

National Library Platform  
(NLP)  
List of Requirements



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# 1 General Requirements

- It is of the 'library services platform' type.
- The system must secure a high level of configurability at functional constituents.
- It must support the connection to work processes of digitization via standardized interface.

## 1.1 Data Protection

- It conforms to the regulations of data protection (eg, the safeguarding of private data) as well as to the General Data Protection Regulation (GDPR).

## 1.2 Security

- The system must be able to run in safe operation for a 365x24hr deployment.
- The system must warrant a consistent recovery or restoration of all its functions.

## 1.3 Digital Repositories of Content

- It is capable of cooperating with existing digital libraries.
- It must support the treatment and service of electronic documents.
- It must support the OAIS model: A modular digital collection management based upon the principles of the Open Archival Information System Reference Model.
- The harvesting of metadata of digital documents located in domestic (and perhaps transborder Hungarian) libraries with automatic (eg. OAI\_PMH) or semiautomatic methods and making these metadata searchable, and forwarding them to Europeana and/or The European Library (TEL).
- Accessibility by external search engines: To make the full text of the metadata and public documents indexable for external search engines (eg. Bing, Google, etc.).

## 1.4 Document Management

- Capability of managing the documents of libraries, manuscript departments, archives and museums jointly.
- The overall managing of all types of library documents (electronic, digital, remotely accessible, manuscript, archival and antique type) traditional as well as electronic publications via one single platform from procurement through inclusion into holdings and processing and cataloging down to the services (handling of licensed or open access documents on a platform shared with that of print documents).

## 1.5 Sustainability

- Openness toward open standards and protocols.
- Continued capability for development in compliance with new technologies and the expectations of users.

## 1.6 Workflow Management

- Supports the entirety of library workflows.

## 1.7 Informatics

- To enable other services and programs to be adopted with standardized program interfaces and flexible data access.
- To provide a simple possibility for attaching to other programs even when the system has been delivered and deployed.

- It must have an open web interface, so that it can be embedded into external systems and libraries can develop enhancements tailored to their own requirements.
- It must support a variety of network protocols (Z39.50, OAI-PMH, SRU, SWORD); it must support without any work of development the following protocols: OpenSearch, OpenURL, SRU/SRW, RSS.
- The system must be able to operate in a local (Hungary-based) or in a mixed 'cloud' environment.
- To secure the cloud-based Software as a Service (SaaS) solution; it must be platform-independent for library personnel as well as for the end users.

## 1.8 Character Set

- UTF-8 (Unicode) character set.
- To store the accented characters in a precombined version, if it exists.
- The use of a virtual keyboard to select and enter characters not available on the equipment of input.
- The identical display of characters on all interfaces of the system.
- The character coding of the export holdings must optionally be UTF8, MARC8, ANSEL or Latin2.

## 1.9 Display

- It supports the appearance of bibliographic data on the semantic web.
- It supports the appearance on the surface web, ensures the indexing capability of data for search engines on the internet.
- Its character set must be Unicode (UTF-8); it must provide also the generation of multiscrypt records.
- The Hungarian language on the surface is a basic requirement, but the system must secure a multilanguage environment. Upon delivery, an English and a Hungarian surface is needed. The applicant must be enabled to expand elements of the system with further languages.

## 1.10 The System of Partner Libraries

- It must be capable of managing more than one library and/or library structure (multitenancy).
- Apart from the shared catalog, it must separately handle the acquisitions, holdings and circulation data of member libraries. These modules are at the disposal of each member library in full functionality and with detached data management.
- It provides the services necessary for the individual library in configurable fashion.

## 1.11 Customization

- It supports the users with customized services (eg. automatic theme-oriented notification).

## 1.12 Information Provision/Reference

- It must support the handling of services to printed, digital and electronic documents.

## 1.13 Support

- Provision of Hungarian-language support.

### 1.13.1 Record Quality Control

- The system must warrant a device which makes it possible for libraries to check, filter, and improve the quality of records in large quantity.



## 2 Functional Requirements

### 2.1 Administration of Holdings and Assets

- Configurable administration of the holdings: preservation of the data registered upon acquisition after closure of the acquisitions record; the generation, authentication and preservation of the inventory corpus of data and receipts current and consistent with the Hungarian provisions in effect, and the production and certification of a printed list of inventory ('inventory book') at determined time intervals.
- There must be an option to designate cultural assets to be included in the ranks of national property. The designation is to be done by the librarian. It must be enabled in the acquisitions module (in the item of order or in the holdings record) to apply group-generating codes and identifiers which can be employed for the selection of items necessary to register also in the accounting balance sheet as national property. The codes or identifiers should figure in the tools of registration of holdings (inventory book).
- In the acquisitions module and in the administration of holdings the purchase price and the so-called estimated value of documents must be separated and managed individually. This belongs to ACQ as well, still it is the administration of holdings that accounts for its enhanced importance. An issue of configuration: the purchase price as a mode of payment belongs to the purchase as a mode of acquisition – and the estimated value belongs to all the other modes of acquisition, and this must be reflected in the registration of holdings.
- There must be an opportunity in the acquisitions module and in the administration of holdings to break down the price in the invoice if necessary –into net purchase price and value-added tax VAT (ÁFA). This is needed because it is only the price without ÁFA that can be recorded in the balance registration of national property, while in the earmarking of acquisition expenses it is the gross price that figures (which is to say that the ÁFA too has to be paid from the acquisitions budget).
- There must be an opportunity in the acquisitions module and in the administration of holdings to indicate the costs of packaging and/or mailing (delivery costs) figuring in the invoice– this is needed because it is only the net purchase price that may figure in the balance registration of national property. However, the costs of delivery must be covered from the appropriation of the costs of acquisitions.
- In the registration of national property the value of interventions and manipulations of stock conservation of later events (restoration, binding, etc.) must be present as well , that's why this registration sheet must be completed with editable fields.

### 2.2 Bibliography Management

- To set up a virtual database or collection in the OPAC for the system of the Hungarian National Bibliography (HNB - MNB) detached from the cataloging functions (records registered only in the HNB without holdings should not be present in the catalog).
- In order to provide service of the virtual database of the HNB on an independent homepage (independently of the catalog) it must be secured that the NLP-HNB collection be accessible from the homepage (a tool must be present for this in the SMG component).
- The existence of a bibliography-generating function with option for specification (eg. for publishing national or thematic bibliographies or ad hoc or topical bibliographies): the generation of self-standing bibliographic products from records derived from the database as well as indexes.
- It is capable of turning out a bibliographic publication from records created in the bibliographic database (catalog) and designated for the purpose.

- It is capable of creating a structured list (an ad hoc bibliography) from the set of records produced as a result of a search query.
- It can complement for the bibliographic publication the records derived from the database with those stemming from other sources either via record import or direct data input.
- In the database, the designation of records can be enacted in a field dedicated to this purpose or in a virtual collection created for this goal (the goal being a given service or publication). The number of virtual collections is unlimited, but following the completion of a booklet the collection should have the capability to be emptied or cleared to yield space to the next booklet. The marked records should be eliminated from the database at scheduled intervals and by means of the bibliography-generating software they should be processed and published in a form meeting predefined requirements.
- Setting parameters for the operations: the module must be capable of preserving the settings made for the ongoing publications and services, assigning them to user groups and running repeatedly whenever it is needed. The saved settings must be modifiable in case of necessity.
- The sorting of the records must follow the given criteria (eg. arrangement in groups of branches and sorting into alphabetic order within it, or simply sorting into alphabetic order).
- The item numbering of the sorted records must comply with the format of the particular bibliographic publication.
- The indexing of sorted and item-numbered records according to various fields (name, title, subject term, ISBN/ISSN-index, etc.) the index items refer to the item number and not to the record identifier of the database/catalog. (The item number need not be loaded into the catalog.)
- The standardized appearance or display of the records in a predefined or configurable form.
- After the actions of editing (or without it if need be) the records can be written into a textfile in a form that can be handled in a text editor and in an optional format (txt, doc, docx, odt, etc.).
- After the editing procedures the preparation of publications based on the prescribed typographical commands on online surface (html) or in a format enabling printing as well as editing (two-layer pdf).

### 2.3 Digital Repositories of Content

- Individual and mass-automatized URN-request and linkage to the provided documents.
- Supply of digital objects with an identifier (eg, DOI, HANDLE, etc.).
- The handling of embedded metadata: standard metadata (eg, XMP, qDC, COinS, IPTC, ID3v2) that can be embedded into files and their automatic synchronization with the data of the catalog.

### 2.4 Ingest Module

- The shaping and handling of the working procedures of participating programs.
- The shaping and moulding of an 'Admission gate system' for the registration of partners, for requests of publication IDs, for the submission of digital documents, for the arrival or reception and distribution of the deposit copies and for the summoning of intellectual property or copyright data.
- Registries to be developed for the Gate system: partner database, database of Hungarian ISBN/ISMN and deposit copies.
- Programs attaching to the Gate system: digital collection management, ISSN system.

- Shared Single Sign On (SSO) interface in the Gate system for participating programs (primarily for internal NSZL programs and, perhaps, those of external partners) which relies on an internal partner database.
- The preferred solution of the shared SSO is the identification environment warranted by SAML2/EduID-IDP.
- Communication between programs by means of webservices (with programs participating in the Gate system and also with systems outside of it).
- Check-in of arrival of printed publications, electronic publications released on a physical carrier, and online publications, the registration of vendor data, the inspection of utilization of ISBN and ISMN identifiers, the handling of data of publications with no ISBN and ISMN.
- The recording and display of the distribution of legal deposit materials on a web surface, the handling of automated claims, compilation of lists (list of increment, transfer note) and the generation of a printed logbook of arrival or increment.
- In the ingest module the MARC21 and ONIX compatibility must be secured.
- The utilization of data emerging in the document arrival module must be secured in the acquisitions and processing modules.
- The preliminary bibliographic records that have passed inspection are to be converted to MARC21 format and to be loaded into the NLP, the NLP identifier should be sent back to legal deposit registry.
- The database must be prepared for financial transactions (for the introduction of fee-based dispensing of the publication identifiers).
- To prepare the database for recording the data necessary for the statistical inventory and control of national publications.
- In the event the electronic document owns an international ID number (ISBN, ISMN, ISSN), that is, the submitter is registered among the publishers' data of the partner database, then the submission must be preceded by login.
- The institution or private person publishing an electronic document has to register upon the first submission. Later on they can log in with the assigned identifier and password.
- In addition to the single or individual upload there must be an opportunity for batch upload in the case of substantial number of documents.
- In the event of a single upload it is well advised to define a template for the submissions containing repeating metadata as well. At the submission, a template must be filled in on a web surface. This template should be saved in its filled-in state.
- The upload must be warranted in multiple protocols, eg. FTP, SWORD, SCP.
- Upon upload the formal and content data of the document (uploading package) must be entered. These data, if the document gets into the holdings, will be taken over and utilized by the NLP system for further processing.
- In the case of batch upload, it must be secured that the submitters can upload their metadata too together with the documents in various appropriate record formats (MARC, qDC, ONIX, Excel).
- An automated search for virus and malware must be secured for the uploaded documents upon upload and later. (It occurs on occasion that exe files are submitted into the repository and ZIP files might also appear from outside).
- The antivirus software is capable of identifying malicious programs for some days and months, so it is worth scanning the uploaded documents again after, say, 30 days.
- In the event of a massive quantity of uploads the system must guarantee the control of the integrity of the uploaded package.

- The upload system must automatically capture the technical metadata of the documents (eg. file type, size, date) and enclose it to the descriptive data.
- Upon submitting an ingest package the system should send an automatic feedback to the submitter as well as a note to the work-basket of the staff handling the e-documents. Should there arise a deficiency or shortage during control, or the submitted document gets rejected for some reason, an option for this feedback too must be offered by the system.
- In the web-based template the submitter must declare at the time of submission on the copyright and intellectual property rights and set out licensing restrictions. These data are utilized by the module managing the accessibility as well.
- The system must be enabled to handle and admit various versions and formats of a document. It must handle unique and singular documents as well as periodicals and serial publications of hierarchic structure. As for the latter, their submission of one or more numbers or one or more volumes might also occur.
- The system receives and handles the various forms of documents digitized by the libraries. It should handle a variety of formats (eg, TIFF, JPG, PDF). For the size of the ingest package and for the number of objects contained therein the limit must be set so that it warrants the reception of a package that is of large size, complex and voluminous number of objects.
- If the size of the ingest package or the number of its objects exceeds the value defined by the system, then it must send a feedback to the submitter.
- The admitted, controlled and endorsed documents must be delivered by the document receiving system to the system handling the digital collection, where the access version is completed if need be.
- Beyond admission the system must be able to download electronic documents available online if the submitter sends only an URL, the address of a big-file sharing system or other resources. It happens, for instance, in the case of download of a new issue of an ejournal or when a sizable stock is sent.
- The submission of online documents delivered on offline (physical) carrier is executed by the staff of NSZL.
- The management of the workflow must be accomplished in the document arrival module as well.
- Th digital objects arising as a result of digitization activity in the libraries are ingested into the collection via the ingest module.
- The ingest module must support the submitter in steering clear of deficiencies (multiple submission, deficient data, damaged or corrupted files, etc.).
- It must be ensured that the licence owners (publishers) are identifiable (including those unidentifiable by means of the ISBN prefix).

#### 2.4.1 Management of International Identifiers

- The handling of ISBN and ISMN identifiers (allocation and administration of publishers' number ranges, preliminary assigning ISBN and ISMN identifiers and automatic generation for publications via web-based interface too, converting identifiers from 10 to 13 digits, the compilation of lists and statistics).
- Compilation of publishers' lists for the ISBN and ISMN international agency.
- Search and query of the ISBN-ISMN database, with options for filtering.

#### 2.4.2 Partner Database

- It must use the internal partner database: the administration and handling of NSZL partner data (registration, settings, maintenance, user rights, scope, ratings, typing, email sending, etc.).
- The storage of publishers' data (corporate and private) in the central directory as well. The same data may be required by the financial system.
- The storage of data of libraries eligible to legal deposit copy.

### 2.5 Electronic Resources Management

- It must possess a storage of the licensing conditions of the licensed contents and, possibly, a direct connection to the ERM systems.
- The storage of the documentation of licensed contents and its assignment to the appropriate contents.
- Potential and opportunity for the uploading and deleting of massive volumes of records in case of subscribed databases.

#### 2.5.1 Documentation

- The handling of the documentations of electronic resources.

#### 2.5.2 Search, Browse

- Building of searchable and browseable lists of e-sources, updating of changes.
- Sorting according to title, topic and provider.
- Digitized periodicals and articles provided in service by the libraries of NLP must be searchable together with the e-sources.

#### 2.5.3 License Management

- The handling of licenses of electronic resources, automatic notifications on the expiry of the agreement.
- The system must ensure that the electronic resources can be managed per library and/or library group.

#### 2.5.4 Link Resolver

- There must be a definable link resolver that displays in a set of hits by means of configurable data which of the resources is directly accessible.
- To supply accessibility to articles, periodicals and books on the basis of their characteristic features.
- On the Discovery interface the patrons must be enabled, depending upon the users' authorization of the library, to reach the fulltext documents through the search result with the help of a link resolver.
- In case of searching for a particular article or chapter or in queries of topic and/or author the full text is accessible at the pertinent provider with the link resolver service.

#### 2.5.5 Knowledge Base

- The knowledge base is maintained on an ongoing basis and updated automatically by the provider without interference from the user library, the result of the update is sent in a configurable notice to the managing librarian.
- The description, storage of availability of users' guides, data of accessibility, restrictions on accessibility, agreements and institutions contact data belonging to electronic resources and service providers, with the opportunity for modification.

- The module of electronic resource management should keep contact with the acquisitions module (ACQ).
- The administration of subscriptions; it should handle forms of offers, it should handle licenses and contracts.
- The knowledge base is to contain what services and what portfolios are available from the respective providers and what restrictions to access apply to the given items.
- Elements of the knowledge base must be searchable, browsable, sortable, and filterable.
- Activation of the library's subscriptions from the resources of the global knowledge base at the pertinent provider taking account of the available services. The local knowledge base should be enabled to add or delete a local service provider, resource or service, to complement the individual elements of the portfolio with local information, to insert and maintain free resources.

## 2.6 Export/Import, Attachment

- Export and import of records, individually and batch-based, without any loss of data. Export should be possible on the basis of multiple search criteria or record identification lists in case of bibliographic as well as authority records.
- The export and import of records must be possible in the following formats: MARC21, HUNMARC, Dublin Core, FRBR, BIBFRAME. In the event of record export the multiple volume records must be downloadable with the record connection and in one single record. The character coding of the export pack be selectable from these: UTF8, MARC8, ANSEL or Latin2.
- It must provide bibliographic data export to external services (eg, RIS, XLS, PDF, etc.).
- There must be a batch record export in order to serve other services and portals.
- The export of records is in various formats (MARC, RIS, etc.).
- Potentiality of export: the mapping and exporting of metadata into various standard formats of record exchange (eg, MARC21, METS, MODS, DublinCore, RDF, OPDS).
- Potentiality of import: Uploading opportunities for single or massive metadata from files and databases of various standard and non-standard formats of record exchange. Converting to Unicode (UTF-8) from other character sets.
- The planned system must store and make searchable, editable and displayable the following: 1. bibliographic data 2. authority data 3. item data 4. electronic documents (eg. digitized and paper-based document, document originally generated as an electronic ebook, still image, moving image, sound, archived webpage etc.) 5. patron data.
- Data manipulations different from the system's communication panels are required, in order to upload, modify, and cancel the above data individually and/or in batch.
- As long as a change comes about in the stored data structure, eg, it must be broadened with a new, yet previously unknown attributes in, say, the user data, then this kind of modification must be automatically handled by the attacher, or it must always be executed at the relevant EXPORT/IMPORT and API elements as well.
- Each component, the options of APIs and Export and Import must be provided with an in-depth documentation including the programmers' level beyond that of the users so that the emerging local requirements can be more easily adjusted.
- The character coding of data must be checked in the event of import functions and, should the need arise, these are to be transformed to comply with the format of storage (typically anything to UTF8).
- The data exported from the system be compatible in reverse too, which means that importing back the same the system must retain its integrity and solidity.

