

# Media Access: Automatic Generation of Daily Newspapers in Audio Daisy Format

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## ABSTRACT

Newspapers offer a very personal news experience, not only by providing daily news information (for which many other sources do exist nowadays), but especially by providing longer articles with background information and, quite often, different opinions. The Flemish organisation Kamelego aims to bring the same experience to persons with a reading impairment such as low vision, blindness, and dyslexia or due to severe motor impairments.

Our talking newspapers are produced in the well-known and internationally recognized DAISY format as combined text-audio files ([www.daisy.org](http://www.daisy.org)).

In this contribution we will describe how Kamelego and its supporting technical partners Gopress, Pyxima and Sensotec manage to bring these daily newspapers to the readers already in the early morning of the publication day.

## 1. A BIT OF HISTORY

Around 1990, two students at KU Leuven, Benoit Lannoo and Hervé Eeckman (blind) brought forward the idea that persons with a visual impairment, and especially higher education and university students actually were lacking the background information about news items that other persons and fellow students can find in daily newspapers. Newspaper articles go much deeper into detail than news items on radio, TV or the internet, often also deeper than the internet versions of the same newspapers.

In 1990 the organisation “Braillekrant” (i.e. “Braille Newspaper”) was created as a not-for-profit group focusing on motivating newspaper publishers towards producing a Braille edition of their newspaper’s content. It became immediately clear that, due to the high volume of Braille on paper, this would only make sense for a daily small excerpt of the newspaper.

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After two years of negotiation, lobbying and technical study work together with one of the largest newspaper publishers in Belgium (then called VUM, nowadays MEDIAHUIS), we had to give up the idea of being only a consultancy organization and Braillekrant now became a production center. The first Braille Newspaper on paper was produced on Dec. 15, 1992. It contained the ten most important articles of the well-known Flemish quality newspaper “De Standaard” and was shortly afterwards followed by a similar edition of the more popular newspaper “Het Nieuwsblad”.

Because of the intense collaboration with newspaper publisher VUM we could also make use of their high speed newspaper mailing system guaranteeing that the printed (and the Braille) copies were delivered to the readers all over Belgium in the early morning of the publication day.

In 1997 we started distributing a text-only version of a newspaper’s full version, named “DiGiKrant”. Originally the distribution was done on diskette, later on via email. DiGiKrant readers use their own computer equipment to turn the text files into:

- large print on screen (persons with low vision) or
- audio (through local speech synthesis) or
- Braille (temporary Braille displays or even, for excerpts, on paper).

Reading the DiGiKrant requires a certain amount of computer literacy which was (and often still is) problematic within the intended user groups [1].

## 2. THE AUDIO NEWSPAPER

In June 2008, Kamelego (the new name of the “Braillekrant” organisation, focusing nowadays more on various electronic distribution formats – hence the reference to a chameleon, cf. figure 1) started to produce the two newspapers (De Standaard & Het Nieuwsblad) in DAISY audio format on a daily basis.

The production was (and partially still is nowadays) based on writing the table of content files (html, smil) and audio files (one mp3 per article) on a data CD. Adherence to Daisy 2.2 is guaranteed. [3]

These CDs have to be ready around midnight in order to have them, thanks to support by the Mediahuis publisher, sent to the readers by their special postal

service that guarantees an early morning distribution of all newspapers to the subscribers.

Following the same logic as all current IT applications cloud distribution was to be the next step. Since 2011, our Daisy newspapers can also be downloaded from a specially developed internet platform: [www.anderslezen.be](http://www.anderslezen.be).

This platform is to be seen as the unique Flemish service point from which newspapers, magazines and books in Daisy format can be downloaded by the users. Four major Flemish organisations are collaborating, together with technology partner Pyxima, in this project.

Access to the information on [anderslezen.be](http://anderslezen.be) is possible via a computer (both download and streaming modes are supported), a smartphone/tablet using the *anderslezen app* or using any of the recently developed internet enabled DAISY players.

Our server [anderslezen.be](http://anderslezen.be) is using Online Daisy technology ([www.online-daisy.com](http://www.online-daisy.com)) which fully supports the Daisy online delivery protocol for distributing content to all kinds of reading devices.

