



InterPARES 2 Project

International Research on Permanent Authentic Records in Electronic Systems

Diplomatic Analysis

Case Study 18: Computerization of Alsace-Moselle's Land Registry

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INTRODUCTION

Under French real estate law, the juridical status of property must be made publicly available to interested third parties by means of transcription within a land registry. The Alsace-Moselle land registry, established in 1891 under German jurisdiction, and recognized by French law in 1924 as part of the limited sovereignty granted by the French state to the Alsace-Moselle region, fulfills this requirement of *publicité foncière* for the region. In 1994, a project to undertake the computerization of the registry was initiated by the formation of a specifically dedicated administrative body, GILFAM (*Groupement pour l'Informatisation du Livre Foncier d'Alsace-Moselle*). Computerization of the land registry was undertaken with the goal to “facilitate and speed up the process of requests for new inscriptions, automate information exchange between the registry and the cadastre, optimize information storage and enable remote consultation of the registry.”¹ Because the transcription of a legal document into the registry finalizes real estate transactions, a request for inscription in the registry must be verified by a “*juge du livre foncier*,” an officer of the French State. A successful verification of an inscription in the paper-based system results in the production of two distinct kinds of records: an ordonnance of inscription, and the inscription within the register itself. In the computerized system, a “*projet d'ordonnance*” is prepared and transferred to the judge, who verifies it and attaches his digital signature. At the moment the “*projet d'ordonnance*” is signed by the judge, an ordonnance is created and signed, and all the relevant fields of the new registry database are updated. The following report present the results of a diplomatic analysis on records produced in the computerized registry.

The purpose of the diplomatic analysis is to assess the status of the identified digital entity as a record. Once the status of the digital entity has been determined, preservation strategies may be proposed by Domain 3.

¹ Case Study 18 Final Report, p. 4.

IDENTIFICATION OF RECORD(S)

A record, as defined by the InterPARES glossary, is a document made or received and set aside in the course of a practical activity. A record must also possess all of the following five components, as established by InterPARES 1 research conclusions: fixed content and form, embedded action, archival bond, persons and contexts. The application of the definition of a record to the creator's digital entities is therefore analyzed according to the following parameters:

1. To be identified as a record, the digital entity must possess fixed content and form,² and be affixed to a stable medium (or physical carrier).

The digital entities that are the subject of this analysis are created within a relational database. Once a "projet d'ordonnance" has been verified and signed by a "juge du livre foncier," the ordonnance is created as an XML file, while the elements of the inscription are added to the base tables of the relational database, from which the inscription is capable of being recalled at any time. The form and content of the entities is dictated by French law, and strict access controls, as well as controls imposed by system architecture do not allow for modification after an ordonnance is created and the inscription added to the database. Though the Final Report does not specify, it may be presumed that the database is maintained on a server owned and maintained by GILFAM. Based on the above discussion, it can be determined that the ordonnances and inscriptions meet the first requirement of a record.

2. A record must also participate in an action, defined as the conscious exercise of will by an officer of the creator or by an external person, aimed to create, maintain, modify or extinguish situations. A record results as an unintended by-product or product of the action.

The records examined in this analysis result from the action of publicizing a real estate transaction. Publication of the real estate transaction finalizes the transaction, and is required by French real estate law.

3. A record must possess an archival bond, which is the relationship that links each record to the previous and subsequent record of the same action and, incrementally, to all the records which participate in the same activity. The archival bond is originary (i.e., it comes into existence when a record is made or received and set aside), necessary (i.e., it exists for every record), and determined (i.e., it is characterized by the purpose of the record).

Within the registry database, all information fields corresponding to a particular transaction are linked through relationships, numbered with persistent unique identifiers, and dated. When a "Request for Inscription" (RIN) is forwarded to the land registry office, it is date- and time-stamped and a related dossier, or annex, is opened, containing all associated documents (such as

² The InterPARES1 Authenticity Task Force has defined fixed form as the following: 1) binary content of the record, including indicators of documentary form, must be stored in a manner that ensures it remains complete and unaltered, and 2) technology must be maintained and procedures defined and enforced to ensure that the content is presented or rendered with the same documentary form it had when set aside. (See ATF Research Methodology Statement, available at: http://www.interpares.org/documents/interpares_ResearchMethodologyStatement.pdf).

real estate contracts, cadastre information, etc.) as scanned image files. The ordonnance, an XML document with an attached electronic signature, is numbered, dated and set aside as a stand-alone file, and linked to the inscription by a unique reference number. Each inscription in the registry database records the ordonnance which created it. Scanned images of the register, kept on optical media, are numbered according to the system already in place for numbering individual pages of the registers.

