

# ACTIVITY SHEET



## SESSION 21 Basic Face Filter

To track the face and put the face filter on top of it.

This activity sheet belongs to \_\_\_\_\_

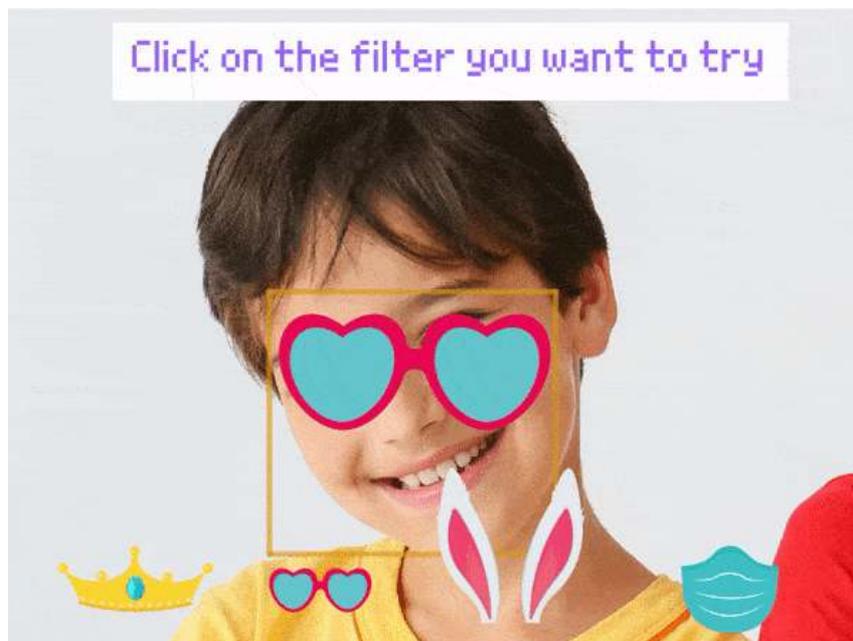
### MATERIALS REQUIRED

- Computer/Laptop/Tab with **PictoBlox** installed
- Quarky

### STEP-BY-STEP

Follow the steps below:

To track the face and put the face filter on top of it.



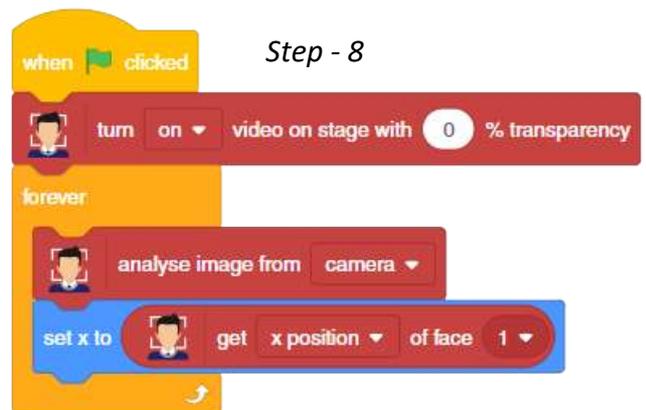
1. Open the saved file with name Face Filter in Pictoblox and continue from there.
2. Select the First face filter sprite.
3. As we want to execute the program every time the green flag is clicked, thus place the **when flag clicked** hat block into the scripting area.
4. To turn on the camera whenever we start the script, select the **turn on video on stage with 0% transparency** block from the *Face Detection* palette and select **ON** from the first drop-down.
5. Now get a **forever** block from **Controls** palate.

6. Drag and drop an **analyse image from stage** block inside the forever block to continuously analyse the image from the camera and apply the filter accordingly.
7. Next, we need to detect the location where the face filter should be applied, thus add a **set x to ()** block from the *Motion* palette.
8. Add the **get () of face ()** block from the *Face Detection* palette in the parameter and choose **x position** from the first drop-down.
9. Repeat for Y position.
10. Now to make the filter of the size of the face, drag and drop set **size to %** block from the **Looks** palette.
11. Place the **get () of face ()** block from **Face Detection** palette, inside the set size to block and choose the **width** from the first drop-down and **1** from the second.

### SAVING THE PROGRAM

Save the file by clicking on the Save button in Pictoblox.

*Note: Don't click on Save As button. It will create a new file and then save changes in it.*



# ACTIVITY SHEET



## SESSION 21

### Making Face Filter Tilt

To track the face and put the face filter on top of it and make them tilt according to the face.

This activity sheet belongs to \_\_\_\_\_

## MATERIALS REQUIRED

- Computer/Laptop/Tab with **PictoBlox** installed
- Quarky

## STEP-BY-STEP

Follow the steps below:

*As you try out the filters, you would have noticed that filters don't tilt if you tilt your head. In order to make it tilt, we will need to do a few modifications to the main script.*



1. Open the saved file with name Face Filter in Pictoblox and continue from there.
2. To find the tilt angle of your head we will use the slope of a line that joins your eyes.
3. We will find a difference in the **X-position** and **Y-position** of left and right eyes and store variables **dX** and **dY**. Now the slope is equal to **dX/dY**.
4. To find the angle we will apply a **Tan inverse function** to it.
5. If the angle is positive we will directly make the filter point in direction of the angle.
6. And if it is negative we will add 180 to it to get the angle.

Code

```

when green flag clicked
  turn on video on stage with 0 % transparency
  forever
    analyse image from camera
    set x to get x position of face 1
    set y to get y position of face 1
    set size to get width of face 1 %
    set dX to get x position of left eye of face 1 - get x position of right eye of face 1
    set dY to get y position of left eye of face 1 - get y position of right eye of face 1
    set Angle to atan of dX / dY
    if Angle > 0 then
      point in direction Angle
    else
      point in direction Angle + 180
  
```

### SAVING THE PROGRAM

Save the file by clicking on the Save button in Pictoblox.

*Note: Don't click on Save As button. It will create a new file and then save changes in it.*