Approaches to Selection for Web Archives

This training session was developed in partnership by the International Internet Preservation Consortium (IIPC) and the Digital Preservation Coalition (DPC)

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Common Approaches

- Broad or "Global"
- Domain Crawling
- Event or Theme Driven
- Selective or Representative
- Records Management
- Hybrid

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Broad or “Global”

- Harvesting as much of the public web as possible with automated crawlers
- Aims for volume of content rather than perfect individual web pages
- Can provide context for other selective or curated collections
- Low fidelity in some instances due to lack of manual quality assurance and technical limitations of capture tools
- Might include a ‘Take Down’ policy for requests to remove content from the archive

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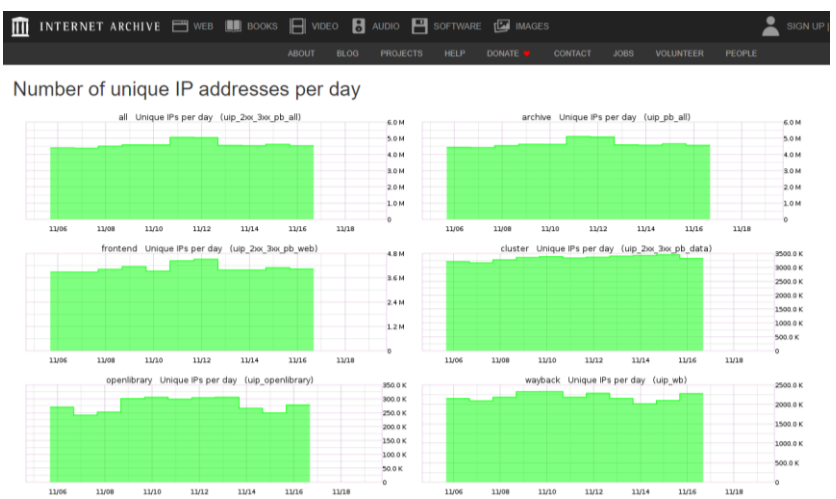
Example: Internet Archive

- Attempts to crawl entire public web
- Available through the Wayback Machine
- Currently preserves 475+ billion web pages*
- Collection occupies 45+ Petabytes of server space



https://archive.org/stats/

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Domain Crawling

- Generally carried out by national libraries or other large collecting institutions
- Targeting URLs hosted in a particular country (e.g. .fr in France, .co.uk in the United Kingdom, .jp in Japan)
- More difficult in USA where there are many domains, but .gov and other selective collections can provide similar approach
- Often operates under legal deposit mandates

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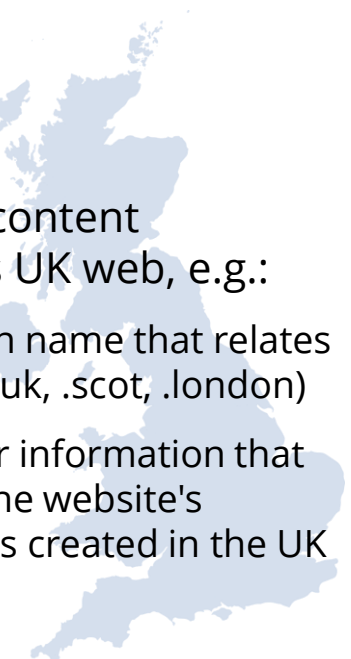
Example: UK Web Archive Domain Crawl

- Based on Non-print Legal Deposit 2013 mandate
- Automated crawl of entire UK web once per year
- As of 2017, comprised of 500 Terabytes of data, increasing by 60-70+ TB per year
- Collect any content identified as UK web, e.g.:
  - Any domain name that relates to the UK (.uk, .scot, .london)
  - Using other information that identifies the website's content was created in the UK



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Event or Theme Driven

- Events such as national, regional, or local elections, global events, tragedies and disasters
- Themes such as community or political causes (e.g. LGBTQ+ rights, labor unions, environmental advocacy, or racial equality) or cultural endeavors (e.g. literature, art, food)
- Web pages and social media (if in scope) identified by curators, librarians, archivists, collaborative researchers, or through other methods
- Often includes manual quality assurance
- Often more detailed metadata and description

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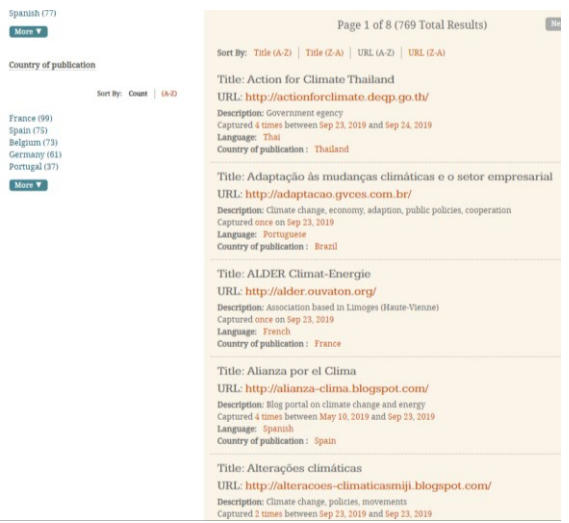
Example: IIPC Climate Change Collection

