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)
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
  - ECMAScript
  - JavaScript
    - [http://www.w3schools.com/js/default.asp](http://www.w3schools.com/js/default.asp)
Bitmap Graphics Formats

- GIF (Graphics Interchange Format)

- JPEG (Joint Photographic Experts Group)

- MPEG (Moving Picture Experts Group)

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

- Adobe Flash - Installed in School PC Lab

- Anim8or - Free 3D Animation Software

- 3DPlus 2 - Free 3D Animation Software
Video and Audio Editing

- Free video editing software
- WavePad - Free audio editing software
- 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

- Lens
- Viewfinder
- 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.
[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
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

- Web Design
  - Nigel & Jenny Chapman
  - John Wiley, 2006