Preservation plan

2025-2028

April, 2025

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Contents

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1.1 Introduction

This document details the high-level principles as documented in the digital preservation policy. The preservation plan elaborates on the strategic guidelines described there. It maintains the order and subject headings of the preservation policy to ease comparison between the tactical plan and the strategic guidelines. The plan consists of a number of case studies that represent the areas that we intend to focus on in the coming years. The case studies are described as basic questions that users of our collections might formulate and solutions taken from the standards in preservation. In each case a relevant preservation topic is highlighted including concrete actions we intend to take to further implementation of that topic.

Because of its tactical nature, the strategies in this preservation plan are described in a more practical sense compared to the strategic guidelines in the preservation policy. However, it is meant to be generic enough to function as a strategy for multiple collections. Each case is illustrated by a practical example to guide the reader in seeing the connection between preservation solutions and real-world challenges. In this way it will become clear how a proposed solution improves long-term preservation of the collections and what aspect of long-term accessibility is benefited.

Not all topics from the preservation plan are described but only these topics that need more priority in the coming years. This does not mean that the other topics are not relevant but rather that these have been implemented successfully. An example would be bit-integrity. This is implemented in current systems in the form of checksum verification. This solution has become sufficiently well-known as a verification mechanism during migrations and therefore is not described any further in this plan. Another example is IP-integrity. Verifying completeness of the whole package has become standard practice for all ingest flows within the value chain.
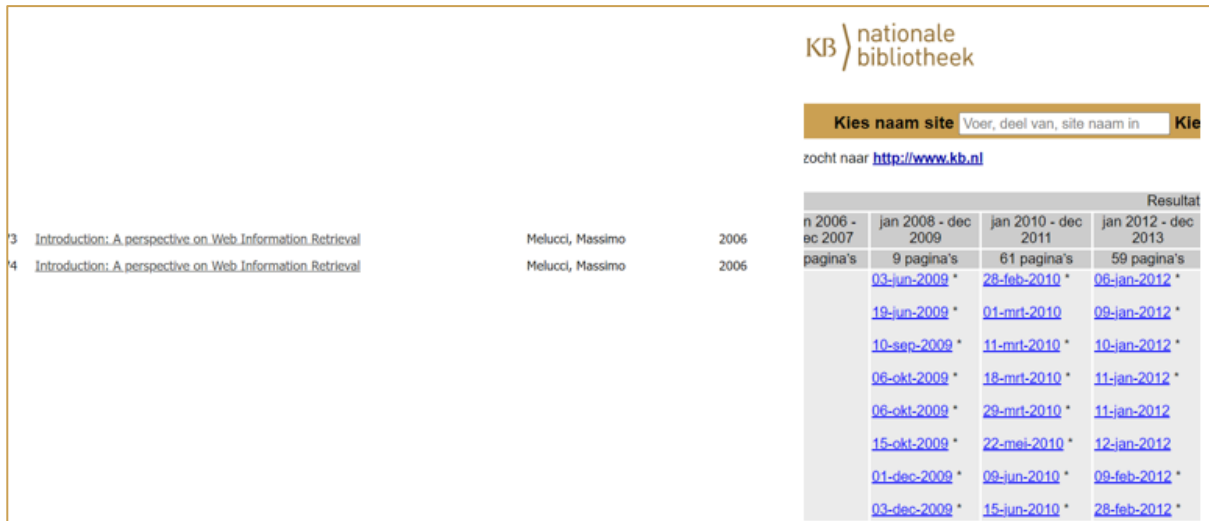
To summarize, below are the action points for the coming three years.

Actionpoints	Priority	Planning
Implementing version policy	1	2025
Better distinction between types of failure cases	1	Iteratively for each collection
Accelerating migration / new flows	1	2025

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Putting 'learning by doing' into practice	1	2025
Implementing risk mitigation	1	2025
Detecting corrupt files with format validation	1	Iteratively for each collection
Re-redelivery of missing/corrupt files	1	Iteratively for each collection
Participating in working groups on social themes	1	2025-2027
Contributing to expertise networks	1	2025-2027
Creating representation information and storing it sustainably	1	Iteratively for each collection
Preserving rights information in the long term	1	Iteratively for each collection
Storing evidence around collection integrity	2	Iteratively for each collection
Capturing more context information about authenticity	1	Iteratively for each collection
Experimenting with emulation	2	2026
Capturing information about required software	2	2026
Mapping restrictions on forms of reuse	2	2026
Making context information accessible to users	2	2027
Establishing procedures for preservation processes	2	2027
Implementing policy evaluation	2	2027
Drawing up preservation strategies per collection	2	2026
Capturing information about significant properties	2	2026
Policy implementation at collection level	2	Iteratively for each collection
Mapping the impact of social and technological developments in outline	3	2025-2027
Recording the impact of security measures	3	2027

2   Integrity

2.1   Version integrity

Fig. 1 Screenshot website ibl.kb.nl, KB, 2025

How many versions do we have?

An important aspect of integrity is version integrity. Users need version information to understand which version they are looking at and which other versions might be available. The picture on the left shows this information is not always available. Based on a search query in our IBL portal two seemingly identical items come up. How do we know the difference between the two?

The picture on the right also illustrates a situation related to versions: in web archiving snapshots are created of a certain webpage. This creates versions of an archived website that can be distinguished based on creation data. All snapshots are presented together in the interface and are related to each other by way of an overarching identifier. This is an example of version information where users can understand which versions are available and how they are related.

Our goal is to improve version information for other collections by implementing version policies that determine which versions are stored, how they can be recognized and distinguished and at what level a persistent identifier is used. The version policy should cover versions of files, metadata and publications. The final goal is to link these versions in the preservation system so information about versions will be accessible for the long term.

2.2 Information integrity

Fig. 2 Screenshot website dds.nl, KB, 2025

What does it mean?

