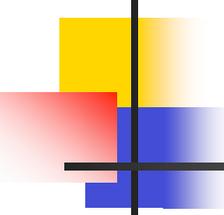# Lecture 5

- Digital Media Components

- Markup and Scripting Languages

- Multimedia Tools

- Facilities Provided by the School

- Suggested Reading
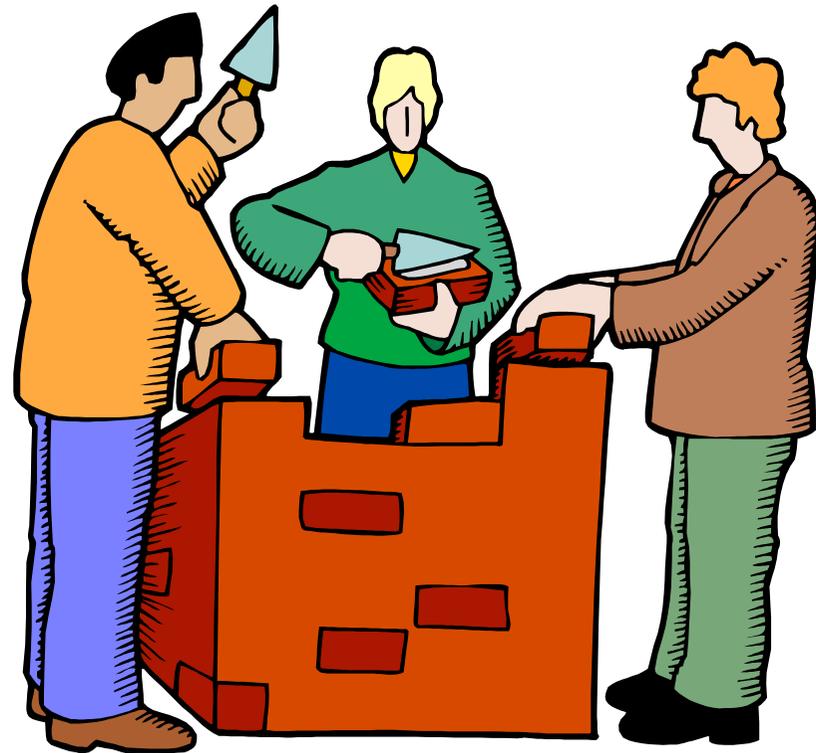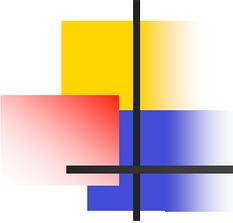
Aim of Lecture

- Not to teach you everything you need to know about multimedia tools
  - There are far too many
  - What you need varies too much between applications and users
- The aim is to provide pointers to some key tools and associated terminology
  - You research the details you need

Digital Media Components

- Text
- Pictures
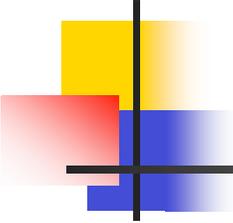- Animations
- Video
- Sound
- ?

Beyond Plain Text

- Content versus Formatting
- Word Processing (MS Word v. LaTeX)
- Structure, Linkages, Navigation
- HTML (HyperText Markup Language)
  - http://www.w3.org/TR/html4/
- CSS (Cascading Style Sheets)
  - http://www.w3.org/Style/CSS/

Beyond HTML

- SGML (Standard Generalized Markup Language)
  - http://www.w3.org/MarkUp/SGML/
- XML (eXtensible Markup Language)
  - http://www.w3.org/XML/
- DTD (Document Type Definition)
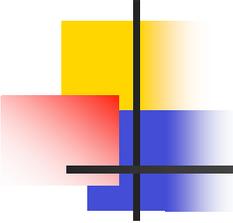 - http://en.wikipedia.org/wiki/ Document_Type_Definition
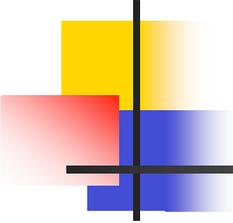
More Markup Languages

- SMIL (Sychronized Multimedia Integration Languages)
  - Tag based language for specifying temporal structures of presentations
  - http://www.w3.org/AudioVideo/
- SVG (Scalable Vector Graphics)
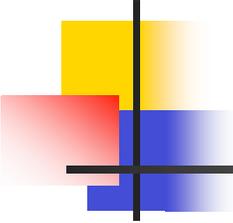 - For describing 2D vector graphics
  - http://www.w3.org/Graphics/SVG/
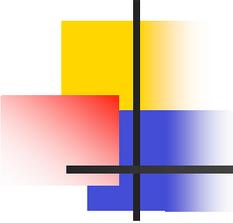
Scripting Languages

