INSIDE CAREERS
SPECIALISTS IN GRADUATE CAREERS

THE ONLY GRADUATE CAREER GUIDE TO

INFORMATION TECHNOLOGY

2012/13

WHAT'S INSIDE

- In-depth career advice
- Graduate & senior profiles
- Salaries & career paths
- Professional qualifications explained

"The definitive career guide to the IT profession."

Alison Allden, Chair, Education and Training Forum, BCS – The Chartered Institute for IT

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THE PROFESSION

Overview of IT

The IT industry is increasingly important in what is becoming a technology driven world. There is a whole range of opportunities available in this fast moving industry where new technologies and software are readily emerging.

Today's IT industry is at the heart of our economy; with a central role in supporting government, it is a key means to support the growth of UK industry. The UK is also home to two of the world's leading IT companies – ARM Technologies, whose processor designs power most smartphones and tablets, and Autonomy, an innovative software provider recently acquired by HP.

The IT industry also has its challenges, one of which is the significant shortfall in new talent in key areas such as service management and cyber security. A recent report from the REC indicated that the hardest areas to recruit into today are C#, C++ and JavaScript developers. Graduates with practical skills in these areas have only to demonstrate their employability skills to be able to secure a well-paid job.

Increasingly though, new areas are coming to the fore; e-Skills UK, the government agency responsible for identifying future skills needs in the IT industry, reported in 2011 that the areas of greatest skills shortage will be service management and cyber security.

Two key areas for future employment
Service management
Service management is about the management, operation and support of IT systems already in operation. With so many software development roles having moved offshore over the last decade, the role of the service manager has become central to many large organisations.

The chief information officer in a large corporations is more concerned today with the availability of their systems and the customer service their organisations provide than they are of software development or deployment activities.

> *To really stand out, today's graduates need look no further than cyber security.*

Cyber security
To really stand out though, today's graduates need look no further than cyber security. The severe shortage of people with cyber skills has led the coalition government to invest £650m in the UK cyber security strategy – a central theme of which is skills development. To support the need to find new talent, the industry created a consortium to launch the Cyber Security Challenge which has just entered its third year.

As more and more services move to the cloud computing, security becomes increasingly important. For example, have you ever considered where services such as Google Apps, Dropbox and iCloud are hosted? Who has access to your data and is it secure?

Entry to this exciting area of the industry is often initiated with an interest in networks or systems

administration – and new graduates can develop these skills either through their employer's own development programmes or through study with providers such as The Open University, who offer many career development options for graduates in the workplace.

How to get on in the IT industry

What is important is to remember that whilst the initial role for a graduate may be as a software developer, anyone that can demonstrate that they are continuing to learn, particularly about service management or cyber security, can quickly move on to the highest paid, most influential and rewarding roles the industry has to offer.●

Kevin Streater is Head of IT Industry Engagement at The Open University. He is a Chartered Fellow of the BCS – The Chartered Institute for IT and member of the Skills Framework for the Information Age (SFIA) Council.

Why go into IT?

A career in the IT industry can be both rewarding and enjoyable. With the possibility of travel and the opportunity to work in a range of sectors, it is not hard to see why IT is a profession that is growing in popularity.

If you're starting your working life right now, you've hopefully got a long career ahead of you. If you're like me, you'll hope for two things. The first is that you can afford to retire before you're 80, and the second is that between now and then what you end up doing will be satisfying and enjoyable.

If that's you, then a career as an IT professional could be an excellent choice.

Skills and opportunities
There is hot competition amongst top employers for graduates who are personable, clever, ambitious and have an IT/computer science educational background. The crème de la crème will get some of the most attractive graduate packages out there.

However, I regularly meet recruitment managers who tell me they can't find enough people in that top bracket, and will pay top dollar. Essentially, business and government can't get enough excelling IT professionals for now and for the foreseeable future.

It is vital, therefore, to keep updating yourself and stay in touch with current issues.

Current trends
Current trends in the profession are largely around mobile devices and cloud computing – for example, using an iPad to access a variety of business systems, Facebook and Twitter, all on the go, all the time. Your job could be to keep teams working wherever they are, while still keeping them and their data safe and secure – that's a massive challenge.

Right now, people with the right qualifications and the right attitude to security and risk in IT are in incredibly high demand.

Travel opportunities
IT is increasingly a global business, and again that presents opportunities. As a qualified IT professional your skills will be in high demand from California to Beijing, Dubai or Bangalore.

It's a profession that offers the opportunity to work around the globe, to stimulate growth in developing countries and help lift people out of poverty, or make things happen in some of the richest parts of the globe.

Salaries
Salaries in IT remain good, particularly for those looking to enter particular sectors such as banking. The financial sector carries out large recruitment drives for graduates who may help them gain a competitive edge.

Other sectors will also pay IT staff well as they are seen as an integral part of keeping a business going and moving it forward to future success. Some companies will also

offer excellent additional benefits such as gym membership and generous holiday in order to attract the top people. For more information, go to 'Salaries & benefits'.

Business and government can't get enough excelling IT professionals for now and the foreseeable future.

Working as an IT professional
From health to horticulture, finance to

Formula One, everyone is making use of IT professionals more and more. The IT profession means great opportunities for those in it, but also about creating opportunities for other people.
The role of an IT professional can be a highly creative one: you can apply your talent to creating technology, or your charm and insight to help people make the most out of it. If you can see how to solve problems with technology or how people can work better using it, then that talent will keep you interested and occupied for long after your mates are bored to tears.

If you don't like change, then this isn't the profession for you. If you like being in the thick of it, having power and responsibility, expressing yourself, and don't ever want to be bored, then maybe this is for you. ●

David Evans is Membership Director for BCS, The Chartered Institute for IT.

Salaries & benefits

Despite the economic situation in the country, employers are still looking to hire IT graduates with the right skills for the job. Mark Crail tells us more...

Pay rises in the IT sector have staged a recovery over the past year and are now outstripping price inflation for the first time since the economy hit a brick wall in late 2008.

Figures from XpertHR's Computer Staff Salary Survey for June 2012 show that basic salaries had increased by an average 3.1% over the previous 12 months. Including bonuses, take-home pay rose by 3.7%.
XpertHR has published the UK's most comprehensive and reliable IT pay survey over a 40-year period: the most recent findings, covering nearly 60,000 IT professionals and managers in 209 companies, are summarised in this article.

Figures from the survey show that pay rises took a sharp downturn in 2008 and stabilised during 2011 but are now on their way up once again, particularly in inner London, where the City effect has seen a sharp recovery in bonus payouts. IT professionals in post at the date of the survey who had not changed roles in the previous 12 months received, on average, a 3.1% increase in basic salary (or 2.7% increase taking into account both basic pay and bonuses).

This recovery in IT salaries is not reflected in any similar recovery in pay increases for other groups of employees, other than in highly specialist roles such as actuarial professionals. It also shows IT professionals benefiting despite problems with the wider economy, with UK GDP shrinking for three consecutive quarters in late 2011 and through the first half of 2012 and the country in a technical recession.

Graduates entering the IT profession can be confident that if they have the right skills to offer, they are likely to find plenty of career opportunities. Those who succeed in getting a first foot on the career ladder can look forward to progressing in due course from modest levels of reward to what are relatively good salaries in comparison with many other careers. When the economic recovery begins to increase demand for people with IT skills, they will have the experience and expertise to take them on to bigger and better things.

In addition to their basic pay, IT staff enjoy a range of other benefits from their employment: most could expect to begin employment with 25 days' paid holiday per year plus bank holidays (rising with service to 30 days) and at least 85% of entry level staff could find themselves in roles that qualify for overtime payments.

Despite a downturn this year, most employers of IT staff continue to report difficulties recruiting the right people. Having the right skills can also have a substantial impact on pay levels.

The key skill areas required, especially at junior levels are:
- JCL; RPG400; Visual Basic
- MS.NET
- DB2; Data Warehousing; MS SQL Server MS
- SMS
- DEC-VMS; Apple
- Cisco; Voice IP; CICS; TCP/IP
- SAP; Oracle-CRM
- Prince2; Business Objects.

The XpertHR Computer Staff Salary Survey is only available to participating companies on a subscription basis. For further information visit www.xperthr.co.uk/job-pricing. ●

Mark Crail is Head of Salary Surveys and HR Benchmarking at XpertHR (www.xperthr.co.uk).

IT SALARIES BY SENIORITY

Responsibility level	Average basic salary
Trainee	£17,482
Junior Analyst	£22,900
Analyst	£30,866
Senior Analyst	£39,910
Project Manager	£47,178
Department Manager	£66,166
IT Function Head	£79,926
IT Managers	£98,529
IT Director	£131,911

Women in IT

Many private sector companies are growing and vacancies are opening up in both the public and private sector. A variety of opportunities can be found for women wanting to work in IT.

