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# **Digitalization in the Bar County Museum – Pilot project**



# Outline

- Bar County Museum
- Digital asset management
- Open source software
- FocusOPEN Digital Asset Manager
- Pilot project and gained results
- Conclusion and future work



# Bar County Museum

- Established 1959
- Located in King Nikola's Palace



- Complex type of a museum with archaeological, historic history of art and ethnological collections
- In archaeological department are prehistoric, antique, medieval and numismatic collections
- In historical department there are collection of medals, collection of old weapons, old books and archive materials and old photos
- Museum includes laboratory for conservation and library



# Bar County Museum



- Old town Bar is first-class historical monument
- Remains of old town are since 1957. protected by state law
- Majority of the town, with more than 600 objects is still unexplored



# Bar County Museum

## Example of museum catalog document

Назив установе			
КАЛЕНДАР СА ЗАБИЉИШКАМА	Број књиге улаза	Инв. број 983	Збирка 405
Предмет — назив		Ранији инв. бр.	Бр. пред. у збирци
Број фототеке	Где се предмет налази		
О П Ш Т И П О Д А Ц И:			
1. Опис предмета		8. Димензија — тежина	
2. Аутор		9. Стање предмета	
3. Мјесто постанка		10. Конзер. препарат. радови	
4. Вријеме		11. Шта треба предузети	
5. Историја предмета		12. Изложбе	
6. Начин набавке		13. Литература	
7. Материјал и техника			
1.	Књижница малог формата која је представљала календар за 1941. годину. Осим календара ту се налазио и мали подсетник и роковник. У календару су и карте Југославије и свијета. Црвена боја.		
2.			
3.	Југославија		
4.	1940 г.		
5.	Календар је припадао др Милу Бошковићу.		
6.	Поштом		
7.	Папир, картон, штампа, повез		





# Digital asset management

- Digital asset management (DAM) consists of management tasks and decisions surrounding the ingestion, annotation, cataloguing, storage, retrieval and distribution of digital assets.
- Digital asset management systems (DAMS) include computer software and hardware systems that aid in the process of digital asset management.
- Generally the "asset" being managed is collected and stored in a digital format. There is usually a target version - referred to as "essence" - generally the highest-resolution and highest-fidelity representation.



# Digital asset management

- The asset is detailed by its metadata. Metadata is the description of the asset and the description depth can vary depending on the needs of the system, designer, or user.
- Metadata can describe, but is not limited to, the description of: asset content (what is in the package?); the means of encoding/decoding (e.g. JPEG, tar, MPEG2); provenance (history to point of capture); ownership; rights of access; as well as many others. There exist some pre-defined standards and template for metadata such as Dublin Core and PBCore.
- DAM software may be open source or proprietary.



# Digital asset management

DAM software should have following characteristics:

1. Ability to upload and store digital resources
2. Ability to add various properties to uploaded digital resource
3. Ability to work on the web
4. Advanced Search
5. Powerful Media Processing Features
6. Easy To Use
7. Flexible and Configurable
8. Scalable





# Digital asset management

DAM software should have following characteristics:

9. Possibility of automatic interchange
10. Ability for further changes and improvements
11. Multiple brands under multiple domains in the same core system
12. Single sign-on
13. Streamlined Cataloguing
14. Copyright and Brand Control
15. Comprehensive Statistics and Reporting



# Open source software

There are three main types of software product firms:

1. Closed source firms own all competitively differentiating software components their products is based on.
2. Single-vendor open source firms also own all competitively differentiating components, but they make some of these components available as open.
3. Open source distributors integrate a large set of open source components and distribute assembly for free. Distributors typically don't own their components.

Open-source software is computer software that is available in source code form: the source code and certain other rights normally reserved for copyright holders are provided under a software license that permits users to study, change, improve and at times also to distribute the software.



# Open source software

In order to be Open Source, all of the terms below must be applied together, and in all cases:

1. Free Redistribution
2. Source Code
3. Derived Works
4. Integrity of the Author's Source Code
5. No Discrimination Against Persons or Groups
6. No Discrimination Against Fields of Endeavor
7. Distribution of License
8. License Must Not Be Specific to a Product
9. License Must Not Contaminate Other Software



# FocusOPEN Digital Asset Manager

FocusOPEN Digital Asset Manager is a digital asset management solution designed to help businesses make more of their media, from managing brands to distributing marketing collateral or other media assets.

