

Emotion visualizer project

Let's consider the following context: In a company, meetings are audio recorded. An AI model transcribes the audio to text and characterises every sentence with an emotion (categorical or VAD).

An emotion can be represented under 2 forms: with categorical emotions like Anger, Happiness, sadness,..., with a triplet of 3 VAD numbers ranging from 0 to 4 : (Valence, Arousal, Dominance).

How can this company represent emotions associated to sentences in a meeting through a software interface ?

User requirements:

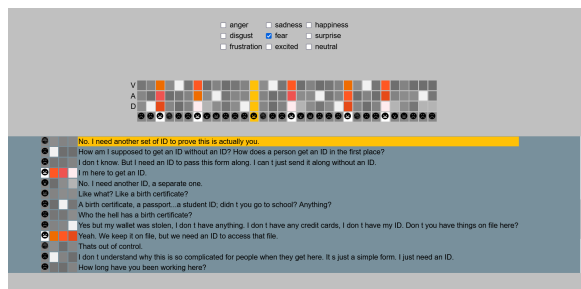
Users (managers, HR people,...) need an easy way to :

- have an overview of the emotions expressed throughout the whole meeting
- be able to visualize only the emotions they are interested in,
- read the text of the sentences where the emotions they are interested in, have been expressed.

The user interface

The interface is made of three parts which are from top to bottom :

- the "emotion filter" panel,
- the "meeting overview" panel
- the "vertical meeting" panel



The "Meeting overview" panel

This panel allows to have an overview of the meeting. Each column corresponds to a sentence of the meeting, the first column corresponding to the first sentence and the last column corresponds to the last sentence. For a given column, the highest square represents the Valence, the square below the Arousal, the square below the Dominance and the last square represents the emotion represented as an emoticon.

The values of the three VAD axis are represented thanks to a matching between a color and a numerical value taken in $\{0, 0.5, 1, 1.5, 2, 2.5, 3, 3.5, 4\}$. The value 0 corresponds to the white color, whereas the value 4 corresponds to the orange color. To visualize the value of one of the 3 axis (V, A or D), the user just has to hover the mouse over the corresponding square.

Initially, all the squares are grey. It is thanks to the emotion filter that the user can make the emotion he is interested in , pop up (the column becomes colored).

The "Emotion filter" panel

The user chooses the emotion he is interested in, by checking one or several emotions in the filter. For example, if he wants to visualize all the places in the meeting where the participants have expressed anger, he will check "Anger": all the columns whose emotion are "Anger" will go from grey to color.

The "Vertical meeting" panel

The "Meeting overview" panel allows the user to have an overview of the emotions during the meeting. However, he can not know what has been said. To read the text of the meeting , the user just has to click on the corresponding column: the text corresponding to the clicked column will be displayed in the scrollable "Vertical meeting" panel.

The interface implementation

This interface has been implemented using the standard web technologies, that is HTML, CSS, Javascript and JQuery.

Code Limitations

This interface is a proof of concept. Indeed, the data do not come from an API but have been hard coded in the code.

The code requires a refactoring. Indeed, when the user clicks on a column or when a filter is checked , the "meeting overview"and "left panel" is completely redrawn. This is not best practice, as recreating all the components is time-consuming. It would have been more astute to attribute a class .colored or .uncolored to the corresponding HTML elements. This choice has been taken because I did not have enough time to correctly implement this part of the code.