

## The Evolving Home

**Traffic Theory, Piracy, and the New Home**  
**Jerry Pierce** Universal Pictures

### Outline

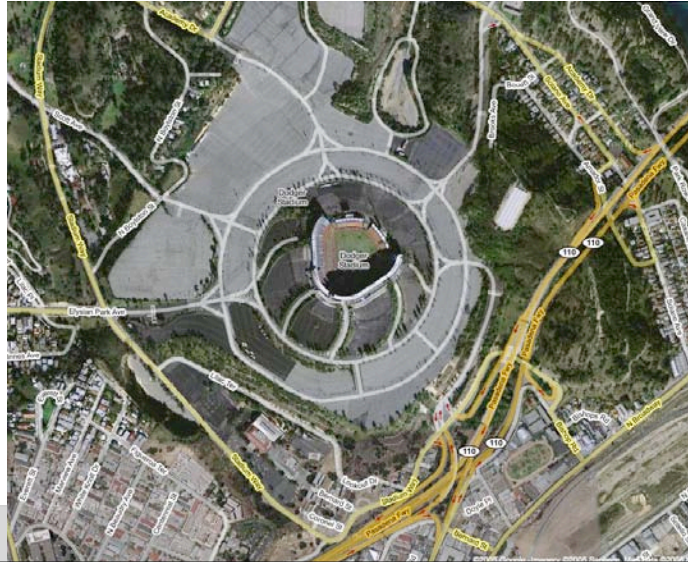
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- Traffic Theory ...
- Where are Movies going?
- It's all about the Consumer...
  - ⇒ Do we need a common format?
- It's all about Post Production...
  - ⇒ Making Electronic Sell Through (EST) files
  - ⇒ A common Mezzanine format?

## Traffic Theory

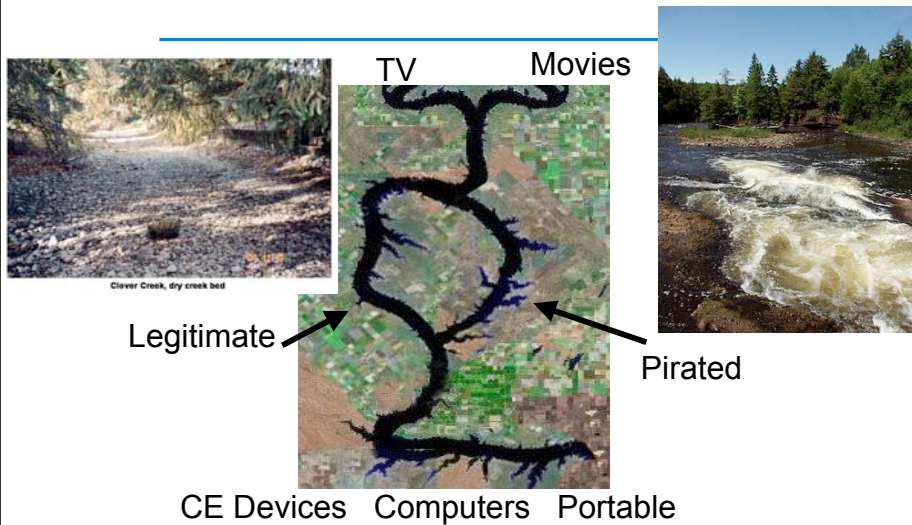
- Modeling behavior

- ⇒ Where are they going to park?
- ⇒ How are they going to arrive?
- ⇒ What happens when you add a speed bump?



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## Metaphor for Content Delivery



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## Consumer Modeling

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- Proposal: we CAN model consumer behavior for:
  - ⇒ Piracy
  - ⇒ Legitimate Sales / Rental
- Based on:
  - ⇒ Easy of use
  - ⇒ Consumption devices
  - ⇒ Price
  - ⇒ 'Coolness'
  - ⇒ 'Speed bumps' that are in place to frustrate 'bad' behavior

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## Our Actions...

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- Provide Legal Offerings to consumers:
  - ⇒ Good value
  - ⇒ Easy to use - better than piracy
  - ⇒ Use simple DRM protection as part of the speed-bump to prevent freely copying of content
- Make Pirated Content Inconsistent and Inconvenient
  - ⇒ Via Watermarks, understanding consumer behavior, and getting in the way of bad behavior

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# The Evolving Home

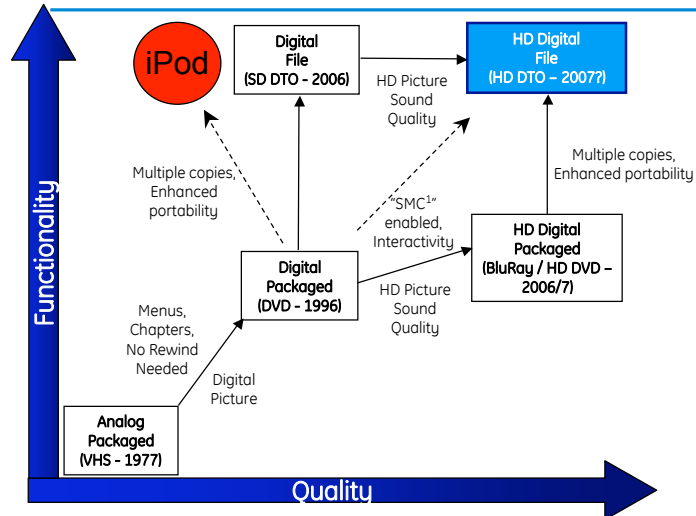
## And the Impact on (parts of) Post Production