Today's job market, post recession, is very competitive. For some companies, it doesn't feel much like 'post recession', and growth is still evasive. Some are growing again and vacancies are opening up as recruitment freezes are lifted, but not all.

The public sector will remain challenging for some time, as their cuts start to bite. IT is both the enabler of savings and the engine of growth, and people with skills and experience in IT are likely to be more in demand than people with other skill sets.

IT jobs are often well paid, with opportunities for travel.

IT is integral to every business process, and IT teams interact with business teams, working together in exciting and dynamic environments to transform their companies. At a careers convention one female computer scientist said:

'The work is varied, stimulating, flexible and, compared to other industries, well paid. It's a great place to be.'

However, it seems that for many women IT isn't regarded as a great place to be. BCS, the Chartered Institute for IT, published a scorecard that details all the statistics about women in IT – and it is very thought provoking. Only 23% of the workforce in the IT industry is female, compared to 45% across the UK's working population. Women account for just 15% of applicants and acceptances onto computer science/IT related subjects at higher education, and they are just 9% of those taking computing A levels.

So what's happening?

In school and at university, IT overall is less popular than it used to be. Fewer people overall are taking GCSE and A level computing courses, or applying to computer science or IT courses at university. But the number of people in IT occupations continues to rise.

Many employers look beyond the disciplines of computer science to recruit into IT roles – science, maths, and economics or business qualifications are considered.

For computer programming aptitude, employers will look to languages, music and classics for relevant competencies such as logical thinking, adaptability, memory and analytical capability.

Increasingly though, communications, team work, data collection and analysis, customer service, responsiveness, and presentation skills are more in demand. Women tend to be good at these things, and the opportunities for women to enter employment in the IT sector are very good. The skills that they excel in are very much in demand and they add diversity to teams.

Furthermore, given that IT-related jobs are to be found within almost every organisation, they allow great flexibility of career choice, including in the most innovative and successful companies. You can find out 'where women want to work' by visiting www.www2wk.com or the Sunday Times 100 Best Companies to Work survey that takes place each year. Some women-friendly employers recruit through www.womenintechnology.co.uk. The site has a diary of events, hints and tips for your CV and guidance on networking.

The best employers recognise the importance of retaining their female staff and encourage women to combine families and work. With many IT jobs being shift or project based, employers are able to offer many different flexible styles of

working. The investment in training staff means that employers are keen to encourage women to keep in touch and return after a career break.

Taking a break

Your work environment is especially important if you ever need a career break when options such as flexible working, home working and other family-friendly policies such as workplace nurseries become important.

It is also vital to work for a company with policies and managers who respect the need for a reasonable work/life balance.

Good employers are not always big organisations; in smaller ones colleagues are often sensitive to each others' needs and happy to give and take.

Returning after a career break is something that can seem daunting. Confidence can be low, skills seem out of date and technology has moved on. Yet there are schemes around that offer training and bursaries to help you retrain. One of the biggest benefits can be planning for your break: making sure you keep in touch by attending regional IT meetings, reading your journal or IT newsletter, or keeping up to date with online training programmes. To help, BCS has produced two guides on taking career breaks and returning to the profession.

You won't be alone

Various groups exist to support women in IT and technology. BCSWomen is an online news group that offers a CV clinic service, career development workshops and networking meetings, both technical and social. BCSWomen also offers role models, women who are happy to talk about their experiences and chat over different career options with you. As well as the BCS mentoring programme for members, BCSWomen works with MentorSET to find and train mentors for its members.

Women@CL is a project that is running events and workshops around the country. For women in research it holds the annual Hopper conference with a poster competition. Intellect is the industry body for the IT sector and it has a Women in IT Forum that has a programme of events taking place around the country every quarter. They are a great way to find out what is happening in the industry and to meet and network with people.

Added to these are the well attended networking events by www.womenintechnology.co.uk giving women in IT fabulous opportunities to network and work out their next career move.

The Institute is collaborating in Technocamps, an initiative from Welsh universities to inspire and encourage school children to go into the STEM subjects. It also supports, along with a number of key employers, an initiative to raise the profile of the IT industry in schools, talking about the tremendous range of opportunities IT offers.

It seems that women choose IT as a profession less often than men, and less often than minority groups. We would like to see this change, as there are many good opportunities and women flourish in IT environments. The Institute will continue to focus on this area and collaborate with other partner organisations to raise the participation of women in the profession.

We are building a profession that is good for women and better for all.●

Rebecca George OBE is Vice-Chair, Policy and Public Affairs Board at the Institute, with a special responsibility for Diversity and Inclusivity. She has worked to increase the participation of women in IT for 13 years.

Career Opportunities in IT

Jobs in IT vary from developing interactive TV to teaching students about technical forensic science to risk management. Some roles are highly technical while others have a greater focus on business objectives, strategy, communication, people management or finance.

One million people are estimated to work in IT in the UK. Not surprisingly, they are involved in a huge number of different activities. Some have a large technical element such as ethical hacking, programming, software testing and systems analysis. Others have a greater business emphasis, for example project management, quality assurance and client relationship management.

The government-backed Skills Framework for the Information Age (SFIA) have defined 290 different types of IT jobs at different levels. These are divided into six categories: strategy and architecture, business change, solution development and implementation, service management, procurement and management support and client interface.

To widen career choices further, IT professionals are found in almost all industries due to the all-pervasive nature of computers. They are used for tasks as diverse as positioning cargo on ships, measuring patients'

heartbeats at hospitals, controlling lifts and ordering stock in supermarkets.

Some of these user organisations (so-called because they use IT to meet their business needs) look after their IT needs in-house, while others employ specialist IT service providers to perform some or all IT functions. Almost any role could be outsourced in this way, for instance a market research company may develop its own specialist software to track results or it may commission a software development firm to do so.

When you are starting out in your career in IT, you are likely to be in a development or service provision role. As you become more experienced, you may then wish to consider more strategic or management positions.

Development
Programming, also known as software development or software engineering,

is a function required by most industries and many organisations and one where many IT professionals start out. Programming includes very high-profile roles such as designing computer-generated characters for Hollywood films. Less glamorous (but also less competitive) jobs could be developing specialist trading software for investment banks or writing programmes to control the running of a steel plant.

Development work is not restricted to programming; there are also opportunities to develop hardware, databases, networks, systems and websites.

There are fewer jobs developing hardware than software as organisations often buy computer equipment as standard and then adapt software to meet their needs. Examples of hardware development could be to make more robust computers to be used in schools or to design computers that could withstand forces when taken into space.

Website designers, a well-known role, continue to be in demand as companies embrace the use of websites and the internet to conduct their business.

With computers and e-commerce becoming increasingly sophisticated and part of daily life, the role of ergonomics is growing in status. There are an increasing number of people specialising in the ease of using IT, be that

systems, software, databases or websites.

Once software or hardware has been developed, testers check that everything is working correctly before it is handed over to the installation team and the customer. An up and coming role in testing is that of ethical hacking or penetration testing, where IT professionals see whether they can breach organisations' systems to check the level of their security.

Finally, there is IT installation: this can be a straightforward task or an enormous one. For example, integrating new hardware across a chain of supermarkets would be a very time-consuming and complex procedure.

Service provision
Once hardware, programmes, databases, systems, networks and so on are installed, a team usually takes on the role of supporting them. There are a large variety of roles in this area of service provision: supporting users, operations or infrastructure.

Most large companies will have a helpdesk, which staff can contact for help with computer problems and queries. Behind the scenes, other IT professionals are ensuring the organisation's network is functioning correctly. Others could be administering a database, which could, for example, list all the company's contacts, or collate market data needed by staff. One person in a company does not necessarily concentrate

on just one of the above tasks, particularly in smaller firms.

An IT professional could, for example, develop software and be responsible for supporting it.

Business change
The above roles are ones where technology takes up the majority of the person's time. In many of those roles you would still need to have an understanding of business requirements and be able to interact with customers, but your main focus would remain technical.

There are, however, numerous other roles where the focus is in varying degrees less on using technical know-how and more on strategy, communication, or finance.

Project management is an example of where some technical knowledge is combined with financial and communications skills. Project management is about working out timescales and resources needed for a project, for example installing all the IT necessary for a new oil rig and then making sure the project keeps to budget and meets the deadline.

Strategy and planning
People working in strategy and planning roles are likely to have good technical knowledge but not be using it hands-on. They tend to be in more senior roles, which, for example, a programmer could progress into.

A continuity manager, for example, looks at how IT services would continue to run in case of an emergency such as a fire destroying an organisation's infrastructure. Architect roles, one of the industry's current career buzzwords, also come under this category. Architects give guidance and direction-setting on large products, including writing policy documents, managing contracts and advising on the technical elements of a project.

Procurement and management support
Procurement and management support roles require some technical knowledge combined with other general management skills. Procurement managers, for instance, need technical knowledge about what they are buying but also need to have skills to build relationships with suppliers and be financially savvy.

