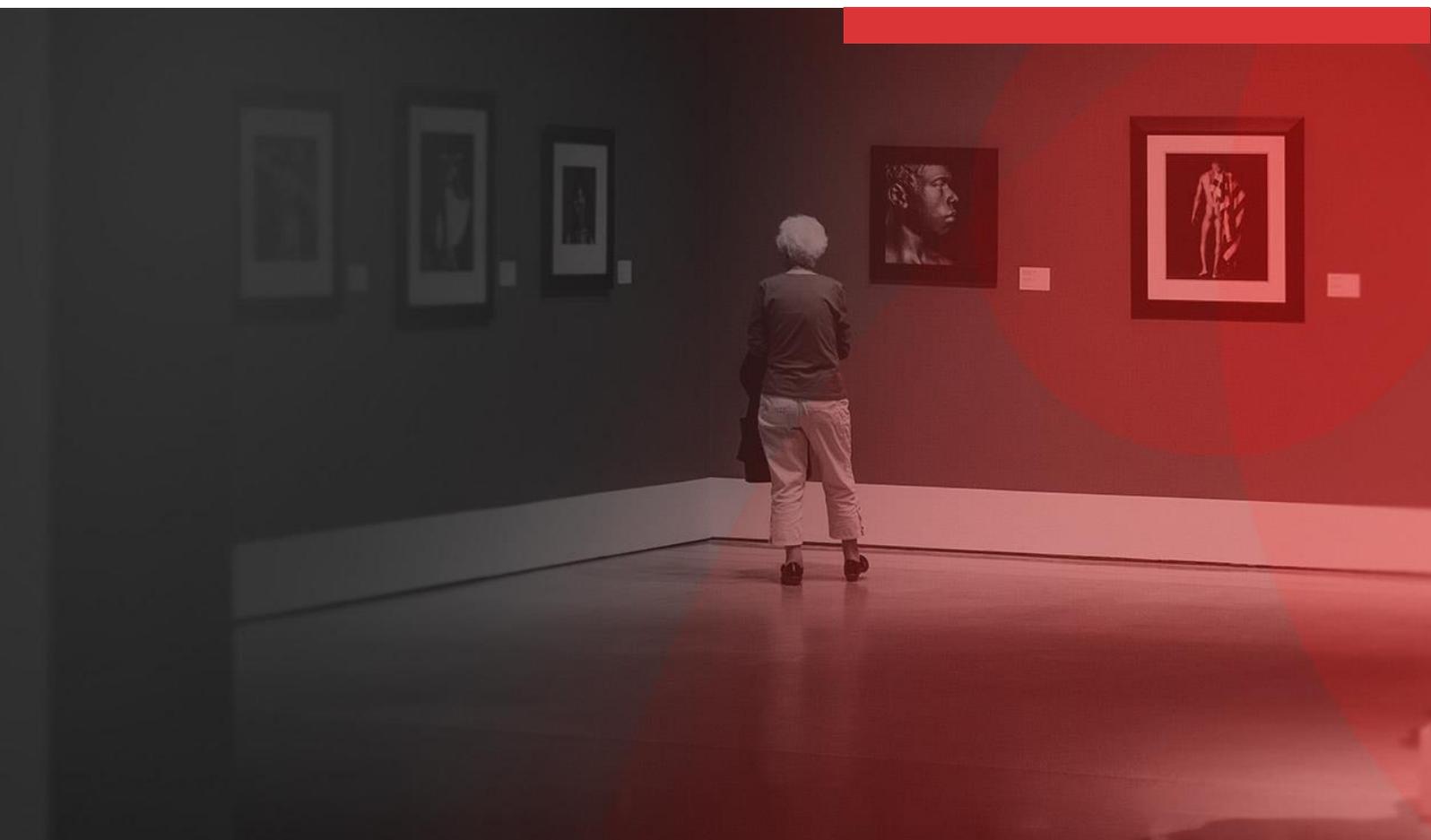


MUSEO



COLLECTIONS MANAGEMENT SOFTWARE

CHARACTERISTICS AND TECHNICAL
REQUIREMENTS

ABOUT THIS DOCUMENT

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EXECUTIVE SUMMARY

Museo is a collections management software specifically designed to maintain and provide access to inventories of cultural objects, regardless of their typology, being material or immaterial.

