Digital Technologies and Memory:
The Search for Justice in South America

Digital Edition

SITIOS DE MEMORIA URUGUAY
Un proyecto colectivo
sitiosdememoria.uy

Plan Cóndor

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"If the progress of democracy throughout history has entailed a reflective politicization of various issues —such as tradition, customs, the body, and equality— today, we are confronted with a set of technologies demanding public reflection and open debate." [1]

In this report, we present a toolkit, which systematises the main lessons learned from the research, digitisation, and dissemination efforts carried out by the projects plancondor.org and sitiosdememoria.uy since 2019.

This document aims to be a technical aid for considering and implementing best practices, understood as a set of recommendations from the perspective of facilitating access to knowledge and respect for human rights.

This manual will cover two central topics:

1. Recovery, systematisation, and digitisation of documents
2. Georeferencing places used to commit crimes against humanity

These two topics will be interwoven with reflections, lessons, and experiences that consider ethical questions on work related to human rights and the social right to access to information.

The analyses, work standards, conclusions, and recommendations proposed in each section are grounded in practice from several years of work. The text will be accompanied by some examples, or "vignettes", that illustrate concrete challenges and the paths chosen to address them.

The vignettes highlight the importance of conducting technical and process evaluations before carrying out digitisation and georeferencing projects. These examples aim to reaffirm the importance of ensuring that technological skills and equipment, as well as human capacities, align

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[1] UNESCO. *Artificial Intelligence and Democracy*. (Paris: United Nations Educational, Scientific and Cultural Organization, 2024), 9, Artificial intelligence and democracy - UNESCO Digital Library

with the project's requirements and specific objectives.

This text is intended for a broad and diverse audience, including those who undertake projects and research related to human rights using digital technologies. That is to say, members of institutions that define public policies on memory and archives, civil society organisations, human rights activists, journalists, researchers, and academics.

The manual uses accessible language that reflects both practical experiences and the insights gained from developing and maintaining the two websites mentioned before. This toolkit also considers topics covered in the report by the Working Group on Enforced or Involuntary Disappearances, "New Technologies and Enforced Disappearances," particularly questions related to the importance of using technology to manage information ethically and to protect sensitive data. [2]
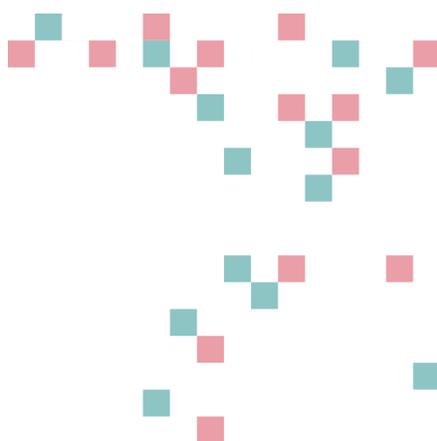
(2) UNWEID, A/HRC/54/22/Add.5: *New technologies and enforced disappearances*, Report of the Working Group on Enforced or Involuntary Disappearances, 11th September 2023, https://www.ohchr.org/en/documents/thematic-reports/ahrc5422add5-new-technologies-and-enforced-disappearances-report-working

The document is divided into two main chapters:

1. Digitisation: This chapter discusses the importance of converting physical documents into digital files to preserve, organise, and facilitate access to historical information.

2. Georeferencing: This chapter explains the process of assigning geographical coordinates to specific locations to identify the places where serious human rights violations occurred.

Both chapters emphasise the need for providing open access to information, preserving document integrity, and using technologies to support the search for justice, alongside the relevance of community-based memory processes and the culture of respect for human rights.

The importance of access to knowledge and the ethical management of information are considered as cross-cutting themes.
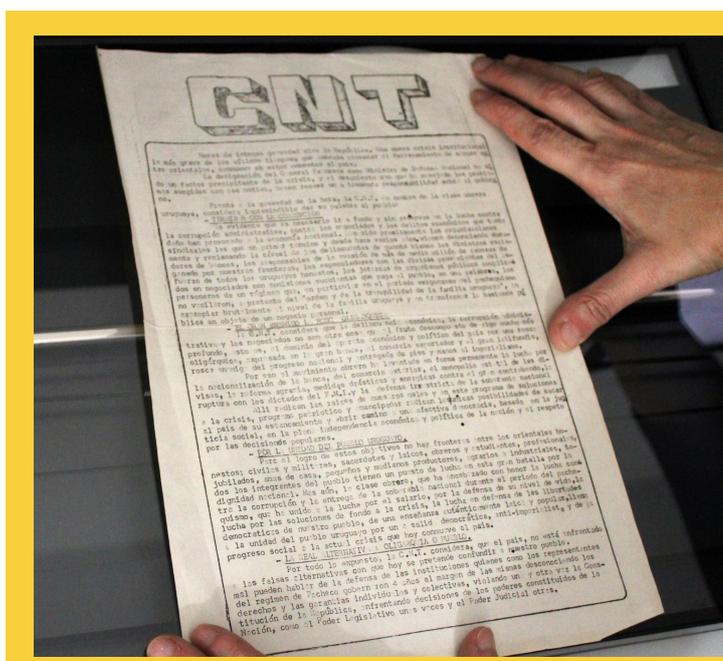
Digitisation of a document using a flatbed scanner.
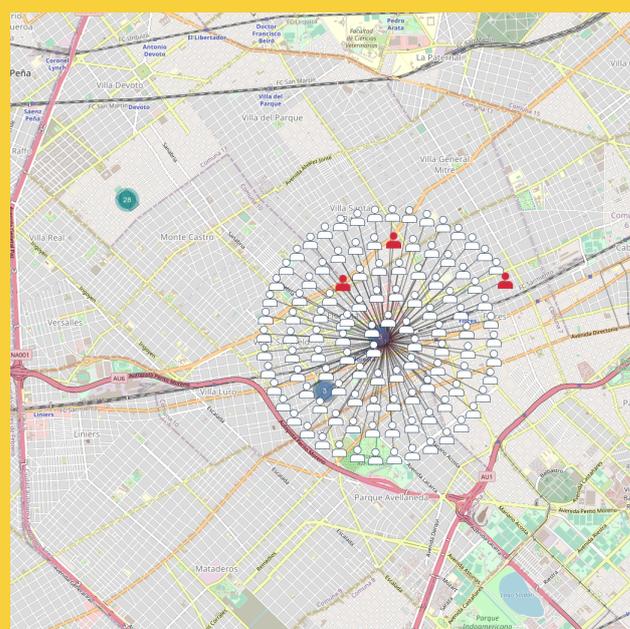
Screenshot of the "Condor Map" on the website plancondor.org