Another important aspect of integrity is information integrity: all the information required to keep the object technically and semantically understandable. This information should be linked to the object so users will understand where they can get the required information to make sure they can view and understand the object.

The picture above shows a concrete example. On the left we see the opening screen of the Digital City (DDS). Without context information modern day users might not know the difference between an inhabitant of the city and a tourist. Without this knowledge they cannot make an informed decision how to navigate the website. When they would click on 'Visit the city as an inhabitant' they would get an error message because the login functionality does not work anymore. This is technical information that current users can not know when it is not supplied along with the object.

On the other hand, there is also semantic information: what was the difference between inhabitants and tourists? The Digital City used a lot of metaphors: there were houses, but also flats. These terms are not self-explanatory but we can point users to information explaining them. In this way users can view the object in an independent way without instruction by experts. To move forward with the topic of context information we want to focus on creating representation information, for instance by creating a collection description for the Digital City. This information should also be ingested in the preservation system to ensure long term preservation.

2.3　Collection integrity

Titel, Vol Iss met ontbrekende artikel(en)	Springer	Dig Magazijn	Ontbrekend (neg. getal)
Acta mathematica Hungarica Vol:111Iss:1-2	12	12	0
Acta mathematica Hungarica Vol:111Iss:3	5	2	-3
Analog integrated circuits and signal proce Vol:48Iss:2	10	0	-10
Apoptosis Vol:11Iss:3	14	14	0
Apoptosis Vol:11Iss:8	18	18	0
Artificial life and robotics Vol:10Iss:1	16	16	0
Astrophysics and space science Vol:300Iss:4	9	8	-1
Brain tumor pathology Vol:23Iss:1	10	10	0
Bulletin of experimental biology and medic Vol:140Iss:6	31	30	-1
Bulletin of experimental biology and medic Vol:141Iss:1	37	41	4

Fig. 3 Screenshot intranet plein.kb.nl, KB, 2025

How do we know we didn't lose anything?

Our e-depot is more than 20 years old so collections within the e-depot have been through a number of migrations. In some cases this has resulted in material disappearing or being left on storage outside of the current e-depot. In other cases material might never have been delivered.

The above screenshot is an example of an inventory that clearly shows some issues of serials missing. To give substance to the idea of collection integrity we want to be able to show our users information that describes clearly which material is available and which isn't, including a rationale for missing content. Since we are migrating to a new preservation system we can take advantage of the situation by investigating the completeness of the collections. This may bring to light other cases that have not been identified yet.

We can show improvement regarding this topic when more information is available on completeness of the collections that are being migrated to the preservation system. This should include information on any reasons that might be the cause of the missing items. Another example of collection integrity would be log-files that provide evidence for the complete migration of items from one storage environment to another.

3 Authenticity

3.1 Source

Fig. 4 Screenshot internal storage environment, KB, 2025

What did it used to look like before?

Standards in digital preservation assume that digital material can not be kept accessible through time in the original format. This is not yet a problem for most collections. However, some collections already clearly demonstrate the veracity of this assumption.

A practical example is our collection of optical carriers. The original cd's are currently being transferred to an iso-image or to WAV-files, including associated log files and metadata. The result can be seen in the picture above on the left. On the right can be seen what the original disk looks like. In the transfer process of the carriers an image of the sleeve is created so the original design and text will still be available to users even when the physical carrier is not available anymore. The sleeve text often contains important information on the contents of the disk and technical requirements for playing the disk. This information is not always available as metadata.

We want to give our users the opportunity to inspect the authenticity of this collection. This requires not only that the original information should be available, but also that context information is added that explains to them how the current versions of these objects have been created and how they relate to the original.

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3.2 Event history

Fig. 5 Screenshot kbresearch.nl / Internet Archive, KB, 2025

How do we know it is authentic?

Another important aspect of authenticity is the provenance of the object. From the moment an object is added to the collection actions will be performed on it. The event history in the metadata outlines what has happened to the object so users can verify for themselves that the objects they are viewing can be traced back to the original source.

For example, when object have been migrated it is important that this action is recorded and that documentation of earlier actions is migrated as well. The coming years we want to demonstrate progress in this area by documenting which events have been stored in earlier migrations of the e-depot, which events are being generated by the current migration and which events are generated by the preservation system. Furthermore, we want to determine which preservation strategies are suitable for which collections.

The picture above is an example of different preservation strategies creating different objects. On the left a reconstruction of the NL-menu website is pictured, on the right the same website based on web harvesting. The two websites differ completely regarding lay-out and the website on the right displays elements that are not correct for the time period in which it was harvested. A comparison like this between two strategies may form the basis for determining which of the two results in a more authentic archival object. By recording preservation strategies and rationale for the strategy we can provide users with insights on the authenticity of our collections.
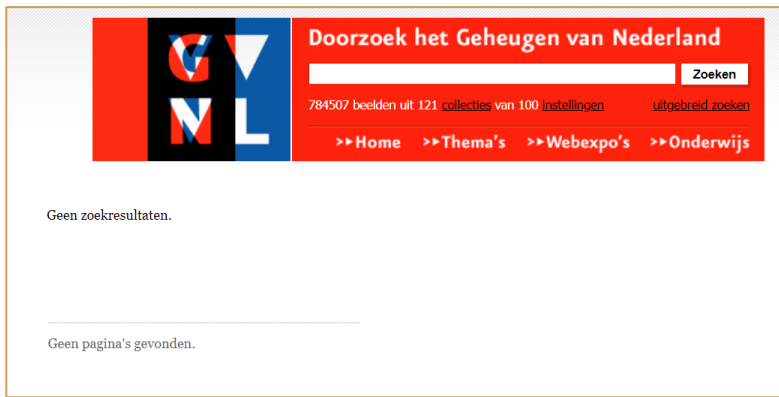
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Fig. 6 Screenshot KB webarchive / Geheugen van Nederland, KB, 2025

How was it created?

