Active 3D Smartphone App

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Overview

Photos are static slices of time
Overview

Active images

Replace background with animated graphics

Render foreground with two slightly different perspectives
Technical Challenges

Interactive foreground segmentation
Separating foreground and background based on two-step user input

Image: Microsoft Research
Technical Challenges

3D reasoning and object completion
Filling in missing image data when rendering from an alternate perspective

Image matting and blending
Making the image look like it is in the right place
Image inpainting
Recreating missing image pixels behind foreground

http://nsmithphotoshop.weebly.com/uploads/9/5/2/7/79527067/5875392_orig.jpg
Technical Challenges

Restrictions of hardware on mobile platforms
Optimising algorithms to run on mobile hardware limitations

Image processing algorithms (matrix operations) are computationally expensive!