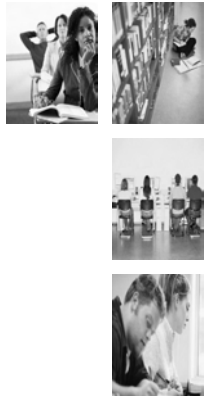


# Have we given the users' what they want over the last 20 years

Shirley Wood  
S.Wood@ukerna.ac.uk  
CUC 2005

# Overview

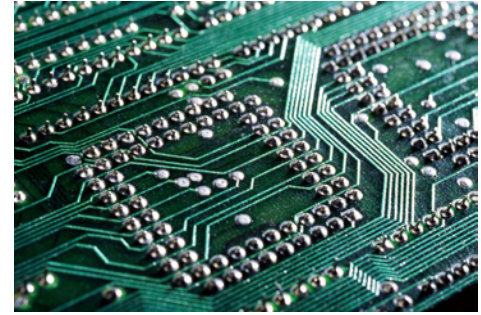


- **Advances in Technology**
- **History**
- **Legislation**
- **The changing user**
- **NRENs**
- **New services**
- **Obtaining requirements**
- **What does the user require**
- **Conclusions**

# Advances in Technology



Technology advances



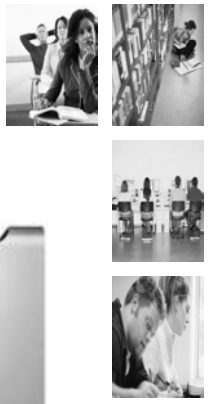
lead to



IT system advances



# Advances in Technology



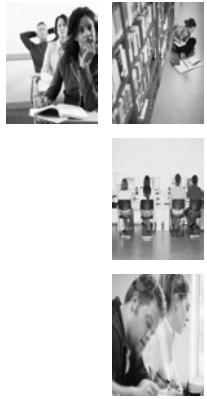
IT system advances

lead to

New applications



# Advances in Technology

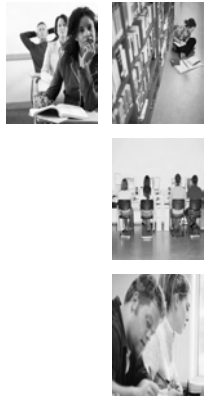


New applications

lead to

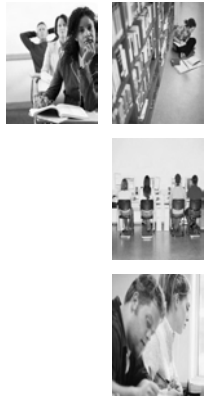
Increased user expectations

# Advances in Technology



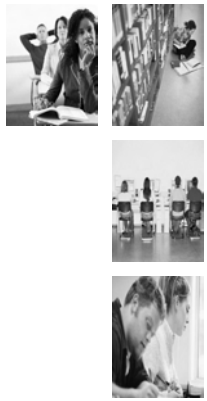
Mature applications take technology  
for granted

# Thirty-five years of using the Internet



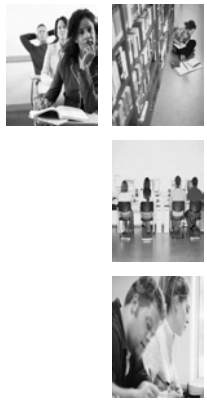
- 1970's
  - Ad-hoc terminal to remote computer connections
  - Development of switching using mini computers
  - Need for system independent communication protocols
  - Inter-institutional communications in the hands of monopoly suppliers
  - Users from the science related areas

# Thirty-five years of using the Internet



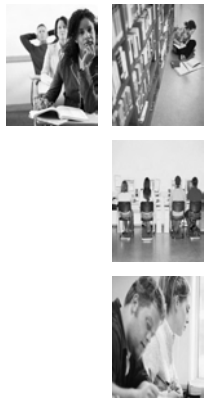
- 1980's
  - Consolidation of regional networks into private national education and research networks
  - Every institution connected
  - Beginning of break-up of phone company monopolies
  - Development of system independent protocols