- The 1. bibliographic data 2. the authority data 3. the item data are typically in MARC21 (<https://www.loc.gov/marc/>) and HUNMARC (<http://ki.oszk.hu/sites/ki.oszk.hu/files/dokumentumok/hunmarc.pdf>) format and in MARCXML environment (<https://www.loc.gov/standards/marcxml/>). There must be an option for applying BIBFRAME, MODS, and similar library standards of description.
- 4. It should be possible to take over electronic documents by means of the SWORD protocol.
- 5. User data meant to be adopted from other systems should have a well-formed XML scheme which enables us to feed in data of this kind from other systems.
- EXPORT – Character coding of data should be UTF-8 in case of EXPORT functions.
- The 1. bibliographic data 2. the authority data 3. the item data are typically in MARC21 (<https://www.loc.gov/marc/>) and HUNMARC (<http://ki.oszk.hu/sites/ki.oszk.hu/files/dokumentumok/hunmarc.pdf>) format and in MARCXML environment (<https://www.loc.gov/standards/marcxml/>). There must be a possibility to apply BIBFRAME, MODS and other similar library standards of description.
- 4. It should be possible to hand over electronic documents to other systems by means of the SWORD protocol.
- 5. User data meant to be handed over to other systems must have a well-formed XML-scheme by means of which data of this kind can be uploaded to other systems.
- APIs, protocols, remote connections – the character coding of data must be UTF-8 in the case of API functions as well.
- The system must support, without any further development, the interoperability tools usual and standard in integrated library systems: ILL, NCIP, OAI-PMH, OpenURL, OpenSearch, RSS Feed, SIP2, SRU/SRW, SWORD, Z39.50, Z39.58 (CCL).
- There must be well-defined webservice by means of which the majority of data stored here can be linked to other systems.
- Typically the REST protocol is needed for the transmission of data depending upon the variants listed above in XML and/or JSON format.
- There should be patterns or instances for adoption into local CMS systems (WordPress, Joomla, Drupal, etc.)
- In case of user data it must support the option of standard data exchange into external systems: SHIBBOLETH (eg, it should be an option to give data to a federated identification system of the EduID type), LDAP (eg, it should be an option to exchange data with the local directories, be it a physical or a logical login system).
- There should be a standard opportunity to adopt a SMS Gateway.
- There should be a standard opportunity to employ online banking payment and/or to use a paypal system.

## 2.7 User Administration

- In this group of functions the requirements concerning the management of users' authorization are described. A general anticipation from the system's management of authorization is that it must take into account the organizational level and frames of users as well as the organizational groups set up in the course of configurations.
- The subsystem of users' administration aims to centrally effectuate the tasks in conjunction with users and users' rights. It must provide a unified point of relation for the other subsystems of the system towards databases of users and user authorization.
- The system ensures administrative instruments which render the users and their authorized rights of the system transparent.

- It should be secure and adjustable and controllable who is allowed to see/modify a particular data.
- It should ensure a surface of display personally tailored to the librarian.
- In course of access managing the system must take into account the definitions of the central administration (CAD) concerning library groups.
- The software may optionally support the use of more than one IdP with the adoptability of external SAML2 discovery service.
- The users' access rights or privileges can be assigned to user roles and user groups.
- When access rights are applied the right stemming from three directions ought to prevail:
  1. User or user group
  2. Organization or organizational group (central, library, library group, branch etc.)
  3. Right of access (to object and/or field).
- One user can belong to an unlimited number of groups.
- The user groups must accept the entry of all users that have been registered in the user management module (USM). The user groups must be formed in a manner transgressing the organizations (eg. two libraries establish a group for their pooled processes).
- The system must be capable of taking over and updating data of role, authorization and core data at every login on Idap and SAML protocols.
- The system must provide functions which make the group membership also visible during the search and retrieval of users. The queries and searches must function in the form of electronic services as well.
- The system of authorizations and privileges must also ensure that rights can be set with respect to data access of external systems which are examined by the system in the event of a real-time and a batch-type access.
- It must be taken into consideration during construction of the system that the system of authorizations can never be bypassed, which means that the problems of operation may not lead to unauthorized data access or data leakage.
- The system must handle the eduPerson schemes and, when necessary, allow the expansion of the elements of the scheme (eg. barcode, institution's name etc.).
- The system be capable of identifying each user even via external authentication services and, as a default, it must use for authentication the central authentication module to be set up outside of the NLP. The individual authentication service incumbents should be identifiable with configuration, and upon authentication the system should warrant that the assigned rights are enjoyed by the users, irrespective of which service authenticated them. In the case of external patrons or readers the system must work in conjunction with the EduID federation and the NIIF's federation containing data of the high-schoolers and primary school students.
- According to plans of identification management the patrons and staff members of the NSZL will log in with the same EduID (SAML2) technology.
- The system must be prepared to store data of users who have not registered as patrons.
- This ought to be realized by establishing an aggregational directory.
- The system must secure proper functions for identification of users by card, as far as the authentication service is also linked to a card reader.
- The users' card is managed by the library system, unless the users log onto the system via an external authentication provider.
- The EduID federation should be expanded to include the patrons and staff members of the participating libraries.



- These data are secured by the library system to the IdP of the person logged into the OSZK EduID.
- The furnished data of the EduID federation must be augmented with data relevant for the libraries: barcode, RFID, expiry data of card.
- It needs to support a variety of authentication methods: based upon password, ldap and SAML.
- The system must support the application of external authentication even in the case of users of the internal users' database.
- It should support that the individual user logs in with the internal authentication, while others with the external one.
- The web interface of the library system should support the SAML-based Single Sign On.
- The system should update or take over every element of the rights management if it is determined from outside upon login (with ldap, SAML protocols).
- There must be an opportunity for the batch export and import of the internal users' database in a scheduled or timed manner. The import operation must allow for the adjustment of users' data.
- It should be possible to allocate workflow role to users which are utilized by the workflow management.
- It should ensure the central handling of user data.

## 2.8 User Management

- The system must ensure the possibility of joining the users' (eg. students, staff members) databases of the institution.
- User and password management: the possibility of defining administrators and librarians groups of various levels of access right (by subcollections too), the registration and deletion of users at the groups, the handling of passwords and IP addresses necessary for access.
- The system must support the Single Sign On and ensure an SAML2 service provider role.
- In addition to identification, the system must be able to provide service for a restricted set of data. It must provide name, barcode, email address, expiry date of barcode, and the user's adulthood or the lack of it. The protocol and standards of servicing should be fixed in the course of planning.
- The system is to be shaped so that the user's automatic registration takes place upon the first access on the basis of the EduID and the database built from the data of high schoolers and primary schoolers next to it.
- The internal users' database must ensure the storage of the following stock data of users:
  - Primary identifier;
  - Several individual identifiers (eg, more card numbers, barcodes, rfid identifier, email address, address, phone number, username);
  - Password;
  - Natural name or vicarious displayed name;
  - Connection to an external authentication provider.
- The ensuring of API on a secure and standard protocol (eg. https/rest) for the execution of operations below:
  - Creation of a new user;
  - Search for a user according to any of its property of theirs;
  - An existing user be modifiable overall, including the modification of its primary identifier;

- Deletion of a user;
  - Entry of more individual identifiers;
  - Authentication according to any of the individual identifiers on the basis of the stored password;
  - Query and retrieval of loans and locks;
  - Massive or batch import/export in a standard format. The import operation should allow for the modification of users data and it should use for this an individual identifier.
- Sending a message to an external system, or the calling of the API of the external system over secure and standard protocols with the unique identifier of a given user in the following cases:
    - Creation of a new user;
    - The change of any of the user's properties;
    - Deletion of the user.
  - For the finalization of the user's creation, modification, and deletion (or instead of it) there must be a way to give external calls (eg. webhook). The call must contain data of the user under modification (first and foremost the primary and unique identifiers), the type of operation.
  - The system must be capable of a Shibboleth-type identification. (eg, eduID, ORCID).
  - It must support the SAML2 identification <http://www.eduid.hu/hu>.

## 2.9 User Self-Service

- In the Discovery system an option must be provided for an e-shelf function, which in the case of a logged-in user means a permanent preservation and handling, while with a guest user it warrants preservation in session only.
- The user must be enabled to execute the following operations: saving of hits, removal of hits. citation, export, sending, printing, organization of folders, management of copies. The set of hits can be sent via email, the query can be preserved, modified, and the history can be stored. There should be an easy way of selecting a previous search and having it displayed again. Saved retrievals can be periodically updated with parameters (theme alert, RSS).
- In the Discovery system the databases must be selectable, the user can bring about their own search group and they can save it too. A guest user can do this until the end of the session. A logged in user can store it in the e-shelf function.
- There should be an option in the Discovery system for labeling, tagging, adding of labels, removing thereof, searching for it in the list of labels.
- In the Discovery system there should be an opportunity to mark hits for favorite with the pressing of a button, to store and retrieve these.
- In the Discovery system there should be an option to share the hits with a persistent URL.
- Online conversion: The user can request conversion between different formats with the assistance of own or external services (eg. conversion to PRC format and sending to Kindle, transformation to DF or simple TXT, making of ZIP pack).
- On-demand print: A printed replica or photocopy can be requested by the user. Automatic notification on the need of invoicing to librarian and user.
- Customization: to ensure special functions for users entering as registered or with Facebook/Google identifier (eg. savable queries, favorite documents, bookshelf, individually recommended novelties, option for labeling and commenting).

- Registration: there should be an opportunity for creating a user account (online registration); the need for validation - institutional endorsement/control (optional function, from the institution's aspect).
- One should be capable of renewing library membership – validation, endorsement (optional function, from the institution's aspect); there must be a connection to the PAY component.
- End-user account: the system must enable the end-user to access the actual information related to them, eg, data of registration, password, contacts, loan data (loan outside of the library and locally), document reservations or holds, dues, payments, ordered services, etc.).
- The end-user must be able to submit an optimized query of the archived data of services employed and to export it (the quantity of data retrievable in one session is restricted) eg, 1. documents taken to use in a given period as a registered patron; 2. payments of a given period.
- It must allow for giving permission to services linked to end-user approval (eg, newsletter).
- It should be allowed within the end-user account to take advantage of services or initiate this (with catalog relation): 1. request of documents from stacks, interlibrary loan, suggestion for acquisition (desiderata) 2. loan of ebook, 3. request of photocopy (electronic, print) 4. prolongation of loan deadline, 5. claim for reservation, 6. creation of own collections, list of readings, virtual bookshelf, the sharing thereof (eg, in e-learning systems) and their export, 7. theme monitoring and alert (RSS feed)

### 2.9.1 Display

- The user is enabled to adjust individual settings on the reader surface, and to save the settings for registered and logged-in patrons.
- Patrons are enabled to reach their own surface, and to customize and tailor it (for logged-in user at the customized services, its books, queries, remarks etc.).

### 2.10 Acquisitions

- The acquisitions module is enabled to support the following functions with respect to all types of documents, electronic documents included: a priori acquisition (desiderata management) order, check-in of publications and invoices, the handling of the budget, the administration of vendors' data, claims, the support of recording in stock, the administration of call numbers, the use of RFID and/or barcodes, the support of registers of holdings and assets (functions of 'inventory book'), the support of stack control, the support of holdings weeding and reduction.
- The acquisitions module must support the handling of database subscriptions, license purchases (connection needed to the EMS component).
- Acquisition is managed by each branch library, inaccessible to other libraries.
- Within the branch libraries it must be possible to separate the affiliate libraries (eg. departments of special collections, minor sections). This must be made into a multi-tier structure in terms of a university library owning a number of chair or department libraries with the assignment of right for accessing each of the levels (cf. LMA component).
- The acquisitions module is in connection with the subsystems of searching, cataloging and lending.
- The acquisitions module supports every type of collection growth of the library: legal deposit copy, purchase, gift, exchange, individual and list-based order, delayed order, standing order, prepaid order, subscription, binding order.

- A sophisticated system of authorizations or privileges for the use of the module, certain processes must be assigned and fixed to the highest level of access (relation to the LMA as well).
- The module must have an option of configuration tied to a high access right which can be handled by the authorized librarian even independently of the vendor of the system.
- In each process where the system has to communicate with an external partner there must be an option to set template texts (eg. letter of order, letter of claim).
- The rules of claims can be set by each member and affiliate library.
- The tables of currency and exchange rate can be set by each member library, even with the use of decimal signs if needed.
- The locations of expenses and the recalculation of fixed budget amounts can be set and maintained or modified by each member and affiliate library (eg. in case of a change of exchange rates.)
- Query per vendor, the registration of aggregate amount per vendor (for administering the value of the exchange of publications).
- There should be a possibility to pursue flexible work processes, to skip if need be certain operations of the ordering procedure (eg, when purchasing in a book shop no desiderata has to be entered and an order initiated, but ignoring these the check-in of the publication can be started and the recording thereof in the holdings as well as the handling of the invoice is possible). The workflow of acquisitions can roll out at any phase, so the program should support the planned collection development, the ad hoc purchase and the various cases of adoption of 'unexpected documents' (gift, domestic and international exchange, legal deposit copy, individually published document, other sources).
- The program should handle lists of offers (eg, by feeding in vendor's offers, from library catalog, by direct data input – entering several vendors' offer to every item).
- Desiderata management: the culling of desiderata from the records of the material already in the holdings (and it must be available, if necessary, that a member library decides to display the desiderata in the public catalog or not).
- Desiderata management: automatic notification of arrival of a new recommendation for acquisition, an option for endorsing or rejecting the recommendations, and the endorsed desiderata can be made into an item of order.
- Compilation of a list of desiderata written in a separate output file.
- Preparation of a new item of order: directly from data fed in from vendor; on the basis of records already existing in the catalog; on the basis of data adopted from other database; by entering the data directly.
- It should be selectable by member libraries or affiliate libraries that the items still in order and not yet arrived be displayed in the catalog or not.
- A member library or a branch library must have the option to allow patrons to fix reserves for items in order.
- The items of order should be able to be printed one by one or to have them written in file.
- The items of order can be sent electronically directly from the acquisitions module.
- Claims of non-accomplished orders at intervals given in the rule of claims (electronically as well as in printed form); automatic notification on the urgency of claim.
- Contingency for deleting or preserving the records of unaccomplished orders.
- Registry of incoming publications; an option should exist for canceling the registration (in case of mistaken registration).

- Arrival and registry of incoming invoices, and the 'payment' or 'settlement' thereof - so that the system can maintain the budget; possibility if need be for handling the divergence of the ordering price and the invoiced price as well as incidental expenses, for printing the invoice.
- Archiving of fulfilled orders and paid invoices (when the necessary data have been entered into the inventory log of the holdings).
- An option for receiving electronic invoices and for printing the invoices thus arrived and their export to the filing system.
- The acquisitions module should be related to the parent organization's financial system – either directly or through an API.
- It must be an option that, upon recording into holdings, invoices completed with inventory numbers are sent to the parent organization – via electronic means (this should be optional according to member libraries).
- In the case of unfulfilled orders or default in payment the handling of credit and debit (dues and claims or demands).
- Configurable statistics of acquisition or increment and reports (in relation to the STA component).
- Information on items, history of items and copies: all grains of information concerning an item (one can see what happened to a particular issue, who modified the data, what modifications were enacted). The tracing of the 'document history' is related to the CAT and PRG components as well.
- Information on holdings: the entirety of holdings data belonging to one title (bibliographic record) (report on how many copies of a particular title are in the holdings, is there an order in progress on it, was it recommended by someone for acquisition).
- Option for grouped modification of items: alteration of more than one item at a time, (eg, alteration of location of copies transferred to a new location or storage at one go, the simultaneous alteration of the status of items in different states (eg. 'in process')).
- The status of the item or copy (lost, displaced, to be deleted, under process) should be shown in unified fashion in all the modules, and the copies can be selected, sorted and listed according to this.
- There should be an option for the automatic allocation and registration of inventory numbers, call numbers and location numbers including the temporary call numbers (eg in case of free shelf) too – with the choice of individual configuration for libraries.
- An option for the printing of inventory numbers, call numbers and location numbers, on labels or into a list including temporary call numbers (eg, in case of free shelf) too. The printing of stick-on labels onto a network printer in ZPLII language.
- An option for compiling an accessions list (and its printing into file or on paper); compilation of the online list of a weekly increment (reviewing from afar, and to orientate the patrons about the newly processed works) – possibly with attachment of the electronic cover, blurb, and table of contents.
- Automatic feeding and reading of RFID and/or barcode, if necessary, barcode printing on stick-on labels.
- During control of holdings the data of copies apparently missing according to the RFID/barcode should be able to be printed into a list – with configurable content of list (relation to the WHM component).
- In the event of holdings reduction by weeding the lists can be printed in configurable content: compilation of list of deletions, or lists of redundant copies, automatic generation of a list of withdrawal candidates (relation to WHM component).

- The interface for submission of digital objects: various possibilities for feeding in various digital objects, and their metadata individually or in batch, occasionally or automatized. Automatic notification of the uploader and the relevant processing librarian.
- The desiderata registration of digital objects: the registry of digital objects waiting for harvesting and the analogous documents proposed for digitization. On account of the latter it should be linked up to the administration system of the digitization workflow of the NSZL as well.

## 2.11 Help Desk

- Four types of written documentation should be made for the system: online help for patrons, conceptional survey for librarians, and developers' documentation. In the case of operation in Hungary, an operational documentation should be compiled as well.
- The documentation should be simple, clear and thorough, so that one can master the full use of the system.
- The documentation should be regularly upgraded, up-to-date.
- The patron help should be optionally Hungarian and English. The number of languages should be extendable.
- The librarian help and the survey description is in Hungarian. It should be expandable as needed, the description can be in other languages as well.
- The developers' documentation should be in Hungarian or in English (one of the two, it is not necessary to be bilingual.)
- The patron help and the librarian help can be opened in the given module.
- Apart from text, the documentation when necessary must contain brief presentations and/or video helps.
- A help request system has to operate between patrons and their library. This can be opened from any of the interfaces through which they are using the library system. (Frankly speaking, the catalog and the administration of their own data are such.). In this system, the patron can send text messages, they can converse with the librarian and may ask for online help from the librarian. There is a function that enables the librarian on occasion to take over the patron's screen as well as the control of their mouse and keyboard. The actions must be logged.
- From the above-mentioned patron interfaces they should be enabled to start the chat service whose description is found at the 'client contact and communication' (CLC) module.
- A help-request system must operate between librarians and developers. This can be launched from any module. In this system the librarian can send textual message, enclose file, can talk or converse with the developer, and may be able to ask for help from him or her. The developer can take over the librarian's screen as well as the control of their mouse and keyboard and also to send a file to the librarian. In this system a search can be initiated among all the previous messages and exchanges (even among communications of others.) The language of the interface and messages (communication) should be Hungarian. The actions are to be logged.
- There has to be an error reporting system and one for requests for development between librarians and the department in charge of development and operation. This should be reachable from any module by librarians by depressing a special command button or a combination of keys. In this system the librarian can send textual messages and enclose files. The picture or image of the actual module should be automatically enclosed to the report. The developer, in turn, can send textual message and attached file to the librarian. In this

system a search can be initiated among all the previous messages and exchanges (even among communications of others). The language of the interface and the messages (communication) should be Hungarian. The process of the troubleshooting work pertaining to the error reported as well as the outcome of the requests for development should be traceable. The action is to be logged.

