

Computer Science E-1

Understanding Computers & The Internet

Lecture 5: Multimedia
March 21, 2011

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Photo by Dan Armendariz, 2007

Images

Bitmaps



Photo by Dan Armendariz, 2007

Images

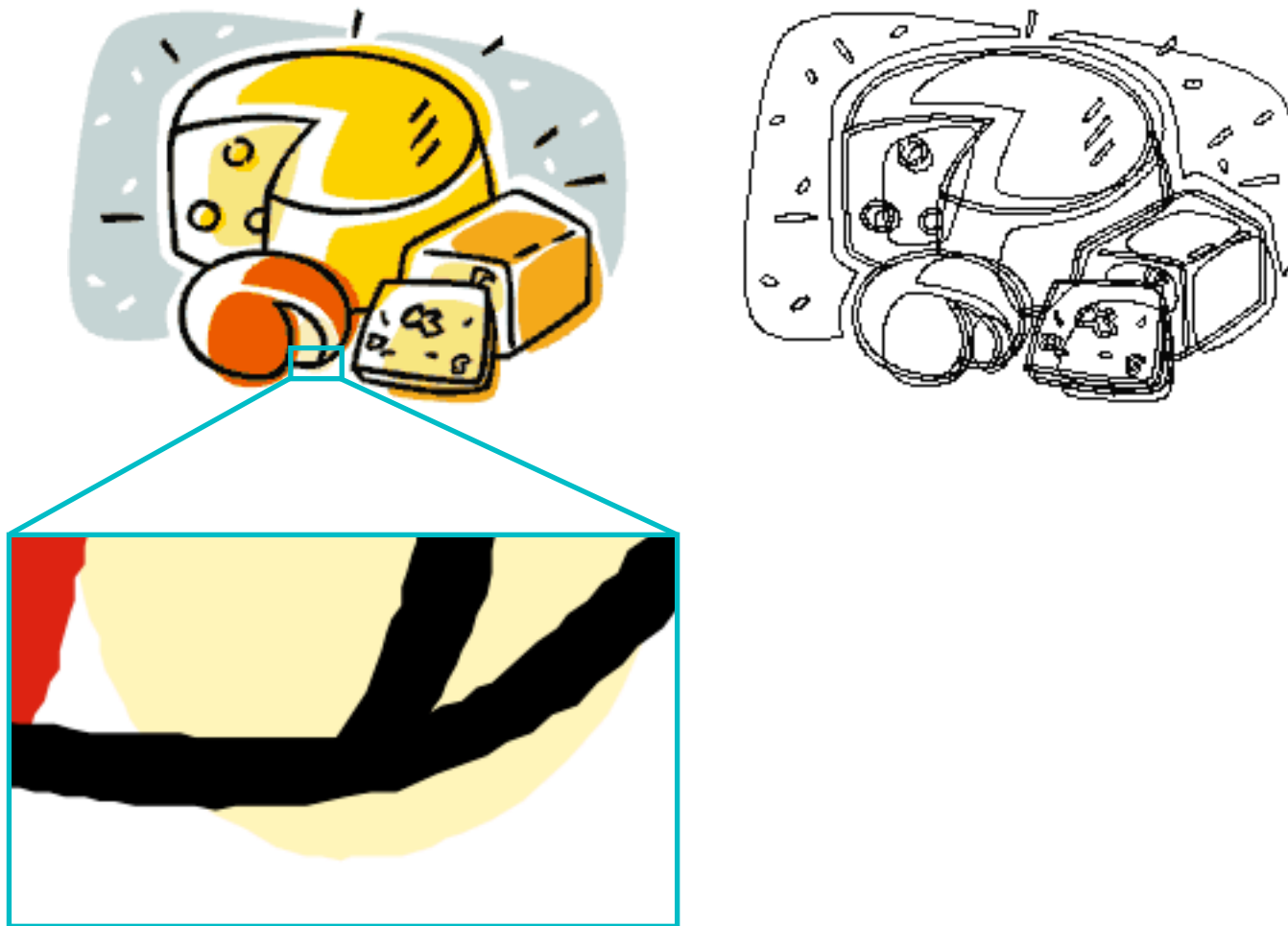
Bitmaps & Raster graphics



Image from <http://www.dpreview.com/reviews/canoneos40d/page2.asp>, copyright © DPReview

Images

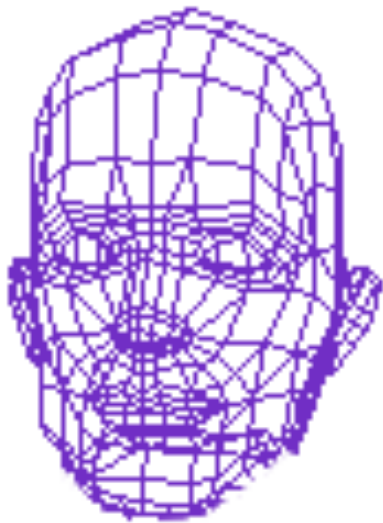
Digital Cameras



Top vector images from <http://www.prepressure.com/library/file-formats/bitmap-versus-vector/2>, copyright © L. Leurs.