# Thirty-five years of using the Internet



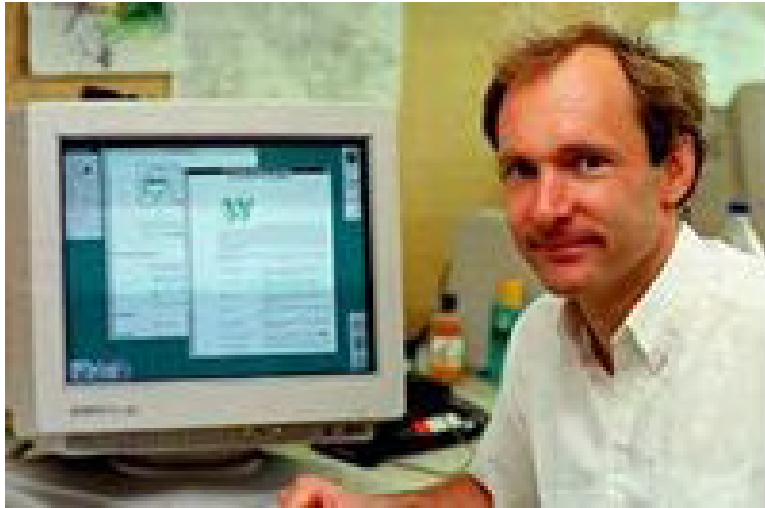
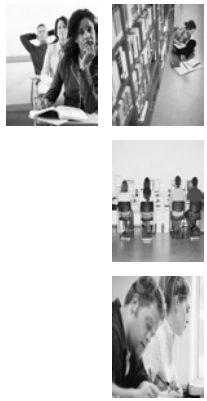
- 1980's continued
  - Growth of e-mail and file transfer
  - Individual workstations appearing
  - Use spread to libraries, administrators and all academic subjects
  - Spread of the US Internet into Europe
  - Early ad hoc European networks
  - Information systems appearing
    - 1989 world wide web made its first appearance

# Thirty-five years of using the Internet



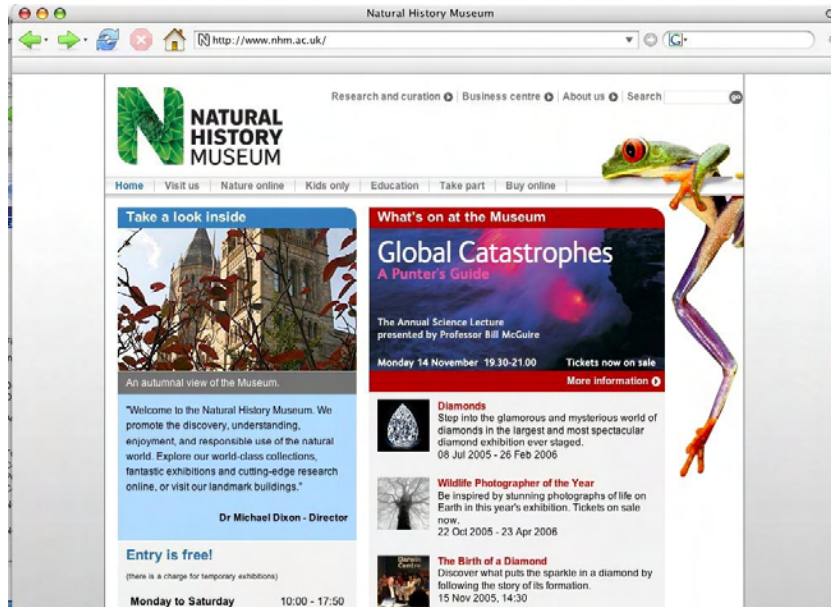
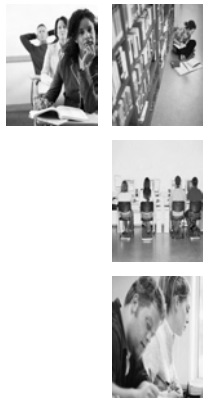
- 1990's
  - Ubiquity of personal computers
  - Introduction of fibre
  - Megabit trunk networks
  - Alternative bandwidth suppliers
  - Regulator control eased
  - Convergence of protocols
  - User expectations rise sharply