IT professionals are found in almost all industries due to the all-pervasive nature of computers.

Additional skills
There are also roles where IT plays a part in what you do but the role normally requires another set of skills and knowledge as well. These are roles in marketing, sales, technical documentation, education, or training. If you wish to go in one of these directions, technical knowledge would be very useful, but you may also have to train in another skill.

A decision now is not for life
One important thing to remember is that your first job need not be your role for life. There will be opportunities to move into different roles and, as IT is a fast-moving area, new opportunities are always appearing. Furthermore as your career progresses, more choices will open up. ●

GRADUATE PROFILES

Red Gate

Name	Robin Anderson
University	University of Reading
Degree	MEng Electronic Engineering & Computer Science
Location	Cambridge
Role	Test Engineer

Causing problems is something most people avoid. Test engineers on the other hand, get paid to make a science of it.

It's not just mindless button-bashing; to be effective requires an academic approach to analysing the software you're working on.

Testers will need to employ lateral thinking as well as traditional logic, as it's more than just programming. You'll be working against the mind-set of the software developer, trying to catch him out and challenge his assumptions. It's a rewarding career for a technical individual with plenty of opportunity to learn a great deal.

What do test engineers do?

Testers examine software for any type of defect. This is our core role and involves writing programs and creating environments to simulate the load and abuse that real users will place on the product.

However, the job invariably involves considerably more than just finding bugs. Modern development practices mean that all members of the development team are involved in project planning, specification and other related discussions.

How did you get your job at Red Gate Software?

I found out about the company through a friend and submitted my CV and a covering letter online. At Red Gate, candidates normally go through a two stage interview process that covers technical ability and team fit.

What is a typical day like for you?

The day starts with a quick stand-up meeting with my immediate colleagues. We brief each other on yesterday's work and mention what today's work will be. Throughout the rest of the day, project work will fit in-between lunch and meetings. Interruptions can be frequent. These could be support cases that have been escalated to the development team, marketing campaigns or internal projects that require IT work – or any other ad hoc technical work, as testers generally double up as excellent IT personnel.

What do you enjoy most about your job?

Being able to play with computers all day and learning from the people around me.

What are the most stressful parts of the job?

A tester can never be completely sure that a product is defect free.

Taking responsibility for saying 'yes, we can ship this product' means working very hard when the release date is close – a time when developers will stop work and allow testers to work on a single version. It's a time when testers are particularly valuable, but also when they're least amenable to distractions and side projects.

What would you like to achieve in the future?

Within a few years I would like to run my own project team and manage a new product. This is possible for anyone with the potential,

as the job exposes you to all aspects of product development and management.

Do you have any advice for anyone wanting to get into the industry?

Get a numerate degree, 2.1 or First; maths, science, computer science and engineering are the usual backgrounds of tester candidates. However, experience trumps qualifications – so related work that demonstrates intelligence and technical ability will get you an interview.

> A tester can never be completely sure that a product is defect free.

What was the interview process like?

The interview process was designed to be as stress free as possible. There were two interviewers: one person I would ultimately be working with and the other is a manager who was previously a tester.

The second interview was less technical and more personal and conducted by two people (in rare cases a candidate may be rejected if they wouldn't fit into the company culture, or the second interview can be used for more technical questions). I was contacted within a day or so with a confirmation.

The whole process was quick and efficient and having now conducted many interviews myself, I know how much effort goes in to make the process as quick and pain-free as possible.

Any advice for the interview process?

Read through your own CV carefully as you'll almost certainly be asked to elaborate on any claims you make. If you know that the company you're applying to uses particular technologies or programming languages, spend a few evenings or so brushing up on the fundamentals, as this can make any worked examples more relevant.

Is there a work/life balance?

Definitely. On rare occasions you may be responsible for something out of usual office hours, but with flexitime and a relaxed office atmosphere you can work around your other interests in life. For example, many people at Red Gate play sports during lunch and work later to compensate. Some work only four days to give them more time with their families.

What challenges have you come across and how did you overcome these?

Learning about the necessary technologies used at Red Gate was the first challenge. Fortunately, there is a wealth of information online to aid learning and new starters are given inductions by experienced colleagues who they can later quiz if required. This helped me become a valuable team member more quickly.

What 'soft skills' have you found useful?

Being able to work efficiently with a variety of personalities requires good communication skills.

In general, interpersonal skills are vital in any job where you are relied upon by others. Tester engineers will find themselves working closely with developers, designers, technical authors, managers and customers.

Another important 'soft skill' that can dramatically affect productivity relates to the fact that technical workers work best with large contiguous blocks of time that they can use to really focus on a particular task. However, managers are very fond of meetings and other things which interrupt the workers preferred schedule.

Discussions with other colleagues will also disrupt someone who's 'in the zone'. Understanding how you work best and managing time accordingly makes a big difference. ●

Barclays

Name	Stacy-Ann Sinclair
University	City University London
Degree	Computer Science
Location	London
Role	Graduate Analyst

Technology was always my career path of choice, from studying for the IT Practitioners qualification at college to my computer science degree at university.

Throughout my education I have always envisioned working for a software company, which I pursued with internships and placements. I never considered an IT career in investment banking before speaking with a friend who had. In the summer of 2008 I discovered a new and exciting interest for the world of finance through an internship, where I worked on stimulating projects such as designing a system that identifies rogue trading.

I never envisioned technology in this light before and the mixture of the two coupled with the environment makes it an absolutely fascinating experience.

The following summer of 2009 I undertook an internship with Barclays, within Global Technology Market Data, which confirmed my initial desire to work in an investment bank. The environment was fast-paced, the people were smart, friendly, eager to help, and the pool of knowledge available is just mind-blowing. I worked in that team for several months before making a transition onto Barclays graduate training programme in February 2010.

Training

If you get the opportunity to be part of a graduate training programme, I would highly recommend taking it. The training programme held in London was five weeks long and consisted of graduates from all over the world and from different business areas.

Prior to starting my role, I was very concerned that coming from a technology background with very little knowledge about finance would put me at a disadvantage. However, the graduate programme addressed this and after successfully completing the programme this was no longer a concern for me. The structure, content, depth and breadth in topics, delivery and effort contributed, ensured that I left feeling confident in my knowledge and better prepared for a technological role within an investment bank.

> *If you get the opportunity to be part of a graduate training programme, I would highly recommend taking it.*

Among the many advantages of interning and being on the graduate programme is the ability to work in different teams and taking on different roles before deciding on where you'd like to work permanently. This is a wonderful opportunity, as not only do you get a taste of different areas of the bank, you greatly develop

your knowledge of how all the systems and business areas interrelate, which helps you to see the bigger picture. You gain a real depth of knowledge, feel more experienced and confident in your career and, most importantly, you get a better view of what works and what definitely doesn't work for you.

I am currently based in London on my first six-month rotation of three within Research IT Analytics. I am now on a Continuous Professional Education (CPE) programme, which runs parallel to my current role. The CPE ensures that my technical and business knowledge is continually being developed, which keeps me competitive and better equipped to do my job and any future roles I may take on.

Projects I have worked on
From day one I have been involved in high impact projects. My role within Market Data helped to develop my project management skills by being involved in a cost-save initiative project, cutting costs across market data globally. I had the opportunity to meet with senior members of the firm and had frequent face time with the business. I was in charge of a project to discover, maintain and evaluate all the internal market data systems across the bank which exercised my communication, analytics and problem-solving skills. The acquisition of a major investment bank provided an opportunity to be involved in a huge consolidation project to merge the market data systems across both entities. This was a highly complex and challenging piece of work involving many different people from various locations.

I am currently undertaking a development role within Research IT Analytics, which is a vast contrast to my previous role (another advantage of the graduate programme). I now work with technologies such as C++, XML, SQL and SharePoint dev. My team works very closely with the Research team to develop analytical tools and industry-leading software that provides functionality such as trade ideas to our traders. My team is always striving to achieve high levels of optimisation and our project completion turnover is very high. The team's hard work played a role in Barclays winning the Best

Research Portal award in Profit and Loss Digital FX Awards 2010.

Challenges
My greatest challenge so far is the learning curve. The nature of the business and the structure of the programme mean that you constantly need to learn something new and this is not always an easy thing to do and get right. However, this is also one of the most appealing aspects of my job.

> *The challenges are great; the sense of personal achievement is even greater.*

Networking
I am never bored as there are so many things to do. If it's not after-work socialising with my team, previous teams (maintaining relationships is very important), or others from the graduate programme, I am taking part in corporate sports competing with other banks. I was happy to discover that Barclays encourages its employees to participate in a huge range of sports, social and volunteering activities – more than enough to satisfy my needs.

This is not only a great way to do something I enjoy, but it also gives the opportunity to extend my network. It also makes me try something new now and then; I have dragon boat racing practice tonight!

