Presentation of AMIS

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AMIS: **A**ccess **M**ultilingual **I**nformation opinion**S**

- Statring date: December 2015
- Duration: 36 months
- The consortium is composed of partners from three countries:
  - France: University of Lorraine (LORIA), University of Avignon (LIA)
  - Poland: University of Science and Technology Krakòw (AGH)
  - Spain: University of DEUSTO (Bilbao)

The key challenge and potential impact

- With the growth of information on internet, a new issue arises: How to acces to a maximum of information?
- A huge amount of information is available but most of them is unattainable.
- High educated people, do not speak more than two or three languages while the majority speaks only one, which makes this huge amount of information inaccessible
- How to make the main idea presented in a video in a foreign langiage accessible and easy to understand by everyone?
- Accessing to information in foreign languages would permit to access to the other side of a story
- Due to political, socio-cultural or religion reasons, divergence of opinions may exist within two medias from two different sources.

Objective1: Understanding the main idea of a media in a foreign language

Video Summarization

← Video Summarization

← Extraction of the speech Signal

Video Summarization

Extraction of the speech Signal

بين قوات الأمن والمحتجين في
ميدان التحرير بالقاهرة بعد تنقل صور
مثيرة للّجدل على شبكة التواصل الإجتماعي

Speech Recognition

Video Summarization

Extraction of the speech Signal

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Speech Recognition

Between security forces and protesters in Cairo's Tahrir Square after the movement of controversial images on social network-ing

Machine Translation

Synthesis

Video Summarization

Extraction of the speech Signal

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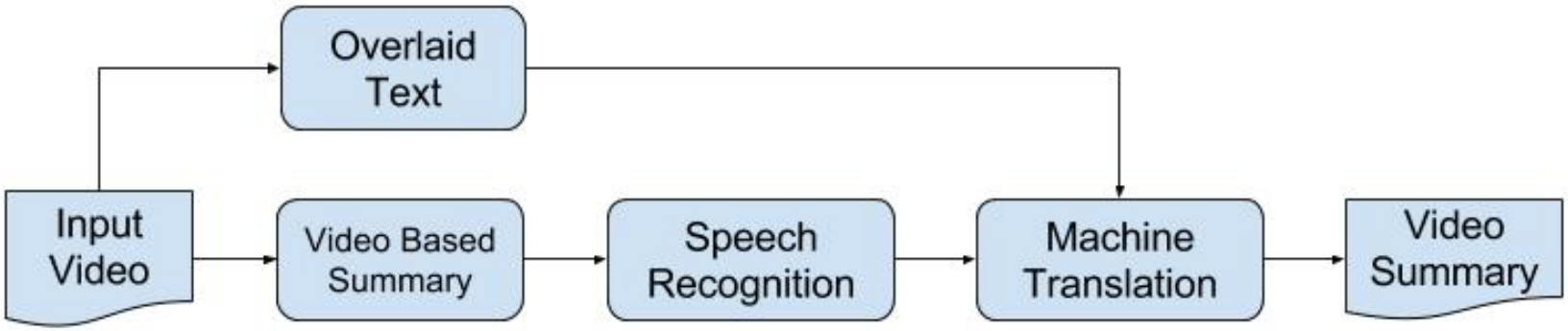
Machine Translation

Synthesis

A pipeline Architecture for understanding a video

- A pipeline system: Video summarization, Overlaid Text Extraction, Speech Recognition, Machine Translation, Speech synthesis