Digital Technologies and Memory: Their Ethical Use in the Fight against Impunity

"Digital territory is a contested setting and a space where the fight against impunity must strengthen its presence with truthful and documented information. Digital initiatives which offer wide access to information represent a commitment to dialogue and collective work in a political and historical context where discourses and authoritarian proposals are intensifying. Democratising initiatives are fundamental for the defence of human rights today." [3]

The work of recovering and systematising documents for digitisation draws on diverse sources. Most of the materials included in the collections of plancondor.org and sitiosdememoria.uy emerged from the denunciations and the resistance movements by groups of victims, civil society organisations, trade unions, political parties or political groups persecuted by the dictatorships in South America during the 1970s and 1980s. These actions led to a prolific production of documents, including booklets, brochures, newspapers, and even flyers or posters. Additionally, these groups and individuals reported the crimes committed by state terrorism and the practices of coordinated repression to various international organisations, such as the Inter-American Commission on Human Rights and Amnesty International. These efforts are also recorded through testimonies, press releases, and the creation of various documents.

These resistance groups used the technological means available at that time in order to resist the authoritarian regimes and denounce the crimes committed by the dictatorships.

These materials were often printed in exile or within the countries using mimeographs and typewriters hidden in the militants' homes. Producing and disseminating these materials involved a risk of persecution, imprisonment or even death or enforced disappearance.

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[3] Francesca Lessa, Mariana Risso and Rodrigo Barbano,"Dar vuelta al Plan Cóndor: red colaborativa y acceso abierto contra la impunidad," in *Derechos Humanos en el Uruguay: Informe 2022* edited by the Servicio Paz y Justicia - Uruguay (Montevideo: Servicio Paz y Justicia I SERPAJ, Uruguay, 2022), 94.

The task of restoring, digitising, and widening access to these documents speaks to the same ethical commitment to provide recognition to the victims while challenging authoritarian discourses based on a lack of understanding. Responding to the denialism of the crimes and the validation of the fundamentals of political cruelty implies a documented effort to dismantle the distortions and opportunistic fabrications of the truth.

Sustained collaboration between people and organisations is important. As is helping communities and organisations of victims and human rights activists to develop their own capacities so that they can collaborate, replicate, or deepen the work independently.

The recommendations on the use of digital tools can help those creating projects on historical memory and the protection of human rights to take more informed measures, where information technology is heavily involved.

In the same sense, the aforementioned Report of the Working Group highlights how "[…] new technologies are indispensable for documenting and investigating human rights violations, obtaining and conserving evidence, and for promoting accountability, even in cases of enforced disappearances". [4]

Recent decades have seen a radical change in how we approach and access knowledge or research and how information is disseminated; a change that continues to accelerate. In particular, education, historical research, and journalism have been transformed by the rapid changes of the digital age. Everyday practices for collecting sources and data for analysis require access to digitised sources. The Covid-19 pandemic accelerated these changes.

[4] "New technologies and enforced disappearances", p. 2.

Access to historical documents related to the political struggles in Latin America from the mid to late 20th century, as well as the resistance against authoritarian regimes and dictatorships, is a current and relevant discussion.

Large volumes of documents, arising from the national and international complaints filed during the 1970s and 1980s, are kept on paper or other technological formats that compromise their preservation. Moreover, the military and intelligence agencies involved in the region's transnational repressive coordination have produced archives with large volumes of information, the majority of which remains inaccessible. This collection of documents constitutes a significant asset in terms of cultural, historical, and political heritage. Further efforts are now required in terms of identification, preservation, enhancement, and access.

Digitisation has enabled collections of documents to be preserved and accessed easily, making it possible to check facts quickly or expand searches across decades and continents in scattered and varied materials. These advances are also helping to bring to light several problems and challenges, primarily in terms of underrepresentation and the restriction of access.

The development of technologies related to digitisation, data processing, and Artificial Intelligence represents challenges for access to information, respect for human rights, and democratic participation.

Making historical documents related to the defence of human rights, particularly those related to countries or regions from the Global South, available online contributes to training Artificial Intelligence (AI) models with a set of documents, historical sources, and specific contexts.

Having accurate and comprehensive information is a way to enrich the construction of narratives with context, fundamentals, concepts, and data, providing an ongoing source of inspiration to new generations for the respect and defence of human rights.

