Abstract

Screen capture videos (recording computer screen) can contain unwanted objects hereafter referred to as "popups". Removing such unwanted objects becomes a challenge with existing techniques available for video inpainting. Screen capture videos are characterized by sharp edges and huge amount of text in the background. Hence, techniques involving intra-frame interpolation/extrapolation of pixels fail to produce good results. In this paper, a multi-stage algorithm is proposed to detect and remove popups from screen capture videos. The steps involved are determining the duration of popup, exact shape of popup and source region for replacement. The algorithm does not perform any kind of interpolation/ extrapolation throughout. Instead, it finds the region/patch of pixels in the previous or future frames to replace the popup region (inter-frame replacement).

References

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- John, "A computational approach to edge detection"; IEEE Transactions on Pattern analysis and Machine intelligence, Volume PAMI-8, Issue: 6
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- Freeze tool by Camtasia  http://www.techsmith.com/camtasia.html
- OpenCV, an open-source library for computer vision  http://opencv.org/

**Index Terms**

Computer Science  
Multimedia

**Keywords**

Popup removal  
Reconstructing screen capture videos  
Iterative edge detection