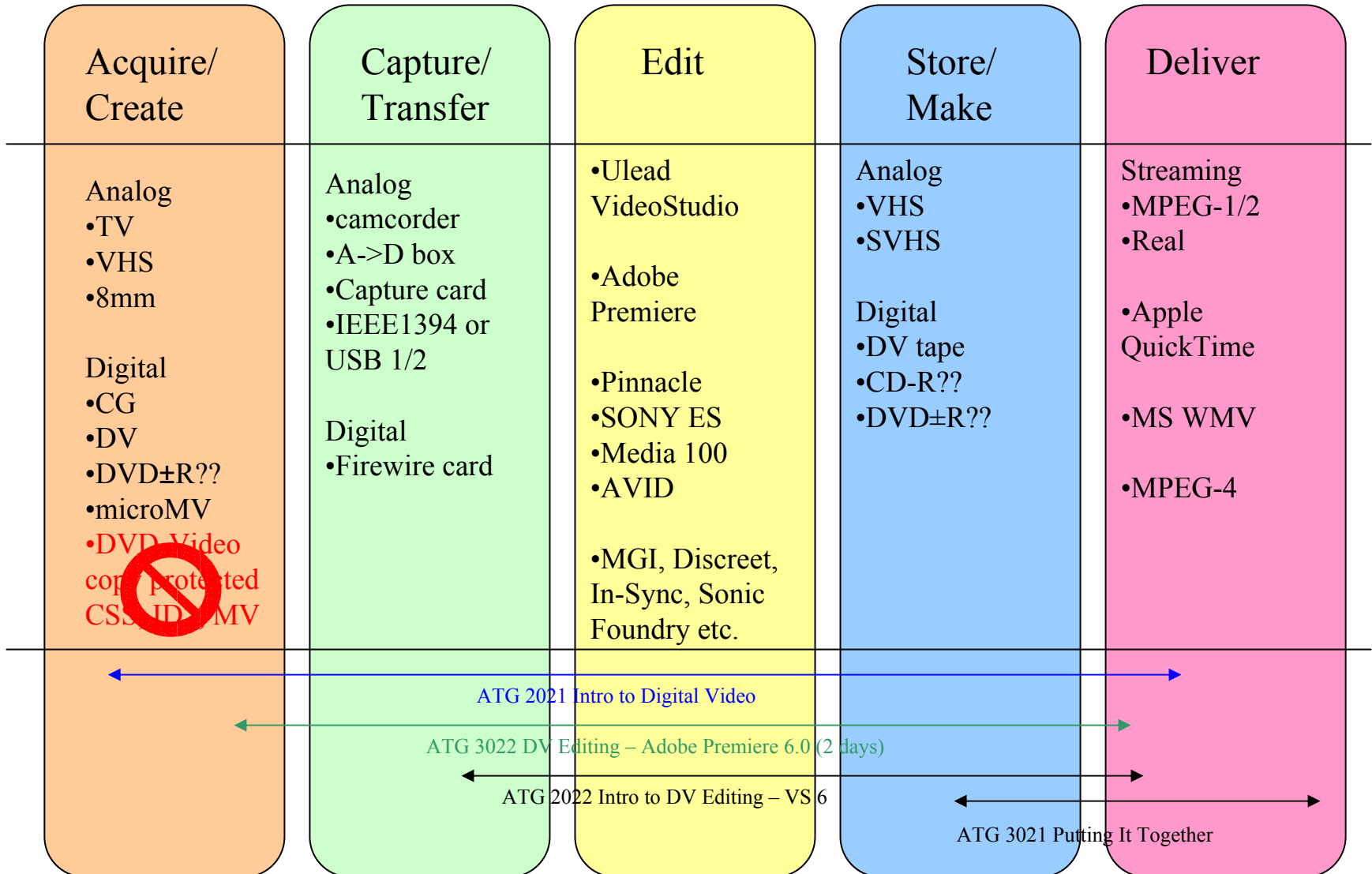


ATG 3021 Putting It Together

May 2002

5 steps of Video



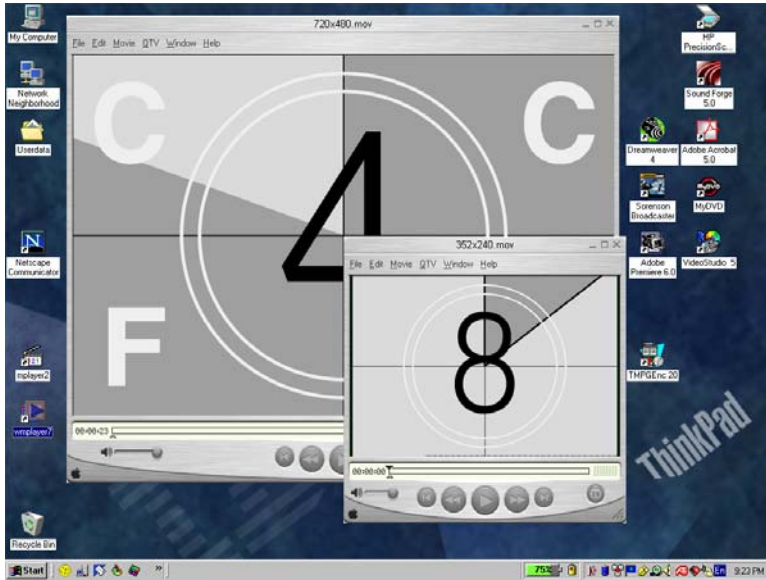
Deliver

- CD-ROM (CD-R, CD-RW) 650/700 MB
- DVD-ROM (DVD-R, DVD-RW, DVD+RW, DVD-RAM, DVD+R) 4.7 GB per sided
 - Combine programs, web pages, graphics, animations, video (usually QuickTime)
- Video (off-line)
 - CD : VCD ~60 minutes MPEG-1 (352x240)
 - CD : MiniDVD ~10 minutes MPEG-2 (720x480)
optionally embeds a DVD player application like cDVD
 - DVD : ~ 90 minutes MPEG-2 (720x480)

Deliver (cont'd)

- Video streaming
 - University supports
 - MediaHawk : .mpg MPEG-1, MPEG-2 (1 Mbps – 15 Mbps)
 - Real version 8, One : .rm format (28kbps – 1 Mbps)
(.ra in version 6, 7 (G2))
 - Only available to those department that runs its own servers
 - QuickTime version 4, 5 .mov files
 - Microsoft Windows Media 8 .wmv (.asf in version 6 & 7)
 - Upcoming MPEG-4 (already in use under various variants in Real One, QuickTime 6, Windows Media 7, 8.)

Video size