## Evolving Consumer Expectations

- In the last 5-10 years CONSUMERS HAVE CHANGED!
- The options for consumers are much more complex
  - ⇒ Tivo, Computers, iPods, home networks
- Consumers expect to be able to view their entertainment content:
  - ⇒ **At any time**
  - ⇒ **In any place**
  - ⇒ **On any device**
  - ⇒ **In the best quality possible**

# Home Video Business Model Evolution



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<sup>1</sup> Secure Managed Copy



## iTunes / iPod Offering



View:

- 1) On your desktop (and DVD's)
- 2) On the Go
- 3) On your TV

- Video: 320x240 at about 768Kb/sec
- Enjoyable, easy to use, "Good Enough," could/will be better

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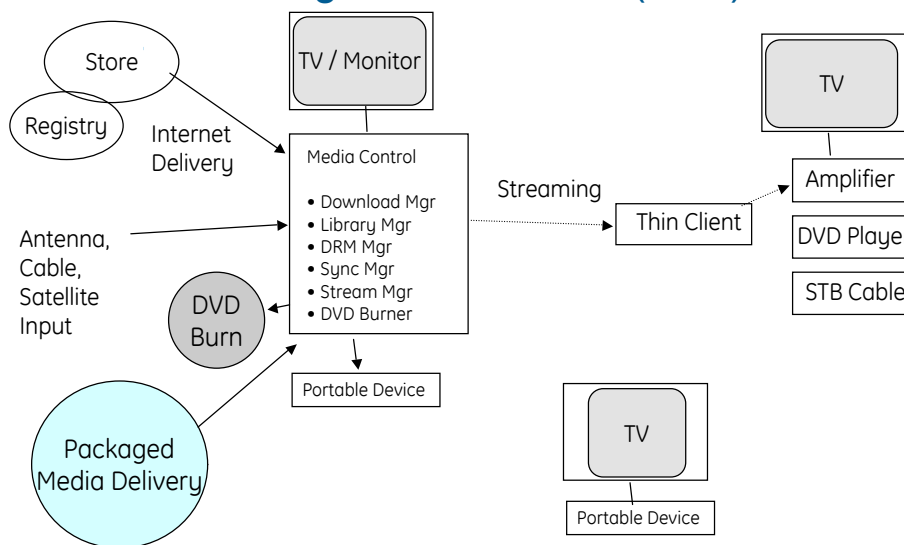
## TV are not Movies

- Consumption and consumer expectations are different (a work in progress)
- TV Programs are interruptible, disposable
  - ⇒ DVD sales are making them collectable
- Movies can be real escape
  - ⇒ First time viewing is two hours of escape  
–(Theater or Home)
  - ⇒ Second time viewing experience not as critical - more like a TV program

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## Reference Design for the Home (EST)



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## Single Format?

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- In all prior successful formats, there was a single format
  - ⇒ 35mm film, NTSC (PAL), VHS, DVD
  - ⇒ Can we have a truly successful EST with multiple formats?
    - DRM incompatibilities?
    - Audio/Video Codec's?
    - Forcing consumers to choose a hardware platform and not easily move to another platform...
  - ⇒ Will this cause consumers to adopt “in-the-clear” content?

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## Single Format ... NOT!

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- On the other hand....
  - ⇒ Consumers have new uses for content in places that REQUIRE different formats (portable vs High Definition)
- Which causes a post production nightmare
  - ⇒ (Or opportunity?)
- FINALLY something to do with Post Production!

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## Multiple Formats

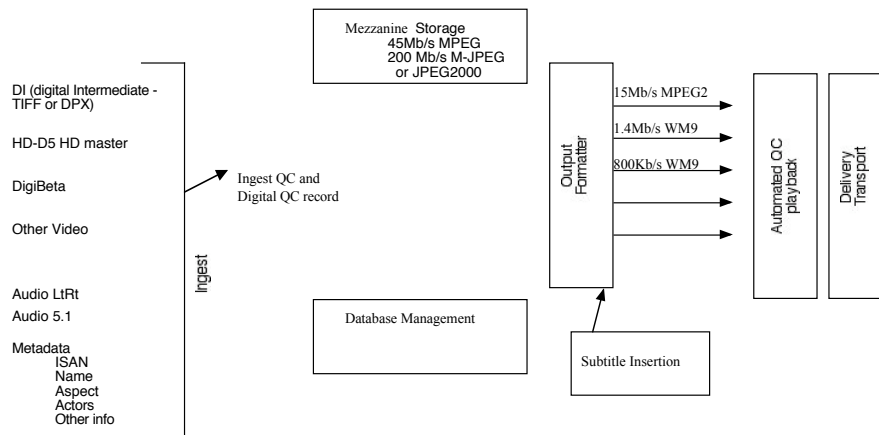
- Delivery Specifications
  - ⇒ “Standards are wonderful since there are so many to choose from”
- Video Codec: VC1, MPEG2, AVC, JPEG, WM9...
- Bit Rates / Resolutions
- Audio Codec: MP2, AAC, AC3, DTS...
- DRM: Fairplay, MS-DRM, Divx, Real, Coral, Merlin, OMA
- Versions, subtitles, metadata,

ARGGGGGGH

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## New Asset Delivery (NAD)



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## Post Production Plea...

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- Is it time to find some common mezzanine level standards ... Do we need a standard?
- We do need a format that can be transported to computer systems that is computer friendly for reformatting
- Is it HD-Broadcast MPEG 45Mb/s? M-JPEG? JPEG2000?
- How should we address this - SMPTE or is it too early?

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## Summary

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- The home is changing ... FAST
- Consumers want content in new ways
- We need to start providing legitimate solutions to customer or CONSUMER EXPECTATIONS  
WILL BE PIRACY
- To meet this new consumer 'demand' we will need to gear up for multiple formats  
⇒ An opportunity for post?

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