



Methods for Displaying a Large Image on a Small Screen Using Fish Eye Warping

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WARF: P05398US

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The Wisconsin Alumni Research Foundation (WARF) is seeking commercial partners interested in developing a method for automatically adapting a large screen image to a small screen.

Overview

Conventional techniques for modifying an image to be displayed on a device smaller than the one the image was originally designed for have focused on cropping or resizing the image. However, these methods are often unsatisfactory because the modified image does not retain sufficient information from the original image.

The Invention

UW-Madison researchers have developed a method for automatically adapting a large screen image, such as one taken by a digital camera, to a small screen, such as on a cellular phone or PDA. This method retains the context of the original image while emphasizing the information content of a region of interest from the image.

An image processing method is used to identify the important parts of the image. Then fisheye image warping methods are used to alter the image so the most important part is emphasized. Regions of the image surrounding the region of interest are warped to fit into available display space without regard to preserving their information content and/or aspect ratios, while the region of interest is modified to preserve its aspect ratio and information content.

Applications

- Displaying large images on tiny screens, such as those on a cellular phone or PDA

Key Benefits

- Emphasizes a particular region of interest within the image while preserving the context of the remainder of the image
- Allows large pictures to be displayed on tiny screens such as those found in handheld devices
- Enhances the usability of small digital pictures

Additional Information

For More Information About the Inventors

- [Michael Gleicher](#)

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