- VideoCD still expands to full screen during playback even natively it is only “quarter screen” It is still acceptable for even most movies.
- You can make DVD from VHS tape over antenna! But with ~200 lines of resolution. GIGO.
- Streaming and video on CD-ROM doesn't need to small stamp size video. They got bad rep. from early days of pre real 5.x and old CD-ROM for 1x, 2x drive.
- The current generation MPEG-4 codec can be “full screen (640x480)” at near DVD quality using >700 Kbps

CD-ROM/DVD-ROM

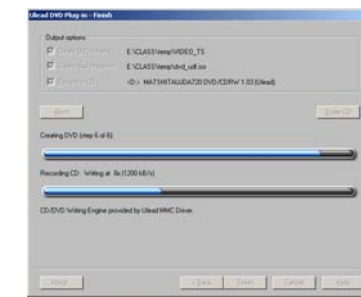
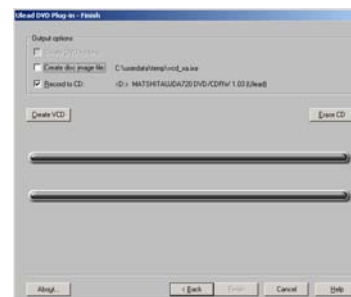
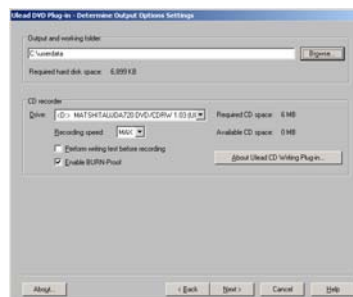
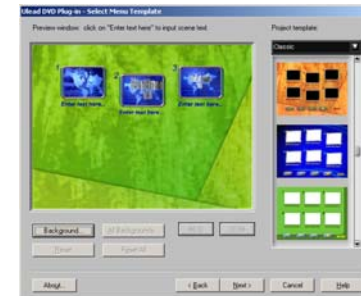
- Treat it as a web site
 - Static
 - Update via live network connection
- Traditional Application Development
 - Program in C/C++, Visual BASIC, Delphi
- Authoring programs
 - Macromedia : Director 8.5.1, Flash MX, Authorware 6.0
 - Others : DemoShield, Asymmetrix Toolbook
- Burning software
 - For DVD±R?? need Roxio EasyCD Creator 5.x, aHead Nero 5.5.x, Veritas PrimoDVD 2.x (RecordNow 4.x?)