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

**MAINTAINING
AND PROVIDING
ACCESS TO
INVENTORIES
OF CULTURAL
OBJECTS
REGARDLESS OF
THEIR
TYPOLOGY**

MUSEO

Museo is a collections management software specifically designed to maintain and provide access to inventories of cultural objects, regardless of their typology, being material or immaterial.

This software has the ability to be configured to respond to the specific needs of each institution. Both the data model and the design of graphical interfaces can be adjusted to meet the requirements of any particular museum institution. This means that the information elements used to describe each inventoried item can be modified to meet particular needs of the institution and that the visual appearance of the application can be adapted to meet the customer's design identity.

Museo promotes productivity by providing graphical user interfaces that simplify access to frequently used operations. Data entry forms were designed to maximize the ease of use, being arranged in a single panel avoiding the need to navigate through multiple tabs and windows.

The software also allows museums to easily perform one of their main missions - communicate with its public, disseminate cultural heritage and promote research. It does so by allowing the online publication of its inventory. Navigation is simple, providing different ways of discovering items, and displaying thumbnails together with existing metadata.

Integrated management of **various museum institutions**

Museo allows the management of several institutions in a single instance of the application. An organisation responsible for several museums (e.g. a municipality) needs only one license of the software to centrally manage the inventory of an entire set of museums, without losing the ability to segregate specific information of each museum.

No hidden **costs**

Museo does not require a database management system, thus reducing the system complexity and licensing costs.

In addition, Museo operates over an open-source operating system, i.e. Linux, allowing infrastructure costs to be reduced.

Increased productivity through automatic operations

The software provides advanced options to configure metadata fields and autofill mechanisms.

Additionally, it enables users to conduct searches on the textual content of documents, which facilitates information retrieval when the inventory contains little metadata.

Communicate better, communicate **more**

Museo implements a set of communication protocols and APIs that make it compatible with systems developed by third parties.

Public information managed by Museo can be internationally disseminated via OAI-PMH, greatly increasing the visibility of the institution, its heritage, and thus increasing the number of visitors.

Compatible with any platform

Museo is a 100% Web-based solution. To use the system, you only need a browser. The software is centralized on a server and there is no need to install applications on users' workstations.

Access to the system can be done from anywhere and from any device, desktop or tablet.

ARCHITECTURE AND APPLICATION MODULES

Museo is composed of 3 application modules, which are represented in the figure below.