This toolkit aims to outline how digital technologies can make a substantial contribution to memory, the right to access to information, and justice. We derive some lessons from the work carried out so far. This was a collective process that would not have been possible without the generosity and commitment of many individuals and organisations of victims, family members, and activists who contributed their documents, information, and testimonies. We would like to thank these individuals, many of whom belong to the support network of the plancondor.org project.

The Silent March (Uruguay)

This chapter analyses the importance of converting physical documents into digital formats in order to preserve, organise, and facilitate access to historical information. Specific challenges related to the digitisation process are highlighted. Some technical and ethical considerations are also underlined, drawing on the experience of building the platforms plancondor.org and sitiosdememoria.uy.

1.1. Conceptualisation

Digitisation is the process of turning a physical document into a digital format. This involves using a device to create an electronic copy of the document, which allows the original document to be preserved. The term "document" is understood as encompassing all types of physical materials; primarily referring to printed materials but also including photos, film recordings, and books.

Once the document has been digitised, the information becomes available in a format that offers important benefits in terms of storage, preservation of contents, access and dissemination, organisation, and retrievability, as detailed below.

- Storage: Digitised documents are stored on electronic devices that occupy much less space than their physical counterparts, allowing backups to be created with identical copies of each material.

- Preservation: Physical materials deteriorate and their information is lost. Digitisation allows this content to be preserved forever, provided that good technological monitoring policies are maintained in response to changes in storage devices and a reliable backup system is in place.

- Access and dissemination: Leveraging available technologies to facilitate online access to documents and information represents an opportunity for strengthening their dissemination and access. Digital tools can expand the reach and influence of the topic on the public agenda by making complex and sensitive issues accessible to a global audience, thereby democratising access to information.

- Organisation and retrievability: Digitising documents is used to manage archives and documents efficiently, even in large volumes, as it allows for keyword searches after applying optical character recognition (OCR), as well as thematic tags, dates, and any properties included during the classification and metadata stage.

In addition to these characteristics, digitisation also enables the original documents to be preserved under different technical conditions than if they were in constant circulation or consultation. Therefore, digitisation alleviates the tension between document preservation and broad access.

The digitisation of historical documents related to the dictatorships of South America and the transnational repressive coordination known as Operation Condor makes a significant contribution to collective memory and the search for justice. Efforts to widen interest and access aim to combat aspects of impunity present in our societies, particularly in sectors that favour forgetting through disinformation about historical events, denialism, and the anonymity of criminals, their accomplices, and their practices.

Issues of digitisation and access go beyond technological challenges; they also raise ethical questions. The crimes perpetrated through the abuse of state power were often committed using undercover practices, many of which remain unpunished. For these reasons, it is essential to continue finding ways to disclose and publicly condemn these crimes to secure reparations and guarantees of non-repetition.

In this sense, digitisation projects involve objectives and scopes that transcend the academic or technical sphere and can be considered as topics of ethical and political interest. The digitisation of these documents alongside other materials (e.g. books, local and international court rulings, declassified archives) provides remote access to a broader audience, which may be more or less specialised in the subject area.

Anyone interested in learning about or contributing can do so by enhancing their own research to advance knowledge and learning. Due to the specific subject matter of this documentation, it is necessary to analyse the specific challenges associated with means of access and the public use of physical documents.

1.2. Specific challenges

In many cases, the documents and materials that reported the crimes of the region's dictatorships were produced and/or distributed secretly as a form of underground resistance to authoritarianism. Disseminating or preserving them involved a serious risk: in fact, many materials were seized by repressive forces during operations that involved the abduction of individuals or raids on the offices of civil society organisations, political or religious groups, and trade unions. Many of these documents had to be entirely or partially destroyed by those who were safeguarding them to protect their lives and those of their families. In this context of persecution, many valuable materials have inevitably been lost, and some have been recovered from the archives belonging to the repressive forces. Other documents relevant to studying and raising public awareness of the crimes were created by the police, military, and intelligence services themselves.

Access to physical documents can be impeded by policies developed by state authorities, whether due to inefficiency, a lack of prioritisation and investment in these areas, or with the specific aim of preserving impunity by concealing or hindering public knowledge of the contents. However, these difficulties are not only observed in the public sector; it is common for national or foreign universities, as well as NGOs or foundations, to guard and regulate access to their collections in a restrictive manner.

Some human rights organisations or activists are actually in favour of restricting access to documentation. While this may seem contradictory, it is important to understand the various reasons and considerations underlying these positions.

Regardless of whether they are digitised, the original documents must always be preserved, both for their historical value and in cases where they may be useful as evidence for the prosecution of crimes against humanity.

It is recommended that platforms disseminating digitised materials provide historical context to cultivate an accurate and respectful representation of the past.

1.3. The experience of plancondor.org and sitiosdememoria.uy

Given the historical difficulties and restricted access to and availability of documents from institutional archives, the projects plancondor.org and sitiosdememoria.uy prioritised working with documents held by victim groups and civil society organisations within the region. The effort aimed to support the work of these groups in resisting impunity and promoting human rights by preserving, organising, and enhancing the value of their archives.

Several types of collaboration were developed, covering the whole process of selection, organisation, digitisation, and free online access. Before implementing these initiatives, it was necessary to clarify the scope and limits of what was being proposed and agree on the project criteria with a collaborative approach. Secondly, efforts were made to encourage the organisations to develop their basic digital skills so that, once the collaboration came to an end, they would be able to digitise and facilitate digital access to their own collections.

These initiatives help to strengthen trustful relationships and facilitate an open and ongoing dialogue centred around common objectives.

The steps taken to build these collaborations are summarised below:

- Identify archives belonging to victim groups, civil society organisations, trade unions, or political associations.