Video (CD/DVD)

- Authoring
 - DVD Wizard in Ulead Video Studio 5/6 (does VCD, SVCD too despite the name)
 - Limit to one video file (+ one intro video)
 - Bundled with fireware card and DVD±R?? Drive
 - MyDVD 2.x (upgradable to DVDIt SE/PE) , 3.x
 - Pinnacle Impression SE 2.2
 - Mediostream neoDVD (**DO NOT INSTALL on A30/XP, it will destroy our load, cannot boot anymore**)
- Disk Space, disk space, and more disk space
 - Sometimes videos need to be demux, transcode, multiplex before it is ready to burn to DVD
 - Besides the 4.7G per DVD, need at least another 4.7GB temporary during the disc creation process

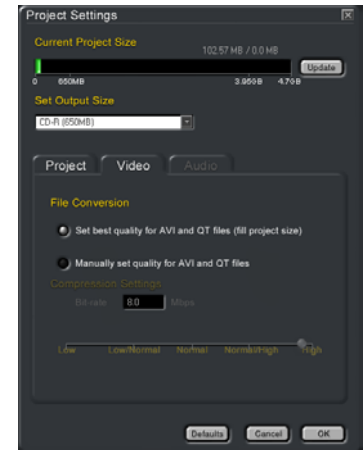
DVD Wizard

- Create DVD/VCD in Finish or Export
- 8 clicks and you are done



MyDVD 2.x

- Multiply video files
- Embed DVD player
- “Non-standard” Windows UI
- 3.x is totally different product for “home/consumer market”, no longer a subset of the DVDIt family

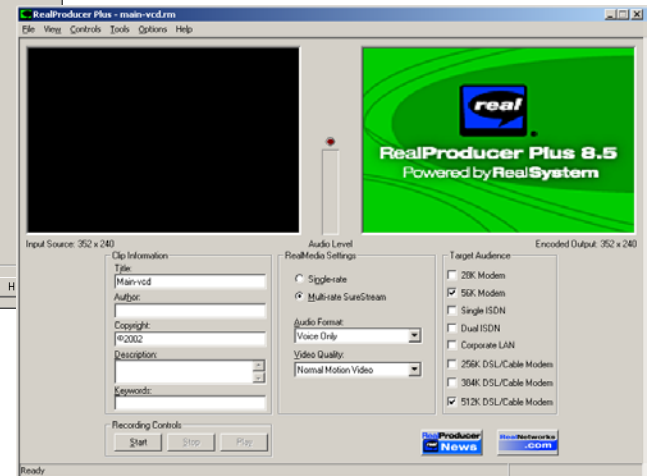
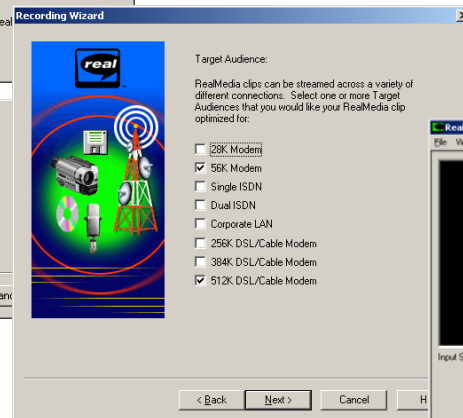
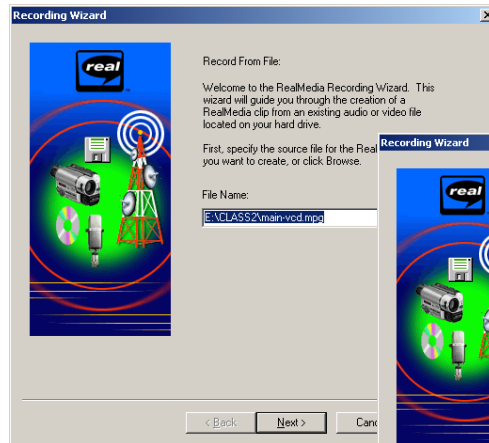
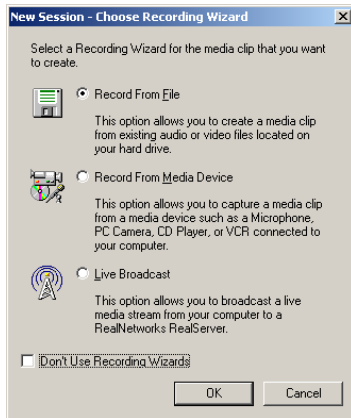


