

## New ways to search the library catalog

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## Abstract

*Images, animations and sound has not an obvious role as information carriers in the library catalog. To create a new interface which inspires and allows a more visual browsing we collaborated with children, artists, design students and software developers. The prototype has been implemented on an interactive touch floor screen. The new interface is based on the circle form, is voice controlled and has images and animations in focus. This new information landscape involves the whole body in the search process. The interface can of course be displayed on more common technological devices as smartphones and tablets.*

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## Background

As many librarians we daily experience the challenges of working in the hybrid library, i.e. a library with collections in both print and electronic format. A majority of the library resources are spent on the latter but it is really hard to display to our users. The printed material would also benefit from a better exposure and to come up with the answer to this we would like to create a solution involving more than the traditional linear thinking and printed text. Why not use a few more of our senses and make images and sounds viable in the searching process? In 2011 an interview study was made at the Art Campus. In many ways that was the starting point for our interest to look closer at this matter. The students where asked what they knew about the library's resources. It became clear that almost all participants were astonished by how much was available and how poorly it was presented. Our first project was a collaboration with Umeå Institute of Design that was focused on the exposure of electronic journals virtually on the website and in the physical library as well. This gave us good hope for future projects together and when the founding from

*Kulturbryggan* was announced we started right away with the latest project involving children as important participants, as well as students.

### **Aims and methods**

The purpose of our work is the creation of another kind of search tool to find library resources. The interface we strive for is both informative and inspirational at the same time and can present resources of all kind (printed books as well as e-books, e-journals, databases, images etc.). An important aspect of the interface is the possibility to give the end user an overview, i.e. create some kind of realization how different objects are related to one another. In collaboration with pupils from elementary school Umeå University Library wants to investigate how to develop new ways to search for information where images, animations and sound can complement information by text. The ambition is to create a search tool for libraries that inspires and facilitates users. Ideas of children are used as primary inspiration. Our partners in this project are HUMlab (a place where the humanities, culture and the information technology meet), Kulturverket, Umeå municipality (involves children in different culture projects), Lövsånger School and Public Library and Umeå Institute of Design. Why we teamed up with these partners is easy to explain. As already mentioned we had good experience from working with the Umeå Institute of Design. Their students come from all over the world and are in the forefront of interactive design.

Kulturverket has specialized in working with children in a way that interests us. Children often have great ideas but not always the means to realize them. At Kulturverket many kind of artist are engaged and active in collaboration with children in different projects with the aim to make the children's ideas become real. Our notion is that the perspective of children would give a new and fresh view of how one may organize information in a way that is more appealing to the eye and yet informative and also a source of inspiration.

Lövsånger School and Public Library is situated in the elementary school of the village Lövsånger. The school has pupils both from the nearby smaller villages and also from a refugee camp. The multicultural situation with lots of languages is an interesting aspect of the school.

HUMlab is a meeting place for the humanities and technology. When the Arts Campus was established at the river bank in Umeå they wanted to be present here as well as on campus. On these premises, called HUMlabX, the unique interactive floor that plays a role in our project is situated.

#### 1. *The sky is the limit* – workshops with the children

In December 2013 staff from the library and HUMlab met pupils from Year 2 and 5 from elementary school. We talked about and looked at pictures of how people throughout history have conveyed knowledge before there was a written language. We asked the children for help to suggest new ways to search for information where you need to use as little text as possible. One idea that some of the kids came up with was “the different information islands”. If someone is searching for information on how to build an ecological toilet, go to the island with information on sanitation. Buildings, landscapes and maps created an entirely new visual interface.



Photo: Abebe Asres  
Berggren

Photo: Lenita Brodin

Another concept was “the city of everything”. One group of children decide to create a city containing all the buildings, constructions, vehicles etc. in the world. Here you can find hotels, airports, a bakery, and boats and so on. When you want information about a particular kind of construction you step on that picture (on the interactive floor) and receive facts, further information and inspiration. The level of detail is decided by how many times you press the same area. Inside the hotel building there is an elevator, and if you press that one you can learn about how these are made.

The design students have taken part in the children’s creations through a presentation at the beginning of their course. They both got a brief introduction by the staff that visited Löfvånger and later on met the children and discussed the ideas face to face. The meeting between these two multicultural groups actually surprised us in being quite emotional when some of the children and students were able to communicate in their own language.

## 2. *Navigating virtual & physical space* – student work

The next step in our study involved the students at the Umeå Institute of Design. They worked in four groups, and each group tried to create a better solution for presenting library resources. Inspired by the children's imaginative solutions, how information can be linked to each other they worked on the search functionality. The design students were enthused of some of the children's ideas and with their own experiences and ideas they came up with more visual and easy-to-navigate interfaces. Their solutions are characterized by the ability to create a more personal interface, where the navigation through images and sound are as important as text.

