

Customise your favourite TV show

› 08 November 2012 by [Paul Marks](#)
› Magazine issue [2890](#). [Subscribe and save](#)

Plot-deconstructing software lets you make your own episodes of favourite shows

LOST the plot watching *Homeland* or *Game of Thrones*? Wondering when a strange character you'd never seen before on *Doctor Who* was introduced? You're not alone: the tremendous choice of programmes on offer on today's multichannel TV services can make it hard to keep up.

But help is at hand, thanks to scene-analysis software that can compile a video sequence summarising any chosen plot line or character's appearances in a TV series. Choose a scene, for instance, and the software will assemble a personalised video episode based around it. And in a move screenwriters will doubtless detest, it can also help fans compile customised episodes starring only their favourite actors.



Need a reminder of his story? (Image: HBO/Everett/Rex Features)

Called StoryVisualizer - or StoViz - the [PC-based technology](#) has been made possible by the increasing amount of content that can be stored on digital video recorders, says lead developer Hervé Bredin of the Computer Sciences Laboratory for Mechanics and Engineering Sciences (LIMSI) in Orsay, France. TiVo and Sky Plus, for example, can store up to a week of continuous broadcast TV plus all of the previous episodes in various series. "We think it's time users had search and browsing tools to use within these digital video collections," Bredin says.

He worked with a team at the [Toulouse Institute for Computer Science Research](#) to make that possible, exploiting the brawn of today's graphics processing chips.

The task required more than just good hardware, though. Identifying key plot points and tracing character arcs are not easy, even for a human. In fact what makes a show compelling is often the way it weaves these elements together in sophisticated ways.


So StoViz's first task involved "de-interlacing" those themes into individual threads. To find a particular storyline, it used image analysis to seek actors' faces and background scenery used in certain scenarios, in addition to analysing the audio for key words associated with that story.

The software then assembles a group of scenes that its video and audio algorithms have decided are semantically similar, and therefore hopefully represents the same plot line. In the same way, if you are interested in a certain actor, you can choose their face and only their scenes will be compiled into a summary.

The researchers successfully tested StoViz on three TV series with very different formats: the sitcom *Malcolm in the Middle*, the fantasy drama *Game of Thrones* and the legal lunacy of *Ally McBeal*.

Now all that remains is to integrate the technology into existing entertainment systems. There are a number of possibilities. The system could easily be activated via a screen menu, says Bredin, and perhaps in the not-too-distant future you might simply say the name of your favourite character to a Siri-like voice interface (see "[Coming soon... talking to your TV](#)").

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Marek Barwinski, a vision engineer with imaging-app maker Cortexica in London, says that the "fairly restricted number of characters" in most TV series means the processing won't be too demanding. "But I wonder if in large video collections it could keep up with soap characters as they age," he says.

The device will be useful in some situations, such as "extreme catch-up situations" after a long holiday, says Simon Parnall of pay-TV systems maker NDS of Staines, UK. But he questions its overall usefulness. "I frankly wonder about the character of a viewer who would wish to use this when up to date with a series," he says.

Coming soon... talking to your TV

Flat-screen TVs that change channels and volume in response to limited gesture and voice controls are already available from firms like Samsung. But smart TVs will soon get a whole lot smarter, says John Kempner, video buyer at UK chain store John Lewis.

Starting next April, we will be able to ask the next generation of internet-connected TVs questions like "are there any movies starring Brad Pitt?" or "what's good on TV today?", Kempner says.

Learning software built into the TV scours your viewing history to make recommendations, Kempner says. "It will recognise your voice and will display programme choices you should appreciate."

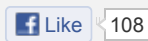
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