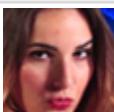

Instead of random emoji's ... Let's match their facial expressions (different image)

In[⁶]:= **image3**



FacialFeatures (Versions 11.3 and up) may take a while to load, especially if not evaluated at the beginning in initialization

```
In[6]:= FacialFeatures[image3] // Dataset
```

Image	Age	Gender	Emotion
	26	Male	anger
	24	Female	neutral
	31	Female	neutral
<i>Out[6]=</i>			
	44	Male	Indeterminate
	24	Female	neutral
	28	Male	surprise

FacialFeatures will return the predicted emotions of the faces as entities.

```
In[7]:= emotions = FacialFeatures[image3, {"Emotion"}]
```

```
Out[7]= {⟨| Emotion → anger |⟩, ⟨| Emotion → neutral |⟩, ⟨| Emotion → neutral |⟩,
⟨| Emotion → Indeterminate |⟩, ⟨| Emotion → neutral |⟩, ⟨| Emotion → surprise |⟩}
```

```
In[8]:= emotions[[1]]
```

```
Out[8]= ⟨| Emotion → anger |⟩
```

```
In[9]:= emotions[[1]][[1]]
```

```
Out[9]= anger
```

```
In[10]:= #[[1]] & /@ emotions
```

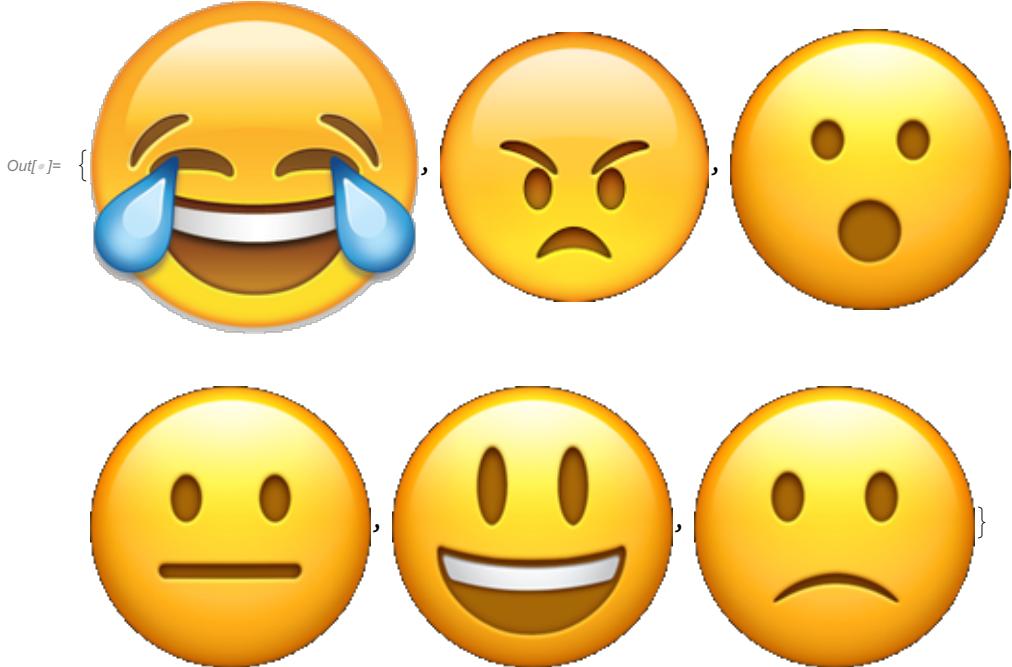
```
Out[10]= {anger, neutral, neutral, Indeterminate, neutral, surprise}
```

```
In[11]:= emotionsWords = #[[1]] & /@ emotions
```

```
Out[11]= {anger, neutral, neutral, Indeterminate, neutral, surprise}
```

Instead of RandomChoice[emojis] let's create a function with Switch that takes in the emotion and returns the matching emoji.

In[1]:= emojis



In[2]:= Switch[2,
 1, "a",
 2, "b",
 3, "c"]

Out[2]= b

In[3]:= match[emotion_] := Switch[emotion,
 Indeterminate, emojis[[4]],
 Entity["Word", "anger"], emojis[[2]],
 Entity["Word", "surprise"], emojis[[3]],
 Entity["Word", "neutral"], emojis[[4]],
 Entity["Word", "happiness"], emojis[[5]],
 Entity["Word", "sadness"], emojis[[6]]
]

In[4]:= emotionsWords[[6]]

Out[4]= surprise

```
In[6]:= match[emotionsWords[[6]]]
```



Final Product 2 - Emotion-Matching Emoji's

All that was changed was instead of RandomChoice for picking emoji's, we used a match function that matches emotions to corresponding emoji's.

```
In[6]:= boxes = FindFaces[image3]; (* can replace image w/ different one *)
widths = #[[2]][[1]] - #[[1]][[1]] & /@ boxes;
vertices = #[[1]] & /@ boxes;
imageFinal = image3;(* can replace image w/ different one *)
Table[imageFinal =
  ImageCompose[imageFinal, ImageResize[match[emotionsWords[[n]]], widths[[n]]],
  vertices[[n]], {0, 0}], {n, 1, Length[boxes], 1}]
ImageCollage[{image3, imageFinal}](* can replace image w/ different one *)
```



Combined Code

```
(* emojis set up *)
tearsofjoy2 = ImageTake[tearsofjoy, {1, 200}, {1, 200}];
pouting2 = ImageTake[pouting, {1, 160}, {1, 160}];
emojis = {tearsofjoy2, pouting2, surprised, neutral, smiling, frowning};
emojis = ImageCrop /@ emojis;
emojis = RemoveBackground /@ emojis;
(* findFaces set up *)
boxes = FindFaces[image3];(* can replace image w/ different one *)
widths = #[[2]][[1]] - #[[1]][[1]] & /@ boxes;
vertices = #[[1]] & /@ boxes;
(* facialFeatures set up *)
emotions = FacialFeatures[image3, {"Emotion"}];
(* can replace image w/ different one *)
emotionsWords = #[[1]] & /@ emotions;
match[emotion_] := Switch[emotion,
  Indeterminate, emojis[[4]],
  Entity["Word", "anger"], emojis[[2]],
  Entity["Word", "surprise"], emojis[[3]],
  Entity["Word", "neutral"], emojis[[4]],
  Entity["Word", "happiness"], emojis[[5]],
  Entity["Word", "sadness"], emojis[[6]]
]
imageFinal = image3;(* can replace image w/ different one *)
Table[imageFinal =
  ImageCompose[imageFinal, ImageResize[match[emotionsWords[[n]]], widths[[n]]],
  vertices[[n]], {0, 0}], {n, 1, Length[boxes], 1}]
ImageCollage[{image3, imageFinal}](* can replace image w/ different one *)
```