The event history of the ingest process should be stored for the long term, if we want to be able to understand the history of our objects. Also, we should be able to show that submission agreements and context information on the creation of the collection is available.

An example of why this is important can be seen in the picture above. This is a screenshot of the website 'the memory of the Netherlands' as present in our web archive. To a user unknown with the selection criteria of websites and the technical possibilities and limitations of the tools we use, it might seem ironic that of all sites it is precisely this 'memory' site that has no content. This was actually a deliberate curatorial decision so as not to duplicate all the digital objects present on this extensive website. If we are able to provide users with insight on these decisions this will help them determine whether the object is sufficiently authentic for their purposes.

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3.3 Intention

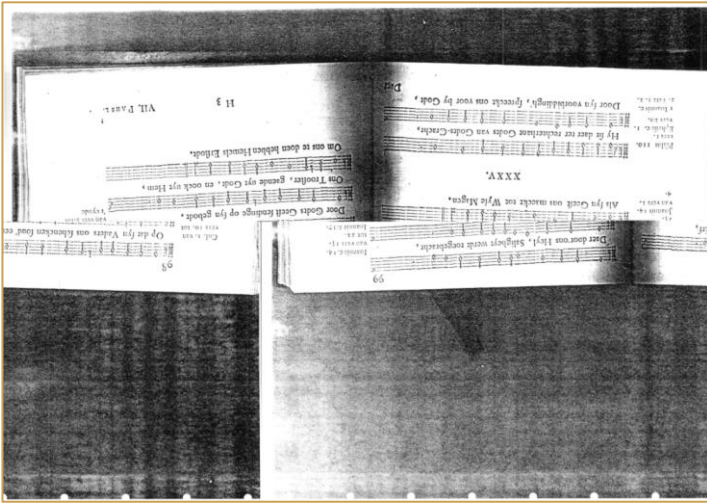Fig. 7 Screenshot brug061chri01_0028.jpg, KB, 2025

Is it supposed to be like that?

Arguably one of the most philosophical aspects of authenticity is intention: the idea that the object represents the original meaning in a correct way. We cannot guarantee to capture the original meaning of all objects in any absolute way but we can try and mitigate common errors.

The above image shows why this is relevant: whatever the original purpose of this document, this cannot be a correct rendering of its intention. This rendering error was discovered during validation of digitized images. Because the file was not valid, manual inspection was performed and this proved that the error in the file results in a wrong lay-out. The current migration of our digital collections provides us with the opportunity to identify and validate file formats. In this way we can track and repair or replace objects that do not represent the original meaning.

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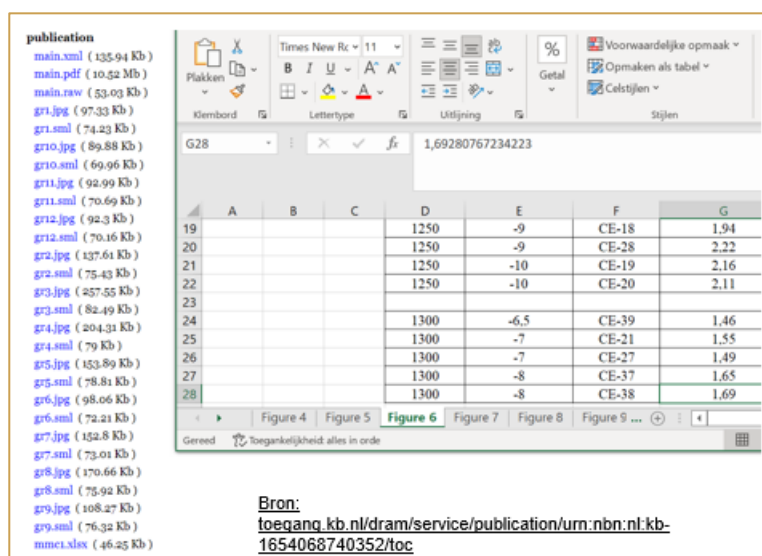
3.4 Significant Properties

Fig. 8 Screenshot files and supplemental file of urn:nbn:nl:kb-1654068740352, KB, 2025

What should be preserved for the long term?

The concept of significant properties in preservation literature is related to the idea of meaning as present in digital objects. The idea is that an object has certain characteristics that are essential to its meaning while other aspects are not crucial to understanding the contents of the object. For example, because they are associated with a certain file format.

This distinction is especially important when the object is not accessible anymore in the original file format. As a prervation strategy we might consider migrating the contents of the file to a new file format. As a result, some of the characteristics of the original file might not be available anymore in the new file format. As long as these are not significant characteristics this should not be a problem. As a simple example we might consider a plain text file: the text itself is essential so as long as this is preserved in the new format, it does not matter when the file size changes as a result of the migration. The meaning of the object is still preserved.

However, there are more complex examples where difficult choices will have to be made. In the picture an excel-file is shown. Suppose we would migrate this file to PDF, then precise values would be lost in migration. And in case values would be a result of one or more formulas and macros in the file, these would be lost as well.

Apart from that, the files that would show up in the PDF would not be accessible anymore as separate rows and columns. Does this destroy the original meaning of the file? This depends on whether precise values and functionality are considered essential for re-use. In this case, we know that scientists value this. By capturing this information and storing it we can ensure that this relevance will not be overlooked in future migrations.

