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author={J. Mooser and S. You and U. Neumann},   
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title={Real-Time Object Tracking for Augmented Reality Combining Graph Cuts and Optical Flow},   
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abstract={We present an efficient and accurate object tracking algorithm based on the concept of graph cut segmentation. The ability to track visible objects in real-time provides an invaluable tool for the implementation of markerless Augmented Reality. Once an object has been detected, it's location in future frames can be used to position virtual content, and thus annotate the environment. Unlike many object tracking algorithms, our approach does not rely on a preexisting 3D model or any other information about the object or its environment. It takes, as input, a set of pixels representing an object in an initial frame and uses a combination of optical flow and graph cut segmentation to determine the corresponding pixels in each future frame. Experiments show that our algorithm robustly tracks objects of disparate shapes and sizes over hundreds of frames, and can even handle difficult cases where an object contains many of the same colors as its background. We further show how this technology can be applied to practical AR applications.},   
keywords={augmented reality;graph theory;image segmentation;image sequences;augmented reality;graph cut segmentation;optical flow;real-time object tracking;Augmented reality;Cameras;Image edge detection;Image motion analysis;Image segmentation;Navigation;Object detection;Pixel;Robustness;Shape;H.5.1 [Information Interfaces and Presentation]: Multimedia Information SystemsÂ¿Augmented Reality;I.4.8 [Image Processing and Computer Vision]: Scene AnalysisÂ¿Tracking},   
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**Bibliography**

In the recent past, the interest for augmented reality has raised and it also lead to the demand for visual tracking. This current article focuses on presenting an efficient object tracking algorithm based on the concept of graph cut segmentation.

The idea is based on the fact that, once an object has been detected, it's location in future frames can be used to position virtual content, and thus annotate the environment. This approach is different to other object tracking algorithms since it has no dependency on a preexisting 3D model, whereas it accepts input as a set of pixels representing an object in an initial frame and uses a combination of optical flow and graph cut segmentation to determine the corresponding pixels in each future frame.

The algorithm interests me since it also focuses on taking it forward to practical AR applications, thereby entering the real-world applications.

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"This is entirely my own work, except as disclosed in the documentation. I gave help to the following persons:   
None  
Signed Kiran C Shettar"