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Preserving the future

ARCHEEVO 7

ARCHIVAL MANAGEMENT SOFTWARE

CHARACTERISTICS AND TECHNICAL REQUIREMENTS

ABOUT THIS DOCUMENT

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EXECUTIVE SUMMARY

Archeevo is a software designed to support all the main processes of an archival institution, covering activities that range from archival description to employee performance assessment.

This document presents the system architecture and describes the functional modules, addressing their main characteristics and functionalities. It also outlines some advantages of the software, as well as the technical requirements necessary for its correct installation.

**ARCHIVAL
MANAGEMENT
SOFTWARE**
FOR THE SEMI-
ACTIVE AND
INACTIVE STAGES
OF INFORMATION

ARCHEEVO

Archeevo is a software designed to support all the main processes of an archival institution, covering activities that range from archival description to employee performance assessment.

Archeevo has more than 18 years of development, a process that has taken into consideration the requirements from hundreds, of professionals who use this software daily in more than 80 archival institutions.

This software is market leader in Portugal. Among its users are the Presidency of the Portuguese Republic, and the Armed Forces, several Ministries including the ministries of Internal Administration, Economy, Public Works, Education and Science, among dozens of other reference institutions.

The solution is based on international standards and professional best practices, including:

1. ISAD(g) - *International Standard Archival Description*
2. ISAAR (CPF) - *International Standard Archival Authority Record*
3. ISDIAH - *International Standard for Describing Institutions with Archival Holdings*
4. ODA - Orientações para a Descrição Arquivística
5. EAD - *Encoded Archival Description*
6. BagIt - *The BagIt File Packaging Format*
7. OAI-PMH - *Open Archives Initiative Protocol for Metadata Harvesting*

The first four are intended to support archival description processes and the management of authority records. The following two ensure interoperability with other archival management systems, while the last one allows the integration of the software with content aggregating portals, such as the Archives Portal Europe, Europeana, and others.

Covers all the activities of an archival institution

Archeevo delivers functionality to manage all activities found in archival institution. Among these are archival description, authorities, management of storage rooms, management of digital assets, web publishing, virtual reference room, reporting, productivity assessment, systems integration, etc.

It is a tool that covers and supports all functional areas of an archival institution.

Management of the document entire lifecycle

Archeevo enables archivists to manage the lifecycle of records during its semi-active and inactive phases.

The software allows for the import of selection tables published in ordinances, enabling automatic management of document retention periods.

The system easily allows for the disposal or transfer of documentation, issuing the corresponding guides, disposal records, or delivery records.

Highly configurable

Due to its high modularity and configurability, it is suitable for all types of institutions, regardless of their dimension.

Among other aspects, it allows the configuration of description levels and associated fields, record encoding standards, the visual appearance of the Front Office module, language preferences for interfaces, watermark definitions, indexing terms, etc.

In constant evolution

Archeevo has a continuous development cycle that ensures its constant and sustained evolution, staying aligned with the latest technologies and international standards.

The development of new features is based on suggestions provided by the clients, allowing the software to evolve and adapt in perfect harmony with the needs of its users.

Automation of archival processes

Archeevo has a set of automatic features that enable the user to perform complex operations in a fraction of seconds.

Examples of these include the automatic calculation of dates and extensions, capable of processing hundreds of thousands of records and updating information in higher-level descriptions with calculated information from their descendants. Additionally, there is the quality control of descriptions, which facilitate the task of reviewing and correction description records, the "Find and Replace" feature which allows the user to transversely resolve issues in finding aids, etc.

