

Instructions for Labeling Image

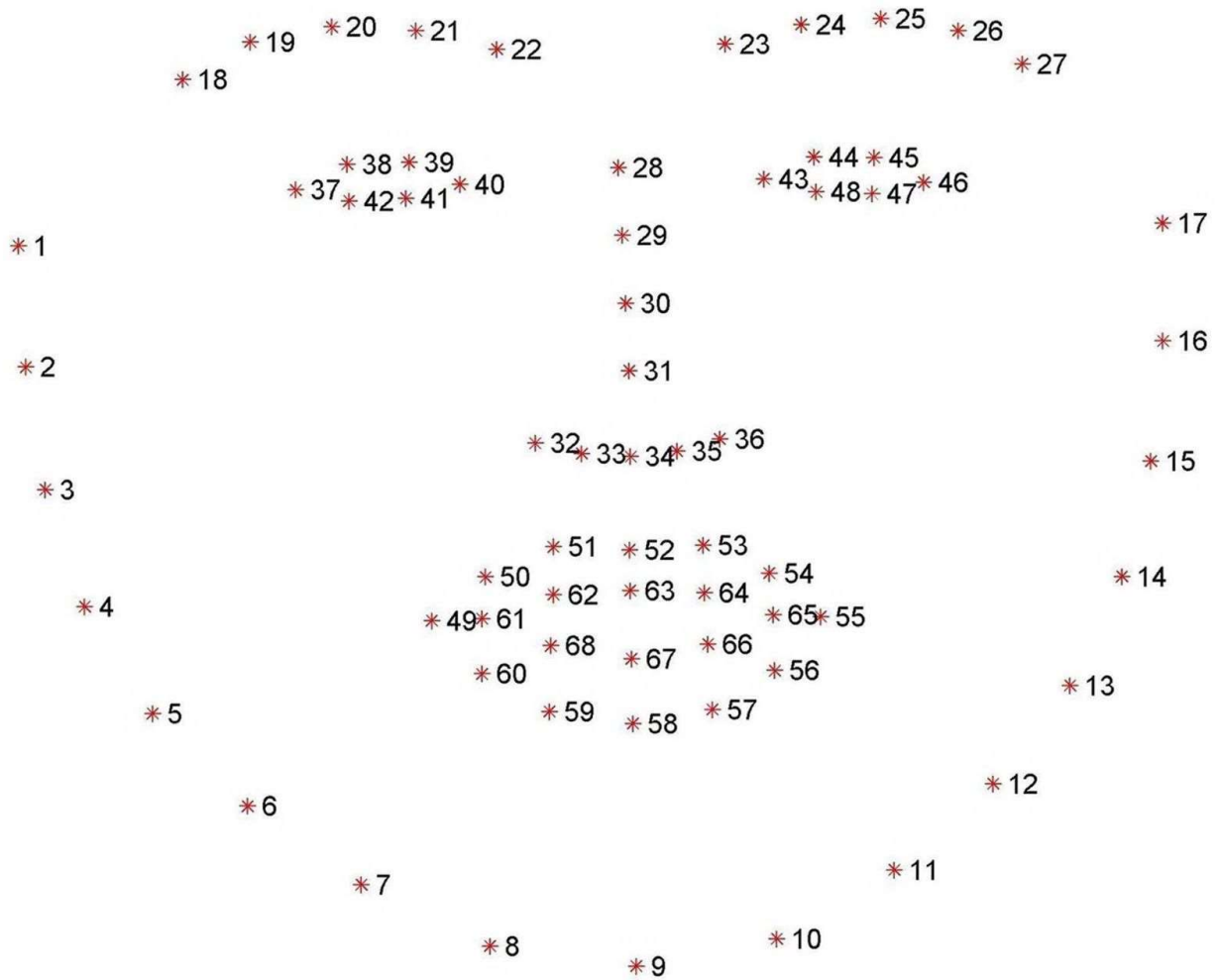
Bounding Boxes: Two bounding boxes need to be drawn.

- The **full** bounding box has to include the entire face (Hair, ears, below chin).
- The **tight** bounding box has to includes (middle of the forehead, ears, tip of the chin)



Fiducial Point Labeling (80 Points)

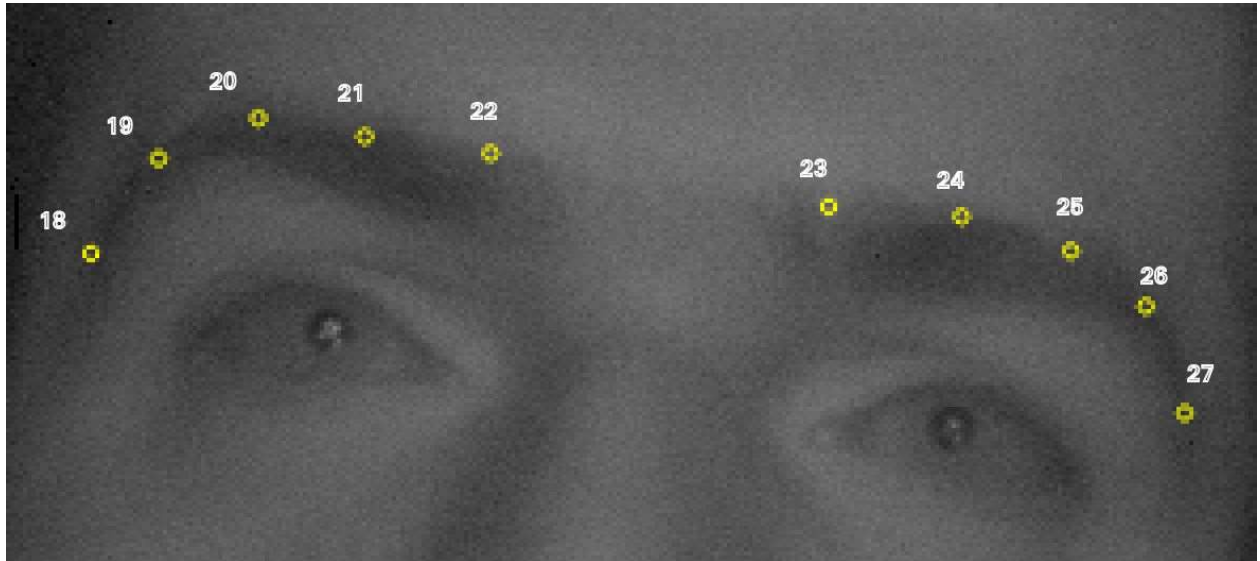
ALL POINTS MUST BE LABELED SEQUENTIALLY. PLEASE DON'T SKIP THE ORDER.