# Thirty-five years of using the Internet

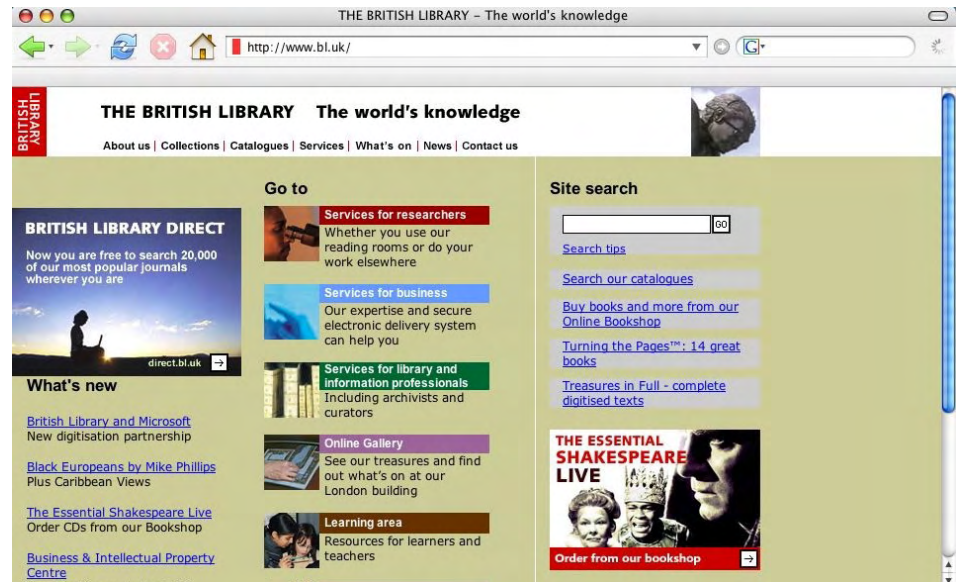


- 1990's continued
  - 1990 the first web client
  - Multi-system navigation and retrieval tool
  - Full multi-media
  - Prompted widespread use of the Internet
  - Available to all

# Opens world of information

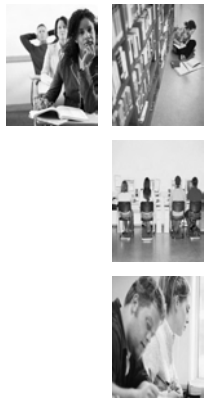


## Museums



## Libraries

# Access to rare books



http://www.bl.uk - Turning the Pages: High quality version of the Golf Book, an illustrated manuscript

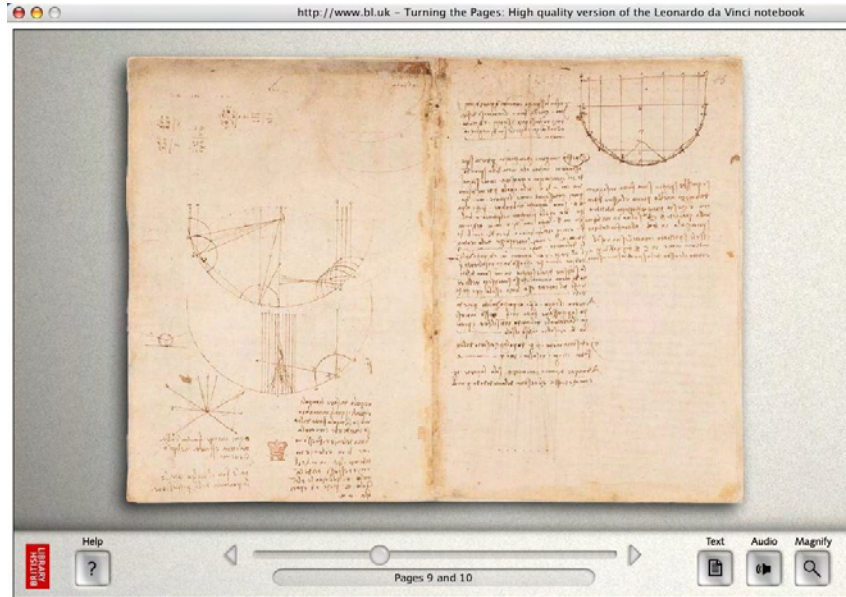


Help ?