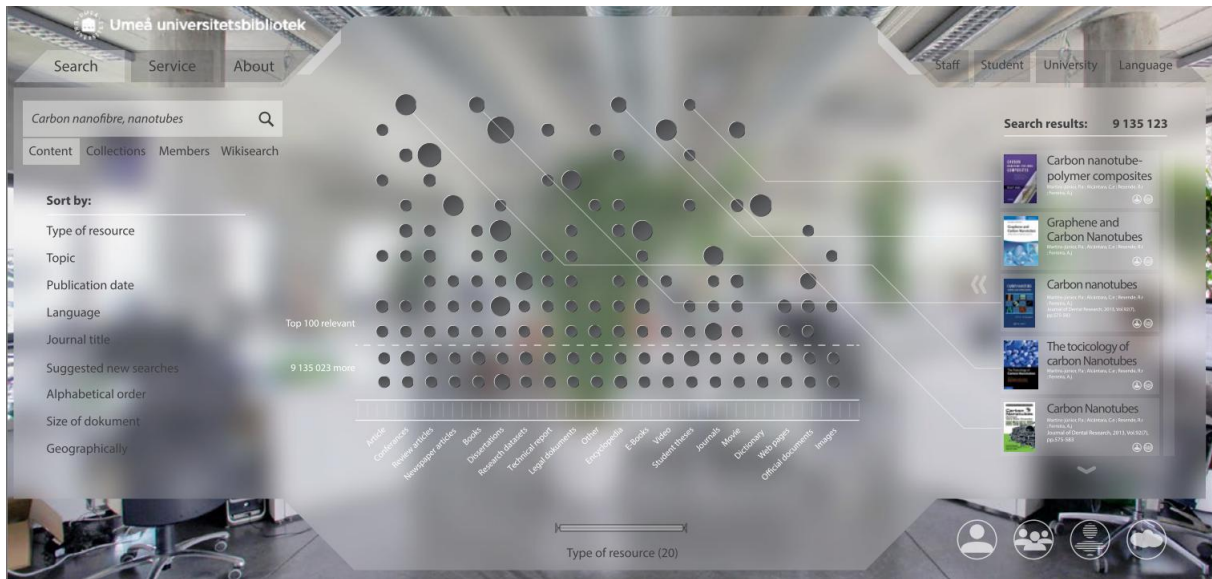


Illustration: Janis Beinerts, Jens Rehammar and Dimitris Palyvos

One student group created an interesting way to display the most relevant items from a search in presenting them as dots. The dots were of different size and had different position depending on how relevant they were. The position was also decided by the interconnections between the items, such as the same author or other common features.

### 3. *Heureka!* – the final concept

The last phase of our study was when the software developer at HUMLab, gathered all the ideas that kids and students came up with and in consultation with the library system developer worked out a prototype for HUMLabX:s interactive floor space. The prototype has features from the student's presentations as well as from the children's ideas. As librarians we had the luxury of choosing from the exiting possibilities that had been shown to us during the process.

The model is based on, at least, three basic notions/principles:

1. The circle form
2. Centric design, i.e. the most important item is displayed in the middle
3. Voice control



Photo: Abebe Asres

In the middle of the interactive floor surface there is a circle with an image of a speaker. When the visitor stands here and says what he or she wants to know more about, such as “ecological architecture”, a host of smaller circles comes up around the center circle where the user is. By circulation on the floor and among the search results, the user can easily navigate within a search area. When choosing an item it appears in the middle and more details are exposed.

The item list is exposed visually in a totally different way than in our traditional catalog. The book covers are in focus and they are displayed according to a proximity principle around the center circle with the most relevant nearest.

### Conclusion and experiences

It is not easy to sum up our findings in a few words but you could say that this has been an intriguing journey where we have learned a lot as we went on. The prototype concept for a new kind of interface is very exciting and invites the library user to more interaction, inspiration and physical activity than our current catalog ever could. The swift technology development gives us good hope for further possibilities. Maybe the time has come for the library catalog to move beyond the quite one-dimensional and linear appearance that has been conveying these last decades.

One of the most important experiences from this project is how rewarding it can be when people from different types of areas come together and what quite unexpectedly can arise from these meetings. The children’s view of the world literally opens new doors and the

students amazing capability to look at “the library way” to organize items is invaluable for us as librarians.

### The future

We now know that the Swedish National Library has granted us resources to work during 2014 and 2015 with a second part of the project. This gives us the possibility to use the experiences we’ve made in a much larger scale. We look forward to this and hope to reach yet another bit closer to the goal: a library search tool for the 21st century.

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### Biographical note and contact details

Lenita Brodin Berggren works at the library situated on the Arts Campus. She has during several years been working with developing projects with special focus on library issues. She has a vital role as a coordinator with the different institutions at the Arts Campus.

Malin Josefsson mainly works at the library at Campus. In 2011 she participated in the planning of the new branch library at the Arts Campus and she continues to play a significant role in the library’s activities.