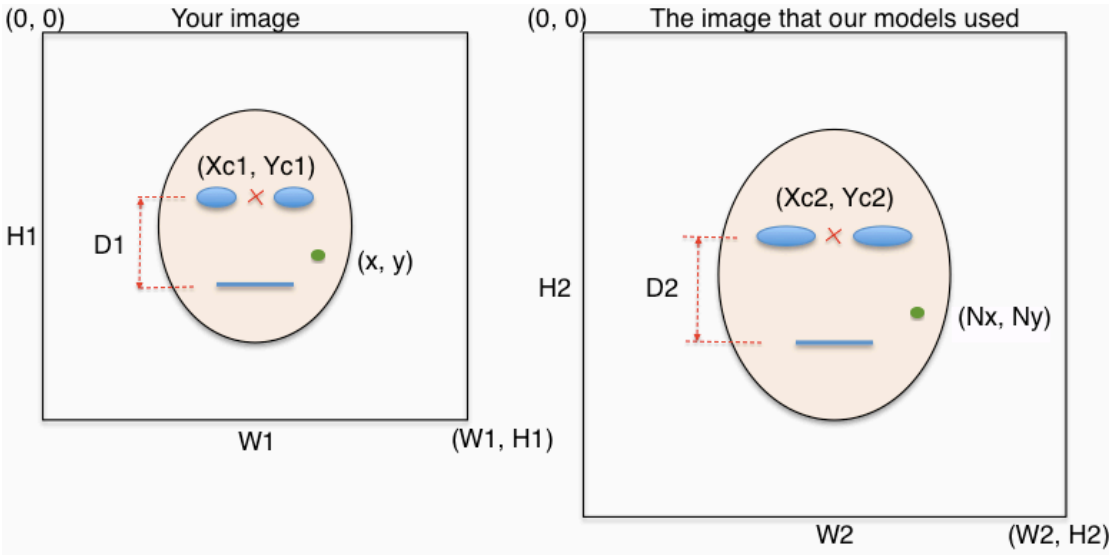
How to normalize the coordinates of the fixations on your face images

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First, you need to have below information.

Your image:

(Xc1, Yc1): Coordinates of the mid-point of the eyes of your image
(x, y): Coordinates of a fixation that you collected
D1: Distance between the eye level and the mouth level of your image, in pixel
W1: width of the image, in pixel (not used in the calculation)
H1: height of the image, in pixel (not used in the calculation)

**note: Please check if the value of D1 is the same across all images. If the values differ quite much among images, then you may need to change this value for each of your images.*

Our model's image:

(Xc2, Yc2): Coordinates of the mid-point of the eyes of our image
(Nx, Ny): Normalized coordinates of (x, y)
D2: Distance between the eye level and the mouth level of our image, in pixel
W2: width of the image, in pixel (not used in the calculation)
H2: height of the image, in pixel (not used in the calculation)

**note: the value of D2 is the same across our face images*

Thus, the **general formulas** for normalizing your fixations are:

$$Nx = Xc2 + (x - Xc1) * (D2 / D1)$$
$$Ny = Yc2 + (y - Yc1) * (D2 / D1)$$

Models generated from the 34YA + 34OA study

As for the models of the 34YA + 34OA study, the image we used is of:
(Xc2, Yc2) = (160, 195)
D2 = 285-195 =90

Thus, you can normalize your fixations by

$$Nx = 160 + (x - Xc1) * (90 / D1)$$
$$Ny = 195 + (y – Yc1) * (90 / D1)$$

For **example**, your image is of:
(Xc1, Yc1) = (200, 260)
D2 = 380-260 =120
One fixation that you collected = (x, y) = (180, 300)

The normalized coordinates of this fixation =

$$Nx = 160 + (180 - 200) * (90 / 120) = 145$$
$$Ny = 195 + (300 – 260) * (90 / 120) = 225$$

I.e., a fixation (180, 300) on your image is normalized/transformed to (145, 225) on our image.