Figure-Aware Blending
For use in Automated Mosaic-Stitched "Dotted Line Comics"

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 Extend auto-mosaicing project to create dotted-line comics.
Initial Approach

1. Gather pictures to be mosaic'd together, each containing the character.
2. Find the character in each image.
3. Run the autostitching algorithm, excluding the character from ANSM, and evaluating a RANSAC set by how much the character is transformed.
4. Mosaic the images together, blending such that the character is always fully opaque.
5. Draw dotted lines between character points by finding parallelograms and drawing parallel to their sides.
Steps 1-3

- Pictures were shot by me of friends/roommates.
- The character was found in each image by hand. 2 points were defined, top left and bottom right.
- Points within character box excluded from ANSM, RANSAC has another threshold based on amount of transformation of character box.
Blending

- How to blend these images together?
Blending

• Standard approach doesn’t preserve character’s alpha…
Blending

- Keeping the character at 100% alpha produces artifacts.
Blending

- Solution: Linear ramp from max out, blended with a linear ramp up to sum of images surrounding alpha’s.
Blending

• Results are good!
Dotted Lines

- Different approach than initial thought.
- Use spline() and ppval() on a sequence of points marking path/character locations to find points where we want dots.
- It turns out this looks pretty good, and the path we set allows for obstacles in image.
Other Problems/Improvements

- When you begin to mosaic images that don’t overlap very much, we want our RNSM points close to the overlap.
- RNSM points must be contained within hand-defined bounding box. Defaults to full image if no box is defined.
Results
Results
Results
Thanks!