ARCHITECTURE AND FUNCTIONAL MODULES

This software is composed of 13 functional modules that aim to meet the needs of the most demanding professional archivists. These modules are distributed across various application modules, as shown in the following figure:
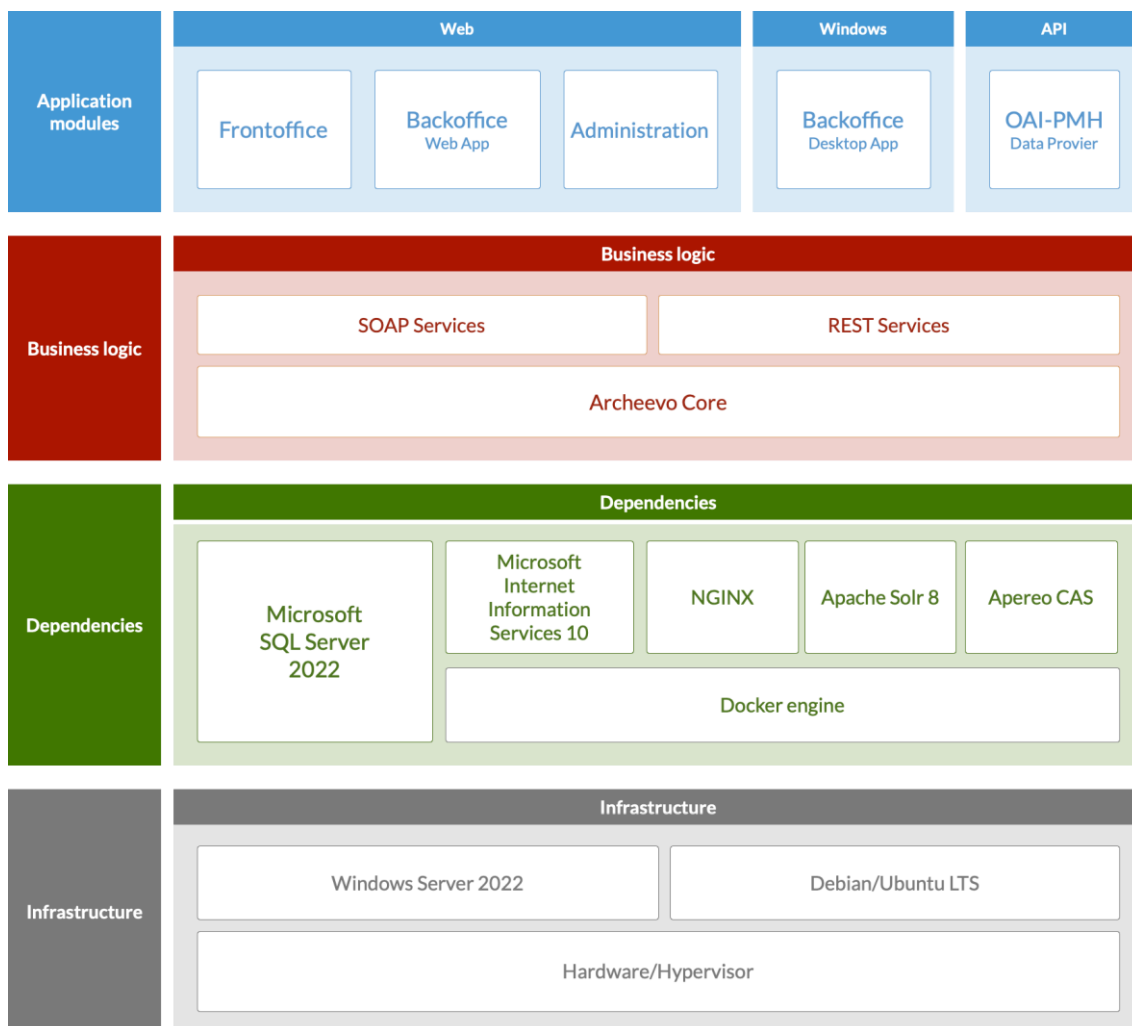

Figure 1 – Archeevo 7 architecture.

BACKOFFICE

The Backoffice module (Desktop app) provides a set of operations typically reserved to information managers working at the archival institution. These operations range from archival description to quality assurance of the records descriptions. This module is divided into 7 different functional modules, namely:

Description records

The description records functional module allows for the description of documentation according to a classification plan or multi-level structure, following the standards established within the organization (e.g., ISAD, ODA).

It supports classification trees with thousands of records.

To optimize the description work, it provides an interface for the multiple editing of records.

It provides advanced features for automatic management of reference codes, quality assurance, automatic completion of metadata, automatic generation of document transcriptions, versioning, spellchecker, contextual help, among other features.

It includes a vast set of reports that can be exported in several formats (e.g. Word, Excel, PDF), as well as mechanism for import and export of information in XML/EAD, CSV formats. CSV import supports hierarchy and allows for field mapping between the columns of the files to be imported and the fields in Archeevo.