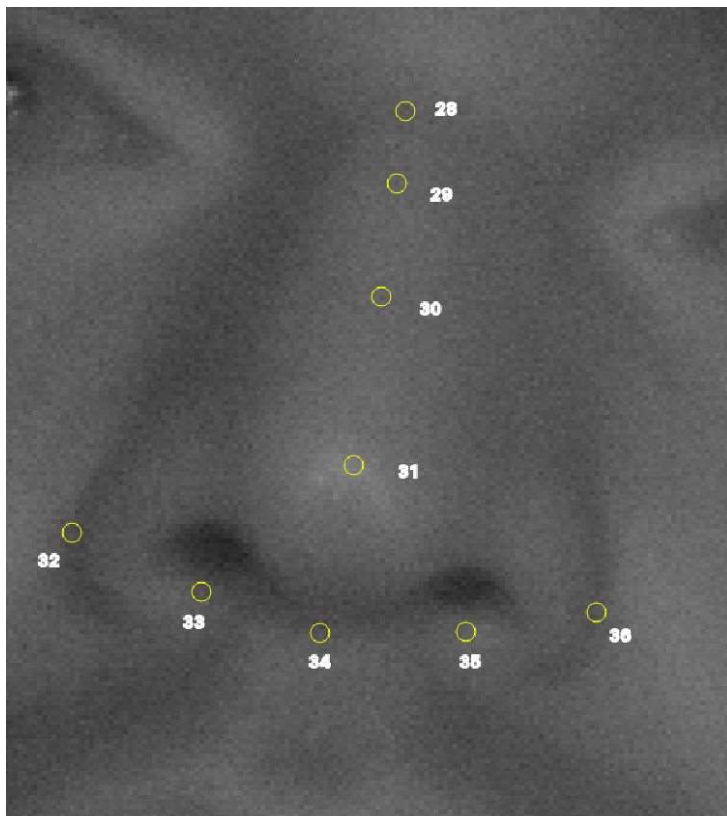
Chin: 1-17



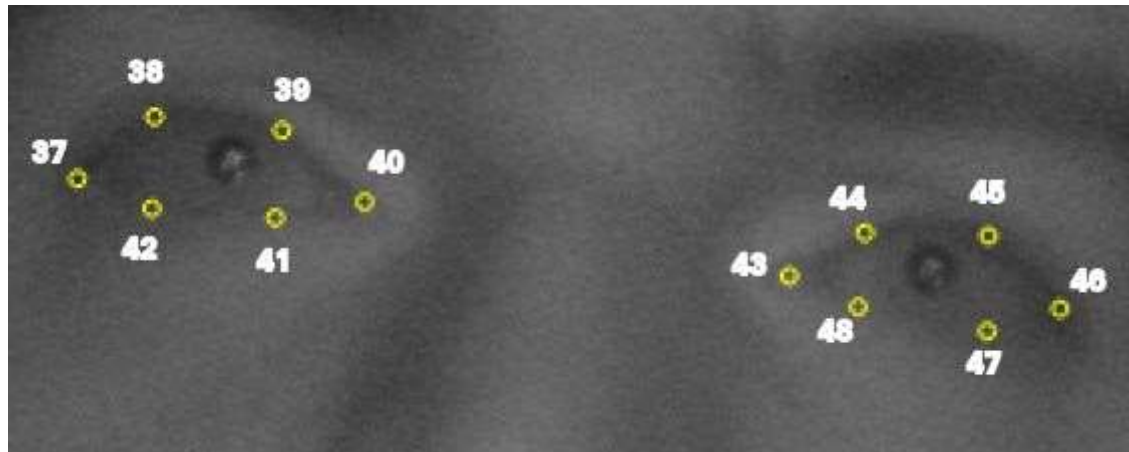
Eyebrows: 18-27



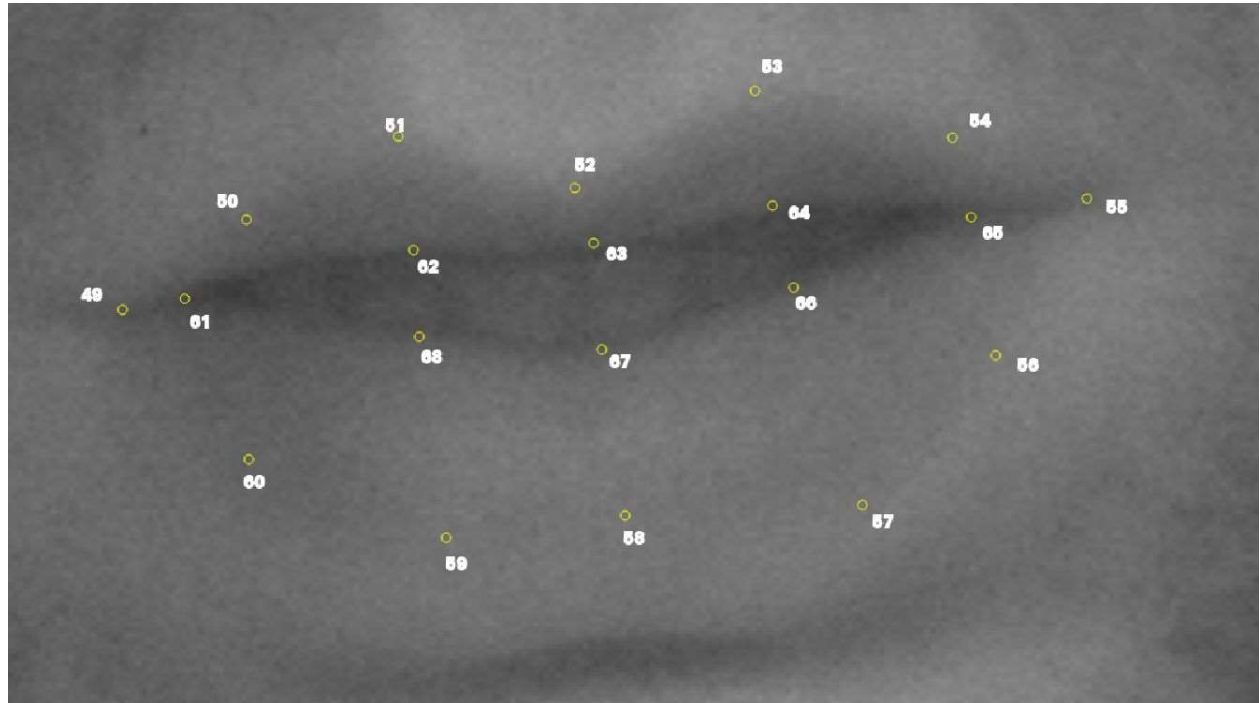
Nose: 28-36



