

A photograph of two men sitting on a wide, light-colored staircase in a modern, brightly lit interior space. The man on the left is wearing a pink and white striped shirt and light-colored trousers, smiling at the camera. The man on the right is wearing a blue and white checkered shirt, dark blue jeans, and glasses, looking towards the camera with a neutral expression. A white rectangular box is overlaid on the left side of the image, containing the title text.

## On the way to one platform

**The city's modern herald: that's what the Public Library of Nieuwegein wants to become. It's the place to be for anyone with a wish for knowledge. The organization serves its customers by using a content management system, digital signage and a highly sophisticated digital strategy. Above all, however, executive director Ron Bogerd and strategic consultant Alex Talsma are aiming to create a unified system to present the information.**

*Written by: Teus Molenaar*

*Photography: Daniëlle van der Schans*

Whoever climbs the staircase of the city hall for a visit to the Public Library 'De Tweede Verdieping' can hear a variation of different tunes. For one it can be the singing of a bird, for another the creaking sounds of the steps of an old staircase, to name just two of many tunes that can be heard on the way up. It is as if these sounds are announcing the special event that awaits the visitors upstairs. A big screen, divided in rectangular shapes and positioned opposite to the entrance, shows what's happening. The screen not only present the events the library has scheduled but all events Nieuwegein has to offer its inhabitants. If an image-page is replaced too quickly, it can be easily reclaimed by simple hand gestures -similar to what tablet and smartphone users call 'swiping'. We have used Microsoft's Kinect technology. But it's not fully functioning yet, we're still working on the fine-tuning of it," as Bogerd (on the right side of the front picture) related somewhat apologetically.

It's all very characteristic for De Tweede Verdieping: no afraid of being a pioneer and to use any of the latest modern communication technology available. "We first scan the market for what best suits our needs. If our findings are not to our satisfaction, we adjust the plans or build it ourselves," Bogerd says.

### Pioneering

According to Talsma, the library wants to be of considerable importance to the inhabitants of Nieuwegein. To achieve this goal, other means are required than those commonly used in the last decade. Consumers now have to be reached by using other methods.

All that the library has in stock has been given a place within the content management system. It interconnects databases in such a way that displaying the pictures of a book and its accompanying description together becomes possible. For showing data on a digital signage screen certain transcriptions are required, due –to name one reason- to the different types of resolutions the systems use. The two systems are certainly not yet fully integrated. "To use these specific screens is a relatively new phenomenon to our branch. It goes without saying that a school for digital signage does not exist," says Talsma. "It's all about pioneering for this organization. And pioneering means to explore and to find new possibilities as well as their limitations."



### What is digital Signage?

The concept of 'digital signage' refers to the presentation of information by means of one or multiple screens to a designated audience at a specified time and place. Different types of information can be presented at different times and places. It is also possible to design a specific message for the individual who is watching. To give an example: it is possible to confront men and women with different information. The big screens at airports showing relevant information for travelers are examples of digital signage. This phenomenon is also known as narrowcasting of digital out-of-home media (DOOHM).

Hidden from view is the special digital signage software which controls the screens' different outputs. The various providers of these systems use their own software. Alex Talsma is helping organizations with the innovation of their communication and marketing techniques. He works with multiple libraries. "Digital signage is a special medium," he says. "It combines the speed of the internet with the advantages of television and is a very suitable medium for companies to advance their skills in strategic communication.

Many organizations still make very limited use of narrowcasting (i.e. the old name of digital signage). That is definitely a missed opportunity."

Monitors show the different events scheduled to take place in the library. "But we do not want to give exposure to our activities only within the limits of our library walls. We want our events to be exposed all over town. We can make use of the screens which have already been installed at for example the local parking lots and care homes.

We have created a couple of 'mobile units' especially for the use at schools. We want to inspire people, although we obviously have to remain within the limitations of our resources," Talsma said. The mobile units are already placed at various points in the areas of the library designated for book lending and display.

## Social Media

There is an electronic window showing what the art library has in stock. The visitors can search the database by means of using different digital categories. A useful customer's tool in case a 'statue' is demanded, or a desire exists for a 'dominating color' of a painting which can be blended perfectly into a certain domestic environment. The images are all, unlike those on the internet, available in high resolution. "Considering the library hall is a very bright place, we had quite a challenge to face to get the resolution of those images in order. The screen's output must be very visible. It's all a matter of trial and error. This holds true not only for the screen here at the art department, but also for all the screens placed throughout the whole library," according to Talsma.

In another spot, at the coffee corner, a monitor is showing messages and pictures referring to Nieuwegein, which have been submitted by people using social media. Whoever uploads a picture on, for example twitter with the tag '#Nieuwegein', will see it back on this screen. (At this time, recognition of the city's pictures can only function on the basis of (tag) text). "Digital signage is high-tech, but has a very practical dimension which has to be reckoned with," Talsma says.

Between the art library and the coffee corner one can find the Nieuwegein-plein (trans.: Nieuwegein square). A big screen on the floor marks this place, on which the map of the township is depicted. Here you can find, for example, the best cycle routes of this region. The bookcases placed there carry on their shelves only the works with a relevance to Nieuwegein and its surroundings. A collection of books committed to Nieuwegein can be found there, along with virtual dossiers on the latest local issues and the local newspapers and brochures of the other local associations.