We are working with open source version of FocusOPEN Digital Asset Manager.

FocusOPEN is based on Windows server technology. The main requirements are:

- Windows Server 2003 or 2008
- IIS 6,7 or 7.5
- SQL Server 2005 or 2008
- ASP.NET 3.5



# FocusOPEN Digital Asset Manager

FocusOPEN is delivered using a multi-tier architecture that can be distributed across one or more hosts:

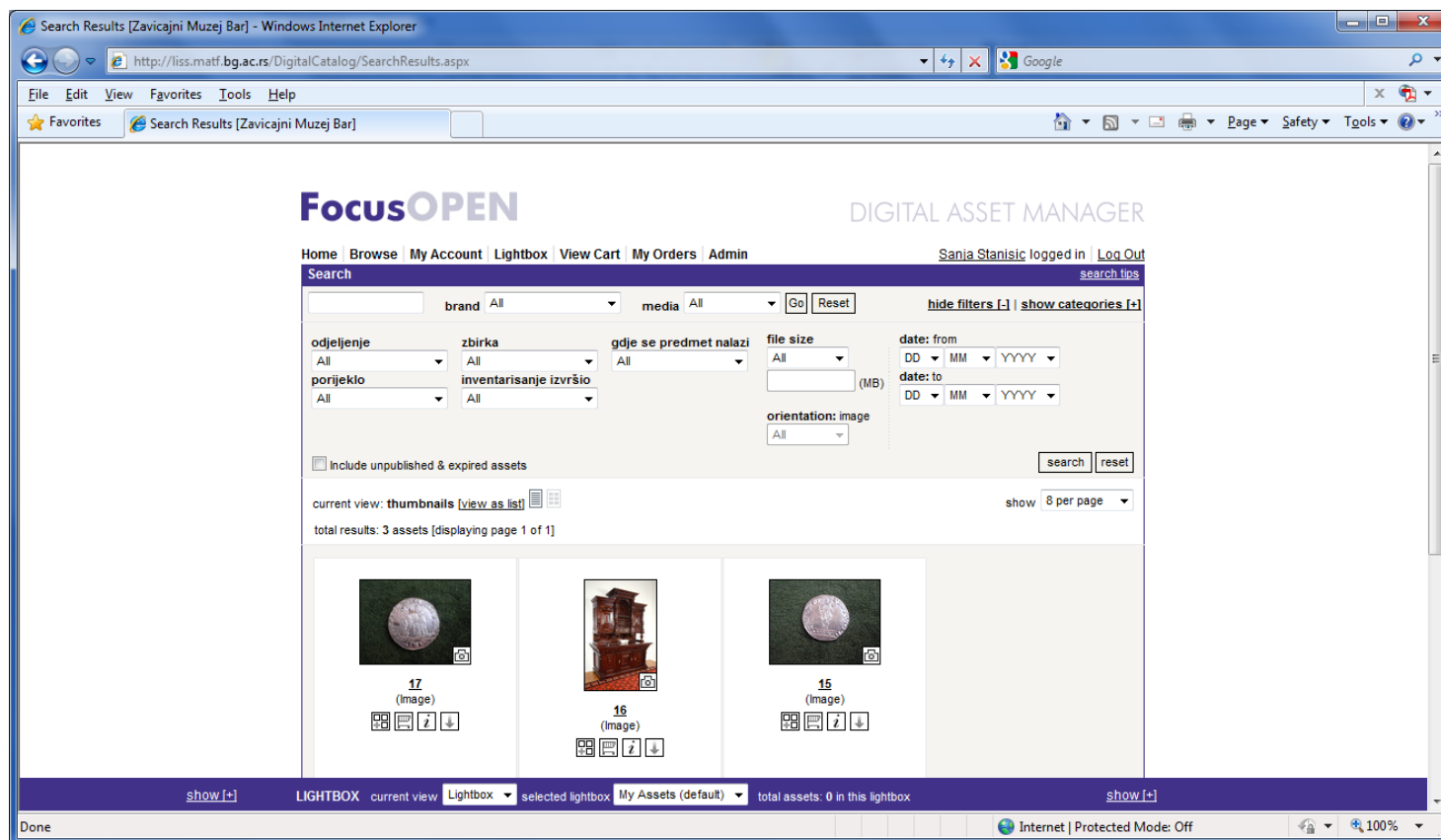
- Web Application: The core ASP.NET DAMS where most of the business logic is contained
- Database: SQL Server RDBMS
- Filesystem: Assets are stored in the file system so any accessible file storage device can be used
- Media Processing: A dedicated Asset Processing Server (APS) is provided as a Windows service

