What Do We Do for Our Users? New Services for the Research and Learning Communities at a Research University

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Abstracts
Till today the everyday work of science libraries is still based upon the traditional roles of acquiring, licencing, preparing and presenting all kinds of information for the purpose to support the interests and activities of the university library’s main user groups: the scientists and the students.

Since quite a few years this long-lasting relationship is changing and the reasons for this shifts are mainly induced by drastic changes in technology and the transformation of the science and learning environments.

This situation means for a research library that all activities, all developments according to the service and product portfolio have to be refocused to the customers perspective, because their acceptance, their everyday use of the library services is the benchmark for the library’s success.

The paper proposed will give a short overview about the vision and the realization of two new applications of ETH Libraries and Collections, which are of course designed on the basis of a broad and comprehensive portfolio of electronic library services. Within the framework of ETH’s Electronic Library we are currently in the process of realizing a long-term preservation project (called “Digital Curation”) and another project, named E-lending.

The first project is about the necessary services for the safeguarding and long-term preservation of research data, administrative records and also library materials. The second project deals with the question, how the library can assure, that the university-external access to electronic books is possible, too.

As already mentioned, these two activities are embedded in the digital library concept of ETH Zurich and are two important elements in integrating new user-relevant applications in the service portfolio of the library.

To realize projects like this effectively and to generally establish a trustful co-operation between the (potential) customers on the one hand and the library otherwise are the mayor success factors within current and future library work.

Keywords
research university; electronic library services; long-term preservation of data; electronic books; e-lending

Introduction
In our everyday life, supporting science, research and teaching with qualified and enhanced information is still the first priority. All academic libraries have long-lasting experiences in handling the necessary library processes and procedures, which were the basic preconditions for satisfying the primary user groups of university libraries, the academic community and students at all levels.
On the other hand we had to recognize that over a period of 10-15 years this situation has changed dramatically and is going on faster and faster. The main drivers for this dramatic change in terms of user expectations to libraries are as follows:
Time and cost pressure upon more or less all research activities; rapid changes within the scientific cognitive processes; rapid changing technological basic conditions; permanent cost pressure upon all academic libraries since many years; unsatisfactory organizational and process structure within libraries.

Nevertheless there will also be other influences, these five aspects should be the most important issues when we talk about future roles of academic libraries. Especially for old library institutions with a long tradition, with big and complex collections it will be a tough challenge to carry the different user expectations coming out of the electronic world and harmonize them with the classical library world.

The ETH environment: basic conditions

ETH Libraries and Collections represent a classic science library with a strong focus on more or less all fields of science and technology, except the classical medical subjects. Besides these focus points there are also represented some areas of the social sciences and the humanities.

As an old institution, founded in the middle of the 19. century, it is not really surprising that important parts of the collections cover rare and special books, archival materials, bequests from important scientists, photos and other complex collections. Over the last five years also museum artifacts, a graphic collection and a literature archive were added. As a result we now have a university library with vast classical library and history collections on the one hand and a comprehensive portfolio of digitized collections and electronic products and services otherwise.

This was the situation when the library decided to develop a new strategy which could map the current situation and which could present the relevant “fields of action” for the next five years.

![Diagram of the library's strategy for the next 5-7 years](image)

A short interpretation of the figure above leads to the following focus points or fields of action:

- an absolutely strong focus on information resources in electronic format
- the integration of these resources in the sense of a single-point-of-access
- defining cutting points to systems/applications within research and teaching
- defining and realizing „user-friendly services“
- creating specific infrastructure/services for teaching and research
- maintaining comprehensive digitization activities for the library’s classical collections
- improvement of the spatial conditions of the library and the collections
- "integration" of the university's "non-textual collections".

To proceed in this direction the library started over the last years a whole bundle of smaller and bigger projects which should at least support these ideas. At this point it is not possible to discuss all of them in detail but at any rate the most relevant should be mentioned:
The center of all activities over the last years was the development of a library portal, which we call "The Knowledge Portal" and which gives access to different databases and applications, using one access point. Integrated is the library catalog, a big article database and more or less all other applications which were developed within the library (e.g.: databases with digitized photos and older Swiss journal articles; databases for archival materials and Swiss rare books).

Besides these running applications, there are some other activities, which are currently under development and which should and will complement the results achieved till today. In the following two of them should be discussed more in detail. The first one is directly focused on the researchers, one of the library's mayor user groups. The other example mentioned deals with the question, how external users can get remote access to the e-book collection of a science library. This is of interest in those cases, when the an academic library has also functions of a publicly accessible library.

