Name: **DANIEL HASSALL**

Date of Birth: 16th March 1973

Telephone: ⊠

E-mail: ⊠

EXPERIENCE

Apr 2004-to-date
Mass Consultants Limited
(Mathematical and Associated Scientific Services)
Software Developer / System Tester

- Software development in Fortran to solve complex trajectory calculations incorporating mathematical solutions to ballistic 3D rotating spherical trigonometric problems;
- Triangular mesh generation algorithm development in Delphi (for non-uniform spherical segments / polygons);
- Maintain, update and modify US codes (Fortran) for inclusion in the UK Code suite;
- Software development in OO C++ to act as interface between the Fortran models and Delphi GUIs;
- Delphi GUI production;
- System testing performed on various end-to-end scenarios requiring good understanding of full weapons system;
- Unit, concurrent, system and deployment testing performed and documented using Test Director and Test Manager;
- Novel documentation methods using Microsoft Publisher;
- Full development cycle from requirements capture, design, implementation and testing;
- Media Certification to UK / US Naval standards;
- Attended courses on C# and OO methods;
- DV clearance required.

Jan 99 - Apr 04
Hunting Engineering Ltd (now Lockheed Martin UK)
(Defence Research Contracts)
Warhead Modeller

- Responsible for the concept and design phases of novel warhead systems, using knowledge of shock-physics coupled with fluid dynamics (CFD) and finite element models to simulate the interaction between materials driven by high explosive forces;
- Projects include shaped charge design and material selection, EFP design, KEP design, effects of attack on Tank explosive reactive armours, electric armours, fragmenting warheads, deforming directional warheads, EMP devices, long stand-off warheads, tandem warheads, trials, analytical modelling, blast modelling, hyper-velocity particle impacts on Space-faring hulls;
- The CFD packages used on a daily basis were the Euler hydrocode CTH, the arbitrary Lagrangian-Euler code CALE, the Lagrangian codes DYNA and LS DYNA, all of which require a good knowledge of Equations of State (including High Explosives), and the frequent use of material strength and fracture models;

- Required competence in FORTRAN, and the ability to implement and use analytical models;
- Worked at the HEL trials facility on Porton Down over-seeing warhead tests and collating data;
- Re-wrote modules in the LLNL hydrocode DYNA2D to simulate flux generators for use in EMP devices;
- Responsible for ensuring PCs, SGs and Beowulf Cluster machines on local secret network comply with security procedures;
- Attended courses on Presentation skills and Teamwork.

Jun 97 - Jan 99	**DERA Bincleaves** **(Defence Science and Research)** Scientific Officer

- Research of active SONAR pulses in reverberation limited conditions using FORTRAN;
- Analysis of the effects of wideband pulses on multi-highlight targets using C;
- Investigation of the advantages of Neural Networks over standard detector algorithms for narrowband signals;
- Torpedo homing algorithms;
- Technical report writing;
- Software development using OO in C;
- Attended courses on Signal Processing and Sonar applications.

Mar 97 - Jun 97	**Martech Systems** **(Underwater Science and Research)** Assistant Mathematician

- Contracted to DERA Bincleaves (above) for SONAR development studies.

QUALIFICATIONS

June 1995	Degree	
	Mathematics BSc	2-I honours
June 1991	A Levels	
	Physics	A
	Pure Mathematics	B
	Applied Mathematics	A
	AS Level Electronics	B

COMPUTER SKILLS

FORTRAN	C
C++	DELPHI
UML	VMS
UNIX	WINDOWS
LINUX Redhat	Enterprise Architect
Microsoft Office Products	OO Methods (UML)
PVCS - Version Manager	Publisher - Web Design
Test Director	Caliber - Requirements capture
CTH	CALE
DYNA	Hypermesh
LS DYNA	Corel Draw

REFERENCES

Mr Neil Hebron
Lockheed Martin
Ampthill Road
Reddings Wood
Ampthill
Bedfordshire
England
01525 841000

Mr John Dix
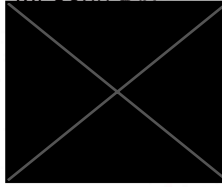
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