Thus, the documents contained in the Alsace-Moselle computerized land registry clearly possess an archival bond with all other documents participating in the same action; the bond is originary (i.e., it occurs as soon as a RIN begins the transaction); it is necessary (i.e., every transaction must adhere to the same documentary procedures); and it is determined (for the same reasons it is determined).

4. Record creation must involve at least three persons, whether or not they explicitly appear in the record itself. These persons are the author, addressee and writer; in the electronic environment, one must also take into account two additional necessary persons: the creator and the originator.

In the Alsace-Moselle land registry system, two types of records are created: the ordonnance and its corresponding inscription.

- The record's **author** is the physical or juridical person having the authority and capacity to issue the record or in whose name or by whose command the record has been issued.

For both the ordonnance and the inscription, the author is the "*juge du livre foncier*," who is an officer of the French State.

- The **addressee** the physical or juridical person(s) to whom the record is directed or for whom the record is intended.

For the both ordonnance and the inscription, the addressee is the public at large.

- The **writer** is the physical or juridical person having the authority and capacity to articulate the content of the record.

For both records, the writer is the Ministry of Justice, as the articulation of the content of the records is dependent on French legislation.

- The **creator** is the person in whose fonds the record exists.

The Final Report describes GILFAM as the creator, but since their mandate is for the implementation and maintenance of the system, and not for the actual administration of the land registry transactions, they cannot be considered the creator of the ordonnances and inscriptions which constitute legal evidence. The Final Report states that since the functions of the land registry are primarily legal, its operation and management fall under the authority of the Ministry of Justice. Thus, we may presume the creator to be the Ministry of

Justice, unless there is another administrative body underneath the Ministry that is specifically charged with the land registry functions.

- The **originator** is the person to whom the Internet account issuing or the server holding the record belongs.

For both records, the originator is GILFAM.

5. Finally, a record must possess an identifiable context, defined as the framework in which the action in which the record participates takes place. The types of context include juridical-administrative, provenancial, procedural, documentary, and technological.

- The **juridical-administrative context** is the legal and organizational system in which the creating body belongs.

Inscription of a real estate transaction into the land registry database finalizes the transaction and is required by French law. The Alsace-Moselle region differs from the rest of France in the way real estate transactions are made public. In the rest of France, real estate titles are managed by “*conservateurs des hypothèques*,” under the authority of the Ministry of Finance. In Alsace-Moselle, this function is managed by a land registry under the authority of the Minister of Justice. The rules of operation for the land registry are designated by several legal texts, including: the Alsace-Moselle region’s Code of Judicial Organization, which stipulates rules and competencies for the land registry; the Law of June 1, 1924, which stipulates rights of inscription, effects of inscriptions, roles of the real estate judges and clerks, conditions of inscriptions, etc.; the Decree of November 18, 1924, and the Decree of January 14, 1927, which together define the form and content of the registry, procedures for inscription and cancellation, the form of the acts, etc. In 2000, the French government enacted the “*Loi du 13 mars 2000 relative à l’adaption du droit de la prevue aux technologies de l’information et à la signature électronique*,” which, in introducing the concept of “authentic electronic acts,” had a direct impact on the Alsace-Moselle land registry; in 2002, the Alsace-Moselle registry law was amended to acknowledge the legal value of the land register held on a data-processing media. The 2002 law also appointed GILFAM as a permanent public body, giving it responsibility to operate and maintain the computing structure necessary to the functioning of the computerized land registry.

- The **provenancial context** refers to the creating body, its mandate, structure and functions.

The Alsace-Moselle land registry system is managed by and operated under the authority of the Ministry of Justice. Its mandate is to fulfill the obligation to publicize real estate transactions by transcribing certain contracts into registers. Its functions include making property rights public, finalizing real estate transactions, and the legal verification of inscriptions in the registry. Paper registries are held in real estate offices distributed among 46 sites, and there are 36 land registry judges, and 150 clerks who operate the registry system. Each real estate district corresponds to a community, with larger communities divided into several real estate districts, and smaller communities joined together to form single real estate districts. The computerization of the registry has resulted in a single

database (AMALFI), which is administered by GILFAM, and which each real estate registry office can access to process new inscriptions.

- The **procedural context** comprises the business procedure in the course of which the record is created.

