



# Year 7 ICT

## Away work

Student Name: \_\_\_\_\_

Teacher: \_\_\_\_\_

# IN ACTION

## Who invented the GUI?

The emergence of the GUI (graphical user interface) on personal computers in the 1980s was a significant turning point in software development. No longer was the computer the closed domain of the technical experts. Many other people were able to use the computer and soon began to develop software applications for it.

Since then, the computer's power in applications and technical specifications has expanded, pushed by ever-increasing market forces. More sophisticated programs demanded more powerful central processing units (CPUs) and monitors, greater storage space and, ultimately, the need to communicate over the Internet to transfer multimedia.

However, for years there was fierce debate and litigation to decide who originally invented the GUI. Consider this article from the website [inventors.about.com](http://inventors.about.com).



◆ **Figure 3.1** The Macintosh computer was introduced in January 1984 and was the first to use a WIMP (windows, icons, menus and pointer) GUI.

old-computers.net

Take a look at your computer screen. The GUI provides you with windows, pull-down menus, clickable buttons, scroll bars, icons, images and the mouse or pointer.

The first user interfaces for computers were not graphical or visual; they used only text and keyboard commands and are known as command line interfaces [see figure 3.16]. MS-DOS is an example of a text and keyboard method of computer control that you can still find on many PCs today.

The very first graphical user interface was developed by the Xerox Corporation at their Palo Alto Research Center (PARC) in the 1970s, but it was not until the 1980s that GUIs became widespread and popular. By that time the CPU power and monitors necessary for an effective GUI became cheap enough to use in home computers.

Steve Jobs, co-founder of Apple Computers, visited PARC in 1979 (after buying Xerox stock) and was impressed by the 'Alto', the

first computer ever with a graphical user interface. Several PARC engineers were later hired by Apple and worked on the Apple Lisa and Macintosh. The Apple research team contributed much in the way of originality in their first GUI computers, and work had already begun on the Lisa before Jobs visited PARC. Jobs was definitely inspired and influenced from the technology he saw at PARC, however, enough for Bill Gates to later defend Microsoft against an Apple lawsuit over Windows 1.0 having too much of the 'look and feel' of an Apple Macintosh – Gates' claim being, 'hey, we both got it from Xerox'. The lawsuit ended when Gates finally agreed that Microsoft would not use Macintosh technology in Windows 1.0, but the use of that technology in future versions of Windows was left open. With that agreement, Apple lost its exclusive rights to certain key design elements.

Source: [inventors.about.com](http://inventors.about.com)



◆ **Figure 3.2** The Xerox Alto was the first computer to use the desktop metaphor and the mouse-driven GUI. The separate hard drive seen below the computer could hold 2.5 megabytes (MB) of data.

flor/antik

## QUESTIONS

- 1 Who first invented the GUI?
- 2 How did people interact with computers before the GUI was invented?
- 3 How is the GUI on today's personal computers different from earlier ones?

## IN ACTION

### Roll up! Roll up! Get your super-flexible screens here!

Mobile devices such as phones, computers and media players have been shrinking in size since they first appeared on the market. Reducing the size of these devices increases their portability, but there is a point where the screen becomes too small for effective image display. Technology companies are producing flexible screens that can be rolled up like a window blind. These screens are made up of a thin film of pixels that can be rolled tightly around a cylinder as small as a pencil yet are still able to display moving images. The screens are lighter and generally tougher than conventional glass-based displays, so this idea can be developed further into areas of wearable items such as wristbands, or displays on the outside of moving vehicles or even on the steering wheel.

One type of display is made up of an array of organic light-emitting diodes (OLEDs). These OLEDs are molecules that can produce light when a voltage is applied to them, and can retain the image for several months without electricity.

A rollable display might measure a few centimetres wide and about 80 micrometres thick, which is thinner than a human hair. It can produce 16 million colours, which means full-colour quality. These panels are able to produce moving images while being repeatedly rolled up and unrolled. Even after 1000 cycles of rolling and stretching, the video image does not appear to be adversely affected.

Ordinary light-emitting diodes (LEDs) have been used in electronic circuits for many years; for example, as a monitor on-off indicator light. With circuitry now being developed at a molecular level using organic materials, the technology is now referred to as 'organic'. The display devices can be created from liquids in a similar way to artists creating screen-prints. This type of production requires fewer steps and uses materials more efficiently than previous display production, with less impact on the environment.

