**types of techniques**

- simple pixel modification
- interpolation/extrapolation
- compositing
- convolution
- dithering
- warping
- morphing
- misc. effects

**dissolve**

- film/video technique to fade from one shot to another

**blending across time**

\[ \alpha(t)I_0 + (1-\alpha(t))I_1 \]

\[ \alpha(t) \]

\[ 0 \]

\[ t_0 \]

\[ t_1 \]

\[ t \]

**blending example**

morphing = warping + blending

morphing = warping + blending
morphing = warping + **blending**

**morphing how to**

specifying the warp

start

finish

specifying the warp

start

middle

interpolate endpoints for in-betweens

finish

computing the warp between adjacent images

each line moves in time
computing the warp between adjacent images—single line

warp – single line

u is fraction along line, v is distance to line

warp – single line

u is fraction along line, v is distance to line

consider some special cases

warp – single line

consider some special cases

warp – multiple lines

consider some special cases
warp - multiple lines

compute weight for each line pair based on distance to p in destination

\[ w = \left( \frac{L}{d} \right)^b \]

where \( L \) is the length of the line segment, \( d \) is the distance from \( p \) to the line segment, \( a, b, \) and \( c \) are parameters to control the effect

warp - multiple lines

compute source for each pair of lines using one-line algorithm

calculate displacement from \( p \) to each source point

warp - multiple lines

compute weighted displacement from \( p \) in source

demo
do it yourself