



Social Semantic Emotion Analysis for Innovative Multilingual Big Data Analytics Markets

D7.4 Communication Report Final Version

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1 Executive Summary

Companies in the US already make heavy use of emotion and sentiment technologies for fostering and improving businesses. In Europe, emotion based detection technologies and correlating business models are not yet that common and widespread. Still, the market potential for emotional data is more and more seen as a key to success to meet rising user demands and will be of major importance in the next years.

Based on its communication strategy, MixedEmotions has created high awareness in the Emotion Analysis landscape. MixedEmotions is well connected with other European projects and initiatives in the field of emotion analysis and big data, and could raise interest for emotion technologies through various conferences in Europe.

The impact of the communication activities became visible with more than 6600 visits throughout the project's runtime. More than 250 followers on the MixedEmotions Twitter account demonstrate the high interest into the project news. Additionally we are present on other social networking platforms such as Github, Docker and LinkedIn. The userlist with selected industrial contacts was extended and used to address and invite interested users for our series of webinars.

Also, the activities of other project partners including dissemination (D7.7), exploitation (D7.10) and training (D7.14) clearly show that the MixedEmotions project meets a market which is increasingly demanding for emotion technologies. Phonexia successfully demonstrates this demand by already using emotion detection components developed throughout MixedEmotions' project for some of their customers in the call center market.

Considering the high attention that MixedEmotions' communication activities gathered and the received positive feedback, it can be stated that the communication planning from Month 3 on enabled a successful and effective project communication campaign which was geared to inform stakeholders about the project, its goals and its outcomes. In a serie of three webinars, we could successfully demonstrate the MixedEmotions platform to selected industry users and collect valuable feedback which is already reflected in the prototypes.

2 Introduction

This deliverable details all the communication activities that have been carried out throughout the whole course of the project (M1-M24). The report is based on the Communication Plan deliverable from M3. It details the work carried out to promote the project and its outcomes through a website, a twitter account, the use of community-based open source platforms, some promotional material designed to that purpose and handed to various events attended by the different partners.

3 Communication Activities

As stated in the communication plan there are two major communication phases for the project.

The goal of the first phase (first year) was primarily to create awareness about the MixedEmotions project and to connect to relevant communities. The second phase aimed for engaging users to try out prototypes and demonstrating the added value of MixedEmotions' platform, and how it will contribute to their businesses. Additionally we collected feedbacks and ideas to be reflected in the prototypes and the design of the various components.

In the following chapters, the communication means and activities are presented. Wherever applicable, the effects of the communication activities are shown in numbers in order to concretely attest the impact that MixedEmotions' Communications activities have proven.

3.1 Website

The website was continuously being updated throughout the lifespan of the project and served as the major online communication channel. It has been designed as a central information place with key information about the latest developments and achievements of the project and news about the emotion technologies market. In the final phase, it has also been successfully used to announce the series of MixedEmotions webinars and invite people to participate in the online emotion technology course.