- Contribute to the identification, preservation, and digitisation of documents and making their public collections available via open access.

- Promote and value their materials and digitised documents and, where possible, link them with other existing content on the websites plancondor.org and sitiosdememoria.uy including victim factsheets or sites of repression.

- Enhance the organisations' own abilities to discuss the inclusion of technical features in their practices, to digitise materials, and to preserve their archives.

1.4. Technical considerations

The technical criteria for digitisation should aim to balance ideal conditions (such as high quality, inclusion of a large set of metadata, and digitisation of all available documents) with the institutions' or organisations' actual possibilities determined by the availability of equipment and personnel for the project.

Proposals or projects that advocate for technical excellence alone as the only way of carrying out digitisation initiatives might end up preventing the work from actually being completed. An important factor in project-planning is to develop realistic proposals aligned with existing resources which can help widen access to information even under suboptimal conditions.

Before beginning a digitisation project, it is important to evaluate the characteristics and volume of the materials to be digitised. This enables the task to be prioritised and planned according to the work required to preserve the original documents and the access needed to the digitised materials. Such an approach ensures that the projects are first and foremost feasible and align with capacities and objectives, and, secondly, achieve the best results with maximum efficiency.

This chapter offers real-life examples through vignettes in order to illustrate the following three issues commonly encountered in parts of public policy administration and projects by civil society organisations:

- Selection of equipment that does not achieve the expected results.
- Unrealistic technical recommendations that prevent the successful implementation of projects.
- Technical decisions that fail to account for the medium-term effects of decisions emerging from shifting or complex political contexts.

As part of a digitisation initiative, an institution in Uruguay that hosts one of the most important libraries in the country digitised historical newspapers from its newspaper archive, with the aim of preserving the materials and facilitating access to these valuable documentary resources. However, it was decided to digitise from the microfilm versions rather than directly from the originals, which seriously compromised the quality of the results. The images obtained by this project have very low resolution and are in black and white (the originals are printed in colour). This low resolution prevents the creation of PDF files with adequate optical character recognition (OCR). The decision affected the quality and usefulness of the digitisations achieved, as it makes it difficult to perform searches, copy the texts, or use them in AI training, among other desirable purposes. This limits the possibilities of consultation for students, human rights lawyers, researchers, and the general public. The result of these decisions represents an inefficient use of public resources, including financial and human.

Digitisation projects require, prior to investment, a detailed evaluation of which equipment would be appropriate for the objectives of the proposed task. In this way, the need to face unforeseen or indirect expenses that may affect the results and even force new partial or total digitisations, extending work timelines, can be avoided.

Results of digitisation with wrong parameters and inadequate equipment.
Newspaper "El Popular" (Uruguay, 1973)

Some fundamental technical considerations to keep in mind during the digitisation process are:

- Quality and Format: The quality of digitisation to be adopted will depend on the physical characteristics of the original document. The general criterion should be to preserve as much information and quality as possible during the transition to digital format, balancing readability with the capacities for data storage and material processing. Additionally, the file formats used should be open source and freely available to ensure long-term access and preservation.
  - Recommended criteria: Adopt international high-resolution standards (600 dpi) and durable file formats (such as PDF/A for documents and TIFF or PNG for images).

- OCR: Optical Character Recognition is a technology that converts scanned copies of physical documents or images into digital text. This enables text to be searched, indexed, or analysed, among other functions, saving time and effort compared to manual searches through index cards, physical documents, or scanned images. It is essential to apply OCR to documents, whether using proprietary software (such as Abbyy FineReader or Adobe Acrobat Pro DC) or open source software like Tesseract. Both types of software offer similar performance, and open source software is available for free.

- Metadata: Metadata are descriptive tags added to the document which provide information about it without altering its content. Metadata facilitate the document's retrieval, classification, and access.
  - Recommended criteria: Metadata should be included, following standards such as DCMI (Dublin Core), METS, or MODS, which allow documents to be searched, retrieved, and contextualised. The metadata should include information about the content such as the type of document, origin, conservation status, creation date, subject matter with keywords like geographic area and relevant time period, and authorship (if known).

- Minimum recommended criteria: When deciding which metadata model to select and how many metadata elements to include for each item, it is essential to keep the project objective in mind of digitising, retrieving, and disseminating content. The inclusion of a complex or extensive set of metadata should not become a barrier to the project's implementation. In this case, it is possible to opt for a simplified labeling system that includes essential and relevant data, such as creation date, author, and origin.

- Sustainability Strategies: Regular backups and copies should be made. A technological monitoring strategy should also be implemented which accounts for updating storage systems around every five years. In the life cycle of preserving digitised documents, technological updates involving data migration must be considered.

- Dissemination of digitised materials: An integral part of any digitisation project involves defining a digital space where the results are shared.
    - Recommended criteria: A dedicated platform should be established where digitised materials are uploaded, contextualised, and made searchable and retrievable. The use of free software is the only option that provides for long-term sustainability. There are effective tools specifically designed for creating digital repositories with free software, such as Omeka and DSpace, while general content management systems, like Drupal, can also be adapted for this purpose. In any case, mechanisms should be in place to enable documents and their associated data to be downloaded in bulk and exported. In addition to having a dedicated platform, it is recommended to

use free and open-access repositories, such as Internet Archive (archive.org), where digitised documents can be uploaded without restrictions.

- Minimum recommended criteria: In the case that it is not possible to create a dedicated platform, it is recommended to upload the documents to an open-access repository.

