

MULTIMEDIAL DATABASE *MUSIC*

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Abstract: In this paper multimedial database MUSIC is described which works in the Academy of Music in Gdansk. The organisation of the MUSIC database is presented. It includes both: text resources of the Main Library and the Lending Library as well as musical recordings made in the Recording Studio. The integrated system OPUS, that manages the text part of the database, is introduced in more detail. Also some problems connected with the remote access to the database and their solution are presented.

1. Introduction

Multimedial database MUSIC has been in the process of creation since 1993. Initially it was created in order to manage all the activities performed in the Main Library of the Academy of Music in Gdansk. The integrated system OPUS that was made, has been used to input descriptions of library resources, to make them available to users and to organise the work of the lending library. Next, OPUS was extended to manage the resources of the Recording Studio in the Academy. As the last step, the multimedial database MUSIC was created, which enables remote access via INTERNET to the database administrated by OPUS and also allows to gather musical recordings made in the Recording Studio.

2. Description of the multimedial database MUSIC

2.1. Database

Multimedial database MUSIC uses several servers to store all the managed data. Information about library resources is collected on the Novell LAN's server in the Academy of Music. Short samples of the concerts recordings are stored on the Academy's UNIX server, whereas their full versions are gathered at the Information Centre of the TASK. The organisation of the multimedial database MUSIC is presented on Figure 1.