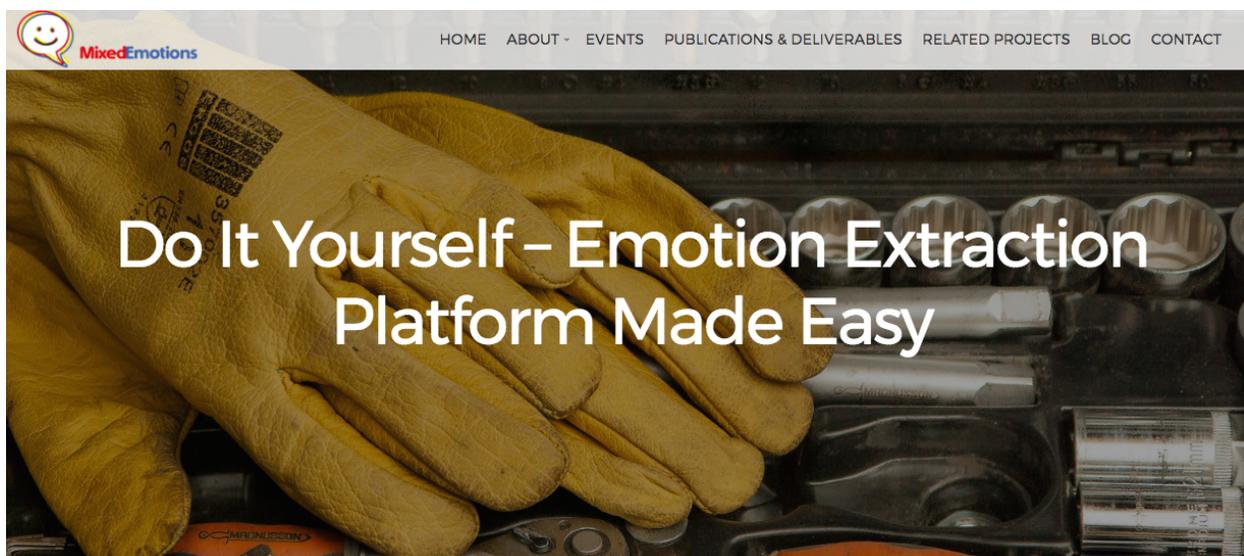


Figure 1: The homepage of the MixedEmotions project, promoting the emotion components

More than 4200 visits (almost twice the number of visitors compared to the same period of time the previous year) were registered throughout the second course of the year, for a total of more than 6600 visits during the whole project. Connections came from all over Europe, especially Germany and Spain, but also from the United States, South America and Asia.

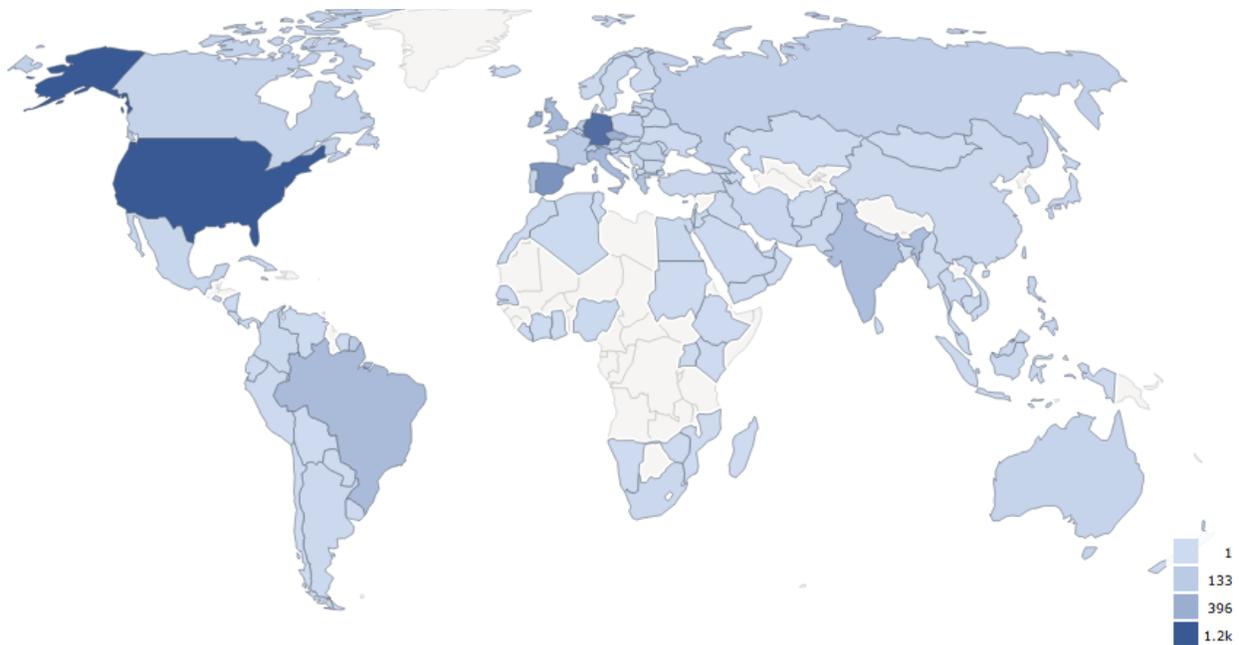


Figure 2: Screenshot which shows the global distribution of the website's visits (6600 visits in total)

Throughout the year we have populated the website with bi-monthly articles each time written by a different partner, and proofread and formatted by the communication leader Deutsche Welle. Six articles closely related to emotion technologies were published:

 <p>Humans or machines – Who is better in reading faces?</p>	<p>Humans or machines – Who is better in reading faces? Written by Michal Hradiš, Brno University of Technology</p>	<p>103 views</p>
 <p>Linked "Emotions" Data</p>	<p>Linked "Emotions" Data. Written by Carlos A. Iglesias, Universidad Politécnica de Madrid</p>	<p>82 views</p>

