

The Norwegian Digital Radio Archive - 8 years later, what happened?

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Large-scale audio digitization



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☒ Film ☒ Musikk
☒ Radio ☒ Lyddokument
☒ Bilder ☒ Håndskrifter

Oppdag spennende materiale fra Nasjonalbibliotekets hyller. Vi tar i bruk Internettets muligheter og byr på multimediale opplevelser, uventet lærdom og underholdende trivialiteter. Nettutstillingene passer best for de med bredbånd

Innganger der biblioteker, utgivere og faglig interesserte finner utfyllende opplysninger om Nasjonalbibliotekets tilbud, tjenester og spesialkompetanse.

Skriv et brev til fremtiden
100-årsmarkeringen av Norges selvsten...
Les mer ...

Kunnskap og kultur i Kontrastenes hus
Norges nye multimediale kunnskaps- og...
Les mer ...

Søketips **Gå dit...** **Gå dit...** **Flere nyheter...**

Månedens gjenstand::
Sabotørspillet fra 1946
Sabotørspillet utkom høsten 1946. Det ble lansert som en spennende og morsom julegave, og kanskje brukte mange norske barn romjulsdagene dette året på å sette seg inn i brettspillets regler og roller.
Les mer ...

Kalender ::
lørdag 19 nov 2005
Mens vi venter på julen!
Les mer ...

torsdag 24 nov 2005
Liker De Brahms?
Les mer ...

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telefon: 810 013 00 - send e-post
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Besøksadressen:
Oslo - Drammensveien 42
Mo i Rana - Finsetveien 2

