

Inbound and outbound, when applications invade TV and change our rooms

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After video entered Internet with streaming or download content, even with 1080p before HD TV in various countries, nowadays the network takes the opposite direction and invades the sets. New models comes with Ethernet ports and media center computers disguised as set-top insert the app culture into the big screen with content chosen by audience from sources out of the traditional spectrum. In countries with interactivity attached to models of terrestrial high definition, such as Brazil, these alternatives not only acts as workarounds where TV still only broadcast images, but changes how people choose what to watch. But in this little big environment, the tablets enters with another kind of information and acts as partners for big screen, with behind the scenes, game statistics and real-time communication.

The role of the television in rooms changed during the years. When LCD and plasma screens entered homes, the first impact was more space for furniture. But better screens turned into mirrors for content from other sources beyond TV. What started with VCRs and videogames turned to a plethora of remote controls that even sometimes confuses some people. The act of turn on the TV and just watch nowadays sometimes needs to turn t von, select the input and then change the channel.

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The rise of digital TV brought new hopes for producers and watches. The traditional habit could be updated for digital times, with better sound, better image, on-demand content and interactivity – at last any action with the broadcaster that you don't need other media to communicate. In Brazil, the DTV (Digital TeleVision, official name for terrestrial high-definition broadcast) system brought the first two upgrades, but without even multichannel broadcast and the interactivity is only few information on screen that you can get better if browse the official website.

But one of the major updates came with Ethernet ports and operational systems, such as cross-media bar in Sony hardware. Not only Internet entered TV, but it opened a breach for applications. The video traffic from TV to computers turned into a highway with another track, video and data from outbound. In the middle of the road, tablets and smart phones acts as traffic tolls, helping the broadcasted image with a small tax of attention.

Digital TV in Brazil

After years of development and political changes that delayed the definition of a technical model (BRITTOS; BOLAÑO, 2007), the official broadcast of digital terrestrial television started in December, 7, 2007. Communications Office still works with the 10-year plan to reach analog shutdown, but after three and a half years it only brought better images. While official offices publishes big numbers, even with better economic conditions some of the viewers got HD content from paid operators.

The migration to 1080 pixels can be seen in content recorded and broadcasted from Rio de Janeiro or São Paulo, home of the biggest TV networks, and it is rebroadcasted in other regions. In Porto Alegre, as example, an important political and economical area, only small series and weekly programs got this upgrade. The interactivity is low, there are few applications and even from time to time stop being broadcasted.

After months of tests, Globo TV was one of the first companies that offered this option. Due to the actual communication law, the applications are broadcasted while the show is on and don't offer exclusive content for each viewer. When the red button is pressed during any of the three major soap operas, it only offers small photos, synopsis and character bios. The model runs out of the TV airwaves and rules to offer a small participation, an option to vote in a poll that needs Internet connection to work. So, even in the DTV model Internet plays a small but interesting role.

But the interactive options are not broadcasted in all areas of the country. Content creators use free tools, but GINGANCL² middleware creation software works better in Windows and Linux systems, not in Macintosh platform – one of the most used for creators. Some of the viewers don't even know about it, maybe because you don't need it to get the full experience of the show.

While only some of the shows has interactivity, Internet offers a large window to talk with public. Beyond specifically driven applications, Facebook and Twitter offers backchannels that audience already uses and are easy to control. More than this, it doesn't need new software, only a free account and someone who understands it to operate.

Broadcasters have new tools, but audience has it too. Even if some of the journalists don't understand it – or don't try to, saying it's not part of the job – hardware and software makes difference to broadcast video.

From Real Audio to XMB

When Real Audio put video over Internet, the image was a little screen that consumed full bandwidth from dial-up connections. Live events such as Paul McCartney live from Cavern Club in 1999 opened a path that still on progress and is seen nowadays as official content or even "bootleg" images from cable TV

² For more information about the middleware, visit <http://www.ginga.org.br/>

uploaded to UStream.tv. For offline content, YouTube or Vimeo become standards by its use.

Online websites such as TwittCam mash-up video broadcast with Twitter, making easy to spread out a link and show the images. Still on recorded content, YouTube even acts as database for old content (URICCHIO, 2010), supplying a demand that TV model can't do due to its nature. But software embedded in TV hardware can subvert this order.

Sony and Samsung, as example, delivers pre-configured apps and channels in the operational systems working in their hardware. In Brazil, the first one puts its line of web-delivered content channels (Wired.com and NPR, among others) mixed with clips from SBT (a Brazilian TV Network), iG and Terra (Internet access and content providers). The Xross Media Bar (XMB) interface is common among other Sony devices – PlayStation3, PSP – and with a nice Internet connection, video streamed with high definition from these sources even can achieve a better image quality than broadcasted one. And if IP TV was a promise that few saw on their screens on Brazil, this path uses content already shaped for web media centers and deliver digital video over IP, disguised as web.

