# Protocol for creating the emotion recognition database based on CK+

## Type of subject

- 20-30 subjects should be fine
- Different ethnocity
- Different ages, from 18 to 60
- Different visage shapes
- Include people with glasses, lenses, beard or jewelry

## What type of recording

For each expression asked to the subject, we would start the recording at neutral state, pass the apex state and end at a neutral state.

Records blendshapes value at 30Hz.

## First recording - 16 single AU

At first, subject should reproduce each one of the 16 AUs from the table below.

To describe the expression to the subject we can use this website : https://imotions.com/blog/facial-action-coding-system/

| AUs | AUs Definition | corresponding Blend shapes | Blendshapes definitions | Comments |
|---|---|---|---|---|
| AU 1 | Inner Brow Raiser | Eye_Left_Up and Eye_Right_Up | Influences the muscles around the eye, moving these muscles further upward with a higher value. | / |
| AU 2 | Outer Brow Raiser | Eye_Right_Left or Eye_Left_Left | influences the muscles around the left eye, moving these muscles further lef/rightward with a higher value. | / |
| AU 4 | Brow Lowerer | Eye_Left_Down and Eye_Right_Down | influences the muscles around the left eye, moving these muscles further downward with a higher value. | / |
| AU 5 | Upper Lid Raiser | Eye_Left_Wide and Eye_Right_Wide | open avatar's right eye wide, it should be done when Eye_Blink_Right = 0. | / |
| AU 6 | Cheek Raiser | / | / | / |
| AU 7 | Lid Tightener | Eye_Left_Blink and Eye_Right_Blink | influences blinking of the left eye, closing it further with a higher value. | determine value (not 100%) |
| AU 9 | Nose Wrinkler | / | / | showed by AU10 |
| AU 10 | Upper Lip Raiser | Mouth_UpperRight_Up + Mouth_UpperLeft_Up | Lowers the left/right upper lip further with a higher value. | / |
| AU 12 | Lip Corner Puller | Mouth_Smile_Right and Mouth_Smile_Left | raises the left/right side of the mouth further with a higher value. | / |
| AU 14 | Dimpler | / | / | / |
| AU 15 | Lip Corner Depressor | Mouth_Sad_Right and Mouth_Sad_Left | lowers the left/right side of the mouth further with a higher value. | / |
| AU 16 | Lower Lip Depressor | Mouth_Lower_DownRight and Mouth_Lower_DownLeft | lowers the left/right lower lip further with a higher value. | / |
| AU 17 | Chin Raiser | Mouth_Lower_Overlay | stretches the lower lip further and lays it on the upper lip further with a higher value. | not really accurate |
| AU 20 | Lip stretcher | / | / | / |
| AU 23 | Lip Tightener | Mouth_Pout | allows the lips to pout more with a higher value. | not really accurate |
| AU 26 | Jaw Drop | Jaw_Open | opens the mouth further with the higher value. | determine value (not 100%) |

# Second recording - Combination of AU

For the second part of the recording, the subject should express a combination of selected AUs that are representing the 6 basic emotions : Happiness, Sadness, Anger, Fear, Disgust and Surprise.

## Recording sample

One sample should have the following parameters :

| Subject number | Session number | Frame number | AU asked | Emotion asked | Blendshapes ... |
| --- | --- | --- | --- | --- | --- |