Advice
If you have never considered an IT career in investment banking, then maybe it's time you do! The environment is fast-paced; you'll never be bored: the training is world-class, the challenges are great; the sense of personal achievement is even greater. ●

PA Consulting

Name	Edward Hartwell Goose
University	University of York
Degree	MEng Computer Science
Location	London
Role	Software Developer

You know you've found the right job when you walk into work genuinely looking forward to the challenges you'll face that day. Every day is different and I've had the opportunity to work on some really interesting projects.

I work as a software developer, but the opportunities within consultancy firms are wide and varied. I've worked alongside specialists in logistics and IT systems and met a multitude of interesting people. Here at PA Consulting you are encouraged to head in your own direction, developing your own skills and goals.

You are encouraged to head in your own direction, developing your own skills and goals.

What do you enjoy most about your IT job?
Being a computer geek at heart, my favourite side of the job is the technology. PA definitely wants to be on the cutting edge, certainly within the IT practices. We often talk about new technology and how we can use it to open new doors and help our customers.

My current project is using an exciting piece of technology for a government client. I've personally been responsible for huge parts of this system. At first the pressure is daunting, but it's a fantastic feeling to see our prototypes performing well on such as large scale.

What are the stressful parts of your job?
Like any job, it's most difficult when things go wrong. For my first project, we were tasked with performing a competitor analysis for the company. The aim was to produce a single globally available website, but we didn't have much of an IT team to help, just a colleague and I.

Despite the challenges, we launched the website on time. But things didn't go quite as smoothly as we planned. Technical problems caused by concurrent users caused a difficult bug. The system was still usable for our 200+ users and it was collecting the data we required, but it was slow and painful to use.

There was a race to fix the defect and I can safely say it wasn't my most enjoyable day - but it taught me some invaluable lessons about myself and PA. Senior managers praised how I worked and most importantly at the height of the problem they valued my opinion and my experience.

The bug was eventually quashed, and things returned to normal. I wouldn't like to repeat that day, but I certainly value it.

Any advice for the interview process?

I went to a few interviews before settling on an offer from PA, here's some important tips I would like to offer (other than the obvious, i.e. dress smart):

> *Make sure you know why you're applying for this company and not another.*

Prepare

This is incredibly important. My first ever interview was with a company I knew nothing about and I skimmed over their website. I definitely got shown up in the interview! You don't have to know the whole company inside out, but find out what their key businesses are and who their clients are.

Don't just limit yourself to the practice or section you'll be applying to either. Become acquainted with their case studies and if you know the name of the person who's interviewing you – look them up. Also, make sure you know why you're applying for this company and not another (don't be afraid to say you are applying elsewhere. Everyone is!).

Practice

Practice is invaluable. Use your university careers service. Ask parents, friends, relatives and anyone else who can help. If you get the opportunity to go to multiple interviews, try and arrange them so the most important one (the one you really want) is last because doing an interview for real can really help. Of course, don't waste a company's time by applying to them just for practice, you'll be wasting everyone's time. ●

Asidua

Name	Brent Kelly
University	University of Ulster
Degree	Computer Science
Location	Belfast
Role	Graduate Engineer

A couple of years ago, I graduated from the University of Ulster with a first class honours degree in computer science. I worked for Asidua during my placement year and they also kept me on part time during my final year.

I found that a placement year can be beneficial in so many ways; it gives you hands on experience which you can't gain in a classroom environment. It also gives a chance to apply the techniques you have learnt so far in a real world situation, as well as learning new things that will aid you in your final year.

Most importantly it provides the opportunity to meet new people and partake in the company's social activities.

The 'hands on' training has continued to enhance my skills.

What do Asidua do?
Asidua is a software consultancy and services company, headquartered in Belfast with engineering and sales offices in Solihull and Dublin. They deliver integration, software and consultancy services to clients within the government and a range of corporations. Originally based within the telecoms sector, Asidua have developed their expertise to improve the bottom line and service that their clients provide.

Working at Asidua
During my time here I have worked in three different teams within their Business Services Division. Using a range of technologies including Java, C# .Net and web technologies I have been responsible for maintaining/enhancing existing simulation software and providing customer support for this software. I was also able to use the software I created as part of my final year project. Not many people can say they got paid for doing their final year project.

Since becoming a graduate engineer at Asidua I have been given the task of developing an automated test suite/framework that tests a series of web services.

Training whilst working
I have learnt so much through 'hands on' training. When I first started I was nervous about the work I had to do as I wasn't familiar with certain technologies. However, my confidence and development knowledge grew each day through the mentoring of my line manager and senior members of staff who were always willing to provide guidance. Now that I have returned as a graduate the 'hands on' training has continued to enhance my skills.

During my soft skills training, my communication skills were enhanced by the presentation I had to give. I gave my presentation on 'Starting a Band' and because it's something I am passionate about I was able to stand up and give a clear and confident presentation in front of my colleagues.

My working environment

Asidua provides a friendly working environment and their sports and social committee are always putting on events and activities. I can have a laugh with my fellow team members and we certainly make good use of the Wii that's in the chill out zone… Mario Kart is a very addictive game. ●

More graduate IT profiles are online at

www.insidecareers.co.uk

SENIOR PROFILES

Redstor

Paul Evans studied Law at university before moving into IT. After working in California he returned to the UK and started Redstor. He tells us what his motivations were for starting his own company.

PAUL EVANS

1998

Founded Redstor with Tony Ruane.

1996

Returned to England from California while still working for Memory Technology.

1994

Left Shoosmiths and joined Memory Technology.

1991

Graduated from Guildford College of Law and joined Shoosmiths Law firm.

My initial career choice was far from the glamorous world of IT. I gained a Law degree from Trent Polytechnic and then moved on to the College of Law in Guildford. Whilst doing articles at Shoosmiths Law firm in Reading, I started to feel that I wasn't playing to my strengths and began to question whether a career in Law was really for me.

Around the same time in the early 90's, the IT market was growing at a phenomenal pace and was having a huge impact on the way businesses were working. I was intrigued by this technical revolution and started to think that IT was an industry in which I could really thrive. This feeling was only encouraged further when I saw that most of my friends who worked in the industry were travelling the world, earning a considerable amount of commission and driving the latest supercars!

I made the decision to leave Shoosmiths in 1994 and joined an IT company called Memory Technology. Within six months of joining, I was transferred to its sister company, Shuttle Technology, in San Francisco, where I worked for two years.

After my wonderful stint working in the Californian sunshine, I returned to England to get married and spent another year working for Memory Technology, building important relationships with Japanese companies such as Olympus, Fujitsu and Panasonic. It was around this time I felt that I needed a new challenge and decided to set up my own company to prove I could make it on my own.

After making the decision to break away and start up a new business, Tony Ruane and I founded Redstor in 1998 and we never looked back. Redstor is now a leading supplier of cloud services and data protection solutions. It has a strong presence in the Education Market, partnering with over 85 service providers with its Redstor Backup Service for Schools (RBUSS) addressing over 10,000 schools in the UK.

A typical day
I have a management team who deal with the day-to-day running of Redstor so I tend not to get involved with that side of the business. Aside from the various client and board meetings,

a typical day for me involves checking that all of the systems that we provide are safe and available in order to maintain continued growth and excellent customer service to our clients and customers.

In addition, I play a motivational role at Redstor by encouraging and coaching team members to achieve company goals. I also work closely with the sales team to ensure that they are meeting sales targets and producing the expected level of customer satisfaction.

I decided to set up my own company to prove I could make it on my own.

What I enjoy most about my job
The best thing about being the Managing Director of Redstor is watching members of the team grow and develop. There's nothing more satisfying than coaching and inspiring people to help them bring new ideas to life.

What I would like to achieve in the future
I would like to continue investing in new people and companies. In 2007/8 we invested in a great management team at one of our partner companies, Centrastage. They are now thriving and achieved a monumental 300% growth last year. I would like to emulate that success in other companies.

I am also very active within the local community, coaching youth football and cricket teams. I would love to continue to develop this, and help to get more young people from the local community involved in sports.

Advice for anyone wanting to get into the IT industry
As with any job, be true to yourself; it's no good being a square peg in a round hole. You should aim for a role in IT that coincides with your nature and plays to your strengths, therefore ultimately enjoying your role. At Redstor, we are always on the lookout for people with a strong work ethic who posses a 'can do' attitude. The sort of individual that will prosper in this industry is someone that takes ownership and responsibility over their work and makes things happen.●

Getronics

Lucy Hunt's career in IT has taken across the globe and back again. Here she tells us about the different roles she has undertaken and how her career has progressed from her beginnings as a Junior Developer.

LUCY HUNT

2007

Returned to the UK and Getronics as a Technical Consultant.

2005

Moved to Nepal with VSO working as an IT Adviser.

1998

Joined Getronics (previously Olivetti) as a Technical Consultant.

1996

Began working as a Software Developer at Abbey National.

