



VCDWG Report on TV/Video Research

**CFP All-Members' Meeting
October 28-29, 2009
Cambridge, MA**



History of the research

- Mapping the industry landscape
- Historical perspective (4 phases of TV)
- Competitive dynamics
- Social TV
- The future of TV: all-IP, mobile (multi-platform), social
- Parallel research stream: Building social services

Activities

- Publications
 - Klym, Montpetit: **Innovation at the Edge: Social TV and Beyond**, 2008
 - Montpetit, Klym, Blain: **"The Future of Mobile TV,"** *Mobile TV: Customizing Content and Experience*, Springer November 2009 (available on CFP wiki)
 - Montpetit, Klym, Mirlacher, **The Future of IPTV**, MTAP Journal, January 2010
 - Klym, Montpetit, Blain: **Building Social Services**, IEEE CCNC'10 conference proceedings
 - Hietanen: **Networked Digital Video Recorders and Social Networks**, IEEE CCNC'10 conference proceedings
 - Martin, Santos, Shafran, Holtzman, Montpetit: **neXtstream: A Multi-Device, Social Approach to Video Content Consumption**, IEEE CCNC'10 conference proceedings
- Conferences
 - **IEEE ConTEL** conference in Zagreb, June 2009, keynote address
 - **X|Media|Lab** conference on Public Media, Amsterdam, November 2009, keynote address
 - **IEEE CCNC'10 Workshop on social TV**, January 2010, Las Vegas
- Industry meetings
 - PBS, HBO, WGBH, Thomson Electronics (France), Time Warner Cable, Shaw, Reed-Elsevier, BBVA
- CFP Workshop on video convergence
 - Spring 2010 (in conjunction with next plenary)



Building Social Services: Social TV case study

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Social TV

- Consume
 - Distribute
 - Create
- } as a group

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Trustworthy
Relevant
Secure

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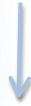
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- Groups are created using proprietary SN tools or
 - Third party OSNs become a new player in the value chain
 - "Friends" also participate in the value chain through social TV applications

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- Social TV applications
 - Shared viewing and interaction
 - Ratings and recommendations
 - Shared content distribution
 - Shared infrastructure
 - Shared content creation



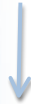
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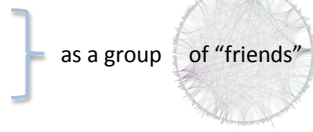


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*How to design social experiences?
Privacy issues?
Legal (copyright) issues?*

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The group becomes the "virtual operator"
(community generated programming)



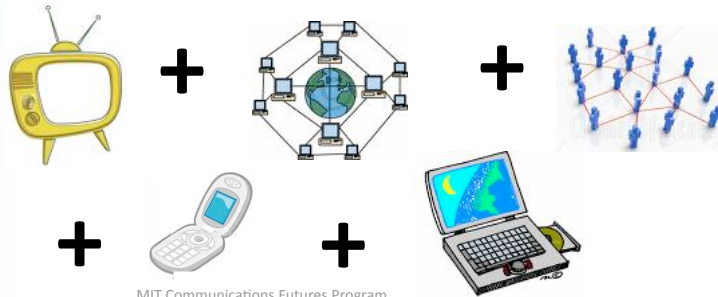
Community Generated Programming: Social, IP and Mobile TV

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“Social TV” everywhere

- VCD analysis identified:
 - Video convergence:
 - Mobile, broadcast, IP-based/OTT becoming one
 - Social TV as a driver to convergence
 - Service mix
 - The group becomes the operator and defines the brand
- An embodiment of the vision:
 - The community multi-screen TV experience



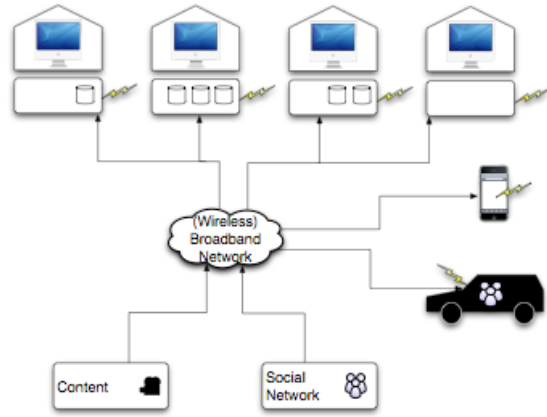
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Building the Virtual Operator

- The group as a “brand”
 - It’s formation enabled by a SN tool
 - Defined by what the group likes (or dislikes) based on rating
 - Suggestions not imposition of content
- Enables (social) Video Convergence
 - Watch on any “screen”
 - Combine OTT video, widgets, linear TV, UGC with IM, Twitter, conferencing etc.
- Collaborative devices and UI
 - Use proximity
 - Use the “best” interface



Architecture



Development & Research



- Common platforms
 - Development still done in “silos” with competing models
 - Moving from products (devices) to services (content)
 - Common backoffice/management
- Mixed centralized and peer-to-peer communications and transmission
 - Beyond storage – reliability and propagation
 - Some refs: Medard (2005), Fulu Li (2008), Lucani (2009)
 - P2P propagation and storage
 - New: add dynamics, multiple services, and mobility
 - Heterogeneous network/device ecosystem aspects
 - Management of resources
 - Codecs and networks
 - End to end architecture and feedback loops
- User behavior and UIs
 - Lean back/lean forward
- Business models: who makes money where
 - Customer loyalty/increased participation
 - Cost to the users (including electricity)
 - Virtualization/resource sharing

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Going Forward



- Join us:
 - CCNC10 Workshop on Social TV – January 9 2010
 - CFP Workshop on “Video Convergence” – April 2010
 - Class on “Social TV” at Media Lab – January-April 2010
 - Proposed SIGCOMM 2010 Workshop on IP based TV
- Open Issues: technology/network aspects of video convergence
 - How do we build better networks?
 - Leverage distributed information nodes/CDNs
 - Integrate networks and devices/codecs
 - Layer 3 (and below) aspects not be forgotten
 - Heterogeneous networks architectures
 - How do we build better experiences
 - Break the silo mentality
 - Prototyping (use class on “Social TV”)
- Link to PrivSec:
 - Who owns the Social TV experience?
 - The privacy mediator concept

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