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SEVENTH FRAMEWORK PROGRAMME

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FACTS, OPINIONS AND BIAS IN TIME

DiversiWeb2011 Workshop on Knowledge Diversity, Mar 28th,2011, Hyderabad

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- **EC FP7 FET Proposal**
- **CALL 6 ICT Forever Yours**

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Consortium

- **UNIVERSITÀ DEGLI STUDI DI TRENTO, Trento - ITALY**
- **FUNDACIÓ BARCELONA MEDIA UNIVERSITAT POMPEU FABRA, Barcelona – SPAIN**
- **SORA, Vienna – AUSTRIA**
- **CONSORZIO NAZIONALE INTERUNIVERSITARIO PER LE TELECOMUNICAZIONI, Parma ITALY**
- **STICHTING EUROPEAN ARCHIVE, Amsterdam – NETHERLANDS**
- **UNIVERSITÀ DEGLI STUDI DI PAVIA, Pavia – ITALY**
- **UNIVERSITY OF SOUTHAMPTON, Southampton, UNITED KINDOM**
- **DOCUMENTATION RESEARCH AND TRAINING CENTRE, INDIAN STATISTICAL INSTITUTE, Bangalore, INDIA**
- **GOTTFRIED WILHELM LEIBNIZ UNIVERSITAET Hannover, GERMANY.**
- **MAX PLANCK GESELLSCHAFT ZUR FOERDERUNG DER WISSENSCHAFTEN E.V., Muenchen – GERMANY.**

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Objectives

- Investigate diverse disciplines with a view to a multi-disciplinary understanding of evolution, diversity and bias, and their impact on knowledge;
- Develop a formal knowledge model which makes it possible to represent, manage and maintain over time knowledge that reflects evolution, diversity and bias.

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Goals

- Creating a deep understanding of diversity
  - interdisciplinary approach combining know-how and experiences from areas such as media research, multimodal information theory, library science, natural language processing and multimedia data analysis

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Goals

- Developing methods of detecting Bias
- Exploring the temporal dimension of diversity
- Making bias, diversity and evolution tangible and digestible by a new generation of search technologies that supports opinion-aware, diversity-aware and time-aware aggregation and exploration of knowledge

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Research Challenges

Information Extraction: extraction of facts and entities from web pages and documents, opinion mining, integration of related and complementary knowledge fragments

Research Challenges

Understanding and detecting bias and diversity: which includes understanding interdisciplinary foundation of diversity and bias expressed in text and multimedia

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Research Challenges

Knowledge Evolution: which includes analysis of evolution of classification patterns and hierarchies; opinion evolution; diversity aware knowledge representation etc

Research Challenges

Enhanced search and retrieval technology: which includes information aggregation and summarization