Open access is a fundamental factor for memory, education, and the development of public awareness. Additionally, the protection of victims' privacy is a factor that must be considered. Therefore, when making documentation with sensitive information available to the public, anonymisation techniques can be employed to conceal the identity of individuals or details that could re-victimise them and harm their dignity. These modifications do not compromise the educational value nor the outreach of the documents.
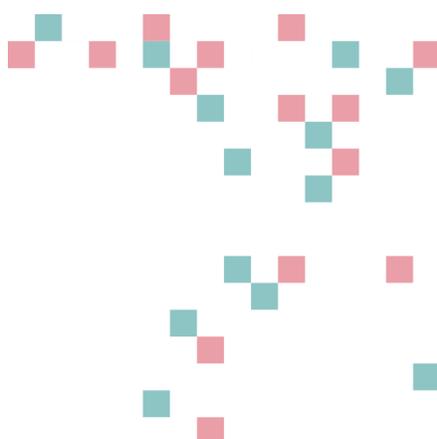
While we were supporting social organisations to recover and digitise their archives in 2021, the person in charge of an important labour union's archive asked us for advice. The collection housed a valuable repository of historical materials belonging to the organisation such as documents, publications, posters, and photographs. Many of these documents had been produced and physically preserved during the resistance against the Uruguayan dictatorship, thanks to the commitment of the trade union activists at the time. For many years, it was understood that these documents should be digitised so they could be preserved from deterioration and used in capacity-building sessions and outreach campaigns. An expert had provided recommendations on the ideal equipment for carrying out this process. However, the organisation had not taken any action because these recommendations were unaffordable. They had been advised to use high-end technology which was far too expensive. These requirements for expensive, new equipment had been an obstacle for years, preventing the digitisation project from taking off.

This case highlights the importance of providing realistic and practical advice, taking into account the financial constraints of social organisations.

Recommendations on digitisation processes and technologies must be flexible and adaptable, offering alternatives allowing projects to move forward. Planning without pragmatic approaches can cause valuable initiatives to stall or even derail efforts to preserve documentary heritage with a historical and social value.

1.5 Ethical considerations

In addition to the technical considerations, ethical criteria must be set for handling sensitive documents and information in a professional manner, respecting the legal frameworks of the countries and, primarily, considering the wishes of the victims, their families, and the organisations which represent them. Concerns regarding the ethical handling of information, documents, and testimonies stem from a commitment to protecting the individuals' rights, well-being, and dignity and to respecting the importance of the documented issues. However, the argument of data protection should not be used as an excuse to prevent access to information of public interest, provided this information has been adequately documented. Finding the balance between access and protection is a challenge.

Measures ensuring the respectful handling of sensitive content should not prevent the dissemination of knowledge about significant events.

It is important to condemn any efforts to conceal, commercialise, or deny public access to information critical for understanding human rights violations. Such practices must be identified as obstacles to be discussed and challenged. Promoting a holistic understanding of the importance of memory, justice, and reparations for communities who have suffered serious human rights violations has been, is, and must remain a collective effort.

Often, documents or testimonies produced forty or more years ago, which could be valuable as evidence in criminal trials or for the intergenerational transmission of memory, are unknown or inaccessible to the survivors and key individuals themselves.

On the other hand, even if there are no outright restrictions, sometimes accessing materials demands jumping through hoops such as institutional requests and bureaucratic approval processes, mandatory in-person visits during restricted hours, and even paying subscriptions. In practice, this creates geographic and economic inequalities - alongside other barriers - that could be overcome through digital and open-access mechanisms.

Limiting the conditions under which materials can be accessed also affects studies and perspectives on complex events, impoverishing the content and resulting in biased accounts. These decisions are sometimes taken carelessly or in a bureaucratic way. However, they can lead to an incomplete understanding of the facts by producing biases related to geography, ethnicity, gender, or socioeconomic factors, among others. Technology must be used as a tool for widening the inclusion of different actors, voices, perspectives, and analyses in public discourse.
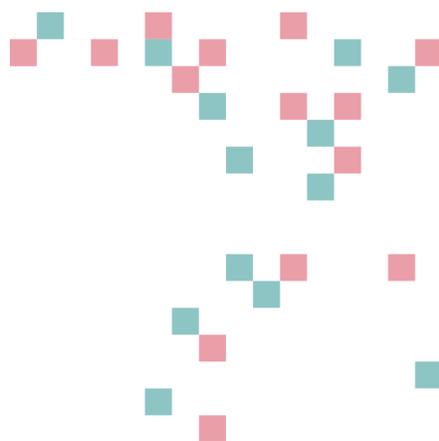
In Uruguay, after decades of social, political, and academic demands, access was finally granted to several police and military intelligence archives in 2006. This particular example will discuss our experience working with the archives of a military unit that was also responsible for running a political prison and at least one clandestine detention and torture centre. These archives contain files with relevant information that has been key to uncovering insights for judicial investigations into the human rights violations which took place during the dictatorship and the coordinated repression carried out by officers from these armed forces through Operation Condor. These documents raised hopes within society and among legal authorities to clarify cases of kidnappings, transfers, and enforced disappearances alongside contributing to criminal trials into crimes against humanity.

The hard copies of the documents were located in a warehouse at Montevideo Port, where the digitisation work was also conducted. We were granted access to these documents by the Secretariat of Human Rights for Recent History in 2016 in order to carry out the task of "surveying and identifying the documentary groups".

In terms of the digitisation process, the decision was made to photograph the materials using high-end photographic equipment, producing files in high-definition RAW format. This choice affected the size of the digital files that were created and meant that storing and processing the files required high computational capacity.

