

Additional Design Issues

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Additional Design Issues

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Outline

- IPR
 - Based on England & Finnery. Managing Multimedia. Book 1. Addison Wesley. 2002.
- iTV
- Videoconferencing
- Educational Multimedia



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IPR

- intellectual property rights
- can be protected
 - Patents
 - Copyright
 - Registered Trademark



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Copyright

- UK –
 - protection of material benefits of exploitation
 - initially printers rather than authors
 - Copyright, Designs and Patents Act 1988
 - Plus additional legislation for software copyright in 1993
 - Unlimited fines and 2 year prison sentences
- France – droit d'auteur
- USA
 - DCMA (Digital Millenium Copyright Act) 1998



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Copyright

- comes into existence with the work
- fixed length
 - 70 years (after death) in Europe
 - 50 years for sound recording
 - more complicated in US
- must be able to prove creation
- but copyright also applies to reproductions (e.g., Museums for their contents)



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What can be copyrighted?

- Work of art
- Literature
- Music
- Photograph
- Movie
- TV programme
- software



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Legal Issues

- establish right by sending registered copy to yourself (don't open)
- copyright notice is "good practice"
- copyright goes with employer ... or with contractor
- best to sort IPR in contract
 - copyright assignment must be in writing in UK and US



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Music

- Two kinds of rights
 - performing rights
 - reproduction rights
- Performing Rights
 - administered by Performing Rights Society (PRS)
 - might be relevant if your multimedia product is played in public



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Music

- mechanical rights
 - Mechanical Copyright Protection Society in UK
 - Harry Fox Agency in US
 - in principle need a licence for the music and a separate licence for the recording
 - specialised production music provides
 - a single licence
 - Rights to edit
 - may also have to cover fees/royalties to performers
 - copyright free music available



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Internet Rights

- Web-delivered multimedia products more like programmes than physical artifacts
- Caches & mirrors
 - Unclear if rights/authorisation to original site also apply to caches and mirrors
 - Original site, caches and mirrors may all be in different countries
- Other problematic issues
 - links that imply authorship or authority
 - embedding pages in frames



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Internet Rights

- DCMA
 - ISP is not responsible for transitory files
 - Caching acceptable without special licence but must not cause problems with hit counting
 - webcasting covered as a form of performance, requiring performance licence



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Legal Issues

- types of rights
 - all rights
 - non-theatric rights
 - home video
 - internet or interactive
 - flash fees
- may be limited by region



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Licencing and Royalties

- royalties vs one-off payment?
- for code
 - it's conventional to offer licence (so that developer can reuse it)
 - make sure the supplier has the right to sell you code or licence
 - can't patent it, but copyright of the product may still apply



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Patents

- Copyright applies to the form in which an idea is expressed
- Patents apply to a process or method of doing something
- Only available
 - In UK if you have not revealed the idea
 - In USA for 1 year after making it public
 - NDAs provide protection when discussing the idea
- Can be very costly (~£25K)



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Software

- Code can be copyrighted
 - Rewrite the code!
- Algorithms and "interactive techniques" can be patented



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Open Source & Copyright

- Open Source (www.opensource.org)
 - "The basic idea behind open source is very simple: When programmers can read, redistribute, and modify the source code for a piece of software, the software evolves. People improve it, people adapt it, people fix bugs. And this can happen at a speed that, if one is used to the slow pace of conventional software development, seems astonishing."
- Copy Left (www.gnu.org)
 - "To copyleft a program, we first state that it is copyrighted; then we add distribution terms, which are a legal instrument that gives everyone the rights to use, modify, and redistribute the program's code or any program derived from it but only if the distribution terms are unchanged. Thus, the code and the freedoms become legally inseparable."



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iTV: interactive TV

- novel new multimedia platform
- introduces a set of new interaction challenges
 - new interaction model
 - new set of users
 - new context of use



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iTV: new sets of users

- Example: older users
- problems with
 - sight - low resolution and distance of TV display
 - sound, especially speech, is especially difficult for poor hearing in noisy surroundings
 - irrelevant information harder to ignore
 - working memory is "fragile"
 - attention-switching is difficult



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iTV: new sets of users

- Example: older users
- consequences
 - design for low visual acuity
 - single screen better than sequence of screens
 - use display as visual aid to short-term memory
 - reduce noise in voice-overs and other speech & avoid other auditory distractions (e.g., music)



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iTV: new contexts of use

- first serious study: O'Brien, J., T. Rodden, et al. (1999). "At Home with the Technology: An Ethnographic Study of a Set-Top-Box Trial." *ACM Transactions on Computer-Human Interaction* 6(3): 282-308.
- "complex set of routines, rights, and obligations constituted in and through the social organization of the household"
 - technology must fit into and accommodating this pattern if it is to be accepted.
- iTV services tend to be concentrated in one fixed device, interacting badly with the dynamic allocation in many households of locations to function
- high degree of variation in domestic arrangements, both between families and within families through time; inflexible interactive technologies can disrupt such arrangements and hence be rejected



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iTV: new interaction model

- example: combining two comms channels
 - poorly synchronised info delivery to CD table
 - hence, loss of confidence in information
- example: Electronic Program Guides
 - iTV services allocated TV channel number - user confusion with two linked but different services - although link is appreciated
 - test to allow 'click through' from EPG to TV - problems with returning from TV mode
 - associate screen symbols, colours, labels with remote control



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desktop videoconferencing

- useful for certain situations
 - conflict resolution
 - long-term collaboration
- problems:
 - turn-taking & floor control
 - lack of
 - peripheral cues
 - side conversations
 - problems of object location & manipulation



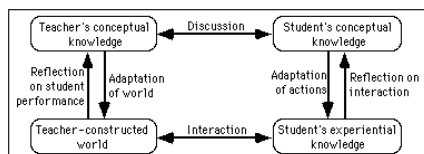
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multimedia and learning (1)

- Laurillard's model of learning



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multimedia and learning (2)

- D. Laurillard. *Multimedia & the Learner's Experience of Narrative*. *Computers & Education* 31 (1998) 229-242
- there is a conflict between increased user control (good for learning) of interactive media with reduction in focused and organised activity (bad for learning)
- solution: impose a structure in the form of an intellectual narrative: hypothesis, critique of assumption, presentation of evidence, interpretation, contradictory evidence, synthesis
- material is supplied with narrative as outline and as a set of learning goals
- must keep learner active (notepad for annotation)
- closure via model answer, discussion, integrative task (essay, report, etc)



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