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4 Sustainable accessibility

4.1 Readable

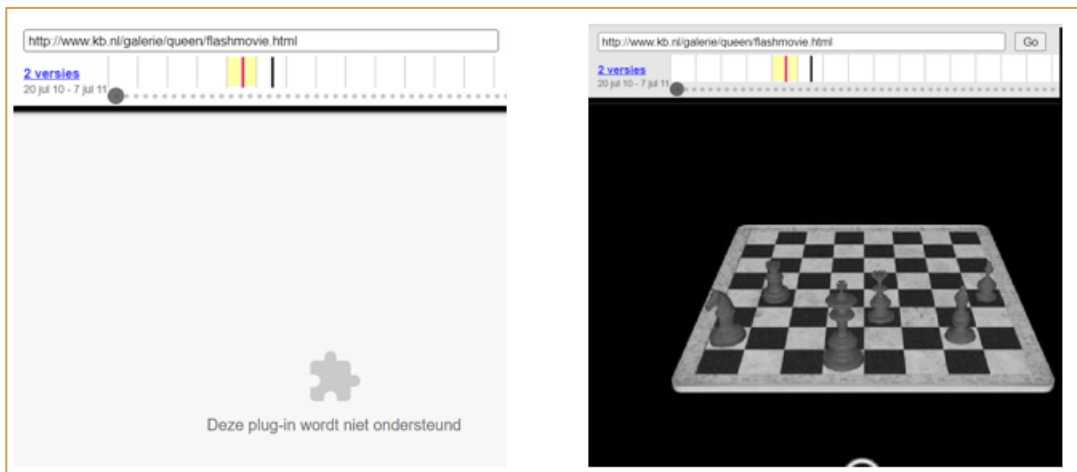Fig. 9 Screenshot KB Webarchive / kb.nl, KB, 2025

What if it doesn't work?

Our definition of long-term accessibility comprises of all criteria needed to ensure that users can understand our collections technically and semantically in an independent way. The concept of readability in preservation assumes that file formats will become obsolete over time and will require special knowledge on how to open the files or a special environment to access the files.

In the picture is an example of a flash-animation which is part of a web exposition that used to be present on the KB-website. When users are aware of which file formats are in the collection and which software is required to open these files, they are enabled to independently view the material. To be able to provide this service, it is necessary that we analyze file formats and store technical information – like information on required software – along with the objects.

Another option to keep obsolete files readable is to provide the software itself in a viewing environment, like on computers in the reading room of the library. This recently happened for flash-objects in the webarchive by means of the web-plugin Ruffle.

A goal for the coming years is to experiment with emulation to get a better understanding of how this can be used to make things accessible to users. In line with this we also want to investigate which collections could benefit from an emulation approach.

4.2 Interpretable

Titel:	The **Utrecht Psalter** : picturing the psalms of David / realisation: Koert van der Horst, Frits Ankersmit Bijbel ; O.T. Ps. (lat)
Uitgave:	**Utrecht** : **Utrecht** University Library
Jaar:	cop. 1996
Collatie:	1 cd-rom. : facs. ; 4 3/4 in + boekje ([8] p., Engels)
Annotatie:	Facsimile van **Utrecht** University Library, Ms. 32 met transcriptie van de Latijnse tekst, alsmede vertalingen in het Engels, Nederlands en Frans Systeemeisen: IBM PC of compatible; MS-DOS 3.3 (of hoger); Windows 3.11 of Windows for Workgroups 3.11; MSCDEX 2.2 (of hoger), CD-ROM speler, SVGA monitor, [8]
Samenvatting:	150 psalmen en 16 teksten van de **Utrecht Psalter**
Auteur:	Koert van der Horst (ISNI 0000 0001 0925 8866) ; Frits Ankersmit (ISNI 0000 0000 4269 2317)
Organisatie:	Universiteitsbibliotheek, **Utrecht**
Onderwerp:	handschriften; religieuze kunst; middeleeuwen
UNESCO rubriek:	Algemeen
Brinkmannummer:	B9641482
Jaar:	cop. 1996
Links:	WorldCat

Fig. 10 Screenshot KB-catalogue, KB, 2025

How should I open this?

Being able to identify the file format provides no guarantees that users also know how to render the file format. Some file formats have become obsolete and do not work with modern software anymore. This was one of the original reasons for establishing the field of digital preservation.

The solution according to preservation standards is capturing representation information. This might be a specification on how the file is technically constructed but it could also be semantical information, for instance about the meaning of certain columns in an excel file. Software itself also counts as representation information because the standards consider this the most user-friendly way of keeping objects accessible. Providing current software along with the objects in the reading room is therefore a way of providing representation information. However, another way would be to provide documentation in case users do not know how to open certain files.

An example would be the cd-rom of the Utrecht Psalter in our collections. This cd-rom only works on an old version of Windows 3.11 and is considered obsolete by the university library of Utrecht because it cannot be opened anymore on modern versions of Windows. Making this cd-rom accessible again to the public would require emulation. Furthermore, our collection also contains context information about this cd-rom, including information on its creation and limitations of the user interface. [1] This is important information to provide to our users as representation information.

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[1] See: https://www.dbnl.org/tekst/_jaa008201501_01/_jaa008201501_01_0007.php#376

We can advance this topic by documenting which formats require special software for viewing and by storing and linking semantical context information along with the objects.

4.3   Reliable

```
<status>Not well-formed</status>
<sigMatch>
<module>PDF-hul</module>
</sigMatch>
<messages>
  <message offset="0" severity="error" id="PDF-HUL-85">No document catalog dictionary</message>
  <message offset="337661" severity="error" id="PDF-HUL-36">Invalid object definition</message>
```
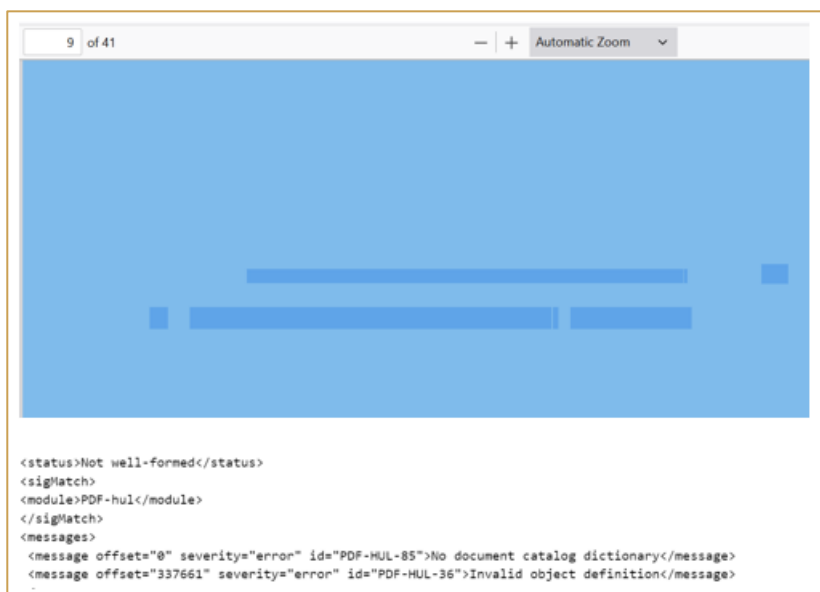
Figuur 11 Screenshot Broken PDF / JHOVE error message, KB, 2025

