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Paste augmented-reality video graffiti on the streets

27 October 2012 by [Paul Marks](#)
Magazine issue 2888. [Subscribe and save](#)

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27 October 2012

Jump through reality (Image: Chris Aschenbrener/Getty)

Video: [App lets you cut and paste people into videos](#)

LOOK closely and you can find [digital graffiti right under your nose](#) 📱: people have daubed videos, animations and comments over buildings and streets around the world. Soon there could be a new type of tag in our cities - cut-and-pasted people - thanks to [a technique for editing augmented reality \(AR\) videos](#).

Using the AR apps available for smartphones or tablets, anybody can overlay digital text, video and graphics onto the physical world for others to see later. Most major cities are teeming with these digital annotations. You just need to identify a tagged location using your smartphone's map, and watch through the camera using an AR app. Hey presto, a video or animation will then be overlaid on the scene.

Yet if somebody wants to annotate a place with video that they've filmed themselves, today's apps are constrained. They can only overlay a YouTube clip, say, in its original rectangular shape. Now Tobias Langlotz of Graz University of Technology, Austria, and colleagues have designed software that can cut a person or an object out of a video, so that they alone can be pasted as a digital overlay. The idea is to make virtual human guides that could offer city tours or how-to demos, as well as enhancing AR games.

Langlotz and colleagues used a computer-imaging technique called foreground-background segmentation to identify the required foreground object - usually a person. So a user would film a video, then simply point to the object they wanted to extract. The software would do the rest. In a demo, they filmed a skateboarder doing a jump, and showed how he could be pasted onto a street scene. When the app "sees" the environment, it can replay the person in the right place, skating along the ground, for example.

Although they demonstrated the concept using a PC, the researchers say it would be possible to put the software into a smartphone or tablet app. Their work will be presented at [OzCHI](#), the Australian conference on

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Matt Mills of AR company Aurasma in Cambridge, UK, agrees that the tool could be handy for making AR-driven how-to guides. And while it's at an early stage, he adds, it may go on to find wider uses too.



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