Highly Interactive and Personalised Content
Production and Delivery

Stuart Porter
Innovation & Development Director

CTVC
Outline

• What is CTVC?
• Interactivity
• Personalization
• Current media distribution status
• What are the problems?
• Democratization of Content
• How can ICN help?
What is CTVC?

• Independent Media production company based in London
• Historically connected to Pinewood and Elstree studios
• Producer of:
  – Documentary (BBC, ITV, Channel 4, Discovery)
  – Radio (BBC R4, BBC R3, BBC R1)
  – New Media – web content
• Working in EC research projects since 2010
  – PURSUIT – pub-sub internet
  – SARACEN – P2P SVC social network platform
  – REVERIE – immersive 3D SN platform
• User requirements, use case development, media/content production, user testing, dissemination
What is interactivity?

- Engaging in dialogue with others - either humans or machine
- Sharing, questioning, expressing views, voting, collaborating.
Passive versus Active

- Sequential narrative
- User “sits back”
- Programmed
- watch with others?
- Low immersion
- Fixed time span
- Talk to others

- Interrupted narrative
- User “sits forward”
- Follows own path
- Highly personal
- Immersive
- Unlimited time span
- share with others online
Linear vs Interactive

30 October 2012

COMET/PURSUIT Workshop
Why is interactivity a powerful tool?

- Users like rapid feedback
- Modern attention spans short
- Media segments correspondingly brief, (3-7 minutes) in style of ads/pop videos
- Users get a sense of empowerment – voting, changing, chucking out…
- Sense of community (Facebook)
- Can be done on the move and with mobile devices - anywhere
- Some consumers want to generate content themselves – or rehash it - and share the process with others.
What makes content interactive?

- Asks the user to do something
- Engages viewers to become users
- Offers alternatives (different viewpoints, alternative pathways) within a single thread
- Merges narrative with games, play and creativity
- Immerses the user in an active experience.
- Can be for entertainment, education or training.
The new frontier

- Interactivity comes from games design
- Offers users sophisticated choices that creators need to map and engineer
- Demands new skills from creators and production teams.
- Currently time-consuming to produce and therefore more expensive.
Summary

• Offers new value to users
• Provides an active - lean-forward - user experience
• Reflects the game-playing expectations of younger audiences
• Done properly it enlarges the potential viewer experience - whether educational, informational or for entertainment.
Technology

WE HAVE
- Advanced video compression
- XML files to create instruction sets
- Metadata to label assets for rapid deployment
- Web Ontology Languages for advanced search capacities
- The direction is towards a kind of “intelligent content” that appears to respond to user need.

WE NEED
- Easily usable tools to put interactive creation into the hands of programme makers.
- Storage and retrieval capability to allow assets to be kept in atomic form.
- Network architecture and pre-caching strategies to minimise latency
- A level of usability to bypass direct coding - using WYSIWYG or plain language instructions, or simple HMIs.
The creation process

- Creators have to devise and plan interactively – a challenge for professionals used to linear storytelling
- Commissioners have to understand a complex set of options and have editorial control
- Production teams have to create the assets – but there are workflow problems
- Software engineers have to code it and make it work
- Distributors have to provide robust network infrastructure and minimise latency
Scripting

- Create a story
- Create interactive options
- Create links (if > then)
- Visualise it as a matrix
- Present it to a commissioner
- Test it and revise.
The challenge

- Find an appropriate level for interactivity that satisfies user need - one simple question might be enough
- Understand the standards of the media used and the formats of the resources
- Plan meticulously
- Test before use
Scenario 1

- Television. Red button interactivity provided by broadcaster. Production company supplies alternative assets and plan. Coding done by broadcaster.
- Limited to alternative video strands, support information, stills.
- Internet TV may provide links to internet but limitations with hand-held control.
Scenario 2

- TV or radio programme directs viewer to website providing fuller range of interactive options
- Devices include PC and mobile
- Original concept behind CBS Crime Scene Investigation
- OC or mobile enables further direct exploration via internet
- Hotspots can provide links from specific places in video. Used for advertising now Ofcom has relaxed restrictions.
Scenario 3