What if it is really broken?

In some cases providing extra information or software won't help because the content we stored is simply corrupt. According to preservation standards a digital archive should be trustworthy. This means not only that objects should maintain integrity and authenticity as mentioned above, but also that users themselves can review the evidence for this and form an opinion about it. When a user is confronted with an object that cannot be opened, this will not benefit the idea of trustworthiness. This is something we would rather avoid, but how to recognize these types of files?

Above an example can be seen of a corrupt PDF where the text is not readable anymore. Tools are available for verifying whether a file complies with the specification. This is called file format validation. Format analysis shows that this file contains errors. On inspection, these errors turned out to be so severe that the content is not at all visible anymore. Some errors might be deviations from the specification in a strict sense, without having any serious repercussions for rendering the content. The reverse is also possible where a file adheres to the standard but is still not displaying any content, for instance because of encryption. Even though the file is compliant, it may have characteristics that make it less suitable for long-term accessibility.

In the following years we want to investigate the files in our collection and get a better grip on which errors lead to display problems. This means not only verifying files are according to specification, but also monitoring other risk cases. In this way we can discover whether corrupt files are present in the collection and try and obtain correct versions of the files. This will also result in advancing the knowledge levels of certain formats, giving us more control in terms of functional preservation. This will require that we improve our understanding of file formats risks and possible tools to detect these.

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4.4 Accessible

```xml
<value>PKG-007</value>
<value>CSS-008</value>
<value>HTM-049</value>
<value>OPF-031</value>
<value>RSC-007</value>
<value>HTM-001</value>
<value>CSS-007</value>
<value>OPF-003</value>
<value>HTM-014</value>
<value>NCX-001</value>
<value>RSC-004</value>
<value>OPF-033</value>
<value>RSC-005</value>
<value>HTM-004</value>
<value>RSC-020</value>
<value>RSC-023</value>
<value>PKG-010</value>
<value>CSS-020</value>
```

Fig. 12 Screenshot internal documentation, KB, 2025

What if it only looks broken?

One of the principles in the strategic policy is the concept of minimal ingest: safely storing the material before analysing it further. This has the added benefit of being able to provide access to the files sooner in the process. One of the reasons that material isn't available is because the file format validation process during ingest detect an error that stops the ingest process.

As can be seen in the image above there are different error codes that may occur in a file validation process. However, not all errors are problems that impact the rendering of the files, as mentioned above. In the example this is the case for the error codes labeled in green. Knowing this, it is important that these errors do not prevent ingest.

With the migration to a new system, we have the opportunity to change the business logic of the current validation process, so that a distinction is made between error messages that result in corrupt files and error messages that are deviations from the standard, but without any noticeable consequences for rendering.

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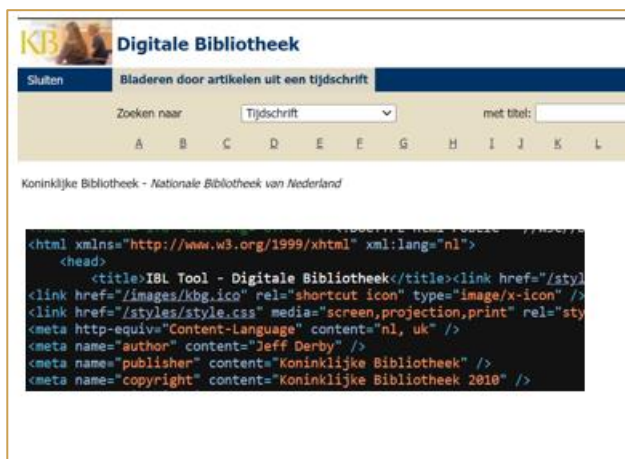
4.5   Designated community

Fig. 13 Screenshot ibl.kb.nl, KB, 2025

How do we keep up?

We cannot foresee what will happen in the future, therefore it is important that we at least try to keep up with social and technological developments. Often, these two types of developments can not be neatly separated. The Flash-example mentioned in an earlier chapter illustrates this point. This format has become obsolete because the creator of the format chose not to support the format any longer. However, even before this the format had become unpopular because of security concerns. Apart from that, there was competition from other formats like HTML5 that was adopted by many people as an alternative to Flash.

By keeping track of current developments in the use and support of file formats we can try and stay up to date. As an organization, we should be able to adapt to changes quickly. An example is the migration to a new preservation system. When we are able to speed up the process of connecting new ingest flows we will be able to profit sooner from new functionality available in the preservation system, like the functionality of format analysis and technical metadata extraction.

Also the services we provide should be able to reflect changes in user requirements and technological developments. In the picture above a website can be seen that provides access to our collection of scientific articles. As can be seen in the source code the website was made 14 years ago. The navigation and accessibility is not up to par with current norms.