## 2.12 Long Term Preservation

- The handling of digital objects in the NLP system complies with the OAIS model (ISO 14721:2003).
- Relations between the access copies (surrogates) of the digital objects and those in the long-term preservation system must be ensured.
- A software-based solution supporting the multiplication and storage required for the long-term preservation of digital objects is expected which guarantees that the documents and objects can be identified, they are readable, retain the integrity of their structure and the events related to objects are retrievable.
- The handling of metadata necessary for the long-term preservation must also be resolved by the vendor on the basis of de facto standards, eg, Preservation Metadata: Implementation Strategies [PREMIS], Metadata Encoding and Transmission Standard [METS]).
- The LTP module can be executed only by colleagues with appropriate access and/or programs. It should be possible to restore the state prior to each operation, even concerning more operations.
- The module must warrant the handling of metadata related to the history of digital objects (eg, migration, conversion, compression, control, etc.)
- The LTP solution should be accomplished physically on the tender-announcer's own infrastructure as well as within its operation.
- The LTP solution should be viable and workable, independent of the NLP system and any kind of external service (eg. licence server), until an unlimited period of time.
- The NLP system should be able to cooperate with the software-based intermediate layer (iRODS or any other) related to the storage.

## 2.13 Accessibility Management

- The handling of restrictions in terms of work, edition, document, or copy.
- In case of works protected by author's copyright the tracing of the expiry of the span of protection and automatic alteration of the restriction.
- Upon ingest of electronic legal deposit copies the submitters should be able to see what restrictions of service apply to the publications.
- The restrictions and the display pursuant to them must be resolved at the level of copies.
- Technical restrictions of the display matching the rules of restriction must be effected (restriction on printing, restriction on screen copying, display of parts, restriction on the duration of use, watermark, etc.).
- While circulating digital objects the technical restrictions in harmony with the rules of restriction are to be put into effect (restriction on the time of use, etc.).
- The handling of identifying data of out of commerce works.
- The system must ensure the opportunity of user's printing, loan, downloading amidst the technical restrictions.
- The opportunity of automated exchange of data must be yielded to EUIPO's directory of orphanworks (<https://euipo.europa.eu/orphanworks/>) or, in the event of its finalization in the period of realization, to the European Portal of Transparency of the OOC works (as for

the registry of orphan work the interface securing the exchange of data has been created from the side of EUIPO).

- Option for recording/viewing the information concerning intellectual property rights per work for the authorized persons.
- Option for recording/viewing the information concerning intellectual property rights per author for the authorized persons.
- Keeping records of rights management organizations in the partner database.
- To handle employees (as data-recording users) of rights management organizations in the partner database.
- The handling of users with various roles (rights management organization, heir to a copyright, etc.) including those with multiple roles.
- The shaping of the procedure of checking and endorsement in case of items of information derived from feedback.
- To enable right holders with the option to set the conditions for e-service (number of copies to be accessed simultaneously, tools dedicated for service, maximum time of access, maximum number of pages to be printed, maximum number of words to be copied on clipboard, royalty).
- To allocate the information of access to the metadata of the work, manifestation, or copy may be executed on the basis of templates and profiles configurable in NLP.
- The information of access should be displayable configurably in the different services.

#### 2.13.1 Copyright

- Rights management should support the Open Access conception too.
- The registry of documents associated with the documents protected by copyright (eg, their licenses, declarations, contracts) must be ensured by the system.
- The visualization laid down in the profiles of access must be ensured by the system at the level of metadata, bibliographic description and digital objects.
- Handling of data conforming to the regulation of copyright of the European Union and Hungary.
- License management, including the Creative Commons licenses as well as Open Access.
- A component handling the declarations and contracts of copyright holders and rights managers by means of which those with author's entitlements can handle patterns of declarations and modify the data pertaining to the work.
- Option for feedback to initiate the modification or cancellation of erroneously or defectively recorded author, contributor data or legal information.
- To capture copyright information in the process of managing international identification numbers and legal deposit copies as well as in the process of acquisition and cataloging.
- The technical solution to the restrictions must be carried out with DRM methods.
- The component must ensure that in the process of acquisition and in the process of cataloging as well as after completion thereof those entitled can capture the information of restriction related to a work, document or data.

#### 2.14 Management of Periodical Publications

- The module (a submodule of Acquisitions) supports the following functions: the ordering, subscription, check-in, claim, collation and binding of periodicals and serials (arranging them into binding units); the handling of electronic publications, the license management of journal packages provided in databases, the detailed administration of holdings of periodical publications.



- In case of electronic journals there should be a connection to the electronic resource management and the actual subscription can be selected here (relation to ESM).
- In case of database subscription the option of batch upload of records, then the deletion thereof. Opportunity for temporary acquisition (relation to ESM).
- Ordering: handling of vendor information, establishment of financial budgets, administration, creation of orders, sending of orders, storing of licences, registry of subscription invoices. The data of registry of journals carried out in the NLP should be transferable to commercial systems. Option for payment from multiple budgets.
- Defining the series of a periodical publication: the placement and allocation of current issues, its circulation behavior, fixing of parameters of reduction and archiving, periods of ordering, data supply. Entering units of acquisition.
- The documentation of order by means of the system, assisting the launch of public request for proposal. Retrieval of lists sorted to placement.
- It should be able to print lists of ordered journals by vendor for the subscription.
- Upon expiry of the subscriptions they should be renewable (without the need of a new ordering item) or cancellable.
- It must be able to create schemes for checking-in issues/volumes according to the set periodicity.
- It must keep an eye on the expected arrival of part units according to the set values, and this should assist the claim of issues arriving late or not at all, it must send the claim automatically.
- It must be capable of registering and handling the incoming part units divergent from the usual routine (contracted or combined issues, combined volumes, spanning volumes, special issues, irregular numbers).
- It must handle the copies of the same periodical publication simultaneously obtained from different resources.
- It should be able to contract the holdings data of the registered part units, to break down the contracted volumes into units of binding, then into issues.
- It should be able to display the holdings data in the catalog complying with the contracting; the contracted volume must be broken down into units of binding, and into issues thereafter.
- The units of binding should be definable or modifiable. In the acquisitions module one should be able to see the record of the cataloging module. It ought to handle issues or companion journals of two titles as one single unit of binding.
- It should provide means for compiling and handling binding lists.
- It should trace and keep track of the working process of delivery to binding, and the route of the publication. It should be able to handle the contingent modification of data of bound copies and to handle barcode/RFID.
- It supports the accession to holdings of the formed library units: assignment of inventory number and price. It should enable the librarian to compile detailed inventory outputs (relation to PRG component).
- Holdings diminution: withdrawal of volumes to be weeded out according to lists. Withdrawal of data of incoming registry of non-persistent retainment.
- Distributing circulars about discarded and cancelled periodicals and lists of surplus copies.
- Opportunity for initiating submissions to the National Periodical Database (NPD) (Nemzeti Periodika Adatbázis –NPA; see Cataloging module). Adjusting local holdings data of periodicals to records in the database of the NPD. Transfer of batch data. (This is needed for

libraries outside of the NLP, so no holdings data have to be uploaded within the NLP, while it has to be taken over in the shared catalog from the PER module of each library.)

- Option for culling user statistics. Types of acquisitions, number of publishers, budgets, claims. The number of faulty links at the electronic access. In case of loanable periodical publications the number of loans.
- Opportunity for inventorying ejournals (relation to PRG component).
- Levels of financing, setting of locations - the level of financing and location signifies organizational units (eg, chair or department library) within one library.
- Direct connection with the incumbent's (parent organization's) financial system (eg, in the case of a university library, with the system handling the university budget).

## 2.15 Cataloging, Authentication, Qualification

- The cataloging module must be enabled to allow the authorized user to create, alter, copy, display and erase regular bibliographic, authority and holdings records in the database – following searches or queries.
- The cataloging module is capable of formal and object-related disclosure of all types of library documents (printed, electronic, audiovisual, cartographic, musical, etc).
- It should provide a shared function for bibliographic and authority cataloging – and, if necessary, to be able to create sets with record statuses (working condition, partially completed, authenticated, etc.).
- The flexible treatment of metadata makes it possible to discern the person, the library and so forth of the creator and to arrange the records into groups.
- Records can be invoked and saved in the following manners: 'local file', 'working file' visible to other colleagues within the system, the catalog (into a common or local segment).
- Possibility of original cataloging.
- Copy cataloging via most of the viable protocols. Import records from other domestic and foreign catalogs embedded in a working procedure. It should support transfer of data between cataloging structures determined in the CCM module in compliance with the rules of data conversion.
- Option for shared cataloging – a bibliographic record existing in one copy and edited by more persons.
- As for each information unit (subject term, bibliographic data, etc.) the system keeps record which institution/librarian made that statement.
- Handling of duplicate records at cataloging: there must be an instrument or device for spotting duplicate records while in cataloging and upon saving (similarity analysis of definable elements, message of warning is sent, the record suspected as duplicate is placed in a working file).
- An option for adding a new record from the working file of duplicate suspect records (adoption of a duplicate record).
- An option for adding own data (eg. subject terms) to the existing record (with an indication or marking referring to the library giving the statement).
- An option for rejecting upload from the file of duplicate-suspect records.
- Tender issuer will prefer cataloging based upon FRBR-LRM with the use of an editor suited for creating the individual FRBR levels.
- Capability for handling the new cataloging standards (RDA) and the formats of bibliographic exchange (BIBFRAME).

- MARC editor for bibliographic and authority records. The entry, saving and storing of the ever-current MARC21 fields and subfields without developer's interference.
- The system should make it possible that, by leveraging the fields of catalog structures defined in the CCM module, the catalog records are created, modified and controlled accordingly.
- Special requirements at shared cataloging: the system stores the record IDs of incoming records generated in preliminary systems and returns and retrieves them upon the occasion of single queries, data export, API-based connections etc. since the local related services might be in need of them.
- In the database, virtual databases of partial data, partial sets and collections can be generated of the records in unlimited numbers.
- The bibliographic and catalog data must be handled separately (Hungarian National Bibliography – HNB (MNB)): The records designated for the HNB must be enabled to appear in a virtual collection. It should be optional that from among the records marked for the virtual collection of the HNB those with no holdings data should not be displayed in the public catalog, only in the virtual collection.
- The system applies the workflow processes set up in the WFL module during cataloging and utilizes the authorization rights defined in the CAD module.
- The system is able to handle all levels and types of bibliographic description.
- The system should support the handling of record relations (unidirectional, mutual) in a way that it automatically produces the relations on the reverse side. Also, there should be an option to fix undefined relations.
- The record link can be shaped between an analytical and a main record even if the source of the records differs. The analytical record can thus be linked to the access data of the main record and to adopt or take over directly through various systems of document service (see the same at analytical processing).
- Attachment of more, not predefined links to the electronic files, eg.:
  - the fulltext electronic document,
  - the cover image (if it is produced),
  - table of contents (if it is produced),
  - the respective page of the file of the digitized HNB volume processing the document in question (eg. to items published in the bibliography titled Collection of Early Books (Régi Magyarországi Nyomtatványok)).
- The handling of records without holdings (eg. records with shared data, main entry of a series, analytical items).
- There should be a possibility to handle several systems of subject headings in parallel (the use of 'central', 'library' or own subject terms), and the subject system can be augmented while in use; the use of different systems of subject headings per discipline. (The 'central' system of subjects is jointly utilized by several libraries; the library or own system of subjects is a subject system or thesaurus used by one member library).
- Handling of classification notation (eg UDC) with tracking of version upgrades.
- The system must handle the records still in working process with the status 'non-public'.
- Elastic interface of data input: a web-based interface that can be tailored according to requirements for entering metadata (eg. mandatory and repeatable fields, default field-values, fixed and expandable lists, namespaces and dictionaries embeddable or at least searchable with a query link in another pane, the opportunity of copying a filled-in data sheet; bulk or automatic data upload/deletion/correction with respect to a given field and

records), depending on authorization and with logging. The option for choosing the resetting of earlier condition(s) in case of human error or system defect.

- Enriched metadata: as a solution beyond the usual metadata, additional grains of information that can be assigned to the given document by NSZL personnel, by external librarians or by plain users (eg, table of contents, imprint, book review/critique, foreword/postscript, author's biography, cover photos/screen shots, non-standard keywords/tags assisting retrieval, further suggestions of works, links to related pages/documents, link to the place of origin, information email address concerning the given work).
- Support of crowdsourcing: the option of involving users in the creation, expansion and improvement of the metadata. With functions of administrator's supervision.
- The URN of the digital copy can automatically be assigned to the bibliographic description of the analogous original of the digitized document.
- The vendor must warrant the FRBR-based cataloging.
- There are to be instruments that in the course of work-based cataloging the works identified can be supplied with a work ID or identifiers created elsewhere can be reused.
- HUNMARC → MARC21 conversion (option for direct carry-over from HUNMARC-based databases). This needs a utility which can adopt the HUNMARC record and enables the conversion to MARC21.
- From databases offering Z39.50 protocol it can be possible to constitute 'background databases' and to transfer and domesticate records from there through JAVAPAC/JAVACAT and/or JAVAACQ surface.
- Records from binary MARC-files can be transferred to the cataloging module.
- When cataloging old books with the use of bibliographic fields there should be a check to be performed concerning if the data referring to holdings are present.
- When describing old books there should be an option for detailed disclosure on the information of describing holdings (marginalia, possessors, binding, holdings instances, etc).
- The preferred spot of detailed holdings information of old books is the holdings record, but there should be an option for using item-specific fields of the bibliographic records (the use of MARC21 Format for Holdings Data is necessary. ). When handling the item-specific data of old books there should be instruments for passage between the two modes of storage.
- Elastic and hierarchic metadata structure: an opportunity for shaping optimal metadata structure for the individual types of document and partial collections. Definition of own set of metadata according to hierarchy-levels (partial collection, series, periodicals, volume, issue, partial document). Administration of descriptive, analytical, structural, legal and administrative metadata. Optional posterior registration of new fields.
- Option for bulk transfer of records within the system in the participating institutions: It should be enough to create or update the records of databases by one institution, the other subscribers just take them over within the system.
- Standard identification of digital objects (ISO 26324:2012).
- Unambiguous identification of digital objects.
- To ensure the procedure and marking necessary for qualifying the digital specimens, and their originals. (eg, Digital-Surrogate Seal of Approval - DSSOA).
- The handling of relations of the catalog record and the digital copy reproduction take place automatically, but the option for individual and group modification should be secured for the librarians.
- It must enable the buildup of standard connections to external repositories.

### 2.15.1 Techniques Assisting the Workflow, Cataloging Template

- The system having saved the record should place the record into a status of 'not public' for the librarian and, an opportunity should be offered immediately to glimpse the data in the user view, in the form of preliminary view. As long as the content proves acceptable, then the librarian can place the record to the 'public' status as a separate function. This function must take into account the connections and links as well. To put it differently, if an article is linked to a source publication, then the link itself can be set to 'public' after control only.
- Cataloging template: clear-cut and transparent web-based cataloging interface, in various versions too (eg. with field names, with MARC indicators).
- More than one record can be opened simultaneously.
- The employment of tools assisting elastic data input (drop-down menus, if not too long, autocomplete based on predefined data set, manual keying with spot-sensitive format checks, options for expression, subfield, field, record copying etc.) at the creation of the bibliographic as well as authority records.

### 2.15.2 Data Management

- It should configurably control the non-allowed characters in certain fields (TAB, CRLF etc) and filter them out when saving the record.
- The option for deleting a bibliographic record is granted only upon the appropriate control (eg. holdings data don't belong to it, no related records exist, a digital copy does not belong to it, etc.), the cause of non-deletion should be communicated in a message. (Note the records belonging to the HNB can be cancelled only by an assigned staff member of the NSZL who has high-level access).
- Member libraries can delete their own records, their location code and their holdings from the catalog, if no other restriction applies concerning the catalog entry (eg. if no other library location is attached to it).

### 2.15.3 General

- Within the catalog, there should be an option between the individual separate entries to perform relations of N:M degree (an article in a publication be linked to its manifestation in another publication).
- The determination of cataloging rights should be freely definable (eg, right to edit a given title or journal of a discipline) (relation with the CAD and CCM component.)

### 2.15.4 Identifier Management

- The storing of identifiers of articles and books possessing a digital object identifier.
- Storage and resolution of bibliographic identifiers (eg, RMK, RMNy, VD16, VD17 etc.).
- In the event of digital documents carried over from earlier systems the storage and resolution of earlier record identifiers. (EPA ID, MEK ID, DKA ID).

### 2.15.5 Authority Records

- In its possibility of creating an authority record the system should take into account the namespace relationships and support the generation of author data in the process of cataloging (while creating a bibliographic record) and not only in a detached workflow.
- While creating authority records the system must examine if the given author exists in the catalog. If it does not, then the system should inspect its existence in the namespace according to those described in the namespace tool (NSL). If a match exists, then it should

create an author record and assign the namespace identifier to it. If no match exists, then it should offer the entry into the Namespace with respect to the relation of the actual work of the author by means of the NSL module.

- The record import function should work also in the case of authority records. It must place the external connection identifiers (eg, Namespace) into the appropriate field of the record.
- There should be vehicles to alleviate the connection of authority records produced earlier to namespaces used during the new cataloging.
- An option for storing 'backdrop' authority records and for the regular upgrading of these from external sources (eg, tracking of MESH-versions).
- The system enables the vicarious deletion of authority records in a manner that it interprets the substitute authority record into all the links of the logically deleted record.

#### 2.15.6 Workflow Management

- The entry of data of administration regarding the analytical processing of periodical publications (eg, the marking of institution performing the analytical process, the degree of processing condition of the given source) – not in bibliographic data fields, in structured fashion, searchable (relation with the CCM component).

#### 2.15.7 Authentication, Quality Control

- The qualification of records of multiple aspects and levels (degree of processing, degree of publicness) (public, restricted publicness, closed etc).
- The authentication of records after quality control (revision), the protection of authenticated records of the HNB: the modification of authenticated records must require special access right.
- An option for syntactic control when saving the bibliographic record (formal, structural); the filtering of elements conflicting the given standard.

#### 2.15.8 Display

- The system must ensure a broad range of customizable searching opportunities for the retrieval and view of bibliographic, authority and holdings information at different levels.
- The cataloging interface must offer the choice of selecting the display form of records from a menu or a button in formats within the standards and in other formats. The possible format choosing should be configurable.
- There should be an opportunity for displaying the linked records at a time, on screen, and in the event of a large number of links, in quantified fashion, then in a separate opening.
- At displaying it should take into account the default settings configured in the central administrative module (CAD) and regarding the display of data (eg, applied system of subject headings, thesaurus) yet there should be an option for dynamically altering the setting to a concrete display.

#### 2.15.9 Management of Holdings Data

- There should be an application of the 'MARC21 Format for Holdings Data' at the handling of holdings data.
- The handling of holdings data at the member library level.
- The creation, modification and deletion of the holdings record.
- The transfer of holdings to other bibliographic records.
- The treatment of temporary call numbers in case of temporary location (eg. free shelf).