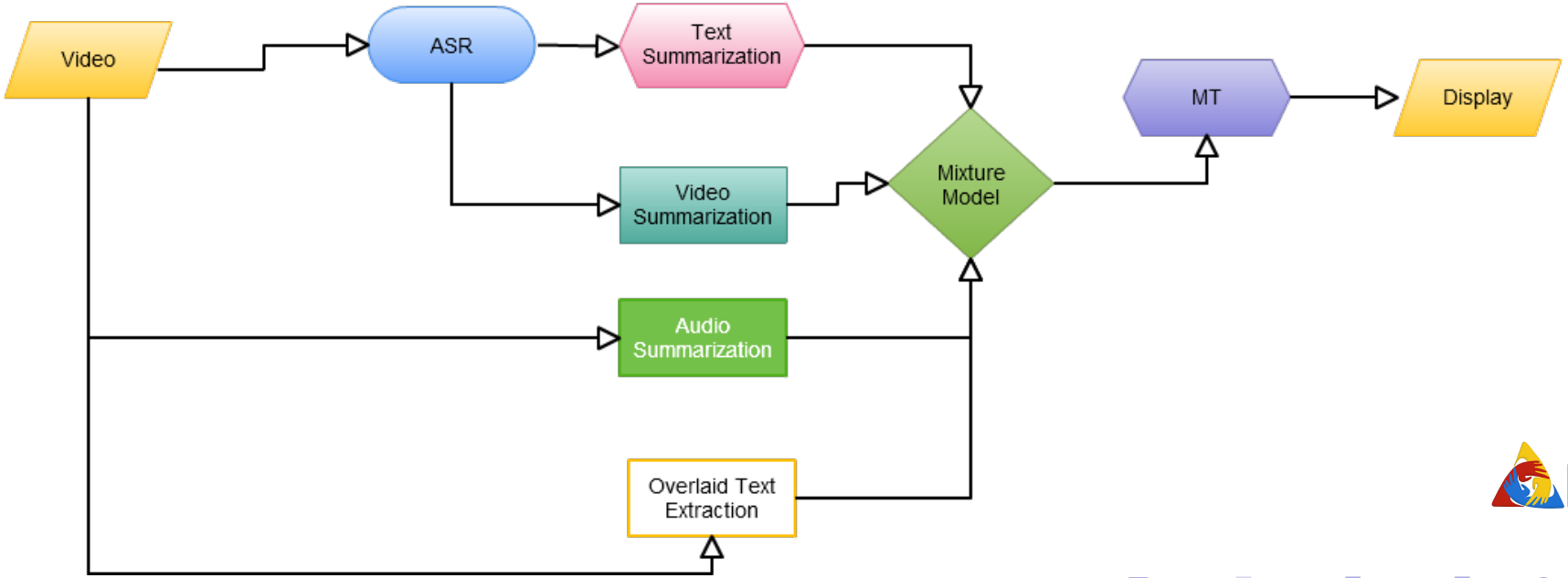


- The drawback is that the errors of each component are propogated to the following one.

A collaborative architecture for understanding a video

- The different components must collaborate in a successful synergy to achieve the translation of the main idea of a video in a target language

A collaborative workflow of AMIS



Objective2: Cross-lingual opinion analysis

- A first video (V_1) on a language A
- A second video (V_2) in language B concerning the same topic
- V_1 is summarized into language B to achieve V_1^s
- V_2 is summarized to achieve V_2^s
- V_1^s and V_2^s in terms of opinions (objectivity, polarity, anger, sadness, joy, disgust, fear and surprise)

Application

A press review but in terms of opinions. This is interesting when there is a difference in terms of culture, foreign policy, religion, etc.

Objective2: Cross-lingual opinion analysis

الرئيس ياسر عرفات زعيم

ثورة و قاءد دولة

Objective2: Cross-lingual opinion analysis

الرئيس ياسر عرفات زعيم ثورة و قاءـد دولة
The President Yasser Arafat hero of a revolution and State guide

Objective2: Cross-lingual opinion analysis

الرئيس ياسر عرفات زعيم

ثورة و قاءـد دولة

The President Yasser Arafat hero of a revolution
and State guide

Mort du terroriste Yasser Arafat : la France écarte à nouveau un empoisonnement

Objective2: Cross-lingual opinion analysis

الرئيس ياسر عرفات زعيم ثورة و قاءـد دولة	Mort du terroriste Yasser Arafat : la France écarte à nouveau un empoisonnement
The President Yasser Arafat hero of a revolution and State guide	Death of terrorist Yasser Arafat: the France discards again the thesis of poisoning

