Authenticating Citizen Journalism Videos by Incorporating the View of Archival Diplomatics into the Verification Processes of Open-source Investigations (OSINT)

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https://i.guim.co.uk/img/static/sys-images/Guardian/Pix/pictures/2011/12/29/1325186212599/Tahrir-Square-protest-007.jpg?width=620&dpr=2&s=none

https://www.bbc.com/news/av/world-middle-east-42272323

Open-source investigations lab

Expanding the current CJV verification process by incorporating the view of archival science and diplomatics into the practices of open-source investigators.

https://twitter.com/gijnAfrica/status/1484240575339638792

The view of archival diplomatics into the practices of open-source investigators.

Diplomatics is "the discipline which studies the genesis [origin], forms, and transmission of archival documents and their relationship with the facts represented in them and with their creator, in order to identify, evaluate, and communicate their true nature" (Duranti, 1989, p. 17).

Archival diplomatics is the field that integrates concepts of diplomatics with archival knowledge, and apply them to examine the authenticity of a variety of digital objects in different digital environments (Rogers, 2015, p.179).

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Q1: What are **the processes required to verify citizen journalism videos (CJVs) from the perspective of open-source investigators?**

Q2: What are **the processes required to infer the authenticity of CJVs from the perspective of archival diplomatics?**

Q3: How can the processes necessary to infer the authenticity of CJVs, from the field of archival diplomatics, formulate the basis of a process workflow for authenticating these videos?

Q4: What are the opportunities and challenges that open source investigators will perceive in this online video authentication workflow–which is based on archival diplomatics?

Target Professional Communities

- Open-source intelligence (OSINT) investigators, analysts, and researchers who verify online videos (in civil society groups, human rights organizations)

- Investigative Journalists specialized in online video verification (in news agencies)

Video types

Shallow fakes, i.e. videos altered using traditional techniques, such as de-contextualization or selective editing

Q1: The process from the perspective of Open-source Investigations:

Verify

Q2: The process from the perspective of Archival Diplomatics (1):

Authenticate

Is it a record?

Characteristics to be a record (i.e. archival document)

Fixity **of Form & Content** *after publishing*	Persons	Action It participated in	Archival Bond	Five Contexts

Q2: The process from the perspective of Archival Diplomatics:

Authenticate

Q2: The process from the perspective of Archival Diplomatics:

Q2: The process from the perspective of Archival Diplomatics

Comparing the process from the perspective of Archival Diplomatics and open-source Investigations

Authentication of a (video) record from the perspective of archival diplomatics

Is it a record?

Characteristics to be a record (i.e. archival document)

Fixity
of Form & Content

Is it authentic?

Authenticity in archival diplomatics

- Identity
- Integrity
  - Persons
  - Action
    It participated in
  - Archival Bond
  - Contexts
    - Documentary Context
      - *observed in*
        - Fonds
          and its internal structure
        - Documentary Form
    - Technological Context
    - Admin/Juridical Context
    - Procedural
    - Provenancial
  - Date

Visual, audio, frame rate, sampling rate.
Date, location, description of event,
the person who captured, uploaded, and
published

Commonalities

Common aspects researched in both disciplines archival diplomatics & open-source investigations)

Identify

"The original video"

→

Infer

Date ←→Location← → Source

Where is it?

When? Where? Who?

Verification of an Online video from the perspective of open-source investigations

The authenticity of a record from the perspective of archival diplomatics

Is it a record?

Characteristics to be a record (i.e. archival document)

Fixity
of Form & Content

Is it authentic?

Authenticity in archival diplomatics

- Identity
  - Persons
  - Action
    It participated in
  - Archival Bond
  - Contexts
    - Documentary Context
    - Technological C.
    - Juridical C.
    - Procedural
    - Provenancial
  - Date
- Integrity

Differences &
Areas not in OSINT practices

Identify
"The original video"

→

Infer
Date ←→Location← → Source

Where?

