interests

- Playing music & musical theory. Played drums for 8 years, taken up bass guitar in the past year.
- Interest in games of all types. Board/computer/card, etc. Both playing and designing.
- Programming, modern gadgetry. Scientific, technological and electronic curiosities etc

Personal Details

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British Nationality
Single

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