Background

- The partner institutions



The Corp

- Pub

<http://net>

NRK P1

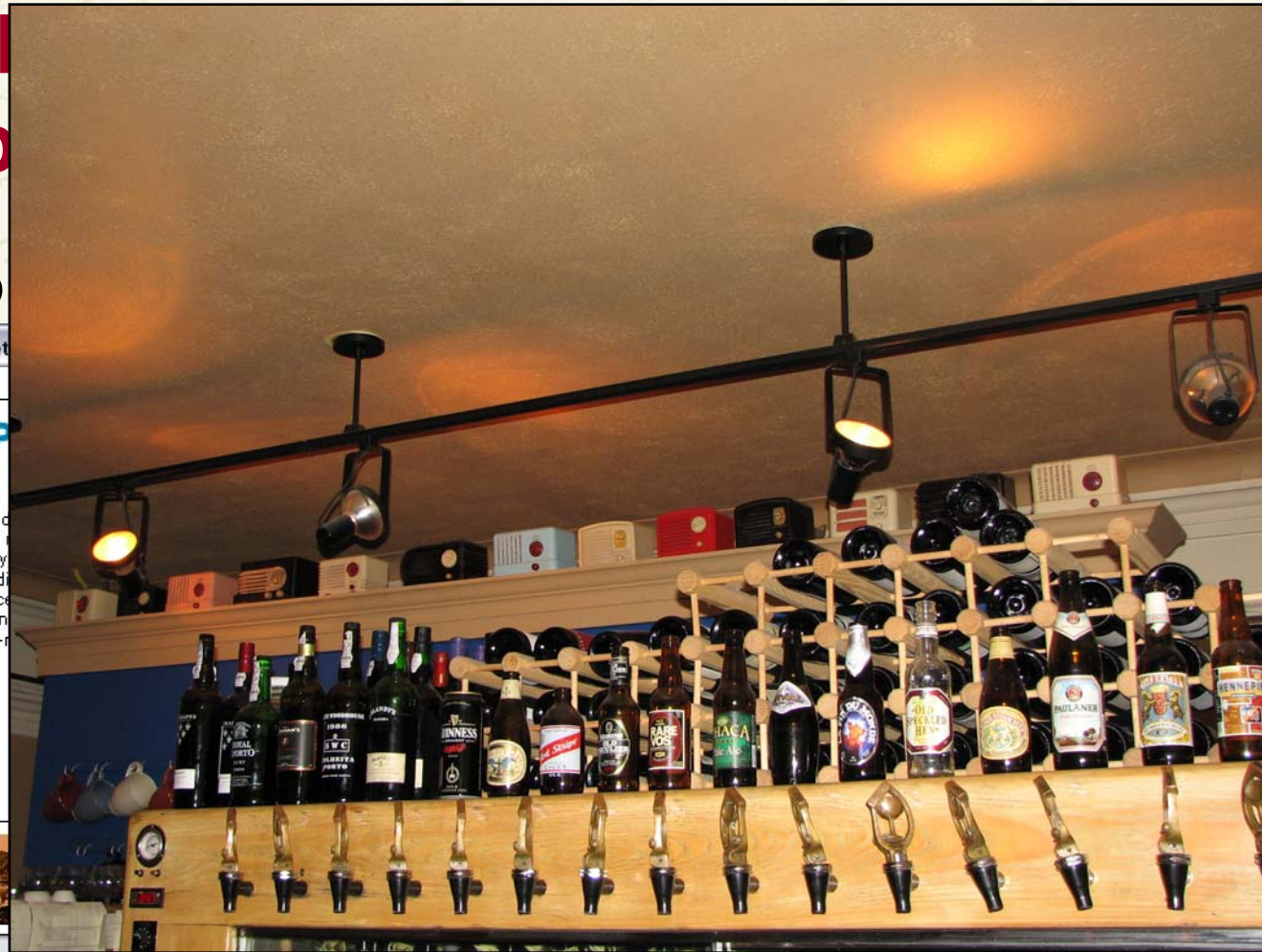
NRK P1

NRK P1 - god
for over 1,4
hver dag. Ny
distriktssend
sport, service
underholdnin
voksen pop-

NRK P2

SÅNN
ER LIVET

Fullført





IPRES@Cornell October 2006

Background cont.

- The project



Shared interest

They wanted

- re-use of archival recordings in their production
- To reduce the need for physical storage space
- To preserve the audio recordings, tapes were deteriorating
- To prepare for the digital domain
- To save money

We

- Are the Norwegian Memory
- Want to give long-term access to the recordings for a wide variety of users

Both

- Public institutions

The original archive

- Estimated to be approx 50.000 hrs recordings on 1/4 inch analog tape
- Extensive daily
- Good, but not w level
- 5-10 archivists