1994

Graduated from Liverpool University and began working as a Junior Developer.

1980s: Computers from an early age

My dad and his brother were into computers, so I got into them that way. I remember programming a Video Genie, a BBC Micro, a ZX80, and a ZX-Spectrum (how geeky), although it wasn't until I left university that I took it seriously as a career.

1989–1994: Student days

I studied Engineering Science as my first degree. As part of my fourth year group project, someone was needed to develop software to aid hull design of ships: I volunteered. This was my first real programming experience, and led me onto an MSc in Information Systems at Liverpool University.

My dad and his brother were into computers so I got into them that way.

1994: First proper job

I had two degrees from good universities, but no relevant work experience. I contacted several small software houses, including Performance Software (PS). I started out there as junior developer writing code in C and FORTRAN, but was also involved in support and sales force training. Unfortunately, the company ceased trading after 12 months.

1995: Stop gap

Having left PS without a job, I worked as a typist at National and Provincial (N&P) Building Society in Bradford. Writing code improves your typing skills no end. Whilst here I also spent

time helping people fix problems with their computers.

I was spotted by the N&P systems support group, when a role in support came up I applied and it was offered to me. Working in support, I built up a good range of PC and server support skills, but also taught myself Visual Basic and MS Access. N&P merged with Abbey National and new opportunities opened up as Abbey's general insurance workflow systems teams were relocated from. There were vacancies for software developers – I applied and was taken on.

1996: The Abbey habit

At Abbey National I trained in the development and support of imaging and workflow systems (FileNet and Staffware). I also started to get involved in the full software project lifecycle – from requirements gathering through to implementation and support.

In the workflow systems team there was a contractor from Olivetti – we became friends, and she suggested I contact her manager about joining their consultancy team. I did, went for an interview, and was offered a job.

1998: OliWanTronics

Olivetti (as was) has gone through several mergers and name changes – Olivetti, Olsy, Wang, Wang Global, and, today, Getronics UK. I worked on over ten projects (mainly FileNet Imaging and Workflow systems) in six years – the variety of work and challenges involved in consultancy was great – being able to work on all phases of software project lifecycles was too.

I was meeting and working with new people all the time – colleagues, existing customers and new clients – it was a very sociable job. My work included pre-sales development, project management, tendering for bids, business analysis, systems analysis, software development, testing and support.

I was stretched and challenged on most projects and developed new skills moving from thick to thin client systems. One down side was that as consultants, we often had to spend long periods away from home working on customer sites. For me that included Edinburgh, Leeds, Liverpool,

London, Manchester and Southend. Ironically, the next career move resulted in me being further away from home than I ever imagined…

The whole volunteer network combined to create an unforgettable experience.

2005–2007: VSO
Sharing Skills, Changing Lives

When I first left university I enquired about VSO – Voluntary Services Overseas – however, at the time I had no real skills to offer. Ten years on, I had the IT skills and life circumstances to be able to go for it. I did and was offered a number of IT placements in The Gambia, Ghana, Malawi, and Nepal. The Nepal placement seemed just right. My placement was initially for one year, but I ended up staying for two, working primarily with three Dalit (the so called 'untouchables' in the Hindu caste system) welfare organisations:

- • NNDSWO: Nepal National Dalit Social Welfare Organisation
- • FEDO: Feminist Dalit Organisation
- • DWO: Dalit Welfare Organisation.

These organisations are funded by a variety of international donors. Their central offices have networked computers with Windows XP and Microsoft (MS) Office software, and computers are key to much of their work. Additionally, DWO had a radio and TV studio with all the associated recording and editing facilities to produce their weekly news and interview programmes.

While donors have provided computers and equipment they do not often provide the documentation, training, advice, and guidance on how to best use it. This is where the VSO IT

team fits in, using IT to improve their ability to run projects and their organisations – 'capacity building'.

We developed HR databases, internal and external websites, software to store and report on survey results and an online Dalit recruitment database. I also gave training on computer basics, Windows, computer troubleshooting, IT audits and keeping fault logs, backup, anti-virus, document management, networking, internet, email, MS Office suite and PageMaker. I also spent a fair amount of time troubleshooting and fault fixing.

The work was not without challenges, as none of my organisations had a dedicated IT officer. Instead they may also be the finance officer, the HR officer or the secretary, and making time for IT in their already busy workday can be a struggle.

On top of that there were frequent computer failures with the electricity problems due to the dust, damp, heat and cold. A backup plan and a good dose of patience went a long way!

The here and now
My time working in Nepal was not all smooth sailing, due to the Maoist insurgency, security, politics, caste and culture issues, health and language, but it was incredibly rewarding in so many ways. The Nepalese people, their rich culture and beautiful country, and the whole volunteer network combined to create an unforgettable experience.

When I returned to the UK, I was unsure of what challenge would await me. My new role as a business analyst and technical consultant, back at Getronics, has been an ideal step back into working life in the UK. ●

Capgemini

Helen Wiltshire is the first to admit she knew very little about IT when she first graduated; despite this she now works as an Enterprise Architect for Capgemini.

HELEN WILTSHIRE

2005

Moved to Capgemini's Enterprise Architecture practice.

2003

Joined Capgemini as part of the Graduate Technologist Programme.

1999

Joined PwC as an IT Support Technician.

1997

Started at IBM as a German-speaking helpdesk analyst.

1997

Graduated from Heriot-Watt University in French and German.

I can honestly say that I didn't know what an Enterprise Architect was when I graduated (or even what an IT consultant was, for that matter). After almost accidentally finding myself in IT, my career path has taken me into increasingly technical roles, while allowing me to draw on my personal experience of being unversed in IT when explaining tricky concepts to others.

I now work as an Enterprise Architect within Capgemini, which depending on the particular role and client, entails various tasks broadly concerned with ensuring that a client's information, technology and processes fit together and support the needs of the business.

What I like most about this profession is the variety and the constant exposure to new concepts, whether unfamiliar technologies or businesses. At the same time, this makes for a challenging career, as you have to be willing and able to constantly absorb new information just to keep up.

My education
While my degree in French and German seems like an unlikely basis for an IT career, in hindsight, there were many aspects of my interests and education that have since served me well. What I loved about languages was the mixture of logic and creativity, and the fact that learning a language opened up so many new opportunities. Furthermore, I had chosen to specialise in interpreting and translating as I got a real buzz out of communicating meaning to people who would otherwise have been unable to understand. All of these things are equally applicable to the work of a IT professional.

However, I should probably mention that I was completely IT illiterate when I graduated! I'm still grateful to those who gave me my first job in IT for recognising that I had the potential to acquire IT skills despite answers in the technical part of the interview that still make me blush.

Entering the world of IT
Despite my lack of IT knowledge, I got a job at IBM, working on a European helpdesk, as IBM's approach was to recruit linguists and train them in IT. There was a steep learning curve initially,

but once I discovered that computers were not some impenetrable enigma, my interest grew and I naturally gravitated towards more technical roles.

From here, I took on a technical support role at a professional services firm, where I was exposed to many aspects of delivering IT and managing a team. I was then looking for a new challenge, so when the department was outsourced to Capgemini, I was excited at the prospect of new opportunities in a technology company.

> *I was completely IT illiterate when I graduated.*
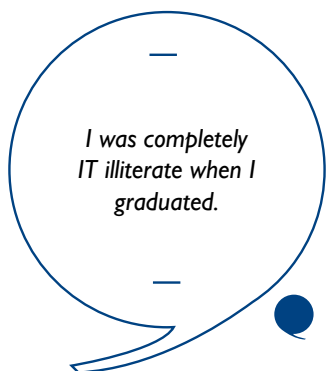
The big break
The event that has had the greatest impact on my career was being accepted into the technology graduate programme shortly after joining Capgemini. This opened up a whole new world to me, allowing me to experience many aspects of IT system development, with a diverse range of clients in different industries, while developing new technical and consulting skills.

In the programme, I learned that I was able to acquire deep technical expertise when needed, while maintaining an interest in a breadth of subjects. I also realised I enjoyed both the rigour of technical disciplines and the challenges of interacting with the business. These factors made enterprise architecture an obvious choice for my next step.

Life as an Enterprise Architect
My current role is focused on managing technical changes on an established government IT project, though I have previously worked in roles developing architectures for new IT projects and helping clients establish a capability to continue managing the relationships between their own technology, information and processes.

I've worked on projects in policing, defence, local government and healthcare, as well as for a high-street retailer and a global car manufacturer (often working in the US).

As an Architect, I need a broad understanding of the issues affecting our clients' business and IT, which means I need to be learning constantly. As well as formal training courses and certification, I rely on various resources, whether colleagues, internal knowledge bases or industry-wide sources.

What I particularly enjoy about my job is working with a diverse range of intelligent people, with different backgrounds, interests and strengths (I was pleased to discover that the stereotype of the bearded, sandal-wearing geek is not the norm). The most important factor in my development has been the people I have worked with, and I would advise anybody in this career to make the most of the experience and knowledge of those around them.