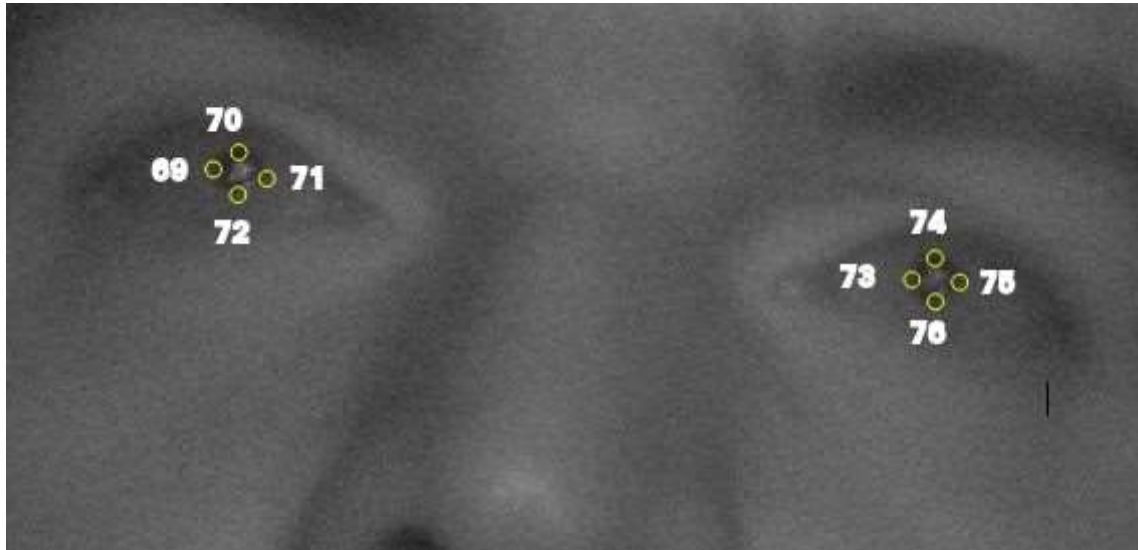
Eyes: 37-48



Mouth: 49-61



Pupil: 69-76

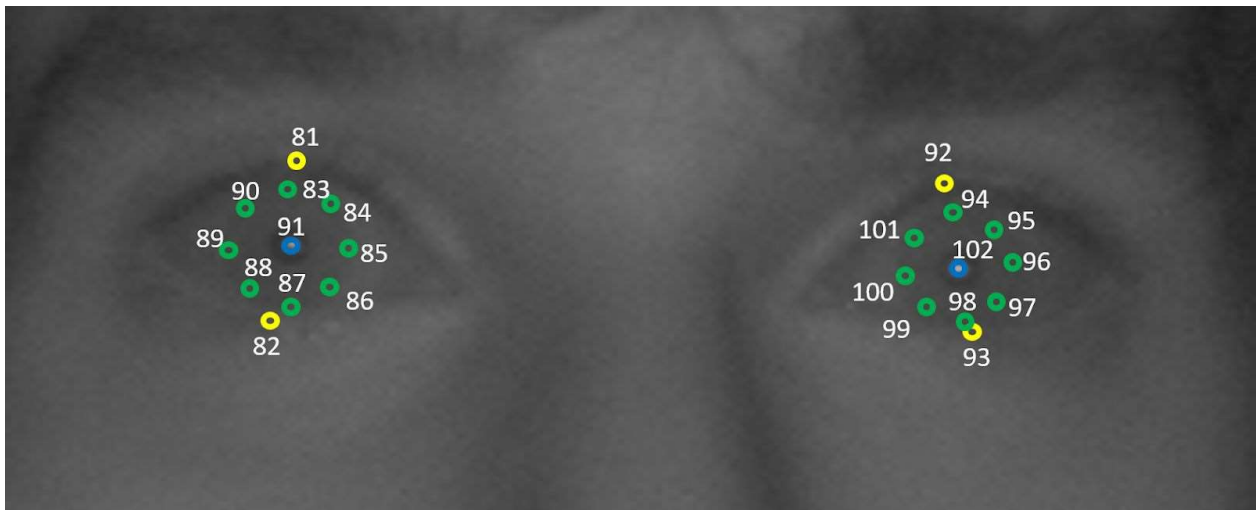
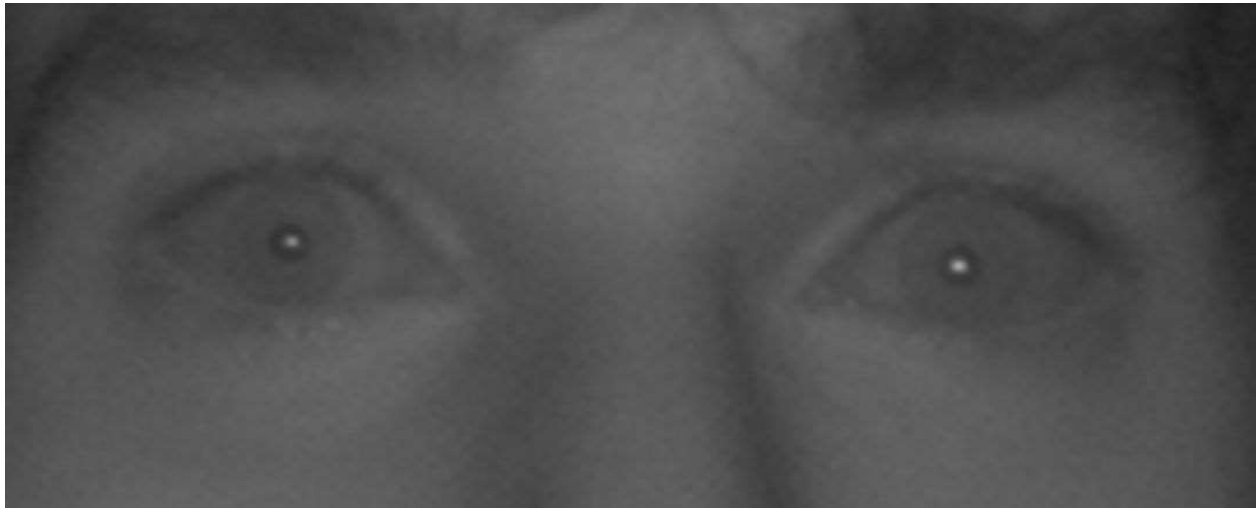