• Available as computer-only presentation
• Full Interactivity built in 3D graphics
• User can participate as in a computer game.
• User can explore either as navigator or inside character.
• Essentially a Massively Multiplayer Online Game (MMOG)
• Increasingly used for serious games and education
Take care

- Storyboard story
- Create tree and branch architecture with return loops
- Plan video and audio transitions - use ears.
- Plan and timetable all asset production precisely.
- Test carefully with trial users before release.
Personalization technology enables the dynamic insertion, customization or suggestion of content in any format that is relevant to the individual user, based on the user’s implicit behaviour and preferences, and explicitly given details. [1]

• "Personalization technology enables the dynamic insertion, customization or suggestion of content" – inserting any content like video, audio, images or text which meets users needs (e.g. search for flights with BMI), or customizing content that is already there (e.g. Amazon – “Hi Joe, we’ve got some great movie suggestions for you!”).

• “…in any format” – it isn’t restricted to the web. It can be implemented for any medium or touchpoint, such as emails, apps, instore kiosks, etc.

• “…that is relevant to the individual user, based on the user’s implicit behaviour and preferences, and explicitly given details” – finally, the most important part. Personalization uses both implicit and explicit information, derived in two ways. A visitor might explicitly declare some information, such as their gender or date of birth. Or be recommended specific content according to their location.
Profiles

- Interactivity is just a small part of personalization
- User profile is the key
- Everything we do online can be used to create a profile of data – defines who we are
- Social networks make some of that available to external parties through APIs
- Projects like SARACEN P2P have built tools to harness that data and recommend users content which fits their profile.
Current media distribution status

- Thanks to the internet, media is consumed everywhere
- Content producers have a potentially global audience
- Over 4 billion hours of video are watched each month on YouTube [2]
- Specifically, with the increase of hand held devices and tablet computers, media consumption is increasing at a massive rate
- Vimeo - traffic from mobile devices increased 350% from 2010 to 2011[3]
- The increase in social networks is also driving consumption – over 500 years of YouTube video are watched on Facebook everyday[4]

30 October 2012  COMET/PURSUIT Workshop
So? What’s the problem?

- Increased interactivity and personalisation mean media producers increasingly have to deal with new legal and ethical issues.
  - Who can watch our content?
  - When can our content be shown?
  - Where is our content legal?
  - What are our responsibilities if our content is shown somewhere where it is illegal?
- In the current internet, it is easy for any user to access any content – which puts media producers at risk.
- So how can media producer maximise their viewers without breaking the law around the world?
Democratization of Content

• As more media becomes available;
  – It becomes harder to find “good” content.
  – The price of content will drop. Encourages producers to seek arrangements where their content is available for free at point of consumption.
  – Consumers will demand more niche/personalized content,

• These demands challenge content producers:
  – niche demand potentially causes an explosion of required content.
  – How to produce, store and transport the personalised content.
  – Not just user-driven – as content-producers, we want control over who can view our content.
How ICN can help…

• Disintegration of content:
  – clips can be pulled from anywhere in the network and re-assembled at the subscriber.

• Encapsulation of media content:
  – when you add new media content with n versions, you only need to add links to clips in order, as opposed to n videos (+/+Mbs/Gbs).

• Opportunistic caching:
  – Once clips are created (expensive), they too can be cached, further optimising the subscription process.

• Complexity of Middleware solutions:
  – Lowers the complexity of the required middleware and, therefore, the complexity of applications (like the SDN!).
• By tagging the media with metadata, we can enforce conditions;
  – content marked “adult only” cannot be accessed by users under 18.
  – content tagged “not Saudi Arabia” cannot be accessed in Saudi Arabia.
  – Content tagged “after 8pm” will not work before 8pm depending on the user’s time zone.
  – Clip metadata cannot contradict programme metadata. (You won’t get a “Over_18” clip in a cartoon!)
References


With Thanks to Paul Kafno, Ben Tagger and Dirk Trossen