Pages 3 and 4

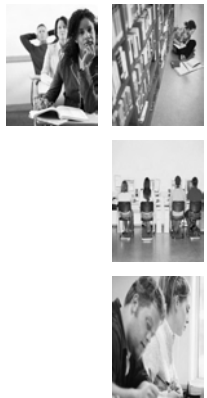
Text Audio Magnify

# Access to rare books



<http://www.bl.uk/onlinegallery/ttp/ttpbooks.html>

# Rare artefacts



← → ↺ ↻ ⏏ http://www.thebritishmuseum.ac.uk/compass/ixbin/hixclient

JANET and UKERNA Live Home Page

**THE BRITISH MUSEUM**  
COMPASS collections online

Text Only Home Search Tours Folders Help

⏪ Previous Page 3 of 25 Next ⏩

## The Vikings



[Picture request](#)

[Larger image](#)

[References and Locations](#)

### Silver hoard from Goldsborough

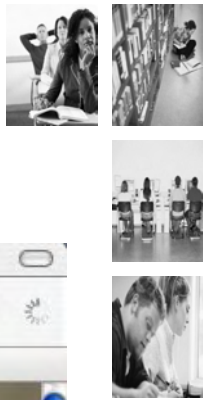
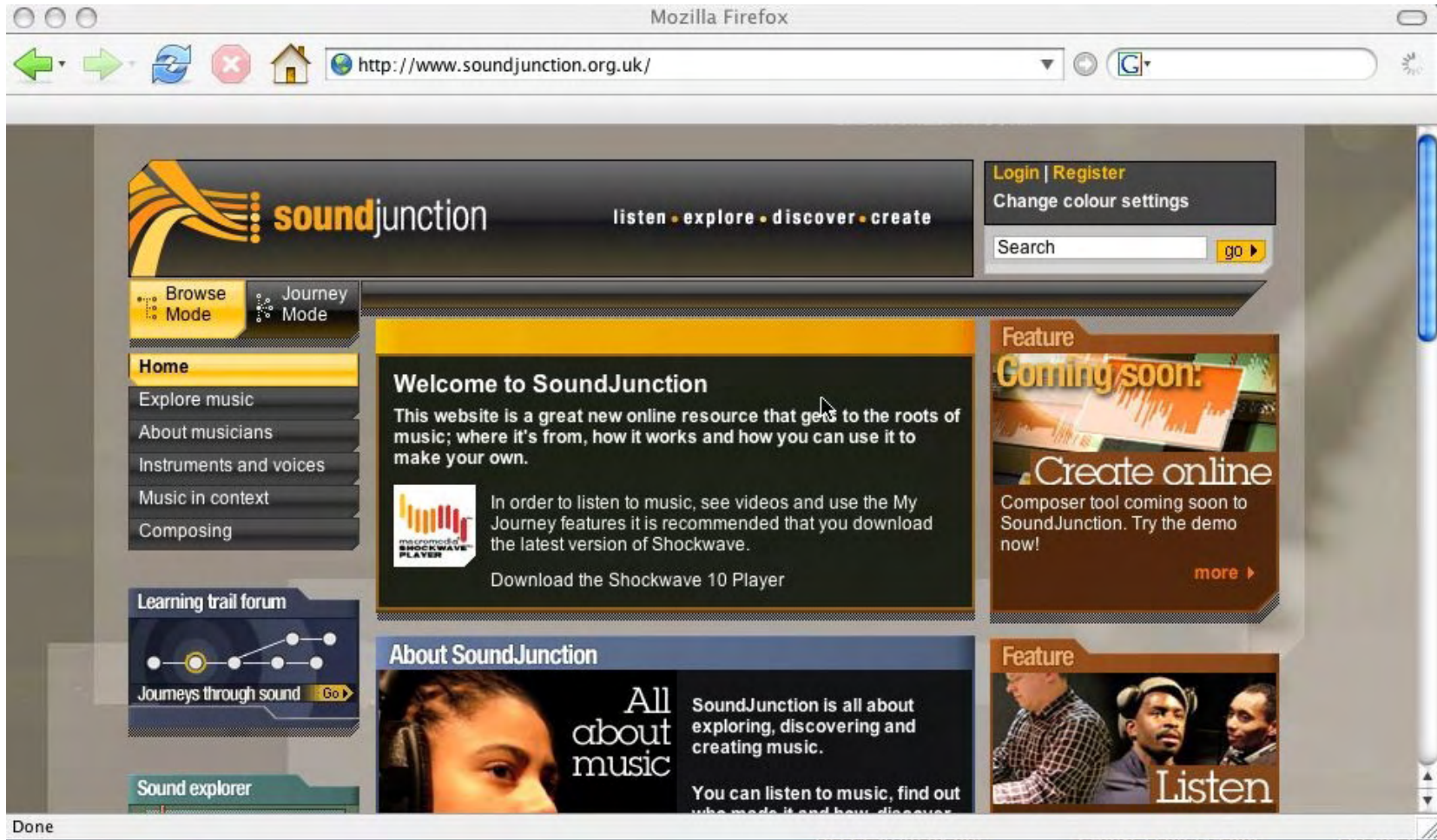
Viking, early 10th century AD  
From Goldsborough, North Yorkshire, England