The future
My immediate plans are to gain experience of managing architecture engagements, as well as to grow my involvement in coaching and developing new entrants into this career. Beyond that, I'm keeping an open mind – my career to date has been full of surprises, so I don't see why the future should be any different! ●

Barclays

Despite knowing he always wanted to work in IT, Justin Moffitt only decided to apply to Barclays after working as a consultant and rotating into several different organisations. Here he tells us why he has never looked back.

JUSTIN MOFFITT

2004

Progressed to Commodities Technology Team Leader at Barclays Capital.

1997

Joined Barclays Capital.

1995

Started work at the Irish Tourist Board.

1995

Graduated with a Mathematics degree from Trinity College Dublin and the University of Durham.

I started programming on my home computer when I was 14 and knew then that I wanted to pursue a career in technology. What I didn't know was what kind of an organisation I wanted to work for. After studying Mathematics at both Trinity College Dublin and the University of Durham, I joined the Irish Tourist Board (Bord Failte), working on a travel reservations system called Gulliver. The team was small and I was able to work very closely with senior people and quickly started to learn a lot more about the world of marketing as well as technology.

After about a year and a half, the department was relocated to the west of Ireland, but I decided that I wanted to stay in Dublin and started to look around for another job.

I had enjoyed working with a small team and looked for a similar size organisation, joining a small management and technology consultancy soon after in a junior consultant role. I enjoyed the fact that I was able to spend time at different types of organisations, but was frustrated by not staying at any of them for a particularly long time – it was basically like having a different job every few months.

One of my assignments was with a financial services firm and I was hooked. It didn't take too long before I set my sights on moving to London and joining an investment bank.

It was a buoyant time in the financial markets and flying back and forth between Dublin and London for interviews was exciting in itself. After interviewing at a number of investment banks, I chose Barclays purely because of the people I had met during the interviews and I'm pleased to say that it's still the people I work with that keeps me here.

I joined a small team of IT developers, working very closely with many other areas of the bank including sales and trading. I quickly realised that the hours were going to be a little longer and the work challenging, but it was extremely rewarding and being in London is a huge bonus.

The career opportunities at a bigger firm became evident quickly and in less than two years I was running the team

that I had joined. I undertook a lot of training about financial products and the mechanics of investment banking and even had to pass a few exams along the way. I then progressed through a number of roles in Equity Derivatives Technology, taking on increased responsibilities and undertaking management training as I went.

It's still the people I work with that keeps me here.

After a few years, my immediate line manager left and I took the opportunity to speak to his manager and asked to be considered for the vacancy. Luckily for me after some interviews I was told that the role was mine. I remember the first few months in the new role as one of the most exciting and difficult times in my career.

I was at the helm of a whole department and had to learn a lot of new skills quickly. Having developed within the team definitely helped me as I knew the people, the systems and the processes, but having accountability for the technology needs of a complete business is quite a responsibility.

After two years leading Equity Derivatives Technology, our CIO asked me to move to lead Commodities Technology. I completely underestimated the size of the challenge in moving from one business area to another. I quickly set about understanding the team dynamics, building relationships with the key clients, listening to what the team thought should change and what should stay the same. I've been in the role for three years now and have completely restructured the department, hired a number of people, and delivered key projects to enable business expansion.

Working in an investment bank is every bit as exciting today as it was when I joined. Helping build teams and business is exhilarating. Working with smart and highly-motivated people and being challenged to solve all kinds of problems on a daily basis keeps it fresh. I love the variety of the work and the dynamic, ever-evolving nature of the business in which I work. ●

FINDING THE RIGHT JOB

Types of IT company and work

The IT industry offers a variety of roles across a number of different sectors, however there are some generalisations that can be made about the types of employer you may encounter and the work they offer.

Information Technology (IT) is one of the most diverse and hybrid engineering disciplines and one that affects every one of us in our everyday life, from the computer on our desktop to the complex safety-critical systems used in the transportation and power generation systems. This complexity means that the industry can offer a wide range of job opportunities across a number of disciplines.

There are, however, some generalisations that can be made as to the sorts of employment you could encounter. There are two main types of IT employer: those who are systems developers or manufacturers and those who use the technology. There are also two types of each employer: large and small-to-medium enterprises (SMEs).

Large versus small
An important requirement for any prospective employee is careful research and questions at the interview stage to ensure that whatever company you choose will be right for you.

The smaller company will give the employee a greater involvement in the organisation. It is likely that you will encounter a more varied remit than those who work within larger organisations. You can become part of a closely formed team where there will normally be less formality related to procedures and reporting. This can foster a feeling of being an integral part of the company, meaning that your efforts and contributions can be quickly rewarded.

However, you should consider the risks involved with smaller companies. A large company may lose a major customer and feel the effect but a

smaller company could be put out of business. Any dip in the profits will become apparent far more swiftly, so the viability of any company should be part of your early investigations and you should monitor this throughout your employment. Be ready to move out if the situation arises.

Your efforts and contributions can be quickly rewarded.

You should also be aware that training and development may not be so readily available in a smaller organisation. Nevertheless the SME might spend every penny wisely by ensuring that you develop up to date skills to meet the needs of their business while the larger one may not use their training budget so effectively.

Large companies will have a different way of working. They will have a more formal structure because of their size and number of employees, with separate departments dealing with product development, support, marketing and so on. This can provide a great deal of flexibility so that the employee can find the right niche in which

to forge a career. Employees can often move between departments and there can be a clearer career path through the chain of management.

Many large organisations in the IT sphere employ a team-based approach, meaning that as specific projects reach fruition the team is reorganised. This change of structure can give you experience of working with different people, different management styles and on different projects.

This can help you build a strong professional career. Many organisations will provide work experience for new employees within different areas or departments to give an overall view of its organisation and products and support this with continuing development and training to keep their skills up to date.

As membership of a professional body becomes more important you should consider whether your employment will match the requirements for professional membership. The BCS has an accelerated membership route for those who have been on one of their accredited training courses.

Generally, there is no way to say that working for a large company is better than working for a smaller one. You need to weigh up the pros and cons and decide whether you prefer the close-knit environment of the smaller company or the more structured approach of the larger

organisation. In a small company you may take a share of the credit and profit when a project succeeds, whereas the larger one can offer a wide range of experience across the organisational structure.

The developer versus the user
Next you need to consider the scope of a potential employer's work. You may wish to be involved with development or with a user-based perspective.

Development companies will generally have a range of products and they will be responsible for their lifecycle, not just the coding and programming, but the analysis and design testing, implementation, maintenance and support. There are roles available across the range of activities and each can be very satisfying.

User-based companies are the other side of this equation. They will use the developers' systems and IT staff will be responsible for the implementation, installation, use and support of those products. There are also the essential services required to keep a computer system running efficiently as well as reviewing the security, maintenance and so on.

You are likely to be dealing with users on a daily basis, solving problems and looking for solutions. Generally there are many more user-based organisations than there are developers and you could be involved in virtually any industry. ●

Routes into the profession

IT offers plenty of opportunity for career progression with a variety of entry routes. Being a modern and progressive industry, it is not essential to have a degree to enter the profession and there are a range of qualifications that can be gained to give you more experience.

IT is still a young profession and has yet to really develop a single recognised career route, unlike other professions such as medicine or law. With IT there are many entry points and plenty of opportunities to progress your career, either by full-time study, or by part-time education and training if you are in employment.

Following the recession times are harder. However, in recent years IT salaries have risen by as much as 15% year on year. This is due to an increased demand for senior project managers and business analysts.

Demand for management information systems, IT managers, business systems analysts and project managers has also risen dramatically, however, PC support and other low-level skilled roles do not show the same growth.

Students looking to enter the workplace can expect employers to offer a range of benefits, which usually includes several of the following elements; 25 days paid holiday per annum, a pension scheme, private health insurance and overtime for many entry level roles. In addition, most employers want to ensure that their IT staff remain current with all technological developments and are prepared to invest in training in any new technology that is critical to their operation.

Routes to becoming an IT professional
IT touches more areas of business than almost any other discipline. In today's business world many companies are interested in recruiting well-rounded staff who have business focused skills and can demonstrate:

- How IT can benefit the business as a whole.
- How implementation of IT systems will impact on the organisation.

People skills, self management and an ability to see IT as a means to an end, rather than an end in itself are all equally important as the traditional core IT skills.

There are currently several routes to a career in the UK IT industry including full time study, part-time study whilst in employment and on-the-job training. The following are just some of the options open to those interested in an IT career:

- Graduation with a non-IT related subject
- An accredited degree.
- Training in a specific IT skill which is in demand.
- Transfer to an IT department within a company.
- A year in industry/gap year experience prior to University.

