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<th>Hybrid technologies of tomorrow : transforming journalism, culture and commerce</th>
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<td><strong>Author(s)</strong></td>
<td>Pavlik, John V.</td>
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Hybrid Technologies of Tomorrow: Transforming Journalism, Culture & Commerce
Prof. John V. Pavlik, Ph.D.
Executive Director, The Center for New Media
(www.cnm.columbia.edu)
Columbia University
For AMIC, Singapore, May 19, 1998

Presentation Outline

• About The Center for New Media
• Trends in new media
• Trends in online journalism
• Who’s online
• New media prototypes demonstration

About the Center

• Founded in 1994 at the Journalism School
• Interdisciplinary, collaboratory
• Mission: to teach, research and advance the craft of journalism in the digital age
• Three program areas

CNM’s Program Areas

• Teaching
  – core curriculum
  – new media concentration
  – experimental approaches
• Research
• Service

Implications for Communication Professionals

• Impact on how communication professionals do their work
• Impact on content of news, advertising, public relations
• Impact on organizational structure
• Impact on relationships with publics

Impact on How We Work

• Mobile Journalist Workstation (MJW)
  – wireless
  – immersive
  – multi-modal

Impact on Content

• Omnidirectional Video
• Object-oriented multimedia

Impact on Organizational Structure

• Virtual organizations
• Distributed, decentralized, yet integrated systems, less hierarchical

Impact on Publics and Relationships

• Internet, WWW growth
• Increased connectivity and bandwidth
• Global use of e-mail, other communication services
• Direct access to organizations without media gateway
• Rapid, non-geographical mobilization of publics

Ten Trends in New Media

• Immersive Technology
  – Omnidirectional Imaging
  – Habitable

Demonstration

II: Wearable Computers

• Mobile Journalist Workstation (MJW)
• Computer-mediated Reality (augmented reality vs. virtual reality)
MJW Demonstration

III: Ubiquitous Information and Communications

• 3,622 News sites on World Wide Web
• Global access
• Instantaneous

IV: High-speed, High-bandwidth

• Wired and Wireless networks
• Linking People and Devices

V: Advanced Digital Video Editing Tools

• Zest (A. Eleftheriadis)
  – object-oriented multimedia authoring
  – MPEG-4
• Hot Video (IBM)

VI: Interactive Communications

• Interacting directly with content
• Virtual communities
• WebSEEK, VideoQ (S.F.Chang)
  – content-based video searching and editing

VII: On-demand information, arts and entertainment

• Individualized, Multi-modal
• The Arts:
  – Qradio.net (Quincy Jones arts and entertainment network delivering music and news from South Africa, launched 3/18/98)
VIII: Intuitive Interface Design

- Handwriting recognition
  - 98% reliable
- Speech Recognition
  - continuous speech
  - low-cost

IX: Secure Online Systems

X: Intelligent Agents

Constraints

- Civil rights concerns
  - Privacy
  - Freedom of Expression
- Intellectual property rights
  - Ownership
  - Source authentication
- Culture-bound communication
  - Information Societies
  - Haves and Have-lates

Opportunities

- Electronic commerce
  - Digital Cash
- Online transactions
  - New business models
    - Addressable advertising
    - Subscriptions and memberships
    - Nano-transactions
  - Taxing the Internet

Ten Trends in Online Journalism: Adding/Publishing Original Content

- WashingtonPost.com education series
- Chicago.Tribune.com Different Dance adding audio, video, synchronized pictures, enhanced programming for Academy Awards using VBI and WebTV
- TheStreet.com
- CNN Interactive, MSNBC
  - El Nino coverage

Breaking News Online

- CNN Interactive breaks stories routinely on ticker, Alabama abortion clinic bombing
- Drudgereport.com Clinton Sexgate
- Dallas Morning News.com McVeigh, Lewinsky secret service agent "witness"

Providing Layers of Content

- cnn.com/SPECIALS/ including Space 2000, Hong Kong handover, Marijuana as Medicine
- Mercury Center
- Philadelphia Inquirer 30-part Web series on war in Somalia
- New York Times on the Web: Nagano games

Customizing News,
Providing Specialized Content

- cnn.com’s custom news product provides news from more than 100 sources
- CRAYON, PointCast
- TheStreet.com, Chronicle.com
  - web site with vertical (deep) content
  - daily e-mail 3/17: Company with NSF contract to register Internet addresses will no longer put money into fund for network improvements to benefit higher education institutions

Developing Interactive Content

- ABCNews.com/sections/scitech/warming109/index.html
- Flat tax
- Mortgage calculator

Adding Multiple Media

- MSNBC, ABCNews.com, cnn.com
- Princess Diana’s funeral

Reporting in Real-time, Continuously Updating

- major network sites regularly provide live video of events
- cnn.com updates text instantly on breaking stories, Shuttle launch, major verdicts
- automation plays critical role, election coverage results straight to Web (AllPolitics.com), CNNSNL.com sports scores

Americans Turn to the Internet for Breaking News

- Nov. ‘97 Pew Center Study shows:
  - 11% of Americans 18+ followed story of stock crash of Oct. 27, ‘97 throughout the day on the Internet
  - still behind all-news cable (35%) and other sources (network tv 26%; np 20%)
  - but Internet news on stock market is especially popular among
younger audience (<50 22%) wealthy ($50k+ 17%) political independents (19%); gender not related (both 11%)

**Animating Information Graphics**

- cnn.com path of ValuJet Flight 592, solar flare, asteroid, global warming and temperature
- nytimes.com posting of FBI animation of TWA Flight 800 crash

**Enriching Audience Control**

- cnn.com Quicktime VR of Mars surface, navigable globe, Diana funeral
- espn Superbowl tour
- news direct from source: NBA.com
- entertainment news, movie trailers/reviews on demand

**A Few Good Men**

**Using Databases**

- MSNBC.com Dangerous roads
- MSNBC on cable reports on five most dangerous roads in U.S., on Web site adds federal database on traffic fatalities and allows user to enter zip code and find most dangerous roads in neighborhood
- In my zipcode in Manhattan, 10027, Broadway is most dangerous with 9 fatalities last year

**Who’s Online?**

- Nua.com estimate: online worldwide as of February 1998: 112.75 million
  - USA and Canada 70 million (62 m. in US)
  - Europe 20 million
  - Asia/Pacific 14 million ~ 12.5
  - South America 7 million
  - Africa 1 million
  - Middle East 0.525 million

**Children Online**

- Oct 24 1997: "A report from FIND/SVP revealed there are nearly 10 million children online."
• The report, "Children on the Internet," shows 14 percent of people under 18 are online, making children one of the fastest growing sections of Internet users.
• FIND/SVP predicts 45 million children will be online by 2002.

Time Spent Online
• 32 percent of children 16 to 17 spend five or more hours online per week.

Women Online
• Dec 5 1997: "Jupiter Communications estimates there are 46 million women online.
• In its report, "What makes Women Click," Net-Smart predicts women will make up 60 percent of the online market by 2005.

Blacks Online
• April 17, 1998: Journal Science reports 3.7 million Blacks in U.S. online
• E. David Ellington, founder of leading Black Web site NetNoir, forecasts racial inequalities will soon disappear, NetNoir virtual community growing rapidly

Research Prototype Demonstration
• Navigable omnidirectional video news reports
• Mobile Journalist Workstation (MJW)
What's On TV?
Race For Content

John Keshishoglou
Karen Cheah
Hart Cohen