Welcome!

xLiMe – crossLingual crossMedia knowledge extraction
Overview

• Genesis
• Partners
• Vision
• First year
• Agenda for this meeting
• Next meetings
GENESIS
Genesis

• Summer 2012:
  – XLike does not exploit all information (text only)
  – Econda was looking for techniques to explain fluctuations in online shop performance

• Autumn 2012:
  – Vico and Zattoo joined since they have the data and technology we need
  – UNITN joined since they have the expertise to exploit multi-media
  – ISOCO joined since they know how to put this together
Genesis

• January 2013: After 5 days of non-stop writing, proposal submitted
• March: Rumors about good ranking
• April: ESR+acceptance (ranked 4th out of 74 proposals, 7 funded)
• Summer 2013:
  – Negotiation meeting in June
  – Over 12 iterations of the DoW
  – Long delays due to the KIT legal department
PARTNERS
Partners

Research & Development of general functionality

Integration

Data & Use Cases & Development of specific product features
VISION
Motivation of our project

Knowledge in the EU is fragmented...

– across diverse content types (audio, video, text) and different channels (mainstream, social media).
– across many languages and local contexts.

So far, information can only be analysed independently for each dimension. This restricts the extractable knowledge and keeps it fragmented.
Fragmented Dimensions of Media

modalities

visual

audio from TV

languages

TV, videos, photos, images

social video, social photos

auditive

audio from social media

news, annotations of audio/video
tweets, blogs, comments, reviews

textual

mainstream/professionally produced

social/user generated

content generation
xLiMe contribution

Extract knowledge from different media channels and languages and relate it to cross-lingual, cross-media knowledge bases.

→ Provide a near-realtime updated and comprehensive view on knowledge diffusion across media and across languages.
Brands, Events and Sentiment Monitoring

- **Unstructured Sources (WP1)**
- **Feature Extraction (WP2)**
- **Candidate Annotations (WP3)**
- **Disambiguation (WP3)**
- **Cross-lingual Cross-media Knowledge Base (WP4)**
- **Semantic Graph Construction (WP4)**
- **Events, Opinions (WP4)**

Images

- Video

Text

- Text

Sound

- Speech

**Event:** Ski Championship

- Result: 3rd place
- Location: Garmisch, Germany

**Person:** Maria Riesch

- Sentiment: happy
- Brand: Deichmann

**Ski Event:** Alpine World Ski Championships

- Result: 3rd place
- Location: Garmisch-Partenkirchen

**Brands:**
- Deichmann
- Schiedel

**Sentiment:**
- happy

**People:**
- Maria Riesch
- Riesch

**Words:**
- wins
- bronze
- happy
Cross-lingual Text Processing Pipeline
(provided by the XLike project)
Cross-lingual Video Processing Pipeline

TV, Video Clips, Photos, Images
Social Video, Social Photos
Radio, Audio from TV
Podcasts, Audio from Social Video
News, Descriptions of video/audio
Twitter, Blogs, Comments

Mainstream/commercial/professional
Social/user generated

Cross-lingual video annotations
Multi-lingual text
Multi-lingual text annotations
Cross-lingual text annotations
Cross-lingual Audio Processing Pipeline

languages
- TV, Video Clips, Photos, Images
- Social Video, Social Photos
- Audio from TV
- Podcasts, Audio from Social Video
- News, Descriptions of video/audio
- Twitter, Blogs, Comments

visual
- mainstream/commercial/professional

auditiv
- social/user generated

textual
- Multi-lingual text
- Multi-lingual text annotations

Cross-lingual audio annotations
Cross-media and Cross-lingual Processing Pipeline

- **Visual**: TV, Video Clips, Photos, Images, Social Video, Social Photos
- **Audio**: Podcasts, Audio from Social Video, TV, Video Clips, Audio from Social Video
- **Textual**: News, Descriptions of video/audio, Twitter, Blogs, Comments, Tags

**Mainstream/commercial/professional** vs. **social/user generated**

Integrated, disambiguated cross-lingual, cross-media knowledge base
Research WP Structure