Diplomatic analysis of **procedural phases** related to the real estate transactions can be broken down as follows:³

- a. **Initiative**: the introductory phase of any procedure is “constituted by those acts, written and/or oral, which start the mechanism of the procedure.”⁴

Requests for Inscription (RIN) are currently received either in paper or electronic form. Eventually, RIN will be created using custom software, which will connect to the land registry in order to retrieve information relative to the parties or parcels, as most of them will already be registered. When the RIN is received, it is immediately dated. The system will not accept a date anterior to the last date and time of entry, and it is impossible to modify the date and time once it has been assigned to the request.

- b. **Inquiry**: this preliminary phase “is constituted by the collection of the elements necessary to evaluate the situation.”⁵

For each RIN, an electronic file is created containing all the associated documents (contract, cadastre, etc.) as scanned image files.

- c. **Consultation**: this phase is “constituted by the collection of opinions and advice after all the relevant data has been assembled.”⁶

There is no consultation phase in the computerized register; however, there are controls built into the system, such as those mentioned above, which ensure that the relevant documents are present and in order.

- d. **Deliberation**: this phase is “constituted by the final decision-making.”⁷

A “projet d’ordonnance is prepared, using the information contained in the RIN. At the same time, inscriptions are created directly in the database, but are not visible to outside users of the database until the judge has signed them. The “projet d’ordonnance” is sent to the judge’s inbox in the form of an XML document.

³ The phases of procedure as dictated by Diplomatic Analysis; see Luciana Duranti, *Diplomatics: New Uses for an Old Science* (Lanham, Maryland and London: The Scarecrow Press in association with the Society of American Archivists and the Association of Canadian Archivists, 1998), 115.

⁴ Ibid.

⁵ Ibid.

⁶ Ibid.

⁷ Ibid.

- e. **Deliberation control:** this phase is “constituted by the control exercised by a physical or juridical person different from the author of the document embodying the transaction, on the substance of the deliberations and/or on its forms.”⁸

The judge verifies that the acts listed in the “projet d’ordonnance” are authentic, that the parties are able to enter into contractual agreement, and that the “projet d’ordonnance” conforms to the law in every way. In the computerized system, the judge is able to see a “before” and “after” view of the inscription, which allows him to see the changes the inscription will effect in the database. If the judge determines that more information is required before the transaction can be finalized, he will not attach his signature.

- f. **Execution:** “the documents created in this phase are the originals of those embodying the transactions.”⁹ In other words, the execution phase results in the issuing of the first record capable of producing the consequences intended by its author.

When the judge determines that the “projet d’ordonnance” fulfills all requirements, he identifies himself through a fingerprint scan and using a smartcard containing his private signature key, he signs the “projet d’ordonnance.” At that moment, the ordonnance is created and signed, and the inscription is created as the relevant fields of the database are automatically updated.

- The **documentary context** is defined as the archival fonds to which a record belongs and its internal structure.

The registry database is maintained by GILFAM, but GILFAM is not the body mandated to carry out the legal functions of the registry. We may assume from the Final Report that the Ministry of Justice is charged with this mandate, though there is no information in the report that describes their fonds. Within the registry system itself, all records and supporting documents related to a particular transaction are explicitly linked to each other according to strict documentary procedures.¹⁰

- **The technological context** is defined as the characteristics of the technological components of an electronic computing system in which records are created.

The computerized land registry system consists of an Oracle database containing the land registry data, and related TIFF image files of the original registry. Information corresponding to the information found in particular sections of the paper registry is structured in a series of base tables which are linked using primary/foreign key mechanisms. XML tags allow the information in these fields to be readily processed. Two copies of the database are maintained, one accessible for consultation by authorized users through the Internet, and one accessible only for modification by land registry offices. Web-based applications are used to consult the database and manage the inscription process. Plug-ins for commercial notarial software and SSL technology included in Web browsers allow for integration and

⁸ Ibid.

⁹ Ibid., 116.

¹⁰ See answer to record characteristic 3 in this analysis for more detail.

communication between offices and with notaries. Biometric identification peripherals and digital signature software on personal computers provide access control and allow changes to be made to the database. A PKI infrastructure links together all land registry offices and the central database so that judges may sign ordonnances and add inscriptions to the registry.

CONCLUSIONS

The ordonnances and inscriptions created within the Alsace-Moselle computerized land registry fulfill all the requirements of a record, and may be considered as such. Strict procedural and documentary controls ensure that records are reliable, and there are procedural and technological controls in place to ensure authenticity of the records over time. These measures will be addressed in detail in the Domain 3 analysis to be conducted on these records.