Accessions management

The accessions functional module allows the incorporation of documentation into the archive from other institutions or from other administrative units within the same organization.

To speed up the process, the system allows the import of shipping guides in MS Excel format, according to a predefined template. The import is direct, automatically generating information about the accession and its respective storage units (box, folder, etc.).

From the accession units, storage units can be automatically created. This facilitates the creation of physical storage units based on the received information, which is then managed in the physical storage functional module.

Similarly, archival interference can be generated from the input units or from the storage units. This operation facilitates the creation of the respective authorities that characterize this information.

Authority records

This module allows the creation and management of authority records according to the ISAAR (CPF) (*International Standard Archival Authority Record for Corporate Bodies, Persons and Families*) and ISDIAH (*International Standard for Describing Institutions with Archival Holdings*).

This module ensures the creation of authorities of the types Family, Individual Person, and Collective Person with associative, chronological, familial, and hierarchical relationships.

The authority record allows linking to records of documents produced by these entities through applicable types of relationships.

Physical storage management

This module aimed at management the physical space of the institution through the characterization of different locations where documentation is deposited and through a hierarchical structuring of their respective storage units.

For each installation unit, it is possible to check its available and used capacity. At any time, it is possible to know the total capacity of each storage container, the used capacity, as well as the areas of greater concentration.

The association between storage containers and record descriptions is done by dragging and dropping a record onto its container.

Digital assets management

This module allows for the management of scanning projects and/or the incorporation of non-digital documents.

Among other features, this module can extract technical metadata from files, the generation of derivates for web dissemination, manage physical location of the digital files and the perform a semi-automatic association between image files and their record descriptions.

The module also incorporates advanced features for text recognition from scanned documents and full-text extraction from non-digital documents, enabling search within this content and the immediate retrieval of these documents.

Appraisal and selection

This module handles the retention periods of the documentation. Such periods are defined at the series level or can be associated with classes.

When the retention periods are exceeded, the software provides all the necessary mechanisms to support the legal destruction of records or its transfer to another archive, as well as the generation of corresponding shipment guides, elimination records, and delivery records.

These operations are performed through a suitable wizard designed for preservation, transfer, and elimination procedures.

It also allows for the consultation of the history of evaluation and selection processes, reprinting of previously issued guides, as well as the reversal of an evaluation process. In elimination processes, it enables the release of storage space for the respective eliminated units.

Conservation and restoration

This module allows the recording of conservation and restoration actions performed on the documentation, whether they are of a curative or preventive nature.

During the registration of a conservation and restoration action, photos and videos can be associated to better document the restoration process.

A conservation and restoration record is always associated with a description unit, which characterizes the document being intervened upon.

The conservation and support process can be more comprehensive or more focused. For example, it could involve the sanitization of an entire documentary series (in this case, the conservation and restoration record are associated with that series), or it could be simply the conservation of a spine of a document (in this case, the conservation record is associated with the document).

From version 7, the Backoffice is available as a Web App, where the various aforementioned functional modules will be progressively made available. Currently, the description management and authority management modules are already accessible.

FRONTOFFICE

The Frontoffice application module is responsible for establishing a bridge between the archive and users, both internal or external to the organization. This module provides, via Internet, discovery and location services for archival documents, and it offers the possibility to request archival services through the virtual reading room module based on that information.

Online catalogue

This module comprises three types of searching: simple, advanced, and index navigation.

The search is always performed o descriptive metadata, allowing the user to navigate through the records of a collection based on its hierarchical and multi-level structure. The system automatically provides a finding guide to showcase the entities producing documentation and to facilitate navigation through the existing documents.

This module also allows for the visualization of digital representations associated with descriptive records. Integrated viewers enable operations such as zooming, rotation, printing, sharing, as well as downloading the digital object in its entirety.

The system also provides CMS functionalities, as the user can add new static content to better communicate with their target audience. This may include institutional information, news, documentation highlights, etc.

It also allows the configuration of dedicated search interfaces for special collections (e.g., construction processes).

Virtual reference room

This module, integrated in the Frontoffice module under special licensing, allows external users to submit requests for services provided by the archive via Internet without the need to physically visit the archive.