1. **WP1**: Multi-lingual textual annotation
   - Mainstream/commercial/professional
   - Social/user generated

2. **WP2**: Multi-lingual text
   - Visual
   - Auditory

3. **WP3**: Cross-lingual text annotations
   - Integrated, disambiguated cross-lingual, cross-media knowledge base

4. **WP4**: Cross-lingual video annotations

5. **WP5**: Cross-lingual audio annotations

**Research WP Structure**

**Languages**

**WP1**
- **Kit**
- **JSI**
- **UNITN**

**WP2**
- **Kit**
- **JSI**
- **UNITN**

**WP4**
- **Kit**
- **JSI**

**WP5**
- **Kit**
- **JSI**

**Semantic Graph Analysis**
- Sentiment, Events, Opinion
- Information Diffusion, Interpretation, Visualization
From Data to UseCases

Raw data (WP1)
- blogs, twitter
- youtube, facebook
- forums, rating sites
- usage statistics
- news texts
- news videos/pictures
- usage statistics
- tv channels
- subtitles, teletext
- usage statistics
- product videos/pictures
- product descriptions

Extracted Knowledge (WP 2-4)
- entities, events
- sentiments, opinions
- usage statistics
- specific sales / individual usage

Application / Use Cases (WP 5, 7)
- useCase “Search” (ZATTOO)
- useCase “Monitor” (VICO)
- useCase “Explain” (ECONDA)

xLiMe pipeline
1st Year
Execution of the project

- M3 Requirements Analysis
- M9 Agile Development Metrics / Benchmarking
- M12 Evaluation Assessment

Year 1

- M15 Requirements Analysis
- M21 Agile Development Metrics / Benchmarking
- M24 Evaluation Assessment

Year 2

- M26 Req’ Analysis
- M30 Agile Development Metrics / Benchmarking
- M36 Evaluation, Assessment Final Roll-Out

Year 3
Y1 Research Goals

• Extract text from all content forms

• Annotate concepts from all languages & modalities to a common knowledge base

• Comparison across media and languages (pairwise statistical similarity function)
Y1 Engineering Goals

• Meta data is modeled

• Data from all sources is processed in near-real time in a common pipeline

• Search is performed in near-real time on the stream and some history
Use Case Goals

Use Search Functionality to

• provide related content (ZATTOO)

• monitor similar content over time (VICO)
Side Note: Beware!

Internal vs. Official Deadlines
aka
Technology vs. Report Deadlines
AGENDA
for this meeting
AGENDA

• Today: Research topics

• Tomorrow: Data and Use Cases & Administrative Issues

• Wednesday: Hands-on Tutorials & Bilateral Discussions
Diner today

• http://www.oishii-karlsruhe.de
• japanese (sushi, soups, salads, noodles, vegetables, rice bowls, grilled meat, tempura,..)
• Order à la iPad, all-you-can-eat / drink

• Near Ludwigsplatz

• Meet 7:30pm at the lobby, or 8:00 pm at the restaurant
Diner tomorrow

• http://www.bratar.de/karlsruhe/
• Fancy burgers and fancy sausages (plus starters, sides, soups, salads,...)
  • http://www.bratar.de/media/Speisekarte_22102013.pdf

• Near Ludwigsplatz

• Meet 7:30pm at the lobby, or 8:00 pm at the restaurant
NEXT MEETINGS
Year1 Meetings

• Ca. 4 meetings a year
• Partner by partner
• Convenient over fancy over cheap

• Q1 2014 meeting (March 3-5?, ?)
• Q2 2014 meeting (June 16-18?, Dubrovnik?)
• Q3 2014 hackathon (Sept, ?)
• Q4 2014 review rehearsal (Oct, ?)
My last first words
My Philosophy

• Research & development over reporting & management

• Trust, fairness and common sense over rules & regulations

• Real world data & applications over theoretical concepts
Goal of this meeting

• Get to know each other personally
• Learn about new technologies
• Plan the first year
• Initiate implementation

➢ Talk to each other, discuss, ask questions!
Promising setup, let’s use this opportunity!