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From hypertext to hypervideo

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Software: New technology that links together segments of online video delights viewers, vloggers and video-on-demand vendors

THE rise of the web transformed hypertext—which allows readers to click on a word in one document and be transported to another—from an obscure concept in computer science to a familiar, everyday technology. Might hypervideo—which lets viewers click on a moving image to call up a related clip—be on the verge of a similar transformation? This nascent development, also called video-hyperlinking, makes it easy to link together segments of online video in novel ways. Andreas Haugstrup Pedersen, a video blogger (or “vlogger”) based in Aalborg, Denmark, who likes to video-hyperlink clips on his website, says the technology is a “vlogger’s dream”.

Hyperlinking video involves the use of “object-tracking” software to make filmed objects, such as cars, clickable as they move around. Viewers can then click on items of interest in a video to watch a related clip; after it has played, the original video resumes where it left off. To inform viewers that a video is hyperlinked, editors can add highlights to moving images, use beeps as audible cues, or display still images from hyperlinked videos next to the clip that is currently playing.

As the amount of video available online increases, so do the possibilities for linking clips together. Someone watching a documentary about the 20th century, for example, could click on the face of John F. Kennedy and be directed to newsreel footage of him. Further clicks might lead to the trailer for “Thirteen Days”, a film about the Cuban missile crisis, to an interview with protagonist-actor Bruce Greenwood, and to a film promoting tourism in Hollywood. Just as hyperlinking disrupts the traditional structures of written text, the same is true of video.

But sometimes a hyperlinked structure makes more sense than a linear narrative. Researchers at the Technical University in Darmstadt, Germany, for example, have developed a system called ADIVI (a name derived from “add digital information to video”). Siemens, an engineering firm, plans to use it to enhance online-video technical manuals, so that technicians can click on a particular component or system to summon up more detailed video clips. The researchers call this “telescoping”. In contrast, at [viewmagazine.tv](#), a website that is experimenting with hypervideo, the term “drilling” is used to describe the ability to click on a talking head during a sound bite to summon an entire interview. Such disagreements over terminology emphasise just how new the technology is. Clickable areas in video clips, for example, are variously called tracked objects, hotspots, and tagged pixels.

Another area of uncertainty is the etiquette of linking to other people’s clips. Hypervideo can either redirect viewers to another site and automatically start a clip on that site at a desired scene, or display video from elsewhere within their own websites. This practice, known as “hotlinking”, is controversial, since the owner of the clip that is linked to may not be properly credited. So some sites discourage hotlinking. But Andrew Michael Baron, the producer of Rocketboom, a popular vlog based in New York, encourages hotlinking to his content. “We’re saying, ‘Hey, please do that,’” he says. His only proviso is that hotlinkers must not use his footage to make money by selling advertising alongside it. Ravi Jain, another New York vlogger, jokes that this is a good time to be a copyright lawyer, since hypervideo is so new that its legal consequences are still unclear.

Then there is the matter of hypervideo’s commercial potential. Advertisers are understandably excited by the idea. Eline Technologies, based in Vancouver, is doing brisk business selling hypervideo software called VideoClix to advertising agencies and companies including Apple, Disney and Sony. The software makes it possible to create online video clips that link to advertising or e-commerce sites, or provide

more information about particular products. The result is far more powerful than a traditional television advert, says Babak Maghfourian of Eline.

Microsoft's adLab research centre in Beijing is working to incorporate hypervideo features into the company's TV-over-broadband platform. And Tandberg Television, a Norwegian firm that sells video-on-demand systems, already sells a hypervideo system called AdPoint. It enables viewers to click on certain objects in television shows to see a promotional video and to "drill" into a commercial to see a longer version.

Tandberg is now working on a way to video-hyperlink film libraries. Viewers would be able to click on, say, a tank in a movie to call up a menu of films or military documentaries. Reggie Bradford of Tandberg says the result is compelling. "You get the emotional experience of television, with the Google experience of the internet," he says. If all this sounds baffling and the terminology, etiquette and business models seem unclear, it is worth remembering that just a few years ago, that was true for hypertext, too.

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