- Programming languages used to manipulate, customize, and automate the facilities of existing systems

- PHP

  - http://en.wikipedia.org/wiki/PHP

- ECMAScript

  - http://en.wikipedia.org/wiki/ECMAScript

- JavaScript

  - http://www.w3schools.com/js/default.asp

Bitmap Graphics Formats

- GIF (Graphics Interchange Format)
  - http://en.wikipedia.org/wiki/GIF
- JPEG (Joint Photographic Experts Group)
  - http://en.wikipedia.org/wiki/JPEG
- MPEG (Moving Picture Experts Group)
  - http://en.wikipedia.org/wiki/MPEG
- PNG (Portable Network Graphics)
  - http://www.libpng.org/pub/png/

Photo/JPEG Editing Tools

- PhotoPlus 6 - Free Image and Photo Editing Software
  - http://www.freeserifsoftware.com/ software/PhotoPlus/
- GIMP - GNU Image Manipulation Program
  - http://www.gimp.org/
- JASC/Coral Paint Shop Pro
  - Installed in School Lab - see slide 22
- Apple iPhoto - Highly recommended!
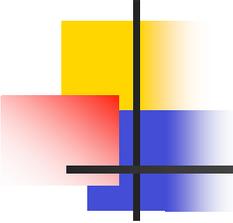
Vector Graphics
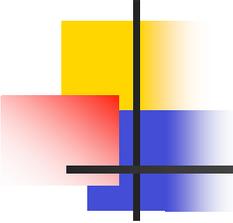
- Images made of mathematically defined objects - as opposed to bitmaps

- DrawPlus 4 - Free Graphic Design and Vector Drawing Software
  - http://www.freeserifsoftware.com/software/ DrawPlus/default.asp

- Guide to more free graphics software
  - http://www.freebyte.com/graphicprograms/
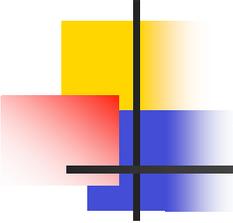
Animation Tools

- Adobe Flash - Installed in School PC Lab
  - http://en.wikipedia.org/wiki/Adobe_Flash
- Anim8or - Free 3D Animation Software
  - http://www.anim8or.com/main/index.html
- 3DPlus 2 - Free 3D Animation Software
  - http://www.freeserifsoftware.com/software/3dPlus/default.asp

Video and Audio Editing

- Free video editing software
  - http://www.desktop-video-guide.com/top-5-free-video-editing-software-review.html
- WavePad - Free audio editing software
  - http://www.nch.com.au/wavepad/
- Nero 7 Premium
  - Installed in School PC Lab - see slide 19
- Apple iMovie - Highly recommended!
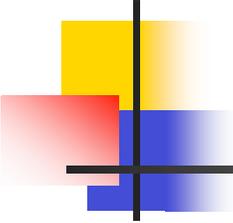
Facilities Provided

- Normal School Linux Lab. Machines
- Multimedia PCs in School PC Lab
  - Firewire, memory, disk
  - DVD writer
  - Photo, Audio, Video editing software
  - Flash
- Sony Video Cameras
- Advice from Lecturer and Team Tutors

Sony Handycam DCR-HC14E

Viewfinder

Lens

LCD screen

DV Terminal (IEEE1394)

Zooming and Recording

Zoom in (T)
Zoom out (W)

Press in green button, then turn the dial to Camera.

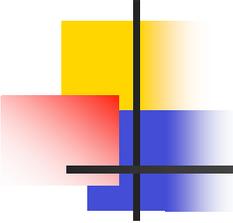Push the record button to start & stop recording.

Inserting/Removing Cassette

[1] Slide across the open / eject latch and pull door open

**[2] Wait for tape holder to slide out. Insert cassette and only push back the holder. The rest is automated.**

Video Capture Tips

- Have a good idea in advance what you need to record

- Use a tripod or rest wherever possible to prevent jerky video

- Decide on a location with minimal visual and audible 'noise'

- Additional light may be required when shooting indoors

- Get permission where appropriate!
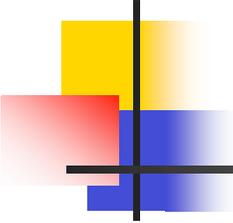
Video Editing Tips

