



# People in Computing

**STARTER**

**1** What do the following people in computing do? Compare answers with your partner.

- 1 Webmaster
- 2 Help-desk troubleshooter
- 3 Applications programmer
- 4 Security specialist
- 5 Systems programmer

**READING**

**2** Work in groups of three: A, B and C. Read your text and complete this table. You may not find information for each section of your table.

	A	B	C
1 job title			
2 nature of work			
3 formal qualifications			
4 personal qualities			
5 technical skills			
6 how to get started			
7 how to make progress			

**Text A****How to become a programming expert**

The primary requirements for being a good programmer are nothing more than a good memory, an attention to detail, a logical mind and the ability to work through a problem in a methodical manner breaking tasks down into smaller, more manageable pieces.

However, it's not enough just to turn up for a job interview with a logical mind as your sole qualification. An employer will want to see some sort of formal qualification and a proven track record. But if you can show someone an impressive piece of software with your name on it, it will count for a lot more than a string of academic qualifications.

So what specific skills are employers looking for? The Windows market is booming and there's a demand for good C, C++, Delphi, Java and Visual Basic developers. Avoid older languages such as FORTRAN and COBOL unless you want to work as a contract programmer.

For someone starting out, my best advice would be to subscribe to the programming magazines such as Microsoft Systems Journal. Get one or two of the low-cost 'student' editions of C++, Visual Basic and Delphi. Get a decent book on Windows programming. If you decide programming is really for you, spend more money on a training course.

### How to become a Computer Consultant

The first key point to realise is that you can't know everything. However you mustn't become an expert in too narrow a field. The second key point is that you must be interested in your subject. The third key point is to differentiate between contract work and consultancy. Good contractors move from job to job every few months. A consultant is different. A consultant often works on very small timescales - a few days here, a week there, but often for a core collection of companies that keep coming back again and again.

There's a lot of work out there for people who know Visual Basic, C++, and so on. And there are lots of people who know it too, so you have to be better than them. Qualifications are important. Microsoft has a raft of exams you can take, as does Novell, and in my experience these are very useful pieces of paper. University degrees are useless. They merely prove you can think, and

will hopefully get you into a job where you can learn something useful. Exams like Microsoft Certified Systems Engineer are well worth doing. The same goes for NetWare Certification. However, this won't guarantee an understanding of the product, its positioning in the market, how it relates to other products and so on. That's where the all-important experience comes in.

Here's the road map. After leaving university you get a technical role in a company and spend your evenings and weekends learning the tools of your trade - and getting your current employer to pay for your exams. You don't stay in one company for more than two years. After a couple of hops like that, you may be in a good position to move into a junior consultancy position in one of the larger consultancy companies. By the age of 30, you've run big projects, rolled out major solutions and are well known. Maybe then it's time to make the leap and run your own life.

### How to become an IT Manager

IT managers manage projects, technology and people. Any large organisation will have at least one IT manager responsible for ensuring that everyone who actually needs a PC has one and that it works properly. This means taking responsibility for the maintenance of servers and the installation of new software, and for staffing a help-desk and a support group.

Medium to large companies are also likely to have an IT systems manager. They are responsible for developing and implementing computer software that supports the operations of the business. They're responsible for multiple development projects and oversee the implementation and support of the systems. Companies will have two or three major systems that are probably bought off the shelf and then tailored by an in-house development team.

Apart from basic hardware and software expertise, an IT manager will typically have over five years'

experience in the industry. Most are between 30 and 45. Since IT managers have to take responsibility for budgets and for staff, employers look for both of these factors in any potential recruit.

Nearly all IT managers have at least a first degree if not a second one as well. Interestingly, many of them don't have degrees in computing science. In any case, the best qualification for becoming a manager is experience. If your personality is such that you're unlikely to be asked to take responsibility for a small team or a project, then you can forget being an IT manager. You need to be bright, communicative and be able to earn the trust of your teams. Most of this can't be taught, so if you don't have these skills then divert your career elsewhere.

**3** Now share information orally about your text with others in your group to complete the table for each of the occupations described.

**4** For which of the careers described are these statements true? More than one career may match each statement.

- 1 You may work for only a few days or a week for a company.
- 2 It's a good idea to buy books on languages such as C++.
- 3 You are responsible for developing and implementing the software a company needs to run its operations.
- 4 You need to be able to break down a problem into a number of smaller tasks.
- 5 It's worth paying for a training course if you get serious about this career.
- 6 Microsoft Certified Systems Engineer is a useful qualification for your career.
- 7 Your objective is to become self-employed.
- 8 It's important you have the right personality to lead a team.

#### LANGUAGE WORK

Requirements: *need to, have to, must, be + essential, critical*

##### Note how we describe requirements for particular jobs:

- 1 You *need to* be able to empathise with the person at the other end of the phone.
- 2 IT managers *have to* take responsibility for budgets.
- 3 You *must* be interested in your subject.
- 4 You *must have* worked for at least two years in systems analysis.
- 5 Experience with mainframes *is essential/critical*.

##### We can describe things which are not requirements like this:

- 6 You *don't need to* have a degree in computing science.

##### We can also treat *need* as a modal verb and use the negative form *needn't*:

- 7 You *needn't* have a degree in computing science.

##### *Have to* is an ordinary verb. Its negative form is made in the usual way:

- 8 You *don't have to* be an expert in everything.

##### *Mustn't* has a quite different meaning. It means it is important not to do something. It is used for warnings, rules and strong advice. For example:

- 9 You *mustn't* make unauthorised copies of software.

**5** Fill in the blanks with the appropriate form of the verbs, *need to*, *have to* and *must*, to make sensible statements. More than one answer is possible in some examples.

