APIs and URLs for Social TV

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Integration of TV and the social web is already happening - and occurring in an interesting direction. People are increasingly using online social networks to talk about TV, nearly all via second screens. This trend started without any specific tools to support it, but as TV and the Web converge, there is a risk of fragmentation of audiences for programmes over multiple applications, devices, and websites. If these silos are created, consumers, manufacturers and developers all lose out. We propose that rethinking the role of metadata as an advertisement for programmes, allowing API access to TV devices, and using URLs for identification are three techniques that would lower costs and increase creativity and thereby benefit consumers.

1 Social networks are where the integration of Web and TV is already happening

For broadcast TV, social networks are where the integration of Web and TV is already happening. There is evidence to suggest that a high proportion of the conversations in social media are around what people are watching on TV[1]. During prime-time scheduling in the UK and US, Twitter trending topics are often TV-related, and this Twitter activity can influence what people decide to watch. For example, people reported watching The Eurovision Song Contest on the basis of what was being said about it on Twitter, even though they wouldn't normally have watched it[2].

2 Silos are being created

There are many new and upcoming TV or TV-like devices becoming available, for example internet-connected TVs (for example Samsung TVs with Yahoo widgets enabling you to access your social network), and set top boxes such as the Boxee Box, AppleTV and GoogleTV.

More and more specific applications are being created, some to control various kinds of software and hardware TV devices (for example MythTV, XBMC and Boxee iPhone and Android remotes).

Many applications are being made for specific particular programmes or events, for example Channel 4's game show 'The Million Pound Drop' includes an online element that lets users play along live as the show progresses[3]. Other examples include ITVLive during the World Cup - an experimental but very

[1]For example: a YouGov/Deloitte report published in August 2010 found that 42% of those UK adults who use the Internet while watching television do so to discuss or comment on the programmes they are watching at the time (http://today.yougov.co.uk/consumer/television-going-social). Similarly, a Twitter survey (conducted by BBC Audience Research) in August 2010 found that 49% of UK Twitter users in the sample said they used Twitter regularly when watching TV.

[2]`http://www.broadstuff.com/archives/1696-Eurovision-songs-sound-better-on-Twitter.....html`

[3]`http://www.channel4.com/programmes/the-million-pound-drop-live/articles/game`

popular service[4] PickLive for playing along during football matches [5] and the programme specific Seven Days application [6].

No one company is currently winning in all of these areas - in fact each is winning in different areas (for example, one might argue that Apple has beaten Microsoft at mobile; that Facebook has beaten Apple at social networks; Google is currently beating Apple at remote OSs; Apple is currently beating Google at set-top box, ...). The result is that silos are being created, such that people need a specific piece of hardware or software to participate in the creative applications that are being made. Nevertheless they continue to use the Web - in the guise of the social web - to talk about broadcast TV.

2.1 Audiences, Manufacturers, Developers and Content Owners all Lose

Silos put barriers on participation making it more difficult for people to talk about what they are watching in a meaningful way. If potential members of the audience for a programme have to use the same hardware, or download the same application, or be on the same social network to participate, for most programmes they simply will not do it, and the potential value to them and to the rights holders in terms of increased audiences, engaged audiences, and feedback is lost. Manufacturers and developers have to take a risk on which formats and protocols to support and reducing the time they can spend on creative solutions to consumer interests and problems.

3 Key problems for social TV application developers

There are a number of common problems encountered by developers making applications for TV.

(a) "How do we know what the person is watching?"

I.e. find out from the device or other means, and identify it in the wider context of large volumes of TV programmes, broadcast and on-demand, in order to do something with it, such as provide more information about the programme, connect them to other people watching it.

(b) "How do we get extra information about the programme?"

Identify specific, accurate information about it such as a description, reviews, but also and who else is watching or planning to watch. Poor information is worse than none in this case.

(c) "How do we locate apps/web pages/whatever related to it?"

Identify accurate related information. Lack of accuracy and specificness, as with metadata, is worse than useless.

(d) "How can we manipulate it?"

Change channel, play / pause, record items for later, the usual functions of a TV.

NoTube and project Baird have been working on various experimental and interim solutions to some of these problems, including 'NOWP' (what's playing now) (a), TVDNS and programmes resolver (b,c) a remote control prototcol ('Buttons') (d,a). These are workarounds for genuine problems with dealing with broadcast TV for social application developers.

4 Four parts of a long-term solution

Rethink the role of metadata

[4] http://paidcontent.co.uk/article/419-the-new-live-tv-how-real-time-social-media-are-upgrading-the-box/
[5] https://picklive.com/
[6] hhttp://sevendays.channel4.com/

Model it after rss/atom, as a syndication feed format, an advert that flows out into the public Web in search of viewers, rather than a precious resource to be parcelled out and sold. The BBC Backstage work with TVAnytime showed that when application developers have access to this kind of data they can make very creative applications (@@such as?@@). BBC's /programmes (a URL for every BBC programme) has enabled people to talk about programmes on now, even if they are not yet available on the on demoand service iPlayer. Recently, another UK broadcaster, Channel 4, has seen the benefit of having URLs suitable for sharing for their programmes (@@not sure if this makes sense@@).

Create resolvable URIs for the content items

A URL for a programme gives it life before, during and after broadcast. It becomes something that people can link to on the web to allow others to understand what they are talking about.

Once this role for metadata is understood and the programme has a URL, identifying a specific programme becomes trivial and two episodes in a series can be distinguished allowing people to find relevant information about the programme.

Resolvable machine-processible URLs (such as json or RDF) allow developers to find more information about a programme and display it suiatble to the end user.

Values of metadata fields should where possible also be resolvable URIs

(e.g. Wikipedia pages, IMDB pages) so matching becomes easier (eg. against Facebook social graph LIKEs)

Agree on an open API for controlling the TV and getting access to metadata from it

I.e. make information about what the device is showing available to other devices in a well-documented, open fashion; allow other devices to control what is being shown, play / pause etc.

4.1 Audiences, Manufacturers, Developers and Content Owners all Benefit

Once you've got your unique, dereferenceable, URI for a programme, an API to the TV, what can you do with it?

Benefits to Audiences

More diverse, attractive and accessible software and hardware remotes, and fewer remotes to keep track of (physical or software). Simpler access to identifiers and informaton about programmes that they can share using their favourite social application. Better second screen applications about TV that provide more interesting and relevant information about programmes. The ability to use social media to help them find programmes to watch even if they themselves don't participate

Benefits to Content Producers

Avoid audiences having to make that trip to the App Store in the first place, because for most programmes they probably wouldn't bother and thereby avoid fragmentation of audiences. The ability to track usage of and market content over its lifecycle (broadcast-¿ on-demand-¿ archive). If person A watched content X1 on a boxee, and person B watched it on -say- Youtube, ... how to help computers (who are really dumb, let's be clear) realise it was the same stuff, leading to better recommendations, both social via activitystreams and algorithmic - counting stuff

Benefits to Manufacturers and Developers

A single, open, well-documented API to support, rather than complex, secret multiple ones

5 Conclusions

This is already happening. Boxee, XBMC, MythTV have http APIs to their content and Boxee makes an effort to find URLs to identify the content. People are already using social applications to talk about TV. Our four principles suggest ways in which W3C could influence the future of Broadcast TV in ways that benefit audiences as well as companies involved.