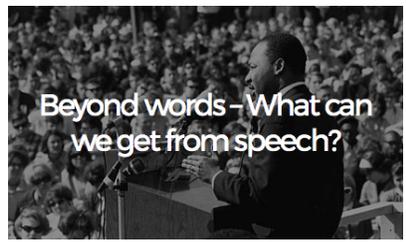
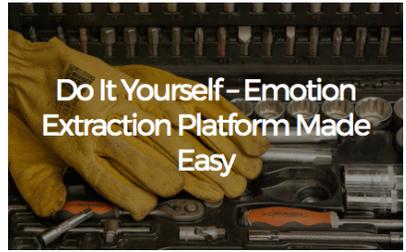
	<p>Beyond words – What can we get from speech? Written by Hesam Sagha, University of Passau</p>	61 views
	<p>Using Emotions for watching TV. Written by Dr. Nico Heise & Andy Giefer, Deutsche Welle Innovation Team</p>	105 views
	<p>Detect Your Caller's' Mood & Save Money. Written by Marek Klimeš & Pavel Matejka, Phonexia</p>	131 views (updated article)
	<p>Do It Yourself – Emotion Extraction Platform Made Easy. Written by Carlos Navarro, Paradigma Tecnológico SL</p>	172 Views
		Total of 654 views

Figure 3: Table showing list of articles produced in the second year

Promoting the Webinar Series

In the final quarter of the MixedEmotions project a serie of three webinars (described in the corresponding D7.13 deliverable) was introduced and promoted with its own blog post which was continuously updated. From here, interested people could register for the webinar and find additional material such as:

- The “Emotion Detection Webinar - Handout”
- The exhaustive “MixedEmotions Webinar Platform Tutorial”
- The Webinar Slides

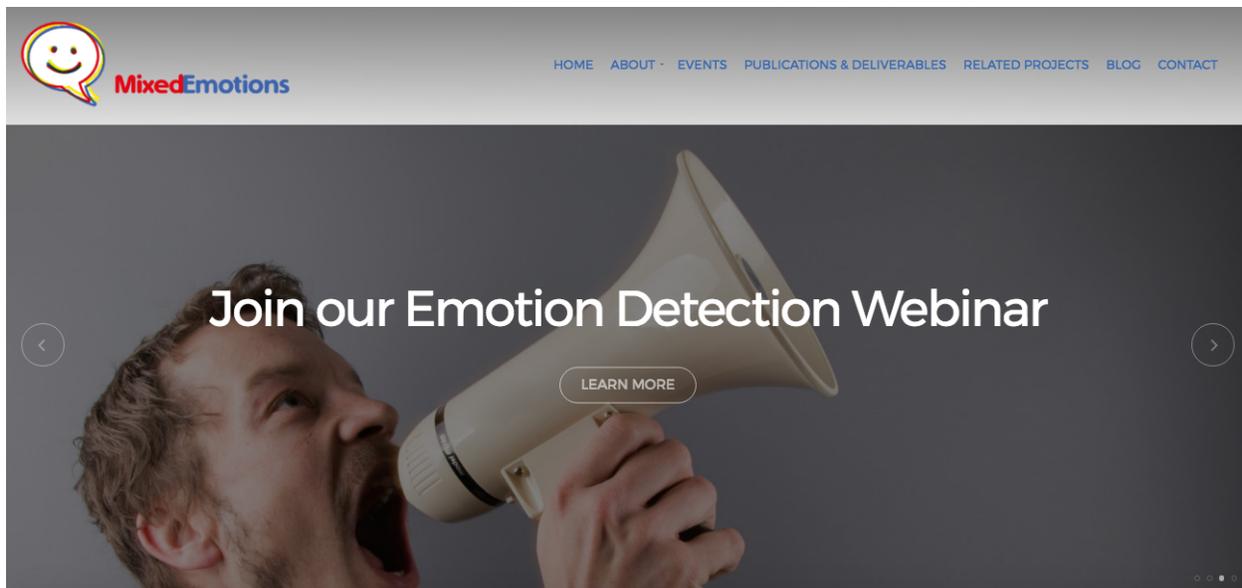


Figure 4: The homepage of the MixedEmotions project presenting the Webinar series

Throughout the lifespan of the project, the page that has been most frequently visited by users, with almost 2000 views, was the “MixedEmotions Project” page. To make the most of this information gained by doing the website’s analytics, the content of the page was optimised and extended in the second year. Beside the overview of the basic components of the platform, whether they are open source or proprietary, and which partner to contact, we also provided their link to DockerHub and Github for those available, for immediate use by interested users.