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Research Areas - RAs

RA1: Foundations of Evolution, Diversity and Bias in knowledge

RA2: Information Extraction

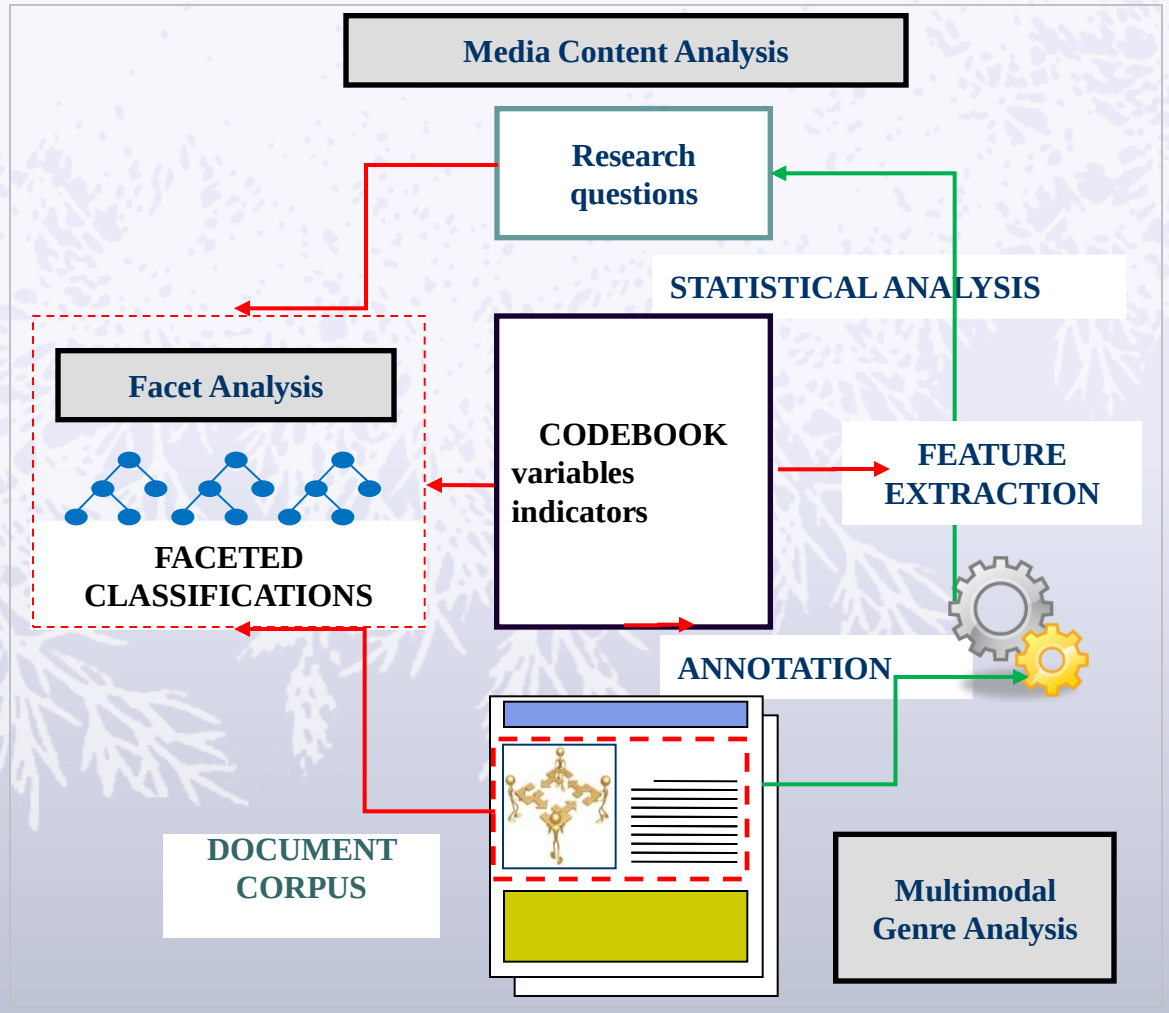
RA3: Knowledge Evolution

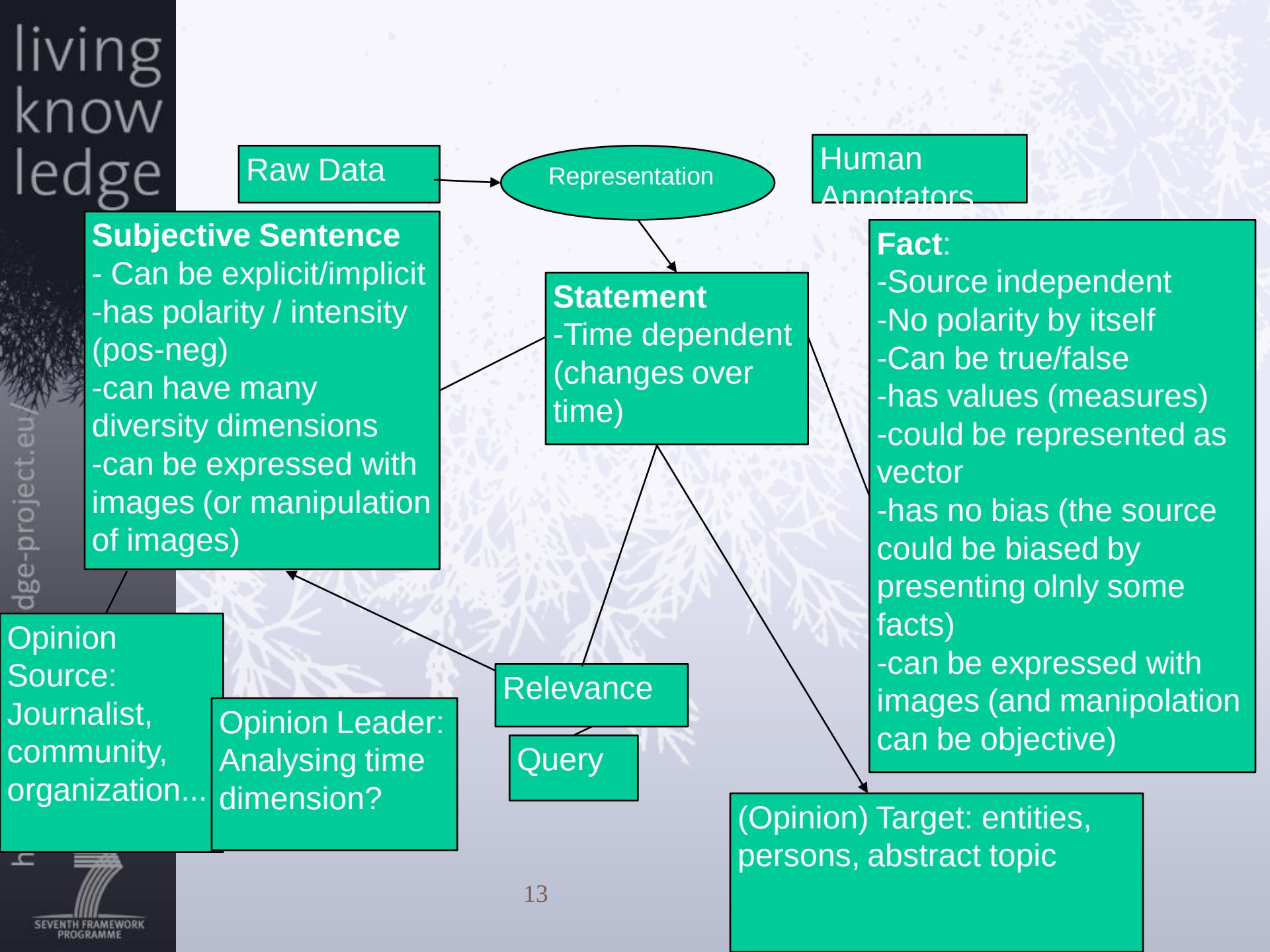
RA4: Bias and Diversity

RA5: Clustering and Aggregation

RA6: Enhanced Search and Retrieval Technology

The proposed framework

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Raw Data
Representation
Human Annotators
Subjective Sentence
- Can be explicit/implicit
-has polarity / intensity (pos-neg)
-can have many diversity dimensions
-can be expressed with images (or manipulation of images)
Statement
-Time dependent (changes over time)
Fact:
-Source independent
-No polarity by itself
-Can be true/false
-has values (measures)
-could be represented as vector
-has no bias (the source could be biased by presenting olnly some facts)
-can be expressed with images (and manipolation can be objective)
Opinion Source: Journalist, community, organization...
Opinion Leader: Analysing time dimension?
Relevance
Query
(Opinion) Target: entities, persons, abstract topic
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Media Content Analyzer (MCA)

LK MCA to emulate the SORA method

Multi-pronged approach

- Bias and Diversity detection: L3S
- Evolution studies and modeling: Max Plank Institute
- Multimodal Semiotic Analysis: Pavia
- Multimedia Media Analysis: CNIT, Southampton
- Facet Modeling : DRTC/ISI and Unitn
- Image Forensics and analysis: CNIT and Southampton
- Media Content analysis: SORA
- Future Predictor: Yahoo!
- Multi-domain data sets: European Archives

Future Predictor

- Searching the future: searching current references for explicit mentions of plans and estimates for future events
- Predicting the future: Inferring new implicit future events based on past occurrences, trends and plans for the future
- Mining the future***(temporal evolution***) : finding the most important topics associated with a given time segment.

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Thank you!