When? Where? Who?

Verification of an Online video from the perspective of open-source investigations

Comparing the process from the perspective of Archival Diplomatics and open-source Investigations

Transforming
authenticity measures of archival diplomatics
-> a video authentication protocol
-> a workflow design for open-source investigators

The authenticity of a record from the perspective of archival diplomatics

Research Project Goals

Q3: How can the processes necessary to infer the authenticity of CJVs from the field of archival diplomatics formulate the basis of a process workflow for authenticating these videos?

Q4: What are the opportunities and challenges that open source investigators will perceive in this online video authentication workflow–which is based on archival diplomatics?

The Video Authentication Workflow for CJVs based on Archival Diplomatics authenticity measures (1)

- Persons
  - who captured
  - who published
  - who owns the channel that published
  - to whom this video was sent
- The function of the video
- The relationship between the video and other records
  - Are there other records published for the same reason by the same person
  - Tags
  - Playlist

A table displaying the elements that constitute the Citizen Journalism Video Authentication Workflow

The Video Authentication Workflow for CJVs based on Archival Diplomatics authenticity measures (1)

Persons

Person(s) refers to a physical person, a group of persons (i.e., a collective of persons), or an organization.

	Persons and their roles in relation to a video	Identify these persons –if possible?	Identify information about these persons other than their (pseudo) names–if possible?
1	the person(s) who **captured** the video?		
2	the person(s) who **published** the video online?[1]		
3	the person who **owns the channel that published** the video online		
4	The person(s) **to whom this video was sent** (e.g.		

Excerpt from the Citizen Journalism Video Authentication Workflow

The Video Authentication Workflow for CJVs based on Archival Diplomatics authenticity measures (2)

- Documentary form
  - Date & Location
  - Visuals and playback speed
  - Audio and sampling rate
- Fixed form & content
  - Changes to audio and playback speed
  - Changes to visuals and playback speed
  - Changes in visuals/audio for privacy concerns
- Video's Identity / license, visibility, format
- Video's Integrity
  - Duplicates of the video
  - Which video is the original one

A table displaying the elements that constitute the Citizen Journalism Video Authentication Workflow

The Video Authentication Workflow for CJVs based on Archival Diplomatics authenticity measures (2)

Documentary form> visual

The visuals and playback speed of the video.

Do you think visual elements (such as images, shots, clips, signs, logos, watermarks, hyperlinks) were added or removed from the video? Yes. No. Other

If yes, what are they?

Why, do you think, they added/removed these visual elements?

Did this change the message of the video?

If yes, in which way?

Excerpt from the Citizen Journalism Video Authentication Workflow

The Video Authentication Workflow for CJVs based on Archival Diplomatics authenticity measures (2)

- Documentary form
  - Date & Location
  - Visuals and playback speed
  - Audio and sampling rate
- Fixed form & content
  - Changes to audio and playback speed
  - Changes to visuals and playback speed
  - Changes in visuals/audio for privacy concerns
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A table displaying the elements that constitute the Citizen Journalism Video Authentication Workflow

The Video Authentication Workflow for CJVs based on Archival Diplomatics authenticity measures (2)

Fixed form & content

Does the video-sharing website (YT) allow the channel owner to add/remove visual elements to the video **after publication**?

a. If yes, does YT indicate that such an addition or removal of a visual element occurred?

b. Does YT generate a new URL for a video that was edited after it has been published?

Excerpt from the Citizen Journalism Video Authentication Workflow

The Video Authentication Workflow for CJVs based on Archival Diplomatics authenticity measures (3)

- Contexts of the video
  - Documentary context
    - Other records fulfilling the same function of the video
  - Provenancial context
    - Is it the usual platform for this creator
  - Juridical context
    - Laws about capturing/ disseminating videos
  - Procedural context
    - Editing before or after publishing videos
    - Indication of editing by creator or platform
  - Technological context
    - Availability of devices to capture videos
    - Availability of Citizen Journalism training
    - Status of Internet infrastructure
    - Technological capacity of the two fighting parties

Research Project Goals

Q4: What are the opportunities and challenges that open source investigators will perceive in this video authentication workflow–which is based on archival diplomatics?

