keep.

Preserving the future

ARCHEEVO 5

ARCHIVAL MANAGEMENT SOFTWARE

CHARACTERISTICS AND TECHNICAL
REQUIREMENTS

ABOUT THIS DOCUMENT

Identifier	WP181116		
Approved by	Luís Miguel Ferros	**Approved on**	2018-05-26
Classification	Public		
Distribution	N/A		

REVISIONS

#	Date	Authors	Modifications
1	2018-05-26	Miguel Ferreira	First version of the document

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.

The software is composed of 9 functional modules that seek to meet the needs of the most demanding professional archivists. These modules include archival description, an online catalogue, a virtual reference room, management of authority records, appraisal and selection, management of digital assets, conservation and restoration, management of physical storage rooms and administration.

This document aims to describe the main features and characteristics of Archeevo and also to outline the technical requirements necessary for the correct deployment of the software in a production environment.

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

ARCHEEVO

Archeevo is an archival management software that aims to support all the functional areas of an archival institution, covering activities ranging from archival description to employee performance assessment.

This software is the market leader in Portugal. Among its users are the Presidency of the Portuguese Republic, the Navy, the Army, 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 standards and good practices, including:

1. ISAD(g) - International Standard Archival Description

2. ISAAR (CPF): International Standard Archival Authority Record

3. ODA - Guidelines for Archival Description

4. EAD - Encoded Archival Description

5. The BagIt File Packaging Format

6. OAI-PMH – Open Archives Initiative Protocol for Metadata Harvesting

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

This product has more than 10 years of development, taking into account an accurate process of requirements gathering among hundreds of professionals who use this software on a daily basis in more than 60 archival institutions.

Covers all the activities of an archival institution

Through its functional modules, Archeevo delivers functionality to perform and manage all the activities found in an archival institution.

Among these are archival description, management of physical storage rooms, management of digital assets, web publishing, virtual reference room, reporting, productivity assessment, systems integration, etc.

This software covers all functional areas of an archival institution.

Management of the entire lifecycle

Archeevo supports the management of the entire lifecycle of the documentation during its semi-active and inactive phases.

The software allows the user to establish the retention periods and define its final destinations.

When the retention periods are exceeded, the documentation can easily be eliminated or transferred to another archive, accompanied by the respective consignment and manifest reports.

Highly configurable

Due to its configurability, this software is suitable for all types of institutions, regardless of their size.

Among other aspects, it accounts for the configuration of description levels and its associated fields, numbering standards, definition of watermarks for scanned documents, definition of indexing terms, thesaurus, etc.

Permanent evolution

Archeevo has a continuous development cycle that guarantees a permanent and sustained evolution, remaining in line with the latest international standards, best practices and technologies.

The development of new features is based on suggestions provided by real customers, allowing the software to evolve and adapt in perfect harmony with the needs of its end-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 dates and extensions inference engine, capable of processing hundreds of thousands of records in a few seconds, updating information on top-level description items with information calculated from its descendants, a descriptions' quality assurance tool which facilitates the task of reviewing and correcting archival incomplete record descriptions, the "Find and Replace" feature which allows the user to transversely resolve issues in finding aids, etc.

ARCHITECTURE AND FUNCIONAL MODULES

Archeevo is composed of 9 functional modules that seek to meet the needs of the most demanding professional archivists.