- Cropping: Aim to have the main subject in the centre of the frame
- Additions: Have any small-shot additions in the top-right hand corner
- Produce various 'cuts', for example:
  - **Cut 1 –** Key frames simply merged together without any transitions
  - **Cut 2 –** Add in necessary transitions and preview
  - **Cut 3 –** Insert any additional text to the frames
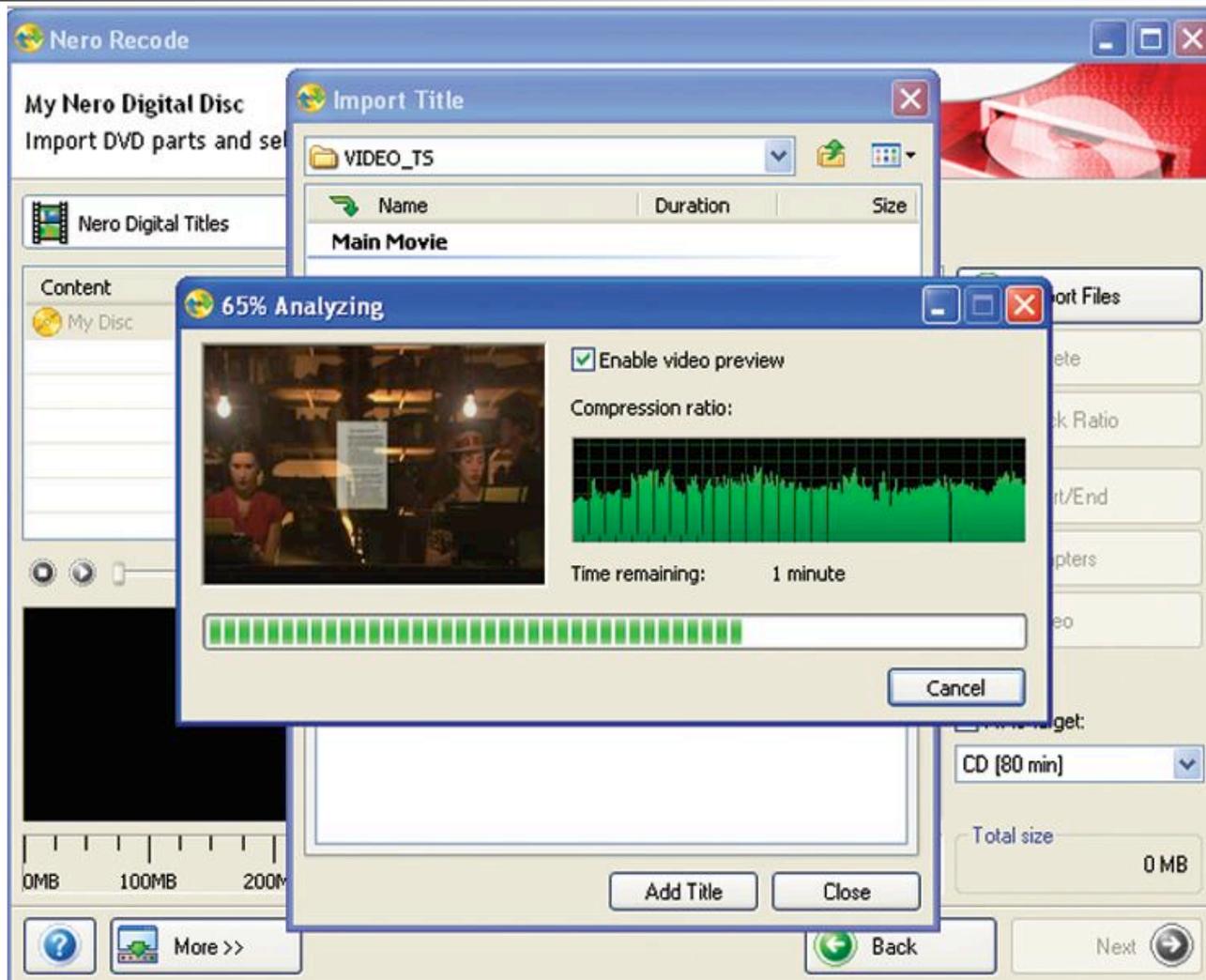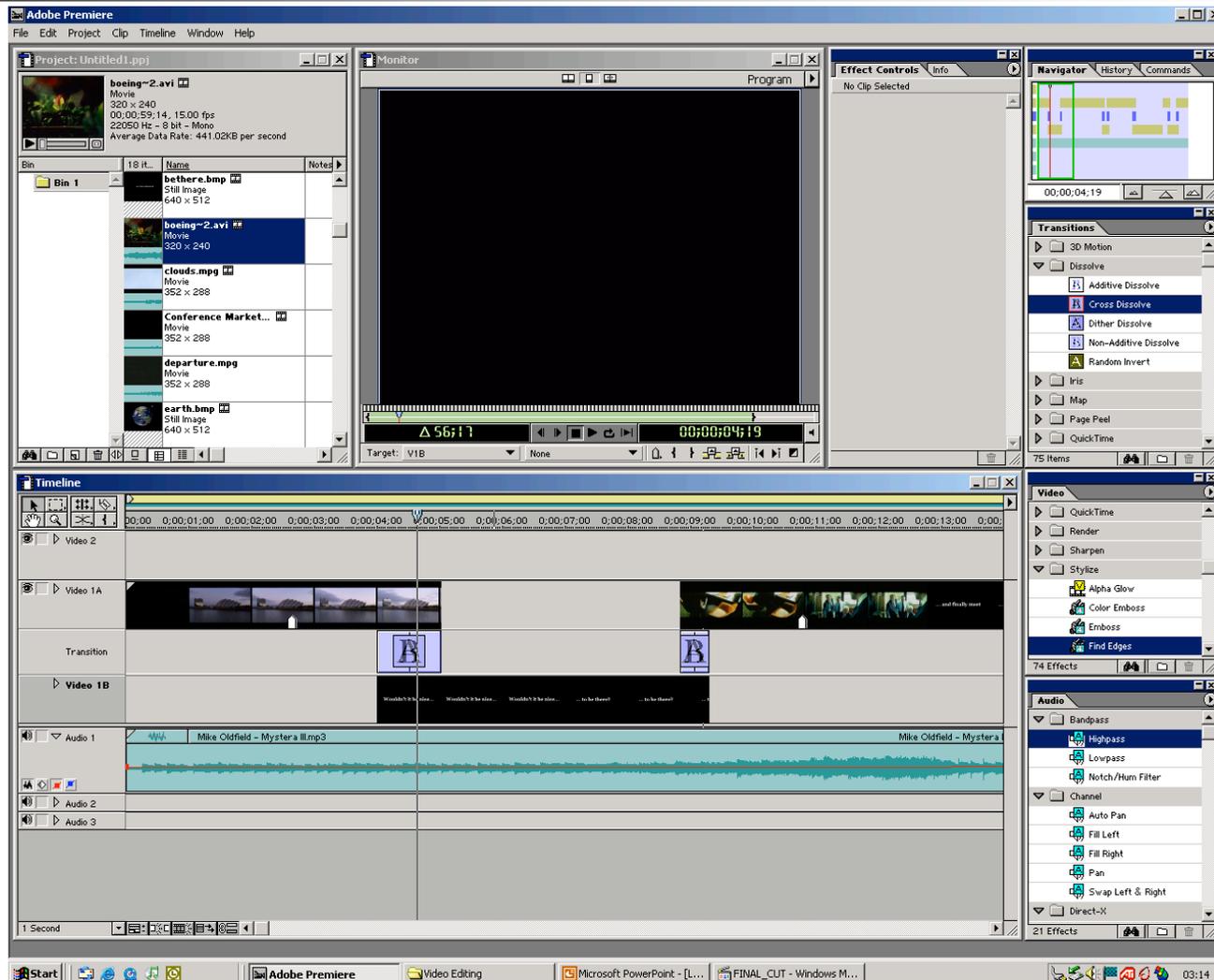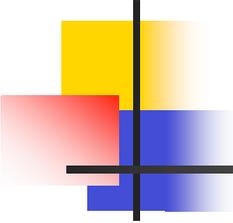 - **Cut 4 –** Overlay any audio and try to synchronise with video
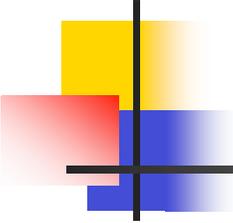
Nero 7 Premium