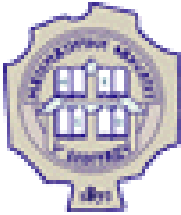
FocusOPEN supports server farms, clustering, redundancy, and other High Availability technology. For storing digital assets, FocusOPEN supports multiple storage points and it is possible to store assets in multiple locations simultaneously without consolidating them.



# Pilot project

We configure DAMS based on the FocusOPEN open source software, set it on web server at Faculty of Mathematics and upload and catalogue Bar County Museum digital resources.





# Pilot project


Details [Zavicajni Muzej Bar] - Windows Internet Explorer

http://liss.matf.bg.ac.rs/DigitalCatalog/Popups/AssetInfo.aspx?assetId=17

## FocusOPEN

### DIGITAL ASSET MANAGER

[All Categories \(3\)](#) » [Zavicajni Muzej Bar \(0\)](#) » [Arheološko odjeljenje \(0\)](#) » [Stari vijek \(0\)](#)



[edit](#) | [stats](#) | [delete](#) | [log](#)

No description available

**Categories**

[Arheološko odjeljenje](#)

[Stari vijek](#)

[\[+\] Feedback about this asset?](#)

POWERED BY  
**FocusOPEN**  
FocusOPEN Digital Asset Manager  
[Download source code \(AGPL\)](#)

[Close X](#)

#### Metadata

Reference Number	17
Predmet - naziv	novcic
Inventarski broj	9996
Raniji invent. broj	nema
Odjeljenje	Arheološko odjeljenje
Zbirka	Zbirka
Dimensions	1208 (h) x 1600 (w)
Ime datoteke!!	P1010005.JPG
Tip resursa	Image
Orientation	Landscape
Datum umetanja	22 August 2011
Veličina datoteke	795 KB
Datum kreiranja	2011
Potiče od	nepoznato
Vlasnik Copyright-a	(c) Zavicajni Muzej Bar
Ograničenja korišćenja	nema
Restricted Download	No
Kontakt e-mail	<a href="mailto:sanja.stanisic@bar.me">sanja.stanisic@bar.me</a>
Povezani resursi	<a href="#">Novcic (15)</a>

Done

Internet | Protected Mode: Off

100%





# Pilot project

Upload Assets [ADMIN] - Windows Internet Explorer

http://liss.matf.bg.ac.rs/DigitalCatalog/Admin/Assets/AssetUpload.aspx

File Edit View Favorites Tools Help

★ Favorites Upload Assets [ADMIN]

Home Page Safety Tools

## FocusOPEN

## DIGITAL ASSET MANAGER

« Catalogue | Admin Home | Korisnici | Porudžbine | **Resursi** | Sadržaj | Alati | Izveštaji | Sanja Stanisic logged in | Log Out

Admin > Resursi > Umetni novi resurs

**Umetni novi resurs**

- Lista resursa
- Katalogiziraj resurse

### UPLOAD ASSETS

**Upload assets.**  
Many files of the same type can be uploaded at once if zipped. | [Uploading zip files](#)  
Note: fields marked \* are required | [view assets to be catalogued](#) | [view all assets](#) | [help](#)

Select File \* C:\User\VladofSi [Browse...](#)

[+1 show extended upload options](#)

☐ email me when video previews have been processed

**! Copyright Warning:** Please ensure that the copyright and usage rights are available before uploading your assets. All copyright, usage and download rights must be specified before assets can be published to the system.