### A Viking hoard from Yorkshire

The Vikings measured wealth in many ways. The two most important were land and silver. It was only relatively late in the Viking Age that they began to produce their own coins, and silver was often valued only by weight. This meant that all sorts of different coins circulated together, along with silver ingots (small bars), and chopped up bits of silver plate or jewellery, known as hacksilver.

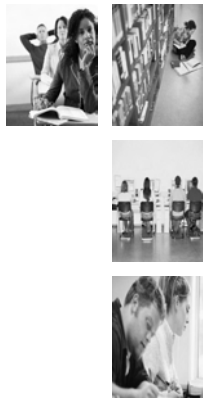
Viking hoards often contain a mixture of all these different types of silver. One hoard of this type was found at Goldsborough while drains were being dug there in 1859. The hoard contains several fragments of Viking brooches and arm-rings, together with thirty-nine coins. There are three Anglo-Saxon coins, including half of a rare offering piece of Alfred 'the Great', and two pennies of Edward 'the Elder'. All the other coins are Islamic *dirhams* from the Middle East. These came to Britain from the Viking trade routes along the rivers of Russia, across the Baltic into Scandinavia, and then across the North Sea.

# SoundJunction

The screenshot shows the SoundJunction website interface within a Mozilla Firefox browser window. The address bar displays <http://www.soundjunction.org.uk/>. The website features a dark header with the SoundJunction logo and the tagline "listen • explore • discover • create". Navigation links include "Browse Mode", "Journey Mode", "Home", "Explore music", "About musicians", "Instruments and voices", "Music in context", and "Composing". A "Learning trail forum" section highlights "Journeys through sound". A "Sound explorer" section is also visible. The main content area includes a "Welcome to SoundJunction" message, a "Feature Coming soon!" announcement for a "Create online" composer tool, and an "About SoundJunction" section with the text "All about music". A "Listen" feature is also promoted. The browser window shows standard navigation buttons and a status bar at the bottom indicating "Done".

# Commercial Use



Amazon.co.uk: low prices in Electronics, Books, Music, DVDs & more

http://www.amazon.co.uk/exec/obidos/tg/browse/-/468294/202-17371£

Gift Central Find the perfect gift Search now

amazon.co.uk

VIEW BASKET WISH LIST YOUR ACCOUNT HELP

FREE UK Delivery now on orders over £15 See details and conditions

WELCOME S's STORE BOOKS ELECTRONICS & PHOTO MUSIC DVD VIDEO SOFTWARE PC & VIDEO GAMES HOME & GARDEN TOYS & GAMES

INTERNATIONAL HOW TO ORDER GIFT CERTIFICATES SELL YOUR STUFF HOTTEST OFFERS HARRY POTTER

SEARCH OUR SHOPS All Products GO!

Digital Cameras including SMP: from only £99.99

**STAR CHOICE**

Amazon.co.uk MasterCard

Spread the cost of Christmas: apply today and get 0% p.a. for 6 months on purchases and balance transfers. Typical **12.9% APR** (variable).

