

Image Access: Bookeye® 4 V2 Professional in Lingen Archive

Pilot Project for Visually Impaired



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Visually impaired persons face increasingly demanding tasks in the modern workplace. While the need for intelligent integration increases, this development leads to surprising new solutions, which initially might have seemed unlikely. A perfect example of this kind of ingenuity is the development of a highly customized book scanner special model Bookeye® 4 V2 Professional, made by Image Access for the Municipal Archives of Lingen (Ems), for operation by a visually impaired employee to digitize the archive's collected materials.

Monday morning under the roof of a modern, friendly brick house in the center of Lingen, the city's archive is alive with activity. One of the four employees is Martin Wilming. He opens the heavy book containing the contents of the 1972 „Lingener Daily

Mail“ to a marked page and places it on the Bookeye® book cradle. With his right hand, he smooths the sides, with the left he scans without ever having to look at the customized touchscreen of the book scanner. Light on, scan is executed. A crisp copy

appears on the monitor. As if by magic, Wilming's thumb disappears on the scanned image from where he held the book at its margin. Wilming does not look back. He flips the page. Light on, scan is executed. He repeats the process several times. The newspaper issue is digitized with the images in the correct page order. The employee closes the book and heaves it off the scanner, changes the book cradle position to flat mode in a straight edition and continues his normal work where he left off on Friday: digitization of extensive historical photo collection in the Lingen archive. Its approximately 15,000 archival records will be available in the State of Lower Saxony's archive in the Internet – taking into consideration intellectual property rights, of course.

An everyday activity in a German archive? Not really. Because the unique thing to note are the three yellow dots on Wilming's collar: this person, responsible for preparing the city's archives for the eyes of the world, himself sees nearly nothing. Wilming suffers from retinitis pigmentosa, a progressive degeneration of the retina. In the right eye, he is blind. With the left eye, his eyesight is getting weaker – he has tunnel vision. Up to now, the progression cannot be stopped and medically, the genetic disorder is considered incurable. According to estimates of the Pro Retina organization, every 80th person carries a corresponding gene in them, which can trigger the defect. It is one of the most common causes of vision loss in middle age. In Germany alone, there are up to 40,000 patients affected.

In cooperation with the Bookeye® manufacturer Image Access from Wuppertal and the City of Lingen, this pilot project is a breakthrough for integrating the visually impaired in a previously impossible occupational market. At the core of the project is the customized redesign of the seven inch touchscreen of a commercial Bookeye® 4 V2 Professional, which is limited to the relevant workflow

Martin Wilming and Dr. Mirko Crabus at the Bookeye® 4 Professional book scanner with v-shaped cradle.



functions for the Lingen Archive. Five small plastic lens heads, serving as Braille script, are used to improve haptic recognition and clear orientation on the touchscreen. „Now there is nearly no chance for error“, Wilming said. He has worked for the Lingen Archive for many years and „is really happy“ to have this new occupational direction. „Otherwise I would have had no other alternative than early retirement.“

The fact that a smaller archive is taking a leading role here is seen with great pride by Dr. Mirko Crabus, Lingen Archive's new director, even though he inherited the project from his predecessor: „A better start it is hard to imagine. Since the beginning in March 2014, the system has run without any significant problems. Even if occasionally a template is placed haphazardly on the scanning bed, Bookeye® 4 automatically corrects the alignment. To further enhance the functionality, we are considering an angled guide for easier positioning of the originals. Since its installation, the archive has already come up with a self-built wooden frame construction, with which the Bookeye® scanning bed can be slightly enlarged. „For us, this project is a valuable learning process,“ says Rüdiger Klepsch, COO of Image Access. The magic and charm of this project is high tech combined with craftsmanship and the combination of the pioneering spirit with historic roots.

The archive of the city of Lingen maintains historical material from the Middle Ages to modern times in approximately 800 meters of shelving. The archive constantly adds new files, documents, records and plans of the city administration, in addition to collecting historically significant sources from estates, corporate and club records, newspapers, photographs and various publications. The reading room of the City Archive is available to all citizens for private and scientific research, free of charge. The specialized Bookeye®, although not approved for use by visitors, is often admired as visi-

tors see Wilming busily at work on the device. The local archives Lingen succeed in doing what was until recently considered unthinkable: scanning with the heart and brain can cope with the vulnerability of the eye. (www.imageaccess.de)

The customized touchscreen with plastic lens heads improve haptic recognition.



Interview with Dr. Mirko Crabus, Lingen City Archives

„An optical final inspection is not required“

BIT What are the main tasks for the scan workstation in your archive?

Dr. Mirko Crabus Currently, we are working on digitization of the archive's complete photo portfolio. The scanner is particularly useful for digitizing large format photos and photo albums. Depending on requirements, other large format documents are scanned, in particular newspapers, maps, architectural plans and documents.

BIT Was there already a similar workstation in your city archives?

Dr. Crabus The digitization workstation is new. In particular, the archive's increased need to invest in digitization processes together with Mr. Wilming's requirements for a suitable solution for the visually impaired within the city administration both fully justified the investment in the new workstation.

BIT Has the specially adapted touchscreen proven itself in practice?

Dr. Crabus Yes, mainly because of its capabilities for user-specific configuration of scanner functions. The placement of settings for format, resolution, etc. on the touchscreen facilitate ease of use in the scanning and storage of

the source documents. For better haptic orientation, lens heads were individually placed.

BIT Does the system manage scan tasks automatically with good results?

Dr. Crabus Currently, operators carry out a final visual check at regular intervals. It has been noted, however, that this is not really required.

BIT What is the ROI (Return on Investment) for the City of Lingen? Were you able to obtain special funding for this project?

Dr. Crabus The project was strongly supported by the Disability Program Office of Osnabrück. The low maintenance and operation costs for the project were also seen as highly beneficial.

BIT Have other archives and libraries that are interested in introducing similar jobs already contacted you?

Dr. Crabus It is still a bit too early for that. However, the Lingen City Archives is very interested in communicating the possibilities and experience made with this special workstation within the archival community.



Dr. Mirko Crabus, Director of the Lingen City Archives/Ems: „The placement of settings for format, resolution, etc. on the touchscreen facilitate ease of use in the scanning and storage of the source documents.“

»» *Brilliant, Fast and Efficient Scans.* ««

Peter März Librarian

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