Finally, as of early 2014, thanks to support of the GoPress group (formerly called Mediargus), our newspaper reading offer could be extended to **all** seven Flemish daily newspapers.

channels (+ an extra channel for extra structuring information, needed for a couple of newspapers) are in use:

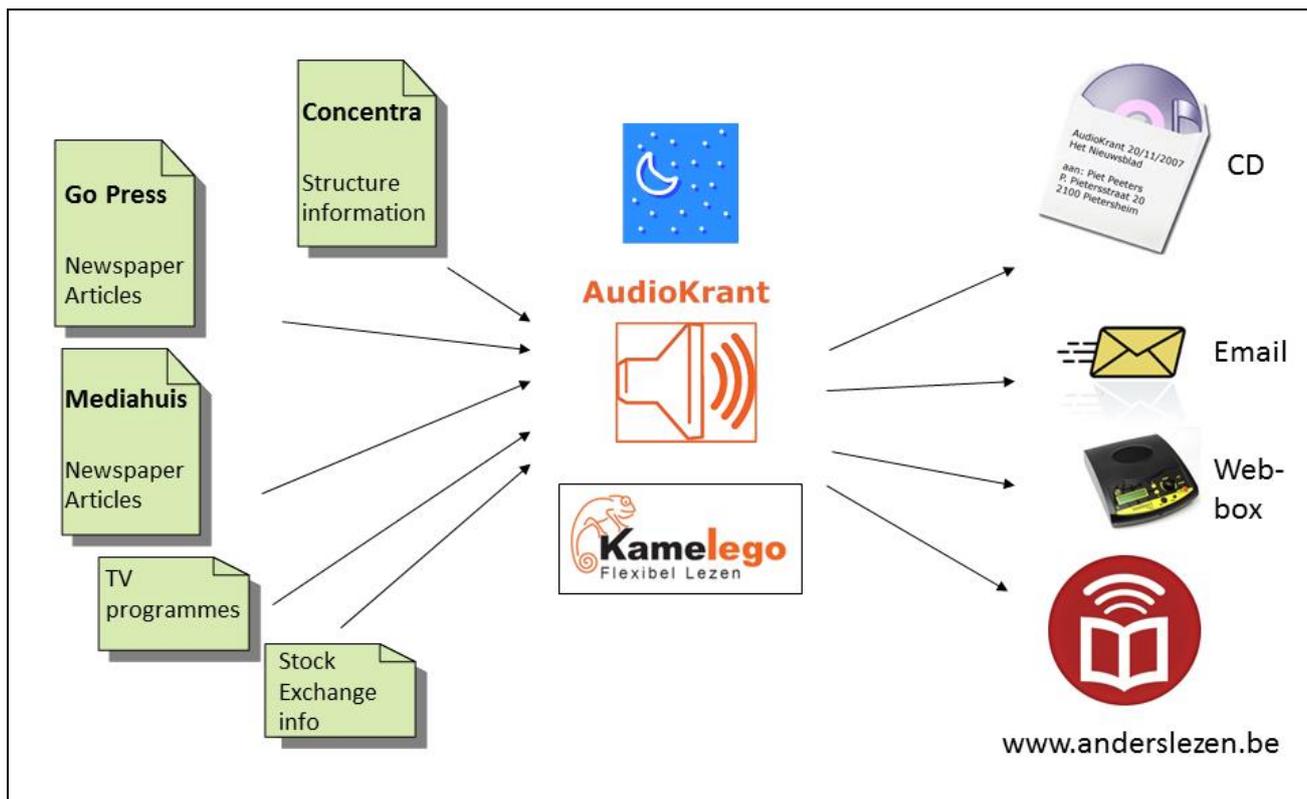
a) **Direct text downloading** from the article databases of publisher Mediahuis.

This is possible for the newspapers “De Standaard” and “Het Nieuwsblad”. Their content is available in a so-called “Methode” structure, around 11:30 PM. A special computer programme (called the “Wizard”) extracts the articles from the publisher’s database, converts them into xml and html, produces the audio files (using high speed professional Nuance software) and text files, and links them via SMIL files. The audio version of the full newspapers is then:

- a. burnt onto CD-ROMs that are distributed via surface mail to the subscribers
- b. uploaded to the document server [www.anderslezen.be](http://www.anderslezen.be).
- c. uploaded to the Solutions Radio Cy server for users wishing to listen on their Webbox device.

### 3. WHERE DO WE GET THE INFORMATION FROM?

All of our content comes from their original publishers. Kamelego doesn’t have journalists. Two clearly distinct



**Figure 1.** Production flow chart for the seven Flemish audio newspapers. CD-ROM production only makes sense for the newspapers “De Standaard” and “Het Nieuwsblad”.

b) **Downloading of the articles** with GoPress as intermediary

Gopress, a news clipping service of Mediargus Cy, was created by the Association of Belgian newspaper publishers to permit newspaper content searches for commercial users (i.e. the modern version of the old “press cuttings” procedure). Gopress therefore collects in the early morning the content of all collaborating newspapers and makes seven of them, after some pre-processing, available to Kamelego around 7 AM. Our talking newspaper production software (“Wizard”) creates the Daisy audio versions of these newspapers and uploads them to:

- www.anderslezen.be and to
- Solutions Radio (webbox)

Due to the late availability of the content, no CD-ROMs for five out of seven newspapers can be produced at this stage anymore.