**BROWSE**

- Books
- DIY & Tools
- DVD
- DVD Rental
- Electronics & Photo
- Garden & Outdoors

Hello S A Wood, we have [recommendations](#) for you (if you're not S A Wood, [click here](#)).

**New & Future Releases**

**Cream - Royal Albert Hall** - 2,3,5,6 May 2005

**Jamie's Italy** by Jamie Oliver

**The Kitchen Diaries: A Year in the Kitchen** by Nigel Slater

[\(Why was this recommended to me?\)](#) [\(Why was this recommended to me?\)](#) [\(Why was this recommended to me?\)](#)

[More Recommendations](#)

**Christmas gifts**

**40% off Diaries, Calendars & Annuals**

This Christmas get 40% off [Diaries, Calendars & Annuals](#), including [Official Jordan Pin Up Calendar](#).

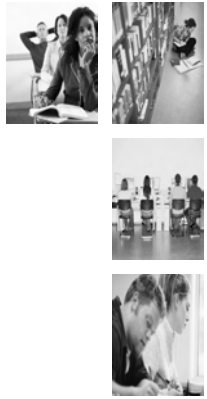
**Our Price: £4.79**

- See all our Christmas shops
- Gift Services
- Christmas last-order dates

**Christmas stars**

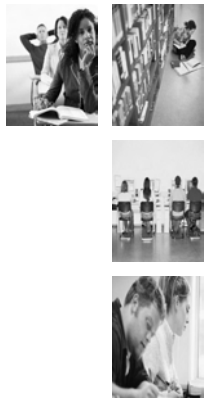
Done

# Thirty-five years of using the Internet



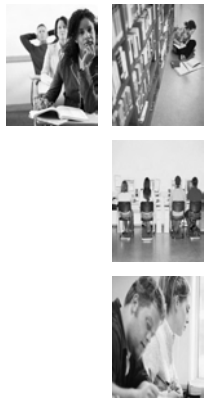
- 1990's continued
  - Internet goes public
  - Security becomes a serious issue
  - Pan European networking established
  - Moving image applications become feasible

# Thirty-five years of using the Internet



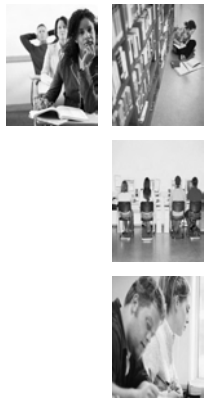
- 2000's
  - High bandwidth enables Grid applications
  - Plenty of bandwidth enables more applications
  - Networking pervasive at all levels of education
  - Video applications become established and part of user expectations

# Thirty-five years of using the Internet

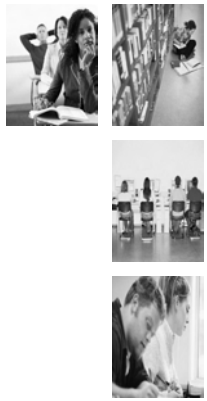


- 2000's continued
  - User education is a key requirement
  - Security problems grow
    - Hacking
    - Information overload
    - Spam
    - Unpleasant material
    - Misuse of information (fraud)
- Security technology developed

# Legislation



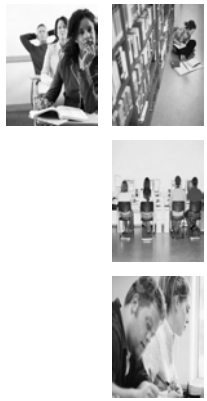
- Computer Misuse Act
- Acceptable Use Policy
- Security Policy
- Copyright
- Data Protection
- Regulation of Investigatory Powers
- Freedom of Information
- Accessibility



