

Dynamically reconfiguring images with flexible OLED FlexCam (w/ Video)

August 21 2013, by Nancy Owano



(Phys.org) —Thanks to a team from the Human Media Lab at Queens University in Ontario, a prototype could show the way to easier, faster, and more accurate ways to shoot panoramic shots. Their step up in gadgets for photography is in the form of something called FlexCam, a

special camera that can shoot panoramas by combining a flexible OLED viewfinder with a camera array. This may be considered a new bent, literally, in panoramic devices. As the team describes it, they are combining two emerging concepts in consumer electronics and photography: the trend toward camera arrays and the trend toward flexible display devices. The result is a "compound" type of camera platform.

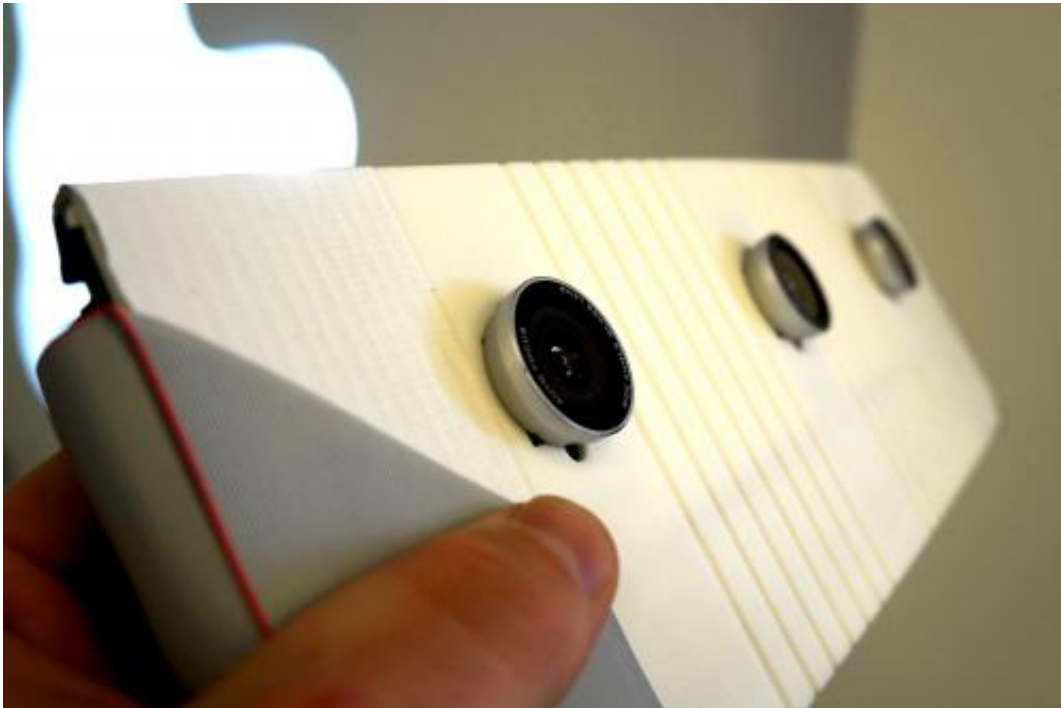
Last year, Nicholas Fellion, Conner Dockie, Roel Vertegaal of the human media lab at Queens University published their paper, "FlexCam –Using Thin-film Flexible OLED Color Prints as a Camera Array," which talks about their prototype, consisting of a 320x240 Color Flexible OLED display, array of three [video cameras](#), two Flex sensors and leather chassis. This is a prototype that allows for the photograph to act as a camera, exploiting the flexibility of the [viewfinder](#) as a means to dynamically reconfigure images captured by the photograph. They recently released a video that shows the prototype in action.

"FlexCam augments a thinfilm color Flexible Organic Light Emitting Diode (FOLED) photographic viewfinder display with an array of lenses at the back," they said. "FlexCam's flexible camera array has altered [optical characteristics](#) when flexed, allowing users to dynamically expand and contract the camera's field of view (FOV)."

Integrated bend sensors measure the amount of flexion in the display. The degree of flexion is used as input to software, which dynamically stitches images from the camera array and adjusts the viewfinder size to reflect the virtual camera's FOV.

According to the video, the image configuration is highly responsive to bend interactions. The user can rapidly and precisely adjust the camera configuration.

Overall, the trio believe their prototype suggests an advance in future mobile camera equipped devices. Image manipulation with a camera array is a fetching concept for future mobile devices. "FlexCam shows that it is possible to use a flex-sensor instead of data garnered from costly image processing to create a realtime viewfinder for a flexible camera array."



FlexCam is just one of several initiatives at the Human Media Lab. Its focus is on "disruptive" technologies and new ways of working with computers. The lab is currently working on the design of Organic User Interfaces (OUI), which allows computers to have any shape or form through flexible and other non-flat display technologies.

More information: www.hml.queensu.ca/blog/2013/8...camera-array-youtube

FlexCam—Using Thin-film Flexible OLED Color Prints as a Camera Array: kameraflage.com/portfolio/FlexCam_Final6.pdf

© 2013 Phys.org

Citation: Dynamically reconfiguring images with flexible OLED FlexCam (w/ Video) (2013, August 21) retrieved 25 April 2024 from <https://phys.org/news/2013-08-dynamically-reconfiguring-images-flexible-oled.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.