Functional modules are distributed among 5 different applications, and include archival description, an online catalogue, a virtual reference room, management of authority records, appraisal and selection, management of digital assets, conservation and restoration, management of physical storage rooms and administration.
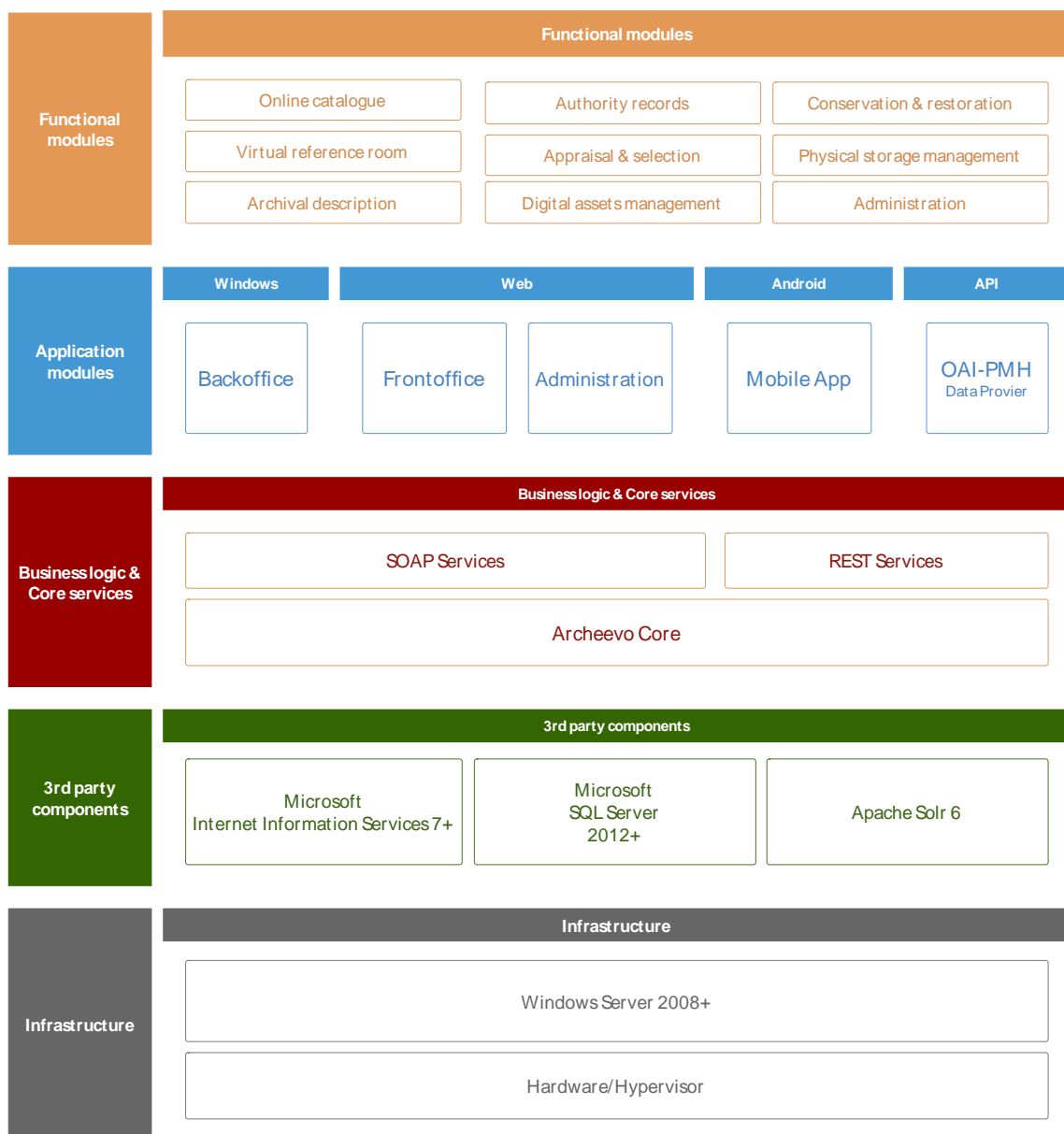

Figure 1 – Archeevo's architecture.

BACKOFFICE

The Backoffice application module provides a set of operations that are typically reserved to information managers working at the archival institution. These operations range from archival description to quality assurance of record descriptions. This application module is divided in different functional modules, such as:

Archival **description**

This functional module allows the creation of record descriptions according to a multi-level file plan in accordance with standards established in international bodies such as ISAD(g).

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

It incorporates a vast set of reports that can be exported in various formats (e.g. Word, Excel, PDF), as well as mechanisms for import and export of information in XML/EAD, CSV formats.

Authority records

This module allows the creation and management of authority records according to the ISAAR (CPF) standard, as well as their connection with record descriptions.

This module enables the creation of authority records of different types, such as Families, Persons and Corporate bodies, and the establishment of relationships between all of these.

The application also provides means to visualize and navigate the relationships established and provides specific discovery services for this type of records.

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 personalised to meet the branding guidelines of the client institution, making each implementation unique and exclusive.

Physical storage management

This module aims to manage the physical location of documents via the hierarchical structuring of the physical storage space.

At any time, it is possible to know the total capacity of each storage unit, the used capacity, as well as the areas of greater concentration.

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

This association can also be performed with the help of a mobile application that uses QR codes to create the necessary associations between records and their location in the storage facility.

Digital assets management

This module makes management of large digitisation projects simple and efficient.

Among other features, this module is capable of extracting of technical metadata from files, generate dissemination versions of the material, stamp watermarks on the dissemination versions of the material, manage the 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 text recognition features, allowing the user to search for content as well as metadata.

Appraisal and selection

This module handles the retention periods of the documentation. These periods are defined at the series level and can be propagated to files and records.

When the retention periods are exceeded, the software provides all the necessary mechanisms to support the elimination or transfer of documentation to another archive, generating delivery manifests and elimination's reports.

Conservation and restoration

This module enables the user to record the conservation status of any given document, describe its physical characteristics and record evidences of restoration interventions carried out by trained technicians.

Evidences can be of several file types such as images of video recordings.

FRONTOFFICE

The Frontoffice application module is responsible for establishing a bridge between the archive and the external user. This module provides online services to discover and retrieve archival material. The module offers three types of search: simple search, advanced search and navigation through indexing terms.

The search is performed on descriptive metadata, allowing the user to navigate through the records hierarchy via its file plan.

This module also enables the visualization of any digital representations associated with records. The integrated viewers allow the user to perform standard operations such as zoom, rotate, print, share, as well as download the entire multi-page digital object.

VIRTUAL REFERENCE ROOM

This functional module, integrated in the Frontoffice application module, allows external users to request services without users having to physically commute to the archive.