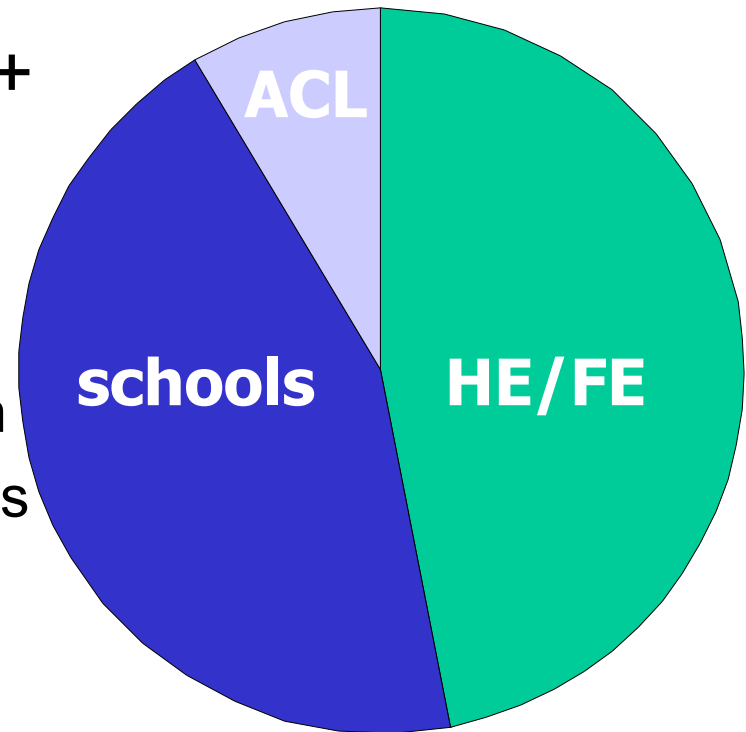
# The changing user

- Early network pioneers
- Widened to include libraries, administrators
- All academics using the network
- Network widened to new communities
  - Adult community learning
  - Specialist colleges
  - Schools

# The JANET community

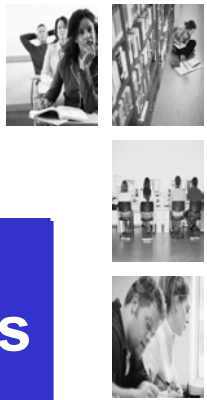


- JANET available to 18M+ users in education
  - primary and secondary schools
  - higher and further education
  - lifelong learning programmes



**Relative sizes of sectors:** from funding body statistics on staff & student numbers

# Schools' networks



JANET backbone is now the national interconnect for:

	<b>schools</b>	<b>pupils</b>
<b>England:</b> National Education Network	23,500	7,500,000
<b>Scotland:</b> Scottish Schools Digital Network	2,780	720,000
<b>Wales:</b> Lifelong Learning Network	1,950	500,000
<b>Northern Ireland:</b> Classroom 2000	1,280	330,000

# JANET Interconnections to Schools

## Scottish Schools Digital Network

- 2,780 Schools; 720,000 pupils; 32 Authorities
- *Scottish Executive Education Department*

## Classroom 2000 (C2K)

- 1,280 Schools; 330,000 pupils; 26 Districts
- *Department for Employment & Learning, NI*

## Lifelong Learning Network

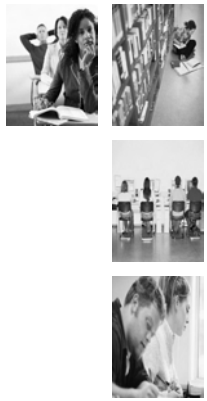
- 1,950 Schools; 500,000 pupils; 22 Authorities
- *National Assembly for Wales*

## Regional Broadband Consortia

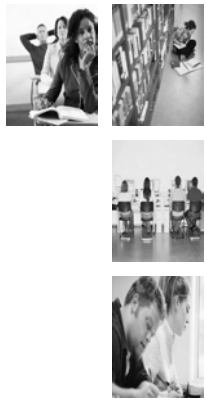
- 23,500 schools; 7,500,000 pupils; 150 Authorities;
- 10 Regional Broadband Consortia
- *Department for Education & Skills*



# Videoconferencing Issues for Schools



- Videoconferencing beyond the Authority firewall
- Authentication and Directory services
- Support, Advice and Guidance
- Booking and scheduling
- Quality Assurance
- Data and application sharing
- *Videoconferencing in the Curriculum*
- *Expectation management*