### The Book Depository.

A little further along the way a camera is placed. Here at this spot from time to time, public events take place. These will be monitored and later –in cooperation with the local network- be broadcasted as a stream on the internet. The digital signage screens inform the resident when these events can be visited.

The two men take their visitors to a depository cubical where customers can return their borrowed books, cd's, and dvd's. A RFID-chip makes the recognition of the material possible. A connection is then established between the RFID-database and the digital signage monitor, to allow an actual report to be given to customers of the returned items inside the cubical. "It was quite a challenge to construct an automatic storage facility with very limited space for such a big amount of returned items. Initially the chips interfered with each other,

but thanks to the supplier and our persistent wish to keep this space as compact as possible, it eventually worked out.”

A special place for games has been created for the youth. This ‘media lab’ treats the youngsters to an experience which they certainly cannot have at home. “When the schools are closed, this place is crowded,” Bogerd adds with a smile on his face.

## Challenges

*The system De Tweede Verdieping uses for returned items requires it to be both precise and adequate. RFID-specialist Eastbridge, the company which developed the system, delivers total solutions for – inter alia- public libraries. Robert Barentsen, sales director at Eastbridge explains: “Our system can be constructed in a Lego-like manner, enabling us to create brick-by-brick different (spatial) structures which still comply with the same systematic purpose. In this case however, we had to go one step further beyond our usual proceedings.*



*The conditions De Tweede Verdieping had described for their return system were so strict and limited, that we had to relinquish our Lego-type concept. The conditions stated that the system had to be ergonomic and user friendly; fitting with the library’s surroundings, inhabiting minimal space and demanding as little extra work of the librarians as possible.” “In the end we produced a type of carrousel: four boxes with their backsides facing towards each other, with stocking capacity of 1,200 items. A customer who returns an item does not receive a voucher –which cannot be done if several customers deliver their items at the same moment- but the window informs them that it has been registered. Books stalled in the restocking process can immediately be made available for relending. Customers like that very much, because those books and cd’s are seemingly very ‘hot’ and are often very much in demand.*

*Eastbridge developed the system that takes care of the entire process of borrowing and returns. They did that with the assistance of architect Dick de Jong in casu ergonomics and spatial design. “At this moment we are still dotting the i’s and crossing the t’s. The fine tuning phase. If a customer with a depositor account delivers back too late, the system will automatically subtract the amount of the fine from his deposit. Others without a depositor account will have to settle the fine with a payment in cash. That’s why we have delivered the pay-systems as well, with an option for bank card payments.” The development of the return system was not an easy task,” Barentsen says. “To build something like that within the very compact space of only two square meters, gives the rise to the dangers of crosstalk. Crosstalk means that one box registers for the second time the items that another box has already taken in. To avoid such faults, we had to face the technical challenge of enabling the boxes to scan more precisely, and limit its focus to the space a shelf occupies. Eastbridge*

*solved this problem by placing the scanning devices at very precise points within the return system. "The library demanded that we should have the system operational within five months," Barentsen said and added, "And surely this task has been accomplished."*

### **Fascinating technique**



Nowadays new software is available which is able to register the time someone spends looking at a certain point on the screen and connecting it to the subject that seems to draw his or her interest. There would be an incentive to show this individual more information of his specific preferences. "That really is a fascinating technique," Talsma adds. "But unfortunately, this equipment is quite expensive at this time, but we will keep an eye on it until it fits our budget, and if it does, we most certainly will experiment with it." At this point the camera is only used for registering the quantity of customers entering the library. And it is possible to establish the gender and a rough estimate of the age of the clients, although this function is still limited. The latest tools are not yet advanced enough to connect this personalized data to the digital signage system in order to in some form, reroute it back to the customer.

Bogerd indicates much data is already available concerning of the visitor's preferences. "It seems a logical next step to use this information within the digital signage system, if it is capable to recognize the customer by its physiological features when he is entering the library. But that's something for the near future –the technology is still very expensive-, but we are monitoring closely the latest developments in these areas and will not hesitate to purchase it if the equipment suits our goals and budget. In that way De Tweede Verdieping exposes itself everywhere as the center of knowledge in the region of Nieuwegein. "Also we wish to make our communication system available to other local

organizations, if it helps them to deliver their message to the public. This is especially true for the library's cultural partners. We are speaking to other social organizations to get a clear picture of their wishes. With the local welfare institute we have already established a strategic alliance.

Websites and digital signage are still two worlds apart with both media having their own content management system. Basic matters such as entering texts only have to be done once. However, full-HD images cannot be placed on a website. It is just a matter of time before these systems will be integrated. We are obviously keeping track of this and will not hesitate to be a pioneer in these areas, if the technology is available.

Still the two haven't finished talking. Now they talk about something called a 'sound shower'. Sounds can only be heard by people 'underneath' the shower, and thus not by those who are not. And what about a digital tracking system, helping customers to find their way to all the available information of the library. Information means both texts and pictures.



Google's 'Project Glass' has drawn the attention of the two men as well. This project develops glasses made for the projection of augmented reality and possibly even more this. And surely the Microsoft surface tables did not slip their watchful eyes. It's been tried and for now condemned. It goes without saying that the public library of Nieuwegein will not shun away from any electronic or digital gadgets eligible to be important levers in the strategy of becoming a highly-valued local center for knowledge.

During the 'kinderboekenweek' (a national week devoted to children's books), the library organizes a game of questions and answers using augmented reality. The answers are recorded in real time to our media-lab whereupon the winner is declared. An exciting new way to attract and connect to kids.