Images

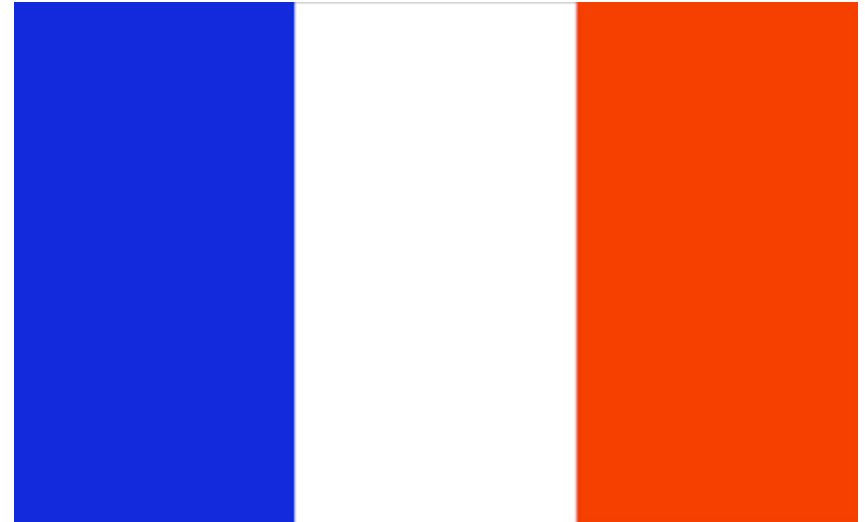
Vector Graphics



Images from <http://library.thinkquest.org/10015/data/info/reference/techniques/computer.animation.html>, copyright © ThinkQuest

Images

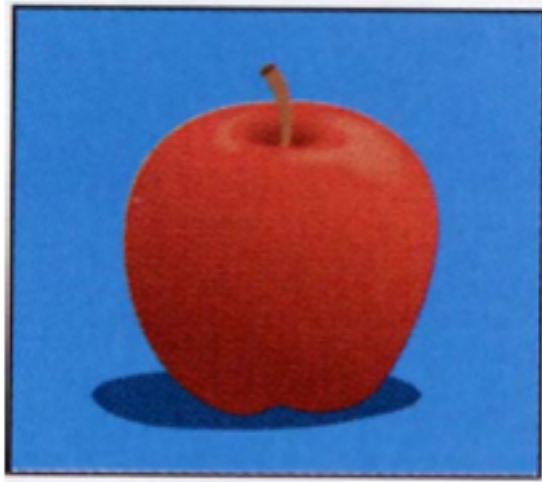
Wireframes



Flag images from <http://www.worldatlas.com/>, copyright © Graphic Maps.

Images

Compression



Images from Dennis P. Curtin, et al., Information Technology: The Breaking Wave, copyright ©The McGraw-Hill Companies, Inc.