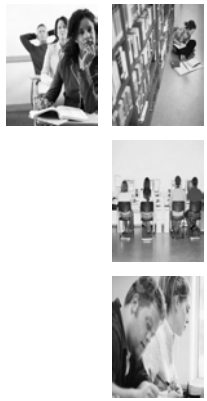
# Case Study 1: YHGfL

## A TRANS-ATLANTIC conversation (YHGfL)

- “It was a total enrichment of the curriculum - it was great for Citizenship in a very motivational way. The kids came out of the conference absolutely buzzing as they had got a real social insight into what was happening in another culture in real time.”
- “Video conferencing has to have a purpose and it is a matter of having the ideas and going at a manageable pace. It is not a good idea to bombard the students or staff,”

# Case Study 2: YHGfL



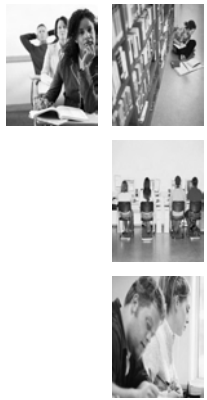


# Case Study 1: YHGfL

## A TRANS-ATLANTIC conversation (YHGfL)

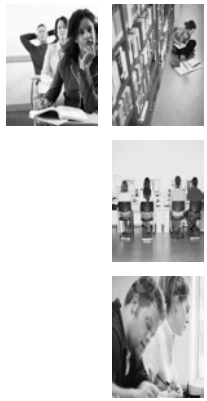
- “They were surprised to find that not everyone in the UK speaks with a London accent, while our students could not imagine living so far away from the sea, as they do in Illinois – the kind of things that just come out through a face-to-face conversation with someone.”
- “The scheme has now led on to further joint projects between the two colleges, including a photography one; as well as leading to an ongoing collaboration between teachers from both countries.”

# Example of use by Schools



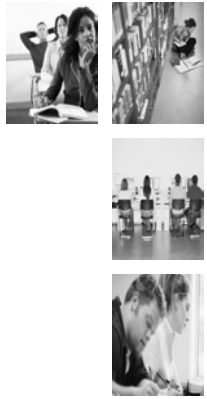
- London Grid for Learning
- Organised a day of events by videoconference

# NRENs



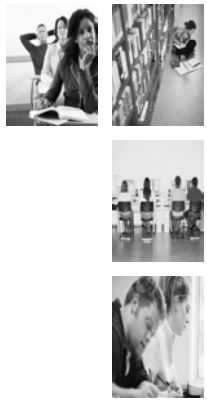
- National Research and Education Network
- Publicly funded
- Private networks
- Limited to HE and Research
- Widened to post 16
- Widened to include Schools

# Challenges for the NREN

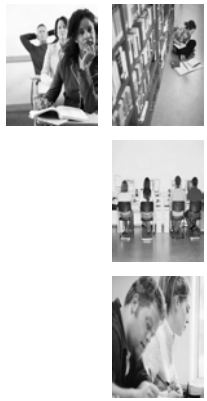


- Difficult to access the user
  - Wide range of knowledge
  - Varied levels of support
- Access via intermediaries
- Access changed
  - User to computer
  - User to User
- Large amounts of data

# Challenges for the NREN

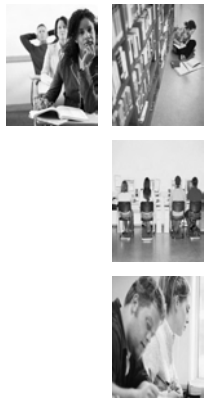


- Realtime
- Reliability
- Resilience
- Level of Support
  - Variety of documentation
  - Variety of events
  - Increased training courses
- Collaboration is key



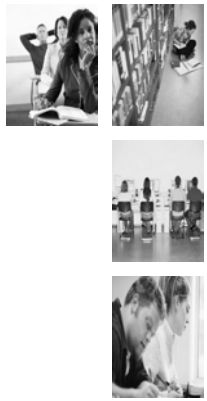
# Provision of services

- Variety of network services
  - Security services
  - Web services
  - Videoconference
  - Etc.
- Provision of content
  - Purchased on behalf of the community
  - Located on the backbone



# Conclusions

- Technology continues to advance
- Processing and transmission resources plentiful
- Facilitates new and unexpected applications
- Unexpected applications can create an unexpected demand



# Conclusions

- New applications create new users
- It is difficult to predict the demands for the future
- It is essential that user support is developed and maintained
- Must be able to meet the needs of the unexpected.



# Questions?