Component	Open Source	Responsible Partner
Emotion Recognition (Text)	Yes	
Emotion Recognition (Speech)	Yes	
Emotion Recognition (Video)	No	
Emotion Recognition (Multimodal Fusion)	Yes	
Sentiment Analysis	Yes	
Suggestion Mining	Yes	
Entity Detection and Linking	Yes	
Topic Extraction	Yes	
Social Network Analysis	Yes	
Kibi Data Visualisation	Yes	

Figure 5: Overview of MixedEmotions components

3.2 Twitter

Twitter has been intensively used to inform communities about MixedEmotions activities and achievements. By selected tweets and retweets, we created an ongoing awareness of the developments in the project in specific target groups. Additionally, Twitter was used for our followers to easily engage with the MixedEmotions project, either by following, mentioning, retweeting or commenting on our tweets. By the end of the second year, the Twitter account has more than 265 followers. On an average, this community was provided with updates twice a week resulting in over 200 posts during the project's lifespan.

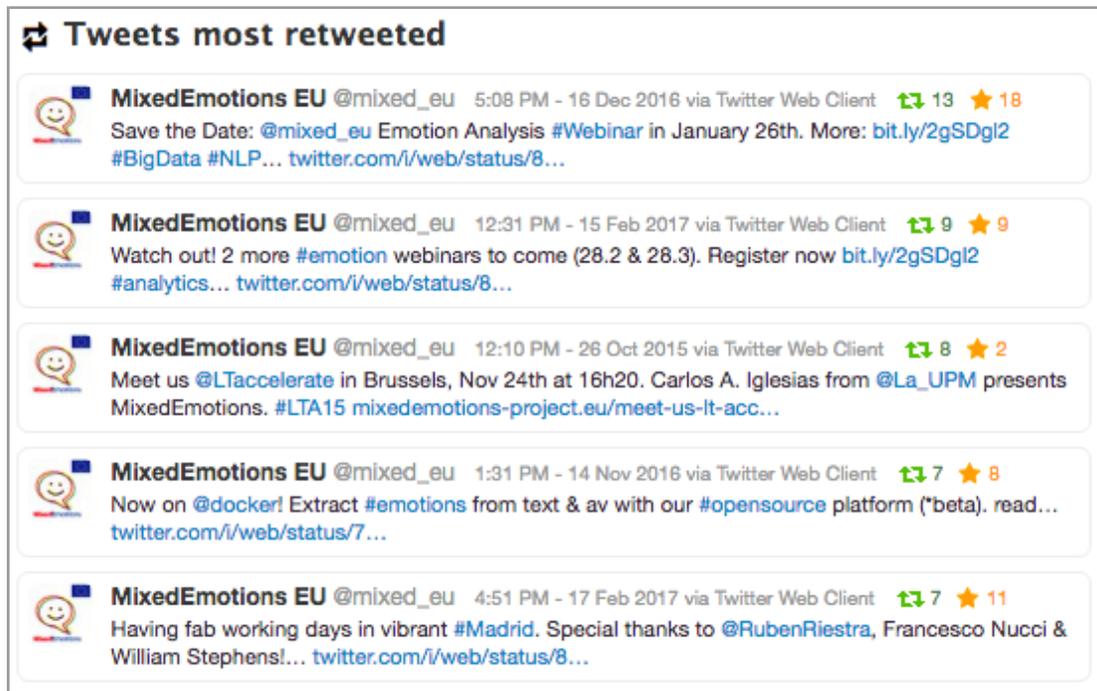


Figure 6: The most retweeted contributions (list provided by the statistic tool Twitonomy)

Tweets with a photo - as the one shown below - usually gets more interactions. Whenever a tweet was prepared by a partner, it was highly recommended to attach an image.