Others

- Just like Video Editing software (Adobe Priemere -> various Avid products), from \$300 to > \$40,000
- Ulead DVD Movie Factory
- Roxio (MGI) VideoPack
- Pinnacle Impression Pro
 - Multi angle, multiple audio tracks
- Sonic Solutions (Daikin)
 - DVDit! SE, PE
 - (Presenter, Informer)
 - ReelDVD
 - DVD Producer
 - DVD Fusion
 - Scenarist
- Apple iDVD, DVD Studio Pro
- Web-enabled DVD

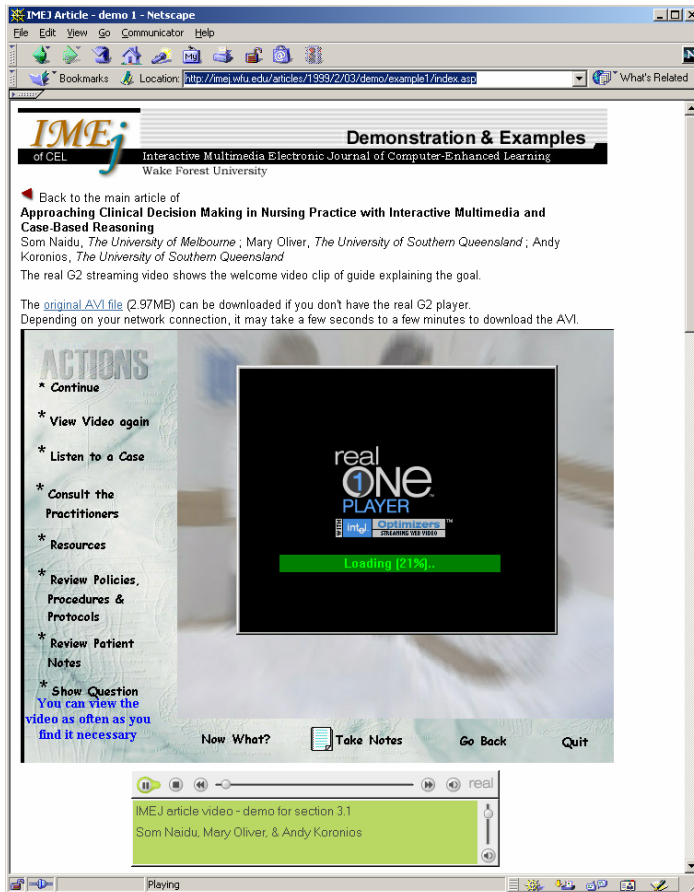
Streaming

- Real
 - Save directly in Video Studio or Adobe Premiere
 - Use Real Producer (Plus)
 - Use Multiple bit rate option for both 56Kbps modem and network (512Kbps) users.



Streaming UI

- Embed player in web page vs standalone player e.g.
<http://imej.wfu.edu/articles/1999/2/03/demo/example1/>

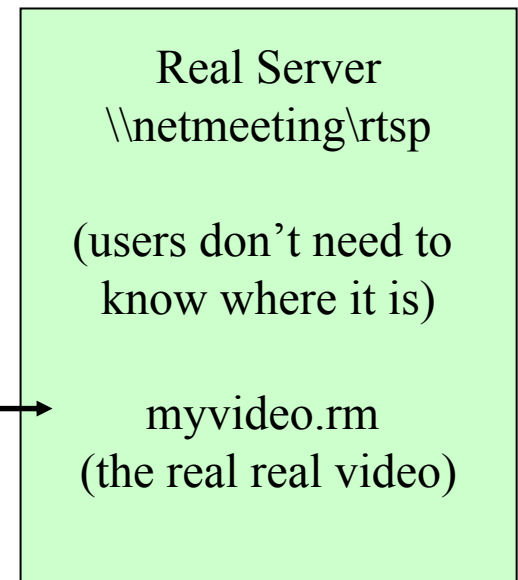
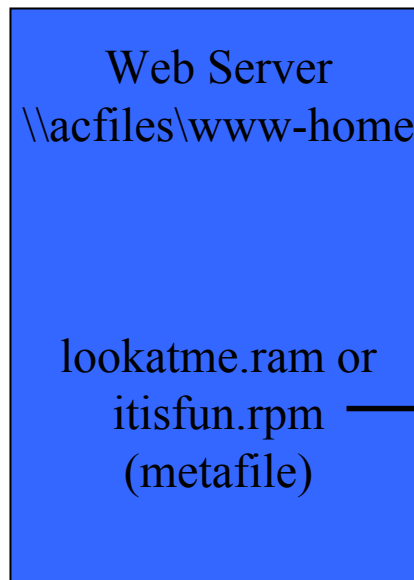


