In Video Veritas – Verification of Social Media Video Content for the News Industry

IPTC Workshop

Rolf Fricke, Condat AG


www.invid-project.eu
R&D Project

InVID - In Video Veritas, Verification of Social Media Video Content for the News Industry

Laufzeit: 1/2016 - 12/2018

Funding:

9 Partner:

Funded by EU H2020 under project nr ICT-2015-687786
Using UGC for Media Production

Eyewitness

Catastrophy, Accident ...

Upload

Social Networks

Retrieval

TV / Media Editor

- Verification of
  - Source
    - Validate Author
    - Forensic
    - Near Duplicate
  - Location
  - Time
  - Rights / Cost

Publishing
# Standards used in InVid

<table>
<thead>
<tr>
<th>Domain</th>
<th>Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Platform</td>
<td>HTTP, REST, Json with Java/JavaScript Ajax Binding, URI, URN, HbbTV</td>
</tr>
<tr>
<td>TV Program Data</td>
<td>DVB metadata model, EBU metadata model, ARD BMF, BBC Programmes ontology, TV anytime, EU Screen, IPTC, W3C ontology for Media Resources, Metadata Working Group's Guidelines, COMM</td>
</tr>
<tr>
<td>Meta Data</td>
<td>RDF, OWL, Media Fragments URI 1.0, WebSRT, DC (Dublin Core), CIDOC/CRM, EDM (Europeana Data Model), FOAF (Friend of a Friend), SIOC, Mpeg7, Mpeg47, Schema.org</td>
</tr>
<tr>
<td>UI</td>
<td>HTML, HTML5, CE-HTML, XHTML, Ajax, YAML, SMIL</td>
</tr>
<tr>
<td>Content</td>
<td>XML, XSLT, XACML, UTF8</td>
</tr>
<tr>
<td>Sparql Endpoint</td>
<td>Joseki, Open Search</td>
</tr>
<tr>
<td>AV-Format</td>
<td>Mpeg4, Mpeg2</td>
</tr>
</tbody>
</table>

Standards and Meta data are very relevant, because we:
- extract meta data from news items or videos
- for retrieval in (youtube ...)
or
- comparison with other videos

Question: What meta data are defined, provided, what is the semantics?
InVid Application

Newsroom, Programm Planning Systems

topics, keywords ...

playlist (permanent update)

MOS Protocol

Annova Openmedia
Octopus
Dalet
ENPS
Avid iNEWS
Ross Video Inception
AQ broadcast

InVid Application

Standards
- Newsroom and Programm Planning Integration
- Standards: NewsML, EventsML, TV-Anytime, Mpeg7, MOS–Protocol
- Extract: Author, Title, Time, Location ....

InVid Verification Service

- Retrieve UGV
- Invoke InVid & Standard Tools
- UGC
- Validation State

• MOS Protocol

InVid Application
Verify Original – Get youtube metadata


Syria Hama 01.07.2011 Anti regime protest, people change of Assads Regime
FreedoMessengerWorld
vor 4 Jahren • 20.425 Aufrufe
https://www.facebook.com/Freedom.Messenger
لا حكومي سوريه حدة
1/7/2011.

<table>
<thead>
<tr>
<th>Verification</th>
<th>State</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Original</td>
<td></td>
<td><a href="https://youtube/watch?v=ZZQ0X4jbw1">https://youtube/watch?v=ZZQ0X4jbw1</a></td>
</tr>
<tr>
<td>Author</td>
<td></td>
<td>J.K. Miller, Spain, Barcelona</td>
</tr>
<tr>
<td>Place</td>
<td></td>
<td>Homs, Syria, 34.520° N, 36.405° E</td>
</tr>
<tr>
<td>Time</td>
<td></td>
<td>01.07.2011</td>
</tr>
<tr>
<td>Environment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reason</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Verify Original</th>
<th>Start</th>
<th>Result</th>
<th>Values</th>
<th>Accept</th>
</tr>
</thead>
<tbody>
<tr>
<td>Youtube metadata</td>
<td></td>
<td></td>
<td>Date: 1.07.2011 Time: 12.23 Place: 34.502°N 36.402°</td>
<td>✓</td>
</tr>
<tr>
<td>Near Duplicate Search</td>
<td></td>
<td></td>
<td>show potential duplicates</td>
<td>✓</td>
</tr>
</tbody>
</table>

Standards

- Video Meta Data from: Youtube, Twitter, Periscope ...
- Task: extracting Time, Location, Title, Author ....
- Standards: URL, EXIF, Mpeg7, TV-Anytime, Dublin Core / EBU Core, EBU P/Meta, W3C Ontology for Media Resources, Media Anotations, Timed Text
Verification Source / Author

Demonstration Damaskus, Syria
Source: Freedom House, 18. April 2012, CC BY 2.0

- Recherche via Search Engines, in Social Networks, Amnesty ...
- Other activities of author
- Contact via eMail, phone

Standards
- Author / Owner: Dublin Core, EBU Core, W3C Internationalization ...
- Challenge: different spelling caused by translation of names and locations from arabic into English, German ...
- Need: improved tools to validate identity of persons
Verification of Location

Place indicated by Authors

Analysis
- Street Names
- Licence Plates
- Clothes
- Speech in Videos
- ...

Place indicated by Authors
Verification of Location

Identification via Google/Bing Maps / Street Maps

Standards

- Location Standard: Geo Location Coordinates
- Challenge: Mapping of Cities, Regions, and other terms onto Coordinates
- Need: better tool support for mappings
Verification of Time

Tools

- Picture / Video Meta Data in Exif, IPTC, XMP Format
- Analysis of Shadows
- Weather data history

Standards

- Time / Interval Standard: UTZ interval
- Challenge: Mapping of textual indications onto times or intervals: begin of march, new years day, early summer ...
- Need: better tool support for mappings
Show UGC around focussed event

**Topic:** Demonstration  
**Place:** Damascus, Abdullah Ibn Rawahna  
**Time:** 1.7.2011 – 31.07.2011

Reports / Wires:  
*Demonstration, Damascus*

Facebook, Blogs …

Pictures, Videos:  
*Youtube, Flickr, Instagram, …*

*Zoom in / out for Place and Time*
Fake ?

Detection of Clones by statistical Methods

Quelle: Exo Makina, 2015, France
Near Duplicate Search

Videos / Picture Fragments of former Events

Standards
- **Near Duplicate / Forensic**: Video Coding and Compression standards: MP4, AVI, H261 ...
- Challenges: Fragments, re-size, polishing by tools
- Standards from W3C: Media Fragments URI 1.0
Rights / Costs

- informed consent of author
- telephone / eMail agreement
- Acknoledge source and agree on financial issues
- protect authors in crises regions
- Respect data regulations regarding personal data
  - in sozial Networks and
  - sensible personal data (Religion, Sex, diseases ...)

Standards

- RightsML, RightsOntology (http://dmag.ac.upc.edu/ontologies/ipronto/)
- Challenge:
  - source unknown
  - rights for publication undefined
  - many individually defined written rights

Measure: contact source
References

- European Journalism Centre - Verification Handbook
  [http://verificationhandbook.com](http://verificationhandbook.com)
- Amnesty – Step by Step Guide to Assess Citizen Video
  [http://citizenevidence.org](http://citizenevidence.org)
- [http://lab.witness.org/](http://lab.witness.org/)
- [www.investigativ.ch](http://www.investigativ.ch)
- [http://researchclinic.net](http://researchclinic.net)
- [http://www.investigativerecherche.de](http://www.investigativerecherche.de)