This type of technical decisions creates a bottleneck in the operational process. Unfortunately, the project was interrupted by the change of government in March 2020, meaning that large volumes of documents will remain unidentified, unclassified, and undigitised.

A more efficient alternative would have been to acquire several lower-cost scanners that would streamline the digitisation process and allow us to have more digitisers that are less specialised. Digitising a larger volume of documents quickly and efficiently would have facilitated the recovery of information. After all, the goal was not to achieve an extremely high-quality image of each document, as is the case when digitising artwork or other materials, for example.

Political changes often expose the fragility of digitisation projects and the potential for democratising the information contained in sensitive files.

This chapter explains the process of assigning geographic coordinates to specific locations to identify places where serious human rights violations occurred. Some specific challenges are also analysed. Meanwhile, technical and ethical considerations are highlighted drawing on the experience of building the platforms plancondor.org and sitiosdememoria.uy.

2.1. Conceptualisation

Georeferencing is the process by which specific geographic coordinates are assigned to various places, events, or data. The assignment of precise coordinates on a map facilitates spatial analysis for understanding geographic patterns, distributions, and correlations between different phenomena or data.

The result of georeferencing should be the creation of interactive maps, allowing complex information to be quickly communicated and updated. Visual presentation that is accessible and interactive improves understanding, learning, and research on various topics.

Georeferencing places where human rights violations occurred has a specific importance in rendering visible the repressive networks and trajectories, alongside the geographic influence of those places on territories and communities. It is possible to identify the key milestones that, over the years, have resulted in changes and continuities in these places, alongside the progress in the demands to remember, honour, and offer symbolic reparations through memory policies.

Identifying places where repression took place in a systematic and accurate manner is a way of denouncing and responding to denialism, as well as an act of symbolic and historical reparation. Marking the spaces where repressive acts unfolded helps to frame the study of these places within a network of operations involving individuals and institutions in the perpetration of the crimes.

The existence of georeferenced locations makes several contributions to historical memory and serves as a tool for recognising the impacts of violence on the territory, social fabric, and communities. Georeferencing introduces a spatial dimension to memory, which contributes to the planning of policies on reparations and education from a holistic and meaningful perspective.

The georeferencing of repressive spaces can contribute to four key areas:

- Education: Georeferencing helps preserve the historical memory of events, ensuring that both present and future generations can learn about them.

- Recognition of the victims: Identifying and marking the sites of human rights violations is also a step towards the official recognition of the victims and the horrors they faced, which holds particular significance given that state terrorism in South America was carried out covertly.

- Promotion of justice: Georeferencing can contribute to criminal proceedings by identifying clandestine detention centres in cases of investigations of crimes against humanity when the exact location of the crime is unknown. The virtual map facilitates the visualisation of interrelations within the territories, including potential support bases for operations (military bases or police stations), border crossings, routes, rivers, or other spaces described in survivors' testimonies.

- Contribution to research: Having databases of identified locations facilitates research by academics, journalists, independent researchers, activists, and individuals interested in studying human rights violations, their causes, effects, and the social and political dynamics surrounding them.

Open databases of georeferenced locations related to human rights violations are essential in memory recovery processes, both for honouring and remembering the victims and for promoting a more just and informed society committed to preventing future violations.

To summarise, georeferencing in digital and interactive maps is a powerful tool for memory, justice, education, and symbolic reparations. It contributes to a deeper understanding of history, honours those who suffered, and supports the commitment of societies to establishing guarantees for the advancement of human rights and dignity.

2.2. Specific challenges

One of the main difficulties in georeferencing the locations where state-sponsored terror operations against victims took place is that many of the repressive acts were carried out as in a clandestine manner. The kidnapped individuals often did not know their whereabouts, and the detention and torture centres were identified with vague or inaccurate names in testimonies as well as judicial or academic investigations.

The difficulty of identifying the locations in the territories is caused by the clandestine nature of state repression during the dictatorships. This phenomenon results in two additional challenges: homonymy (several places had the same name or the place was named after the repressive forces acting there) and dispersion (a place had several names during the same period or its name changed at different times). This complexity, often intentional to cover up the operations or the responsibility of those involved in the crimes, is further compounded by the fact that some police and military units changed their names and locations over the years.

To build a database with such complex data, it is recommended to create a unique identifier, add all existing aliases, and standardise the naming of each location, even when the names are identical or similar. Some countries have made efforts in this regard, which helps reduce errors and improve the recognition of places used to commit crimes against humanity, as well as identify the locations and those individuals responsible for their operation.

2.3. The experience of plancondor.org and sitiosdememoria.uy

The georeferenced maps developed for the projects plancondor.org and the sitiosdememoria.uy followed different criteria regarding their unit of analysis.

In both projects, each location sheet includes contextual information aimed at highlighting some basic aspects of the repressive operations while also distinguishing more precisely between places with similar or identical names. Each sheet also contains basic information about the known period of activity, the various 'aliases' or names by which that place was known, the repressive forces who operated there, and some significant related events.

On the Condor Map, locations were georeferenced based on the reconstruction of the trajectories of individuals listed in the victims' database from Dr. Francesca Lessa's research. These places played a significant role in the trajectories of the victims' detention or abduction and were classified according to specific categories (prisons, detention and torture centres, border crossings, airports, etc.).

Each of the 805 victim sheets was linked to the known detention centres in which they were held. In addition, for each of the 167 locations we identified, information is provided on the victims of Operation Condor. Given that the research focused on the victims, it was considered very important that the map, its content, and visualisations could reflect the

regional and cross-border trajectories of the repressive coordination.