- Storage of item-specific data and observations (eg. museum objects, specific data of elements); in the holdings data of electronic documents the storing of data necessary for providing access to them (eg, data determining legal, financial and circulation policy, etc).
- An opportunity for generating full-value holdings record as part of various workflow procedures and modules (cataloging, acquisition, circulation).
- The system should ensure functions for the detailed storing of holdings data of periodical publications in a manner that the data content of the units of stored periodical units (bound, several copies in one unit) can be configurable.
- It should support the handling of user authorizations resolved in the USM module and regarding a function which ensures the adding of holdings data to librarians of libraries generally not using the NLP: In the central catalog of periodicals (NLP's partial database) the libraries themselves manage their holdings data. For this, the libraries outside the NLP should be given authorization and a separated interface of management shaped.
- The system should ensure proper functions (and associated data) for the fixing of information on stock preservation and for their queries. The exploitation of these data should be enabled in the queries of the statistical module (STA).
- The vendor is to make a suggestion concerning the handling of copies of digital content in terms of system technique, and for the formation of appropriate solutions of identification.

#### 2.15.10 Special Requirements for Analytical Processing

- Special record relations: a) part document – source document (in case of periodical publications a huge number of related part documents - occasionally tens of thousands of part documents - can be found ): bidirectional relations between article and source; b) a reviewed publication – partial document as a review: mutual relation between the records.
- The opportunity of record relations with a document in external systems too, eg, when the source document is part of a subscribed content service or the reviewed publication is in an external database.
- An opportunity for displaying the source document in the form similar to a table of contents:
  - periodical publication as a source document → year, volume → partial unit → page numbers
  - monograph (a volume of studies) as a source document → page numbers

#### 2.16 Catalog

- The operation of a common/central catalog. (This means that member libraries are cataloging in the cataloging module of the NLP ; as for MOKKA members outside of the NLP, following the one-time bulk loading of all their records, the libraries each will have to upload their new records from their own catalogs – for this a utility is needed for conversion from HUNMARC and other MARCs into MARC21.
- As the common catalog of Hungarian libraries it should accept records of non-NLP libraries, an uploading and converting program is needed for this.
- The data of the owner libraries of bibliographic records must reflect the member-library hierarchy set up in the CAD and LMA components.
- The cataloging module can be used by non-NLP libraries as well, and an option for downloading their records into their own catalogs must be ensured for them.
- For any library or user the downloading of records from the catalog must be provided with selectable character sets (eg, UTF-8, ANSEL).

- The catalog must enable the handling of more than one metadata format, and the option for export in the standard, widely employed metadata format for each and every data.
- The batch download and upload of records, the option for batch correction.
- In the course of record upload the program must perform a duplicate check and notify the uploading library about suspicious records and place the records into a workfile. Depending upon the uploading library the records designated must be accepted from the workfile as a duplicate.
- Unique record identifiers to the catalog at a national level, but in case of uploaded records the identifiers of previous systems must be preserved. The previous record identifiers of the catalogs of the uploading libraries must be made unique with a code referring to the library.
- The catalog must provide an opportunity for the registration and administration of antique library documents as prescribed by the legal provision, for the building of a virtual partial database from the pertinent records, and for the showing thereof as a separate service. There must be an interface (cataloging panel or template) in which the relevant libraries can submit the bibliographic and holdings data of antique documents in their stock even if the library is not a member of the NLP nor that of the National System of Document Supply (ODR).
- The catalog must enable the registration and administration of periodical publications according to the provisions of legal rules, the building of a virtual partial database or-sub-base from the pertinent records, and the showing thereof as a separate service.
- The holdings data belonging to records of the periodical publications are managed by each library respectively, and this requires a suitable interface which can be handled by colleagues with adequate authorization of libraries that are not members of the NLP.
- The processing of articles and studies published in periodical publications and volumes of studies is executed by the libraries in a consortial form. The buildup of a virtual partial database is needed from the records of the part documents and associated records which can be shown as a separate service.
- The common catalog must accept item records from libraries that are not members of the NLP. For the handling of holdings data the regulations of the MARC21 Format for Holdings Data are preferred, but they must accept item data which are entered in the fields 850 and 852 of the bibliographic record.
- In order to support international library loan (ILL) within the National System of Document Supply (ODR) the common catalog must store the status information of copies of non-NLP libraries as well.
- The system must be able to automatically synchronize data between the catalog data and the system of long-term preservation, and to allow individual or grouped manual intervention.
- Partial collections: the documents can be categorized into partial collections (into more if need be) to which own metadata (describing the given partial collection) can be assigned and which are searchable and browsable both separately and collectively. There is no restriction on the size of the individual partial collection (neither in terms of numbers of documents nor in storage space).
- Semantic web support: to place semantic items of information in the source of the webpage displaying the digital document (schema.org bibex support).

## 2.17 Catalog Configuration and Management

- Utilities for handling the cataloging module and the settings of the catalog: cataloging templates, the content of drop-down menus, the values of levels of qualification and



authentication, elements required for syntactic control, data elements to be involved in the duplicate checking, definition of fields dedicated for the entry of non-bibliographic data and outside of MARC21, definition of formats rendering the catalog records, the fields selected for indexing, definition of subfields, etc.

- The system must optionally offer the various formats for cataloging, (eg, MARC21, Dublin Core, BIBFRAME), and bring up the pertinent set of elements in the cataloging module.
- The actual layout of the cataloging template must be configurable without interference from the vendor (for authorized staff-users).
- An option for setting schemata and editing for the user, on every type of document.
- Records and the individual data/fields should be assignable in a manner that divergent cataloging views can be accomplished depending upon the creator institution and other principles of grouping.
- As far as every grain of information is concerned (in case of shared records the bibliographic data, subject terms, etc at the field level), the system should provide a device for the administration of which institution/librarian made the statement.
- The registration and administration of partial collections to be established in the catalog and the description of their characteristic properties.

## 2.18 Query Utility (Search Engine), Discovery

- The NLP system ensures that the data of an external repository can be handled.
- It supports the Linked Data service.
- OpenSearch compatibility.
- The Discovery function should be in operation without login.
- The user interface of the Discovery function can be transformable through configuration per library.
- The query utility must connect the NLP database to other databases in a configurable manner.
- Query in the entire common catalog, or filtered down into records of member libraries, sub-bases and partial collections.
- In the Discovery and NLP system the record links must be manageable.
- The system provides an opportunity for configuration to determine the deduplication algorithm applied by Discovery. The configuration can be disclosed at both the central and the library level.
- The system ensures API connections via the SMG module that provide services applicable on the set of hits of Discovery or on some elements thereof.
- Flexible query interface: Simple one-line searching pane and a complex one definable with various settings. Filtering to fields, Boolean logic and proximity operators, query for phrase or expression (within quotation marks).
- Fulltext query: Google-like search in the content of textual document formats (eg. HTML, PDF, EPUB), representation of context in the hit list.
- Fuzzy and wordstem search option: retrieval with erroneously typed search words, with mistakenly recognized OCR text as well as with inflexed and suffixed word forms.
- Flexible search results: the content, visual appearance, options for sorting and filtering of hit lists should be freely configurable one by one.
- Sorting by relevance: Eg, if the queried words are in the title or in other important fields or adjacent to one another, or occur repeatedly, then these kinds of items get priority and are

advanced upfront and placed highly in the hit list. This sorting potentiality is needed also with the hit lists of metadata and fulltext queries.

- Faceted search results: construction of partial sets according to predefined categories and their display in the clusters of hits.
- Browsible indexes: a convenient form of browsability of indexes belonging to the chief metadata fields (or their combination, eg, author and contributor) (as a partial collection or the full collection). The display of a hit list resulting from one or more index elements selected by the user.
- Browsing in the lists of hits belonging to the selected filters (eg, audiobooks).
- Common queries: Option for common or pooled queries in partial collections selected by the user or in predefined ones.

#### 2.18.1 Browse

- Browsing is an option in the Discovery and NLP system: configurably, as to which index should be selected for browsing.
- One can page forward and backward (up and down) in the displayed lists.
- The number of rows to be displayed in the lists can be set by parameters.
- Browse by topic: tracking of references within the systems of subject headings.

#### 2.18.2 Indexing

- Indexing is configurable in the Discovery and NLP system
  - on what indexes can the end user and the librarian make queries (what are the search and authority indexes, and what indexes composed of what virtual fields);
  - which fields and subfields of the catalog get into the index and into what index;
  - one field or subfield may get into more indexes and by dint of other rules as well.
- The search function is to be enabled to index the phrase content placed in the digital file attached to the cataloging entry irrespective of the fact that the digital content is stored in a local or remote source.
- Indexing virtual fields: virtual field(s) can be generated from the fields according to certain attributes and properties and these can also be indexed.
- Easy rebuilding of search indexes.
- The mode of indexing can be configured – a general requirement: article is taken into account at certain fields, in the browse index; to build a stoplist, a dictionary of characters to be ignored in indexing; adjacency of words taken into consideration in indexing, at which index; identity of lowercase and uppercase; accented characters interpreted as part of the basic set can be configured (eg, UDC, contributors, titles etc); The capability of joint indexing of related records through configuration (eg the necessary data can be carried over from the series record at the members of the series).

#### 2.18.3 Query

- Congruously with the librarian's workflow processes and functions in the NLP system the potentiality of queries and customization can be configured.
- In the Discovery system one can configure the shaping of the query groups according to libraries and/or library groups and/or comprehensively in one aggregation; the grouping of resources and the shaping of query groups are set up by the libraries.
- The Discovery system must be able to search the catalog, the digital (repositories) and electronic resources (subscribed, individually owned) configured in aggregation or separately:

- the search should support query in the fulltext resources (repositories, e-sources etc),
- the electronic subscriptions should be involved in the search according to information of access handled in the NLP interface (by IP, what service provider, what subscription at what level can be accessed).
- In order to promote the search process in the Discovery system it should contain functions of recommendation (eg, 'from this author', 'with this subject term', 'Did you mean?', or even it has an article alert matching the explored theme – and these can be applied by configuration or not).
- While the query is being typed in the system (if it is accessible in terms of content) should display autocomplete propositions, similarly to the Google search:
  - autocomplete service (based on the content of the database)
  - in the fields of entry of the query text completion based on the index
  - intelligent text recognition (in case of a mistype)
- Searching capabilities (in the catalog/on user interface): browse - simple search – complex search (with query fields that can be added) - command language (CCL) search, plus fast search (single field textual search in all fields of the bibliographic record).
- An option for generating the query in an URL.
- The use of Boolean operators.
- Search by narrowing document types, language, date of publication - the code-style index contents can be selected from a menu.
- Search upon basic characters: a search for an 'a' must retrieve 'á', 'ä' etc. as well.
- In the Discovery and NLP system the character sequences matching the query parameters be highlighted.
- Narrowing:
  - options of diminution and filtering can be configured (language, location, accessibility, material type, resource, discipline etc.),
  - the narrowing labels or tags be displayed, their function should be adjustable by the librarian managing the system,
  - the query page should show the labels that can be used for narrowing the list of hits,
  - next to the labels there should automatically appear, in digits, the number of expected hits in the event of narrowing to the given label.
- Truncation masking, character substitution:
  - truncation must be possible precisely on one character; on any number of characters, on characters of exact number,
  - truncation must be possible at the end of the character sequence; initially at the start of the character sequence; in the middle of the character sequence, in a combination of the above.
- In the Discovery and NLP system an option should be for simple and complex search: to find a word, a wordstem, an expression or phrase (independently of language).
- The simple and advanced searches can be configured, showing what indexes can be selected for the advanced search.
- Even at simple search query an option should be to select from among 4-to-10 search indexes.
- Search by topic: search on elements of the UDC code (number in the main table, subdivisions)
- Search by name: differentiation between functions of author and contributor

- The exploitation of the browse or other innovative use of authority records in search.
- The option of ad hoc or contingent queries with commands (CCL).
- Options for semantic search.

#### 2.18.4 Display

- in the Discovery system the various types of documents should be indicated by discernible and unambiguous graphic icons.
  - the documents matching the query are to be displayed from the set of hits;
  - from the records there should be a unit (set of hits) produced which can be utilized for further operations, printing, email sending, etc.;
  - as a result of the query the hits precisely matching the query should be displayed.
- In the Discovery system the deployment at the level of work (eg, identical author, title but different edition, different form of appearance; printed, digital) must be resolved in the list of hits and the expansion and viewing of elements of the group according to requirements (FRBR function).
- The system enables the display of the record corresponding with the FRBR model.
- Support of the COINS protocol: display of bibliographic data in metatags according to Coins 'standard' for reference-handling systems.
- The full display pages of records in the head element of html, the placing of metatags figuring in the Google indexing.
- The full display pages of the records must have a permanent URL.
- With the URL entered in the title bar of the browser it should be possible to retrieve the bibliographic data in a variety of formats (eg, marcxml, marcxml, marcISO2709, atom, BIBFRAME).
- The display format of bibliographic records can be configured, eg, brief – full; labeled – card or bibliographic format, MARC codes.
- A variety of display data structure can be configured in the display of the Discovery and NLP system on the basis of bibliographic and holdings as well as associated administrative and service-oriented data (acquisitions, circulation).
- In the Discovery system when the results and hits are being displayed the system has to make the user an offer for accessing other resources which are similar to the displayed records.
- The Discovery system is enabled to display items of citation information relating to a given content source.
- The character sequences matching the query condition must be highlighted.
- The formats of display should be easily replaceable, with a simple shift between various formats.
- The display of different editions and formats of the invoked work with one click or with one push of a button.
- A direct display or means of download of digital objects on the user interface; display or means of download of digital objects directly from the relevant records taking into account the rules stipulated in copyright management.
- For the Discovery system it can be configured that upon display which are the attributes and what internal or external web service should be the source in searching and attaching digital objects.

- The Discovery system must be able to handle the digital objects of various types by distinguishing them on the basis of their labeling (eg, table of contents as a digital object may not be considered the content of the book).
- The display of set of hits in the Discovery system ensures the visibility of access opportunities and relations.
- In the Discovery and NLP system the set of hits can be sorted by configuration, freely according to several aspects selectable by the user. The configuration can be given both at central and library level.
- The system enables the ranking configurations related to the list of hits of the Discovery both at central and library level.
- There must be an option inter alia for the librarian colleague performing the management to automatically advance or highlight hits from the local collection, or the system is to display the relevant digital contents stemming from the local repository in a form of strong visibility and highlight.
- The sorting of the set of hits can be configured at the central and the library level according to attributes and characteristic features of the document types as well as the relevance and other aspects of the set of hits.
- In the Discovery and NLP system the lists can be sorted in compliance with the linguistic rules.
- In the Discovery system the saving and sending of hits must be an available function even without login.
- It can directly communicate with the major citation-managing systems (EndNote, Mendeley, Zotero, Refworks, EasyBib etc.), it can directly export files into these (pdf, doc, multimedia etc) . An option must be available to export hits into RIS format.
- The login into the Discovery system should be congruent with those written at the UAD module.
- Upon authentication it must ensure fast and simple access to the user data (eg, list of loans) and to the circulation functions (prolongation, cancelling of holds, etc.).
- In the Discovery system the search interface can be restored to its default state with a simple movement (with the simultaneous deletion of the last search).
- The system must be built up with an overall Unicode compliance.
- The use of a virtual keyboard on the device of input for selecting and loading unavailable characters on the end-user interface.
- End-user interfaces should be customizable.
- End-user interfaces should be intuitive.
- The end user should have the option to create a desiderata item.
- The involvement of users into cataloging on the end-user interface (entry of a subject term and other points of access) the input of the user should be handled separately.
- A properly detailed context-sensitive help in English and in Hungarian which can be used by the logged-in user; the help utilities must closely follow the system's changes on an ongoing basis.
- The user interface should be accessible and workable at least in English and in Hungarian.
- It must comply with the rules concerning the interfaces rendered accessible.
- The user interface must be fully responsive and ought to secure the same opportunities in case of desktop computer and mobile device.
- The system's user interface can be shaped in a manner that it is enabled to secure functions of the internet-based information portal of the institution and to display the basic library

information (news, opening hours, rules of usage, accessible resources) and these are updatable and modifiable at any time by the managing librarian.

- The query field and the displaying interface are to be embeddable into the standard internet-based portal and it should also perform its due operation there.

#### 2.18.5 Holdings Management

- The Discovery system must be able to display detailed information on the items or holdings (NLP library, own library, branch libraries, collections, call number, status) and to handle holds and reservations.
- The information on accessibility and availability of items and holdings should be displayed in its latest updated state from the NLP system.
- The order of appearance of the call numbers can be configured at the central as well as the library level – eg, in the case of a common catalog record the location mark of the given member library must be placed first or, when there are more copies, deployed in a special order set by the library (in the NSZL: first the circulating copies, then the non-circulating ones).

#### 2.18.6 Management of Cluster of Hits

- In the Discovery and NLP system there should be an option to narrow (and broaden) the set of hits, the query page should bring up the labels (dynamically generated filters) to be used for the narrowing of the search results.
- The disclosure of options of narrowing, the display of labels of narrowing or constriction and their function should be configurable (language, location, accessibility, material type, resource, discipline etc) and adjustable by the librarian managing the system. A multitude of options of constriction can be chosen at a time. It should automatically come up with numbers, in addition to the labels, that how many hits we will be retrieving in case of constriction on a given label. The opportunity for configuration must apply to the holdings and copies information as well. Configuration can be performed both at the central and the library level.
- In the course of configuration it can be indicated in what arrangement the elements figuring in the constriction requirement should appear and whether the user is entitled to modify this or not during application.
- The sets of hits can temporarily be saved in a variety of preselected record formats.
- The sets of hits can be sent via email.
- The query strategies can be preserved and altered (after logging in).
- The checked-in user should have the query history at their disposal, an earlier search should be easily called up from the history and viewed again.
- The query strategy can be marked for an RSS-feed base (the handling of new elements following the search as RSS).
- The designation of a set of hits, the pages and individual single records therein for download in various formats (MARCXML, ISO20709 etc) and in various character codes (UTF-8, ISO 8859-2, ANSEL etc) and in various modes (email, download). It is the marked full record that should invariably be downloaded with the associated linked records.

#### 2.18.7 Fulltext Access

- Access to fulltext content of the electronic resources for users (patrons), fulltext search in the Discovery system:
  - the system enables fulltext search in collections capable of performing such a search,

- in all resources it should be an option to narrow the search to fulltext sources.
- Textual search in the entire record content
- The Discovery system ensures during retrieval further options to the user with regard to 'external' databases and services (eg, VIAF, publishers' pages, etc.).
- Fulltext search can be combined with a query based on metadata.

## 2.19 Circulation

- The appropriately authorized librarian must have the option of viewing and handling the detailed user data and circulation information.
- The system must enable the circulation activities: issuing, loan, prolongation, return, hold, notification of hold, notice, invoicing, self-loan, printing (receipt, invoice, list).
- The patron must have the opportunity in the Discovery system to send an acquisition or desiderata request (relation: USS component).
- There must be an option on the Discovery interface to request and send a newsletter (relation: CLC component).