Streaming setup

- 2 Files
 - .rm video file goes to the streaming server `\\netmeeting\rtsp`
 - .ram or .rpm (standalone player or embedded in web page) goes to `\\acfiles\www-home`



To the viewers
<http://www.wfu.edu/~yipcw/temp/ibm-plan.rm>



Inside the file, just one line
`rtsp://real.wfu.edu/yipcw/a-brillant-plan.rm`

Windows Media

- Media Encoder 8

The screenshot displays the Windows Media Encoder 8 interface. On the left, the 'Welcome to Windows Media Encoder' dialog box is open, showing options for creating a new session. The 'New Session Wizard' is also visible, with the 'Broadcast a live event from attached device' option selected. The main window, titled 'Untitled - Windows Media Encoder - [Video]', shows a preview of the video being encoded. The 'Audio' tab is active, and the 'Monitor' window displays the following information:

Input		Output	
Video:	E:\CLASS2\demo-MiB-II-ant-dvd-vs6.AVI	Archive:	E:\CLASS2\demo-MiB-II-ant-dvd-vs6.wm
Audio:	E:\CLASS2\demo-MiB-II-ant-dvd-vs6.AVI	Broadcast port:	-
Script:	-	Connections:	-

Encoding		Progress	
Profile:	WM8 Video for DSL/Cable Delivery	Elapsed time:	7 seconds
Video size:	320 x 240	Estimated time:	51 seconds
Media Bit Rate:	208.79 Kbps (242.00 Kbps)	Percent complete:	13%
Expected fps:	30.0		
Current fps:	30.2		
Total scripts:	-		

System	
CPU load:	100%
Disk space left:	19.00 GB
Disk time left:	-

The 'Monitor' window also includes buttons for 'General', 'Display Information', and 'Connections'. At the bottom of the main window, there is a 'Mute' button, a 'Mixer...' button, and a progress bar showing 'Encoder converting' with a green bar. To the right of the progress bar are 'Start' and 'Stop' buttons.

More streaming

- SMIL for “complete” package – synchronize slides and text
 - Hand coded for maximum flexibility
 - Real Slideshow
 - Real presenter (Plus)

 - Microsoft PowerPoint LiveBroadcast
 - Microsoft Producer add-in to PPT 2002 (XP)

Custom built SMIL solutions

- Simple

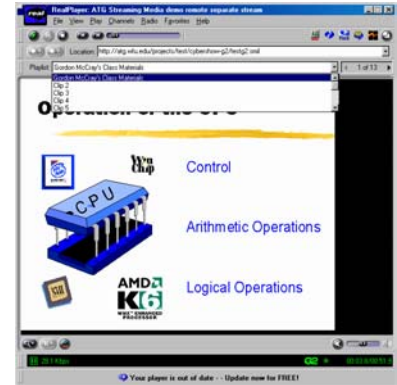
<http://atg.wfu.edu/projects/test/cybershow-g2/>
<http://www.wfu.edu/organizations/TLC/p1-5.smil>

- Elaborate

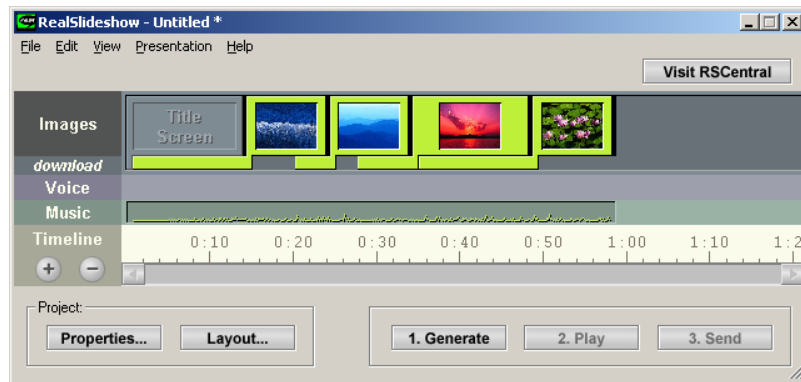
- Microsoft Media Player, Apple QuickTime Player, Real One Player Start Pages