**Project "Digital Curation"**

The more electronic data is produced by scientists during their research activities, the more the question comes up, what happens with these data in the long run. For clarifying this issue ETH Zurich decided to initiate a project, which should serve as a basis for future management decisions. In this context a small working group identified three relevant data types, which are of general interest at ETH Zurich (see Fig.2).

The overall goal for the project and probably for a future routine application, is the question, if the central management of electronic data at a university has nameable advantages in comparison to the decentralized storage of data upon a whole bundle of heterogeneous PCs and servers spread over...
developing a long-term strategy for research data is the first priority for this project, because credibility, the university as a whole has to be interested in the accountability, credibility and the potential re-use of research data. Besides this there are more and more legal restrictions, which have to be taken in account. The first step in realizing a data curation strategy was a campus-wide survey of all research groups and interviews with selected researchers. The results clearly show that within the research community there is a common awareness that electronic data needs to be taken care of. This statement represents a general meaning and is supported by nearly all scientists asked. On the other hand researchers...

- want to keep full control (at least of who accesses their data),
- need to re-arrange and select data (prior to ingest, add documentation and legal documents),
- need to edit metadata and add data,
- are interested in support for preservation and quality control,
- want to keep certain data for limited time periods,
- want no additional workload.

On the basis of all information we got from our primary target group and integrating the experiences with electronic library data (electronic archival data; the institutional repository; electronic picture archive), the library decided to set up pilot projects with four research groups, each one with different requirements. The idea is to develop workflows co-operatively: Manual data management around a publication ready manuscript; (group) datasets as raw material for following publications; automatic import from an existing data management application.

Parallel to these activities there are also some projects with library-related materials (institutional repository; digital material from mass digitization activities), which should help to get familiar with the chosen software tool, the product Rossetta from ExLibris.

Although the project “Data Curation” is still in learning phase, there are already some important lessons, which we have learnt for detailed further activities:

- Meaningful re-use of data heavily relies on contextual information and structural relations
- In any case an exhaustive documentation is a fundamental precondition
- There is a need to appraise, select and re-arrange objects prior to ingest later in time

In the near future there will be some interesting next steps to carry on this project:

- Implementation of manual workflows for research data and ETH archives
- Identification of further requirements to be addressed
- Specification and developing of submission applications for library materials
  Developing and implementing of submission applications for the import of research data coming out of existing data management solutions

If these steps are successful, there will be further activities:

- Extension of the coverage to more research groups and library applications
- Convincing the university's board to grant ongoing funding as part of their risk management

Project “E-lending”

In the meantime presenting and using electronic books in an academic environment is a matter of course. The academic community, as well as students and librarians are used to handle these new media and all use statistics clearly indicate the acceptance; the university community is well supported so far.

Very different is the situation for those potential clients who are not part of the academic world. For
those people the virtual, location- and time-independent access to the collections of licensed e-books is only possible within the IP-range of ETH Zurich or within the reading rooms. When we have in mind, that more and more parts of our collections will only be accessible in electronic format, than the day will come that for remote users outside the IP-range of the university will be no more access to scientific information based on books. In a situation, where all university libraries are at the same time libraries open for the public, this is a strong disadvantage.

Fig.3: Future access to e-books: Generic illustration

The mayor purpose of the project E-lending is to find a solution in which way university-external users could get access to electronic books, licensed by ETH Libraries. The project was divided into two sub ventures: Phase 1 implies to conduct intensive negotiations with relevant, exemplary publishing houses on the one hand side and to clarify, which aggregator for E-books would be the best solution for presenting the purchased/licensed titles to remote users on the other hand. Relevant in this context are different business models, usage models, number of relevant titles and search surfaces. Besides this there are some questions in reference to internal processes, which should be adapted and which must be potentially renewed (e.g.: user registration). After discussing with publishing houses it is necessary to decide which aggregator will be the best solution for presenting the E-book collections to external users. There are quite a few vendors, which are generally interesting, although there are some really serious problems to be solved (implementing Shibboleth privat AAI; connection between SFX and Shibboleth). Another option, which is also possible, is the idea that ETH Libraries could act as so-called “super aggregator”. Till today all potential variables are still in discussion, final decisions will be made at the end of the year 2012.

Phase 2 covers the process of implementing E-lending in the regular library work. The start of this process step depends upon positive results achieved in phase 1.
**Summary**

Academic libraries today have to deal with two general challenges. The first one is the organizing and enhancing of traditional library services and products with a clear focus to the needs and interests of their main user groups.

The second challenge is the reaction to general changes within the society, the science communities and the technical environments. For most academic libraries an appropriate answer is a more or less systematic approach to integrate innovative applications in the regular library work. The two projects discussed above, are examples how libraries can react to the challenges of the electronic library.