Robbed of time or Robots in time:
The librarian's choice

Delegating library inventory to RFID robots.

Modern librarians are called to become information and knowledge managers, however they are also requested to deal with a lot of routine tasks like labeling, shelving and making inventory of the collection, to name a few. Shouldn't we delegate these repetitive assignments to robots and save our time for more important missions?

Michael Gorman formulated in 1987 the so called '*drift-down theory*' of the organization of tasks within the library. It aphoristically says that:

- No professional should do a task which can be performed by a paraprofessional;
- No paraprofessional should do a task which can be performed by a clerical staff ;
- No human being should do a task which can be performed by a machine.

The drift-down theory calls for rationalization by reconsidering all library tasks in the light of their purpose and effectiveness. Gorman advises, that any task should be performed at the lowest possible level at which it can be accomplished. Further, in the light of that theory it requires the elimination of 'needless drudgery' as per the expression of Gorman. During the last forty years the process of library automation made us witnessing the implementation of the third point in Gorman's theory up to a certain extent. Machines maintain and sort our catalogue, perform the loans and provide reference.

With the exponential development of information technology and telecommunications since the beginning of the 21st century, are we about to witness some new trends in this regard to make sure that really NO human being should do a task which can be done by a machine?

Richard Susskind has a well argumented prediction on this issue. With his son Daniel as a co-author, Susskind published the book 'The future of the professions' in October 2015. Analyzing the existing trends, Susskind predicts the decline of the professions in their traditional forms known today. The authors turn their critical sight to different tasks from the profession of lawyers, doctors, consultants, teachers, and identify which tasks might be taken by intelligent systems and when. The authors predict that "our professions will be dismantled incrementally". Ultimately, technology will transform the future of all professions. 'Whether the traditional professionals will prefer to retain their role of gatekeepers will become irrelevant'. They are urged to rethink sharing of knowledge in the society.

Susskind's predictions do not explicitly exclude the profession of librarian. **Could we turn our magnifying glass to our library tasks today and ask ourselves which ones might sooner or later be entrusted to increasingly capable systems**? How deep can we go to peel off all repetitive tasks, routines and even more sophisticated assignments?

With the introduction of RFID (radio frequency identification) systems in our libraries, we no longer need to be present when our users borrow materials. The Library can operate 24/7 and the librarians can do other things than signing returned books in the patron's card. What shall be our next step?

With the huge print collections and the open access shelves, libraries are requested to regularly do a full or partial inventory. The purpose of the inventory is to identify which items are missing, so that they can be replaced, bought anew, before becoming out-of-print or not available at all. The inventory is an exercise that can take many months and involves all library staff and assistants. It is mostly done manually, even when a handheld RFID scanner is used. Our research on the use of RFID robots for inventory purposes showed two very interesting solutions, offered by MetraLab (Germany) and SenserBot (Singapore). These two companies participated in our recent conference 'Innovation in Libraries" in October 2016 and presented their products.

AuRoSS at work at the Nat. library of Singapore

SenserBot offers AuRoSS (autonomous robotic shelf scanning system), developed by A*Star. The robot is designed to scan HF RFID tags and can easily navigate even alongside curved shelves. The robot has been specifically designed for libraries and can detect misplaced books. Dr. Ho Chin Keong presented the results of the test phase, currently conducted at the National Library of Singapore.

TORY – the night shift librarian at MPI, Luxembourg

Metralab offers the TORY robot, designed to work with UHF RFID tags. Dr.-Ing. Johannes Trabert said that TORY has so far been used mainly in big department stores to scan the stock of clothes and so far MetraLab was not aware that libraries might also need it. TORY works in the night, but is also certified as being harmless for people. At the Max Planck Institute Luxembourg Library TORY made the full inventory of an area of 500 m^2 with 34,800 items for **just one hour!**

At LIKE we tested different handheld devices and the robots to compare how fit they are to the job of inventory. The best would be to have the rapidity of TORY combined with the precision of AuRoSs for the needs of our library. However, these qualities are correlated to the kind of RFID tags used by the robots – ultra-high frequency vs. high frequency.

LIKE (Lab for Innovation, Knowledge and Exchange) at the MPI Luxembourg Library

There is one point that is sure – sharing a robot for routine tasks is economically viable solution for libraries as it saves thousands of man-hours. Available data shows that the return on investment is one to two years. The ultimate winner, though, will be our user – the research or reading community in Luxembourg, as librarians will use their time to stay in contact with the users and improve the service. As Melvil Dewey put it in 1926, '***our great function is to inform or to inspire or to please***'. Luxembourg is notorious for embracing and supporting innovation through numerous programmes and initiatives. There is strong probability that the library robot dream will become reality.

Additional information:

[LIKE](#)
[AuRoSs](#)
[TORY](#)

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