Project Proposal:

I plan on creating a project that uses seam carving to execute content-aware resizing. The project should allow the user to both extend and reduce vertically and horizontally. The user uploads a picture from the computer and the picture is shown on screen. Within the same window, users can define a new set of dimensions (over the picture).

Image processing is done through Pillow, an easier version of Python Image Library.

Competitive Analysis:

**Carvr**: <https://github.com/mkeeter/carvr>

An app that makes seam carving simple.

Good features:

* changes dimensions of image live as user drags box
* can open and save images

Bad features:

* there is a significant load time every time user changes the dimensions (really slow and annoying for large images)
* the dimensions of the entire window changes instead of just a box

**Rsizr**: <http://rsizr.com/>

Web application that utilizes seam carving.

Good features:

* can open, save, and revert images
* allows for some basic editing within the seam carving application (like crop, rotate, rescale)
* “preserve” feature that allows specific regions to be less likely to be carved

Bad features:

* need to pre-carve image before actually carving it
* shows each same being highlighted and carved
* can’t stretch/reduce vertically

**Adobe photoshop content-aware scale**

Content-aware scale is a feature of Adobe photoshop.

Good features:

* can open, save, and revert images
* doesn’t show each seam being calculated and carved
* live scaling when user drags window
* very fast transformation
* intuitive user interface

Bad features:

* need to create duplicate of background layer