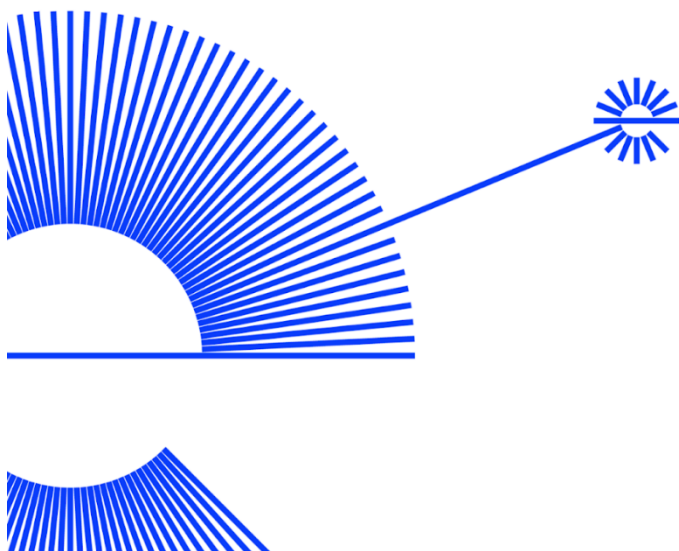


Manual for the PID Guide toolkit

Build your own PID Guide

Version 1.0
Dutch Digital Heritage Network
Project H1 Gebruik persistent identifiers
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Introduction

As a heritage institution, you can learn more about persistent identifiers via the PID Guide (pidwijzer.nl). For example, how do you determine which persistent identifier is most suitable for your organisation, situation and objects? The PID Guide also helps you start a selection process for persistent identifiers. Because the range of these permanent referrers to and unique labels for objects is diverse. And there are many topics that your choice can depend on.

The PID Guide has been developed by the Digital Heritage Network for the systems that are most commonly used in the Netherlands: DataCite DOI (via Delft University of Technology), the Handle System (via SURF) and URN:NBN (via the Koninklijke Bibliotheek). The English translation of the PID guide (pidwijzer.nl/en) also has this focus.

There are more contexts than those of the Dutch cultural heritage sector. And there are ongoing developments in the world of persistent identifiers. As the Dutch Digital Heritage Network, we want to deal with this in two ways. The National Archives, as manager, ensures that the information on the website is kept up to date. In addition, we want to supplement the PID Guide with additional PID systems from time to time, on a project basis. The second way is to develop a PID Guide toolkit with which you can develop your own PID Guide.

We already received a request from John Kunze of the ARK Alliance to supplement the PID Guide: could we add ARKs to the PID Guide? We want to tackle this question on a project basis in the context of the Dutch Digital Heritage Network. And for example in collaboration with the Research Data Alliance, because several other PID systems may also be eligible for supplementing the PID Guide.

The document you are now reading is the manual for the PID Guide toolkit. If you follow the steps from this manual, you will have developed a PID Guide for the PID systems that are relevant to your situation or context. This PID Guide is a functional '[minimum viable product](#)'.

The major steps in the development of a PID Guide are:

- Preparing
 - o Download the PID Guide toolkit
 - o Determine the context of and the PID systems for your PID Guide
 - o Invite experts and plan expert meetings
- Scoring
 - o Determine distinguishing subjects for your PID Guide with the experts
 - o Score the PID systems on a five-point scale with the experts
 - o Document the subjects and scores
- Programming
 - o Program the scoring results into the PID Guide code
 - o Test your PID Guide
- Publishing
 - o Prepare your PID Guide for publication on the web
 - o Publish your PID Guide on the web
 - o Manage your PID Guide

These steps are elaborated below one by one. We explain how the Digital Heritage Network itself came up with the initial PID guide at <https://www.pidwijzer.nl/en/about>.

Preparing

Prepare well before developing a PID Guide. For example, go through the existing PID Guide for the Dutch heritage sector to get a good impression of the functionality of the PID Guide. If you are sure that you also want to develop such a PID Guide, then follow the next steps.