[upload](#)

POWERED BY  
**FocusOPEN**  
FocusOPEN Digital Asset Manager  
[Download source code \(AGPL\)](#)

[Terms & Conditions](#) | [Help](#) | © Zavicajni Muzej Bar 2011

http://liss.matf.bg.ac.rs/DigitalCatalog/Admin/Assets/AssetUpload.aspx

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# Pilot project

Catalogue Assets: Step One [ADMIN] - Windows Internet Explorer

http://liss.matf.bg.ac.rs/DigitalCatalog/Admin/Assets/AssetsInSession.aspx?action=autoselect&AssetId=18

File Edit View Favorites Tools Help

★ Favorites Catalogue Assets: Step One [ADMIN]

**FocusOPEN** DIGITAL ASSET MANAGER

« Catalogue | Admin Home | Korisnici | Porudžbine | **Resursi** | Sadržaj | Alati | Izveštaji | [Sanja Stanisic logged in](#) | [Log Out](#)

Admin > Manage Assets > Catalogue Assets: Step One

Umetni novi resurs  
Lista resursa  
Katalogiziraj resurse


**CATALOGUE ASSETS: STEP ONE**

Select uploaded assets to catalogue.  
Note: fields marked \* are required | [upload more assets](#) | [view all assets](#) | [help](#)

Type \* All

Reference Number \*  
All assets uploaded by you which have yet to be catalogued. (CTRL + click to select more than one.)

18 (DSCF0781.JPG)

Thumbnail  
  
DSCF0781.JPG  
[Delete Asset](#)

[select all assets](#)

Select Template  
[\[what are templates?\]](#)

☐ Use first as a template for others  
☐ Use another as a template:  [\[view\]](#)  
☒ Don't use templates

« cancel | catalogue selected »

http://liss.matf.bg.ac.rs/DigitalCatalog/Admin/Assets/AssetsInSession.aspx

Internet | Protected Mode: Off 100%



# Pilot project

Catalogue Assets: Step Two [ADMIN] - Windows Internet Explorer

http://liss.matf.bg.ac.rs/DigitalCatalog/Admin/Assets/AssetForm.aspx?assetId=18

File Edit View Favorites Tools Help

★ Favorites Catalogue Assets: Step Two [ADMIN]

Home RSS Print Page Safety Tools

## FocusOPEN

## DIGITAL ASSET MANAGER


« Catalogue Admin Home Korisnici Porudžbine Resursi Sadržaj Alati Izveštaji

Sanja Stanisic logged in Log Out

Admin > Manage Assets > Catalogue Assets: Step Two

### CATALOGUE ASSETS: STEP TWO

Complete the following information for this asset.  
Note: fields marked \* are required. Roll over field titles for a explanation of each. | [help](#)



[download original](#) | [replace asset file](#) | [change preview settings](#) | [delete asset](#) | [audit log](#)

**Asset Reference:** 18  
**Datum umetanja:** 17 September 2011  
**Dimensions (pixels):** 1728 (h) x 2304 (w)

Done

Internet | Protected Mode: Off 100%



# Pilot project

Catalogue Assets: Step Two [ADMIN] - Windows Internet Explorer

http://liss.matf.bg.ac.rs/DigitalCatalog/Admin/Assets/AssetForm.aspx?assetId=18

File Edit View Favorites Tools Help

★ Favorites Catalogue Assets: Step Two [ADMIN]

[View asset file metadata \[+\]](#)

**Ime ustanove:** Zavicajni Muzej Bar

**Predmet - naziv:** DSCF0781

**Inventarski broj:**

**Raniji invent. broj:**

**Broj knjige ulaza:**

**Datum poslednjeg inventarisanja:**

**Inventarisanje izvršio:** Not Specified

**Odjeljenje:** Not Specified

**Zbirka:** Not Specified

**Broj fototeke:**

**Gdje se predmet nalazi:** Not Specified

**Opis predmeta:**

**Autor:**

**Mjesto postanka:**

**Vrijeme:**

**Istorija predmeta:**

**Porijeklo:** Not Specified

**Način nabavke:**

**Materijal i tehnika:**

Internet | Protected Mode: Off 100%



# Pilot project

Catalogue Assets: Step Two [ADMIN] - Windows Internet Explorer

http://liss.matf.bg.ac.rs/DigitalCatalog/Admin/Assets/AssetForm.aspx?assetId=18

File Edit View Favorites Tools Help

Favorites Catalogue Assets: Step Two [ADMIN]

