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Problem Set 1

Part II.

5. seals.jpg

a)



b)



c)



d) input: 375 x 500 output: 375 x 175

e) reduced width by 325 pixels.

f) In the reduced image using seam carving you can see that the seals were being cut in between which made the seals appear more bunched up on the land. In the resized image you can tell that every thing is just being skewed and squished together which avoids maintaining the contents shape.

trees.jpg

a)



b)



c)



d) input: 375 x 500 output: 375 x 300

e) reduced the width by 200 pixels

f) In this reduction of the image you can tell that image has removed most of the right side of the image. This is due to the fact that this area is the smoothest in the picture and creates a lower energy. Also it maintains the path but begins to create artifacts in the middle of the picture due to cutting the limb of the tree too skinny.

groceries.jpg

a)



b)



c)



d) input: 375 x 500 output: 275 x 400

e) reduced the height by 100 pixels and then reduced the width by 100 pixels

f) The response here isn't very pleasant. The shape of the aisles is trying to be maintained as well as the content that is on the shelves. This is due to the fact that the image itself is pretty blurry so things tend to blend together and the lowest energy in the image is the actual floor of the aisle. This is the first to be removed when we reduce the width of the image. Then we when reduce the height of the image, it gets even more distorted due to the fact that the end of the aisle is creating somewhat of a boundary between the left side and the right side.

pond.jpg – Provided by user: **Only an idiot** on Flickr.com

a)



b)



c)



d) input: 326 x 500 output: 200 x 500

e) reduced height by 126 pixels

f) In this picture the dog and the platform at the bottom of the picture is trying to be preserved as well as the horizon line. The sky gets a lot of cuts because there is lowest energy in this location and there are also cuts across the water just above the dog and even over the dog which causes him to be a little distorted from the original image. The mountains maintain there shape well versus the resized imaged which seems to flatten the horizon as well as everything else in the image.

kauai.jpg - Provided by user: **PatrickSmithPhotography** on Flickr.com

a)



b)



c)



d) input: 334 x 500 output: 334 x 300

e) reduced width by 200 pixels

f) In this image the main focus is the pier that extends out into the water. The pier maintains its shape throughout the reduction and also maintains the bank line. The only major problem here is that just above the end of the pier, the mountain has become oddly shaped and produced some artifacts. Also on the right edge of the picture the soft colored water seems to have more of an abrupt change into the cooler colored water. This is due to cutting the low energy seams from the right side of the picture.

dogs.jpg – Provided by user: **S Alex Maier** on Flickr.com

a)



b)



c)



d) input: 419x 500 output: 369 x 350

e) reduced width by 150 pixels and reduced height by 50 pixels

f) The reduced image here came out pretty nicely. The two dogs have maintained the majority of there content and shape and also have cut out spots of the image that were of less focus. Here most of the water is subtracted from around the dogs and it really maintains the action in the picture. Its interesting how the splashing water is distorted in the reduction image but it still display nicely and doesn't create artifacts.