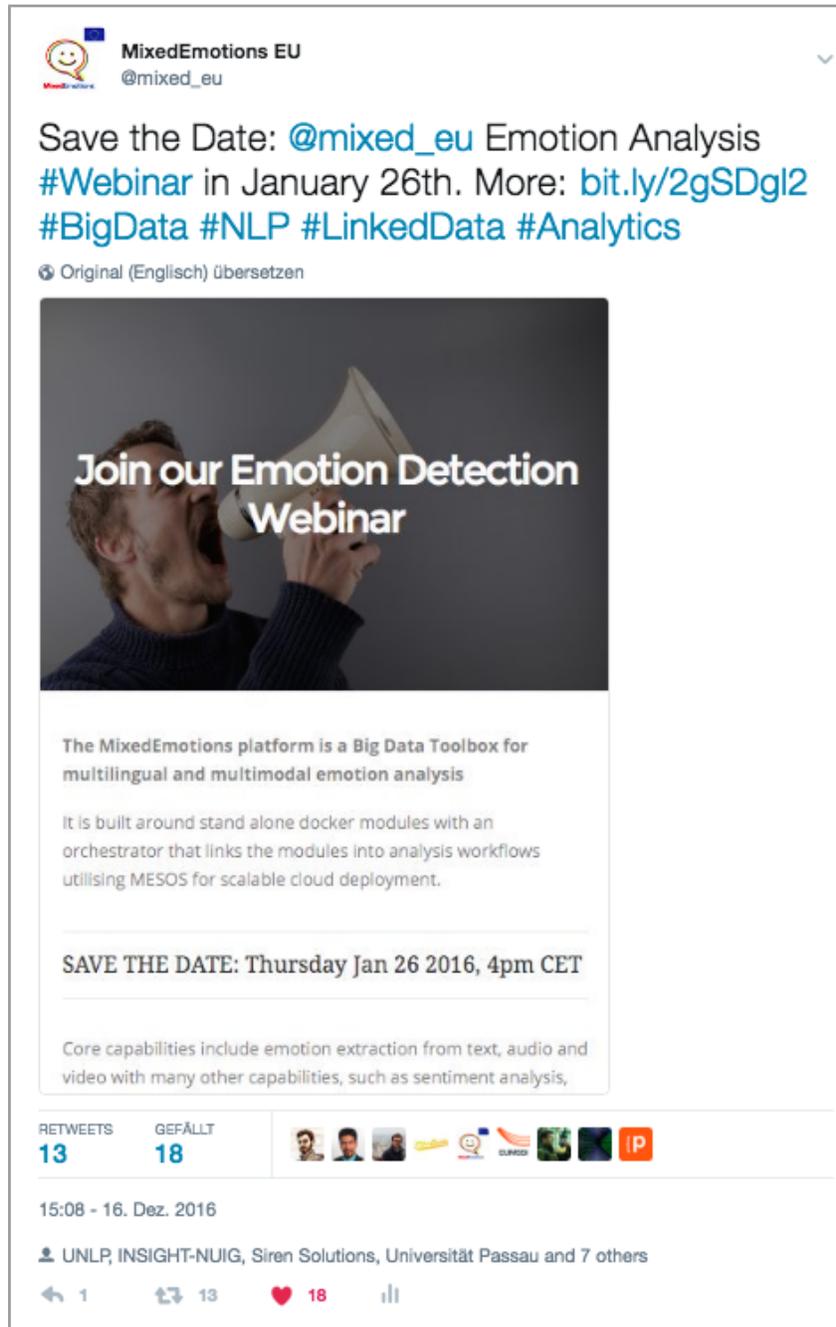


Figure 7: One of the most successful MixedEmotions tweets

The statistical tool also shows the potential reach of the tweet mentioned above. The total reach is calculated by counting together all followers of the accounts that retweeted one ME's tweet. In the case of the Webinar announcement tweet, the potential reach piled up to more than 64.000 people.



Figure 8: This tweet has a potential reach of over 60.000 people

The Twitter account is thus a central channel to promote MixedEmotions’ platform and engage with an interested audience, even beyond the official end of the project.

3.3 Docker / Github

In the second year we opened up a DockerHub and Github account to easily share Open Source Software components and make them publically available. Docker is an open-source project that automates the deployment of applications inside software containers. Github is a widely spread software development platform.

Component Name	Stars	Pulls
mixedemotions/senpy	1	424
mixedemotions/06_audiotanalysis_up	2	206
mixedemotions/10_entity_linking_nuig	2	75
mixedemotions/08_entity_extraction_pt	2	62
mixedemotions/13_topic_extraction_spanish	2	31
mixedemotions/tut_emotion_lexicon_nuig	2	29
mixedemotions/05_emotion_hashtags_nuig	0	29
mixedemotions/16_suggestion_mining_nuig	0	15
mixedemotions/01_sentiment_analysis_nuig	0	10
mixedemotions/scaner	1	5
mixedemotions/but_sentiment	0	1

Figure 9: Docker account with components showing over 850 pulls

The MixedEmotions Github Account is populated with 19 components. The most successful technology is the kibi component from SIREn solutions. It has been forked 80 times: forks are commonly used to either propose changes to someone else's project or to use someone else's project as a starting point for an own idea. On Github is also provided the documentation for MixedEmotions’ Platform, which has been forked 4 times so far.