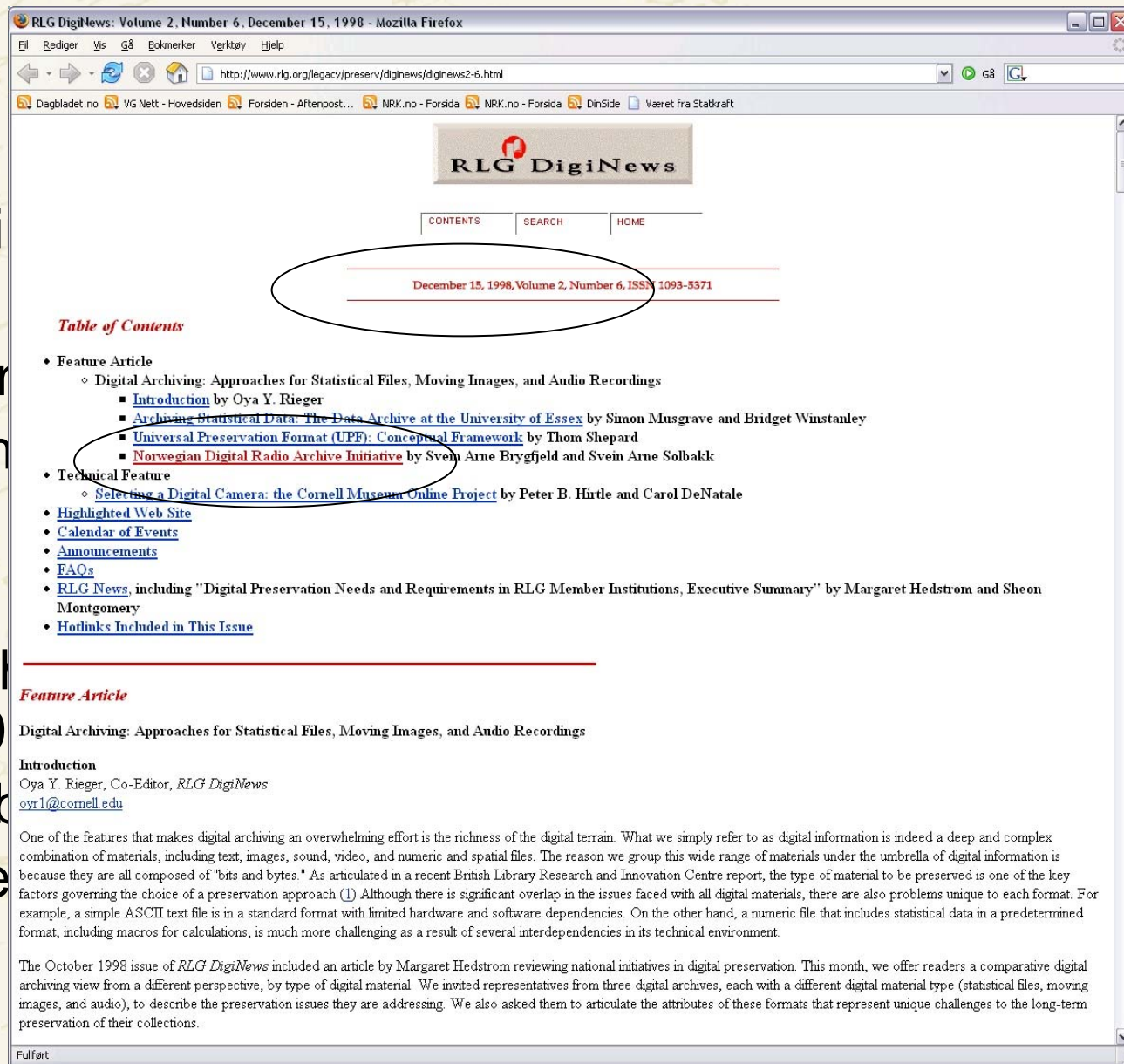
1998

Starting point

- A vision
- Open mirror
- A pilot implementation

Goals

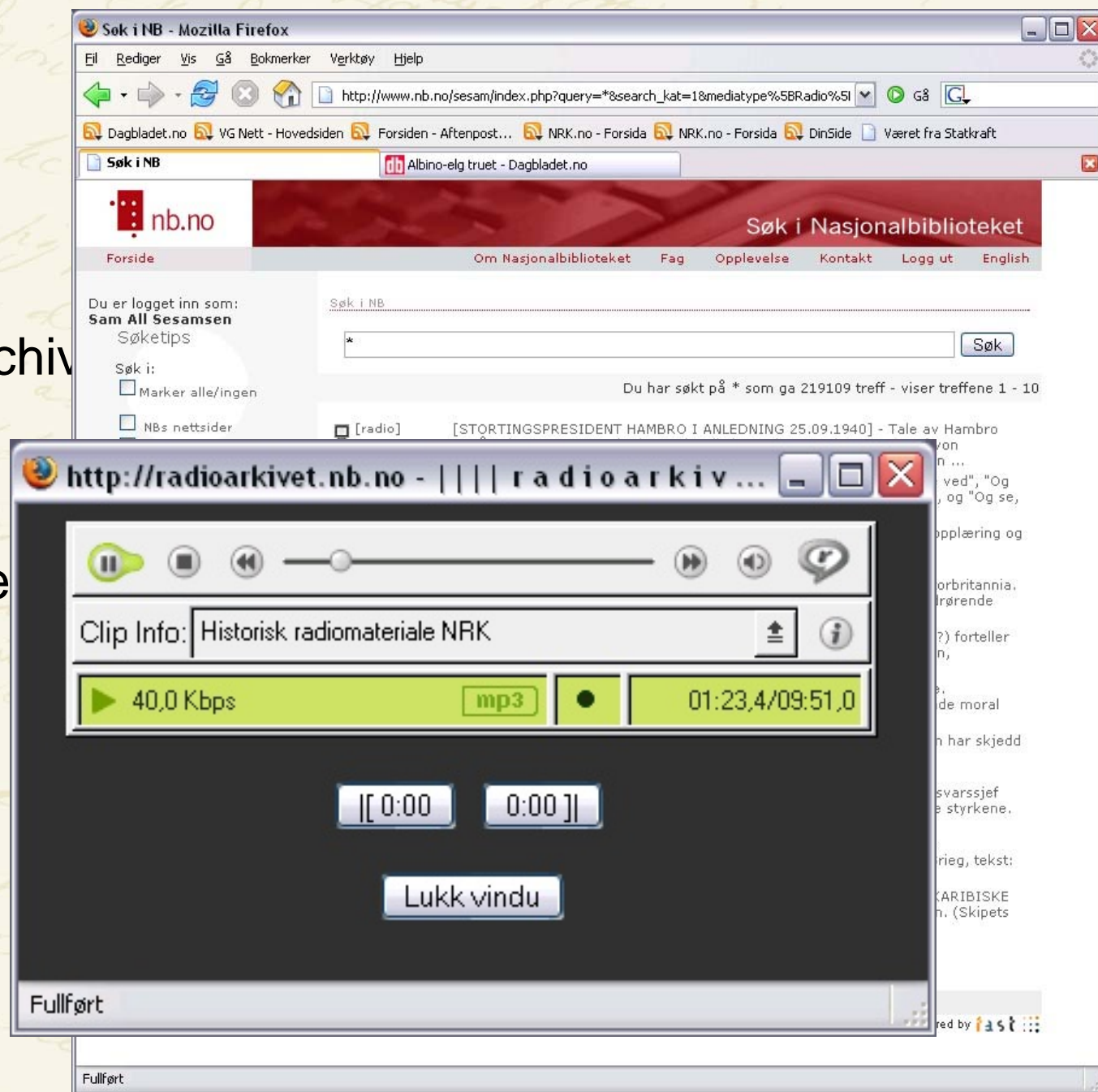
- Digitize the collections (>50.000 items)
- Internet-based
- Permanent