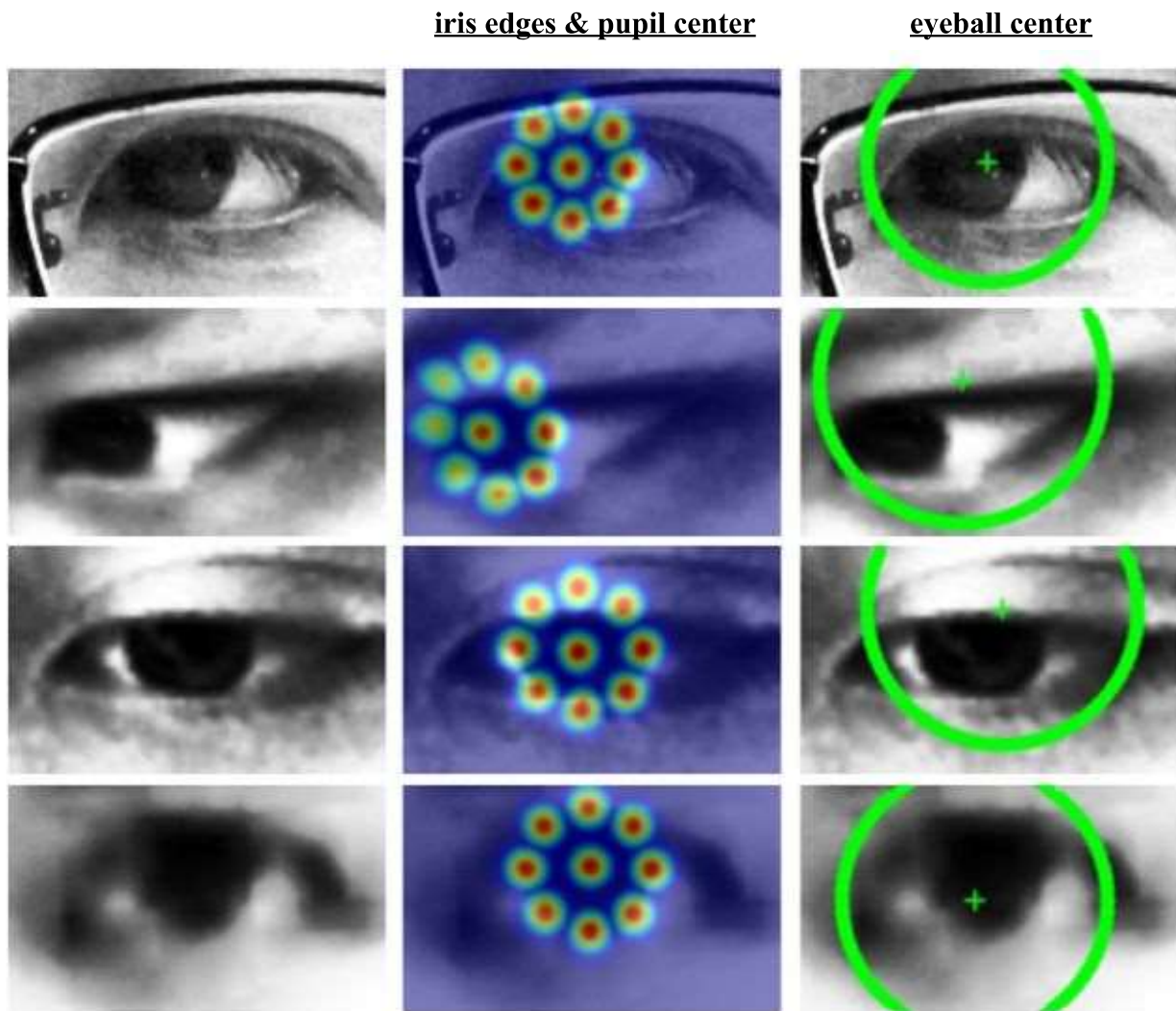
Ears: 77-80



Additional eye landmarks: 81-103

- Eyelid top: 81, 92
- Eyelid bottom: 82, 93
- Iris edges: [83-90], [94-101]
- Pupil/iris center: 91, 102
- Eyeball center: 103 (left), 104 (right)