Graduation with a non-IT related degree
Many companies are happy to recruit graduates with non-IT related subjects, who are willing to undertake additional IT specific training through postgraduate or professional training courses such as those offered by Information Systems Examination Board (ISEB) – a BCS subsidiary, which offers qualifications in systems analysis and design and project management, among others. It is also worth considering undertaking a language; the IT profession is global and having additional language skills can be useful in gaining employment.

For students interested in a 'client facing role' a more business orientated degree such as one in finance, management or another engineering subject, may prove a better grounding than a pure IT degree, providing students with a good insight into business and a better understanding of the sort of problems their future clients are likely to face.

Whichever option taken, the key to improving the chances of being recruited is to achieve the best degree possible and take advantage of any work experience offered as part of the course or during the vacations.

An accredited degree

The most direct route into the more traditional 'hard' IT roles, such as software development, infrastructure and research posts, is a degree in computing followed by an application to a graduate recruitment programme.

Careful consideration of the content of any course prior to selection is key, as course titles may not accurately reflect the content. IT is continually evolving and developing and degrees are subject to annual review and adaptation, students are advised to look out for new elements and options which may develop during the course.

An accredited degree offers a core of studies seen as the minimum necessary for the foundation of a professional career in the industry, together with specialist content in one or more areas studied in-depth; it will include an appropriate mix of engineering principles, design and problem-solving, and practical work. BCS accredits honours degrees in the IT area for Chartered Engineer (CEng) status and professional membership. BCS also accredits degrees for Chartered Scientist.

In addition, there are four-year MEng courses in which the fourth year both broadens and deepens the study. Work experience is gained in vacations and the course includes more material on management and costing issues than a BSc.

Many courses include a placement year spent in industrial training in a company with a computing environment prior to the final year. Some employers will offer sponsorship for the final year after a successful placement, with or without a guarantee of employment on graduating.

After study, there are opportunities to join a graduate development programmes offered by companies for new graduates aiming to work in IT. Alternatively, graduates with a good class degree may consider studying for a PhD or moving into industrial research.

Training in a specific skill

A specific training course in a skill which is in demand offers a quick way to enter the industry. Internet website design and enterprise resource planning (ERP) are just two examples of skills currently in high demand, although the market is continually changing. However, as demand for particular skills can be short-term, it is advisable to continue developing additional skills and gain broad experience.

Organisations such as Microsoft (for Windows), Novell (for networking) and Oracle (for databases) offer vendor certification courses. The Information Systems Examination Board (ISEB) offers qualifications in systems analysis and design and project management and learning can be done via classes, computer-based training or distance learning.

Courses like these which focus on specific computer skills are aimed at the experienced practitioner and are not suitable for the beginner.

Transfer within a company

Large organisations sometimes offer opportunities for their employees to transfer to an IT division within the company. Training, education, and experience will come with the package.

ECDL as a starting point

Finally the European computer driving licence (ECDL) is a users' qualification recognised across the world and offers a starting point and evidence that students are prepared to train and build skills. ●

Dispelling the geek myth

Those working in the IT industry are often stereotyped as geeks with brilliant technical knowledge who lack in social and business skills. Capgemini have set out to prove this wrong. Read on to find out why not all IT professionals are geeks.

Despite the all-pervasive nature of technology, some people still believe that IT staff are all geeks with poor interpersonal skills and limited business knowledge. This simply isn't the case, as companies such as Capgemini are out to prove.

John Gillard is the Graduate Programme Manager of Technology Services at Capgemini and he says that the company looks for analysts with IT or non-IT backgrounds.

'A couple of years ago, Capgemini removed the specific need for an IT degree as a prerequisite to join the technology services graduate programme. This was largely driven by a falling number of IT degree students and also the gender demographics. Within that falling number of students were a falling number of female students.'
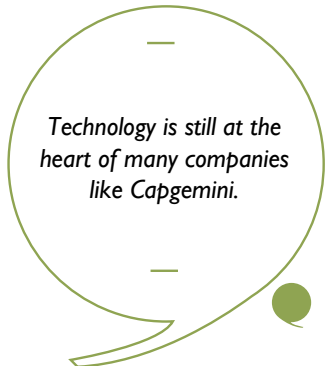
'I am looking for people who want to be business consultants with a passion for technology. Capgemini works with clients to address business problems with innovative technology solutions. Interacting with clients is key to solving the problems. Being excited by technology alone is no longer sufficient. Listening to and interacting with clients is crucial to successfully creating business opportunities through technology.'

Andrea Degutsch, Business Technology Consultant at Capgemini, who has a non-IT background adds,

'It is the combination between people with a deep technical knowledge and people with a business focus and soft skills, which makes each of our teams successful.'

'I studied business and communication. This helps me in many roles, whenever I look at how to improve processes, how to reduce cost, when it comes to change communication or improving communication processes between individuals and/or companies. But it also helps me to drive effective and successful teamwork, run workshops or think creatively. The more skills Capgemini can offer, the better our service to the client.'

Technology is still at the heart of many companies like Capgemini.

'Technology is still at the heart of many companies like Capgemini. Clients come to us for our technology expertise. Technology graduates will have focused their studies exclusively or perhaps mixed with other subjects. They will have developed their technology expertise to a more professional level than someone self taught. Teams depend upon people from many different backgrounds. There are definitely many opportunities for both

technology and non-technology graduates.'

'People from an IT background enable us to deliver the services we are famous for: cutting edge technology solutions. They are the ones who, with their interest in innovation and technical progress, lead the way.'

'Team working has to be my priority. For many graduates, when they hear the question 'have you worked in a team?' they automatically jump to describing a time when they led a team. Indeed they also talk about the 'one student in the team who did not do the work'. Yes the leading is interesting. However, I am more interested in about how did they deal with that 'one student'. Did they find out why they did not participate? Did they coach the student to improve their technology skills? Did they share the workload?'

This sort of experience is valuable in modern business, but so is the ability to deal with problems and with setbacks. This is often one of the hardest things to deal with, especially when you are new to a job.

John also adds,'I am also looking for people who have succeeded despite setbacks. Technology projects often have problems. As technology professionals we have to step forward at this point and work with the client to solve the problem. Listening to how graduates have dealt with similar situations is very helpful.'

'Finally, does the student have a real interest in the industry? Quoting facts, news articles and statistics from websites is all very interesting, but I can do that for myself. Listening to a graduate's point of view on where technology is going shows me that they have the potential to discuss technology with clients.'

Although technology touches on almost every aspect of all our lives, John still feels that people who work in IT are seen as geeks especially by those outside the industry. 'Worryingly this is not only people in today's workforce, but also tomorrow's,' John adds.

'The stereotype created by the media in programmes such as the IT Crowd reaches out to the next generation. Facebook, Twitter, iPads, iPhones, Apps, technology is everywhere and yet is not seen as technology.'

As to the question of what could be done about this, John thinks that a lot of it comes down to giving people the right level of recognition.

'For starters perhaps we should try harder to avoid referring to technology professionals as geeks. These people are software engineers, enterprise architects, technical architects, SAP specialists, Oracle specialists, software service experts, cloud experts. They are technology professionals. They are also technology professionals who interact with people to create business opportunities.'

Some good advice:

1. Go to the careers fairs. Meet the employers visiting their universities. Use LinkedIn. Any opportunity to interact with an employer is another opportunity to practise interview skills. By meeting a range of employers face to face students can build a personal opinion of the sort of companies they might want to work for. They can also see beyond the barrage of marketing advice we all share on our corporate websites.

2. Show a well-balanced interest in technology and business success, or be interested in how technology enables businesses to be more efficient and therefore more successful. Learn as much about the company you are interested in as you possibly can before you apply. Show that you are a team player and that you have interests outside of university.

3. Before sending an application form, read it. Then read it again. And then ask a friend to read it. Application forms are the gateway to the assessment process. One sentence paragraphs, poor grammar and poor spelling all create the wrong impression.

4. All universities have careers advice teams. In addition to offering one to one advice, they also arrange skills sessions with employers. Go to these sessions, they could make the difference. ●

THE INSTITUTE & QUALIFICATIONS

About BCS

BCS, The Chartered Institute for IT, works with both government and industry to establish working practices and common standards for both the IT industry and those working within it.

Most membership organisations are currently in decline and you may think that would also be true of a respected IT institution set up in 1957. But you'd be wrong.

BCS, The Chartered Institute for IT, represents a dynamic and fast-moving industry and as such has bucked the trend of most membership organisations by continuing to grow very quickly.

Why the success?

As the leading professional and learned society in the field of computers and information systems, BCS is recognised as the authoritative voice of those seeking excellence in computing and the guardian of best practice. This positioning means that BCS is called upon to provide advice, information and expertise to government and the IT industry – a voice for its members and the IT community as a whole.

The society's many groups – 43 UK branches, 16 international sections, and 46 specialist groups – provide an ideal opportunity for members to network. This, of course, improves their industry knowledge, their industry standing and can also lead to enhanced career options.

