



# NID

NetInteractive  
Documents

online digital publishing platform



# Background

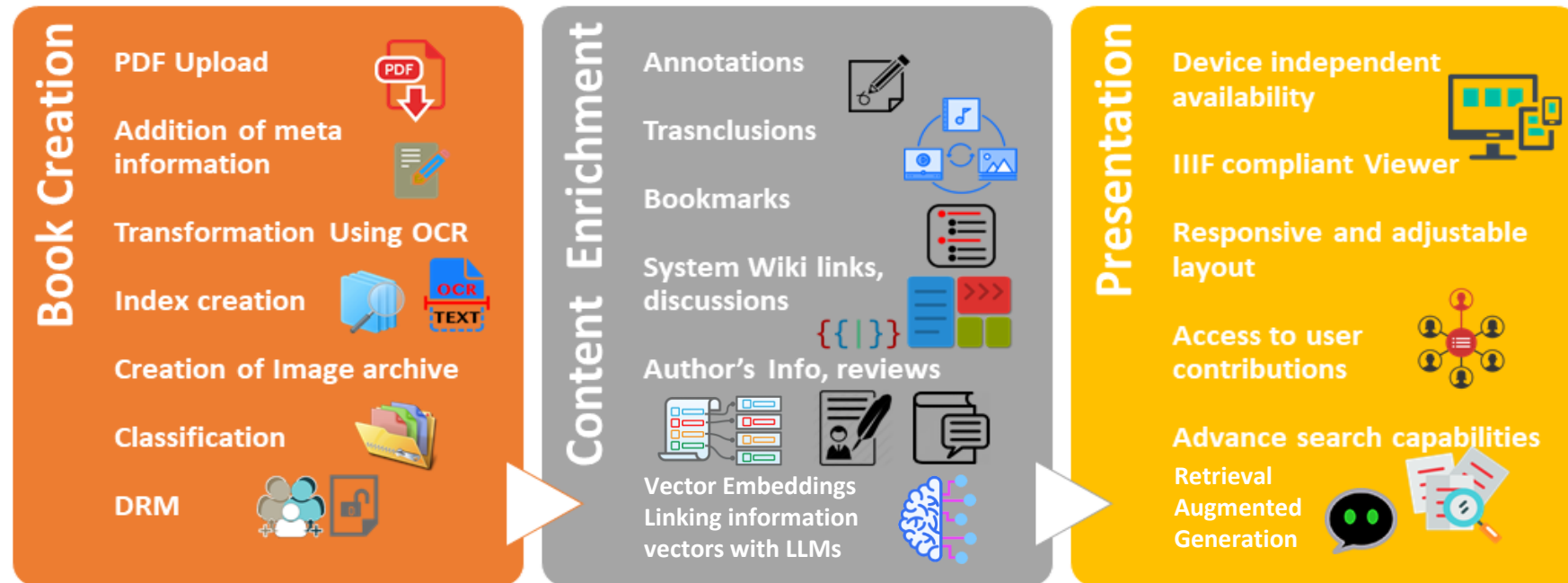
- Digitization and online contents are transforming the way traditional publishers and libraries operate.
- The e-publishing systems provide the means of content availability on digital domain.
- NID system is developed **to exploit the innovations and potentials of online media** and **advance data processing techniques**.
- After years of experiments with quality controlled Knowledge portal at ISDS TUG (Austria Forum, Web-Books); our research team developed a modern **knowledge management system** in form of NID Library system.

# NID Library System

- A modular web-based system built using latest technologies
- Capable of deployment in Windows/Linux environment; Responsive design for cross platform access.
- Microservices architecture of system offers scalability, performance and ease of deployment.
- International Image Interoperability Framework (IIIF) standard based content processing and presentation.
- The library system use most resilient open source components for database, indexing, AI, and image/OCR functions. (No additional licensing)
- Offers an array of advance features including user interactions, access management, group discussions, quiz embedding, image object detection, ease of content sharing, GPT etc.

