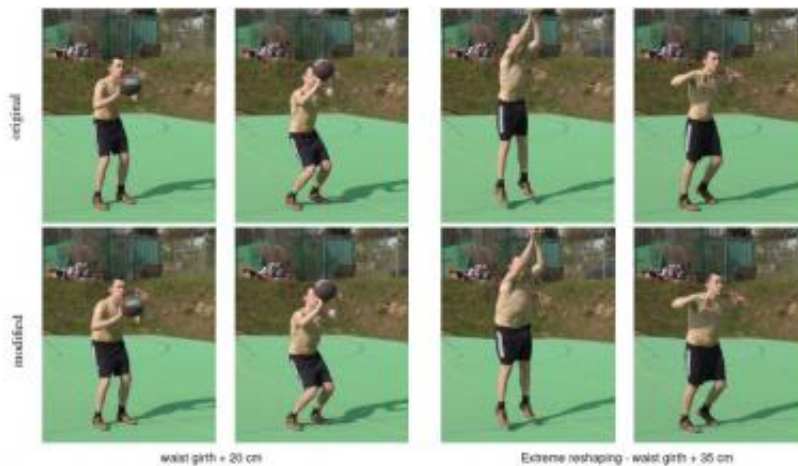


New image-manipulation software makes morphing quicker (w/ Video)

October 13 2010, by Lin Edwards



Change of waist girth of a basketball player recorded with a single video camera.
Image: Arjun Jain

(PhysOrg.com) -- A new type of image-manipulation software has been developed in Germany that will considerably speed up the process of manipulating images in movies to make actors seem slimmer, more muscular, taller, and so on.

The software was developed at the Max Planck Institute for Informatics in Saarbrücken by Christian Theobalt and colleagues, and enables movie-makers, both amateur and professional, to dramatically change the appearance of people on video without computer editing each frame. The software can quickly and easily manipulate parameters such as

muscularity, body bulk, height, waist and hip girth, length of legs, and so on.

The research took three-dimensional laser scans of 120 men and women of various shapes and sizes and in a range of poses and then merged the scans to produce a single “morphable” model they could manipulate into almost any pose or body shape or size required.

To manipulate the image of an actor, the researchers use a mixture of bespoke and off-the-shelf software to track the silhouette of the actor’s body through a sequence of frames. They then use the [software](#), dubbed MovieReShape, to map the silhouette onto the malleable model, after which it can be changed to produce the required image characteristics, and these changes carry into every frame.

The technology will be officially unveiled at the computer graphics conference Siggraph Asia in Seoul, South Korea in December, and will no doubt find application in movies in which at the moment actors must lose weight or put it on for particular roles (such as Robert de Niro’s Oscar-winning role in Raging Bull, for which he gained 27 kg). It may also be useful for advertising companies who currently make several versions of an advert to suit cultural differences in standards of beauty, and who will be able to make one version and simply “tweak” it to make the required changes.

MovieReShape is much quicker than painstaking computer editing of every frame, and results for moderate manipulations are realistic. The system is not yet perfect and extreme manipulations can distort the background, and the scene must be relatively free of other objects.

More information: www.mpi-inf.mpg.de/resources/MovieReshape/

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