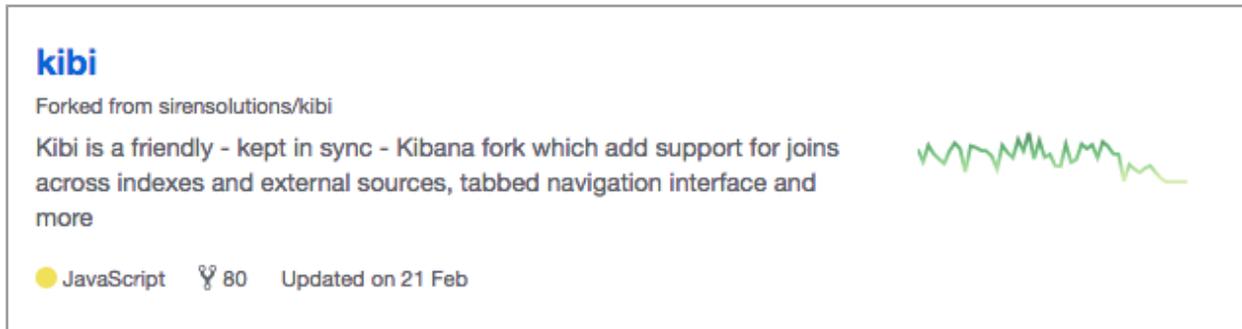


Figure 10: Github account (crop) presenting the kibi component with high interaction

3.4 New website: MixedEmotions Platform

The new website <http://mixedemotions.insight-centre.org/> has been developed by NUIG which will be the host for the platform after the project. It introduces the MixedEmotions components to interested stakeholders, giving instructions on how to run them along with “hands-on” demonstrations and prototypes. Additionally, two use cases are provided as examples of how the platform can be used, and the extracted data to be analysed and displayed in meaningful ways.

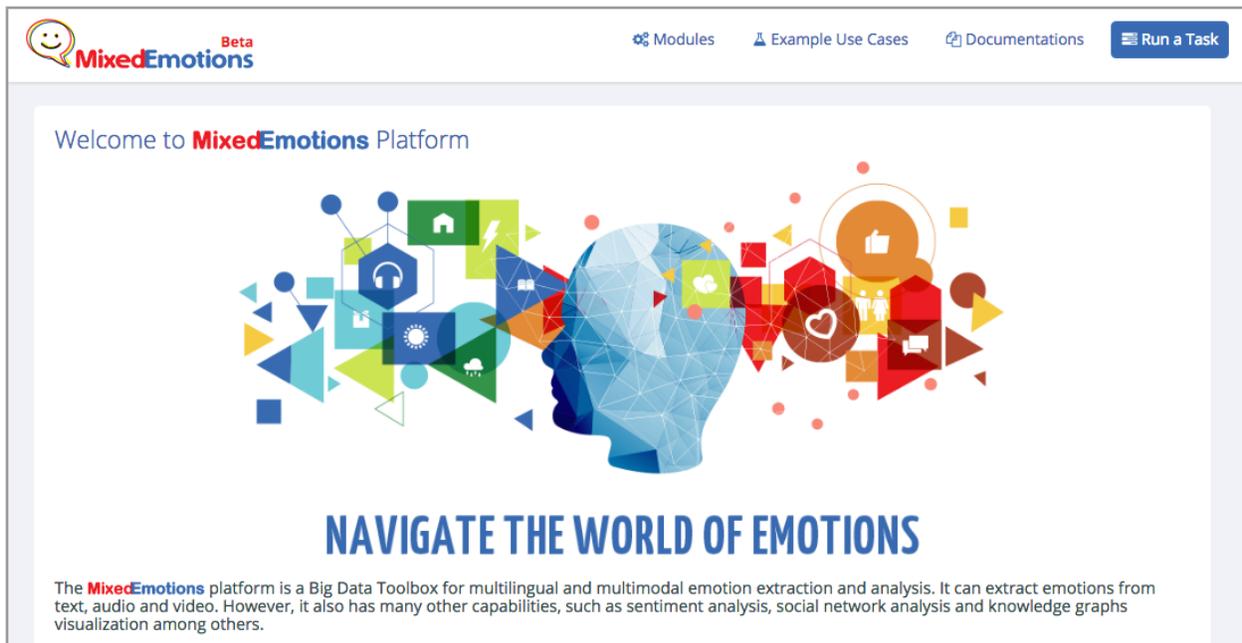


Figure 11: Homepage of the MixedEmotions platform website

The MixedEmotions platform website will be the central point of access for further exploitation activities beyond the runtime of the project.

