

# Digitised Croatian historic newspapers and journals

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Source / Izvornik: **Pregledi nacionalnog centra za digitalizaciju = Review of the National Center for Digitization, 2012, 12, 99 - 106**

Journal article, Published version

Rad u časopisu, Objavljena verzija rada (izdavačev PDF)

Permanent link / Trajna poveznica: <https://urn.nsk.hr/urn:nbn:hr:203:082901>

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Download date / Datum preuzimanja: **2024-08-17**



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## **DIGITISED CROATIAN HISTORIC NEWSPAPERS AND JOURNALS**

**Abstract:** The National and University Library in Zagreb developed a cooperative portal of digitised Croatian historic newspapers and journals from its own collection and from other Croatian heritage institutions. The main project aims were: production and publishing of digital reproductions on line, browsing and searching of newspaper and journal issues, simple and advanced searches of full text journal articles, enhancing availability of printed national heritage, improving protection of unique and rare originals, creation of a cooperative database of all Croatian historic newspapers and journals, development of standardised and harmonised procedures for digitisation and coordination and rationalisation of digitisation efforts. A system was put into place that enables access to data and digital reproductions and search of a cooperatively built data base with bibliographic data, holdings data of original print serials, microfilms and digital reproductions, information on titles that are being digitised or planned for digitisation in heritage institutions in Croatia, etc. The portal is the central point for search and access to digitised historic newspapers and journals and is a part of the national project of digitisation of archival, library and museum collections Croatian Cultural Heritage, financed by the Ministry of Culture of the Republic of Croatia.

**Keywords:** historic newspapers, historic journals, digitisation, cooperative portal

### **1 Introduction**

The transformation from print to digital media in information dissemination intensified by the growth of the Internet and proliferation of data available to everybody, fundamentally changes the ways in which users expect to find responses to their queries, even if they search for old publications in libraries and other heritage institutions. To respond to these challenges libraries lead the way in digitising old materials, especially newspapers and journals. Digitisation of collections of historic newspapers and journals enables broad access for users, but at the same time protects and preserves the resources themselves. Libraries and other heritage institutions thus fulfil their basic roles “to collect, catalogue, store, protect and ensure access to its collection” [1].

Old newspapers and journals are important witnesses of past times. They are unique documents of a period and contain valuable data on political and cultural events as well as scientific achievements and are thus irreplaceable for researchers and other users. They contain the most current information pertaining to the period when they were published and are among the most researched resources in libraries. But, although (especially newspapers) were intended for frequent public use, they were never designed for long term life. The paper is fragile and crumbles during browsing, print can fade and newspapers can perish very quickly. Users, only once at a time, at one place, have difficulties leafing through bulky bound volumes even if they can obtain the originals that must be protected from further handling and exposure to light. Moreover, holdings of newspapers and journals are often incomplete and scattered in several institutions. Accordingly, original, printed historic newspapers and journals are not readily available to users because their protection is a priority.

## 2 Motives and aims of the portal creation

The National and University Library in Zagreb started digitising its collections already in 2001. During the years the number of digitised documents increased, and other heritage institutions started digitising their collections as well<sup>1</sup>. However, these projects were isolated and the results of digitisation were not widely available, sometimes they were available only in the institution, often solely as images that could not be searched. The issue of accessing digitised resources scattered in different libraries and gathering other information about historic newspapers and journals became even more pressing. Moreover, there is no union catalogue of serials in Croatia that would contain basic metadata and information on holdings and their condition.

Bearing in mind the state of the art described above and aiming at fulfilling its basic functions – to preserve the materials but at the same time to open its collections to the users and provide one stop access to all digitised newspapers and journals the National and University Library in Zagreb initiated in 2008 the project to create a specialised cooperative portal for digitised historic newspapers and journals. The project goals were consistent with other similar projects [2, 3, 4, 5], recommendations and guidelines [6, 7] and they also addressed the needs for the protection of newspapers identified in the Conclusions of the Round Table: State of Newspaper Collections in Croatian Libraries at the 35<sup>th</sup> Assembly of the Croatian Library Association (Plitvice, September 2006) [8].

Thus the portal was created with the following main aims:

- greater protection of unique originals,
- increased access to historic newspapers and journals,
- enhanced availability of printed national heritage,
- browsing and searching of full texts of historic newspapers and journals, and their metadata,
- development of a tool for the management and publishing of digital images,
- establishment of portal and cooperative database of all Croatian historic newspapers and journals,
- promotion and development of standardised and harmonised digitisation procedures,
- coordination and rationalisation of digitisation efforts and thus savings,
- establishment of support and consultation service for digitisation projects.