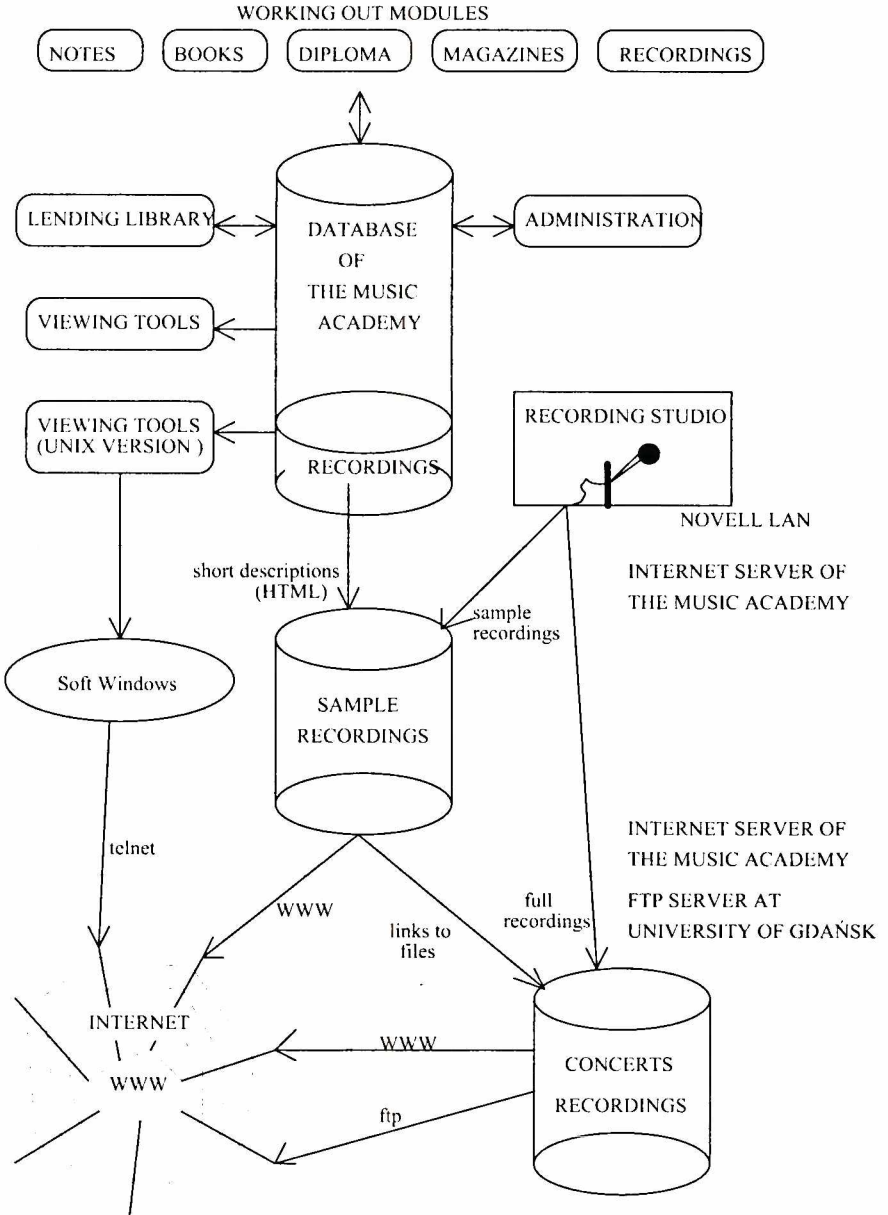


Figure 1. The structure of the multimedial database MUSIC.

2.2. Modules of the integrated system OPUS

Several modules have been created in order to manage all activities in the Library, which means working out the resources in the Library and in the Recording Studio, lending and viewing these resources and doing the administration work as well. These modules may be categorised in the following way:

- Modules that are used to work out the resources. There are five modules belonging to this category: BOOKS, NOTES, MAGAZINES, RECORDINGS and DIPLOMA. They enable to input, correct, delete and print out descriptions of the resources which are characterised by the module's name.
- The LEND module computerises all the activities in the lending library. In particular it manages the readers' accounts and enables to print the library's correspondence. This module gives also possibility of using a bar code reader that facilitates the operator work.
- The VIEW module enables viewing the results of searching in the database. The searching process uses a specific search criteria record that enables the user to specify more precisely what type of resources and which data fields he or she is interested in. For example, one can search for the books and articles whose titles start with "enc.." and have "XX-th century" keyword connected with them. The search results are displayed as the list of abbreviated descriptions. Each position from a list may be displayed with full description and printed.
- The ADMINISTRATION module enables the system's administrator to manage the database, which means printing various reports, correcting the database, etc.

2.3. Characteristics of the system

Hardware requirements:

- IBM PC 386 and better computers.

Software requirements:

- operating system: MS DOS 5.0 or newer,
- network system: Novell Netware 2.2. or newer.

System profiles:

- database integration and concurrent access to it's records; changes are immediately available on other terminals,
- simple, user-friendly interface with text windows, context help and mouse support; unified for all the system modules,
- systems security based on access control with users' passwords and rights,
- variable length of data records, reducing database size; the data size is proportional to the input information not to its maximum length,
- flexibility of the system giving possibility for farther system development according to users' needs and expectations.

2.4. Description of the modules in the OPUS system

All the modules included in the system OPUS have unified user-friendly interface based on TURBO VISION library. A typical dialogue window used to data input in module BOOKS is illustrated on Figure 2. Similar dialogue window from the RECORDINGS module is given on Figure 3. The data records have been implemented due to the domestic norms. The diagram of the records in the database is shown on Figure 4. System OPUS supports also subrecords extending the information stored in the system. All subrecords are edited in additional dialogue windows and are stored in additional data files.

KSIAZKI			
Pliki	Odszukaj	87200	1994-9-12
Sygnatura	7(03) - Cla-Enc		
ISBN	83-221-8579-7		
Autor	Claudio Francis (Cla)		
Tytuł	Encyklopedia romantyzmu		
Tytuł równoległy	Encyclopédie du Romantisme		
Podtytuł	malarsztwo		
Numer tomu	7(03)		
Tytuł tomu	303, (1), (1), 23ca		
UKD	Czytelnia		
Opis zewnętrzny			
Ubytek [J]	Współwybrane	Opis [J]	Artykuły [J]
Pierwszy	Wcześniej	Następny	Ostatni
Kopia [J]	Racunek Wydawca	Współpracownicy	Słowa kluczowe
suń	W drukuj	Zapamiętaj	oniec
F1 Pomoc →, ←, Home, End, Ins, Del, BS, TAB, Sh-TAB, ENTER, Esc			

Figure 2. Dialog window for data edition in module BOOKS

NAGRANIA			
Pliki	Odszukaj	109920	1994-9-12
Sygnatura	8027		
Tytuł	Schlick - Mini-Version		
Prędkość	33		
Format	Piata analogowa		
Czas trwania	30 ca. stron		
Ozn. katalogowe	ok. 45		
Uwagi	Eterna 0 26 398		
	Autor, współni wykonawcy		
Pierwszy	Wcześniej	Następny	Ostatni
Opis [J]	Racunek Wydawca	Utwory	Słowa kluczowe
suń	W drukuj	Zapamiętaj	oniec
F1 Pomoc →, ←, Home, End, Ins, Del, BS, TAB, Sh-TAB, ENTER, Esc			

