

MixedEmotions: Social Semantic Emotion Analysis for Innovative Multilingual Big Data Analytics Markets

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Why MixedEmotions?

Ubiquitous monitoring of emotions enables visionary applications

- Your **SmartTV knows you had a hard day** (and shows you a comedy)
- Your car **knows your emotional state** (and applies safety measures)
- Your computer **knows you are upset** (and stops you from sending email)

Innovation Action

“Action primarily consisting of activities directly aiming at producing plans and arrangements or designs for new, altered or improved products, processes or services.”

Focus on:

- **Industry Relevance** – concrete technology requirements from SMEs
- **Innovation** rather than **Research Contributions**
- Producing a **Platform** for use across many different commercial applications
- **Pilots** are proofs of concept – potential applications go far beyond these

USER // DATA EXPLOITATION



Social TV



Callcenter



Brand Management

KNOWLEGDE GRAPH // DATA INTEGRATION



TECHNOLOGIES // DATA ANALYSIS

Speech
Analysis

Speech
Enhancement
and Source
Separation

**Opinion
Mining Tools
for Social
Media**

Social
Content
Analysis

Web-based
Rating of
Affective
Behaviors

**Multilingual
Emotion
Recognition from
Text, Audio, Speech
and Video**

Gender/Age
Recognition

CONTENT // DATA AQISITION ANDCURATION



Multilingual Text



Multilingual Audio



Image



Video



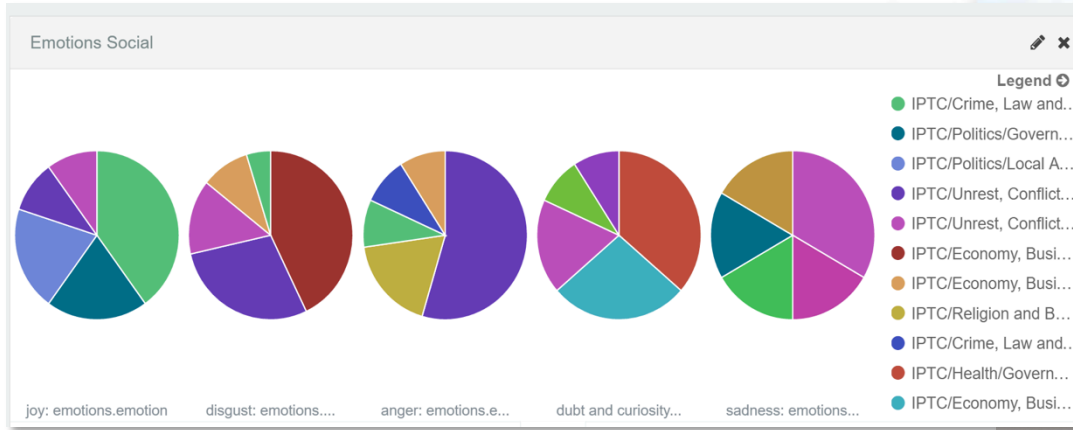
Social Media

Platform

Current Status

Id	Functionality	Modality	Language	Integration
m1	Sentiment Extraction	Text	EN	Jar (Serializable)
m2	Sentiment Extraction	Text	EN, CS	Java Spark
m4	Sentiment Extraction	Text	EN, ES	Service
m5	Emotion recognition	Text	EN, CS	Application
m7	Emotion recognition	Text	EN, ES	Application
m8	Entity Extraction	Text	ES	Scala Spark
m10	Entity Extraction	Text	EN	Jar (Serializable)
m12	Topic Extraction	Text	EN	Jar (Serializable)
m13	Topic Extraction	Text	ES	Scala Spark
m14	Entity Linking	Text	EN	Jar (Serializable)
m16	Suggestion mining	Text	EN	Jar (Serializable)
m17	Speech to text	Audio	EN	Service
m18	Machine translation	Text	CS, ES, DE, IT	Service
m19	Twitter social network crawler	graph	n/a	Application
m20	Twitter media crawler	Text	n/a	Application
m21	Fusion	n/a	n/a	Application
m22	Social Network Analysis	graph	n/a	Application
m23	Emotion recognition	Audio	DE, EN, CS	Service
m25	Social semantic Knowledge graph	graph	n/a	Application
m26	Facebook media crawler	Text	n/a	Application
m27	Video Emotion recognition	Video	n/a	Service
m28	Video Emotion recognition	Video	n/a	Service

Pilot I - Social TV



Brexit negotiations

Latest: 'British Pound slides over Brexit fears'

Refugee crisis

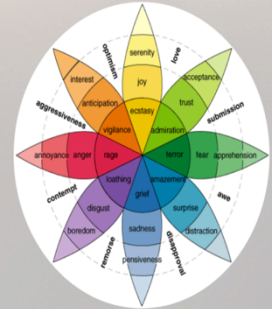
Latest: 'First cracks in Germany's grand coalition'

NSA affair

Latest: 'Germany reins in spy service over NSA report'

War an Syria

Latest: 'Syria ceasefire plan'



