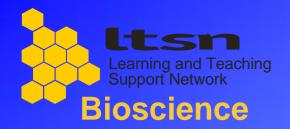


Video-streaming for the Pragmatic Bioscientist

How to get started with media streaming.



a *pragmatic* guide.

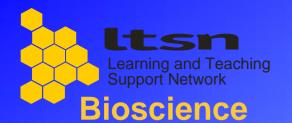
The essentials for starting with video streaming on the web *for Biologists, not programmers*.

- An overview of the process using <u>a</u> typical setup
- A short demonstration
- Where to get further information
- A discussion on how we might best progress.
 - Do we work alone?
 - Mechanisms for collaboration?
 - Maintenance issues?
- Source credit: Click & Go video.



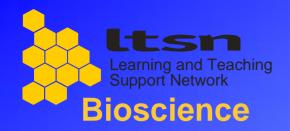
What is streaming media?

- Streaming an alternative to downloading video.
- Media is played and delivered continuously
- Suitable for some interactive control
- Protected at source option
 - Digital Rights Management
- Multiple quality intelligently delivered



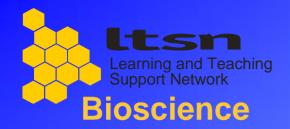
Why is Streaming Media becoming so popular?

- PC performance
 - Moore's law continues despite predictions
 - Disk capacity increases
 - IBM's 'Pixie Dust' technology
- Video on demand²
 - Broadband cable, previous experience
- Inexpensive software
 - Some free solutions
 - Some inexpensive solutions
 - Even the best is affordable



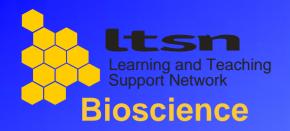
Is it worth the effort?

- Expanding class sizes
- Best use of resources
- Interaction supported
- Re-use of material
- Click & Go: Visualisation, Validation, Illustration, Explanation and Motivation



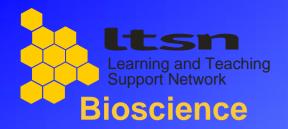
Process

- Encoding
 - Hardware and software
- Distributing
 - Hardware and software
- Playing
 - Hardware and software
- Ref
- http://khalibar.mcc.ac.uk:8080/ramgen/click&go/alt/j imstrom/jimstrom.smi



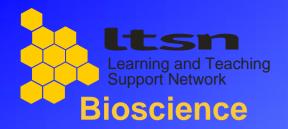
Network requirements

- Bandwidth demands
 - Number of projected users at one time
 - Location of source server
 - Per site or per discipline?
- Management of server
 - Have mercy on your system administrators!
 - Preparation of a protocol and procedure for new users.
 - MLE base for future developments?



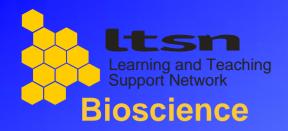
Acquiring video source

- Use existing stock (method later)
 - Old teaching videos unused in the Library?
 - Image sets awaiting an audio soundtrack or accompanying text
 - Collaboration: advertise your stock.
- Create new
 - AV requirements
 - Camera specification
 - Audio requirements
 - Lighting requirements



Options for media streaming.

- Apple vs Real vs Microsoft
 - The three main contenders in the field.
 - Similar principles but different hooks
 - Discovering the dependencies
 - Is compatibility desirable?
 - Identify your support requirements



Demostration

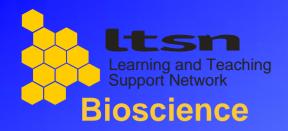
- Capturing Video
- Directly
 - MS Encoder tool
- From tape
 - Digital tape
 - Analogue tape



Microsoft

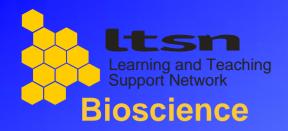
- Windows media
 - Server requirements
 - All 'for free' with Win2k
 - Client requirements
 - Media Players privacy issues.
 - Getting the software

URL: http://www.microsoft.com/media



Apple solution

- Apple QuickTime
 - Server requirements
 - Client requirements
 - Getting the software



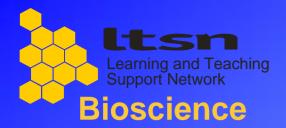
Real networks

- Real media
 - Server requirements
 - Client requirements
 - Getting the software



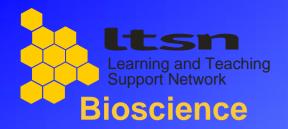
Examples of use

- Clickandgovideo.ac.uk
 - Lots of examples
 - Lectures the new 'shovelware'?
 - Appropriate use essential
 - Case studies
 - Pedagogical issues discussed



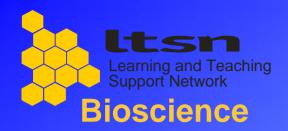
Converting old videos to media streams

- Process to convert your tapes
- Advantages
- Disadvantages



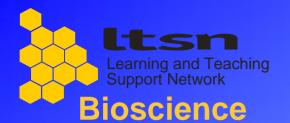
Creating new media streams.

- Hardware requirements
 - Capture cards
- Software requirements
 - Adobe premiere
 - Capture card software
 - Freebies.
- Labour requirements
 - A role for a specialist?
 - Next time you watch TV, watch it.



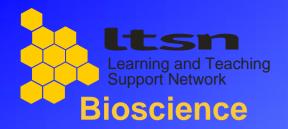
Example media streams

- News: <u>BBC</u>, <u>ABC</u>
- Education: <u>Boxmind</u>, <u>QITS</u>
- Others: Too many to mention.
- Criticisms?



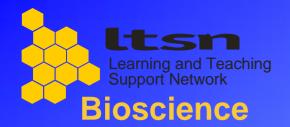
Combining your media stream with text and slides.

- Boxmind toolkit
- Real and SMIL
- Microsoft's new standard
- DIY JavaScript



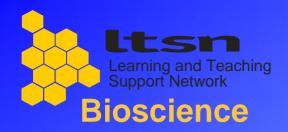
What could go wrong?

- Organisational politics
- Coordinating effort
 - Within institutions
 - Use your media and IT services
 - Between Institutions
 - Use a project or LTSN



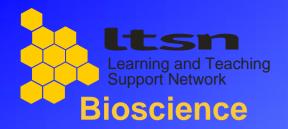
Current project examples for Biosciences

- Streaming media projects in the UK
 - Lifesign
 - Willing to host and distribute.
 - BUFVC
- JISC / DNER Streaming media project
 - http://www.clickandgovideo.ac.uk/



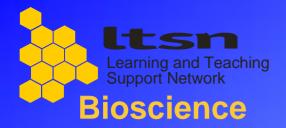
Further information

- Windows media
 - http://www.microsoft.com/windows/windowsmedia/en/default.asp
- Real networks
 - http://www.real.com/
- Apple QuickTime
 - http://www.apple.com/quicktime



Where do we go from here?

- A discussion on how we might best progress together.
 - Do we work alone?
 - Mechanisms for collaboration?
 - Maintenance issues?



Pilot projects? - case studies?

- Would you like to volunteer a pilot project?
 - Help available
 - Possible deliverables
 - Report
 - Example
 - Case study
 - Access to materials.
- Pinnacle Studio DV plus capture card for review.
 - Apply to Itsnbioscience@leeds.ac.uk