Q4: What are the opportunities and challenges that open source investigators will perceive in this video authentication workflow–which is based on archival diplomatics?

Conducted in-depth Interviews with OSINT to present them the process

Operating from the UK, Uganda, Ghana, France, Switzerland

Verify videos locally and globally.

Europe, Russia, Iraq, Syria

Uganda and Zambia

Morocco, Russia, Ghana

Most regions, including USA, Saudi Arabia, Afghanistan, Iran, France, Germany, Belgium, Poland, Peru, Columbia, China.

Morocco, Russia, Ghana

Q4: Opportunities and challenges that open source investigators will perceive in this video authentication workflow–which is based on archival diplomatics

Insights

- Dates
- Persons
- Fixity of form and stability of content
- The concept of the original record
- Contexts
    - Technological context

Opportunities and challenges
that open source investigators perceived in the video authentication protocol–which is based on archival diplomatics.

Insights of the OSINT Interviews

- **The date**

• The video's capturing date (the record's chronological date).

• The video's uploading date–to the video-sharing website (i.e., YouTube).

• The video's publishing date to the video-sharing website.

Excerpt from the Citizen Journalism Video Authentication Protocol

Opportunities

- Persons

	Persons and their roles in relation to a video	Identify these persons –if possible?	Identify information about these persons other than their (pseudo) names–if possible?
1	the person(s) who **captured** the video?		
2	the person(s) who **published** the video online?[1]		
3	the person who **owns the channel that published** the video online		
4	The person(s) **to whom this video was sent** (e.g., the audience of YouTube, or a specific person)		

Excerpt from the Video Authentication Protocol

Opportunities

Insights from the OSINT Interviews

- Fixity of form and stability of content

Documentary form> the visual layer

Does the video-sharing platform (YouTube) allow the channel owner to **add or remove visual elements** to the video **after it has been published online**? Visual elements can be: still images, video clip(s), signs, logos, watermarks, and hyperlinks. (Removal can take the form of cropping the video's frame, hiding subtitles or car plate numbers.)

If yes (1) Does the platform indicate if an addition or removal of visual elements occurred?

(2) Does the platform provide a new URL for the video that is edited after it has been published?

Excerpt from the Video Authentication Protocol

Opportunities

Insights from the OSINT Interviews

- Unbiased approach
- First hand evaluation of video

Challenges

- Lengthy

“So for citizen journalists and community verification people, it would be very hard for them to break it down.” “it's better to make it as chunks where someone can just investigate persons at a time if needed […] to take bits and pieces and tell people, you don't have to do all of it.” P3

"one thing that could be really interesting is that I think that explanation may be Not all steps are required. Some of them might be optional. “P5

Challenges

- Lack of open source data available to identify some of the protocol’s elements.
  This was clear in the Provenancial Context.

“the main challenge that we have, as part of this international organizations […] is that we do not have any working relationship with the mainstream platforms. For example, when we were working in Baghdad, we could not communicate directly with the for example, Twitter or with Meta, because we would need to go through FBI in Iraq and make the requests through them. And whenever we did it, it always ended in nothing. So in very many situations, we had Twitter accounts of the suspects that were either suspended, or they were deleted, and we needed to, to at least ask the Twitter if they have any records of this of these accounts”

Conclusion

- The protocol externalized some questions that are very implicit and hidden in the process of investigators.

- The protocol made OSINT reflect and revisit some aspects of their verification process.

Next steps

- Write the data analysis report of the first round of interviews

- A second round of interviews and focus group discussion
 (if you know OSINT who is interested in participating,
please let me know).

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