In the case of the map developed by sitiosdememoria.uy, the chosen unit of analysis is the detention sites within Uruguay. The aim is to document how places central to the 1968-1985 repression operated and their insertion within the local territory. The starting point was a preliminary list of places identified in academic research, official reports, testimonies, and court cases. These locations were georeferenced, assigned a unique code, and uploaded to a website. This allows the locations to be displayed with icons representing the type of repressive operation. A classification system was created allowing specific filters and searches using the following categories:

- Detention and torture centres (CDyT in Spanish)
- Clandestine detention and torture centres (CCDyT in Spanish)
- Political prisons for adults
- Political prisons for adolescents
- Detention and torture centre - Hospital
- Site of discovery and recovery of human remains
- Support base
- Location of political assassination during an operation

Depending on the type of location, these icons are displayed on different layers of maps that users can select. The layers on the map correspond to aerial views from 1966 and satellite images from 2003 and 2018. The different views available allow users to see the territorial changes over the years.

These images were incorporated using Uruguay's Spatial Data Infrastructure (IDE in Spanish), a government initiative established by law in 2013 under the Presidency of the Republic. This initiative is a good example of a public policy with open data, offering access to geographic information about Uruguay for various purposes and serving as a key resource for the project.

2.4. Technical and ethical considerations

Georeferencing is a powerful tool in projects focused on researching and making visible practices of state terror. The first step in georeferencing is to establish the selected unit of analysis and define the scope of the information to be georeferenced. As already mentioned, the project sitiosdememoria.uy focused on the places where victims were detained and abducted for political reasons in Uruguay, while plancondor.org concentrated on reconstructing victims' trajectories at the regional level. Two additional considerations must be emphasised related to the protection of sensitive data and ensuring the quality of information when building databases of geographic locations.

Regarding the protection of sensitive data, when the Database on Transnational Human Rights Violations in South America (1969-1981) was made accessible to the public via the plancondor.org platform in 2022, precautions were taken in terms of how the information was displayed. Particular attention was paid to the protection of victims' personal data, in compliance with the European Union's current data protection laws. On the one hand, it was decided that the individual sheets would not include the names and surnames of victims whose cases had not yet been brought to national or international courts, nor subjected to investigation by national bodies such as truth commissions, or international bodies such as the Inter-American Commission on Human Rights and United Nations committees. This decision was taken in the interest of protecting the identities of these individuals and their family members. In cases where the victims' personal information was already public knowledge after having been included in court rulings and/or domestic and international resolutions, their names and surnames were included in the individual sheets.

The collection of high-quality information is fundamental, and it should be sourced from various reliable sources. In this regard, it is recommended to prioritise information from official documents followed by judicial investigations and academic research. Thirdly, it is important

to engage in work on the ground with victim groups and their family members to gather information and references that have not yet been documented in official sources. The information provided must be accurate and checked to avoid the inclusion of incorrect or misleading data that could distort the public's understanding of the events. Engagement with victim groups or their families must adhere to ethical standards that prevent re-victimisation and the use of sensitive information without consent.

It is important that each location is identified by a unique code and each place is referred to using a standardised and preferred name. In the case of sitiosdememoria.uy, this coding was carried out by incorporating the ISO 3166 codes for each department of the country with an ordinal numbering system. For example, the location where the Defence Information Service operated (Montevideo, Uruguay) was assigned the code SMLG-UYMO-01.

It is important to conduct photographic surveys of the locations so that up-to-date photos can be provided, making it easier to identify the place on the map. For maps that georeference sites of repression, using satellite images, aerial photos, or vector information like street layouts, it is preferable to use layers with open licences. Additionally, many countries have initiatives that provide historical aerial photographs, which can be included as an additional layer to observe temporal changes in the territories.

Aerial photographs, satellite images and street maps in sitiosdememoria.uy.
Air Base of Santa Bernardina (Durazno, Uruguay)

It is advisable to use open-source software for managing the database of georeferenced locations and the map platform.

A good option for a street-level vector basemap is the one provided by the OpenStreetMap project (openstreetmap.org), while a free tool for using that geographic layer and overlaying georeferenced information is the Leaflet project (leafletjs.com).

These open conditions enable civil society to participate in collecting, updating, and validating information. This is a factor that democratises the processes of memory recovery, giving voice to communities and victims.

In addition to using an open-source platform with open geographic layers, the data generated from georeferencing projects should be easily exportable and reusable. This increases the impact of the data, promotes transparency, and encourages active community participation in building collective memory and advancing human rights. In this way, the exported data can later be used by other projects related to the identification of sites of repression, enhancing the chances that the information and work will remain accessible even if the specific projects come to an end. From a technical standpoint, open formats such as CSV, GeoJSON, and SHP are recommended for geospatial data to ensure continuous access to the data as well as sustainability and interoperability. Also, the use of open-source technologies and formats supports the collaboration and enrichment of different projects with similar objectives over time.

In Argentina, the Unified Register of Victims of State Terrorism (RUVTE in Spanish) was created in 2014 within the Secretariat of Human Rights. This institution produced and systematised highly relevant information. From the data, lists of locations were generated and names were standardised and assigned an identifying code. This good practice, however, resulted in maps of the clandestine detention centres being produced in PDF documents.

In its 2015 report, 762 places were identified and this figure increased to 814 in October 2022. The dynamic nature of incorporating locations based on legal investigations and journalistic and academic research presents multiple issues when choosing to share the information through PDF documents instead of interactive web maps:

PDFs do not allow dynamic interaction with the map. Users cannot zoom in, search for specific locations, nor click to access information. The ability to explore and discover more information through layers, links, and pop-ups is absent. To update a PDF, a new version of the document must be created and distributed, which can be complex logistically speaking. In fact, new locations have been found or information has been corrected since the last version of the PDF was published in 2022. However, this information has not been reflected through the creation of new versions of the document.