Allied to these 'invisible' benefits are the very tangible professional benefits that membership of the Institute offers. In fact, BCS gives its members a wide variety of assistance, embracing both professional and service driven benefits.

One of the most satisfying things an IT professional can enjoy is recognition, so with BCS membership viewed as an industry benchmark, this is an important benefit.

Membership denotes excellence and integrity, both of which enhance career prospects.

Membership can take individuals directly into working life with a professional grade: Associate, Member and, at the pinnacle, Fellow, for highly qualified and experienced practitioners. BCS membership is also a route to Chartered IT Professional (CITP) status, a professional credential that demonstrates both competence and a commitment to keep pace with advancing knowledge and the increasing expectations and requirements of the profession.

This progression is linked with the Institute's continuing professional development scheme which provides a recognised structure to improving and updating professional skills – a demonstrable assessment of abilities that would be valued by potential employers.

All this is supported by the BCS's internationally renowned professional qualifications and the subject-specific ISEB qualifications, all designed to help broaden the knowledge and skills sets of IT professionals.

On the information side, BCS members are also extremely well catered for. Members have access to a wide range of information from many sources, as the society publishes magazines, journals and books that cover all aspects of IT. Members receive a free copy of the Institute's quarterly magazine ITNOW – a crucial vehicle through which the BCS communicates with its membership and the wider IT community.

The magazine features all the latest activities from the Institute's quarterly themes on subjects such as information security, health informatics, learning and development and innovation.

The BCS website features many articles that cover major areas of IT interest and is regularly updated with new content on such subjects as security, programming and software issues, the future of computing, offshoring, social inclusion, video games and much more. This now includes a member network where members can interact, discuss current issues, set up interest groups and ask experts for direction on IT and career matters.

Members can also receive a free weekly digital copy of *Computing* magazine, the weekly electronic newsletter,
 eBCS, and can benefit from a wide range of free careers information – of which this publication is but one example. The Institute also publishes regular specialist newsletters such as two a month on security and other themed eBCS newsletters on topics such as service management and project management.

Added to this, BCS has a varied selection of video and audio podcasts. These cover security and training issues as well as lighter IT subjects. As well as this, BCS regularly has video debates. Recent discussions have covered topics such as how IT can help during the recession, the IT skills shortage and e-learning.

A real-time industry news page supplies members with all the latest breaking industry news on careers and recruitment issues, research and development, legislation, the future of IT, IT in entertainment and IT in business. This is available via an RSS feed, as is general BCS news, video news items and new content in various areas.

Its new, free online member services allow BCS members to access a wide range of research papers, e-books and journals via the internet. Access is provided to an e-book library from Books 24/7, a selection of abstract and full-text article databases from Ebsco and a unique offering of research reports each month from Forrester Reports.

In keeping with the Institute's commitment to developing electronic services, all members are entitled to a free lifetime email address.

Software discounts are open to all members, with student members receiving even larger ones. These are available on selected Windows products, AVG Anti Virus, Quark, TurboCad, Mindjet, Eurotalk, FileMaker and others.

With such a range of offerings, from the long-term career benefits to the shorter-term financial and free software offers, BCS membership provides everything that an IT professional needs to maintain a long and productive career. ●

BCS Qualifications

The BCS offer a range of qualifications that encourage career progression and development as well as raising the general standard for IT professionals and ensuring those entering the profession have the skills they need to succeed.

BCS qualifications can be divided into three areas:

ISEB: The aim of ISEB is to raise the standard and competence of people working in IT. It allows IT professionals to learner new skills in specific business and IT areas and helps promote career development.

Higher Education Qualifications: Intended for those not yet in IT or those new to IT and seeking a degree equivalent qualification.

IT User Qualifications: For all those people who use IT. Equip students and adults alike to increase skills and confidence in using IT productively and safely.

Some of the BCS user qualifications could also be useful to you as an IT professional. Etype, for example, can teach you touch-typing which is a very useful skill.

Professional Certifications

Professional Certifications are internationally recognised and measure competence, ability and performance in many areas of IT, with the aim of raising industry standards, promoting career development and providing competitive edge for employers.

They are designed to be both accessible and relevant and cover major areas of IT including:
- Service management
- Software testing
- Business Analysis
- IT Security
- Green IT.

Thanks to close links with industry representatives and subject sponsors, they also encompass the latest technological advances and new methodologies.

The Institute's certifications are created by the very best in the industry – IT specialists who know how the industry works and where it's going. So IT professionals learn relevant and practical skills that will make an immediate impact on their career.

Foundation level – a broad introduction

Foundation level certificates provide a broad coverage within a specific subject area and examine a candidate's knowledge and understanding. Each certificate may provide:

- Basis of future progression within the same subject area
- Appreciation of the subject for any interested parties
- Insight into the area for practitioners, specialists and managers from other subject areas.

Practitioner level – practical application within a specific discipline

Practitioner certificates focus on specific skills or subject areas and examine a more detailed understanding and the application of knowledge, usually via scenario based questions. Each certificate has value in its own right, but a range of these, perhaps supported by the appropriate foundation certificate, may be needed to ensure adequate coverage or to progress to a higher level certificate.

Higher level – in-depth coverage within a specific discipline for specialists and managers

These certificates expect a more holistic view of the components of the subject and the interactions between them. Typically these individual components are from within the same discipline, but may include foundation or practitioner qualifications from other areas as appropriate.

The Institute's Professional Certifications are taken by IT professionals from all levels in their organisation's career structures, taking foundation level exams to build key knowledge and moving up to higher level exams for senior staff – a testament to the increasing importance of the certifications.

The Professional Certifications can be broken down into ten major areas:

- IS Consultancy
- Software testing
- ITIL® / IT service management
- Business analysis
- IT governance, Information and security
- Project management and support
- Solutions development & architecture
- Software Asset Management
- Sustainable IT
- Data Centre Management.

BCS Higher Education Qualifications

The BCS Higher Education Qualifications are a UK Honours Degree equivalent qualification. (Accredited by Ofqual (Office of Qualifications and Examinations Regulation)). They have been developed in consultation with employers to meet the demands and evolving needs of the IT community. The Institute has over 175 registered course providers worldwide. HEQ examinations are affordable and flexible to fit in with the study time available. They provide a route to post-graduate study at a number of UK universities and full Professional membership of BCS.

There are three levels of examination, which cover a wide range of IT topics.

Certificate in IT

This is the foundation level of BCS Higher Education Qualifications and is the academic equivalent to Year 1 of a UK university honours degree. It is recognised by Ofqual) as Level 4. BCS recommends a minimum of 200 hours of study for each of the three core modules.

Diploma in IT

The Diploma in IT is the academic equivalent to Year 2 of a UK university honours degree and is recognised by Ofqual as Level 5. BCS recommends a minimum of 225 hours of study for the core module and each of the three optional modules.

The Institute has over 175 registered course providers worldwide.

For candidates to qualify for the NQF Level 5, a professional project must be completed with a recommended minimum study time of 200 hours. If advancing to the Professional Graduate Diploma in IT level, candidates are not required to complete a professional project at this level.

Professional Graduate Diploma (PGD) in IT

This qualification incorporates a PGD project and is equivalent to a UK university honours degree and is recognised by Ofqual as Level 6.

BCS recommends a minimum of 250 hours of study for each of the four modules. In order to finish the PGD in IT level, candidates must complete a project with a recommended minimum study time of 300 hours.

Successful completion of the highest level of BCS Higher Education Qualifications gives you a route to postgraduate study at a number of UK universities.

IT User Qualifications

BCS Qualifications range from the very basics of computer use, understanding digital media and social networking through to flexible units that include computerised accounting and website software. We are the exclusive awarding organisation for the internationally recognised European Computer Driving Licence (ECDL) in the UK, covering widely used office based software including word processing, spreadsheets, internet and email.

Qualifications are relevant to both students and adults by:
- Being suitable for all ages and abilities.
- Delivering proven enhancements to productivity, confidence and skills in the UK workforce.
- Supporting people in education, at home, in work and those looking for work.
- Offering learning and assessment through a choice of methods including online, manually tested and evidence-based assessments, giving you the flexibility to learn in a way that fits your lifestyle.

There are thousands of approved centres across the UK delivering our qualifications.

BCS qualifications available are:
- ECDL: Office based applications including word processing, internet and email
- ECDL Advanced: Taking IT user skills to a higher level
- BCS ITQ: Modules tailored to specific jobs, across 3 levels
- Etype: Learning to touch-type
- Digital Creator: Promoting creativity through the use of digital media and providing a GCSE equivalent qualification
- Digital Skills: Skills for life in a digital age
- Computer and Online Basics: An easy-to-use qualification for absolute beginners in using the computer and internet.
- To find out more information on how to get started, then visit The BCS website. ●