2006

A running archive
Trust
Cooperation
Internet base

Surprises!



Basic principles

- Digitization is supposed to be done once only
 - High quality (48 KHz, 16-bit stereo, no compression)
 - Standard (Broadcast Wave Format)
 - Original tapes preserved by the library
- Off-the-shelf technology
 - As little in-house development as possible
 - Open-source where applicable
 - General technology
- Everything except selection/priorities done by the library

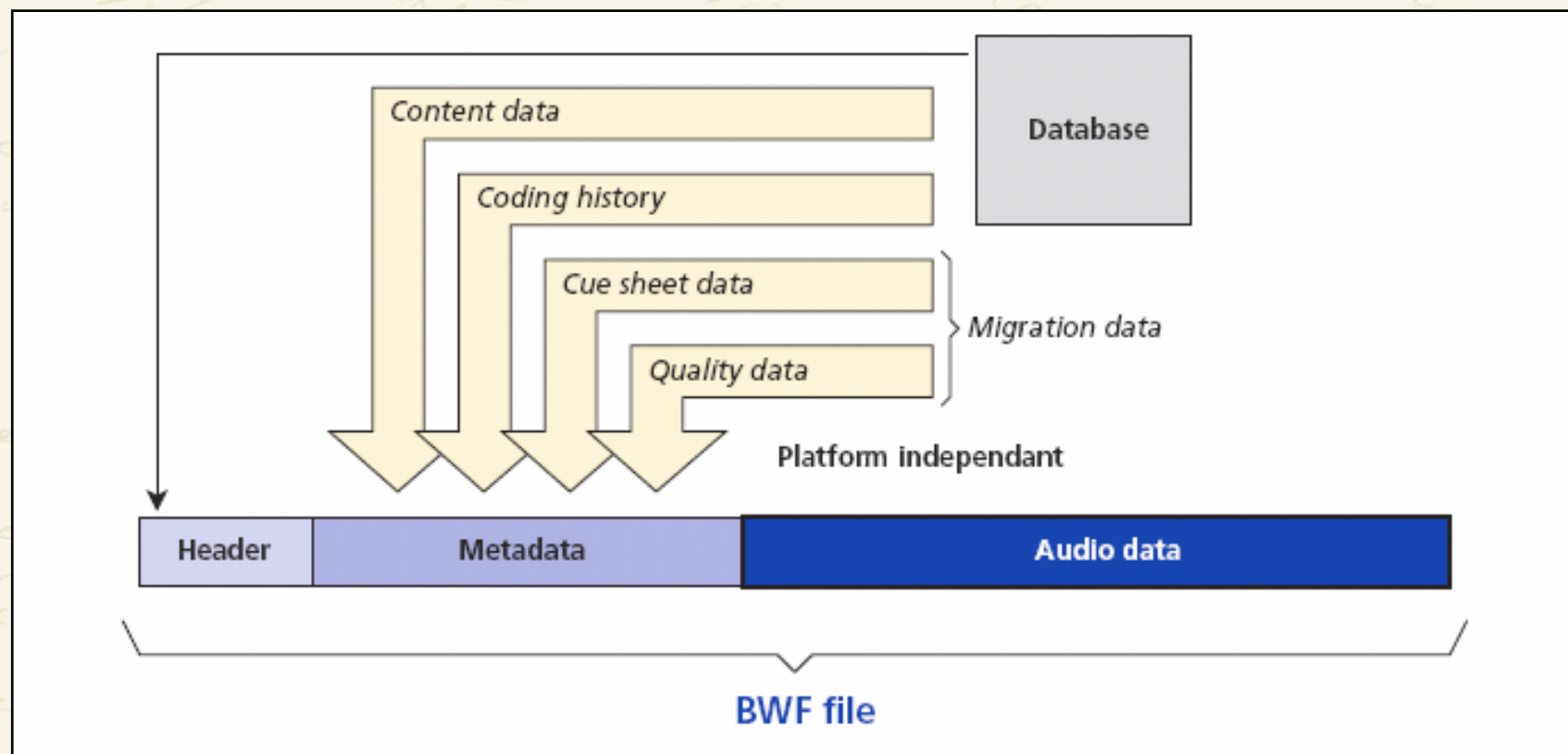
Technology (1998, remember ☺)