- 1 Technical qualifications ..... to be renewed at intervals to ensure they do not go out of date.
- 2 You ..... become an expert in too narrow a field.
- 3 You ..... to have good communication skills to become an IT Manager.
- 4 You ..... be an expert in hardware to become a programmer.
- 5 You ..... have worked with IBM mainframes for at least two years.
- 6 You ..... be able to show leadership.
- 7 You ..... have a degree but it ..... be in computing science.
- 8 You ..... to have experience in JavaScript.
- 9 You ..... be able to use C++.
- 10 These days you ..... study BASIC.

**6** Study these requirements for different jobs in computing advertised on the Internet. Then describe the requirements using the methods studied in this unit.

<p><b>1 Systems Manager/Programmer</b></p> <ul style="list-style-type: none"> <li>• technical specialist</li> <li>• min. 2 yrs work in systems programming</li> <li>• plus exp. of Netview/automation design &amp; support</li> </ul>	<p><b>2 Support Analyst: IBM Mainframe MVS</b></p> <ul style="list-style-type: none"> <li>• IBM MVS support technician</li> <li>• 1 yr exp. of VTAM, NCP, SSP, NPM, IBM 3745-900 hardware</li> <li>• authorised to work in the EU</li> </ul>	<p><b>3 Programmer</b></p> <ul style="list-style-type: none"> <li>• 3 yrs exp. SAP Basic Technical Environment</li> <li>• team player with strong analytical and problem-solving skills</li> <li>• ability to communicate issues and solutions and manage time effectively</li> </ul>
<p><b>4 Webmaster</b></p> <ul style="list-style-type: none"> <li>• strong Unix experience</li> <li>• able to use HTML, DHTML and JavaScript</li> <li>• knowledge of Shell Scripts</li> </ul>	<p><b>5 Cisco Technician</b></p> <ul style="list-style-type: none"> <li>• CCNA qualified</li> <li>• excellent skills in the surrounding technologies</li> <li>• min. 2 yrs work in support</li> </ul>	<p><b>6 IS Manager</b></p> <ul style="list-style-type: none"> <li>• knowledge of NT and Netware</li> <li>• experience of ERP systems implementation</li> <li>• very strong managerial skills</li> </ul>

**PROBLEM-SOLVING****7**

Work in pairs. Study these job requirements. Then try to match the requirements to the list of jobs which follows.

<b>1</b>	<b>2</b>	<b>3</b>
<ul style="list-style-type: none"> <li>at least 5 years (2 at senior level) in: Unix, SYBASE or ORACLE, NT or Windows 2000, Terminal Server, TCP/IP, Internet.</li> <li>strong project management (2 years)</li> <li>willingness to travel abroad</li> </ul>	<ul style="list-style-type: none"> <li>able to manage, lead and develop a team</li> <li>knowledge of C, C++, Delphi</li> <li>experience of object-oriented design within a commercial environment</li> <li>ability to deliver software projects against agreed schedules and within agreed estimates</li> </ul>	<ul style="list-style-type: none"> <li>proven track record in the delivery of e-solutions in banking environment</li> <li>knowledge of Unix, NT and Oracle</li> <li>willingness to travel internationally</li> </ul>
<b>4</b>	<b>5</b>	<b>6</b>
<ul style="list-style-type: none"> <li>minimum 4 years lifecycle development experience</li> <li>demonstrable skills using VB, SQL, RDBMS</li> <li>able to develop core s/w</li> <li>excellent communication skills</li> </ul>	<ul style="list-style-type: none"> <li>minimum of 18 months commercial experience of Web development</li> <li>knowledge of HTML, Java, ASP</li> <li>full portfolio of URLs as examples</li> </ul>	<ul style="list-style-type: none"> <li>experience of NT, Exchange, SQL Server, Monitoring Software, Verta, TCP/IP</li> <li>solid grasp of networking</li> <li>2 to 5 years experience in a network environment</li> </ul>

- a Visual Basic Developer
- b IT Engineer (Network & Database)
- c Web Developer
- d Network Support
- e E-commerce Consultant
- f Team Leader

**SPEAKING****8**

Work in pairs, A and B. Choose one of the computing careers from the list provided. Your partner must find out what your job is by asking only Yes/No questions. Your partner cannot ask 'Are you a programmer, etc?'

**Student A** Your careers are on page 189.

**Student B** Your careers are on page 195.

## WRITING

9

Study the c.v. of Paul who was interviewed in Unit 5. Then write your own c.v. in the same way. For the purpose of this task, you can invent experience and assume you have passed all your examinations!

## CURRICULUM VITAE

Paul W Cair

**Personal details**

**Date of birth** 30/5/79  
**Address** 7 Linden Crescent, Stonebridge EH21 3TZ  
**email** p.w.cair@btinternet.com

**Education**

**1991-1995** Standard grades in Maths, English, Spanish, Computer Studies, Geography, Science, James High School  
**1996-1997** HNC in Computing Maxwell College  
**1997-1999** HMD in Computing Support Maxwell College

**Other qualifications**

Jan 2000 CTEC

**Work experience**

**1999-present** IT support consultant Novasystems  
 Novasystems is an IT company that provides a complete range of computing services for its corporate clients.

My experience includes:

- advising clients on IT issues and strategies
- 1st line customer telephone support
- database design
- configuration and installation of hardware and software to clients' specifications
- network administration and implementation
- PC assembly

I have knowledge of these areas:

- Windows 2000 Server/Professional
- Office 97, 2000
- Sage Line 50 & 100
- Windows 95/98
- TCP/IP Networking
- Windows NT4 Server/Workstation
- Exchange Server 5.5
- Veritas Backup Exec for NT

**Hobbies and interests**

volleyball

**Referees**

**1 Academic** Dr L. Thin, IT Department, Maxwell College  
**2 Work** Ms Y. Leith, Personnel Officer, Novasystems