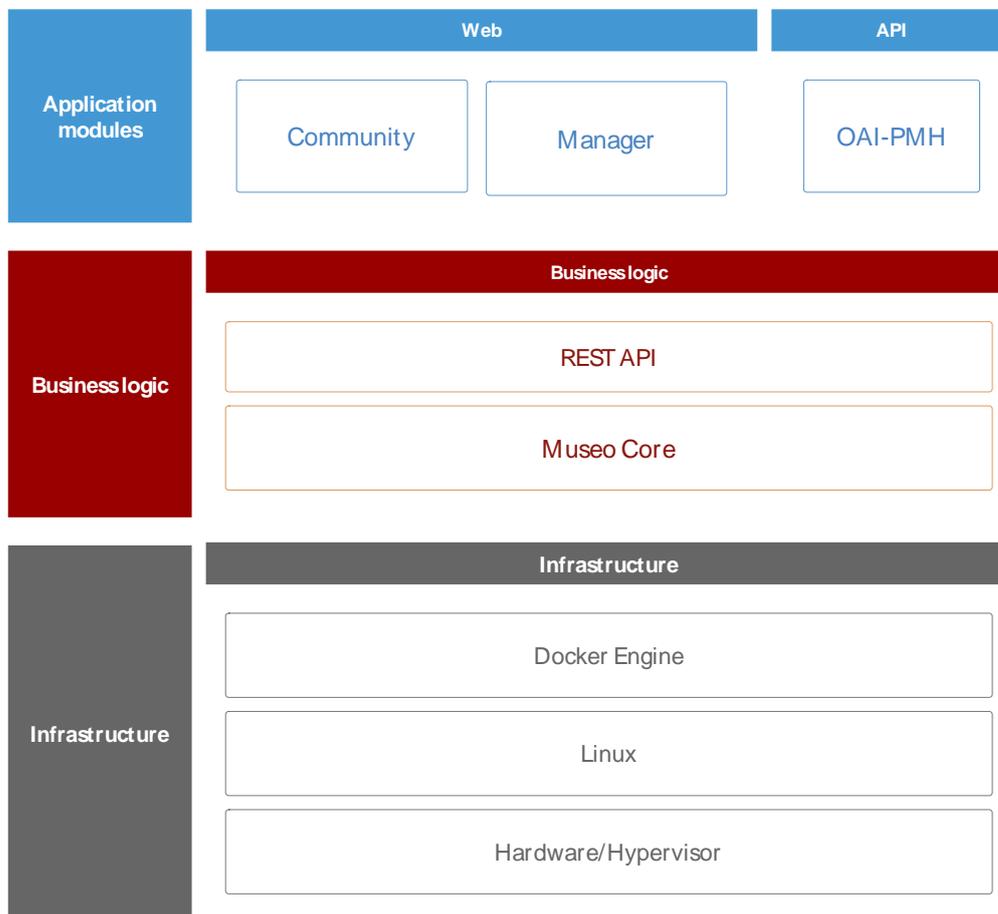


Figure 1 - Museo architecture.

MANAGER

The Manager is the module that is typically used by the museum technicians, providing features such as inventorying, information search, reporting, collection management, exhibitions management, records about conservation and restoration interventions, etc.

The system provides a set of predefined filters that allows the users to quickly select the desired information. It also allows filtering by typology, controlled vocabulary terms, free text, etc.

Users are supported during creation and editing of information records. Alerts are shown when mandatory fields are not filled, or when compliance with the defined formats is not respected. Contextual help aids users in filling in the information required providing a greater overall conformity to the entire catalogue.

The Manager module also allows the administrator to define new types of records, the information fields associated with each type, manage controlled vocabularies, establish relations between records, among other operations.

Reports and statistics are also available to Manager users, as well as the ability to print records, export information, and other features.

COMMUNITY

The Community module functions as the institution's public portal, allowing an external user to search and consult the museum's inventory. This module's interface can be customised with themes in order to reflect the branding identity of the institution.

This module was designed to facilitate the navigation and the discovery of information. It provides a basic search on all the attributes of a record and an advanced search for more refined queries.

During its development, there was a concern to serve well the users that come to the portal for the first time. Users can immediately identify the existing content and navigate directly to the relevant information. As you navigate through the records, hyperlinks to other related records are displayed.

In the context of heritage institutions, there has been an increasing tendency for digitisation (photography, video, or other formats). One of the main objectives of this process is to promote the dissemination and preservation of heritage items. The Museo software follows this trend and provides, in an integrated way, a set of multimedia viewers so that facilitate the consultation of digital representations in several formats such as image, audio and video.

OAI-PMH

The OAI-PMH module allows the provision of records through the OAI-PMH protocol (Open Archives Initiative Protocol for Metadata Harvesting). This protocol is used by metadata aggregators such as Europeana to collect information records and allow the creation of higher added value services, e.g. collective catalogues, statistics and referral services.

The public information managed by Museo can automatically be provided to these portals, thus increasing the visibility of the institution in a national and international context.

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

Museo 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;
- 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

Museo requires a minimum of two computers to operate: a server and a workstation.

The server is responsible for hosting all the information produced by users, as well as supporting all the business logic. The workstation is used by end-users to access the software.

The following sections describe the minimum requirements necessary for the correct operation of the software on the various computers.

SERVER

RAM	4 GB 8 GB recommend
CPU	2.0 Ghz Dual-Core or superior
HDD	20 GB Depends on the number of records and their growth rate
Operating system	Ubuntu Server 16.04 LTS or compatible No licensing costs
Software	Docker engine No licensing costs
Network	100 Mbit/s or superior 1 Gbit/s recommended

WORKSTATION

RAM	4 GB
CPU	Intel Dual-Core or superior
Monitor	1280x768 pixels or superior
Operating system	Windows/Linux/macOS
Software	Web browser
Network	100 Mbit/s or superior 1 Gbit/s recommended



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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 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.