3.5 ResearchGate

The MixedEmotions ResearchGate account - which is a social networking site for scientists and researchers to share papers and find collaborators - has been maintained and updated

throughout the second year. It now has an project audience of almost 800 people who get updates in their timeline whenever news of publications linked to MixedEmotions' project are being published.

Project

MixedEmotions (<http://mixedemotions-project.eu/>)

Hesam Sagha Björn Schuller Ian Wood +1 more collaborator
John Philip McCrae Cécile Robin

Institutions: National University of Ireland, Galway, Universität Passau, Imperial College London

Goal: MixedEmotions will develop innovative multilingual multi-modal Big Data analytics applications that will analyze a more complete emotional profile of user behavior using data from mixed input channels: multilingual text data sources, A/V signal... [\[i\]](#)

Project log References (106) Questions (0) Audience (782) Ask a question Share [v]

Figure 12: The MixedEmotions ResearchGate account

3.6 User group list

The MixedEmotions User group list is carefully selected by partners of the consortium. The list has been used to inform interested stakeholders of upcoming news and events - such as the webinars - and offers contacts to engage with MixedEmotions' tools and prototypes at an early stage. The feedback from this group has been highly appreciated.

The list comprises more than 27 contacts coming from various countries throughout Europe (mainly Germany, England, Ireland, Italy and Spain), and can be generally separated into two categories: industry contacts and academic contacts. Industry contacts include private & public companies (industry stakeholders in data analytics) from all over Europe, content providers, regulators & initiatives, as well as contacts to the scientific community.

3.7 LinkedIn

The LinkedIn account of MixedEmotions was primarily established to promote the series of webinars. Although it currently has a rather limited amount of members, it should be noted, that updates in the respective timelines of its members can reach a significantly larger number of people. So, this channel will be used for major news and updates on the project specifically in respect to its platform for further exploitation purposes, and is aimed to be maintained after the end of the project.

The image shows a LinkedIn post from Cécile ROBIN, Assistant de recherche. The post is titled "New dates for MixedEmotions' technical webinar!" and contains the following text: "No worries if you missed the first session of our MixedEmotions technical webinar! Two more sessions are now planned for the Tuesday Feb. 28, 2017, 4pm CET and Tuesday March 28, 2017, 4pm CET! More info and how to register at: <http://mixedemotions-project.eu/join-emotion-detection-webinar/>". Below the text is a video thumbnail showing a man speaking into a megaphone, with the text "Join our Emotion Detection Webinar" and "EU Project on Emotion Analysis and Big Data. Read more." The post has 11 likes and options to "Unlike" and "Comment". The right sidebar shows the group "MixedEmotions" with 25 members and an "Invite others" button. Below the members list is an "Ads You May Be Interested in" section with three ads: "Responsible Innovation", "Live Broadcast Worldwide", and "Hippo is hip!".

Figure 13: The LinkedIn presence of MixedEmotions

3.8 Media productions

All media productions that have been carried out through the project are described below. All elements stated in the D7.2 Communication plan have been used to create a consistent and strong visual appearance.

3.8.1 Flyer

A new MixedEmotions project flyer was designed and produced in the first half of the second year by NUIG. Its main purpose is to reach the MixedEmotions' audience and provide an overview of the project, its goals and its members. It furthermore shows the available MixedEmotions' components and corresponding contacts. It has been used as a handout and widely spread when partners were attending events, conferences and workshops.



Figure 14: The new MixedEmotions flyer

3.8.2 Poster

The MixedEmotions' poster was issued during conferences and fairs and had two basic functions. Firstly, its aim was to catch the visitor's eyes and make them curious to learn more about the project. Secondly, it is supposed to give a first impression of the architecture and the key features of the project. The poster was updated in the beginning of the second year, with the redesigned MixedEmotions' architecture.

MixedEmotions

NAVIGATE THE WORLD OF EMOTIONS

Building an open source platform for emotion analysis across bigdata resources in multiple languages and modalities.

