Avance 2: Adquisición de Datos

Nerio Morán

Universidad de Los Andes
Sistemas Computacionales.

29 de Enero,2018

INGENIERÍA | DEPARTAMENTO
UNIVERSIDAD DE LOS ANDES | DE COMPUTACIÓN
MÉRIDA VENEZUELA | ESCUELA DE SISTEMAS

Datos y muestreo.

Características del audio

- **Rate**: 44100 Hz.
- **Format**: 8.
- **Chunk**: 2048.
- **Channels** : 2.
- **Sample Width**: 2 bytes.
- **Number of frames**: 88064.

Protocolo de adquisición de datos

The eNTERFACE'05 Audio-Visual Emotion Database

- Es una base de datos audio-visual.
- Fue hecha para suplir la necesidad de establecer una base de datos común para comparar los puntajes de las distintas técnicas de reconocimiento.
- La versión final de la base de datos fue realizada con 42 participantes, provenientes de 14 nacionalidades distintas.
- Las grabaciones duraron 2 semanas.
- Se les pidió a los participantes expresar cada una de las siguientes emociones (Paul Ekman):
    - Felicidad.
    - Tristeza.
    - Sorpresa.
    - Ira.
    - Disgusto.
    - Miedo.

Protocolo

1. A el sujeto se le pide escuchar atentamente una historia breve para imaginarse en la situación.
2. Una vez el sujeto esta listo, debe leer, pronunciar y memorizar 5 declaraciones propuestas que se corresponden con la situación.
3. Se le pide al sujeto ser tan expresivo como se pueda.
4. Produciendo el mensaje con solo la emoción que necesita ser mostrada.
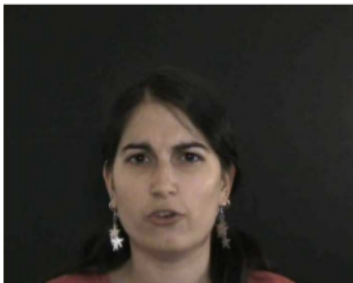5. Si el resultado es satisfactorio se continua con la siguiente emoción, sino se repite.

Figure 2. A subject depicting the expression of "anger"

Figure: Ira

Situation to elicit "anger"

"You are in a foreign city. A city that contains only one bank, which is open today until 4pm. You need to get 200$ from the bank, in order to buy a flight ticket to go home. You absolutely need your money today. There is no ATM cash machine and you don't know anyone else in the city. You arrive at the bank at 3pm and see a big queue. After 45 minutes of queuing, when you finally arrive at the counter, the employee tells you to come back the day after because he wants to have a coffee before leaving the bank. You tell him that you need the money today and that the bank should be open for 15 more minutes, but he is just repeating that he does not care about anything else than his coffee…"

Reactions
R1: What??? No, no, no, listen! I need this money!
R2: I don't care about your coffee! Please serve me!
R3: I can have you fired you know!
R4: Is your coffee more important than my money?
R5: You're getting paid to work, not drink coffee!

Table 2. Situation and reactions to elicit "anger"

Figure: Contexto

Figure 4. A subject depicting the expression of "fear"

Figure: Miedo

Situation to elicit "fear"

"You are alone in your bedroom at night, in your bed. You cannot sleep because you are nervous. Your bedroom is located on the second floor of your house. You are the only person living there. Suddenly, you start hearing some noise downstairs. You go on listening and realize that there is definitely someone in the house, probably a thief…or maybe even a murderer! He's now climbing up the stairs, you are really scared."

Reactions

R1: Oh my god, there is someone in the house!
R2: Someone is climbing up the stairs
R3: Please don't kill me…
R4: I'm not alone! Go away!
R5: I have nothing to give you! Please don't hurt me!

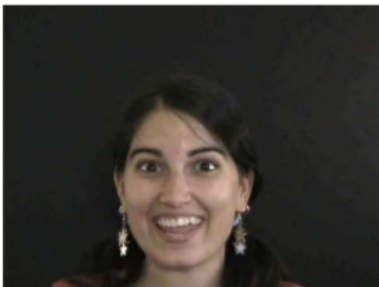Table 4. Situation and reactions to elicit "fear"

Figure: Contexto

Figure 5. A subject depicting the expression of "happiness"

Figure: Felicidad

Situation to elicit "happiness"
"You learned this morning that you won the big prize of 5.000.000€ at the lottery! You're in a very happy mood of course, because you realize that some of your dreams will now become true! After the surprise to learn that you have won, comes the happy state of mind when you start dreaming about your new projects. You are in a restaurant, inviting your friends for a good meal, and telling them how happy you feel."
Reactions
R1: That's great, I'm rich now!!!
R2: I won: this is great! I'm so happy!!
R3: Wahoo... This is so great.
R4: I'm so lucky!
R5: I'm so excited!