Download the PID Guide toolkit

Determine the context of and the PID systems for your PID Guide

The PID Guide on pidwijzer.nl has been developed for the Dutch heritage sector and contains three PID systems. For your PID Guide it is important to determine what your context or target group is. And which PID systems you want to include in your PID Guide.

Invite experts and plan expert meetings

As you can read in the justification of the PID Guide, it is strongly recommended to invite experts from the various PID systems for your development process. You need their expertise for scoring (see the next section). And to test the result. As the Dutch Digital Heritage Network, we worked together with experts from Delft University of Technology (for DataCite DOI), SURF (Handle System) and the Koninklijke Bibliotheek (URN:NBN).

You can of course choose to start working on the various PID systems based on your own knowledge or desk research. But for more certainty about the quality of and also for more community support for your PID Guide, collaboration with experts is strongly recommended.

Scoring

Determine distinguishing subjects for your PID Guide with the experts

The PID Guide helps you learn and think about important PID subjects, and guides your first steps towards selecting a PID system. The topics and associated statements that are discussed in your PID Guide must therefore be distinguishing for the PID systems of your PID Guide. A statement like "I would like to start using persistent identifiers." is therefore hardly relevant. On the other hand, a statement about the kind of things you want to assign persistent identifiers to can be very relevant. Because there are specific PID systems for objects, people, organisations, etc.

The PID Guide toolkit assumes by default that 25 subjects are covered, divided over five themes. The themes are only intended to group subjects (and to display them separately in a final publication, so that users do not have to go through one lengthy list). You can choose more or fewer themes or divide the subjects differently among the themes. Functionally this does not cause any problems.

What you can also do is decide to include a different number of subjects. You then have to adapt the source code (HTML with JavaScript and CSS) of the PID Guide toolkit to that.

Score the PID systems on a five-point scale with the experts

For the PID Guide we chose to work with a five-point Likert scale (https://en.wikipedia.org/wiki/Likert_scale). For each subject, the experts scored the PID systems on a five-point scale ranging from "This system does not support this or is not suitable for this" (1) to "This system fully supports this or is fully suitable for this" (5). The experts of the various PID systems have jointly determined the weighting of the various systems on the various subjects, and documented their choices for the purpose of providing explanations in the PID Guide.

A method of scoring may be:

- Collect a long list with distinguishing subjects with the experts.
- Give each expert a post-it with the name of their PID system.
- Draw a vertical line on a whiteboard, with arrows at the ends. Put "less suitable" below the bottom arrow and "more suitable" above the top arrow.
- Choose one of the subjects, write it on a post-it and stick it somewhere on the whiteboard as a label.
- Phase 1
 - o Ask the experts one by one (and a different expert first for each topic) to stick their post-it notes near the line on the whiteboard.
 - o The first expert is free to choose a location that suits their opinion about the suitability of their PID system for that subject.
 - o Each subsequent expert chooses a spot above (more suitable), next to (equally suitable) or below (less suitable) previously pasted post-its.
 - o Discuss the relative positions of the PID systems with the experts and adjust the positions as necessary until everyone is satisfied.
- Phase 2
 - o Divide the line and thus the collection of post-its vertically into the five segments of the five-point scale together with the experts. It is not mandatory that all segments contain post-its. As long as there are post-its in different segments. Otherwise, this subject is not distinguishing (enough) for the purpose of your PID Guide. It then falls off the long list. If the experts don't agree, park this topic. Then take a picture of the whiteboard, come back to it later and first get started with another subject.

It can be difficult enough for the experts to indicate the suitability of the PID systems in relation to each other. For example, you cannot expect all experts to know everything about all other PID systems. The experts may also learn something about the other PID systems. That is why we

suggest that they do not immediately have to choose the exact place on the five-point scale. That can be done in phase 2 of the scoring.

We chose to work with a five-point scale, because the development of the PID Guide was inspired by 'voting compasses' (such as during elections). These tools also often use a five-point scale to indicate the extent to which you agree with a particular statement.

Document the subjects and scores

It is important that you document why the experts score their PID systems (relative to each other and on the five-point scale) the way they do. You can then explain to users of your PID Guide why PID system A was found to be more suitable for a particular purpose (subject) than PID system B.