- As many ¼ inch tape players as we could get
- Three Unix work stations tuned to handle three (four) audio streams continuously, three tape players each
- Professional external high-quality A/D converters
- 1 TB RAID disk
- Some in-house developed software
- Repository solution made in-house
- Search based on web/oracle
- Delivery based on Real streaming and ftp

Technology (now)

- Digitization infrastructure unchanged
- Repository solution developed further for general use
- General infrastructure improved
- 1 TB RAID disk is now 500 TB
- Consolidation on Linux operating system
- Search based on general search engine

Audio formats



Access and use, Public and Research

- Limited access
 - Copyrights unclear in some cases
 - Limited amount open to the public
 - Everything open for research
 - Everything open in our buildings
- Research
 - Role Based Access Control
 - Researchers can log in using username/password from their institution
 - Daily use, different perspectives

Effects

- There was more
 - The tape archive contains more than estimated
 - The tape archive grew during the first years
- Trust
 - High level of trust between the partners
 - Door opener
- Good services
 - Popular service for the professionals, significant increase in use of archival material
 - Some parts available for all on the Internet
 - The complete archive available within the library and on the Internet or researchers

Effects cont.: Surprising

- Much of the archive was lost because of extensive re-use of magnetic tape
 - Employees rescued recordings by hiding tapes, building hidden/secret archives (drawers, home...)
 - (Many) these show up now
 - Significant amount
 - Find-a-tape campaign
- New archive-based radio channel
 - Active role for the library as well defining relevant content

Today: current audio input

- Digitization: 10.000 hrs/year
 - Unknown recordings still show up
 - Archive is larger than estimated
- Migration from digital tape: 60.000 hrs/year
 - QIC, tape robot/library
- Automated legal deposit: 35.000 hrs/year
 - 4 radio channels
 - Fully automated, includes metadata provided by producer

Needed now

- Audio pattern recognition
 - Support search for certain sounds and voices
- Audio to text conversion
 - Support content search and navigation

Lessons learned

- Massive use of off-the-shelf components works
- Pay attention to those steps done only once
 - Reading original, A/D-conversion
- Tuning of workflow, processing and logistics takes time
- Good practice establishes trust and trust is needed
- Long term use and re-use is a better argument than preservation
- We have learned to walk, *and now we start running:*

We will digitize our collection in 15 yrs

Digital now	Total	Type
210 000	4 700 000	newspapers
205 000	1 300 000	still images
100	450 000	books
570	250 000	hrs moving images
1 000	4 000 000	manuscripts
45	180 000	maps
4 000	80 000	hrs music
7 000	60 000	posters
80 000	1 000 000	hrs radio
100	850 000	journals
1 000	1 900 000	small prints

Thank you for listening

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....information at your fingertips - always