Images

Compression

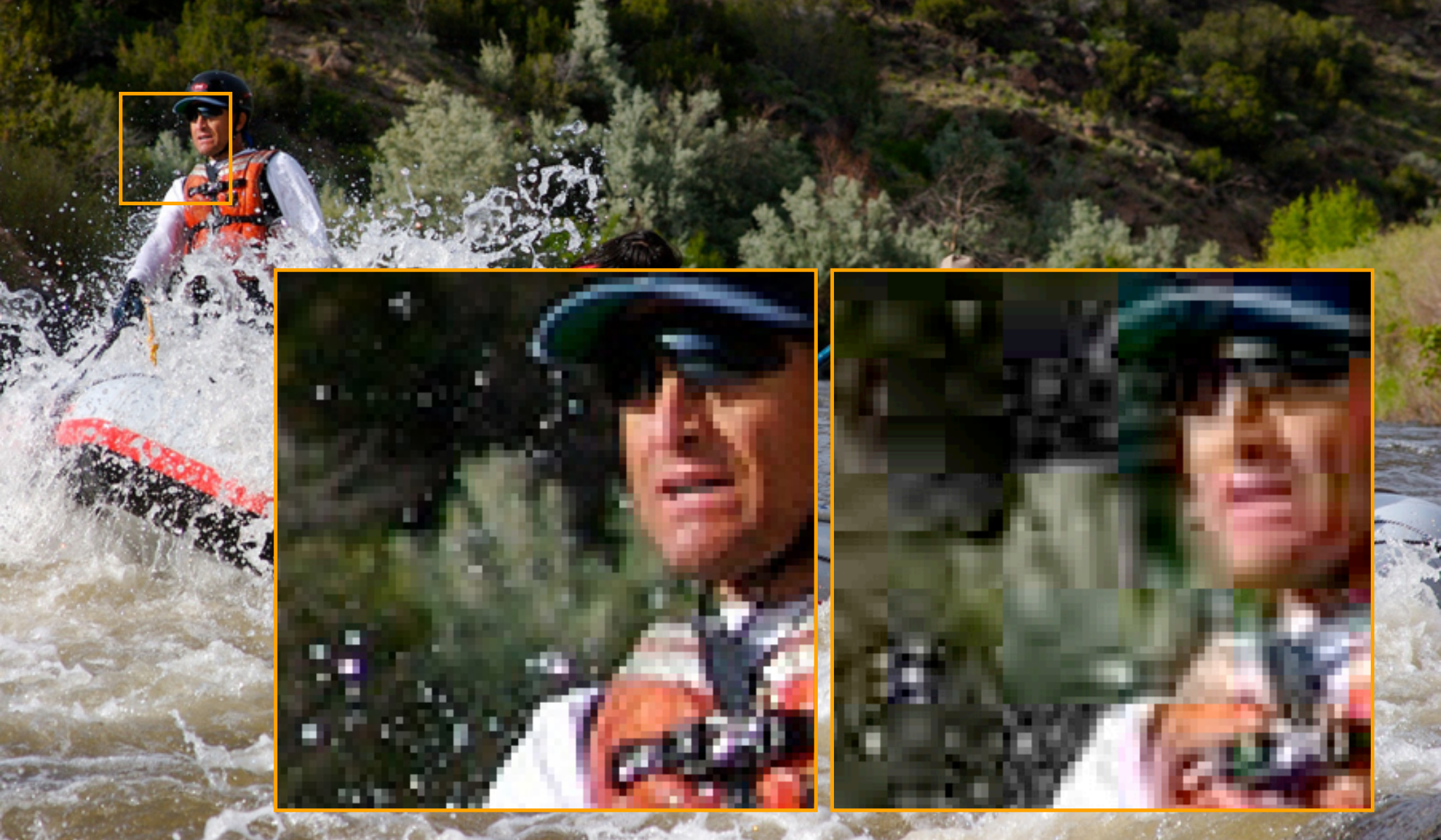


Photo by Dan Armendariz, 2007

Images

Lossless vs Lossy Compression

Name	Type	Compression	Color	Alpha
JPG	Raster	Lossy	24-bit	No
GIF	Raster	Lossless	8-bit	Yes
PNG	Raster	Lossless	24-bit	Yes*
EPS	Vector	-	24-bit	Yes