### 2.19.1 Hold Request

- An option should be granted for placing a hold according to conditions depending upon configuration: for the authorized librarian on the NLP interface, and for the patron on the Discovery interface according to their rights.
- The setting associated with the reservation/preparation workflow can be configured: The place of pickup; Duration on the shelf of reserves with the utility of automatically sending a notice on the expiry; or at least the compilation of a regular checklist (the data of the list can be configured); The handling of documents exceeding the duration on the shelf of holds and reserves (cancellation of a hold, notification to the patron, return to the permanent location – the operations and texts of notices can be configured); The regular automatic processing of holds and reserves (the regularity and the operations to be executed can be configured); Handling according to the pickup site (circulation, reading-room use, patron in the library or a remote request and, in compliance, an immediate or a delayed action).
- On the interface of the Discovery the system must check if the document can be put on hold (bans, restrictions on access) and if the transaction cannot be performed, the message should be displayed (relation: USS component).
- The system is enabled to place a hold or reservation upon item or work/title.
- When a hold is placed, the expiry date of the hold, the place of pickup of the hold and the manner of use (loan, reading-room use) can be specified.
- The hold must be entered into the patron administration and the copy administration alike. Upon registration of the hold the system must enter the fee of reserve or hold into the patron administration.
- Parameters in association with the handling of the hold can be configured. These will influence further operations (eg, if the handling of the reserved copy has been started, then the patron may not erase it); notice of hold, list of items on the shelf (eg, reserves).
- When checking the documents upon return an option should be to display in the system the fact of hold and to send notification automatically or in a manner controlled by the librarian by way of configuration.
- There should be an opportunity for listing the items returned from circulation and placed on hold. The data to be displayed in the list by configuration: data of patron, data of holdings - see release/loan, priority of reserve. Having marked the listed items there should be an option for the notification thereof according to their respective settings with a configuration

of what sort of notification and on what kind of device; The hold notified should figure according to configuration in other gleanings or not (different statuses are to be assigned to different phases of reserve management).

- The parameters of the shelf of reserves can be configured (waiting time, list of items on the reserves shelf, the handling of return).

#### 2.19.2 Loss

- The system must handle transactions related to lost books: shift of status, allocation of a sum (even posterior or ex-post), prohibition of transactions.
- An option is to be present for registering the loss of a document on loan: the operations procedure needed for the handling can be configured.

#### 2.19.3 Notifications

- Notifications associated with the patrons should be configurable: notices of various types with different text per library or per library subunit (admonition, notices, reserves, holds) by determining the number and text of notices, the shaping of the text of various notifications by patron type.
- There should be an option to display messages to patrons in the process of request.
- There should be an option to send a letter of warning even before expiry taking into account the patron and item statuses in a configurable manner. (Configurability: the number of days before expiry, text of various predefined letters, library, library subunit).
- In the event of a notification to all patrons the system should send a feedback about undeliverable letters so that these can be retrievable not only from the emails rejected into the mail system.
- Configuration of printing, sending (e-mail, sms) an option to print the current loans of the patron and to send it in email configurably to what kind of device; In case of invalid email address the printing of the letter of admonition, the printing of invoices.

#### 2.19.4 Notice

- The gleaning of patrons to be warned, the generation of admonitions, the mode of sending the letters should be configurable.
- An option is needed for listing the patrons to be warned and the items involved in the action according to parameters configured that can be filtered as well. The automatic execution of the query can be set with parameters: regularity, data to be displayed (patron data, item data - according to configuration) the workstation of the display; There should be a configurable letter of warning upon expiry/x days after expiry; configuration by patron status and item status, number of days, number of warnings; with predetermined text according to libraries and library subunits.

#### 2.19.5 Renewal

Every item or selected items can be renewed by the patron in the Discovery interface and by the librarian in the NLP interface according to the stipulated conditions.

The system should check the possibility of prolongation of items (according to settings of circulation permission of the item record), it should send a message if renewal of a given item is not allowed - it should renew the others anyway, the non-renewable loan must be highlighted and ostensibly marked (eg in a different color) – and this is imperative both in the interface of the Discovery and the NLP as well. It must be configurable that the document placed on hold can be renewed or not.



- A transaction of renewal can be performed by the librarian in the NLP interface on the basis of barcode/name/other identifier of the patron, and by the patron after login in the Discovery interface according to the configuration of renewal: The data should appear in the manner they appear at the release/loan of the document and the system must perform checks, it must calculate the new due date pursuant to the settings (circulation policy, opening hours). In case of overdue loan the system must calculate, display and enter the library fine accumulated by the patron up to a specific time; After execution of the transaction the display of the patron's loan must be updated.

#### 2.19.6 Authorization – Access Rights

- The use of individual functions is fixed to access right and the system of authorization should be determined according to functions with various levels of access control (relation to CAD and LMA components).
- The user rights and privileges associated with the loan must be configurable per library/library subunit/location of service: The single loan operations should be allocated to work position (circulation, return, hold etc); Upon login the system should perform a check upon the patron's privileges and grant access only to permitted activities; The system must ensure the formation of special user's power and privileges which makes it possible for the user to overrule the prohibitions and administrative settings, eg, in the course of loan/renewal with respect to the modification of the deadline calculated by the system and the overruling of the overdue fine.

#### 2.19.7 Request Slip

- The parameters of requests can be set configurably: the number of active requests according to library/library subunit; items – similarly to the parameters of loan transactions; it should be optional to assign parameters at the documents permitted for request for the place of pickup (library/library subunit and the points of service within it) and the associated time of reserve.
- The request of periodical publications can be parameterized: there should be an option in case of periodical publications, at the request of those containing combined data to give mandatory fields, and in case of items processed separately the data should automatically be transferred to the mandatory fields.
- The handling of incoming requests can be configurable: time and frequency of query of incoming requests; the request should be possible to print by configuration depending upon the item data (on which printer located in a library area) and the content and size of the printed request slip should be definable.
- The handling of requests from stacks – online, with a request sheet viewable by the stacks custodian on mobile applications as well and printing by stacks sections.

#### 2.19.8 Delay Fee

- Pursuant to the settings the system must calculate a charge of delay upon return of an overdue item.
  - configurably per library/library subunit, places of service, patron status, item status
- When charging the fine of delay the system must take into account the opening hours of the given library at the due date of the documents.

### 2.19.9 Configuration

- Multiple-level configurability: per library and where applicable per the entire system (relation with the CAD and LMA components).
- In the function, all the workflow processes necessary for the circulation transactions should be adoptable; the workflows used by librarians in compliance with their privileges/access rights should be set by them configurably, and discontinued those not required by them. (relation with CAD and LMA components).
- In the loan transactions, when the patron data are registered a confirmation message is needed configurably (save, delete, logout). It can be a non-permitted operation according to privileges/access rights (relation with the UAD component).
- In the loan transactions, the configuration of the most important bibliographic data assisting identification according to document types in the NLP and the Discovery interface: Data: record ID, author, title, publication data, volume data.
- The range of item data can be configured in the NLP and Discovery interface. Disparate data are needed in the NLP interface as well as by the patron in the Discovery interface.
- The modification of due dates must be enabled for the authorized librarian: the authorized librarian can modify the due date determined by the system and the return date registered by the system upon return.
- The opening hours are configurable by loan location, the entry of public holidays and days of closure must be possible by year (the calendar of opening hours should be preconfigurable). It must enable an ongoing option for modification in the administration module by library /library subunit (LAM component) the extraordinary days of closure must be handled as well.
- The transaction of release and loan can be invoked by the authorized librarian with entering the patron's barcode, name and other identifiers.
- The system must enable a multilayer query for the goal of control and compilation of lists. During configuration, the possibilities and requirements are refined and further specified: Expired patron registrations, detailed patron information; indebted patrons (place of loan, sum of debt, etc); flow of money (on a particular day, since the last closure of paydesk, detailed information on the transactions etc.); inspection of invoice items , content of aggregated lists: report on daily traffic, item history, patron history, frequency of loans, statistical reports.
- In each instance of printing there should be an option concerning the equipment of sending, delivery.
- The tables/lists must be configurable in terms of sort, filter, export functions.

### 2.19.10 Circulation Data – Display

- At the actual loans the system must display, in addition to the due date, the time of loan and the number of renewals.
- The system must enable the viewability of the patron's earlier loans both on the NLP and the Discovery interface.
- An option is enabled to (retrospectively) view the log of loans in a configurable manner, by patron, by transaction, showing all the transactions or the checked ones; showing date/time, title, barcode, operation, description, librarian ID by transaction.
- The system must show in configurable fashion the data of the reserved/borrowed document. Data: barcode, author, title, call number, number of renewals of due dates, number of hold requests, reserves, overdue (yes/no), location of document (library, library unit), type of item, status of item, fine, volume, date of edition.

#### 2.19.11 Loan Transactions

- There must be an option to enter remarks related to circulation which appear both at loan and at return: The comment or remark may refer to the particular act of loan or to general information specific to the given item (eg, CD attachment, missing pages, etc.)
- The system allows, following the patron's login, for the tracing of loans and due dates, renewals, hold requests in the Discovery.
- The user with the appropriate privilege should be able to continue a transaction interrupted by the system.
- The system must perform the issue/loan of the document by scanning the barcode of the item (input by means of manual or barcode scanner), and meanwhile it must perform the necessary control, update the display of the patron's loans, and produce a receipt of loan in compliance with the configuration. It must check the item according to the item's settings of usability (loanability) and send a message if it cannot be issued according to the settings. It should interrupt the transaction which can be overruled by an authorized librarian. After execution of the transaction the display of the patron's loans must be refreshed. A loan receipt of the currently borrowed document (or all of them) is printed or sent via email according to configuration.
- Upon completion of the issuance/loan the fields of issue and loan transaction must be emptied by the system.

#### 2.19.12 Block

- The bans or blocks related to a patron should be configurable and modifiable with the proper librarian privileges (new ban, deletion of the old): the data can be entered into the local user data as well as into an external directory. In certain cases the login system must be informed of the ban.
- At the patron data the bans and blocks can be entered at global and/or local level by selecting from a menu, information on the ban, code of ban, designation, date of ban; there should be an option for deleting the ban or assigning a new ban by the appropriate user privileges.
- In the event of restriction or ban the system must send a message and interrupt the transaction, which can be overruled on the NLP interface by an authorized librarian.

#### 2.19.13 Offline Loan

- In case of breakdown, to ensure uninterrupted service, an opportunity for offline loan and return is a must. When the breakdown is overcome, the actions abandoned at the offline procedure can be inspected and manually executed on the basis of a report generated by the system.

#### 2.19.14 Management of Patron Data

- A photo or data used outside the system can be attached on the patron data sheet pane.
- The admission and camera systems must reach the photos.
- The system must automatically assign individual ID to a patron which cannot be modified (relation to the UAD component).
- At the NLP level it should be possible to register natural person or institution as a patron with divergent data (this latter is justified at ILL).
- It should be possible to register a person as a staff member and a patron with divergent identifiers (NSZL's request): An employee can request a document in its spare time by using its patron card instead of its admission card.

- The identification of the patron has to be multileveled. The system automatically assigns a unique identifier to the patron which is not modifiable. Moreover, there should be an option to give more identifiers; it is up to the patron to decide which to use when entering the patron function in the Discovery service.
- Apart from the unique identifier the patron data can be modified by the librarian with proper authorization, and the modifications are stored by the system.
- The system must keep the changes effected by the librarian in patron data in a log (relation to the UAD component).
- The deletion of a patron record can be possible only after checking when certain conditions have been met. You may not delete it if the patron has a loan, hold, ban or debt. A confirmation question must appear before deletion of a patron.
- There should be an option for entering or deleting a sponsor at the patron, and opening its data (see data appearing at the natural person): sponsor data (pursuant to the law who assumes warranty or sponsorship): eg, family name (mandatory); given name (mandatory); title name prefix, birth name (mandatory), place of birth (mandatory), date of birth (mandatory), mother's name of birth (mandatory), number of ID certificate, residential address (mandatory).
- Data of a natural person: Family name, given name, prefix (title), name of birth, place of birth (mandatory), date of birth (mandatory), mother's name (mandatory), number of ID certificate, code of statistical class, identifier given in the educational system, opening date, date of modification, ID given by the system, PIN code, barcode, validation of barcode, gender, language (for correspondance, Hungarian and English) letter attachment, letter to be sent to patron (yes/no choice), profile, preferred library section; library of notification. Data of access (address, telephone, email) insertion of a photograph (from camera or external file). Remark.
- The central management of the data of institutions should be ensured. Eg, name of institution, code of institution, name of contact person, remark, data of institutional reading card (barcode, level of entitlement), date of opening, modification and validity; data of address: country, town, street, house number, zipcode; telephone; email address; an option for entering several contacts; sending letters, feeding in default data.
- It is possible to give more locations of loan and levels of access control.
- In the case of a duplicate patron a caution is sent and the new registration blocked: For the checking of duplication: simultaneous identity of name, date of birth, mother's name.
- Conditionally upon configuration, an opportunity must be enabled in the NLP system to register a patron valid across the entire NLP system which allows the patrons pursuant to their privileges/access rights to log into several libraries with the same user name (relation: USM component).
- The system takes into consideration the validity of the registration at issuance/loan, hold request, renewal. Depending upon the validity of the registration it should reduce the due date (in case of issuance/loan and renewal as well).
- In the transaction of issuance/loan the system must show the patron's data: it can be configured what data (name, date of birth, patron type, expiry of registration, remark); the system must control the patron's data (global/local); furnishes a warning should a problem arise (expired registration, a ban was registered at the patron) and breaks off the transaction.
- According to the installed parameters the system must monitor and verify the patron's data, loans/holds at each transaction. The system should automatically signal if the validity of the patron's registration has expired or is near to expiry. The system should send a caution when

a document is waiting on the shelf of holds, or when the patron has an overdue loan. The blocking of the transaction can be configured which may be overruled by the authorized librarian on the NLP interface.

- At the patron's login on the Discovery interface it should take into account the communication language specified during registration and this will make the appearance of the interface either in Hungarian or in English.
- Inspection of the patron account on the Discovery interface: necessity of login (identification: identifier/password) inspection of personal data; inspection of the current loan data; inspection of the pending reserves or holds – it must display the document on hold initiated and placed already on the shelf of hold but not yet picked; inspection of debts; renewal or prolongation of due date; launch of a request from the stacks; request of a hold/reserve; modification of password; request of newsletter (yes/no); handling of own e-shelf (relation with the USS component).
- The patron is enabled on the Discovery interface to set the status of the reserved document on the shelf of holds yet no longer interesting for them to 'deletable reserve status' and to have a notice of this sent to them to the place of pickup by the system (relation: USS component).
- There must be an option on the Discovery interface for self-registration which following the librarian's endorsement will be activated, and a notice will be sent of this from the system to the patron (relation: USS component).
- There must be an option on the Discovery interface to handle forgotten password.
- An option is provided for importing patron data from external institutional databases (eg, Neptun, ETR) (relation to the USM component).
- An option should be provided for joining the institutional/national authentication system (relation to the USM component).

#### *2.19.14.1 Patron Data – Search*

- An option is provided for searching, viewing, modifying patron data and associated information. Also, a query or search can be performed in the patron data by keywords.
- The patron data should be configurable for searching by multiple viewpoints: in case of name the query must be performed on word initial, without differentiation between lowercase and uppercase; an option is provided for searching in the title data and other data fixed in the patron record in a manner set at configuration.
- It must be possible to search according to locations of loan determined in the circulation policy: Reading room, entire library or a section thereof.

#### *2.19.14.2 Patron Data – Display*

- At a loan transaction the patron data required for the operation (name, barcode, validity of registration, registered sanction or delinquency at patron) should be displayed.
- The loan transactions of a patron should be viewable on condition of librarian access rights and, if need be, while viewing, a detailed item information should be accessible too.
- Display of the patron's loans: the required data: title of document; item data: call number (one and/or two), inventory number, item type, item status and/or processing status; location of borrowed document (library, library subunit, collection); barcode; RFID code; loan data: data of loan/renewal; due date (hour, minute, configurably) number of renewals; number of holds; instance of delay(s) (yes/no); date of latest warning; actual fine of an overdue yet incomplete loan;

#### 2.19.15 Reading Room Loan

- The system must enable the request of an item from the closed storage into the reading room and to register this usage as a specific loan by the configuration of the reading room/reading rooms.
- The reading room/reading rooms must be determined according to library/library subunit; The loanability and the time of loan can be configured according to patron and item status.
- The expected operation of reading room loan: the location of the item should automatically be changed temporarily to the reading room marked by the patron then, upon return, should automatically be changed back to the original.
- The reading room loan should appear in the patron's list of loans and, similarly to the other loans, the due date can be checked on them too and a notice can be sent when the due date has expired.
- The reading-room loans should be divided into lists by reading room and by patron.
- The patron with valid membership and appropriate privileges is able to launch on the Discovery interface a request for an item held in the closed stacks (to require it on their name for loan or reading-room usage (relation: USS component)).

#### 2.19.16 Internal Loan - NSZL

- The module should send a signal to the admission system that a colleague is permitted to take the book out of the building (NSZL request).
- The module and the admission should signal if a document of expired permission is being carried through the gate (NSZL request).

#### 2.19.17 Reserve - NSZL

- The system can handle that the patron is allowed for reserve. It should be distinguished that the document is assigned to the patron as a daily request or placed on hold. If it is placed on hold, then the gates must provide passage ((NSZL request).
- The system can handle that different types of documents can be placed on hold or put on reserve. – It can be determined by patron category how many of a given type of document can be put on reserve. It can be determined by patron category for how long a given type of document can be put on reserve. It can be configured that the placing into reserve is enabled by parts of collection (special collections) (NSZL request).

#### 2.19.18 Configuration - NSZL

- It should be configurable that how many loan requests can be initiated by a user by their rank of entitlements and by type of documents simultaneously or within a given interval. At submitting a request from stacks the system can handle that, within a given interval, how many requests can be submitted by a patron marked A and B, C, and D (NSZL request).
- The module should send a signal to the admission system that the patron may not leave until any document is charged on them (NSZL request).
- The system should handle that a user can have daily requests from a variety of document types at a time, reserves at different locations and loans in the KSZK (NSZL request).
- The system can handle that the colleague requested documents for private or official purpose (NSZL request).

#### 2.19.19 NSZL - Special Requirements

- It must be traced that in the course of the workflow process a document gets over to another person (group) or organization. The path of a document can be tracked not only from person to person, but also in the way: person (group) -> person (group) (NSZL request).

