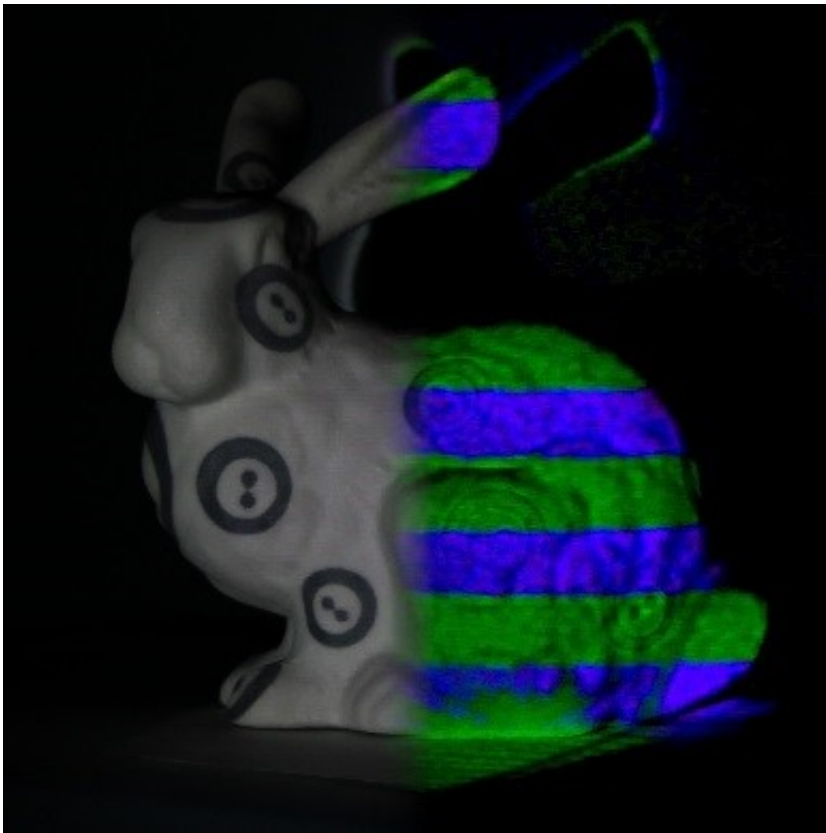


New technology for dynamic projection mapping

November 18 2015



A projection object with printed visual markers printed out from a full color 3D printer (left: appearance under environment light, right: projected result by the proposed technique).

It has been thought technically difficult to achieve projection mapping onto a moving/rotating object so that images look as though they are

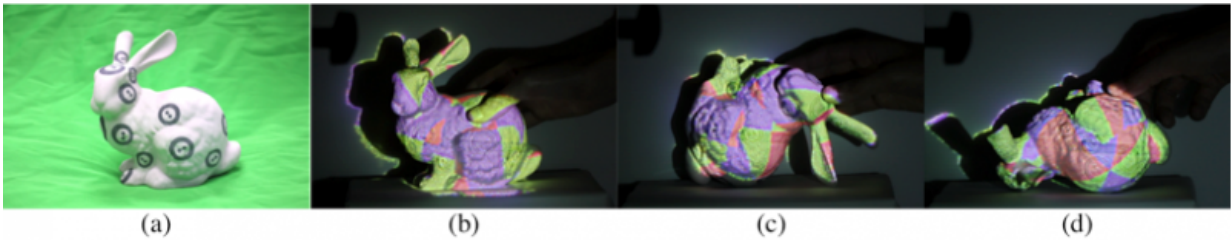
fixed to the object.

A group of researchers from Osaka University succeeded to develop a technology for [image projection](#) onto moving objects.

In the technology developed by the group led by Daisuke Iwai, Associate Professor and Kosuke Sato, Professor at the Graduate School of Engineering Science, Osaka University, an object for projection mapping is printed out from a full color 3D printer, on which special visual markers are also simultaneously printed. By measuring these markers with a camera, projected images are registered onto a moving object. The projected images are aligned according to the movement/rotation of the object as if they are stuck to the [object](#). (Figure 2) The visual markers interfere with projected images, but this group diminished the markers by applying their own radiometric compensation technique to projected images.

It is expected that this group's research results will lead to the creation of persuasive advertisements and increased efficiency of the industrial design process through the realization of projection mapping onto moving three-dimensional objects, as well as virtual dressing enabling users to virtually try on clothes.

This group's achievement was selected as one of 20 excellent digital content technologies in Japan as "Innovative Technologies 2015" sponsored by the Ministry of Economy, Trade and Industry, which was held to discover and evaluate remarkable technology in Japan.



(a) A projection object with printed visual markers under environment light, and (b) (c) (d) projection mapping results with different poses.

This group's results were presented at the Digital Content EXPO in October at the National Museum of Emerging Science and Innovation and the 8th ACM SIGGRAPH Conference and Exhibition on Computer Graphics and Interactive Techniques in Asia in November at the Kobe Convention Center.

Provided by Osaka University

Citation: New technology for dynamic projection mapping (2015, November 18) retrieved 16 July 2024 from <https://phys.org/news/2015-11-technology-dynamic.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.