The services request by users (e.g. loan requests, requisitions, reproductions, issuance of certificates, on-site consultation, etc.) are handled in a coordinated manner through well-defined workflows, where different groups of collaborators are assigned to specific operations (e.g. screening, retrieval from storage, reproduction, etc.). The user can submit a single request for multiple documents.

For internal purposes, the system provides a simple and quick interface to manage the circulation (inbound and outbound) of the repository.

This module also allows the archive to provide access to restricted documents.

Easy to use

Both the Backoffice and the Frontoffice modules deliver a modern and intuitive design, privileging usability through visual metaphors widely known by every user.

All operations are reachable at the distance of a few mouse clicks. It supports drag-n-drop to simplify complex operations such as move records between hierarchical classification structures as well as to establish relationships between different types of entities.

The design of the Frontoffice module can be personalized to meet the branding guidelines of the client institution, making each implementation unique and exclusive.

ADMINISTRATION

The Administration module is responsible for the general configuration of the application. In this module, it is possible to define the operating rules of the software and to configure all other modules of the software. Its features include user management, definition of digitization profiles, configuration of controlled vocabularies, general reports and statistics, etc. This application module is divided into the following four functional modules:

User management

The user management module allows managing internal and external users of the system as well as defining access profiles, allowing administrators to define which operations can be performed by each group of users.

Archeevo is compatible with central user authentication systems such as LDAP (Lightweight Directory Access Protocol) or CAS (Centralized Authentication System).

It can also be configured for authentication via citizen card and digital mobile key.

Thesauri/controlled vocabularies

Archeevo enables users to manage controlled vocabularies which are intended to be used in the Backoffice module to control the values of certain fields.

These vocabularies follow the rules of a Thesaurus, a structure that establishes a set of attributes and relationships used to characterize an indexing term (hierarchy, equivalence, etc.).

The system comes preloaded with the Eurovoc, the UNESCO Thesaurus, among others.

Reporting

This module supports the generation of statistics on the current state of the archive, such as physical space occupied, level of detail on fonds description, number of unpublished fonds, level of completeness of each fonds, number of records per description level, etc. It also generates productivity reports by staff member.

Reports and statistics can be exported to PDF and MS Excel formats.

System configuration

In this module users can change the configuration of the entire system, including the translations of the system, adding new static content to Web pages, create customized search interfaces, change values of certain system tables (e.g., prices of services), management of predefined email messages, types of relationships between authorities, appraisal and selection rules, among other aspects.

It is also in the system administration where the administrator can recover/restore deleted records from the recycle bin.

OAI-PMH DATA PROVIDER

This module allows making public records available through the OAI-PMH (*Open Archives Initiative Protocol for Metadata Harvesting*) protocol.

This protocol is used by metadata aggregators such as the Archives Portal Europe, Europeana, and others, to provide value-added services on top of the collected information.

Scalable

Archeevo supports information volumes in the order of millions of records without a performance breakdown.

Through the quick location bar, it is possible to directly access description records any digital representations by entering only their reference code.

The system also supports the integration of terabytes of digital objects, adhering to the highest performance requirements.

Support for multiple languages

By default, the Archeevo software is distributed with Portuguese and English languages; however, it includes the possibility of adding any other language, being fully adapted to the demands of the globalized world.

All terms (e.g., field names) used by the system in its various languages are stored in system settings, which can be modified from the Administration module.

Compatible with European portals

Archives Portal Europe and Europeana are examples of services that aims to facilitate access to the national archival heritage, as it functions as an aggregator and facilitator of access to the contents of several institutions.

Archeevo's OAI-PMH module is 100% compatible with the Portuguese Archives Portal, allowing your public records to appear on this portal without the need for human intervention.

Simple and immediate online publishing

Archival information of a public nature can be made available on the Internet in a simple and immediate manner.

With a single click, the Backoffice module user can publish their descriptions and respective digital representations on the Internet, making this information immediately accessible for consultation by all potential interested users.

The publication can include only the description or also the associated digital representation in full or partially.

WEB CONTENT ACESSIBILITY

The Web Content Accessibility Guidelines (WCAG) 2.0 are a set of recommendations issued by W3C that aim to make Web content more accessible. Compliance with these guidelines makes content published on the Web more accessible to people with disabilities, such as blindness and low vision, hearing loss and poor hearing, learning disabilities, cognitive limitations, movement limitations, speech impairment, photosensitivity, and others.