- A group (which can be a department as well) can be assigned to a person. A person can belong to more than one group at a time, and this should be modifiable (NSZL request) (relation: UAD component).
- The list of works most frequently requested in any period can be pieced together compiled by collection and by document type (NSZL request).
- The usability of various items or copies should be configurable according to the circulation policy: the item statuses established in the acquisitions and information on their circulation should be given, the fact of borrowing must be shown on the Discovery interface.
- It must be possible to register, display and query the detailed information of the items in association with loan.
- Depending upon user right – it must be an option to alter item data determined in the configuration: barcode, status, information on circulation, loan permission in the Discovery; and to erase certain item information (ban, reserves) and to register new ones (ban).

#### 2.19.20 Money Management

- The patrons' payments has to be handled: to show data with regard to payment (type of debt; total; date of payment; the title of the pertinent document; barcode of the pertinent document; library unit; remark; librarian executing the transaction); An option must be enabled for withdrawing the payment and for recording a new one with the adequate user privilege.
- The mode of payment should be configurable, with attention to the online mode of payment selected by the system (relation: PAY component).
- It must be possible to attach the management of money to the institution's financial system – optional (relation: PAY component).
- The management of payments must be enabled: for the logging of money management opening/closing; for the query of the paid sums according to the configuration broken down by day/week/quarter/year; library/library subunit, mode of payment, payment transaction; librarian ID by IP address; upon closure of the cash register the librarian is enabled to deliver the proceeds according to mode of payment, to handle cash and change, to print the data of closing of the cash register arranged by type of debt dues (relation to the PAY component).

#### 2.19.21 Circulation Policy

- The creation of patron categories should be configurable: parameters like, eg, the library and/or library subunit of registration, library/library subunit regarding loan transactions, patron type, patron privilege, document type regarding the loan transaction, maximum number of simultaneous loan/hold, financial matters, etc.
- Shaping of a circulation policy linked to the library user system: differing privileges concerning loan transactions at the library level (divergent patron privileges at different sections of the library).
- It must be configurable what the system allows according to the patron's right in the event of access status loaned out, reserved, non-renewable etc. (it can be placed on hold or not).
- The circulation policy must be configurable: the individual patron types, what items of what status and on what condition can patron types borrow, reserve, book, renew, what is the number of documents for borrowing, reserving, renewing determined by document type at a time in a given library/library subunit, what is the number of documents that can be borrowed determined by document type at a time concurrently, can it be reserved on the Discovery interface, the item is accessible, a photocopy can be ordered, what financial conditions are involved in the individual transactions.

- There should be an option to set patron-dependent limits of loan/hold centrally and/or locally. The limits of loan/hold should be automatically monitored and the transcending of limits should be forbidden.
- The configuration of fines imposed on patrons according to rules defined in the circulation policy: registration fee, fee of reservation, arrears fine, reimbursement of lost document, costs of administration, mailing expenses, photocopy ticket, replacement cost of lost and valid patron card, administration charge of redeemed debt, etc.
- The invoicing of registration fee should be configured according to patron type.
- An option for loaning and reserving equipment (eg e-book readers).

#### 2.19.22 Loan Statistics

- An opportunity for multi-faceted statistical selection in a configurable manner: registered patrons, their distribution by type, by library/library subunit, loan, reading room loan separately too, return, renewal, loans by document type, statistics for the Ministry (EMMI) etc.; By library/library subunit or designating a given library, a particular period of time, according to patron status, date, item status, material type. Registration, valid membership, loan, return, renewal by librarian, renewal by patron, booking, obligations and dues (closed and/or growing), list of debtors, transactions by patrons (registered and total number of visitors) on the Discovery interface, transactions of the log of loans, transactions of payments, librarian identifier, by IP (relation to the STA component).
- An option for compiling reports according to statistical categories (relation: STA component).

#### 2.19.23 Invoicing

- While making out an invoice it should be an option to modify the automatically generated name and address of the addressee: the number of copies and text of the invoice/receipt to be printed are configurable and an option to modify the automatically generated name and address of the addressee.
- It must be capable of releasing a simplified invoice in compliance with the valid legal regulations and of storing it electronically (relation: PAY component).

#### 2.19.24 Debts

- There must be an option to show the patron's debts and obligations by library/library subunit as well, and regarding the debts closed and those in progress: it should be possible to display the active, paid and deleted financial transactions one by one as well as in aggregation. The hits should be sorted by library/library subunit, date, transaction type and in increasing and decreasing order alike. It should be an option to set a maximum of debt and when it is reached the system will lock the transactions. It must be possible to overwrite these with appropriate entitlement.
- A possibility must be present for displaying the patron's unsettled debts: The data to be displayed: type of debt, sum of debt, date of origin, title of pertinent document, barcode of pertinent document, library (item data, payment), item status, mode of payment.
- With the proper user privileges an option should be enabled to handle debts and obligations, to delete debt, to alter the amount (to remit a part of the debt), to pay a part of the debt (instalment), to record a new one or to settle up the debt by launching invoice generation.

#### 2.19.25 Recall

- It should be a possibility to recall or call back a document on loan: the librarian launches the operation, the procedures necessary for the handling must be configurable.



### 2.19.26 Return

- A transaction of return can be commenced by entering the item's barcode (manually or reading in with barcode reader), the system must execute the checking of the patron and the item and, as a completion of the transaction, it should erase the item from among the loans of the patron and place it in the archives (for displaying earlier loans).
- Return should be enabled in the patron's list of loans as well. The system checks the item, shows the remark of loan (made about the item/patron), and the data of the returned document (bib and holdings – see edition/loan). The system must show if there is a reserve booking on the item (title). If there are more than one reserve, then the patron on top of the configured order be sent an automatic notice. In case of delay the system must calculate and display the charge of delay in accordance with the settings and enter it in the patron's debts. When checking the patron the system must send a memo or reminder that the patron will find a document on the shelf of reserves.
- Upon completion of the operation it is possible to print out the return receipt or to send it via email.
- Following the execution of the return transaction the system must empty the fields of the return sheet or template.

### 2.20 Library Administration

- The level of access (view, modification/deletion) should be configurable by end-user group and by data type (at institutional level). Eg, the sponsor's data are viewable only but not modifiable/deletable. In the case of modification/deletion it is necessary to optionally validate certain data elements (institutional endorsement/control).
- The system must enable the institutions to effectuate services provided at institutional level according to groups (library groups) both in the area of data and privileges/user rights (relation: CAD component).
- The user interface must be graphic, user-friendly, and customizable (relation: UIX component).
- There is an option to create and delete users (librarians).
- The user identifiers (login names), together with the library identifier, should be unique. This makes it possible if a person is working in more libraries it can have the same login name everywhere and, also, that various persons can have the same login name in various libraries.
- It should be an option to assign separate privileges to every basic activity.
- In addition to levels of authorization embedded in the system there should be an option centrally as well as by library to define and assign new authorizations.
- Roles can be established: the individual privileges should be clamped in harmony with the individual scopes of employment and it can be allocated to users in one package together.
- The privileges of individual users can be restricted to elements of the organizational hierarchy of the library (eg, the user is allowed to borrow in certain locations of loan). Restriction is feasible in the workflow processes as well, eg, librarians in charge of formal description have different privileges from those in charge of subject description in cataloging, which means that they can edit only a certain number of fields.
- The structural hierarchy of the library can be maintained (locations of loan, locations, acquisition sections, places of requests). Some of these must be administered in the CAD module as well: the administration of libraries must be at least four-leveled (in the National System of Document Supply –ODR - currently: library (eg, university central library) – point of service (eg, faculty library) – collection (eg, department library) – location (loci or sites of an item within the library)).

- An option must be enabled to define patron groups (patron types) to the patron card, including institutional patrons (relation: CIR component).
- There must be an option for determining an SDI (Selective Dissemination of Information) profile. The SDI service notifies the user on the accessibility of new publications pertaining to the user's spheres of interest.
- There must be an option to configure patron notifications (notices, alerts, holds, newsletters): the content of notices of various levels and the mode of delivery (printed/electronic); the retrieval of patrons to be notified; the manner of generating and sending the notices of various levels (manual/automatic). The sent out notices/memos of reserves/holds must be logged (successful/unsuccessful, the date and mode of delivery) (relation: CIR component).
- The circulation policy must be maintained (even divergently in locations of loan) (relation: CIR component).
- By location or locus of loan it must be enabled to indicate the regular periods and extraordinary periods of opening and closing hours.
- It should be configurable to set the fees and fines imposable on patrons and related data elements (eg, ÁFA/VAT, VTSZ/ITJ) (relation: CIR and PAY components).
- The content of the loan receipt should be configurable (relation: CIR component).
- The mode of payment should be configurable (cash, bankcard, online) (relation: PAY component).
- It should be an option to assign statistical (grouping) categories to the patrons (relation: CIR and STA components).
- The system must keep a record of the temporal changes of the data; who modified it and when, what were the earlier values.

#### 2.20.1 Search Query

- The system must enable the configuration of parameters at both the common, central and the library level for filtering opportunities applicable by the search engine (relation: CAD component).

#### 2.21 Interlibrary Loan

- The software component supporting the workflow of interlibrary loan (ILL) must be capable of attending to tasks of administration involved in the bidirectional interlibrary loan (functions of request and provision) it ensures the loan of documents between two (or even more) libraries, the photocopy or electronic copy service and the mediation of interlibrary loans as well as the full administration thereof.
- The system must be prepared to keep a record of the requests, their delivery and reception.
- The system must be prepared to keep a record of the documents, their sending and arrival.
- There should be an opportunity for categorizing the interlibrary loan requests. Categories: site request; domestic request; foreign request; original copy cannot be accomplished, only in replica or photocopy form; not requested from abroad, but it cannot be accomplished domestically; deletion of request (storno), called in from department/institute; site locally (not interlibrary loan request); accessible from database/online.
- The system must be prepared to keep track of interlibrary loan operations: eg, sending of request, arrival of request; sending of document, arrival of document, the administration of the fact and date of return.
- The interlibrary loan component must be enabled to form an inner relationship with the catalog, the loan component and the user administration.

- On the basis of item information of the NLP catalog the NLP members between them are allowed to request documents from one another.
- The National System of Document Supply (ODR) provider libraries that are not members of the NLP still have their records in the NLP catalog with their full site and item information: these libraries can send requests and accept requests. These libraries too perform their ILL administration on the NLP ILL interface.
- Document types involved in the interlibrary loan are determined in each library's circulation policy, their participation in or absence from the interlibrary loan is being described in each of the records by the libraries. It is expedient if the actual item management characteristic of the library's policy of service provision is aided also with icons or other graphic solutions on the surface of the interlibrary loan request sheet (relation: CAD és LMA components).
- The item data of the NLP's catalog should be automatically updated with the data of interlibrary loan transactions affecting the item's availability. These should be visible on the NLP portal.
- The NLP member library should accept and further patron and department requests as a petitioner towards other libraries within the NLP's system as well as towards the NSZL's international interlibrary loan service.
- A registry is needed concerning the interlibrary loan service units of the NLP's member libraries and maintainable by the library which contains all the data required for ILL transactions (servicing properties, accessibility, invoicing etc.) (relation: CAD and LMA components).
- The basis of the administration of the locations, libraries and service points is the 'NSZL code' (library code) in the NLP ODR's function, and these too must be stored with the items and among the data of libraries and service points. (relation: CAD component).
- The storage of personal data and access data of users concerned with interlibrary loan and their allocation to the individual transaction; the administration of their privileges (relation: LMA component).
- The petition should be subject to administration even if the petitioner or the provider partner does not figure in the NLP (data of libraries outside of the NLP should also be administered).
- The administration can be updated pursuant to appropriate authorizations by the pertinent library (relation: CAD and LMA component).
- The mutual allocation of the item sites and the ILL service point competent in their distribution can elastically trace the modifications of the library structure (relation: CAD and LMA components).
- The administration of patrons requesting interlibrary loan according to various aspects (eg, instructors, students, external persons etc.) and the fixing of their exact data.
- The NLP member libraries and the ODR provider libraries figuring with their catalog in the NLP should admit library requests from external resources as well and satisfy them in the normal manner.
- The overall and accurate administration of interlibrary loan with statuses which secure compatibility with the OCLC system.
- When a request is initiated the usual conditions of requirements can be entered (a particular edition only, from abroad too, request of reserve, at what date the unfulfilled request becomes withdrawn, what limitations of costs are given by the petitioner, etc.).
- The basis of triggering patron and library requests is primarily the catalog of the NLP, but an option must be enabled to initiate any request by supplying the appropriate bibliographic

data and supplier data (so-called blank-template request concerning documents not located in the catalog).

- Requests incoming via other routes (email, traditional request slip) can also be admitted and received.
- The system may receive requests of locations.
- The interlibrary loan should comprise also the loan of documents in the original, the service of photocopy and digital copy.
  - The request and admission of books in their original form or some parts thereof in the form of photocopy;
  - The request and admission of periodical articles, studies, document parts in photocopy or electronic copy form;
  - The request and admission of other types of documents.
- The entry of every chunk of information with respect to the requested document should be warranted (the data of the document in detail, the required manner of fulfillment, due date, request of price quotation, filing number, etc.).
- The indication of usability of the sent document (in case of book it is to be used in the reading room or it can be loaned, in case of copy it can be kept or must be returned, etc.)
- In case of non-fulfillment the reason or cause of failure should be indicated.
- In case of non-fulfillment the request is resent to another site.
- In case of sending/arrival of documents sent in the original there must be an option to enter the due date (with discriminating the library and patron due date).
- The documents sent in the original form as well as those sent back by the library must be followed and tracked down in temporal order.
- Exchange of messages associated with the requests between patron – petitioner library – provider library.
- There must be an opportunity for placing a hold on and renewing documents.
- In the case of foreign requests intermediated by the NSZL the data of NSZL's contact persons must be available for the requesting library, but not the data of the foreign library and the loan.
- Proposal for earmarking the documents in the catalog that participate in interlibrary loan.
- Claims and sending of notices for overdue library and patron returns.
- The libraries and patrons should be retrievable in the system on the basis of fulfilled and non-fulfilled requests.
- Interlibrary activities performed with libraries and patrons can be controlled and retrieved retroactively as well.
- The requests and the pages or templates of other functions accompanying the document can be printed.
- The printing of labels and addresses should be possible by utilizing the actual data stored in the database.
- The financial activities concomitant with interlibrary loan can be carried out (relation: PAY component).
- The invoicing data must be administered.
- The modes of payment must be entered (cash, bank transfer), with the charge of service displayed.
- Administration of invoices (and other types of receipts, invoice triggering, letter of delivery etc.) and their grouping according to various aspects.

- The rules of assembly and content of receipts should flexibly comply with the financial regulations of member libraries and their parent organizations. Several parameters should be available for the user (relation: LMA and PAY components).
- In addition to the usual invoice information it must be an option to enter the person and/or department validating the receipts, to indicate one or more budgets and the sums allocated to them (relation: PAY component).
- The statistics of interlibrary loan according to different criteria (relation: STA component).
- Requests from patrons regarding borrowing can arrive on the central interface of the NLP system which the 'service center (ODR)' broadcasts to the potential providing libraries.
- Exchange of messages with the patrons: notices, exchange of messages linked to requests, email notification (relation: CLC component).
- Book companion slips for patrons can be printed with the indication of the request and due dates.
- Multilingual character of patron interfaces, messages, emails etc. (relation: CLC component).
- The support of the overall administration of interlibrary broadcast requests (in the process of international library loans the NSZL is located in between the petitioner and the fulfiller as a third party).
- Invoices determined by legal regulations and documentation of delivery (relation: PAY component).
- Compiling invoices, fee-demands, pro-forma invoices.
- Filtering of invoices across various aspects and their retrievability.
- international interlibrary loan: retrievability of petitions according to NSZL filing number, partner filing number, petitioner partner code, invoicing partner code, invoice identifier, fulfilling library, author, title of requested work, place of publication, publisher, ISBN, ISSN.
- The shaping of standard and normal relationship with other databases engaged in interlibrary loan (eg, OCLC, SUBITo, etc.).
- The creation of a web-based interface supporting the NSZL's role in international interlibrary loan while retaining as a minimum the current functionality (<http://www.oszk.hu/kok/?language=hu>; <http://www.oszk.hu/kok/?language=en>).
- The request of documents in Hungarian and in English launched not from the list of hits on a so-called 'blank request slip'.
- Automatic receipt of the filed requests in email (Hungarian and English).
- The integration of the circular function.
- The possibility of fixing data of foreign libraries and persons as well as their registration (Hungarian and English registration schemes) ([http://www.oszk.hu/sites/default/files/konyvtarkozi\\_regisztracio.pdf](http://www.oszk.hu/sites/default/files/konyvtarkozi_regisztracio.pdf)); ([http://www.oszk.hu/en/interlibrary\\_document\\_supply](http://www.oszk.hu/en/interlibrary_document_supply)).
- Handling of contact data of domestic and foreign partners.
- The partner's retrievability according to its name, seat of office, ISIL and other national codes and internal partner codes.
- Article stock freely expandable for invoicing (name of product, unit price, currency, size, ÁFA content).
- Expandable stock data of variable fields of invoices (different text into the note field by invoice type).
- Statistics – according to fulfilling countries (relation STA component).
- Statistics – according to partners (petitioner and fulfiller).
- Statistics – data of transactions invoiced in various currencies can be queried.

- Statistics - requests of locations and sites should be separated.
- Statistics – according to managing officials.
- Statistics – according to types of fulfillment.
- Technical demand – handling of user privileges of managing officials.
- Technical demand – option for printing at each function, control of printers.
- Technical demand – import and export of holdings.
- The support of various modes of payment: voucher, credit card, paypal, deposit, transfer, check.
- Handling of IFLA voucher administration.
- Tracking of requests for users.
- Online surfaces in the English language, printable request slips and invoices.
- The system's response time must be within 3 seconds.

## 2.22 Central Administration

- There should be at least a three-layer system of administration: central, library, and local (for certain partial tasks within a library) (relation: LMA component).
- The data of the central administrators can be handled (creation of a new administrator, modification of data, deletion of administrator).
- The data of serviced libraries must be handled (creation of a new library, modification of data).
- Every library should own a unique code. This can be modified by the central administration only. This should be the library code issued by the NSZL, since these figure in the current MOKKA/ODR. A central administrator status is needed for the handling of library codes. Searchable: <http://java4.oszk.hu/Konyvtarkod/>
- The other data of the libraries (name, address, etc) can be modified by the central and the library administration alike (but each library can do this with its own data). (relation: LMA component).
- Modifications effected in the system must be logged. The log can be read by the central administrators.
- A library administrator can be assigned (and deleted) to every library.
- Upon creating a new library a library administrator should automatically be created to it as well.
- The maintenance of the central parameters necessary for the operation of other modules should be performed.
- The list of all libraries of the country must be publicly available. The list provides an opportunity for query, browse, sort. – <http://ki.oszk.hu/magyarorszagi-konyvtarak-adatbazisa>
- All public data of a designated library can be displayed.
- The location and site of the libraries should be found in the map, the map must be searchable by library.