## 3 Structure of the portal

The portal Digitised Croatian Historic Newspapers and Journals grew out of digitisation efforts in the National and University Library in Zagreb and three kindred digitisation projects (Croatian Historical Newspapers, Pilot Project of Digitisation of Croatian Historical Journals from the Humanities and Cooperative Portal of Digitised Croatian Newspapers and Journals)

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<sup>1</sup> Examples of some of the local digitisation projects in Croatia at the time the portal was envisaged: *Karlovački tjednik* (Public library in Karlovac), 6 serials from the region of Varaždin (Public library in Varaždin, City Museum in Varaždin), *Vinkovački list* (Public library in Vinkovci), *Krapinski vjesnik* (Public library in Krapina), *Jedinstvo*, *Novi sisački tjednik* (Public library in Sisak), Carnival serials (Public library in Dubrovnik), *Istarske novine online* (University Library in Pula), *Glas Podravine* (Public Library in Koprivnica)

financed by the Ministry of Culture of the Republic of Croatia within the National digitisation project of archival, library and museum material Croatian Cultural Heritage [9].<sup>2</sup>

The portal was launched in 2010 when it was made available to the public on the web site of the National and University Library in Zagreb (<http://dnc.nsk.hr>).



Fig. 1 Digitised Croatian Historic Newspapers and Journals



Fig. 2 Digitised newspapers – title page

<sup>2</sup> Croatian cultural heritage ([www.kultura.hr](http://www.kultura.hr)) is the national project for the digitisation of library, archival and museum resources and materials initiated by the Ministry of Culture of the Republic of Croatia and jointly coordinated by three core heritage institutions in Croatia: the National and University Library in Zagreb, the Croatian State Archives and the Museum Documentation Centre.

Newspapers in Croatia date back to 1789, when the first Croatian newspaper *Kroatischer Korrespondent* was published, and journals to 1851 when the first Croatian learned journal *Arkiv za povjestnicu jugoslavensku* was published.

Fig. 3 Digitised journals – title page

The portal includes historic newspapers and a selection of journals published from 1789 till 1940. The publishing year of *Kroatischer Korrespondent* is the milestone for the starting year. The last year is determined by copyright issues. Newspapers and journals belong to the category of anonymous works and according to the Croatian law the copyright is valid seventy years from the year when they were printed [10].

A software for input, cataloguing, optical character recognition (OCR) and publishing of digital images was developed as the underlying system for the cooperative portal. The cooperative function is especially important for the central role of the Portal to gather and publish digitised images of Croatian newspapers and journals and data about them regardless of the physical location in different heritage institutions owning them.

Metadata describing digital objects are crucial for access to the resources. The description is provided on item and collection level. The metadata model was designed in accordance with recommendations of the Croatian Cultural Heritage project [11] and is compatible with the Europeana metadata model. Basic entities in the metadata model are:

publication (i.e. newspaper, journal)	collection
article	institution
creator	digitisation project
digitisation status	participant
holdings data	

Each publication is described by basic bibliographic data converted and migrated from the catalogue of the National and University Library in Zagreb.

The screenshot shows the 'Stare hrvatske novine' portal. The main navigation bar includes 'naslovnica', 'pregledavanje', 'pretraživanje', 'o projektu', 'suradnici', 'o starim novinama', 'časopisi', and 'english'. The breadcrumb trail is '>> naslovnica > pregledavanje > naslov'. The main content area is titled 'Narodne novine' and features a thumbnail of a newspaper page. Below the thumbnail is a text block: 'Ljudevit Gaj je u Narodnim novinama 5. veljače 1850. objavio da su one postale zvaničnim ili službenim za Hrvatsku i Slavoniju. Novine 1853. mijenjaju naslov u Carsko kraljevske službene narodne novine.' Below this is a date selection tool 'odaberite datum' with a dropdown menu and a calendar grid. The right sidebar contains a metadata table with the following data:

OPIS	DOSTUPNO U	PROJEKTI	ZBIRKE
Naslov:	Narodne novine		
Odgovornost:	[urednik Ljudevit Gaj]		
Nakladnik:	Lj. Gaj		
Razdoblje izlaženja:	1849 - 1853		
Prethodni naslov:	Novine dalmatinsko-hrvatsko-slavonske		
Sljedeći naslov:	Carsko-kr. službene narodne novine		
Prilog:	Danica ilirska (Zagreb, 1849)		
Vrsta:	novine		
Napomena:	Opis prema prvom sv.		
Autor zapisa:	Nacionalna i sveučilišna knjižnica u Zagrebu (zapis u katalogu)		

At the bottom of the page, there are links for 'Početna stranica | Sadržaj portala | Pomoć | Kontakt | Uvjeti korištenja' and a copyright notice: '© Nacionalna i sveučilišna knjižnica u Zagrebu 2009. Sva prava pridržana.'