Objective2: Cross-lingual opinion analysis

الرئيس ياسر عرفات زعيم ثورة و قاءـد دولة

The President Yasser Arafat hero of a revolution and State guide

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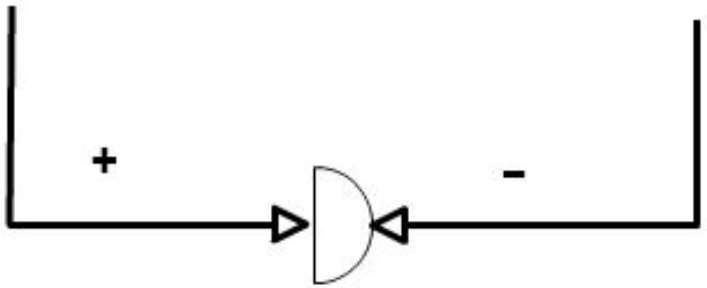
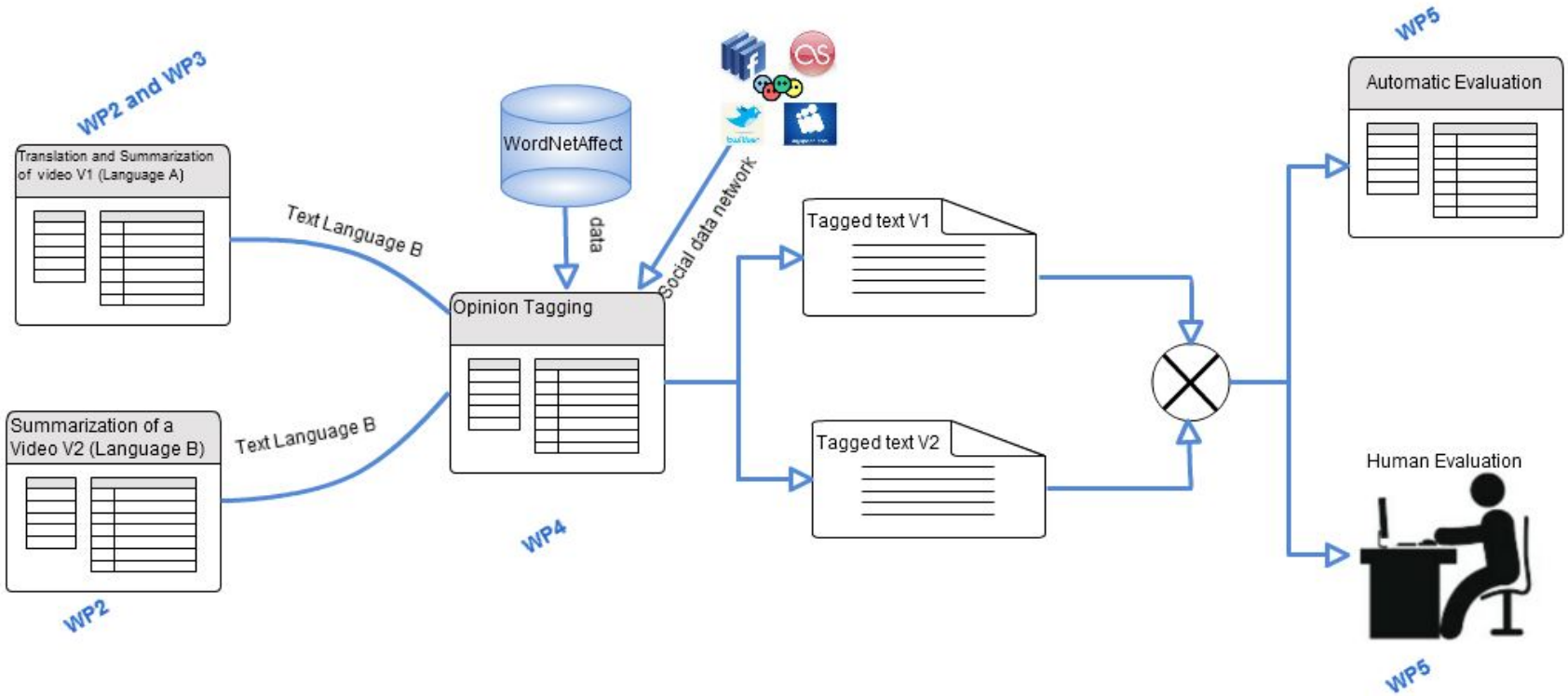


A general description of AMIS in its basic form



Several challenges

- AMIS could be incorporated in a TV remote control or such as software associated to any internet browser.
- In conclusion AMIS will address the following research points:
  - Text, audio and video summarization.
  - Automatic Speech Recognition (ASR)
  - Machine Translation
  - Cross-lingual sentiment analysis
  - Achieving successful synergy between the previous research topics

Presentation of partners :

AGH University of Science and Technology, Krakòw - Poland

AGH has a strong skill on video content summarization

AGH leads several WP:

- Definition of the requirements and data video collection
- Video summarization and video content analysis
- Automatic Evaluation of the different components
- Dissemination

Presentation of partners :

Deusto
Universidad de Deusto
University of Deusto

DEUSTO University Bilbao Spain

DEUSTO has a strong skill on experience in designing evaluation test and test methodologies with people with special needs.

DEUSTO composed by psychologists, engineers and linguists will participate to:

- End-user Evaluation
- Collecting social network data
- Protocol of tests and evaluation

Presentation of partners :

University of Avignon - LIA France

The LIA of university of Avignon (UA) has a strong expertise on speech, audio and language processing and, more specifically, on automatic summarization (text and audio).

LIA will participate to:

- Text and audio Summarization
- Coverage of an event on social network

Presentation of partners :

University of Lorraine - LORIA France

The LORIA of university of Lorriane has a strong expertise on speech recognition and machine translation

LORIA is the coordinator of AMIS and is responsible of few WP:

- Speech Recognition (MULTISPEECH)
- Machine Translation and Opinion mining (SMarT)
- Text overlaid extraction (QGAR)