FUTURE PROOF YOUR THESIS **QUICK GUIDE**

LINK ROT (USING LINKS THAT LAST)

Use this quick guide to understand how links can break over time and how to make sure important online content in your thesis remains accessible.

IN A NUTSHELL: It's important to understand that links to web content in your thesis are not permanent. Online content is often moved, updated, or removed, meaning links are likely to break over time. Thinking carefully about how you select, reference, and use links helps ensure your work remains understandable and accessible..

THINGS TO KNOW

- **Links depend on location—and locations change.**

  A web link (URL) works by pointing to where content is stored online. If that content is moved, updated, or deleted, the link may stop working. This happens frequently, as websites and online resources are constantly changing.

- **The Web is fragile and forgetful.**

  Research shows that the median lifespan of a web page is around 2.3 years, and around 25% of web pages from 2013-2023 are no longer accessible. This means links included in your thesis may stop working sooner than you expect.

- **Persistent identifiers are more stable—but not permanent.**

  Persistent identifiers (such as DOIs, Handles, and ARKs) are designed to provide stable access to content and are more resilient than standard URLs. However, they still depend on organizations, systems, and ongoing maintenance. They do reduce the risk of broken links, but do not eliminate it entirely.

- **Links *will* break over time.**

  When including links to external online content in your thesis, assume that many will stop working. Planning for this helps ensure that your thesis remains understandable and usable, even if links become inaccessible.

THINGS TO DO (CONTINUED)

☑ **Think before you link.**

Be intentional about the links you include—if they are not adding clear value to your research, consider whether they are needed. Where you do include links, distinguish between those that are central to your argument or evidence and those that are less important, so you can focus your attention on what matters most. This will help you prioritize which links need more careful handling.

☑ **Consider the source and its longevity.**

Think about where the content is hosted and how stable it is likely to be over time. Content from established organizations (such as government bodies, major institutions, or publishers) is often more stable, while short-term project websites, draft documents, or press releases, for example, may change or disappear. Be aware of how the source may affect long-term access and plan accordingly.

☑ **Package key content alongside your thesis where possible.**

For links that are central to your research, consider including a copy of the content as a separate file(s) alongside your thesis (where copyright and permissions allow). This might include saving documents, images, audio or video recordings, or other materials, and providing basic information about what they are and where they came from. Including important content in this way helps ensure it remains accessible, even if the original link no longer works.

☑ **Link to stable, reliable sources.**

Where possible, link to content that is more likely to remain accessible over time. This may include using persistent identifiers where available and linking to document landing pages rather than individual files. Be cautious about shortened links (for example, Bit.ly or TinyURL), as they can obscure the destination and are more likely to break.

☑ **Use clear and complete web addresses.**

When citing links, use the full web address as shown in your browser, rather than shortened or formatted text provided by software. However, do try to avoid links that contain long strings of symbols or extra characters (for example, “&”, “=”, or “%20”), as these are more likely to break or not display correctly over time. These are also less likely to be successfully archived by web archiving tools.

THINGS TO DO (CONTINUED)

☑ **Check and simplify links where you can.**

Before including a link, check whether it can be simplified. For example, if a URL contains a "?" followed by extra text, see if the page still loads without the extra text and remove it if possible. Also look for long or complex links and see if a shorter, cleaner version works instead. Testing and simplifying links in this way can make them more stable and reliable over time.

☑ **Follow appropriate citation guidance.**

Use the citation style required by your discipline or university when referencing online content, and include key details such as the full web address and the date you accessed the material. Recording when you accessed a page helps provide context if the content changes or becomes unavailable later.

☑ **Use web archive links wherever possible.**

The most reliable link for critical information is a web archive URL from a long-term, public access, not-for-profit archive (for example, the Internet Archive). Where possible, include both the original link and a link to a version saved in a publicly available web archive. These archived versions capture the content at a specific point in time, making them more stable and reliable than live web pages. If a link is not yet archived, services such as Save Page Now offer a means to have an archived copy generated.

☑ **Describe important linked content.**

For links that are central to your research, include a brief description of the content in your thesis or as an accompanying file. This could range from a short summary of what the resource contains and why it is relevant, to more detailed documentation where needed (for example, a transcript of audiovisual material). Providing this context helps ensure your work remains understandable even if the link no longer works.