**Materijal i tehnika:**

**Dimenzije:**

**Težina:**

**Stanje predmeta:**

**Konzervatorsko - preparatorski radovi:**

**Šta treba preduzeti:**

**Izložbe:**

**Literatura:**

**Napomena:**

**Tip resursa:** Image

**Datum kreiranja:** Unknown Unknown 2011

**Potiče od:**

**Categories** (Choose at least one category to file this asset under)

- ☒ Resursi
- ☐ Istorija umjetnosti
  - ☐ Umjetnicka zbirka
- ☐ Arheološko odjeljenje
  - ☐ Stari vijek
  - ☐ Srednji vijek

Internet | Protected Mode: Off 100%



# Pilot project

Catalogue Assets: Step Two [ADMIN] - Windows Internet Explorer

http://iiss.matf.bg.ac.rs/DigitalCatalog/Admin/Assets/AssetForm.aspx?assetId=18

File Edit View Favorites Tools Help

★ Favorites Catalogue Assets: Step Two [ADMIN]

Opstina Bar

**Ograničenja korišćenja:** \* (c) Opstina Bar 2011

**Pridružene datoteke:** \*  Browse... Clear

☐ Restrict Attached Files

**Watermark Preview** ☐

**Internal Users** ☒ No download restrictions  
☐ Not Visible  
☐ Approval required to download this asset

**External Users** ☒ No download restrictions  
☐ Not Visible  
☐ Approval required to download this asset

**Asset Expires** ☒ Yes ☐ No

**Datum prestanka:** \* 17 September 2013

**Kontakt e-mail:** \* sanja.stanasic@bar.me

**Note: changing the contact email will delegate the asset to this user**

**Datum publikovanja:** \* 17 September 2011

**Povezani resursi:** \*

Internet | Protected Mode: Off 100%



# Pilot project

Manage Categories [ADMIN] - Windows Internet Explorer

http://liss.matf.bg.ac.rs/DigitalCatalog/Admin/Content/ManageCategories.aspx

File Edit View Favorites Tools Help

★ Favorites Manage Categories [ADMIN]

Home RSS Email Print Page Safety Tools

## FocusOPEN

## DIGITAL ASSET MANAGER

« Catalogue | Admin Home | Korisnici | Porudžbine | Resursi | Sadržaj | Alati | Izveštaji | [Sanja Stanisic](#) logged in | [Log Out](#)

Admin > Sadržaj > Uprav. meta-podaci > Kategorije

Konfig. meta-podataka » Konfig. polja meta-podataka  
Uprav. putanjama datoteka Filteri pretrage meta-podataka

### MANAGE CATEGORIES

- Drag & drop categories to reorder them, or use the buttons.  
- New categories can be added at any level.  
- Only categories with no children can be deleted. | [help](#)

Brand: Zavicajni Muzej Bar

Reorder category Left Right Up Down

- Resursi (0)
  - Istorija umjetnosti (0)
  - Arheološko odjeljenje (0)
  - Etnološko odjeljenje (0)
  - Istorijsko odjeljenje (0)

Category Name \*

External Reference

Category Message  
(Enter a message that users will see when browsing this Category)

Synonyms  
(Enter alternative terms for selected Category; one per line)

Add New Delete update

http://liss.matf.bg.ac.rs/DigitalCatalog/Admin/Content/ManageCategories.aspx#

Internet | Protected Mode: Off 100%





# Conclusions and future work

Pilot project shows that open source software for DAM  
FocusOPEN can be successfully in Bar County Museum  
digital resource management.

Now, when pilot project is successfully finished, we are going  
to upgrade and localize FocusOPEN open source system  
and translate all user interfaces to Serbian.

In order to do so and not breach license agreement, we are  
going to set a repository for modified source code and  
make that repository accessible from every web page of  
modified solution.

Assets that are already uploaded into DAMS will be  
preserved – changes of the software will not destroy  
previously uploaded assets and current metadata



# Thank you!

My e-mail address is

[vladaf@matf.bg.ac.rs](mailto:vladaf@matf.bg.ac.rs)