Abstract

This paper describes how we can implement various techniques using "Seam Carving"
for Image and Video Retargeting" which would solve many problems that arise during the
displaying, scaling, resizing of the various images and videos [1,2,3]. In this paper you will go
through many techniques and their implementations that have been proposed by many authors
using Seam Carving for Image and Video Retargeting. Seam carving that is also known as
image retargeting, scaling, liquid resizing, or liquid rescaling; is generally an algorithm for image
resizing that was developed and introduced by Shai Avidan, of the Mitsubishi Electric Research
Laboratories (MERL), and Ariel Shamir, of the Interdisciplinary Center and MERL[1]. As per the
algorithm suggested by the author, you have to establish number of seams in the selected
image and further automatically remove seams to reduce the size of the image. The same
approach is adopted for video retargeting except the fact that you use video frames instead of
objects in the image. The paper discusses various approaches that have been adopted by
various authors in this respect.

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Index Terms

Computer Science

Image Processing

Keywords

Graphics    Image Processing    Html    Web Layouts    Picture Contents    Cropping

Distorts

Stretching

Seam Carving

Video Retargeting

Liquid Rescaling

Content-aware Scaling