When using PDFs, errors or outdated information can persist for longer due to the difficulty of uploading corrections. Additionally, interactive web maps can include multiple layers of information, providing a richer and more detailed context.

Fragment of infography in PDF "Clandestine Detention Centers and other places of illegal confinement of State terrorism in Argentina", October, 2022.
Source: https://www.argentina.gob.ar/derechoshumanos/ANM/rutve/mapas

Checked: 28/7/2024

This document was created as a resource for projects that use technology to defend and promote human rights. It was compiled as a brief manual on digital technologies for preserving memory, seeking justice, and providing reparations for victims of crimes against humanity.

This document is based on concrete experiences in research, digitisation, georeferencing, and dissemination related to the Uruguayan dictatorship and the transnational repressive coordination in South America known as 'Operation Condor'.

The main conclusions underscore the importance of supporting research projects and access to knowledge through digitisation to preserve and disseminate information.

- Importance of digitisation: Digitisation not only preserves documents but also makes information more accessible and widely available. This helps to challenge impunity and authoritarian discourses which often arise from misleading narratives and disinformation campaigns.

- Georeferencing as a tool for memory and justice: The precise identification and assignment of coordinates to locations where serious human rights violations occurred contributes to recognising the victims and communities who suffered those crimes. It can also make a significant contribution to symbolic reparations and judicial investigations.

- Relationship between access to knowledge and new technologies: The use of open data and the free availability of information and documents play an important role in democratising access to knowledge. Having quality information is central to debates on public memory policies. As is ensuring that the content from projects - such

as digitisation and georeferencing - can be easily exported in bulk and reused. These measures enhance impact and provide safeguards against adverse political changes that could affect the pursuit of memory, truth, and justice, alongside cyberattacks or other challenges that could influence the sustainability of projects. Open access to information enables artificial intelligence models to be trained with specific datasets, helping to mitigate biases and enhancing the ability of algorithms to handle complex situations more effectively. This is relevant given the growing trend of consuming information mediated by AI algorithms.

The document sets out conclusions that go beyond technical aspects to highlight the importance of using technological tools in an ethical manner. These considerations are essential as guiding principles for organising team work, ensuring that projects and initiatives respect human rights and promote a well-documented, contextualised, and rigorous understanding of history.

It has been emphasised that a central focus should be the importance of establishing ethical criteria and procedures for projects related to the investigation of crimes against humanity. These definitions are inherent and unavoidable.

Practices or projects that turn social justice and suffering into consumer goods or tools to strengthen business models are unacceptable. In this regard, we recommend:

- Respect for the victims, their families, and communities: Respecting the dignity of victims of human rights violations involves handling sensitive information carefully to avoid re-victimisation through the use of information and documents.

- Avoiding unnecessary restrictive mechanisms: Questioning and rejecting practices of concealment and denial of public access is as important as avoiding the commercialisation of documents related to human rights violations.

- Promoting transparency and collaboration: Encouraging open communication and collaboration among organisations, researchers, and communities is essential to ensure that projects for preserving memory and advancing human rights are inclusive and respect the various interests and perspectives involved.
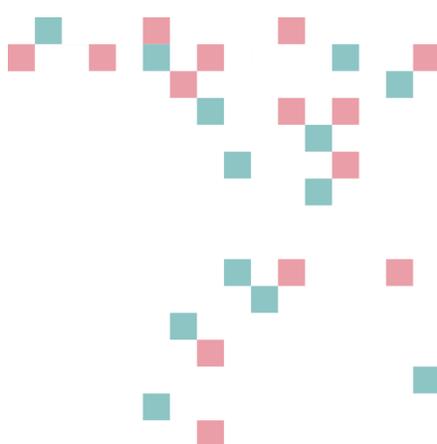
It is recommended to create an online platform that offers easy and intuitive access to digitised materials and georeferenced locations. The platform should also support the bulk export of its contents.

A specific platform for document repositories is Omeka or Dspace, while a more general platform that can be adapted is Drupal.

When developing a dedicated repository is not feasible, it is recommended to use publicly accessible repositories like Internet Archive (archive.org).

If the project includes digitisation and georeferencing, it is recommended to use a versatile platform that can be customised to serve multiple functions.

For geographic information, it is recommended to use open-source software such as the Leaflet.js library. This tool allows users to add layers of aerial and satellite images, as well as map points. It also integrates with major open-source content management systems such as Drupal and WordPress.

Digitisation

Resolution of digitised images (600dpi) and durable file formats (such as PDF/A for documents and TIFF or PNG for images).

Optical Character Recognition (OCR) to convert images produced from digitised documents into text.

Include metadata following standards such as DCMI (Dublin Core), METS, or MODS.

Georeferencing

Use tools that enable easy and bulk data export for backup and reuse. For exported data, it is recommended to use open formats such as CSV, GeoJSON, and SHP.

Use free map layers, such as those provided by openstreetmap.org. Identify national projects with historical aerial photographs that can enrich the information on the maps.

Technologies and criteria used for the projects sitiosdememoria.uy and plancondor.org

- Digitisation: PNG images at 600dpi. PDF documents with OCR.
- Metadata: Basic descriptive fields (name, date, subject, etc.).
- Georeferencing: Leaflet.js library with layers from openstreetmap.org.
- Platform: Drupal.
- Data Export: Open formats in CSV and GeoJSON.

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