But this digital source isn't the only coming to the rooms. Downloaded content goes to the screen as files in flashcards, as shows listed in media center hardware – or computers that can act as one – and from connected devices such as Xbox 360 or PlayStation3. The scenario not only is a picture of what Jenkins (2008) connected, but an environment with constant born of new species.

An interesting force from Internet into TV is coming from GoogleTV and AppleTV. Both products aim to put online videos into the traditional media, Apple with its traditional iTunes ruled model and Google with a new way to search and bring found content to the screen. With set-top boxes, the audience has another way to search for content without obeying the broadcaster schedule and selection.

But another “freedom” may come if both open space for applications. Besides solid studies about it (CASTELLS, 2009; RHEINGOLD, 2003), rich applications and tablets opened a new path for content, active or synched with other media. If it can bring to other screens a movie, as example, it can act as a point to make a richer experience. The market of applications, also known as just apps, can rebuild the experience of watch TV. With a high number of developers, iOS and Android can enter TV and mix it with Internet not only by the way channels want it, but the way Internet users want.

Lemos and Lévy classifies mobile gadgets as collective computers inserted in age of ubiquity, product of the cell phone network and wireless Internet great development (2010, p. 46). "This group of technologies and social acts rule the rhythm of social, cultural and political changes in the first years of XXI century. The shifts are enormous and happens in short time."³ (p. 22)

Santaella (2007, p. 250) argues that mobility acceptance among users is related to a process started with the massive use of Walkmans (original gadget by Sony or replicas) and got a new stage with the migration from desktop computers to laptops. These devices, now smartphones or tablets, “remix” traditional uses with others from cyberculture. The always-on devices bring with them not only the ability to communicate or share information, but a constant state to access on demand content.

Portable media can be the place to expand other media with features blocked by the nature of the medium or political aspects. TV, and in Brazilian digital system, can't offer access to the network archives and is ruled by government policies. Internet, embedded in cell phones, break it with an open road to create and communicate. As more people watch TV with a second device, what you offer in the second screen is important too.

But TV is a medium that lives by paid systems or “free” if have income by ads, a model that isn't the only one for apps. More than this, sometimes

³ Translated by the author

networks only focus their efforts to produce shows, leaving a path for others. And due to the nature of the app market, must produce not by its rules, but according to iTunes Store, as example.

“In many cases, however, new companies or not-for-profit organizations have emerged as leading if not dominant players. Google is perhaps the foremost distributor and aggregator of digital media, including not just news and information, but also audio and video. [...] Apple’s iTunes has emerged as a major distributor not only of digital music, but also of movies and other forms of multimedia. Together, these new and evolving digital media distributors are rewriting the media delivery landscape and helping the consumer move ever close to a system of fully on-demand media” (PAVLIK, 2008, p. 148)

It’s a clash of contenders from different natures, but TV stations, companies smaller than these two, must learn how to create for not only devices, but how to publish and survive when the icon of an official app is published among others. And before a click to install, users can learn differences and reviews. If the official one is poor, audience will answer with comments – a new version of the zapping for better content.

“News media seeking and advantage in a shifting and sometimes shrinking news marketplace should look more closely at emerging new technologies as an opportunity to experiment and to build and keep new audiences. If they do not, other innovators will get there first, and the world of journalism and its role in society will continue to shrink.” (PAVLIK, 2008, p. 4)

As content flows from other mediums connected by Internet in a convergence culture (Jenkins, 2008), with portable media it goes faster. As seen when Internet rose, companies must have their own apps and try new uses of the media and their production. Just to stay on two shows, *Lost* and *24* used Alternate-Reality Games, videos published over unknown sites and Google Maps to connect fans. With Twitter and apps, it reached a new level, when you have a backchannel for communication and devices that are by the audience side in the couch. *House* and *Bones* offers free apps with bonus content, like a multimedia

companion of the series. The second one changes its interface and features while a new episode is broadcasted, connecting in a different way.

Due to popular use, in some events isn't strange see a TV show replicating on screen information coming from Twitter or Facebook. The tools are new public spaces with real-time discussion and a show can add participatory aspects with this action. During the Royal Wedding, on 29 April, Brazilian TV GNT put on screen tweets from selected users. This and other experiences, such as send a SMS to put a message on screen, teaches that not everything from web – or other digital devices – can flow to TV. Even in big models, text must be big and easy to read, not like other connected devices. Interactivity on TV demands new studies for usability and interface design, such as Nielsen (ANO) stated for web and others made later for gaming (FOX (2006), NOVAK; SAUNDERS (2004)). The creative and wide use of information display on-screen by games is helpful to think new interfaces for connected TV. The way it is used nowadays, transporting an online information and broadcast is a temporary solution. Highlight an interesting opinion from the web may work, but bring an entire timeline to the display may “crash” the experience.