- **Audio editing**
  - Rip, mix, etc.
- **Video editing**
  - Trim your videos quickly and flexibly
  - Automatic creation of animated 3D menu scenes
  - Add your own background pictures and text design
  - Adding or removing images from slideshows
- **Writing to DVDs, etc.**
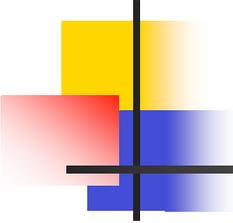
Nero Screen-Shot

Adobe Premier Screen-shot


21

JASC/Corel Paint Shop Pro

- An affordable alternative to Adobe Photoshop

- Everything you might need for editing digital photographs

- Art Media tools replicate the experience of painting and drawing on canvas

- More details at: http://www.jasc.com

Getting Started

- Links to the websites listed here are all on the module website

- Each team needs to elect someone to be in charge of borrowing the School's video camera (and paying a deposit)

- Each team gets one free DVD and one free Mini DV Cassette

- Your Team Tutors will be able to give you more specific advice/information
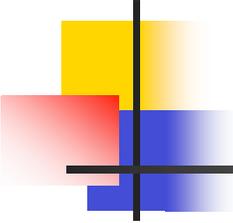
Suggested Reading

- **Digital Multimedia**
  - Nigel & Jenny Chapman
  - John Wiley, 2004
- **Digital Media Tools**
  - Nigel & Jenny Chapman
  - John Wiley, 2003
- **Web Design**
  - Nigel & Jenny Chapman
  - John Wiley, 2006