Intro to Digital Workflow and Current Trends

Graphic Information Technology

Today is a Partnership

- Between creative design and practical production
- The new paradigm - designers integral part of production

- Printers are developing websites
- Web companies are producing collateral
- Photographers are creating multimedia
- Everyone is producing content
- This content is needed for all the graphic delivery vehicles being created
What is Workflow?
- A plan of action
- A strategy for how work is to be produced
- It’s about management of information

Relationship between:
- throughput
- productivity
- profit

Think Pipes
- Physical factors of digital workflow:
  - Width (capacity)
  - Speed (rate of flow)
  - Output (RIPS - processing speed, Web - Bandwidth)
  - Load balancing

Workflow
- “In any production environment, all the stages through which a job or project must pass until it is completed.”
  - GATF Encyclopedia of Graphic Communication
There Are 2 Types of Workflow

• The workflow that follows the job from creation to final output
• The workflow of individual tasks
• Both equally important

Publishing Trends

• Smaller run lengths, more distinct jobs
• Distribute and print
• Remote proofing
• Web distribution

Automation and Process Control

• XML, JDF
• EVERYTHING DIGITAL

The Print Language That Made So Much Possible

• PostScript
  – A programming language that defines pages by mathematics - A Page Description Language (PDL)
  • Press, the first PDL, was developed by Xerox PARC scientists in 1974 and greatly influenced the design of Postscript.
  • Adobe took the technology and made it what it is today
• Device independent - output parameters are separate from actual page description
• Holds all text and images needed for output.
RIP

- Raster Image Processor
  - Interprets (the PostScript): creates a list of all page elements
  - Rasterizes: converted to a single file that uses the parameters of the output device
  - Sends: sends data as a bi-level bitmap to the output device. Machines understand 0 & 1 (on/off bits)

Digital & Direct-to-Press Printing

- Digital (Toner Based) Printing
  - Indigo, Xeikon, Xerox

- Direct-to-Press
  - Heidelberg DI

TRENDS
Customer Demands

• Faster
• Cheaper
• High Quality
• Service
• Perhaps around 2,000 printing plants will go out of business over the next two years—an approximate 6% reduction.
• Digital print (toner-based and inkjet) and printers’ ancillary services will grow as a proportion of printers’ sales while conventional ink-on-paper declines

5 Key Drivers of Printing Shipments
• 1. Change in Real (inflation-adjusted) Gross Domestic Product
• 2. Current Point in Business Cycle
• 3. Advertising Markets
• 4. Postage Rates
• 5. Election Cycle

Growth Opportunities in Ancillary Services
• Desktop publishing
• Graphic Design services
• Computer training
• System integration
• Mailing services
• Database services
• Digital photo management
• Photography Studios
• Multimedia services
• Web production/hosting
Print Markets 2010-2011

Print Future

Value Migration in Print

The Internet: Need to Know

- TCP/IP
- Transmission Control Protocol/Internet Protocol - an industry standard suite of protocols providing communications in a heterogeneous environment
- HTML, XML, PHP, Java...
- FLASH
- Multimedia
Note: Asia has 42% of the World Users!
The vast majority of sites are in English
Needed - more web masters!

*http://www.internetworldstats.com/stats.htm
• 74% of American adults use the Internet
  – 60% on broadband
  – 55% wirelessly
  – 93% of those 18-29 are online
• the phone is expected to become the primary device for online access by 2020

Why Digital?
• True automation possible
• More efficient, faster
• Process Controls
• Less Labor

Content Creation
• Technical issues to consider
• Resolution - final for print or web?
  – 200-300 DPI - 72 PPI
• Color - RGB? CMYK?
• Highlight/Midtone/shadow densities? Process? Spot?
• Hexadecimal? Mac Palette? PC Palette?
• Need animated? GIF? Flash?
• Video - Image size - quality- frame rate?
  – 10 fps - Codec? Sorenson or Cinepak or MPEG?
Possible Output?

- Electronic paper
- Que, Kindle
- Holography
- iPhone
- Tablet

New Models For Content

- In 2009 there were nearly 100 million pay-TV customers (85% of viewing households)
- IPTV (Internet Protocol TV) is gaining
- Spending on advertising using digital media channels now makes up more than 10% of overall worldwide advertising spending – key digital advertising platforms - Internet and Mobile.

Digital Workflow Starts With Understanding Where Your Content is Going

- Design is about specifications - the parameters of a job
- If the ultimate output is not understood, the original design may never get produced
- Architectural analogy - different workflow to build a shed or a skyscraper
The Separation is Gone

- Design and production can no longer be separate islands a graphic workflow
- Each impinges on the other
- Content Creators need to understand the technology of creation as much as they understand the creative process itself