- May require complicated and expensive tools

- Totally Hip's LiveStage Pro for QT
- Digital Renaissance TAG editor or GRiNS Editor, Real Presenter One (Accordent) for Real

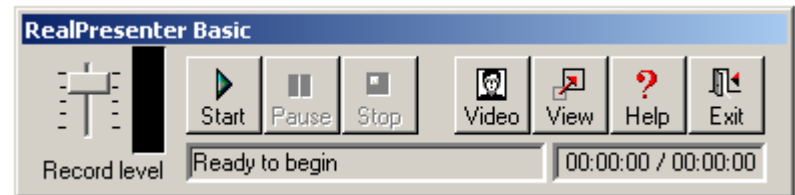
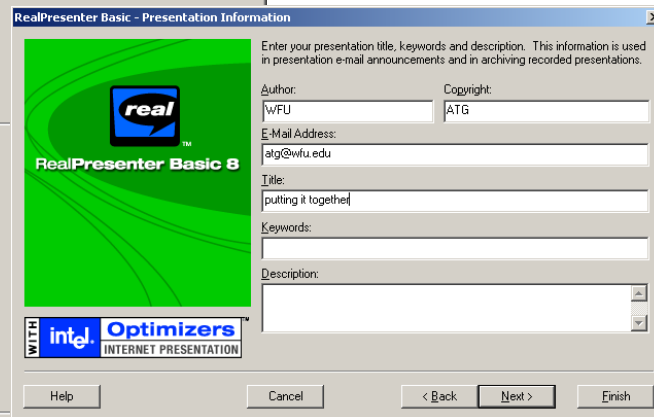
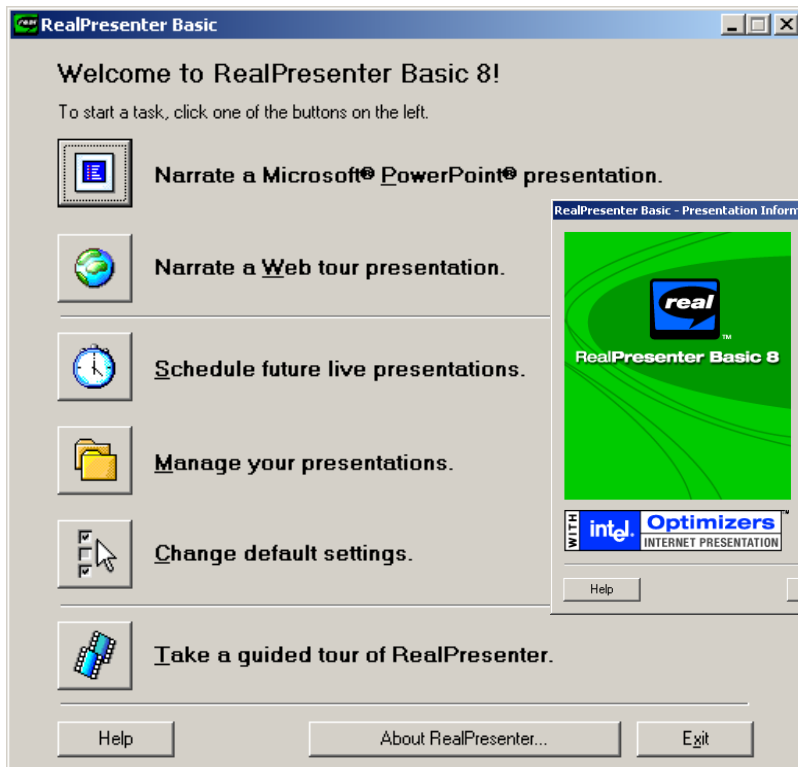


Real slideshow



Real Presenter

- 8.x (Basic or Plus)



Summary

- CD/DVD authoring
 - Director
- CD/DVD based video
 - DVD Wizard MyDVD
- Streaming Video
 - Real Producer
- PPT/Slideshow packaging
 - Real Presenter/Microsoft Producer