Following these guidelines also allows Web content to become more usable by users in general and by mobile devices such as smartphones, tablets, or wristwatches.

Given the importance of this issue, legislation was created to promote the adoption of these guidelines throughout public bodies of the European Union - *Directive (EU) 2016/2102 of the European Parliament and of the Council of 26 October 2016 on the accessibility of the websites and mobile applications of public sector bodies.*

KEEP SOLUTIONS supports this initiative and ensures that all of its products are in full compliance with the AA+ level of the Web Content Accessibility Guidelines (WCAG) 2.0.

Focused on **information security**

Archeevo incorporates a set of features that make it a highly secure system. Among these, the following stand out: 1) data exchanged between the client applications and the server are encrypted using the HTTPS protocol; 2) records are never definitively deleted, instead, they are deposited on a recycling bin and can be restored afterwards; 3) all changes to records are conserved in the history, so it is possible to retrieve a previous version of a description record; and 4) accesses to features and records are conditioned through access permissions;

TECHNICAL REQUIREMENTS

Archeevo assumes the existence of at least two computer servers (one Windows server and other Linux server) and one workstation.

The servers will be responsible for hosting the database containing the information produced by users, as well as the web server that will provide access to information for users external to the archive (i.e., Frontoffice module). The workstation is used by users of the Backoffice module (Desktop and Web).

For greater speed and system security, it is recommended to install Archeevo on three separate servers:

1. **Database Server** – where the database engine will be installed to store all system data;
2. **Windows Application Server** – where services based on .NET Framework technology will be installed to ensure backward compatibility with legacy applications.
3. **Linux Application Server** – where new services based on .NET Core technology will be installed.

The following sections describe the minimum requirements necessary for the correct functioning of the application on various computers.

DATABASE SERVER

RAM	8 GB 16 GB recommended for contexts with more than 20 Backoffice users
CPU	Intel Quad-Core or higher
HDD	100 GB Depends on the total number of records and their growth rate
Operating system	Microsoft Windows Server 2022 Licensing not included
Software	Microsoft SQL Server 2022 Standard Edition Licensing not included
Network	100 Mbit/s or higher 1 Gbit/s is recommended in the context of incorporating large volumes of digital representations.

WINDOWS APPLICATION SERVER

RAM	8 GB 16 GB recommended
CPU	Intel Quad-Core or higher
HDD	200 GB Depends on the total volume of digital representations and its growth rate
Operating system	Microsoft Windows Server 2022
Software	Microsoft .NET Framework 4.5 Microsoft Internet Information Services 10
Network	100 Mbit/s or higher 1 Gbit/s is recommended in the context of incorporating large volumes of digital representations.

LINUX APPLICATION SERVER

RAM	8 GB 16 GB recommended
CPU	Intel Quad-Core or higher
HDD	100 GB
Operating system	Linux Debian/Ubuntu LTS
Software	Docker
Network	100 Mbit/s or higher 1 Gbit/s is recommended in the context of incorporating large volumes of digital representations.

WORKSTATION

RAM	4 GB
CPU	Intel Dual-Core or higher
Screen	1280x768 pixels or higher
Operating system	Microsoft Windows 10/11
Software	Microsoft .Net Framework 4.5 Web browser Adobe Acrobat Reader (optional) Video/Audio Codecs (optional) Microsoft Office 2003 or superior (optional)
Network	100 Mbit/s or higher 1 Gbit/s is recommended in the context of incorporating large volumes of digital representations.

Note

For clients with demilitarized zones (DMZ), an additional server with a Windows Server operating system may be required, depending on the infrastructure organization.

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KEEP SOLUTIONS

KEEP SOLUTIONS is a company whose mission is to provide advanced solutions for information management and digital preservation.

Our approach consists in providing software and services to allow our customers to make a more efficient management of their information assets.

The company started its activity in 2008, having acquired the status of academic spin-off of the University of Minho, for being a business initiative with strong bonds with research centers and departments from this institution.

Our clients are primarily in the public sector, specifically in the cultural, educational, heritage, and scientific domains, particularly in the areas of archives, libraries, and museums.

We invest in the continuous development of innovative solutions. To support that, we remain active in the production of scientific knowledge while engaging in large-scale R&D projects in cooperation with national and international institutions.