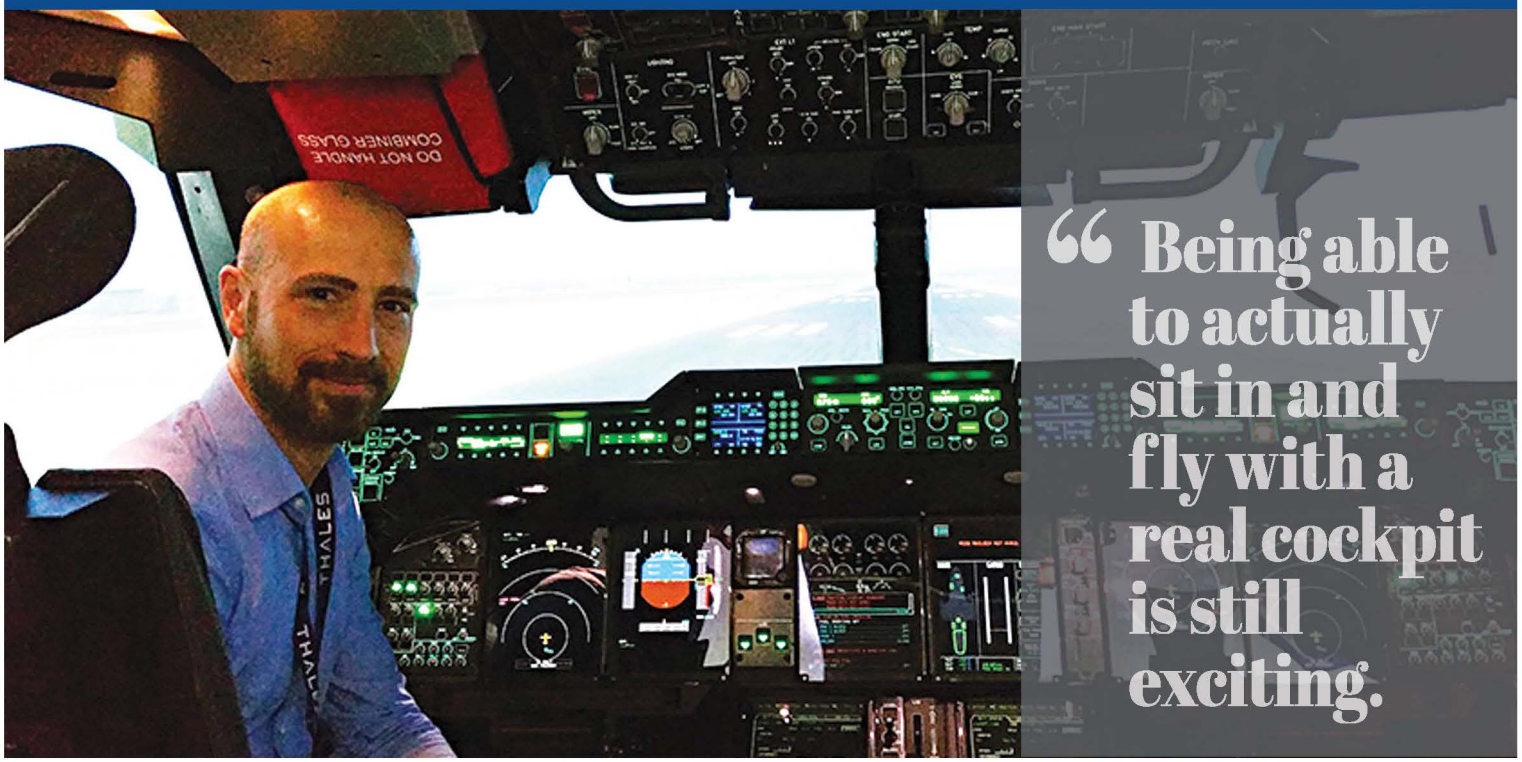
Meet Andrew

Low level flying in a high flying job.



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Andrew Hearn attended Mary Hare School from 1988 to 1995. He studied Computing, Maths and Biology in 6th Form and then went onto North East Surrey College of Technology to study Computer Automation and Networking, HND. Andrew is a Senior Software Engineer for flight simulations. Is it as glamorous as it sounds? Does working with a flight simulator have its moments? And how did he find such an interesting and niche role?

So, you obviously have a talent for technology. Where did this stem from?
Thanks! I think it all stems from this urge to know how things work, and what drives/controls them. After all, us humans made them, there's no sorcery involved despite outer appearances! When I was little, I couldn't resist taking my mechanical or electrical toys apart to see the inner workings. My dad was kind enough to lend me some of his screwdrivers. There was a condition each time; that I put things back together in working order - so I had to understand everything to do that!