Fig. 4. Metadata elements for publication

Data elements on digitisation status of publication show the availability of digitised materials - publication is available on the Portal, on the web, in an institution or it is in the process of digitisation or planned for digitisation. Holdings data are provided for printed, microfilmed and digitised publications while brief descriptions and thumbnails of a title page will be available for all items on the portal. Data on projects and collections related to a publication bring added information value to the users.

The screenshot shows the 'Nacionalna i sveučilišna knjižnica u Zagrebu' portal. The breadcrumb trail is '>> naslovnica > suradnici > o suradniku'. The main content area is titled 'Nacionalna i sveučilišna knjižnica u Zagrebu' and features a photograph of the library building. Below the photo is a text block: 'Nacionalna i sveučilišna knjižnica u Zagrebu javna je ustanova od nacionalnog značenja koja obavlja knjižničnu i informacijsku djelatnost nacionalne knjižnice Republike Hrvatske i središnje knjižnice Sveučilišta u Zagrebu. V.d. glavna ravnateljica: Dunja Seiter Šverko'. The right sidebar contains a metadata table with the following data:

OPIS	DIGITALIZIRANO	PROJEKTI	ZBIRKE
1. Novine i časopisi - Opći fond Nacionalne i sveučilišne knjižnice u Zagrebu			
Naziv zbirke:	Novine i časopisi - Opći fond Nacionalne i sveučilišne knjižnice u Zagrebu		
Ustanova:	Nacionalna i sveučilišna knjižnica u Zagrebu		
Opis:	U svom bogatom fondu Knjižnica čuva 2,5 milijuna svezaka na 114 kilometara polica, od čega 48 kilometara periodike (stanje 2001.g.) .		
Vrsta zbirke:	stvarna		
Projekti:	Stare hrvatske novine Pilot projekt digitalizacije starih hrvatskih humanističkih časopisa Program digitalizacije građe na zahtjev (NSK) Redovni program digitalizacije novina NSK		
Opširnije:	<a href="#">Mrežno mjesto zbirke</a>		


Fig. 5 – Metadata elements for collection

In addition, collected are data on serial digitisation projects in Croatia (finished, in progress, planned), data on institutions participating in the project and their digitisation projects (finished, in progress, planned). This could serve as a basis for overall better coordination of digitised efforts in Croatia.

User can browse through a list of titles of journals and newspapers from the period covered in the Portal, view bibliographic and holdings data for a selected title, brief description and thumbnail as well as data on related projects and collections.

>> naslovnica > pregledavanje > naslov

### Gazzetta di Fiume



Prvi broj dnevnika koji pokreće i uređuje Ercole Rezza počinje izlaziti 17. prosinca 1860. godine, nakon zabrane *Eco di Fiume*. Urednička koncepcija slijedi prethodni naslov. U kolovozu 1861. godine započinje sudski progon Ercola Rezze; *Gazzeta* prestaje izlaziti dva tjedna, da bi nastavila s izlaženjem od 3. veljače do 4. travnja 1862. kada je glavni urednik Francesco Merenigh, direktor Rezzine tiskare. (Izvor: I. Cerovac)

Publikacija nije dostupna na portalu.

o novinama

OPIS	DOSTUPNO U	PROJEKTI	ZBIRKE
1. Nacionalna i sveučilišna knjižnica u Zagrebu			
Izvornik			
Anno 1:n:1-16,18-38,40-51,53-144,146-197,199-226,228-297 (1860/61);2(1861/62);1867.			
2. Sveučilišna knjižnica Rijeka			
Digitalizirano, dostupno na mreži			
12 (1861) - 297 (1861)			
<a href="http://crolist.svkri.hr/caj-bin/unilib.caj?form=D1981222054">http://crolist.svkri.hr/caj-bin/unilib.caj?form=D1981222054</a>			

Početna stranica | Sadržaj portala | Pomoć | Kontakt | Uvjeti korištenja

© Nacionalna i sveučilišna knjižnica u Zagrebu 2009. Sva prava pridržana.