#### 4. HOW IS IT DONE?

In order to produce the audio Daisy versions, Kamelego has joined forces with the companies Pyxima and Sensotec to create a unique piece of software, called the production wizard.

**Just before midnight** the production wizard collects articles of “De Standaard & Het Nieuwsblad” from the Mediahuis database and turns them into a complete Daisy book for each newspaper. The required number of CD’s is burnt using parallel CD writers (we have four “towers” of them). Shortly after the CD mailing, Daisy books are uploaded to the anderslezen.be and webbox servers.

In the **early morning**, the wizard gets the five other newspapers from the GoPress ftp site. They are converted into Daisy newspapers and also uploaded to the anderslezen and webbox servers. Due to the late availability of the information, no CD-version of these five newspapers is produced at this stage.

#### 5. CONCLUSIONS AND FURTHER PLANS

All of our daily newspapers (7) can be accessed through www.anderslezen.be. Readers can login to this server to download their daily newspaper. An email message, containing the link to their current newspaper, is sent to the subscribers in order to simplify the procedure.

Automatic newspaper downloading in the morning to devices handling the Daisy online delivery protocol (e.g. Linio pocket) guarantees a hassle free operation even for readers with almost no ICT experience. A similar procedure is in place for webbox users.

Easy access is the mean reason for Daisy document reading with tablet computers and smartphones. Pyxima and Sensotec have produced early 2014 the Android and iOS versions of a Daisy online reader, called the anderslezen *app* (anderslezen meaning “reading

differently”). This *app* can be used to access the document server at www.anderslezen.be on which currently several types of documents are made available:

- newspapers (coming from our Kamelego Foundation)
- electronic magazines (produced by the Transkript organization); Transkript is approached by several publishers to have their publications turned into audio and uploaded to the www.anderslezen.be server
- various publications (on special order, e.g. official documents of the Flemish government)
- audiobooks from the central specialized library Luisterpuntbibliotheek. To permit the lending of books and “returning” them after reading, the anderslezen *app* was modified. This service is operational since November 2014.

The anderslezen *app* is programmed to access Daisy documents on the anderslezen.be server only (at least for the time being). Similar *apps*, also developed by Pyxima, are in use in Norway and Sweden. Many more Daisy reading apps do exist on the market but they often lack the easy connection facility to a server.



**Figure 2.** Anderslezen iOS app: starting page of the daily newspaper “De Standaard” of Sept. 8, 2014. The text that is spoken out is simultaneously highlighted to support readers with dyslexia.

The *app* can be used by persons with low vision as it shows the text of the newspaper articles in an adaptable font size on the screen. It is also of high value for persons with dyslexia as it is using text highlighting: the sentence that is spoken aloud is simultaneously shown with a yellow fluo background (see fig. 2). The app was launched officially on April 25, 2014 [3].

We do anticipate that especially younger readers will opt for this modern way of information access through smartphones and tablets. However, as a large percentage of the newspaper and magazine readers belongs to the third age group, uptake of smartphone and tablet reading remains slow and we continuously are looking to promote this new way of reading (in 2015 possibly through TV and radio spots). We also have secured extra funding for organizing hands-on teaching sessions.

Another channel that became quite popular recently is the webbox. The webbox was already briefly mentioned above. It is basically a hardware access device, produced by Solutions Radio, for listening to a series of private internet radio channels (streaming). Newspapers (or any other audio documents) however cannot be downloaded for off line use. On the other hand, many users like its simple interface.

#### Acknowledgments

The activities of the Kamelego foundation are partially supported by the Flemish government through funding from its Cultural Dept. and the Luisterpuntbibliotheek (the Central Library that provides accessible documents to reading impaired persons).

Earlier versions of the document conversion software for the daily newspapers were developed in collaboration with the ESAT Dept. of KU Leuven (University of Leuven – Belgium).

Development of the tablet reading software Anderslezen by Pyxima & Sensotec was made possible thanks to financial sponsoring from the United Fund for Belgium.

Webbox hardware & service is provided by the Integra company (Leuven, Belgium).

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