# System Interface

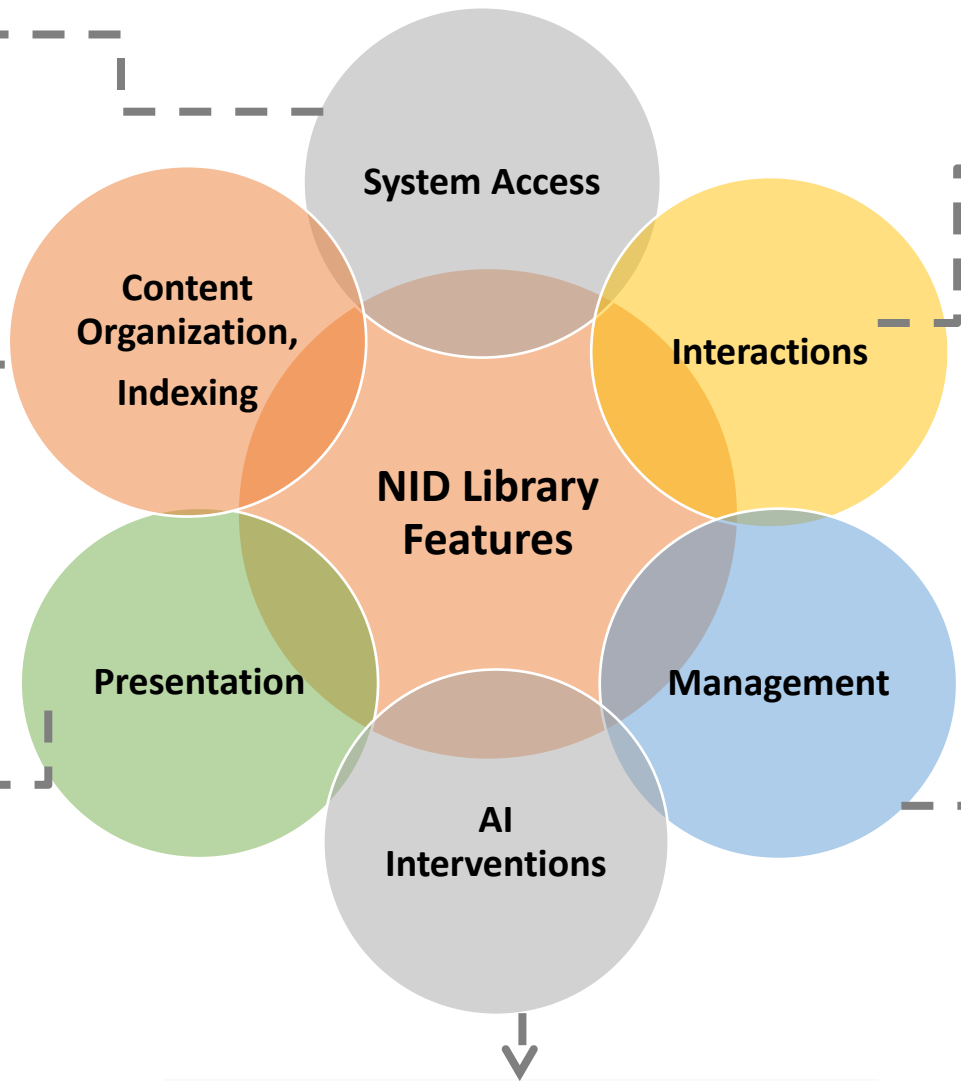
- NID Library system is used via following two sites
  - NID Library Management
  - NID library portal
- Overview of workflow in NID Library is explained in figure below



- Responsive (desktop, mobile)
- Different levels of user authorization (role based)
- User Groups
- Digital Rights Management

- Categories and subcategories
- Faceted search facility on meta data, use of different filters
- Full text indexing and search, with AND/OR operators, quotes, wild cards, result ranking.
- Indexing of text contents for image based PDFs as well.

- Rich viewing and formatting options (single page, book view, thumbnail scroll, rotation, zooming, contrast)
- Parallel book page view from different sources/books, customizable canvas space.
- Readily available meta information and IIIF object manifest.
- Table of contents, page navigation and in book search and result highlighting.



- Annotations and Links for Public, Private and Group use. (Text notes, images, External page links, Internal page links, External video embedding) different options of annotation markers and colors)
- Sharing of selected content through email and social media platforms
- Citation creation in standard format.
- Underlying WIKI system for creation of articles, addition of high-resolution images and videos.
- Book reviews, and comments
- Quiz Engine

- Integrated framework that makes use of locally deployed Large Language Model (LLM) for RAG application, Translations, feature extraction and linking.

- Book addition, deletion, editing, indexing, ToC creation, Author Biography
- Category and sub-category creation, deletion, editing, cover image
- Author, publisher information, source information
- System related settings, Language training data for OCR
- User Registration and management functions

## Technologies Used:

- Microsoft dotnet framework, C#
- MySQL backend DB
- Java Based IIF media distribution engine
- Python Modules for AI interventions (API based integration with core system)
- Use of Large Language Models (LLMs) through LangChain framework offloading of compute load to CPU and GPU through Nvidia CUDA
- System can be hosted on any Windows/Linux platform. Current system is running on Ubuntu 20.04 LTS server with 10<sup>th</sup> Gen Core i-7 64 GB RAM and an Nvidia RTX 4060 Ti desktop GPU.
- Presently using llama 3.1 8b model for multilingual inferences. A larger model can significantly improve the AI capabilities.