The display of visual information, graphic and text, shall understand the nature of the medium. This difference can be seen when AppleTV interface is compared with GoogleTV one. While the first use few words in big size and avoid use a keyboard, the rival needs a small keyboard to operate and dialogs with user with words and information in a small screen size. Link TV with Internet isn't only transport data, but fit with the medium size and properties.

When the transit of video from TV to Internet started to flow like on a highway, the inbound and outbound points got new checkpoints with mobile devices. More than this, apps created for global use changes how audience sees local content or broadcast. And when interactivity doesn't comes from the big screen, the audience's will to connect is supplied by web or other digital paths. In Brazil, the lack of rich content drives the viewer to small screens. Two apps show how this happens.

Brazil doesn't have the American or European tradition in basketball, but the sport is popular due to some titles and players such as Oscar and due to the broadcast of NBA games since the nineties. But audience had to shift to paid channels to watch games.

Even with comments from old players and journalists that had database to use during matches, the NBA Game Time⁴ app (free for iPhone, iPad and Android) offers data to audience, updated live. Due to contracts, Space, TNT and ESPN don't broadcast all season. The option for mobile devices not only acts as a live scoreboard, but the integration with NBA Pass (the video broadcast subscription service) puts the video on screen.

But when a match goes to TV, the information fulfill the big image with details – performance zones, shot chart – that would overlay the image of the players on screen. While the audience watches the game, you can change look to the app to learn about a player without loose your focus. In a country without the live scoreboard culture as USA⁵, the app offers information for fans and changes the role of the speakers.

If NBA is an example of use during a season, Academy Awards used an app for the 2011 edition. Oscar Backstage Pass⁶ was paid, US\$ 99 cents before the show, and brought a set of cameras not just to broadcast the ceremony in mobile devices, but help as second screen.

The app had three interfaces, one for the red carpet pre-show, other during the ceremony and another for the ball after all. The shift from one interface to other happened right when stages started and ended. In a map of the cameras, user could change from one to another to watch press conferences, backstage cameras or some images broadcasted only during breaks. Mixed with TV screen, the switch options offered a new layer of information.

⁴ Available at <http://www.nba.com/mobile/gametime/>

⁵ In soccer stadiums, displays don't show stats as seen in a NBA or MLB match, as example. Only some venues have information about score and remaining time.

⁶ Available, with off-line content, at <http://itunes.apple.com/app/oscar-backstage-pass/id411784735?mt=8>

But that Sunday, two channels broadcasted the show, Globo and TNT (only on subscription services), both in HD. The first one didn't broadcasted the full event, the first minutes were ignored due to another edition of Big Brother Brasil. Cinema fans without TNT had to seek for online alternatives or read on Twitter. Beyond this, the two guests invited to comment the prizes – José Wilker for Globo and Rubens Ewald Filho for TNT – are known for their opinion, so the app mixed with Twitter were used as an escape from traditional information and source for rich content. Like on NBA games, TV acted as a wall with a high-definition image and sound.

New routes for new content

The use of mobile devices not only open new routes for content, but reshape how audience can gather more information when TV doesn't offer a rich or enhanced experience. This path dialogues with audience in a different way, keeping TV qualities without pollute the big screen.

Social networks already do a role of interactivity and acts as public space for discussion. A topic is broadcasted on TV and goes to the Trending Topics due to discussion among users. The audience in some cases already has profile in Twitter and Facebook, so create other network will compete against it.

Academy Awards and NBA, as Get Glue⁷ and IntoNow⁸ – to mention other services –, illustrates how one medium can enhance other respecting TV as a mass medium and Internet another with different options. Global content works in local areas, so people will discover services and use it, sometimes without thinking if its official content or not, just looking for something that works.

The attention of the audience is different nowadays. Years ago, watch TV and do another action during it equal mattered because the channel was on that room. With smartphones and other devices, the background sound disappear when user's focus is on Twitter timeline or a quick game. Mobile

⁷ Available at <http://getglue.com/>

⁸ Available at <http://www.intonow.com/ci>

creations not only help to unite audience, but can gather this force for a better communication.

These experiences shows that not every show should have an enhanced content, the nature of the content must provide information and dedicated audience. The first experiences with interactivity in Brazilian digital TV replicates structures of content, only changing information from soap opera to soap opera, but it lives on the edge of put content on screen and overlay content. During a soccer match, a box with selected tweets or interactivity can't take the screen and take out attention when someone is scoring a goal, as example.

TV networks slowly creates content for DTV, but the limitations of the model indicates that a better experience can flow from other screens. Work with connected media can provide not only a different communication, but creators that already work creating for iPhone can create for TV and don't need to learn a new language as GINGANCL, Brazilian DTV middleware.

There's a new path to create rich content and connect audience. If broadcasters loose this point, the users may not zap and change channels. Worse than this, it will be just a background noise when their eyes will pay attention to other content – and in a small, but powerful, screen.

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