The services requested by users are handled in a coordinated way by well-defined workflows, where different groups of staff members are allocated to execute specific operations (e.g. reproduction requests, issue certificates, reading rooms management, etc.). The tasks handling processes may include complex operations such as budgeting, support for electronic payments, manage seats allocation on reading rooms, request information from invoicing systems, etc.

This module also allows online users to access documentation that is not fully disclosed. Documentation in restricted access can be accessed online by users to whom permissions to read have been given.

ADMINISTRATION

The Administration application 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. Operations include user management, definition of digitisation profiles, configuration of controlled vocabularies, consult reports and statistics, etc.

This module enables the administrator to change the settings of any existing controlled vocabularies, which are intended to be used in the Backoffice to control the values of certain fields. These vocabularies follow the specifications of a thesaurus, a structure that provides a set of well-defined relationships between the terms that compose it (hierarchy, equivalence, etc.).

This module also supports the generation of statistics on the current state of the archive, such as physical space occupied, number of fonds/collections described, number of unpublished fonds/collections, completeness of each fonds, number of records per level of description, etc. The system provides over 80 different reports including productivity indicators per employee.

MOBILE APP

This mobile application enables Archeevo to work on areas of the archive where the access to a computer or network is sometimes difficult (e.g. the storage facility). It is, in essence, a reduced version of Archeevo that operates on Android devices (tablets or mobile phones).

This module was specially designed to support management of storage units, as it allows the user to easily assign physical storage locations to documents. The association between physical locations and documents is done through QR codes fixed in both units (physical units and documents).

The application also allows the consultation of the records' metadata based on the reading of the QR code attached to the document.

OAI-PMH DATA PROVIDER

This module allows the archive to publish records using the OAI-PMH protocol. The module currently supports both EAD and Dublin Core metadata standards.

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 to millions of records

Archeevo supports information volumes in the order of millions of records without any performance degradation.

Using a convenient search bar, it is possible to directly access record descriptions and digital representations by simply introducing a reference code or any other metadata attribute.

The system supports the integration of Terabytes of digital objects with automatic generation of dissemination versions with the inclusion of watermarks, extraction of technical metadata and full text extraction, respecting the highest performance and quality standards.

Publishing information has never been easier

Archival information can be published on the Internet with a simple mouse click.

Users can easily publish record descriptions and associated digital representations making information immediately available online for consultation by end-users or other stakeholders.

Once information is made available to the general public, additional services can be provided on top of archival records. The Virtual Reference Room module, enables end-users to submit service requests on published records.

WEB CONTENT ACCESSIBILITY

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.

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; 5) all operations done on the system by users and services are recorded in a detailed log.

TECHNICAL REQUIREMENTS

Archeevo needs a minimum of two computers to operate: a server and a workstation.

The server is responsible for hosting the database that contains all the information produced by users, as well as supporting all the business logic. The workstation is used by end-users to run the Backoffice Module and/or a browser to access the Frontoffice Module.

For greater speed and security, it is recommended that Archeevo is installed on two different servers:

- **Database server** - where the database management system will be installed;
- **Application server** – where business logic services will be installed (Core Services, Virtual Reference, Frontoffice, Administration, and OAI-PMH modules).

The following section describes the minimum requirements necessary for the correct operation of the application on the various computers.

DATABASE SERVER

RAM	8 GB 16 GB recommended for contexts with more than 20 Backoffice users
CPU	Intel Quad-Core or superior
HDD	100 GB Depends on the total number of records and their growth rate
Operating system	Microsoft Windows Server 2012/2016 Licensing not included
Software	Microsoft SQL Server 2012/2014/2016 Standard Edition Licensing not included
Network	100 Mbit/s or superior 1 Gbit/s recommended

NOTE: Resorting to two servers is not mandatory, but highly recommended, especially in high volume/usage scenarios or when information security is an important factor. If you chose to install all the services on a single server, please consider only the specifications of the database **server.**

APPLICATION SERVER

RAM	8 GB 16 GB recommended
CPU	Intel Quad-Core or superior
HDD	200 GB Depends on the total volume of digital representations and its growth rate
Operating system	Microsoft Windows Server 2012/2016
Software	Microsoft .NET Framework 4.5 Microsoft Internet Information Services 7 or superior
Network	100 Mbit/s or superior 1 Gbit/s recommended

keep.
Preserving the future

WORKSTATION

RAM	4 GB
CPU	Intel Dual-Core or superior
Screen	1280x768 pixels or superior
Operating system	Microsoft Windows 7/8/10
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 superior 1 Gbit/s recommended

keep.
Preserving the future

🌐 www.keep.pt

📱 +351 253 066 735

@ info@keep.pt

@ sales@keep.pt

✉ KEEP SOLUTIONS, LDA.
Rua Rosalvo de Almeida, n° 5,
4710-429 Braga
Portugal

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 centres and departments from this institution.

Our clients are mostly found in the public sector, more specifically in the areas related to 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.