## NID Library URLs

<https://www.nid-library.com>

<https://www.nid-library.com:8080>



# NETINTERACTIVE DOCUMENTS

Search for metadata like title, author, publisher

Metadata  Full-Text

**+687 Books**  
Explore by categories

**Read Online**  
Feel free to read online

**Searchable**  
Books with searchable text

## Library Collections

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NID Library is an innovative online web based publishing platform. The digital contents presented through NID library are interactive and collaboration capable. NID publishing platform extends the interactivity amongst contents, users and library systems. This next generation library system additionally present multimedia contents beyond scope of traditional books and documents adding value to book material.

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+43 (316) 873 - 5612  
hmaurer@iicm.edu

5:24 | nid-library.com/ | 1 | 4

JOA... | 1 | [Lightbulb] | [Settings]

- Group
- Quiz
- Fix Page View (Admin)
- Full Screen
- Image View
- Book View
- Scroll View
- Gallery View
- Language Choice
  - English
  - German
  - Serbian

KANN MAN VERTRAUEN...  
DI Dr. Bernhard I...  
sprach mit der R...  
Aspekte im Umg...

IMPLANTATE 3D-DRUCKE...  
Im Rahmen des I...  
erforscht ein int...  
darunter MATER...  
medizinischen 3D...  
WAS BEDEUT...  
SICHERHEIT...  
Auch heuer ist d...  
RESEARCH beim...  
Alpbach aktiv be...  
Technologiesp...

Univ.-Prof. Dr. Dr. Wolfgang Pribyl, MBA  
Geschäftsführer JOANNEUM RESEARCH

Your First Name \_\_\_\_\_

Your Last Name \_\_\_\_\_

Your Username \_\_\_\_\_

Your Email \_\_\_\_\_

Your Password \_\_\_\_\_

Confirm Password \_\_\_\_\_

I'm not a robot

[Register to NID](#)

Already have an account? [Log In](#)

A confirmation mail will be sent immediately to your above Email address from the system, informing you that you can now activate your account by a click on URL in the sent email. If you do not receive this mail within a few minutes please check your SPAM folder. If you still do not find the mail for any reason, please send a message to support@nid-library.com from the email address you used to register the account together with username and password you have chosen. Your account will then be activated for you.



Enter Username \_\_\_\_\_

Enter Password \_\_\_\_\_

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New to NID? [Register!](#)



# DIGITAL COLLECTION

[Home](#) / [Digital Collection](#)

SORT BY

### Limit your search

Search...

Metadata  Full-Text

Geographie

Subcategories

Authors

Collection Types

Publishers

Languages

**Q Search**

### Subcategories in "Geographie".



### 44 Books Found. (Geographie)





Search in book

Search in Annotations

Q Search

- Search results for: schlossberg
- Showing 1 - 24 out of 24
- 92 ...schlossberg schaut ...
  - 92 ...Karmehterplatz in Graz. Im Hintergrund der Uhrturn am schlossberg. ...
  - 95 ...den schlossberg. ...
  - 99 ...W W schlossberg und die ursprüngliche ...
  - 105 ...Foto: Kunsthaus bei Dunst vom schlossberg aus. © Graz Tourismus - Tom Lamm ...
  - 119 ...Wer von Parklandschaften in Graz spricht denkt sofort an den schlossberg, an den ...
  - 122 ...Eisenbrunnen und schlossberg, Foto: gugganij, 2006, aus Wikicommons (Bildlexikon) ...
  - 165 ...am schlossberg ...
  - 171 ...Restaurant schlossberg © schlossberg ...