Up till now, renewing this website was not a priority because the use of it is limited. To get a better handle on this we intend to document which social and technological developments have taken place that are relevant to the services we provide. In this way we can help inform decision making processes within renewal projects related to our digital services.
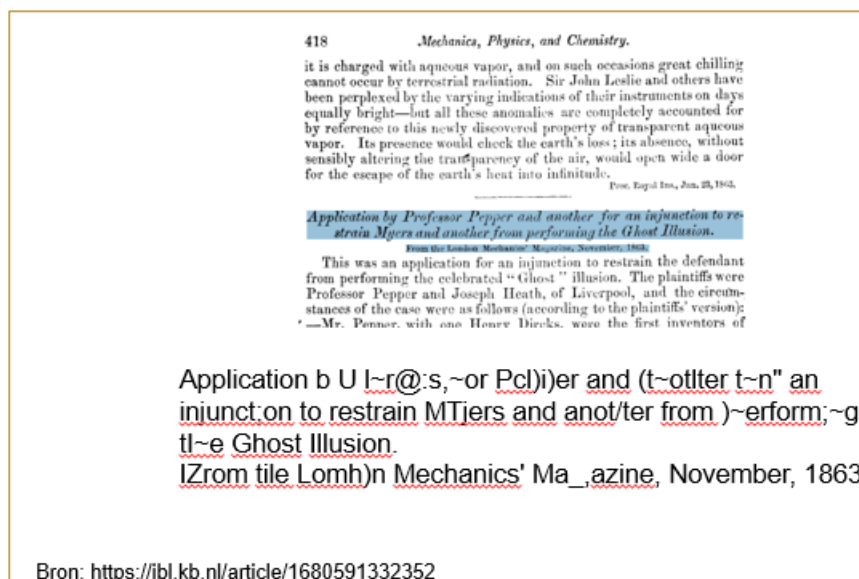
4.6 Reuse

Fig. 14 Screenshot ibl.kb.nl/article/1680591332352, KB, 2025

Is it long-term accessible?

The idea of re-use is directly related to the point made in the previous chapter. To determine whether our material is re-usable we need to have clarity on what the designated community expects of the services and content we offer. This is also limited by what is technically feasible and is partially determined by choices made in the past. Apart from this, all these changes are constantly in flux.

An example is the scientific article shown in the picture above. This is one of the oldest scientific articles in our collection. The text in the PDF is produced by performing OCR on a digitized image. The text can theoretically be selected and copied. When we try this however the resultant text is not accurate. This text is therefore not reliably usable for copying. There are different factors leading to this situation: OCR as a process has limitations and as an institute we prioritize readability. On the other hand, current users may expect that text can be copied and they might not understand why this is not working in this case.

Apart from this, there are also social developments that have made accessibility of the text for use other than reading more important. There are now more norms and regulations that stipulate that not everyone is able to read the text directly and that text should be accessible to screen readers as well. If the text is not reliably recognized by OCR, it also cannot be read by screen readers for visually impaired users.

We cannot solve all these technical problems all at once so it is important that we can provide users with information on how accessible our collections are. On Delpher a warning is available about the quality of the OCR but a similar warning is not yet available on all platforms. Apart from that, other aspects of reuse might also be relevant. In the coming years we want to document which forms of

reuse can be guaranteed for which materials, for instance by storing this information in collection profiles.
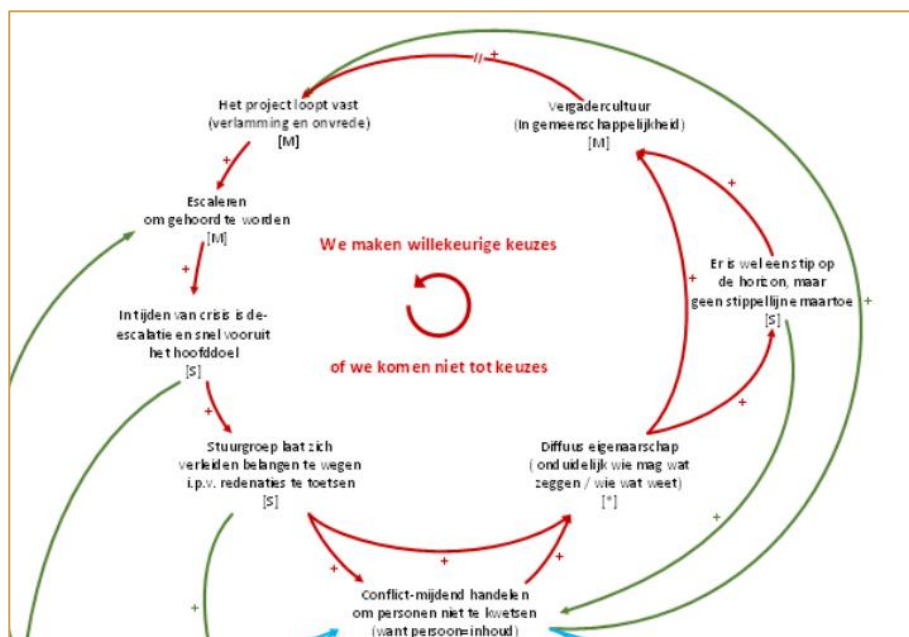
4.7 Protecting the collection

Fig. 15 Screenshot internal documentation on intranet plein.kb.nl, KB, 2025

How do we decide?

Decision making is crucial when it comes to keeping up with current developments. The whole organization should be involved in mapping which developments impact long-term accessibility of the collections. We should have a firm grip on how requirements of digital preservation can benefit decision-making processes within renewal projects and collection development. To facilitate this, we intend to adjust the preservation policies regularly based on new insights.

The current document is a starting point. We want to become better in explaining to the organization which aspects of preservation require attention and why we think this is important. We also want to engage the organization into a discussion on possible solutions. The points mentioned in this document can be a first step towards this. If there are difficulties in following the outlined policies we want to understand which value priorities lead to this and adjust our policies accordingly.