High-resolution television screens present another important application that benefits from flexible, lightweight, low-energy-consumption screens. As screens get larger and image quality is enhanced, the demand for smarter technology increases.

## QUESTIONS

- 1 In what ways are flexible screens more useful than rigid ones?
- 2 How thin is the screen? How tightly can it be rolled?
- 3 What does OLED mean?
- 4 Explain how these screens are more environmentally friendly than conventional screens.
- 5 What other devices could use the flexible screen idea?



Figure 2.1 A smartphone on a wristband



Figure 2.2 Exercising with wearable smart devices is no longer a futuristic idea.

## WORKSHEET 2: DIGITAL CITIZENSHIP TEST

1. I should stop and think about everything I share using social networking sites:
  - a. Not at all – they are free, easy to use, and everyone is using them.
  - b. Sometimes, when features or privacy settings change.
  - c. Always, because they use my data to make money and the information I post is never private.
  - d. Always, the internet is a dangerous place filled with terrible things waiting to hurt me.
  
2. Sometimes I share passwords with my friends, or post things pretending to be them as a joke:
  - a. This is fine – my friends and I never fight, I trust them with everything.
  - b. A joke is a joke, and it's obvious if I pretend to be someone else for fun.
  - c. Never, it's identity theft and can cause unforeseen problems for both of us.
  - d. Always, I go online for fun, and so do they.
  
3. When writing my own blog or commenting on someone else's, I can share my deepest secrets:
  - a. Yes, a blog is like a diary, and it's anonymous and safe.
  - b. No way, the blog is open to anyone online; I should treat it like any public place.
  - c. Yes, because who cares about my personal stuff? Only my friends read my blog.
  - d. Yes, no one will ever guess my true identity – I'm smarter than Batman.
  
4. When using phones or online technology in school, it is important to know:
  - a. The agreed rules for using that technology in school.
  - b. How to work well with others and get the most out of using the technology.
  - c. How to choose appropriate language so I don't upset anyone or get into trouble.
  - d. All of the above.
  
5. If I'm allowed to download or buy things online such as apps, I should:
  - a. Forget it - all sites are dangerous and can destroy my computer and send me to gaol.
  - b. Ask my friends about the safest way and place to buy things.
  - c. Find the first site with what I want and buy it – life's too short for caution.
  - d. Always check to see if the site is legitimate and secure when buying something.

6. When I'm commenting or writing online in class or at home, I should:

- a. Say whatever I want, free speech is very important.
- b. Ask a teacher or parent about some of their expectations for my behaviour online.
- c. Use a fake name if I want to say anything hurtful or negative.
- d. Do whatever everyone else is doing – if it's fine for everyone, it's fine for me.

7. How long I spend online:

- a. Is something to be aware of in case my physical and personal life starts to suffer.
- b. Can affect how I sleep.
- c. Can help me learn about the world and assist me with homework and assignments.
- d. All of the above.

8. Giving private information to strangers or companies online is:

- a. No problem if they are legitimate companies.
- b. Nothing to worry about if I know they don't live near me.
- c. Never OK, no matter what the circumstances are.
- d. Always OK; I'm not in Witness Protection, I have nothing to hide.

9. If I can tell someone is being bullied online:

- a. I should just stay away from it – I don't want to be the next target.
- b. Ignore it if I don't like who's being bullied anyway.
- c. Think about what it would feel like if it was happening to my best friend or me and step in calmly.
- d. Why does it matter? A bit of bullying toughens you up.

10. I protect my passwords:

- a. Passwords? I only have one and use it for everything.
- b. Not really, some of my friends know them.
- c. By storing them in a file called 'password'.
- d. By changing them often, never sharing them, and doing my best to hide the ones I have to store.



# Activity 1: Your digital reflection

## Task C

Your digital reflection is also the information that others post about you online.

Who posts information about you online?

What type of information do they post?

Why do they post this information?

Use the table to write your answers to the questions.

WHO?	WHAT?	WHY?