What did you study at University?
I actually opted to do an HND instead of a degree. I had a huge dilemma on what career path I wanted to take, it was either computers or biology. These fields didn't overlap back then! That dilemma meant I couldn't commit to a degree. Instead, I went for a two-year HND in Computer Automation, which would let me 'jump' into a final year of a related degree if I wanted to continue with that path. That gave me a greater flexibility, keeping my options more open. The computing field was the faster growing one, hence selecting that first.

However, nowadays, the biology and computing fields overlap a good deal enough for a combined degree. I would have gone for this kind of study - without question - supposing I did my A-Levels today.

Did you always have a clear vision of what you wanted to do when you left University?
By the time I completed my HND, I had enough of education, I wanted to take a short break before starting a degree. The idea of a solid work experience under my belt, by the time I did a degree, was appealing - I would then be able to narrow down what study I'd have needed to do.

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So, I started applying across many technology companies, hoping for perhaps two years' worth of experience. With the HND result, I landed a role at RACAL, developing radar and signal processing software. However, these two years flew by, I got sucked into more and more interesting 'projects', gaining promotions based on previous work done, so the opportunity to do a degree faded as the years went by. Around 3 or 4 years into the job, I did a significant white paper, and portfolio, which enabled IEng accreditation with the IET. This was an equivalent substitute for a degree. In the meantime, RACAL was taken over by Thomson-CSF (and then Thales).

Thomson-CSF was a flight simulator and training company. So, based on my previous work with data visualisation, and state machine implementations, I was selected to join the synthetic environment R&D team. So, I would say that my career path opened itself based on work done, rather than me having a 'destination' in mind.

You have a pretty cool job working with flight simulators. Is it as exciting as it sounds?
It is as glamorous as it looks! Being able to actually sit in and fly with a real cockpit is still exciting. My work with visual effects meant I have to check extremities such as flying very close to the ground, performing near-misses with other CG aircraft, and so on. It is a gigantic video game!

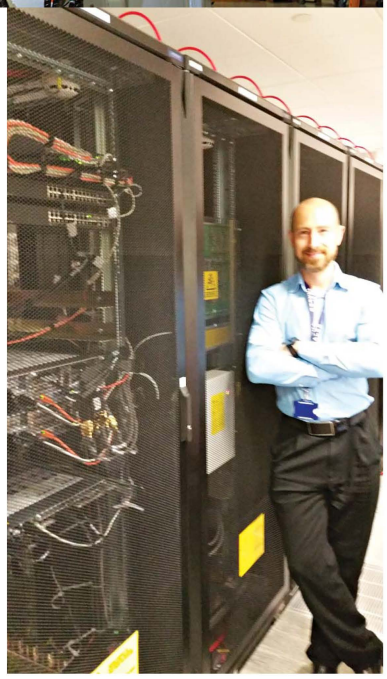
What is the most challenging part of your job?
A lot of hard work was put in, there were plenty of coffee-fuelled problem-solving sessions. The deadlines to meet meant a pressurized environment. We also had to work in shifts since we all couldn't work on a simulator at the same time. Sometimes this meant me coming into work at half 5 in the morning, other times it was me leaving at 9pm. Some of the logic implemented are novel, so I have to ensure that I document what I've done, so for other engineers to follow up with.

But the overall satisfaction of seeing things come together, the visual effects that I implemented doing what they do, is very rewarding.

Have you a particular project that you are most proud of and why?
There are many! It is hard to pick and choose. Some of them would be long-standing technological problems that I was able to 'crack' and provide solutions for. I think those I'm most pleased with have to be writing software that run on GPUs instead of CPUs. GPUs accelerate processing by parallelization, so it is another 'level' of understanding how things fit together, and ensuring data verification across cores. The resultant visual effects become 'magic' to onlookers, and this gives an amazing job satisfaction!

How much time do you spend in the simulator 'in flight' as opposed to behind the scenes?
More behind the scenes! I think it would be 10 to 20% 'in flight', and the rest working with servers, using software test harnesses, debugging and the like!

Have you any advice for those wanting to go into the same line of work as you?
The best advice I think would be to teach yourselves coding, there are many good online tutorials. This will make the more formal courses much more enjoyable, and then progress will come as second nature. Patience is key too since things won't be immediately obvious. Small steps are better than big leaps. And see making mistakes early on as a very good thing, since it means we're actively learning.



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