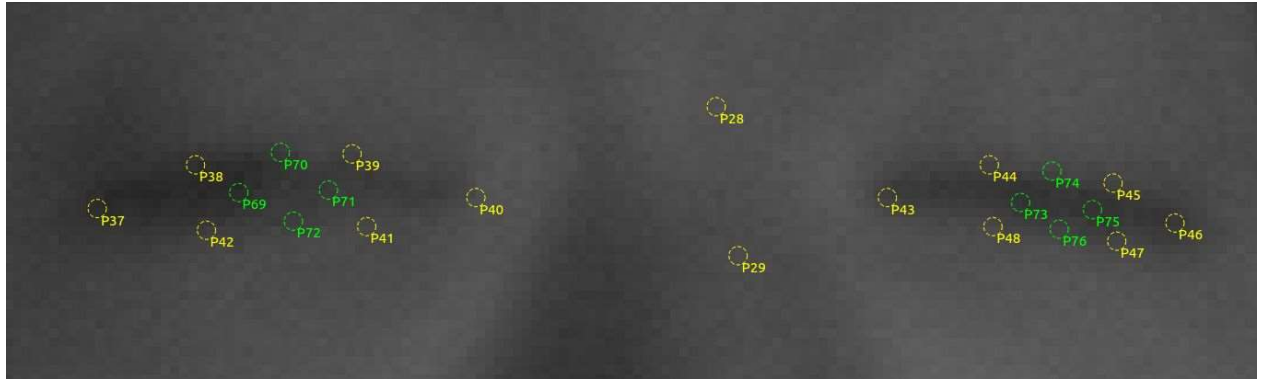




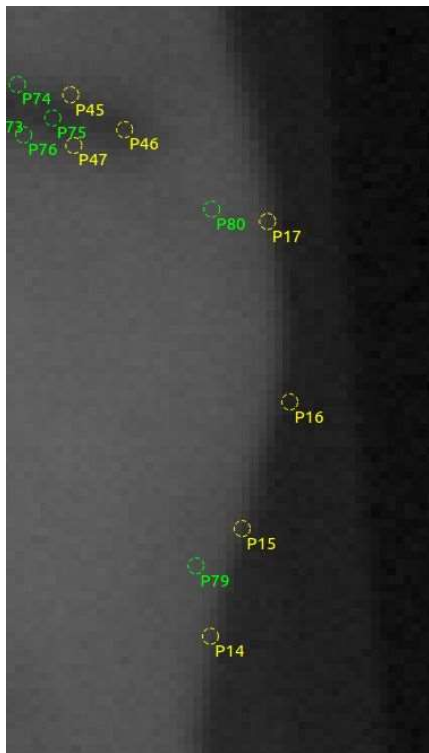
Invisible Points Labeling:

Points that are not visible in the frame need to be accounted for. When a point is not visible in the frame, right mouse click in the general area of where the point should be. This will create a green point indicating that it is invisible.

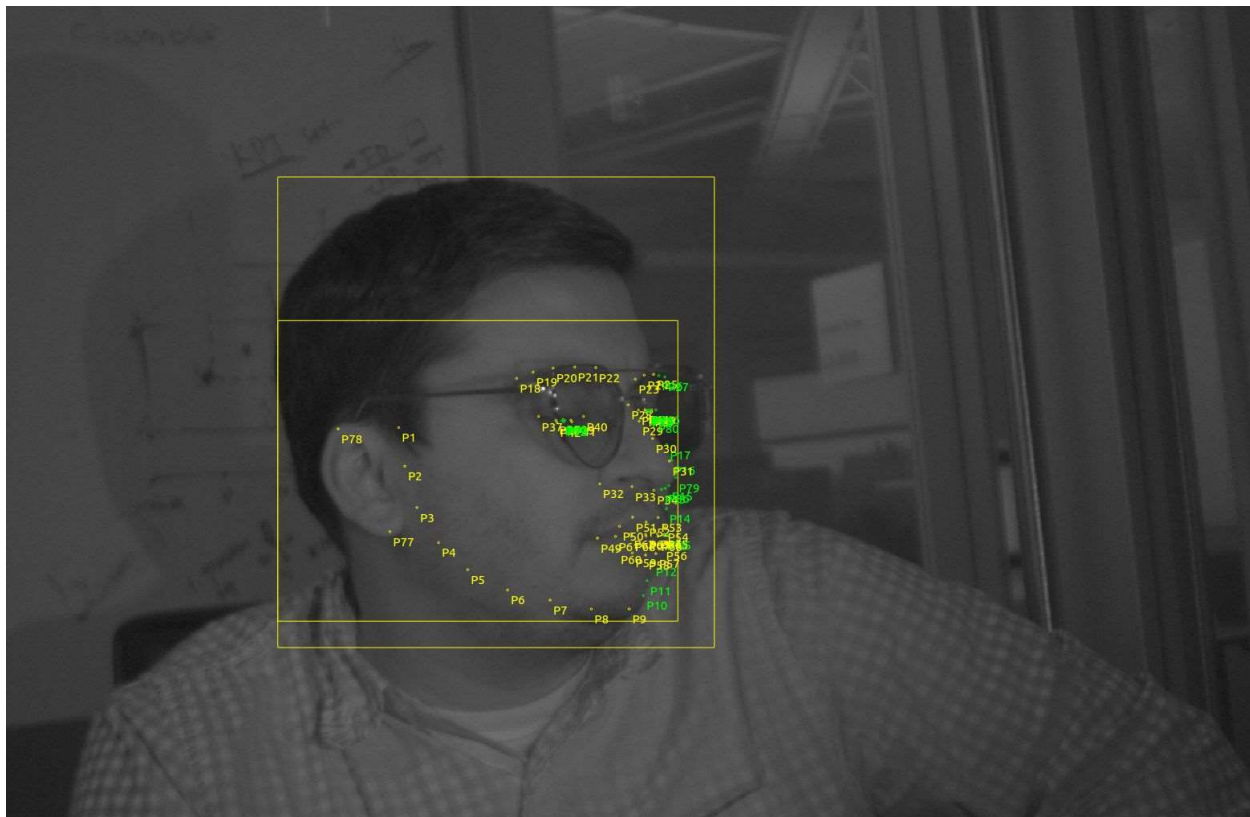
Although the eyes are closed you can approximate the location of the pupils