Desperation as migrants await deportation



Reality Check



First Syrian refugees arrive in Germany



Greece ships first refugees back to Turkey

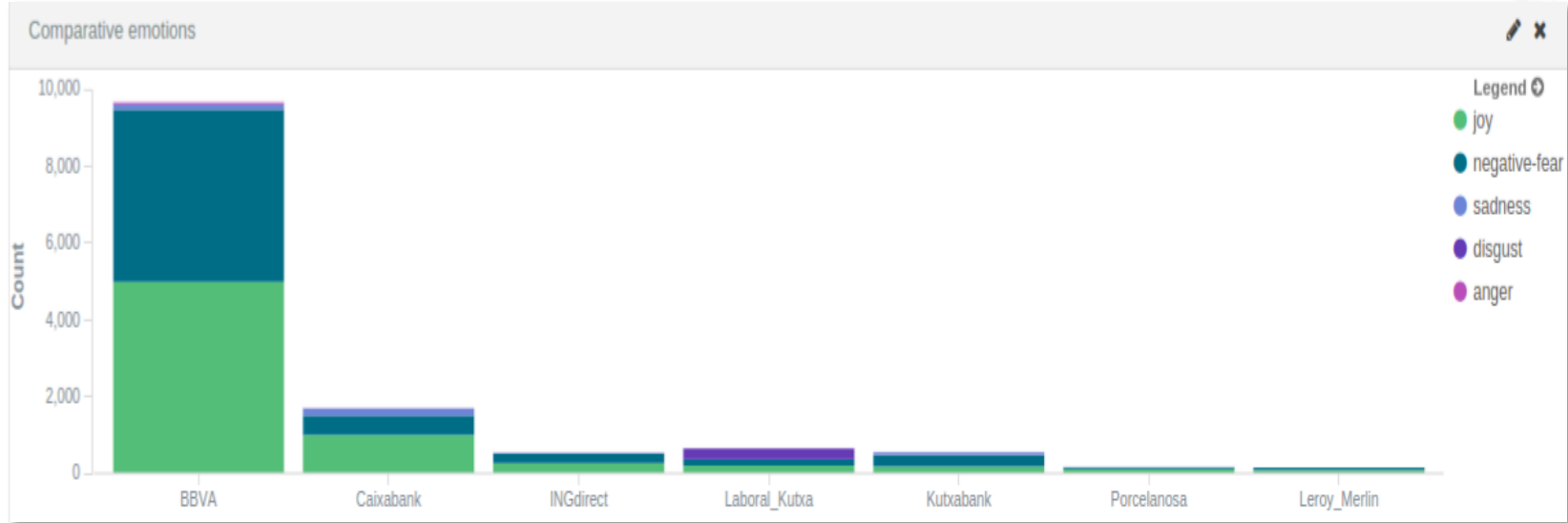


"We want to put smugglers out of business"

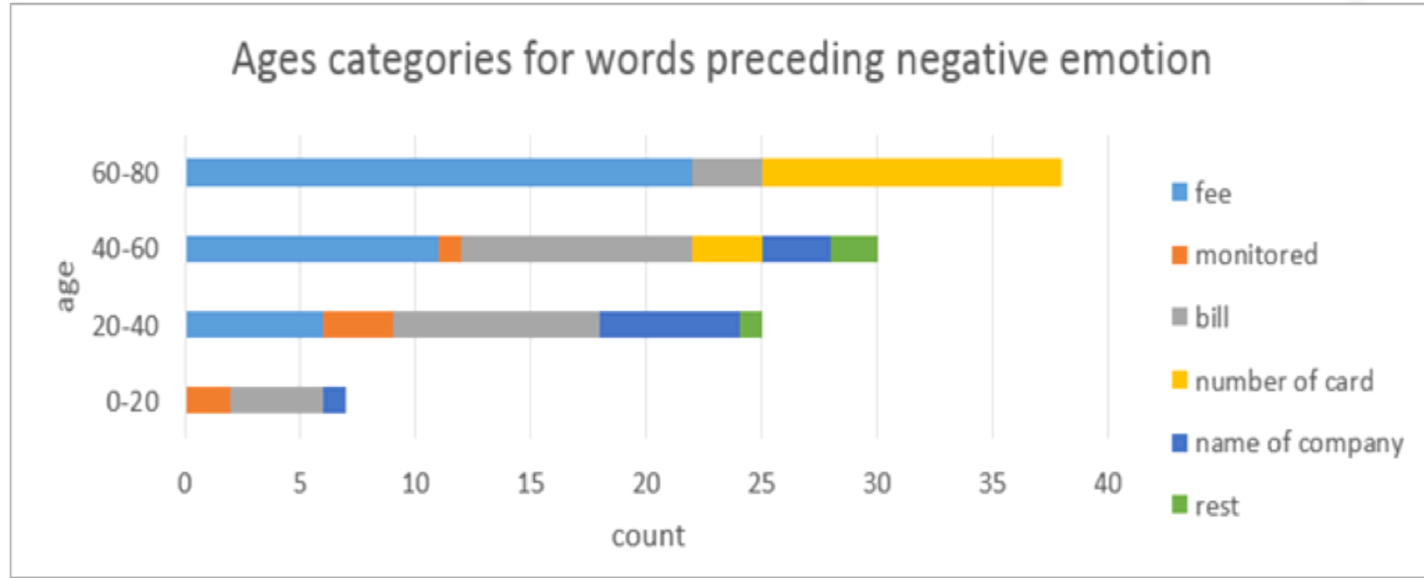


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Pilot II – Brand Reputation Management



Pilot III – Call Centre Operations



Exploitation



- Emotion-driven editorial dashboard for program production and configuration
- SmartTV application for emotion-driven content recommendation



- Replace existing (limited) Brand Reputation Tool
- Use MixedEmotions as new in-house platform for developing NLP projects



- Emotion Linking API that correlates emotions with social media and news
- Emotion-driven Content Recommendation API



- Kibi search based data analytics platform



- Add emotion detection to call centre operation services