Fig 6 Holdings data

Digitised publications can be browsed issue by issue, user can leaf through them using Microsoft Silverlight application, or page by page. Full text of digitised publications can be searched by word filtered by publication title and year. Additional browsing by date, county and place of publishing is available for newspapers.

Additionally, the portal of selected journals provides more search possibilities in view of the special needs of researchers of historic learned journals. Digitised journals are further processed analytically at the article level to enable advanced searches of individual articles by title and author, filtered by journal title and year. Advanced search allows for a combination of parameters, e.g. a word in a title or full text combined with author and filtered by journal and year.

## 4 Workflow

Digital images are created from microfilm or from originals. Each of the workflow phases was carefully planned and documented. Strict rules are observed in performing all the steps: creation of digital files, their naming for uniqueness, their archiving and permanent storage. A brief outline of the workflow follows:

- Selection of titles for digitisation (according to the importance of the content, frequency of use, level of deterioration)
- Preparation of originals (checking for completeness to create an ideal copy)
- Review and update of bibliographic records, cataloguing new titles
- Scanning in 300 dpi, 8 bit greyscale from microfilm or scanning in 400 dpi, 24 bit RGB colour from originals
- Processing, editing and archiving of files: archival master files - uncompressed tiff format, conversion into viewing files (jpeg) and further processing

BETA **Stari hrvatski časopisi**  
portal digitaliziranih časopisa

NACIONALNA SVETIŠNA KNJŽNICA  
UZAGREB:  
Hrvatska  
kulturnabaština

naslovnica | pregledavanje | **pretraživanje** | o projektu | suradnici | o časopisima | portal novina | english

>> naslovnica > pretraživanje digitaliziranih časopisa

**pretraživanje**

jednostavno | složeno

Veliki dio digitaliziranih sadržaja za sada se može pretraživati samo po riječima iz cjelovitog teksta sadržaja časopisa uz mogućnost ograničenja pretraživanja na pojedini časopis i godinu. Ograničavanjem pretraživanja na autora i/ili naslov članka dobivaju se rezultati samo dijela digitaliziranog fonda časopisa koji sadrži izrezane članke u formatu pdf.

Pretraži  prema

prema

prema

unutar naslova

odaberi godinu izdavanja

odaberi razdoblje  -

Fig. 7 Search options

- Naming of files
- Upload of data into the portal and OCR
- Publishing on the Internet
- Control, checking of text on the portal
- Control, checking, editing of metadata
- Preparation of basic information about a publication and thumbnail
- Records in the portal are linked to the catalogue of the National and University Library in Zagreb

Additional processing is performed for articles of learned journals to make them suitable for more detailed searching:

- Zoning and cropping of individual articles
- OCR for articles
- Control and editing of article metadata
- Upload into the portal (in pdf)
- Publishing on the Internet
- Control, checking of text
- Control, checking, editing of metadata

## 5 Conclusion and future developments

The cooperative portal Digitised Croatian Historic Newspapers and Journals brought together distributed results of digitisation in Croatia. The system was created to enable processing and uploading on the Internet of digitised files and related metadata. The data are available through a single interface, free of charge, to anybody, anywhere and at any time.

After the first phase has become fully operational, further developments are under way. The next important phase is to put into place a fully cooperative system, currently in a



test phase. Among the first Croatian heritage institutions that already started cooperating at different levels are University Library Pula, Rijeka City Library, Dubrovnik Libraries, Archaeological Museum in Zagreb and Croatian School Museum.

Further developments of the cooperative aspect will enable greater availability and transparency of data, exchange of experiences and better coordination as well as savings in the long run. The tool developed in the National and University Library in Zagreb is available free of charge to all Croatian heritage institutions involved in digitisation of historic newspapers and journals.

The established system also provides a basis for international cooperation, thus initial contacts have been already made with INFOBIRO Mediacenter Digital Archive in Bosnia and Herzegovina and ANNO (Austrian newspapers online). In addition to increased comprehensive digitisation and upload on the portal of new titles of historic journals and newspapers, other goals include development of the long term preservation function of the system, addition of new types of metadata (technical, rights management), improvement of the search module and OCR results.

**Acknowledgement.** Some of the work on the project of this scale had to be outsourced, so we would like to thank Conscius for software development and ArhivPRO for scanning some of the publications. We would also like to extend our thanks to many colleagues from several of organisational units in the National and University Library in Zagreb. Their additional efforts and enthusiasm contributed to the creation of the portal Digitised Croatian Historic Newspapers and Journals.

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