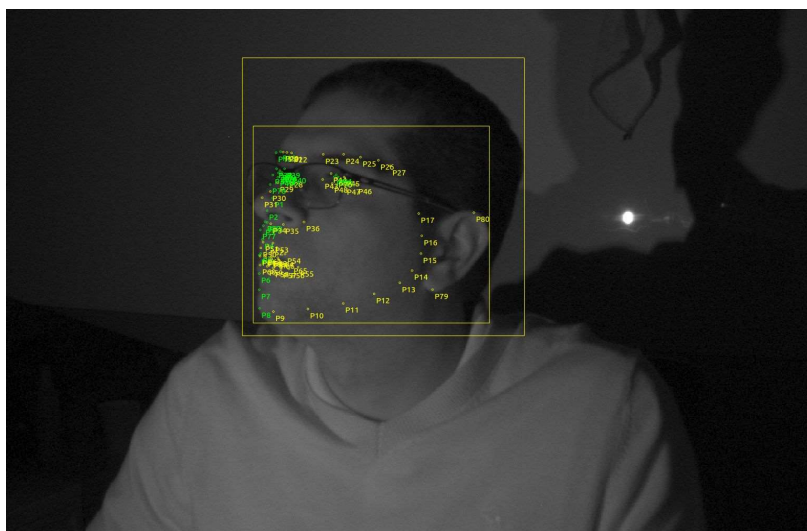
The top and bottom of the ear aren't visible but you can approximate the location of the ear through the face.



If half of the face is missing, mark invisible points through the face in the general area where the points would be.



Another example of marking point through the face when the points aren't visible.

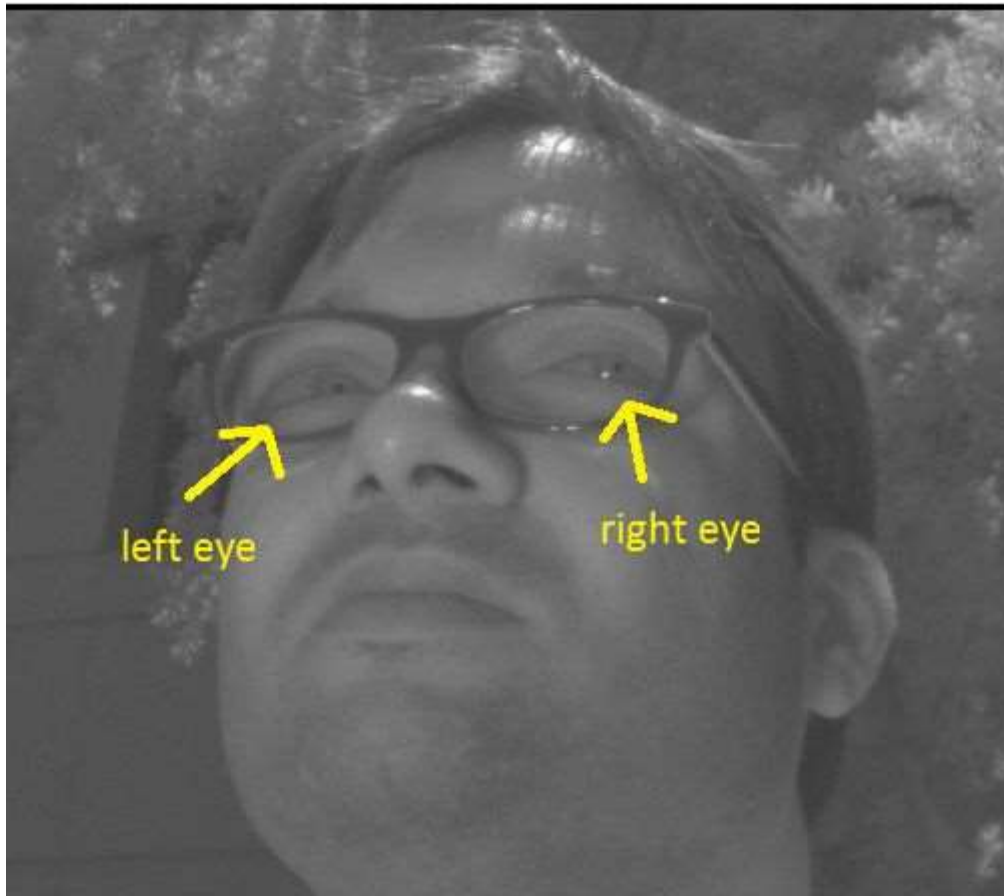


Eye Open-Close Labeling:

After labeling each image with bounding boxes and fiducial points you have to label the left and right eye as **(Eye Open)**, **(Eye Close)**, **(Half Open)**, or **(Occluded)**. To do this:

1. Select “Eyes” on the label menu
2. Select **(one)** dot somewhere on the left eye(from the viewer's perspective: this is in fact the right eye of the subject-please see image below). If the eye is occluded select a point on the top left of the image.
3. Enter Eye Status for left eye: 1: Eye Open, 2:Eye Half Open, 3: Eye Closed, 4: Occluded.
4. Select **(one)** dot somewhere on the right eye (from the viewer's perspective: this is in fact the left eye of the subject-please see image below). If the eye is occluded select a point on the top right of the image.
5. Enter Eye Status for right eye: 1: Eye Open, 2:Eye Half Open, 3: Eye Closed, 4: Occluded

Sample Image:



After labelling:

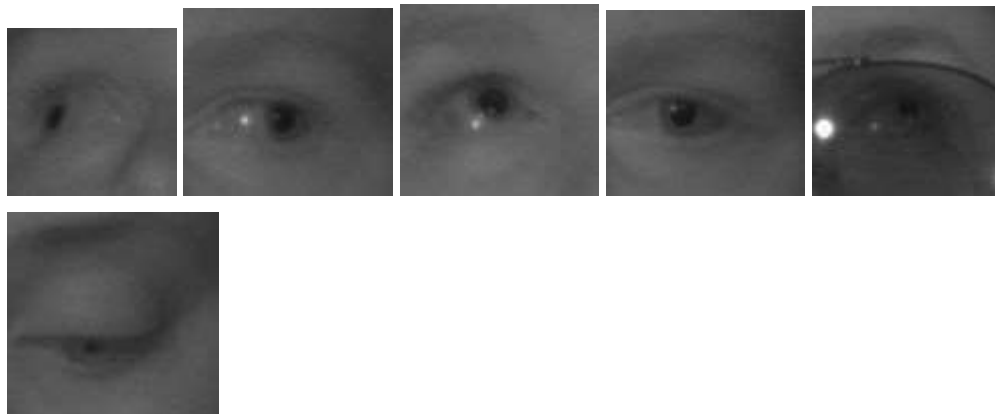


Description of 4 Eye Status

1. Eye Open:

Eye is fully open (can easily see pupil and more than 50% of the iris):