Because of this explanation and for the purpose of accountability, we as the Dutch Digital Heritage Network thought it important to work together with experts. Because suitability is a subjective concept. Suppose there were a PID system for board games. Is that also suitable for adding PIDs for card games? Technically, it might be suitable for that. But it wasn't meant for that. This can lead to discussion among the experts.

Please keep in mind that it is not a bad thing to give multiple PID systems the same score for a subject. As long as not all PID systems get the same score. Because then the subject is no longer distinguishing and inclusion of that subject in the PID Guide has no added value. If it is an important PID subject to be aware of, you can publish it elsewhere on your website or in a FAQ list.

Programming

Program the scoring results into the PID Guide code

Scoring produces a score on the five-point scale per subject per PID system. And an explanation of why that PID system received that score for that subject. You need this information for the PID Guide toolkit. The inline commentary in the (HTML) source code of the PID Guide toolkit explains what to enter where.

Test your PID Guide

Once you have entered the scoring results into the PID Guide toolkit, you will have a working PID Guide. Or at least a working minimum viable product. So now you can test it.

You can already perform technical and functional tests while completing the PID Guide toolkit. Does the code still work without errors after every change? Does the PID Guide still react properly to choices made by the tester after every change?

If your PID Guide works technically and functionally, you can start an acceptance test. The content plays a more important role here. Therefore, involve the experts, end users and the intended manager(s) of your PID Guide. This allows the experts to provide feedback on the final product before you publish it. Users can also indicate whether the Guide meets their wishes or requirements. And the manager(s) can also have wishes or requirements. Adjust your PID Guide based on the feedback from these groups of testers.

Publishing

Prepare your PID Guide for publication on the web

Assuming that you, the experts, end users and manager(s) are happy with the end result, you can prepare your PID Guide for publication on the web. As indicated, completing the PID Guide toolkit yields a minimum viable product. You may want to adapt the appearance. You may want to add

functionalities, such as saving the results of the user sessions (anonymously or not). Or perhaps you want to build an informative website around your PID Guide, as is the case on pidwijzer.nl.

The PID Guide toolkit does not provide this. We have also developed additional functionalities for pidwijzer.nl (such as storing results in a database to learn more about trends in PID choices per cultural heritage subsectors), adapted the appearance (to the style of the Dutch Digital Heritage Network) and added pages (e.g. with best practices from PID implementation projects). This resulted in the creation of a website that functions as an information hub for persistent identifiers in the cultural heritage sector.

Publish your PID Guide on the web

In the previous section, you prepared your PID Guide for publishing on the web: from minimum viable product to a publishable website. What is important in this phase is not only that you publish your PID Guide, but that you inform your target group about the existence of your PID Guide. And that you further publicise the existence of this website. We would appreciate it if you would list us as suppliers of the PID Guide toolkit.

Manage your PID Guide

The PID Guide originated in the persistent identifiers project of the Dutch Digital Heritage Network. This network is not a management organization for websites or software. That is why it is checked for each project whether there is a party in the network that can manage the results of the project. So that no destruction of capital takes place because project results are left unattended.

The PID Guide and specifically the containing website pidwijzer.nl have been taken over by the National Archives of the Netherlands. During your development process for your PID Guide, also check who will manage your PID Guide. And make agreements about this with the intended manager. Also involve the manager in the development process to match their wishes and requirements as much as possible (see Test your PID Guide).

Finally, agree on what exactly falls under the term 'management'. And who has which role. Think of:

- the technical management of the website
- the functional management of the website
- the application management of the website
- check (periodically, on a project basis) with experts whether your PID Guide is still correct
- community management regarding persistent identifiers in the context of your PID Guide
- answering questions from users of your PID Guide
- supporting PID implementation processes for users of your PID Guide
- etc.

Conclusion

You can build your own PID Guide based on the explanation in this document. The PID Guide toolkit is based on what has been developed by the Dutch Digital Heritage Network for the Dutch heritage sector. This PID guide has three PID systems and 25 topics divided over five themes. You can now build your PID Guide yourself. So that a PID Guide is created that works for your context, target groups and PID systems.

Enjoy building your own PID Guide!