USER // DATA EXPLOITATION

Social TV, Callcenter, Brand Management

SOCIAL TV, Brand Reputation Management, Call Centres: Emotion Analysis Use Cases in MixedEmotions

The MixedEmotions project develops an open source platform for emotion analysis across big data resources in multiple languages and modalities. The platform is developed around three pilot use cases with specific requirements for emotion analysis, in particular for:

- customer recommendation (Social TV)
- customer analytics (Brand Reputation Management)
- customer monitoring (Call Centres)

KNOWLEDGE GRAPH // DATA INTEGRATION

TECHNOLOGIES // DATA ANALYSIS

Speech Analysis, Speech Recognition, Speech-to-Text, Text-to-Speech, Social Content Analysis, Web Search, Ontology, Natural Language Processing, Text, Audio, Speech and Video, Knowledge Management

CONTENT // DATA ACQUISITION AND CURATION

Markuped Text, Markuped Audio, Image, Video, Social Media

The MixedEmotions platform builds on a range of language, speech and AV technologies as well as Linked Data technologies for semantic-level information integration.

Visit us: www.mixedemotions-project.eu / Tweet @mixed_eu

Figure 15: The updated MixedEmotions poster

3.8.3 Video

The production of a promotional video for MixedEmotions has been finalised in the beginning of the second year. The video give generic views of the potential of the MixedEmotions' Big Linked Data platform for emotion analysis. It is a short, entertaining and informative clip about emotion analysis technologies in general, and the project's objectives and the envisioned solutions it could bring to analytics markets.



Figure 16: Scene of the MixedEmotions image film

The MixedEmotions film was shown during conferences and workshops. It is also freely available on YouTube, where it received more than 300 views, and on the project's website.

3.8.3 Handouts

In the context of the webinar, handout material was produced. The package included a flyer, a comprehensive tutorial for MixedEmotions' platform and the webinar presentation slides. The material is available online through the MixedEmotions website.




Emotion Detection Webinar - Handout

Demos of some MixedEmotions Toolbox modules:

[NUIG topic extraction](#)

[NUIG suggestion mining](#)

[UP audio emotion, personality, sentiment & ASR \(Automated Speech Recognition\)](#)

[UPM emotion and sentiment recognition](#)

See the tutorial handout for more technical examples of platform usage.

Helpful Links

- [DIY - Emotion Extraction Platform Made Easy](#)

Stay in contact

Web www.mixedemotions-project.eu

Mail info@mixedemotions-project.eu

Tweet [@mixed_eu](https://twitter.com/mixed_eu)

LinkedIn <https://www.linkedin.com/groups/8586485>

GitHub <https://github.com/MixedEmotions>

Docker <https://hub.docker.com/u/mixedemotions/>

Dear participant,

Thank you very much for taking part in the Emotion Detection Webinar. We hope you enjoyed it!

Your feedback is very much welcome and we would love to get your opinion on our "MixedEmotions Toolbox".

Please say what you think in our [quick questionnaire](#).

Best wishes
The MixedEmotions Project

Figure 17: Handout "Useful links"

4 Collaborations with other projects and initiatives

Collaboration with other projects and initiatives including EC co-funded projects provided a valuable opportunity for exchanging ideas, findings and approaches. Existing contacts were used for communication and dissemination purposes in order to mutually inform each other about ongoing activities and to pave the way for further engagements.



Figure 18: MixedEmotions sponsors LDK

MixedEmotions is a sponsor of the LDK conference, which is a new biennial conference series on Language, Data and Knowledge.

Furthermore, on the MixedEmotions website in the section 'Related EU Projects' a living list of research projects and activities within relevant topical domains is presented.

5 Summary and Conclusions

The communication goals that the MixedEmotions project set for itself from the start have been widely covered during these two years.

Based on the communication plan, MixedEmotions has produced various communication means and continuously communicated and published news, activities and achievements throughout the reported final year. Both in online media, including the website, and social media, like Twitter, as well as directly in face-to-face meetings and conferences.

In a series of three webinars, we demonstrated the MixedEmotions platform and created engagement amongst our target groups. The majority of participants considered the platform with its various components highly valuable. Further feedback given was collected and was used to optimise the demonstrators.

All code developed in the course of the project is well-documented and accessible via the central MixedEmotions' platform website <http://mixedemotions.insight-centre.org/> or for more immediate access via the corresponding GitHub (<https://github.com/MixedEmotions>) and DockerHub (<https://hub.docker.com/u/mixedemotions/>) accounts.