Figure 3. Dialog window for data edition in module RECORDINGS

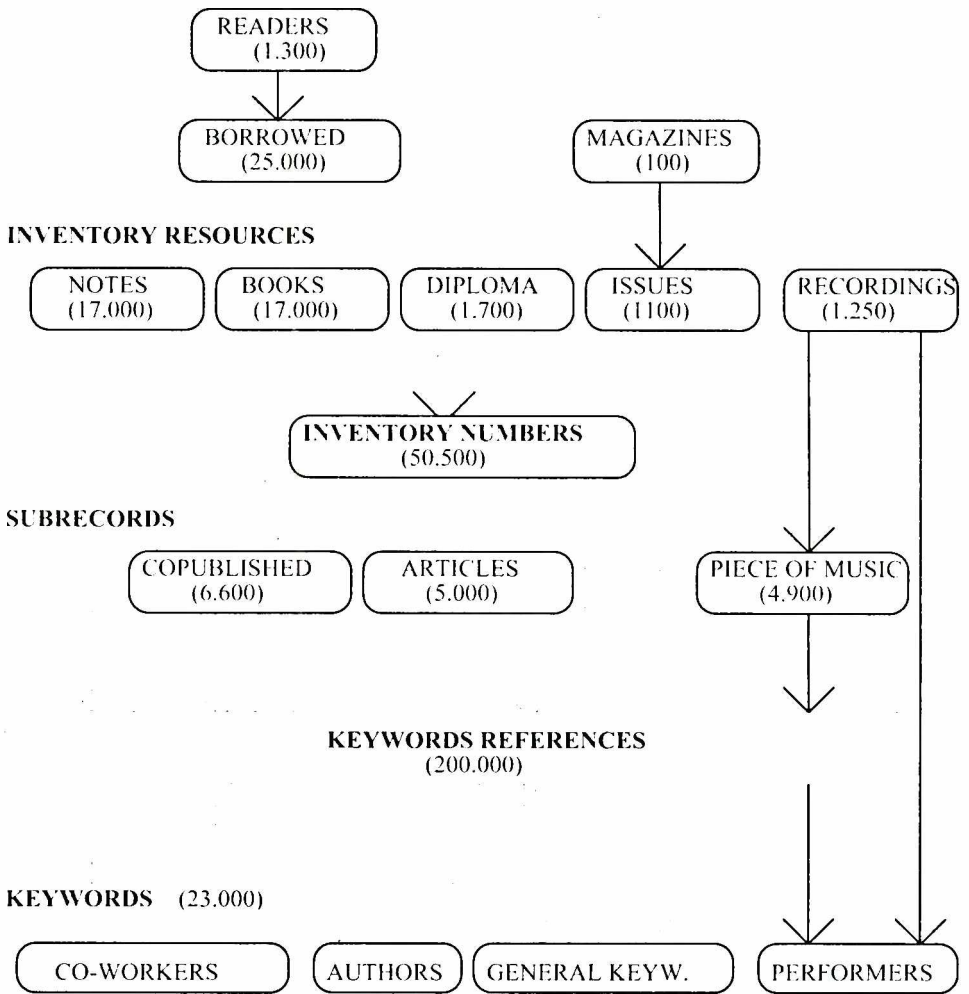


Figure 4. Records structure in the database

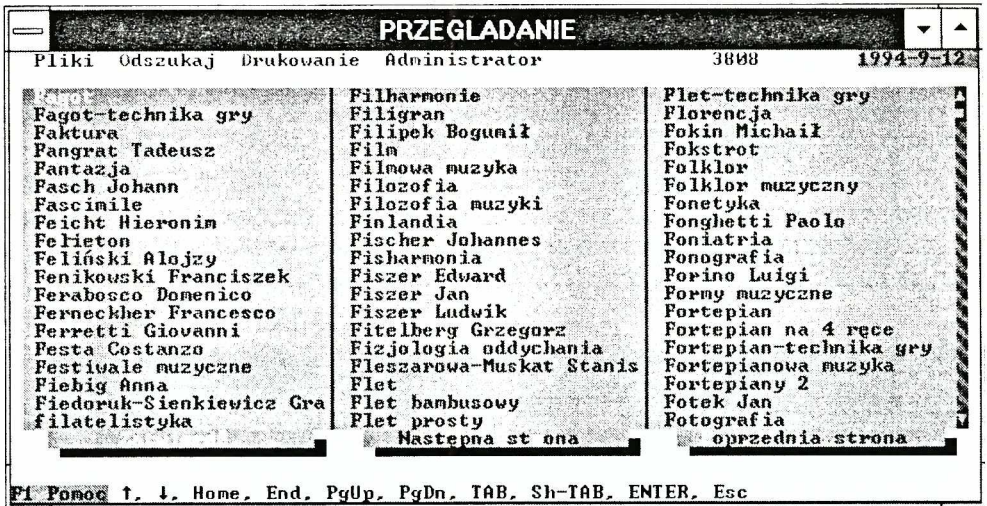


Figure 5. Dialogue window for choosing a keyword from a list

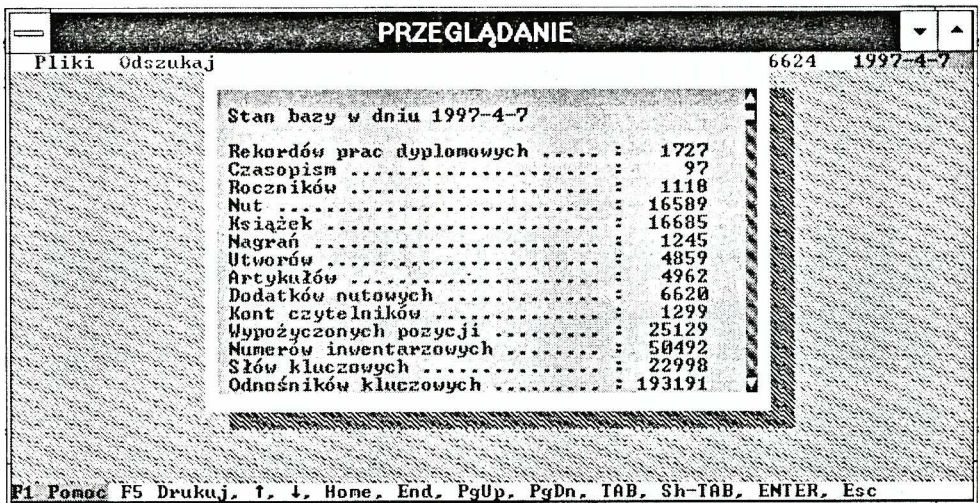


Figure 6. Information about number of records in database

2.5. Keywords

Keywords are a very important feature of the system. They are used to characterise individual records in several categories: general, authors, co-workers, performers and music types. Keywords enable to find a class of records with no information about their titles, authors, etc. User chooses keywords from a special list, example of which is given on Figure 5.

It is known from practice that creation of the keywords' sets is a very important task that should be performed very carefully. The ideal situation would be in the case when all OPUS systems used the same, unified keywords' sets. In that case easy data exchange between different libraries could take place.

2.6. Number of records

The number of records in database on 1997.04.07 is given on Figure 6.

The recording files gathered on UNIX server are available under the address: <http://www.amuz.gda.pl/nagrania>. There is also information about the way of using these files.

3. Problems with system development

The main goal of the OPUS database is to enable its resources to all interested persons. The obvious way is to give the access to the database using the INTERNET. But, the problem arises with co-operation of INTERNET and NOVELL network system. At present the problem was solved in the following way:

- the special program SoftWindows running on UNIX server enables the emulation of DOS terminal working in the Novell network,
- special version of the VIEW module was created so it could meet specifications of the UNIX terminal VT-100.

Additional application is being created that would enable data exchange between OPUS's database and VTLS systems.

Yet another application is being created for automatic export of the recordings' descriptions to the Academy's WWW home page.

4. Summary

Multimedial database MUSIC is adapted to gather bibliographical and musical information and recording files as well. The integrated computer system OPUS that manages the database is in working order and fits well the libraries' needs. It is user-friendly and is still being developed. The basic version of the system was also installed in the libraries in the Academies of Music in Warsaw and in Bydgoszcz.