## 2.23 Display, User Interface, Facade

- Browser-based appearance: all functions of the system must be accessible and operable via an internet-based browser. A display of identical quality must be secured on the most frequent browser types.

- Access: Access to the functions must be possible according to privileges, in a configurable manner (at the level of institution and at that of workflow within it) (relation: LMA component).
- Login: The result of the login (logged-in status) should be well visible on the opening page and the available functions conditional upon login or privilege should be shown /should be transferred to active status (relation: LMA and UAD components).
- Upon login, the workflow processes, activities/functions available according to authorization are to be visually distinguishable.
- There should be a possibility to use several functions in parallel with jumping over, the navigation between the functions should be well viewable. Eg, during the use of a given function in the user account the other functions must be well visible and viewable (relation: UAD component).
- The various elements of display can be set by the user. As for the opening of the individual functions it should be enabled to trigger it in a new pane; and within the individual functions the panels of equipment for data input must be resizable, can be turned on and off practically/if need be.
- A unified set of icons should be applied in the entire system.
- Unicode character coding.
- A virtual keyboard must be available for keying in special characters.
- Customizable user interfaces: a user interface that can be tailored individually by part collection (shape, functions, help, headers, footers).
- Multilanguage capability: an interface that can be partially or fully reset to other languages and shifted at any time by the user.
- Accessible user interfaces (mobile too). Eg, mode of operation of large contrast for the visually disabled, inserting an audible help/text reciter, setting the size of the letters, enlargement function. A user interface matching the 'AA' level of the W3C's accessibility standard.
- Responsivity: display adjusted to capabilities of various tools (eg, mobile) and browsers.
- Mobile applications: self-contained mobile applications to certain partial collections with functions of query, browse and display.
- Help: the help must be context-sensitive on the various user interfaces which should be periodically updated.
- There must be popup information text boxes linked to a data field.
- Mobile application: there must be an offline access.
- There must be an option to apply QR codes (eg, mobile help, chunks of information, building map for easy roaming).
- Events, useful information, unexpected problems with push-based notifications, configurably at the institutional level.
- The support of top market mobile operation systems (eg. IOS, Android).
- Ongoing display of news and related curiosities (portal functions).
- Option of query within application.
- Access to the end-user account. The login and accessibility conditions identical with the web-based interface are ensured.
- Option for sharing – social community media (in a configurable manner).
- Application of image map/interactive pictures.
- Direct access to e-services from a mobile phone.
- Option for web-based update.

- Language: the whole system must at least be in Hungarian and in English.
- User manuals and guides (Help): the manual's updated version must be available across the entirety of the system.
- Among the data accessible within each function an option must be enabled for query and arrangement of hits.
- The data can be displayed regarding all types of documents in the NLP system together with the special data, and in a configurable manner in each function in compliance with the special treatment (relation: CCM component).
- Without development the system must be able to properly showcase records in the standards MARC, DublinCore, BIBFRAME.
- In the Discovery and NLP system the display should be configurable: the data structure of various brief and detailed forms of display (bibliographic and holdings data).
- In every function within the NLP system (acquisitions, cataloging, loan, etc.) the formats must be shaped in a configurable way pursuant to the properties and data of the particular function generally and tailored to persons. Generally, with the data necessary for management, and in a manner tailored to the librarian with the setting and saving of own formats.
- An option must be present to determine different formats for the purpose of online and batch use.
- An option must be present to determine different formats for the purpose of printing and sending/saving.
- An option must be present in the Discovery system to determine various formats: the display of sets of hits in various formats by determining fields/field groups.
- An option must be present in the Discovery system to select various formats in the patron settings: saving on e-shelf, print, sending, export.
- An option must be present in the Discovery system for the patron to select from a list of predefined formats (radio button/menu) and save the selected one.
- An option must be present in the Discovery system for the patron to compile the range of saved data from a predefined list of data elements.
- It must be capable of displaying indexed data stemming from other databases via a standard API.
- It must contain the functions save the query and earlier queries.
- It must be able to graphically display according to the list of hits to present data visualization (eg, diagrams about the percent distribution of hits, the placing of data along a timeline, etc.)
- The appearance of digital objects must be made according to the rules of limitations (ACC).
- The accessibility of client programs necessary for the reading of the given electronic document must be ensured, in addition to its storage in the NLP and, in a given case on the website of the manufacturer.
- It is necessary to link the application geared to open the given file to the individual files.
- The provision of works protected by copyright must be arranged pursuant to (DRM) permissions set in the limitations of access module (ACC).
- Multipart documents: metadata of documents made up of several parts (eg, series of images, articles of a journal issue) must be displayed on one page, according to a predefined sequence.
- Options of sharing: the sharing of the webpage displaying the document on major community pages as well as in email.



- QR code: The generation of a QR code to the webpage displaying the document which contains, apart from the URL address, the most important metadata as well.
- Similar associated documents: automatic display of documents associated with the hit flexibly defined on the basis of metadata.

#### 2.23.1 Facade

- A uniform facade or image must be installed for the entire system.
- A user interface that can be freely programmed by the library's programmers.
- The data elements to be filled in mandatorily must be visually discernable.
- The institution's name and the logo can be featured on the end-user interface.
- The use of color schemes configurable at the institution's level – in addition to the default ones.
- On the user interfaces the user can set parameters individually: background color, character size, character color, perhaps character style.

#### 2.23.2 Display of Digital Objects

- Flexible page of display: an option for shaping a variety of display surfaces according to document type and partial collections. The range of metadata to be displayed along with the digital object and to be embedded into the source code of the webpage can be defined.
- The appearance of alternative formats: the simultaneous display of all available service formats of a document.
- The playback of sound and audiovisual documents must be ensured on the user interface pursuant to the limitations of access.
- Image manipulating functions: in case of documents stored as images options must be set for zoom or magnification, traversing and mirroring.
- Projection on map: display on map on the basis of geographical metadata (eg, Googlemaps, Geonames, OpenStreetMap). Handling of exceptions, switching of projection on map with geographical names no longer displayable (eg, Austrian-Hungarian Monarchy).
- Representation on timeline: delienation on magnifiable and scrollable timeline according to metadata of date type. Handling of exceptions, excluding time subjects (eg, Middle Ages) that cannot be represented.
- 3D browse: spectacular spatial display of lists of hits and novelties (eg, carousel or bookshelf view or in a coordinate system based on 2 or 3 characteristic features).
- Online book reader: display of books scanned as images in a browser without download, with options for paging, zooming and searching (perhaps bookmarking).

#### 2.24 Metadata Conversion, Uploader- Downloader

- It must be enabled to import data from the following ILS brands: Aleph, Amicus, Corvina, HunTéka, OLIB, Szikla, Szirén, TextLib.
- It must be enabled to import data from the following ILS brands: Horizon, Iskolatéka, KisTéka, S-Lib, SR Lib, TinLib.
- The upload and download must execute also the necessary character conversion.
- It must be enabled to import data from csv, RIS and xml files.
- The module should be able to use standard data exchange protocols (OAI-PMH, OAI-ORE) for importing datasets of harvestable data resources (eg, repositories).
- In each operation the mutual correspondance of target and source fields must be set. These correspondances can be saved and reused.

- There should be an interactive editing interface for filtering out duplicates from the uploaded data and for correcting or amending the weighty data where the librarians can see side by side the record in the live system and the uploaded one corresponding to it. Moreover, they can maneuver field by field which field should get into the live system.
- The conversion must comprise the bibliographic and item data and those of the acquisitions module, the periodical management module, and the circulation module as well. The system is enabled to inherit record connection between the source records to retain the original connections.
- The data stored in the system can be exported into a variety of standard formats (MARC, DC, qualified / QDC, DCMI Metadata Terms, MARCXML, RIS, BIBFRAME, etc.).
- The vendor must secure a software device which is capable of importing and exporting standard records in bulk.
- Mechanisms of duplicate control – with the similarity examination of configurable data elements – in the course of batch upload of catalogs of member libraries and during ongoing feed-in of data. A system of response and feedback on the supposed duplicates must be in place.
- From among the imported data the faulty ones and duplicate suspects get back to the submitter, and the admissible records are entered into the database with the mark of level of rating.

## 2.25 Workflow Management

- Administration of the workflow: the administration of the required work phases (eg, control, error patching/supply of deficiency, creation and supervision of data, finding location in the collection) of the analogous and digital object from its arrival to its integration and adoption into the collection, (eg, responsible, date, priority, notes and remarks). A personal 'dashboard' view with the tasks to be actually performed.
- The module must ensure the clear-cut and transparent appearance of the workflow processes and their optimization.
- Efficient work management must be aided.
- Management monitoring should be enabled.
- Possibility of division of labor between those performing identical workflows.
- Diverse levels of user privileges can be determined.
- The workflow procedures can be configured and the tasks can be delegated according to privileges.
- The workflow management must operate in the function groups spelled out in the NLP model.
- The workflow processes must be configurable.
- While defining the workflow processes the system should differentiate between organizational levels (central, library, branch).
- The methodology used in the setting up of workflow processes should conform to the BPMN recommendations.
- The scope of the workflow processes should be definable in advance pursuant to at least the following types:
  - Central procedures
  - Between the central level and a library
  - Complex procedures
  - Procedures within one library
  - Technical processes

- When establishing the workflow processes triggers can be assigned to them.
- The system can handle internal and external triggers alike.
- One trigger should be able to initiate several workflow processes. work streams in parallel.
- When establishing the workflow processes bifurcations and conjugations (a step holding together the parallel moves) can be defined.
- It must be possible to assign conditions to the bifurcations.
- The conjugations can be definable conditionally (eg, simultaneous appearance of the result generated by the 4 parallel forks) or unconditionally (the appearance of the result of any parallel fork).
- When establishing the workflow processes the system must examine the consistency of the process.
- The system must handle the agents of the process steps in a logical system where the executors are units of authorization as well.
- The 'players' of the workflow process can be technical elements (eg, programs, web services, RSS services, etc.).
- The defined work streams should set forth upon appearance of the events indicated in the definition (triggers), and the work streams can be launched on the initiation of users as well.
- The system must handle in a prominent way the user of technical element which generated the event kicking off the workflow process.
- The system is able to send notifications to players of the workflow who are the actual incumbents of the given role in the given phase of the process.
- The system must have the option to trigger another workflow process from a different one (artificial event triggering).
- A simulation of the running of the workflow processes should be ensured.
- The running of the workflow processes must be handled in special logs and a monitoring tool must be in place for examining and tracing the active, closed and pending workflows.
- During workflow monitoring the system must ensure that the prime system objects affected in the actual running (eg, catalog records, digital objects, etc.) be accessible and visible.
- The running of workflow monitoring must be assigned to separate authorization.

## 2.26 Namespace Integration/Interoperability

- The unambiguous identification of authors (ISNI handling, cooperating with the namespace component).
- Certain elements of the bibliographic record (eg, names, titles, geographical names, subject headings, etc.) can be configurably searched in external resources (eg, dbpedia, VIAF, Geonames, Névterek, etc.).
- The Hungarian National Namespace is set up in the NLS project as a part of the national system of library discipline trade but not in the framework of NLP's library services platform. However, a close collaboration of the two systems is firmly needed.
- The NLP and the Namespace should be able to connect to one another via standard protocols. It is expedient if the National Namespace can accept the libraries' so-called authority records in formats used by the libraries (eg, MARC21, DublinCore).
- A workflow is needed by means of which elements of the National Namespace are automatically carried over/loaded into the library catalog during cataloging work.
- A more substantial integration via the namespace identifiers with the NSZL's own namespaces and thesauri (eg, automatic appearance and searchability of years of birth and death, launching of queries of the namespace's own interface in the digital collections).

## 2.27 Financial Matters, Bank

- Allowing for the topical technical potentialities the system is able to manage bankcard and online payments (taking the possibilities of institutions with non-independent financing into account) eg, PayPal, through mobile provider, from forint and currency accounts.
- Various diverse currencies and their rates of exchange can be handled.
- Domestic and foreign tax numbers can be handled.
- The system must ensure the option to link up to the financial system of the institutions.
- As far as money and invoice management is concerned, the system must comply with the laws and directives in force.
- It can handle online, bankcard and cash-based payments.
- It can handle payment with vouchers (eg, Erzsébet voucher, IFLA voucher in interlibrary loan).
- The bank account number can be entered by library where the paid money flows in.
- An option must be in place for producing accounting receipts by mode of payment.
- The system is enabled to directly communicate with the library's system of management, finance and accounting.
- The system is enabled to handle signals received from the associated financial system (eg, interrupted transactions, uncovered invoices, amounts arrived without antecedents) and to forward these to users.
- An option must be in place to handle the payments separately, according to sites of loan.
- The patron is entitled to settle his dues at any site of loan of the given library.
- In the case of domestic interlibrary loan the patron can pay the incurred costs directly to the provider library.
- The system of authorization regarding cash registers and money management can be set in granular fashion.
- The system must signal anomalies concerning cash register management, eg, non-performed closing, non-performed money delivery, multiple money delivery.
- The system must contain an electronic instruction package which yields a testing option for librarians who manage cash registers. – Non-mandatory requirement.
- The system is able to print report or proceedings according to a template (eg, on account of a cancellation).
- The libraries mustn't see each other's financial data.

## 2.28 Control of Stacks and Holdings

- Task: the checking of the existence of items. The component's aim to this end: to ensure and automate the workflows of holdings supervision.
- There should be an option for bulk entering of the holdings: an option for bulk feeding of data of identification of existing items (with barcode collector or RFID reader), then the bulk entering of the identifiers from file and the bulk supervision of data with respect to a given locus or location (or a given type of document).
- There is an option to enter each item of the holdings separately: to read in identification data (barcode, etc) of the existing items one by one and to inspect the data according to locations.
- Following the read-in, a list of errors in tables must be generated according to comparison of the entered items and the data of locations, that is, it should recognize if one or more documents fail to belong to the specified location (according to actual and temporary locations) or to the range of call numbers (call number or actual number).

- It must give full data with the mislocated items and not only one type of identifiers (eg, barcode) – the data content must be configurable.
- When the typing in of a deleted item comes to pass, this must be indicated as well (and a list be compiled subsequently).
- The gleaning of missing items into a list and generated table collating on the basis of a revision entered to a given location at a given period of time.
- The generated table must contain data necessary for the unambiguous identification and, also, complementary data can be displayed which facilitate the given workflows. The data content of the table must be configurable.
- The list of shortages should be editable, printable and exportable: a list of deletion can be compiled from the list of shortages.
- An option for query of a lost item – on the basis of its identification data – (by means of an external reader unit in the RFID system).
- It can handle the bans and blocks: to track the status shifts of items, first and foremost linked to the acquisitions, holdings management and circulation components; modification and temporary restriction of accessibility of items (eg, deleted, in binding, on loan, placed on hold, not renewable any longer, delay).
- The bans and prohibitions can be deletable.
- The date of holdings supervision and the code of the performing person should be visible at the item level (relation: PRG component).
- The workflows should be assigned to privileges (relation: LMA component).
- A variety of groups of privileges can be set (relation: LMA component).
- The system should aggregate the number of missing pieces and the value (relation: PRG component).
- In the event of an item search at a later date an opportunity for fast retrieval, where and when it was checked, and perhaps what happened to the item before and after (relation: PRG component).
- It must handle the journals too, ie, the situation when a library unit may comprise several partial units.
- Send automatic notifications to the assigned users, eg, holdings supervision and revision is timely at individual locations, or the documents have been on the list of shortages too long they should be deleted).
- The query and retrieval should be of multiple aspect and of multiple criteria according to the following:
  - Query of date of registration and check-in, entering initial and final dates, but both may not be mandatory (either initial or final date),
  - Selection of location from a drop-down menu or manually entered (capable of both), more than one at a time if needed or all at once),
  - Query can be initiated on document type,
  - Query can be initiated on range of call numbers (call number or actual number),
  - An option should be for filtering and narrowing the hit lists that it may not harvest those with bans as hits,
  - Query can be initiated on documents marked with various prohibitions (eg, on items supplied with 'to be located', or 'requested from the stacks' codes, etc within a given interval).
- There must be an opportunity for collating and comparing documents placed on shelves of sites of storage with the holding stored in the database.

- Statistics related to the use of documents can be generated (eg, aggregation of document types issued from the stacks and returned there broken down to periods of time like: turnover in the stacks (relation: CIR and STA components).
- The system can monitor the link and access of electronic documents and should the link be unavailable and inoperable, it will signal the fact to the competent person.

## 2.29 Statistics and Report

- The system must have a module of creating and displaying statistics.
- The system must be able to configurably make up statistics on the operation of its elements and to export the result in several ways for data analysis and/or data visualization.
- There should be an option to define in an easy manner the compilation of scheduled (daily/weekly/monthly) statistical statements which the system executes independently regarding acquisitions and use. When the statement is created it is automatically sent in email to the administering librarian. It is anticipated that for the creation of statistical statements no special programmer's expertise is needed and the entire procedure can be managed by the librarian administering the system.
- There must be an option to take over and apply the pattern of statistical statements released by other institutions using the system as far as this permission is warranted by other institutions.
- The use of the module has been devised for the library level, but it needs have a central (common) level as well (eg, for ODR functions). It may well be a central spot for definitions of statistical statements and queries which the member libraries provide for one another.
- The system must make daily saving of the current value of certain data varying in time so the trends can be analyzed. The range of data involved in this save can be determined.
- The queried data should be printed and saved (in pdf and csv formats).
- The data of the statistical module can be exported into MS Excel format.
- The statistical module is able to create diagrams from the user data available, the diagrams can be exported (as images).
- The statistical report due early in the year should be generated by the pressing of a button – query of the data required for the yearly obligatory statistical data submission can be configured; in the case of a change in the content of the data submission the saved query can be modified.
- The statistical module must also have a user interface which is graphical, user-friendly and customizable.
- The handling of a variety of user levels of permissions must be enabled in the statistical module.
- The period of time must be selectable at every query.
- Statistical queries on every workflow (with respect to acquisition statistics and user statistics as well).
- A statistical output can be created on the use of the catalog.
- The number of workflows performed by the librarians in a given period per workflow.

### 2.29.1 Cataloging Statistics

- Statistical output can be created from the number of records to be found in the catalog (bibliographic, authority) according to determined aspects and intervals.
- The number of new bibliographic records created by each library by document type.

### 2.29.2 Acquisition Statistics

- Data on acquisition by document type and mode of acquisition in a particular time interval with parameters.
- Inventory aggregations by two aspects (number of pieces, value) according to budget: allocation of request – type of acquisition, allocation of request – document type, location – language, allocation – discipline, type of acquisition, allocation – vendor, allocation – document type, document type – vendor. The pairs of criteria must be set as parameters.
- The list of registry of incoming journals for a selected period of time: title, year, volume, type of acquisition, vendor, piece, price, time of arrival.
- The number of items according to locations (permanent and temporary locations too).

