

## Telling Your Story through Digital Audio



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## Recording Digital Audio

- On a computer
- On a digital tape recorder
- On an iPod

## On a Computer



Samson USB Mic

- Software: Audacity (free)
- Recommend using external Microphone
- Need a Computer (less portability)

## On a Digital Tape Recorder



- Portable
- Digital= Good Quality but Expensive
- Analog= Lower Quality but Cheap
- Transfer into computer
  - Digital = file
  - Analog = cable+software

## Popular Digital Recorder

- Records to SD Card
- 320 kbps MP3 recording
- High-grade stereo condenser microphone built in
- Mic and Line audio inputs
- High speed file transfer via USB 2.0 connection to computer
- Time & date stamp
- Long battery life (4 hour recording with AA alkaline type x 2)
- \$400



## On an iPod



- Portable
- Requires special microphone (\$70) in addition to iPod
- Transfer to computer as a digital file (WAV)



## Quality of Recording on iPod

- 2 different quality levels: Low (default) and High

(from the xTreme Mac MicroMemo website)

	Low	High
Bit Rate	352 kb/s	1411 kb/s
Sample Rate	22.05 kHz	44.10 kHz
1-Minute Recording	2.6 MB	10.3 MB
1-Hour Recording	156 MB	618 MB
Recording Capacity (2GB iPod nano)	12 Hours	3 Hours
Recording Capacity (4GB iPod nano)	25 Hours	6 Hours
Recording Capacity (8GB iPod nano)	51 Hours	12 Hours

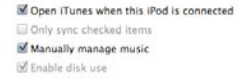
\*All times are approximate. Individual results may vary. All memo files are saved in WAV format.

Always use the High rate for recording - you can't increase the quality later

## Steps in Recording on iPod

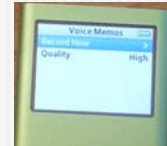
- Settings in iTunes

- NOTE: Voice Memos downloaded are removed from iPod



- Settings on iPod

- Extras -> Voice Memos -> Quality Set to High



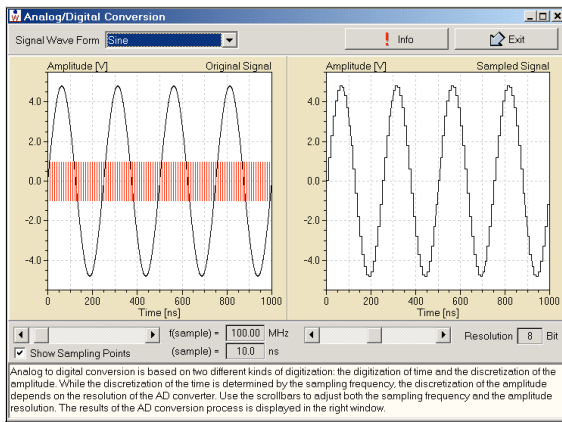
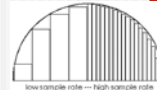
## Web 2.0 Development Tools

### Online Tools for Audio Recording

- Odeo  
<http://odeo.com/tour/record>
- Podomatic  
<http://www.podomatic.com/>

## What happens (Analog->Digital)

- Sound comes into microphone
- Computer (or microphone) takes samples every \_\_\_\_ millisecond (more samples=better quality=larger file size)
- Software converts to digital file
- The more samples per second the greater the accuracy and quality of the recording
- 44.1k. (44.1 thousand samples per second) = CD (High) quality
- 8 K = phone quality
- MP3 file is only a tenth the size of the original CD quality file



Bit-rate indicates the amount of audio data being transferred at a given time

**Table 2 Indication of audio quality expected with different bit-rates**

Bit rate	Quality	MB/min
1411	CD quality	10.584
192	Good CD quality	1.440
128	Near CD quality	0.960
112	Near CD quality	0.840
64	FM quality	0.480
32	AM quality	0.240
16	Short-wave quality	0.120

MP3 audio

<http://www.ukoln.ac.uk/qa-focus/documents/briefings/briefing-23/html/>

## Audio Editing Software

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- Audacity (free download)
- [Audacity Tutorial](#)