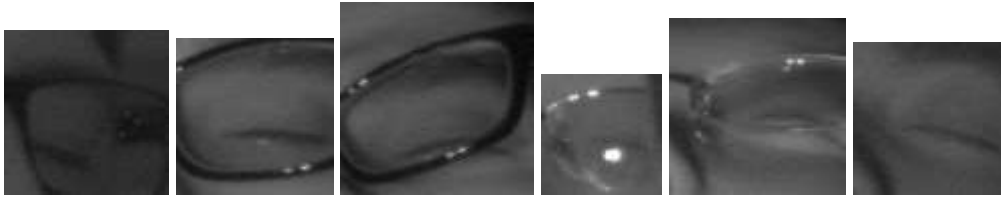
Example:



2. Eye Closed:

Eye is fully closed

Example:



3. Half Open:

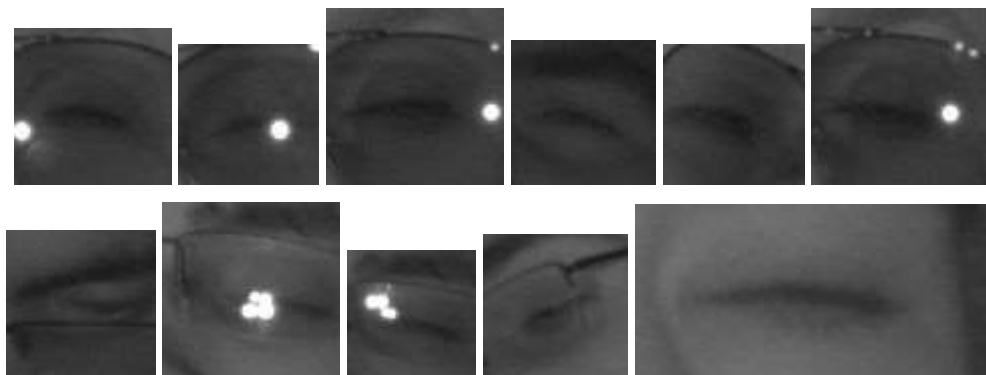
Any (non-occluded) eye which is not fully open or fully close should be labelled as half-open.

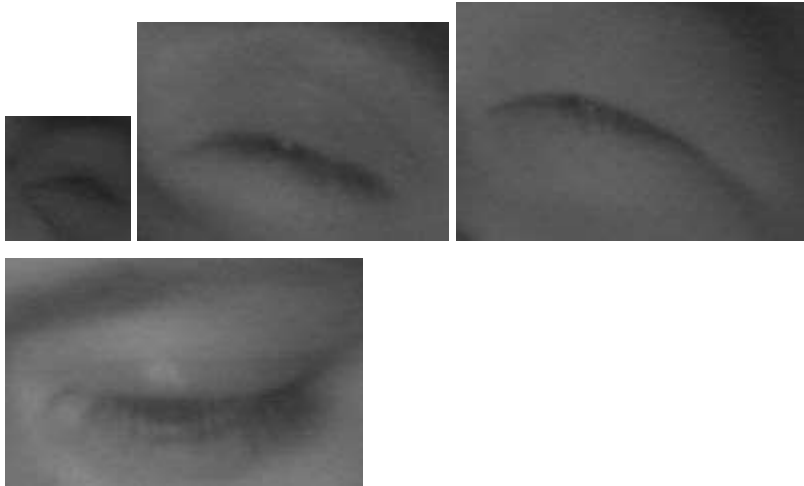
Examples:

- i. Open but we cannot see the eyeball clearly:



- ii. **In many cases the eye is barely open. These need to be marked a half-open. If an eye looks closed please zoom into the eye and look for any gap between the eyelids:**



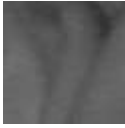


4. **Eye Occluded:**

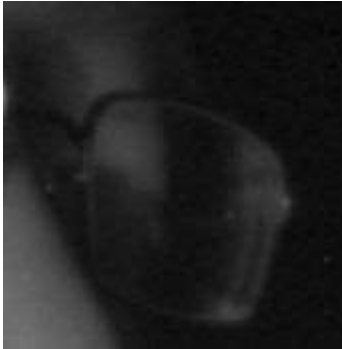
We cannot see the eyes

Examples:

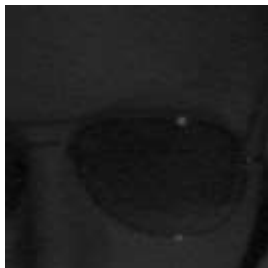
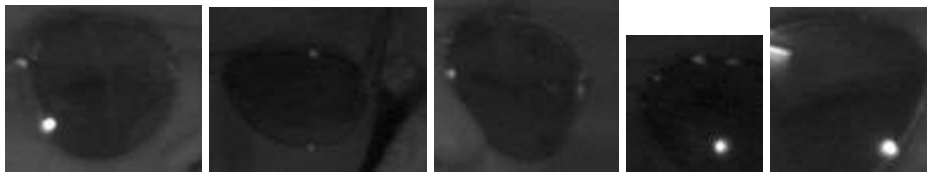
1. Eyes covered by hand:



2. Eyes are too small and thus we can not see the eyes:

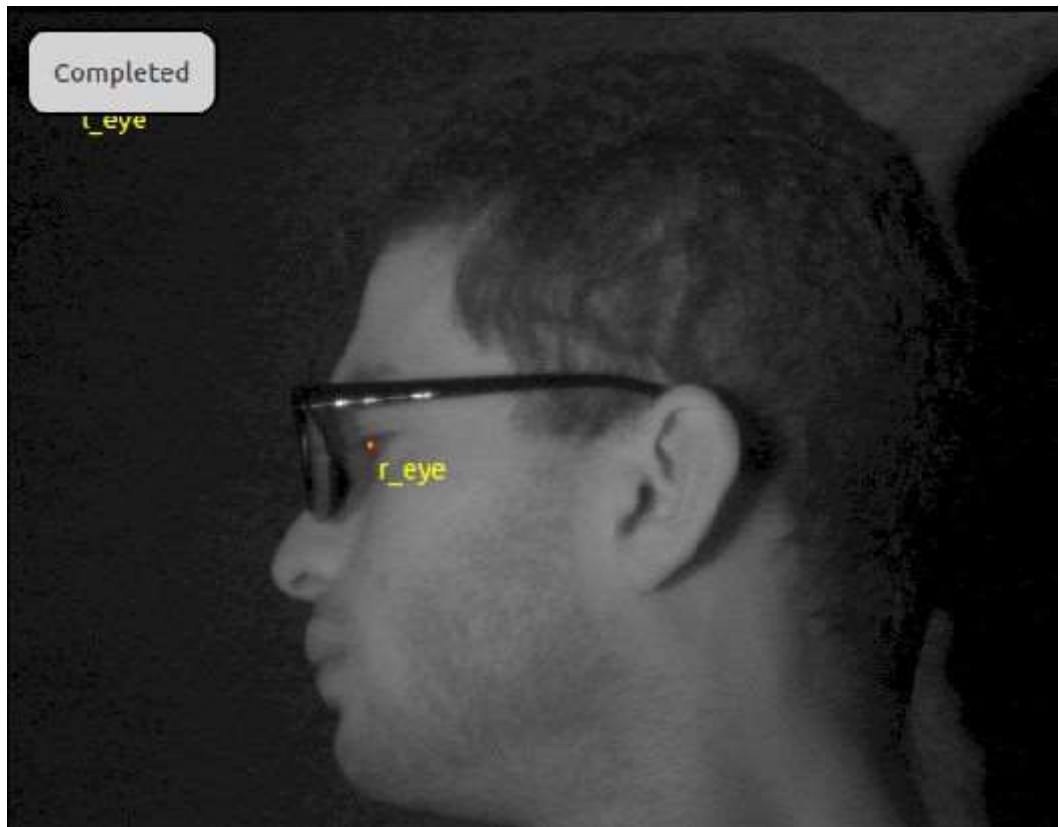


3. Eyes are not visible because user is wearing IR blocking sunglasses:



4. User's headpose is very extreme and we cannot see the eye. Please be careful in labelling of left and right eye

- a. Left eye is occluded (selected dot is in top left of the image)



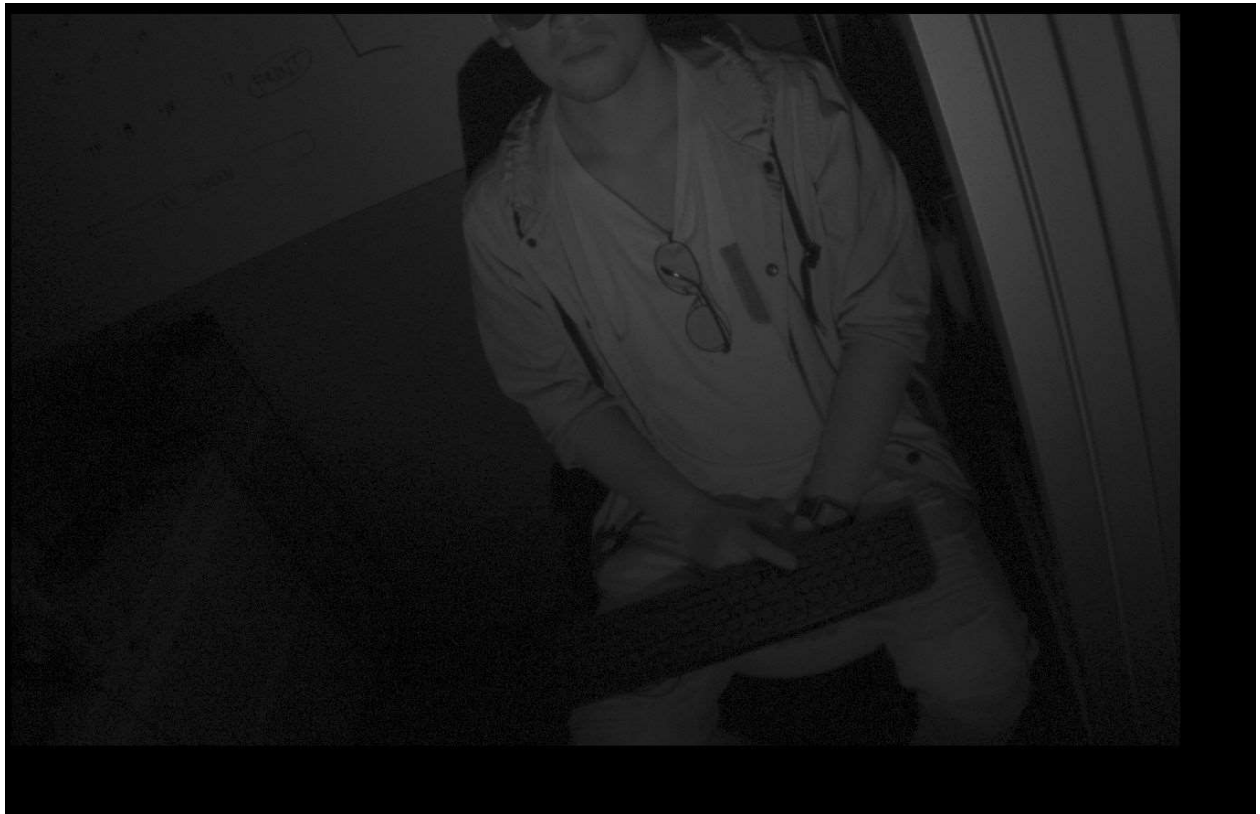
- b. Right eye is occluded (selected dot is in top right of the image)



Invalid Frames:

If the face isn't fully visible or a data collection error is present, label the frame as "invalid" and move on to the next frame.

The subject's face is cut off rendering it "invalid".



Half the face is cut off rendering it “invalid”.



A data collection issue is present which displays two faces that are cut off. This frame needs to be labeled as “invalid”.