### 2.29.3 Statistics of Usage

- Statistics of turnover according to different aspects (eg, time interval, user, document type, subject etc.).
- A basic expectation is that each statistical data can be searched by entering initial and final dates.
- The number of patron barcodes (patron cards) valid at a particular location of loan and in a particular period by patron type.
- The number of patron barcodes (patron cards) valid at a particular location of loan and in a particular period by patron type (only those with instance of circulation).
- The number of items loaned at a particular location of loan in a particular period by patron type, by area of discipline, by language, by document type.
- The number of pieces of documents placed on hold at a particular location of loan in a particular period by document type.
- The number of pieces of documents requested for a given workflow at a given location of loan and in a given period – eg, a statistics can be created on how many documents were requested for digitization, exhibition, etc. in a given period.
- The most frequently borrowed documents at a given location of loan.
- The documents most frequently placed on hold at a given location of loan.
- The loan frequency of individual documents (according to call number, document type, title, author, language, data of publication).
- The list of patrons in delay by location of loan.
- The sum of paid overdue fines broken down into locations of loan.
- The sum of paid overdue fines broken down into patron types.
- Query on establishing royalty (for the collecting organization): number of loans by title in a given period.
- The statistics of interlibrary loan: the number of sent and arrived requests, the number of received and sent documents by document type, in the original or in photocopy, from domestic site or from abroad).
- The number of entrants into the NSZL by patron category: it is important that the admission system mustn't provide the number of passages through the gate, since this might give false data on the library users.
- In the NSZL: The list of persons registered and requesting daily visitor's card, with entering the hour and the minute: how many under-aged and how many pensioners registered on a given day or in a given period; how many persons registered on a given day in a given period by patron category and type of admission; how many persons registered on a given day in a

given period as a new patron, or how many persons renewed the validity of their patron card, how many under-aged and pensioners have valid registration.

- The gleaning of online user data and the creation of statistics comply with the international recommendations, eg, COUNTER Code of Practice).

#### 2.29.4 Statistics of Queries

- Frequency of occurrences of title words in queries by time-frame.

#### 2.29.5 Report

- The cost analysis of the use of electronic resources: The cost of subscription broken down to a journal/book and the creation of cost analysis on the basis of use.
- Retrieval and creation of statistics and report on the use of electronic resources: configurably with a view to various criteria (type of source, IP-range, libraries, various groupings, unused ejournal/ebooks, unfulfilled fulltext accesses, most frequently used ejournals/ebooks, overlaps in individual database and journal packages, how many ejournals/ebooks/databases can be accessed, etc.).
- Identification of works relevant in terms of copyright, their classification by type of work.
- Monitoring functions for administrators (new legal information, active/inactive users, etc.).
- Provision of statistical data on loan for the collecting societies.
- The creation of customizable reports with a variety of outputs: csv, excel, word, pdf, marc, marcxml, etc.
- Statistical reports of various detail and various periods on the constitution and usage of digital collections/partial collections (in textual and graphic form).
- A configurable report-generating output. At the creation of statistics the international practice must be taken into account (eg, COUNTER Code of Practice - USUS – (<http://www.usus.org.uk/>); Standardized Usage Statistics Harvesting Initiative (SUSHI) (<http://www.sushi.org/>)).

#### 2.30 Service Management

- The individual custom notification of authors and rights owners pertaining to legal information on their works.
- Generation of a virtual exhibition: generation of web-based compilations from the suite of documents defined by the librarian by means of custom schemes/style sheets (with the possibility of posterior human editing).
- Relations – interoperability with citation management systems, in a direct/user-friendly manner, eg, MTMT; EndNote, RefWorks etc. (see Search/Discovery).
- The system is capable of communicating with the various educational (higher education and public education) e-learning and e-government frame systems, eg, Neptun, Coospace, Modulo, Köznevelési Információs Rendszer, Ügyfélkapu.
- Configurable automatic function of notification on new legal information, changes in legal information for the user.
- Support of link-resolver systems.
- Compatibility with the leading reference software programs (eg, RefWorks, EndNote, Zotero).
- It should contain a module suitable for comparing texts (eg, plagiarism detection).
- There should be an option in a configurable manner for data enrichment of bibliographic items (Enrichment Catalog) even with the involvement of the community (crowdsourcing) (eg, display of covers and topographical data on a map, georeferencing, timeline, labeling,



tagging, table of contents service, text recording, pattern recognition, associated resources, etc.).

- User-friendly administration of content management systems of the repository type.
- User-friendly administration of content management systems (CMS) of the portal engine type.
- User-friendly administration of content management systems of support of publication.
- User-friendly administration of content management systems ensuring cooperation.
- User-friendly administration of systems providing image-based content.
- A system supporting Open Access administration: templates, tracking of critical process workflow, etc.
- It must be ensured that the user can initiate various services from a list of hits (eg, photocopy order, preparation for reading room, send, share, note, etc.).
- In the event of charged services the data necessary for invoice generation must get over to the financial system.
- The system must effectuate the 'Ask a Librarian' function and provide vehicles for realizing special literature services (eg, literature search, theme monitoring etc).

### 2.31 Customer Relations and Communication

- There must be an option for communication between institution and end-user (email or chat, optional and configurable), eg, message center (with all the exchange of messages, the optional circles of themes figure in the drop-down list), and the forwarding of the actual message to the end user in email as well, archiving of chat messages.
- It can be entered by user what the language of communication should be (relation: UAD component).
- A simple and easy contact in case of problems and questions (eg, template). Upon sign-in it should attend to the language of communication fixed at the patron and the preferred interface must appear.
- Contact initiation and opportunity of feedback for the user.
- The system must send a caution email before expiry of the patron cards (relation: CIR component).
- The timing and text of messages sent to patrons can be entered by library, the name and email address of the sender can be entered separately by location of loan.
- There must be messages to be sent at any event (which cannot be signed away by the patron), and those that can be selected (or rejected) by the patron (eg, list of new accessions).
- Messages can be sent in email, sms and to Facebook. The patron can select his or her prioritized or default mode of sending. The default is email.
- The messages sent to patrons must be logged, the log can be queried by librarians.
- The system must send a warning email before expiry of the due dates of the borrowed documents. (relation: CIR component).
- The system must send a warning email to the patron if they have not returned a book up to the due date. Depending on the time elapsed since the expiry of the due date the system must send a message with various texts (relation: CIR component).
- A circular can be sent out to a select circle of patrons about library events.
- A circular can be sent out to a select circle of patrons about documents recently acquired. Patrons can configure what topics they are interested in concerning novelties.

- Blurbs and recommendations can be sent out to patrons, eg, when they borrow a book, they will get the list of 3-to-5 books most frequently borrowed by those who have borrowed the book taken out by them.
- A chat service is needed. The patron can write a message to their library (where the patron is registered). The incoming message should be assigned to one of the librarians online who should continue the exchange of messages with the patron. The librarian can hand over a conversation in progress to another librarian for continuation. This transfer must work between various locations of loan of a library. The exchange of messages must be logged.
- In order to support the library information work a database must be set up which stores the patrons' requests and the answers given to them, it can assign responses given to earlier questions to a new request and to support the deployment of the information librarian's work (the assignment of patrons' requests to individual librarians).
- Messages sent to patrons by the NLP system and the library/libraries should be displayed on mobile devices as well.
- The system must enable the arrangement of vendors' data into a common and a library segment in order to compile analyses and reports on the basis of joint elements of the vendors' data. The vendors can, of course, contain diverse data by library. The vendors can be arranged into hierarchical structure.
- Registration of partner relations: a database keeping a record of data of sources of origin of digital documents as well as the communication maintained with them (eg, partner code, institution name, liaison, contact addresses, correspondance up to now, permissions) and the assignment of the partner code to the metadata of the document.
- Administration of user feedbacks: administration of feedbacks, questions and requests of patrons associated with digital services (eg, user data, text of the message, text of response(s), competent resopner, necessary measure, deadlines).
- Documentation and customer service: a detailed Hungarian online documentation to every element of the digital library system. Help Desk accessible via telephone and online for questions arising with respect to the use of the system and for reporting errors/shortages.
- News channels: Definable custom metadata news channels on the new items adopted in the individual partial collections (in RSS/Atom XML, HTML, e-mail formats).
- Document order: ordering of a digital copy in a quality required and entered by the user.
- Highlighting novelties and curiosities: a list or slideshow embeddable into the opening page or any other webpage about the most interesting items assembled by the librarian.

## 2.32 Information Security

### 2.32.1 Identification and Authentication

- The system must be able to individually identify and authenticate the users.
- The system must support the ban on repeated utilization of identifiers up to the end of a determined duration.
- The system must support the ban on identifiers in the case of inactivity over a determined period of time.
- The system must support the obligatory change of default values of passwords during implementation of the system.
- The system must support the handling of passwords' minimal and maximal time of usage and the conditions of their repeated utilization.
- The system must ensure a covered feedback during the process of authentication.

- The system can accept only certifications released by authentication providers figuring in the administration of the National Media and News Broadcasting Authority related to electronic signature for authenticating the users based on certification.
- The system should enforce the endorsed permission of logical accesses to resources.
- The system must enable the restriction of numbers of occurrences concerning the series of unsuccessful attempts of the user within a determined period of time.
- The system must automatically block the user account up to a determined duration of time or until the administrator's release, or it must delay it in harmony with the delay algorithm unless the number of unsuccessful login attempts is exceeded by the user.
- The system must contain only software programs and related documentation which comply with the copyright and other legal regulations.
- The system must support:
  - the checking of photocopies and shares, the tracking of the use of software programs protected with quantity-related licenses and associated documentations.
  - the supervision and documentation of holdings sharing.

### 2.32.2 Logging and Accountability

- The system must be able to glean sufficient information in the logging entries for identifying what type of event happened, when and where the event happened, what was the event's origin and outcome and it should identify the person or object with whom the event can be associated.
- The system is enabled to send out alerts in case of a logging defect to determined persons or positions, and it can execute determined activities, such as the halting of the system, the overwriting of the oldest log entries, and the halting of the logging process.
- The system must use internal system clocks for creating timestamps for log entries, and it must record in the log entries the time stamps to the coordinated world time – so-called UTC or to the Greenwich Mean Time – GMT –in harmony with the determined accuracy of timing.
- The system makes it possible to protect and safeguard the log information and log managing tools from unauthorized access, modification and deletion.
- The system must ensure the generation of log entries on determined loggable events.
- The system must be able to turn out log entries concerning determined events with the determined content.
- The system must ensure the defence against malicious codes at the login and logout points of the system, their disclosure and obliteration.
- The system must be able to configure defence mechanisms against malicious codes in a manner that the tool of protection:
  - should execute periodical supervisions on the system and real-time supervisions of files stemming from external sources at the end points, at the network points of entry and exit, when the files are downloaded;
  - in case of perception of a malicious code it must block it or place it into quarantine, alert the system administrator and other determined persons;
  - it supervises the false alerts in the course of disclosure and obliteration of the malicious code.
- The system must support:
  - detection of cyberattacks or the traces thereof according to the determined goals of surveillance and the disclosure of unauthorized local, network and remote relations;
  - the identification of unauthorized system use;

- the application of vehicles of surveillance for harvesting substantial information and tracking determined types of transaction;
- the safeguarding of information gained from tools of monitoring against unauthorized access, modification and deletion;
- the corroboration of the system's supervision upon detection of signs alluding to enhanced risks;
- the provision of information of supervision at a determined frequency to determined persons or positions.
- The system must be able:
  - to supervise and control communication carried on on the outer borders of the system as well as on the crucial internal ones;
  - emplacement of system elements publicly available in subnetworks physically and logically detached from the internal structural network;
  - to connect to external networks or external information systems via interfaces monitored only on instruments of border defence.
- The system must bring into effect cryptographic operations qualified as standard and secure in legal regulations.

### 2.32.3 The Protection of System and Communication

- The system must be enabled to inhibit or incapacitate remote activation of computing equipment based on collaboration (eg, cameras, microphones).
- In response to demands for resolution of name/title the system ensures, in addition to the authentic data, complementary data regarding the origin and integrity of the information, and if it operates as part of distributed hierarchic name directory it must indicate also the state of security of descendant ranges and should they support safe resolution services, it is to authenticate the chain of trust between the descendant and predecessor ranges.
- The system must ask for authentication of origin and checking of data integrity and execute these to responses of name/title resolution spawned from an authentic source.

### 2.32.4 Procurement of System and Service

- The administrator's documentation of the system should contain:
  - the secure configuration, installation and maintenance of the system, system elements or system services,
  - the effective application and maintenance of security functions,
  - vulnerabilities related to configuration and administrative (ie, privileged or prioritized) functions known at the delivery of the documentation.
- The user's documentation should contain:
  - the security functions available to the user and their efficient application,
  - the methods of the safe and secure use of the system, system element or system service,
  - the user's obligations for maintaining the security of the system, system element or system service.

### 2.32.5 Planning of Business Continuity

- The system is prepared to save information of the user level and the system level stored in the system as well as the system documentation at scheduled intervals, in harmony with objectives regarding the time and points of recovery.
- The system must enable certain persons or positions to select from the loggable events those to be logged with respect to the individual elements of the system.

### 3 Requirements of Informatics

- The NLP software must support data storage performed in a (geo)redundant manner as far as the handled contents are concerned.
- The NLP must support redundant operation, which means that in case of a service outage or stoppage, the redundant secondary site must be capable of taking over the functions within a short period of time and the restoration mustn't involve data loss or inconsistent state.
- The live service is invariably provided by a primary NLP installation running in a given site, while a backup site implemented in another site and capable of full functionality can take over the primary role in case of necessity, automatically or by manual intervention, but within a short period of time, one hour at most, at any time and warrants the service even over a longer time with the option of subsequent simple restoration. The switchover or transition should not involve any loss of data in either direction or the peril of an inconsistent state.
- The entire system must comply with the prime expectations of the ISO 27001 standard.
- Open protocol, and API for query of legal data or exchange of data, eg, for transferring conveyance of statistics on e-loans for a collecting institution's database (for the apportionment of royalties).
- The NLP system can communicate with repository software programs via standard protocols (eg, Eprints, Dspace, Jadox).
- APIs engaged in tasks as regards various local specialities can be adjusted to or adopted by the system.
- It must collaborate with other systems and databases 'to be attached' (eg, Open Journal Systems (OJS), MTMT).
- It is built of elements of open-source code or it supports the adjustment of such elements; connection to it is also possible with external programs via restful APIs, and also new bibliographic and authority records can be created or altered.
- It is accessible from the internet and can be used with mobile devices.
- Options for extempore queries with SQL tools on the program level.

#### 3.1 Digital Repositories of Content

- Link control: checking links supervising the operation of internal and external links to be found among the metadata with flexible configurability (eg, frequency, parameters).
- Temporary stores: temporary stores interconnected with workflow administration for the individual phases of work (eg, arrival, processing) through fast-access depots, with access with authorization but it can be a remote access too, with a minimum of metadata requirement.
- Store of copies for service: store(s) of documents provided locally or publicly as well as associated other files (eg, stamp images, metadata saved into XML character sets required for proper display) on fast-access storage tools, with frequent security saves, ongoing error control and mirroring immediately replacing the live system in the event of failure.
- Persons with proper privileges are supported to deploy bulk transfer of files, eg, FTP, SCP, http-based, web-based upload, webdav.
- SWORD support: The exchange of metadata and digital objects between the individual storage units and between external archives/repositories through the SWORD protocol.
- Version management: collation of store-based copies of a digital object, identification of disparities and dates of modification.
- OAI-PMH support: public query of metadata through the OAI-PMH protocol.

- ResourceSync support: sharing of file-level metadata with other systems exploiting a solution beyond that represented by OAI-PMH.
- Z39.50 support: admission of queries and return of hits via the Z39.50 protocol.
- Talkative identifiers: an option for requiring an easily remembered alternative URL for certain important publications.
- APIs and links for the search: interfaces for programming applications to external services and provision of query links with various parameters for search in the digital collection.
- Real-time indexing: metadata and full text of the document adopted in the collection as a new item or removed from it must immediately appear in indexes used for search or be deleted.
- The storages providing the service-based copies of the digital collections must be handled by the system in a mirrored way, irrespective of the fact that they are in a prime location or in a georedundant site, the data are to be continuously synchronized in both directions for the sake of operation security.

## 4 Supplements

### 4.1 Functional Groups and their Abbreviations

<b>Functional groups</b>	<b>Abbreviation</b>
Bibliography Management	BIM
Digital Repositories	DCM
Digitization	DIG
Temporary Store of Electronic Documents	EDS
Management of Electronic Sources	ESM
Export/Import, Attachments	EIL
User Management	USM
User Administration	UAD
User Self-Service	USS
Acquisitions	ACQ
Help Desk	HDS
Management of Periodical Publications	PER
Access Management	ACC
Cataloging, Authentication, Qualification	CCQ
Catalog	CAT
Catalog Configuration and Management	CCM
Search Engine, Discovery	DRY
Circulation	CIR
Library Administration	LMA
Interlibrary Loan	ILL
Central Administration	CAD
Display, User Interface, Facade	UIX
Metadata Conversion Upload, Download	MDC
Workflow Organization	WFL
Namespace Adjustment	NSL
Financing, Bank	PAY
Stacks and Holdings Control	WHM
Statistics and Report	STA
Service Management	SMG
Standard Storages and Attachments	SSI
Customer Contact and Communication	CLC
Administration of Holdings and Assets	PRG

## 4.2 'Legal Environment' related to the NLP System

Legal rules affecting the extension of the Project, the Government Decree justifying the establishment of the Project the law prescribing the tasks of the NSZL, and the acts and relevant legal regulations of central budget in the years 2016 and 2017 are as follows:

- Government Decree 1605/2016. (XI. 8.) on ensuring resources necessary for the information development of the NSZL.
- Act CXL of the year 1997 on museum institutions, public library supply and public education.
- Act C of the year 2015 on the central budget of Hungary for the year 2016.
- Act XC of the year 2016 on the central budget of Hungary for the year 2017.
- EMMI Ministerial Decree 30/2014. (IV. 10.).
- Act CXCV of the year 2011 on state administration.
- Act CLXXXI of the year 2007 on the transparency of supports granted from public finances.
- Act CVIII of the year 2011 on public procurement.
- Act L of the year 2013 on the electronic information security of state and self-government authorities.
- Government Decree 368/2011. (XII. 31.) on the execution of the law on state administration.
- Government Decree 314/2016. (X. 19.) on modification of Government Decree 165/1999. (XI. 19.) on the National Library Advisory Board.
- Government Decree 73/2003. (V. 28.) on the National System of Document Supply (ODR).
- NKÖM Decree 22/2005 on regulations concerning the management and administration of antique library documents.
- Act LXXVI of the year 1999 on copyright.
- Act on Deposit Copies (in process of endorsement).