Table 5. Situation and reactions to elicit "happiness"
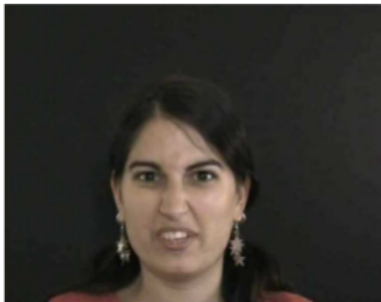
Figure: Contexto

s

Figure 3. A subject depicting the expression of "disgust"

Figure: Disgusto

Situation to elicit "disgust"

"You are in a restaurant. You are already a bit sick and the restaurant looks quite dirty, but it is the only restaurant in the village, so you don't really have the choice… When you finally receive your plate, which is a sort of noodle soup, you take your spoon, ready to eat. Although you are very hungry, the soup does not taste very good. It seems that it is not very fresh…Suddenly you see a huge cockroach swimming in your plate! You're first surprised and you jump back out of your chair. Then, you look again at your plate, really disgusted. "

Reactions
R1: That's horrible! I'll never eat noodles again.
R2: Something is moving inside my plate
R3: Aaaaah a cockroach!!!
R4: Eeeek, this is disgusting!!!
R5: That's gross!

Table 3. Situation and reactions to elicit "disgust"

Figure: Contexto

Figure 6. A subject depicting the expression of "sadness"

Figure: Tristeza

Situation to elicit "sadness"

"You just came back from an exhausting day at work. You are in a neutral state of mind when suddenly the telephone rings. You take the phone call and realize that it is your boy (girl) friend. He (she) announces you that he (she) doesn't want to go on the relationship with you. You first don't believe it, but after a while you start realizing what just happened. When you think about all the good moments you spent with your boy (girl) friend, and associate these memories with the fact that the relationship just finished, you start feeling really sad"

Reactions
R1: Life won't be the same now
R2: Oh no, tell me this is not true, please!
R3: Everything was so perfect! I just don't understand!
R4: I still loved him (her)
R5: He (she) was my life

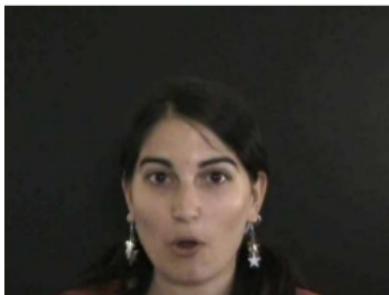Table 6. Situation and reactions to elicit "sadness"

Figure: Contexto

Figure 6. A subject depicting the expression of "surprise"

Figure: Sorpresa

Situation to elicit "surprise"
"Your best friend invites you for a drink after your day at work. You join him on the Grand Place of Mons[2], for a beer. Then, he suddenly tells you that he's actually gay! You are very surprised about it, you really didn't expect that!"

Reactions
R1: You have never told me that!
R2: I didn't expect that!
R3: Wahoo, I would never have believed this!
R4: I never saw that coming!
R5: Oh my God, that's so weird!

Table 7. Situation and reactions to elicit "surprise"

Figure: Contexto

Protocolo de recolección de datos 10%.

- Para la toma de muestras se les pidió a los participantes pensar en una situación positiva, una situación negativa y una situación neutral.
- Los audios fueron tomados con duración entre 2 y 5 segundos.
- A cada participante se le pidió leer para cada tipo de situación una tarjeta que contenía 5 sentencias del tipo especifico de emoción.

Tarjetas:

- **Emoción positiva**:
  - Por fin ! Me gradué!
  - Saque 20 en el examen!
  - Tengo carro nuevo!
  - Pase la materia!
  - Me dijo que si !!!

- **Emoción Negativa**:
  - Se fue la luz, que problema.
  - Perdí el bus, nojo.!
  - Me volvieron a robar.
  - Este gobierno no sirve.
  - Me dejo en visto.

Neutral:

- Me parece bien.
- Ahí estaré, tranquilo.
- No hay problema.
- Si tu quieres yo también.
- Eso es lo mejor, relajado.

Resultados 10%:

- Se obtuvieron aproximadamente 63 muestras. Correspondientes a 10% de las muestras total es decir 630.

- Espera obtener un resultado similar en numero a las muestras del articulo de la base de datos **eNTERFACE'05**. Aunque se eliminaran muestras que presenten ruidos o no expresen de manera correcta la emoción que se necesita tal cual como establece el protocolo de adquisición de datos.

- Los participantes fueron seleccionados al azar, registrando su nombre.

- Para capturar los datos se uso el micrófono **Logitech H760**.