By explaining our policies and opening them up for critique we invite people to help us think of solutions for preserving our collections. This also offers us the opportunity to gradually improve our policies so they become more realistic and practical. The illustration above shows an example of a process that has been evaluated in our organization. When we are able to recognize behavioral patterns we also have a handle on changing vicious cycles. This plan is the second preservation plan we have written. For the past five years we have had the chance of experiencing which policies were successful and which weren't. Based on that, we are able to determine in a more precise way which areas require more of our attention and follow this up.

4.8   Documentation

```
2016-01-05 05:02:34 I : Computing delivery #8469511 for customer profile e-Depot Netherlands -
2016-01-05 05:02:34 I : Starting with units updated between 2016-01-04 05:00:00 and 2016-01-05
2016-01-05 05:02:39 I : ... 4039 base unit(s)
2016-01-05 05:02:39 I : Applying SUB_ON_MATCH filter 'BMC_BiomedCentral'
2016-01-05 05:02:39 I : ... subtracted 336 unit(s)
2016-01-05 05:02:39 I : Applying SUB_ON_MATCH filter 'subEcomed'
2016-01-05 05:02:39 I : ... subtracted 0 unit(s)
2016-01-05 05:02:39 I : Applying SUB_ON_MATCH filter 'BMC_PhysMathCentral_Pub_Sub'
2016-01-05 05:02:39 I : ... subtracted 0 unit(s)
2016-01-05 05:02:39 I : Applying SUB_ON_MATCH filter 'BMC_ChemistryCentral'
2016-01-05 05:02:39 I : ... subtracted 0 unit(s)
2016-01-05 05:02:39 I : Applying SUB_ON_MATCH filter 'CoverDateHistorical_SUB'
2016-01-05 05:02:39 I : ... subtracted 42 unit(s)
2016-01-05 05:02:39 I : Applying global SUB_ON_MATCH filter 'Global_Professional_SUB'
2016-01-05 05:02:39 I : ... subtracted 22 unit(s)
```

Fig. 16 Screenshot logfile ingest proces, KB, 2025

What is the idea behind this?

The preservation policy can be made more effective by further working out practical implementations of certain policy areas. An example would be authenticity. This is described by three factors: intention, provenance and source. What does this mean in practice for information stored for each collection?

The example pictured above shows confirmation receipts we receive for certain collections like scientific articles. Are these receipts important for proving authenticity? And if so, how can users inspect them? Will it provide them any clarity on the history of the material? For some collections these questions have not been resolved yet.

In the coming years we want to document how the preservation policy has been implemented per collection. In some cases there may be a difference between ideal and practice. By making these differences visible we hope to be able to provide users with trustworthy information.
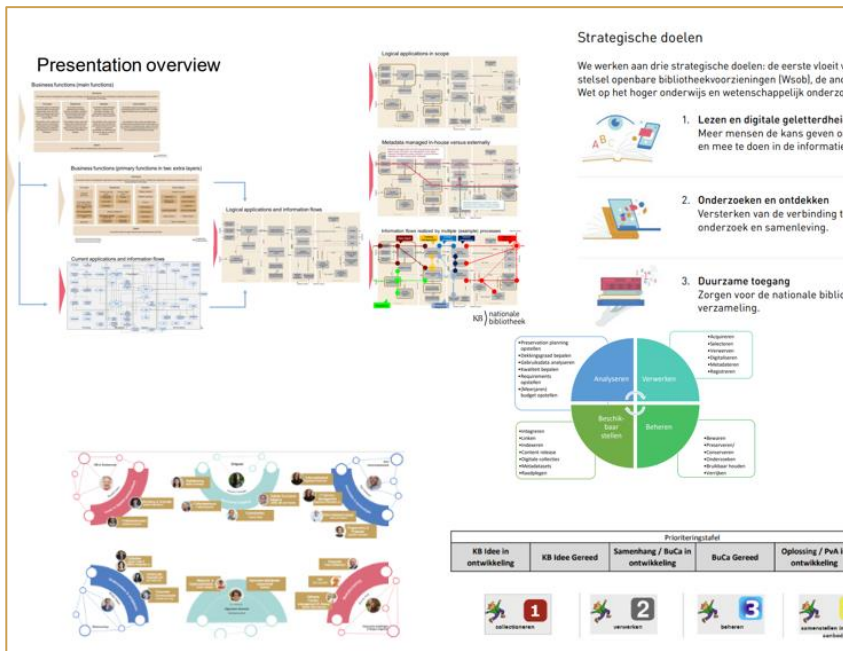
Fig. 17 Internal documentation on intranet plein.kb.nl, KB, 2025

Does it work as a whole?

One important point in digital preservation is that you should not only perform actions based on procedures but that you should be able to provide evidence for this. To what extent do the practical actions reflect procedures and how can users verify these for themselves? As can be seen in the above collage there are a lot of models in the organisation for streamlining the work. Naturally, there is the OAIS model itself as the leading model for preservation experts but apart from that many other models are being used for enterprise architecture, domain management and Agile-processes.

What impact do these models have on preservation and how can they enhance each other? This is something to get a better grip on in the coming years.

4.9 Expertise

Trots, maar niet tevreden

Oktober – januari 2024

Versie 1.0

Fig. 18 Internal documentation on intranet plein.kb.nl, KB, 2025

How do we know it all works?

The goal of preservation is to keep material accessible with reliable processes. But we also need to keep up with change. Reliable processes imply stability but keeping up with developments suggest flexibility. These are opposing values that need to be in balance if we want to profit from both. This also impacts the way we work. We need to document things but also be able to experiment. It is important to use our knowledge and expertise but this shouldn't prevent us from also learning new things in more creative processes. There is a lot of experience in the organization with documenting guidelines, procedures and policies. That is why it is important for preservation to also stress the importance of the other side: flexibility.

In the picture above, an evaluation report is shown of a program for a new preservation system. The lessons learned there are also relevant for future renewal projects. How do we know whether we are flexible enough as an organization to keep up with new developments? In the coming years we want to experiment with new methods to better address these questions. We want to progress our method of continuous improvement. We also want to investigate ways of starting the conversation on how to improve organizational flexibility.

