

# FACTFILE: GCE DIGITAL TECHNOLOGY

## AS2: FUNDAMENTALS OF DIGITAL TECHNOLOGY – HARDWARE AND SOFTWARE

### APPLICATION SOFTWARE

#### Learning Outcomes

**Students should be able to:**

- explain what is meant by application software;
- explain the difference between generic software and special purpose software;
- compare the use of custom-built software with off-the-shelf software;
- explain how application software can be delivered on different platforms, for example downloaded to a device or accessed using the web;
- evaluate different methods of obtaining software: proprietary and open source;

#### Content in System Software Fact File

- ✓ Application software – an introduction
- ✓ Generic and special purpose software
- ✓ Custom built V's off-the-shelf software
- ✓ Software downloads and web access
- ✓ Proprietary V's open source software
- ✓ Questions



## APPLICATION SOFTWARE – AN INTRODUCTION

Application software is designed to enable an end-user complete a specific type of task. Typical examples of application software include, web browsers, web design software, word processor applications and even computer games.

### General purpose and special purpose software

Application packages can be general purpose and special purpose software. A general purpose software application is software which has been designed to solve user's common or general tasks using a computer system. Examples include word processors, spreadsheets and photo editing applications for example.

Special purpose software applications are those which have been developed for a user for s task which is very specific to them. The specialised

nature of the application means the solution will generally have been coded and will only be of value to that specific organisation. For example an invoicing system developed for a shipping company operating locally will be of no use to a examination board wishing to use a computer system to process student examination entries and results.

### Custom Built V's Off-the-shelf

Organisations seeking software solutions to their processing problems can either opt for a custom built solution which is specifically designed for them or they can opt to purchase an off-the-shelf solution. Both instances have their merit but both approaches will not suit every organisation. When deciding which approach best meets their needs an organisation should consider the advantages and disadvantages of both approaches.

	Advantages	Disadvantages
Custom Built	<ul style="list-style-type: none"> <li>• User requirements will be met in full. For example, software will work exactly the way the user needs it to work. In addition, no unnecessary or unwanted additional features will be included in the application</li> </ul>	<ul style="list-style-type: none"> <li>• Will take a long time to develop from analysis through to implementation.</li> <li>• Increased costs as there is a need to employ a specialist team to produce the solution.</li> </ul>
Off-the-shelf	<ul style="list-style-type: none"> <li>• Immediately available for use</li> <li>• Wide range of support resources available from other or existing users.</li> <li>• Reduced cost as development costs are shared across many users.</li> </ul>	<ul style="list-style-type: none"> <li>• The user interface may be unnecessarily complex because it may contain a lot of additional features the organisation does not need.</li> <li>• May not meet all the organisations requirements.</li> <li>• Users' approach to completing tasks using the new system may have to be amended.</li> </ul>

## Software downloads and web access

Many applications are now distributed to users via the internet. This allows the distributor to by-pass retailers and the physical distribution process and allows the delivery of applications directly to the user. Content distributed electronically may be accessed using the internet (streaming) or it can be downloaded for use on a supporting hardware device to allow off-line access at a later stage.

Both approaches have their pros and cons. By downloading an application for use on an electronic device the user is guaranteed access to that application at any time. Access is not dependent upon them have an appropriate broadband link the next time they wish to access the product, the downside however is the fact that the application will require space on the devices backing storage device. Consideration also needs to be given to the fact that without an appropriate backup, damage to the storage media or device housing the application may result in the user losing data or applications.

Where an end user opts to store a data file or an application on the internet little consideration needs to be given to the storage capacity of the accessing device. The user simply needs to ensure they have an appropriate broadband line available to them each time they wish to access the application. This dependency on a telecommunications means obviously that any issues with the user's broadband can impact upon the availability of the application. The application is only available to the user when they are online. Where a user is accessing an application online they can be guaranteed access to the most up-to-date version of that application each time they use it. All updates are applied directly to the application are readily available to all users.

Users who area accessing digital content online can access the applications they own the licensing rights to using any compatible device by logging into their content server. In essence they can access the same application on multiple devices,

make amendments on any device and remain secure in the knowledge that their amendments will be synchronised and stored online for later access.

In instances where a user has downloaded an application for use offline they may not initially be aware of the availability of any updates and this will only be made available to them following further downloads.

## Proprietary v's open source software

Proprietary software is software where someone (normally the owner or creator) retains the rights to for example the source code for the application. Proprietary software is copyright protected and there are limits imposed upon its use, distribution and modification. In essence the person, team or organisation responsible for the development of the application in this instance maintains exclusive control over it. Only the original authors of the application have the legal right to copy the application, view the source code or make any form of modification. Subsequent users must sign a license agreement to show they agree to only use the application within the bounds originally set down by the applications original authors.

Open source software on the other hand is software which has its source code made readily available to other users for editing and redistribution. AS with proprietary software there is still a licence associated with the application but in this instance it generally grants the users permission to use the application for any purpose they wish. More often than not the license associated with open source software will state that any modifications should be made available to other users alongside the original code and redistributed without charge.

Before selecting either of these approaches to obtaining a software solution to a problem an organisation must consider the pros and cons of each.

Method	Advantages	Disadvantages
Proprietary	<ul style="list-style-type: none"> <li>• Regular updates</li> <li>• Support readily available</li> </ul>	<ul style="list-style-type: none"> <li>• Bug fixes may be slow</li> <li>• Security updates may be slow</li> <li>• Help only available at specific time (work hours)</li> </ul>
Open Source	<ul style="list-style-type: none"> <li>• Fast fixes to bugs</li> <li>• No-cost</li> <li>• Multiple versions of application available to chose from</li> <li>• Wide range of support during the life-span of the package</li> </ul>	<ul style="list-style-type: none"> <li>• Too many versions available to chose from – how do you know which is best for you?</li> <li>• Help may not always be available</li> </ul>

## ? Questions

- 1 Explain how generic software solutions are different from special purpose software solutions. [4]

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- 2 Compare the use of custom built software with off-the-shelf software. [6]

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- 5** A small local business wishes to introduce a software solution to help with the management of customer orders. They are unsure if a proprietary solution or an open source solution is most appropriate for them. Which solution would you recommend? Explain why this is the most appropriate solution for them. [6]

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- 6** Identify the pros and cons of a proprietary software solution. [6]

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Bibliography  
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