Fancy Annotation

Image Manipulation

Search

Info

Book Details

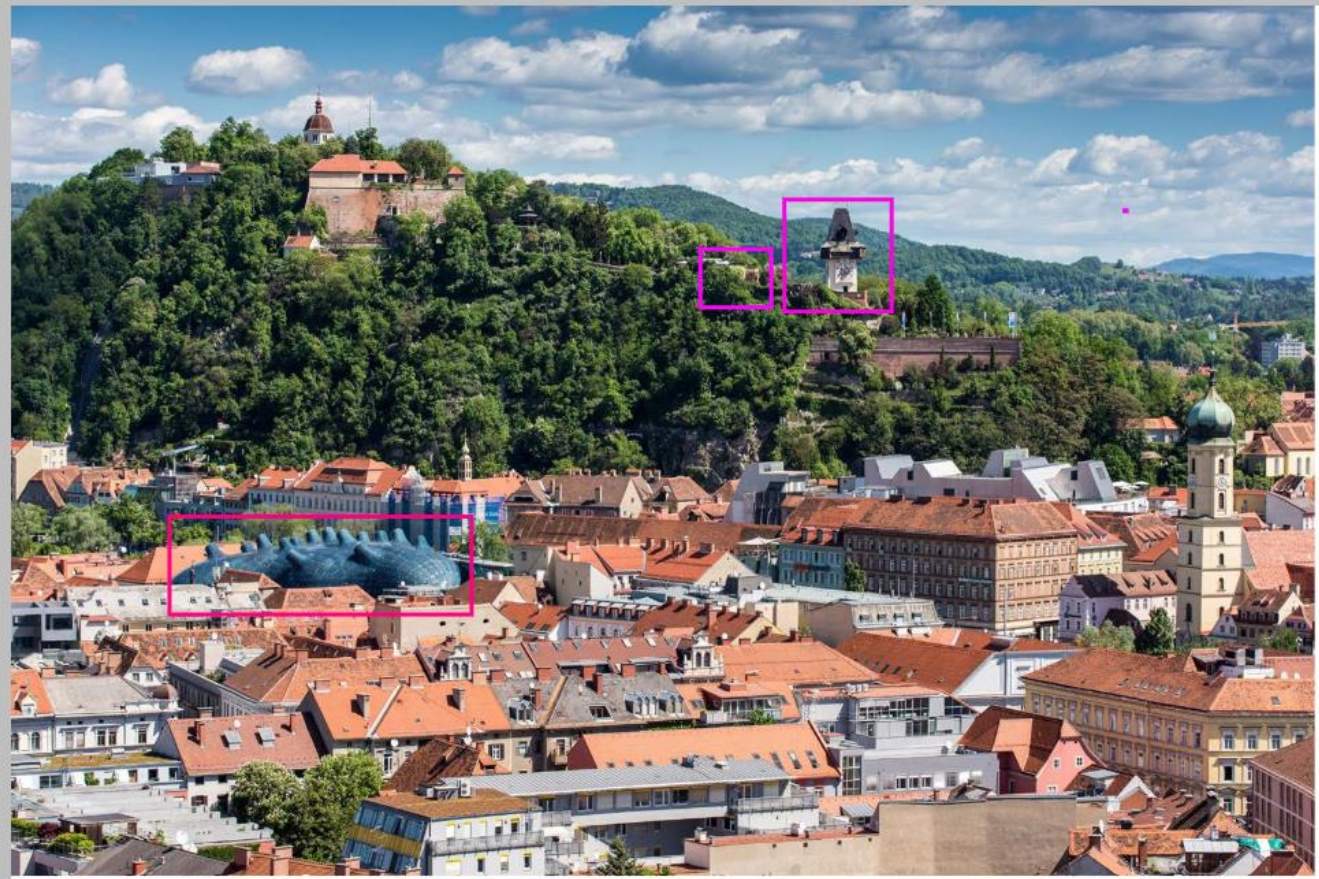
Console

Citation

Links

Page Text

Transclusion



Blick auf den Schlossberg von der anderen Seite der Mur, die hinter den Häusern versteckt hier unsichtbar ist. Ganz rechts der Turm der Franziskanerkirche, links das Kunsthaus, am Rücken des Schlossbergs links oben die Spitze des Glockenturms, darunter die Kanonenbastei und rechts der Uhrturn.

Schlossberg. Foto: © Graz Tourismus - Harry Schiffer

Viele Details zum Schlossberg (Sammlung im AEIOU)

Thumbnail gallery showing various images and text snippets related to the Schlossberg, including a map and detailed descriptions of landmarks.





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Book AI Features >

Categories >

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85  
Categories



687  
Books



664  
Authors



140  
Publishers



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<a href="#">Ernst Karl Winter: Austria (Part Two)</a>	- Ernst Karl Winter	- Geschichte und Geographie - Linkskatholiken und Sozialisten - Autoren 1900-1945	701
<a href="#">Erinnerungsmängel</a>	- Peter Diem	- Sozialwissenschaft und Psychologie - Philosophie und Religion	5

NID Library Book Viewer

Tina und Amir & Ella (DE)

newObject  
addSlotRight  
addSlotLeft  
addSlotAbove  
addSlotBelow

← →

+

addItem

NID Library Book Viewer

Bilal Cite Annotation Type Quiz changeLayout fullScreen

close

filterObjects:  x

addNewObject:  load

	Tina und Amir & Ella (DE)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
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## **LLM use cases for value addition to conventional Information systems:**

- Enhanced Information Retrieval, semantic search and cross-lingual capabilities
- Structuring Unstructured Data
- Entity recognition, Sentiment analysis, Translations, Summarization
- Classification and information linking

### **Examples:**

- Improved information management and linking in libraries, organizational information archives
- Virtual assistants (chatbots and help desk management)
- Automated HR work flows (application parsing)
- Healthcare and Legal domain (Research preprocessing, medical and legal assistive information, regulatory compliance)
- E-commerce (recommender systems, automated product descriptions, user behavior analytics)
- Finance (detection of regulatory compliance, anomaly detection etc.)

### **Challenges:**

- Bias in pre-trained models
- Input dataset quality and performance
- Technical complexities
- Deployment and compute resources
- Security concerns