Fig. 19 DPC RAM visualization as applied to KB, KB, 2025

How do we stay relevant?

Flexibility would also benefit a number of social developments that impact preservation. Several topics have presented themselves over the years. Inclusion would be a case in point. How do we make room for multiple perspectives in our collections? Another example is Green IT. Everything we store and provide access to consumes resources. How do we address opposing values like safeguarding the collection and lowering energy consumption? As a cultural institution we promote public values. What impact do these have on our preservation policy?

The above picture shows a graph of the Rapid Assessment Model of the Digital Preservation Coalition based on the situation of the KB. This model is a maturity model for determining the maturity level of preserveration implementations within an organization. Even more that in the official standard this model also takes into account social issues like ethics and inclusion. While we are CoreTrustSeal certified, this model shows there is more to do when considering topics like accessibility and ethics.

Working in areas of social relevance is also an important way of keeping up to date and staying flexible. We intend to keep working on these things by taking part in working groups. This provides us with the opportunity to learn new things and bring preservation perspectives to these groups.

KB 〉national library of the netherlands

4.10 Networks

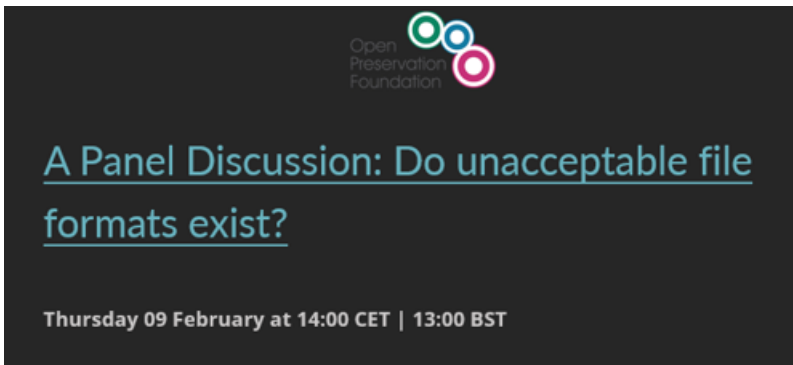Fig. 20 Screenshot OPF website, KB, 2025

How do we gain knowledge?

International networks provide a great opportunity to support the digital preservation community and to build a professional network. It shows we are not trying to figure out this topic in isolation but benefit from knowledge and tools as available in the different networks. We can learn more about file formats by working together on improving file analysis software. In this way we can make sure that tools are better tailored to our purposes.

But knowledge sharing is also relevant as the picture above shows. In the strategic policy our file format strategy is outlined. We do not intend to suppress certain file formats but would rather learn more about what is in our collections. But how is this policy received in the outside world? We testen this in a panel discussion. This also showed how difficult it is to make certain topics a subject for discussion. Within preservation there is a tendency to follow guidelines rather than opening things up for discussion. However, this is important if we want to progress as a field.

This is why we prioritize collaboration in networks: to test out ideas, to gain insight and to share knowledge.

4.11 Infrastructure

Fig. 21 Emergency situation at the KB (picture taken from intranet KB), KB, 2023

What if something goes wrong?

Not everything can be foreseen but predictable risks can be mitigated. Procedures have been defined in case technical infrastructure fails or incidents happen in physical locations. But how do we know whether these procedures actually work?

The picture shows an example where smoke was detected. In this case procedures were followed to limit the damage and investigate the consequences. For digital preservation it is important that similar procedures are documented for incidents that impact the digital collection.

Backup and recovery tests are an important way of ensuring that collection items can be restored in case of an accident. In the coming years we want to document types of risks so that we can keep the collection safe.

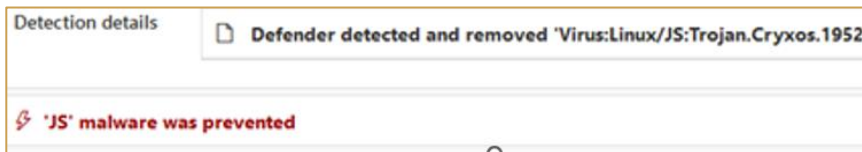KB ⟩ national library of the netherlands

4.12 Security

Fig. 22 Screenshot Windows Defender notification, KB, 2025

Is it safe?

An important risk that already has been identified is the case of viruses in the collection. As can be seen in the picture, there are cases where the current anti-virus software has detected malware in certain collections. However, not all notifications give us reliable information. Sometimes false positives are detected that are considered a virus based on general characteristics.

In the following years we want to document which viruses are actually present and which hazards for users are associated with this. If we were to delete these files this would impact the integrity and authenticity of our collections. On the other hand, we do not want to risk users being negatively affected by these files in the use of the collection. For this reason, we intend to document which measures provide the optimal balance between safety and integrity.

4.13 Legal

NBN	: urn:nbn:nl-kb:edepot:ewtij:1145529936376 (**permalink:**htt
Titel	: Introduction: A perspective on Web Information Retrieval
Rechten	: restricted
NBN	: urn:nbn:nl:kb-1704369916416 (**permalink:**http://resolve
Titel	: Introduction: A perspective on Web Information Retrieval
Rechten	: free

Fig. 23 Screenshot ibl.kb.nl, KB, 2025

What are we allowed to do with it?

Finally, it is important that legal requirements are also taken into account as part of preservation. Long term preservation of agreements is an important goal in this respect. These should be linked to the collection since they document that we have obtained the rights to preserve the material.

Users should also be able to review the rights associated with the material. As can be seen in the picture above, not all rights information is entirely consistent. The same article has two versions, one of which is 'restricted' while the other is 'free'. How do we know which of both is correct? Implementing version policies will certainly provide some clarity. In the coming years we are going to document for which collections rights information can be improved.