* Some browsers do not properly display transparency in PNG files

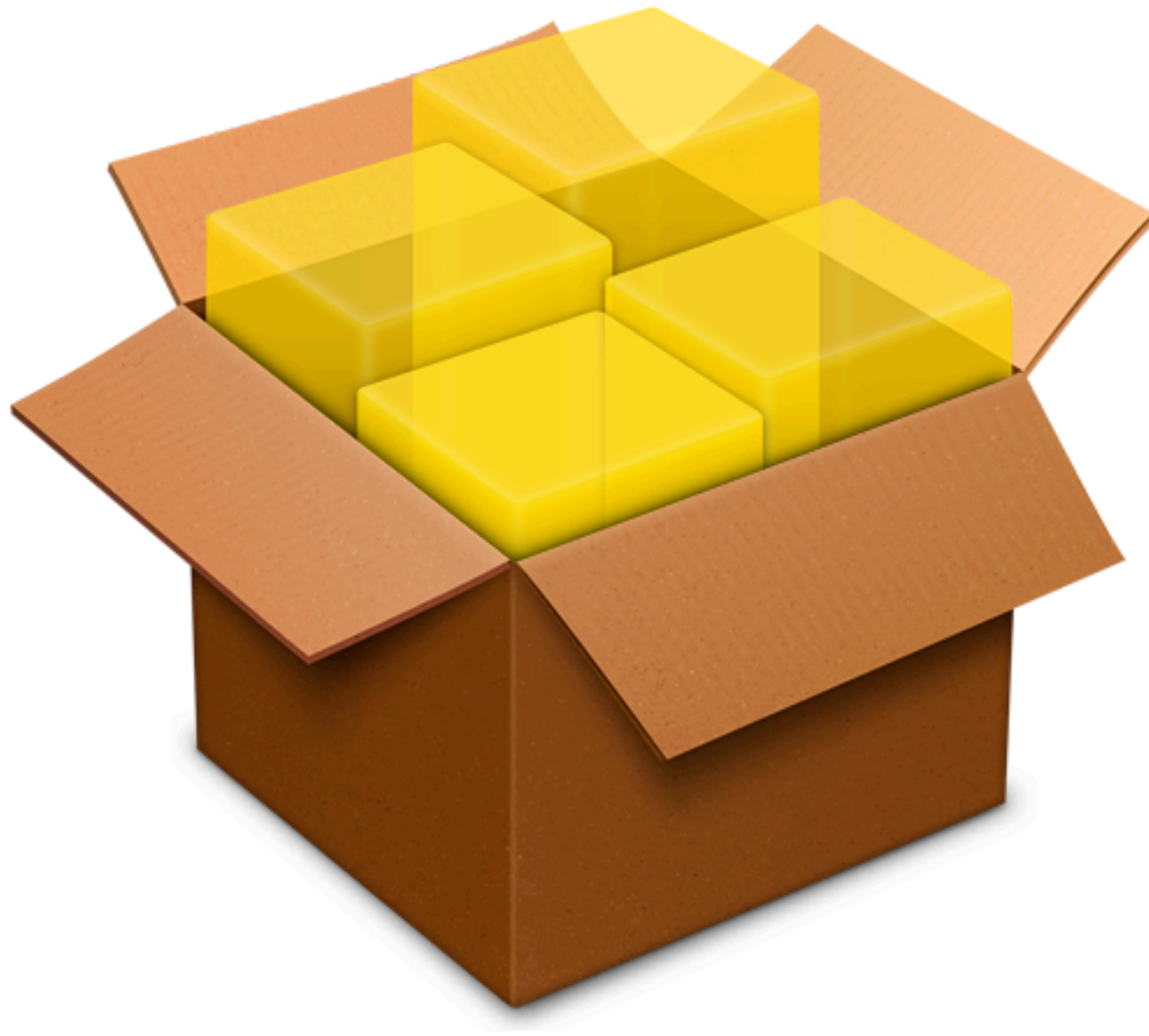
Images

File Types



Audio

File Types



Video

Containers & Codecs



Progressive
(deinterlaced)



Interlaced

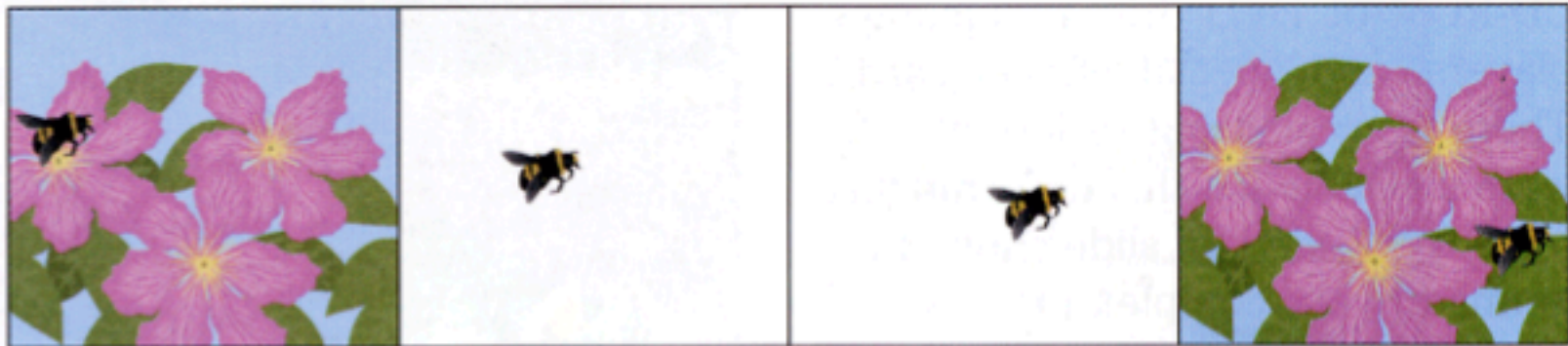
Images from <http://www.100fps.com/>

Video

Interlace



Uncompressed video



Compressed video

Images from Dennis P. Curtin, et al., Information Technology: The Breaking Wave, copyright ©The McGraw-Hill Companies, Inc.

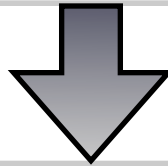
Video

Compression

File



Decompress



Displayed

Images adapted from <http://www.animemusicvideos.org/guides/avtech/video3.htm>

Video

Compression



Media

DRM

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