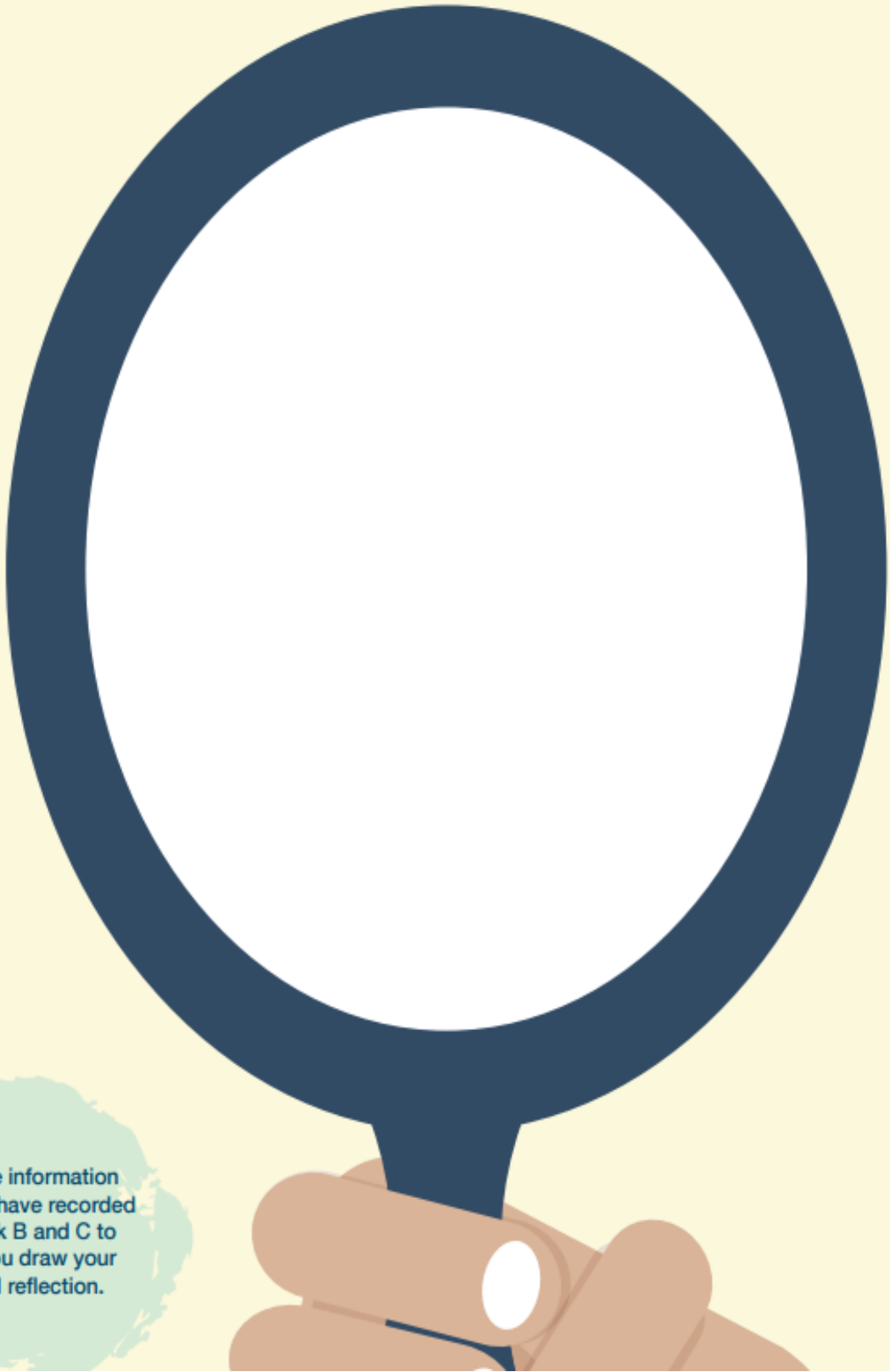
## Task D

If you looked into a digital mirror, what would you see?

The purpose of this task is to draw your digital reflection. Your digital reflection should show who you are and how you behave when you are online.

Use the information that you have recorded for Task B and C to help you draw your digital reflection. Use the table to write your answers to the questions.

## Activity 1: Your digital reflection



Use the information that you have recorded for Task B and C to help you draw your digital reflection.