- Collaborative collection from IIPC Content Development Group
- Aiming to gather multinational and multilingual content on Climate Change
- Looks to address topics that fall beyond a single organization's remit
- Also collections on: Olympic games, the COVID Pandemic, and the European Refugee Crisis



https://archive-it.org/collections/12116

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Selective or Representative

- Sampling or "Top 100" of web pages on a particular topic
  - e.g. News outlets or genres of publications like online periodicals or blogs
- Provides wide, but not exhaustive coverage of a particular topic identified by a curator, librarian, or archivist
- Example: Harvesting tweets directly from Twitter (using an API) often falls into this category because Twitter limits the number of tweets by a certain percentage or by other cut-offs

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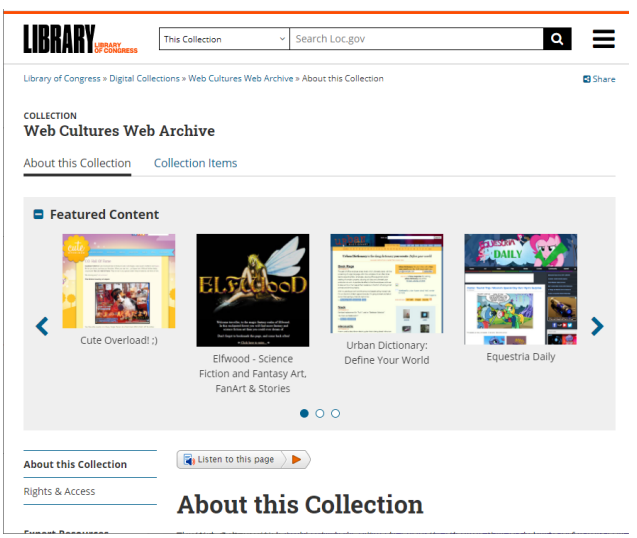
Example: "Web Cultures"

- Initiated 14 April 2014
- Collects sites documenting the creation and sharing of emergent cultural traditions on the web
- Content includes reaction GIFs, memes, icon-based communications (e.g. emojis), fan fiction, & more



https://www.loc.gov/collections/web-cultures-web-archive/about-this-collection/

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Records Management

- Capturing web pages that constitute records identified for retention
- Based on institutional records management policy and guidelines
- Supports compliance with regulations or best practice
- In a heritage institution, often separate from collections management, but could be collaborative
- In non-collecting institutions, it is often outsourced to a third party service

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Hybrid

- No single approach can collect a replica of the whole web
- Each approach has strengths and weaknesses
- Combining approaches can strengthen overall collections
- Collaborating across institutions (and web archives) can improve access for researchers & other end users
- Example: Pairing domain crawls with deeper selective collections on a theme or event
- Example: Supplementing a theme-based, curated collection with URLs extracted from related tweets

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Example: 2015 Canadian Federal Elections, University of Toronto

- Combines:
  1. Professionally curated collection
  2. Twitter links
  3. Internet Archive
- Twitter links extracted from harvest of #elxn42 (main election hashtag)
- Twitter links represent resources shared by "ordinary" people rather than "official" resources
- Alone, popularly-curated web crawls using Twitter are insufficient, but can be powerful alongside contextual archives

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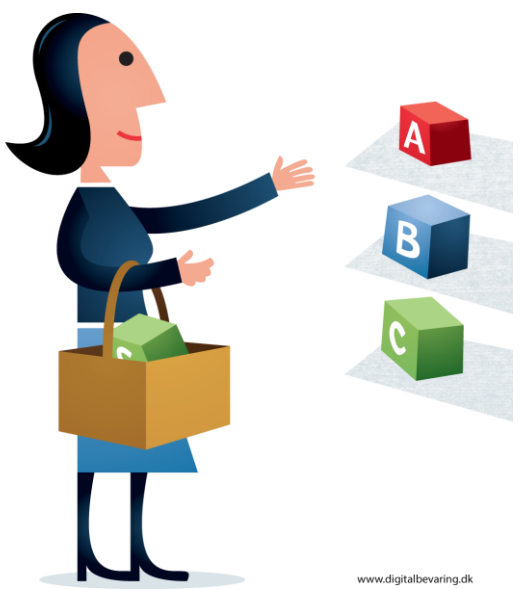
Tips for Selection



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Selection in Web Archiving

- Selection is how curators, librarians or archivists choose what web pages to capture & preserve
- Selection involves creating a list of URLs (called a 'seed list')
- A seed list represents websites or specific documents identified for archiving
- This list becomes the starting point for the crawler or capture tool

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Selection Decisions Are Based On…

- An institution's remit and objectives
- Collection Policy
- Expertise of curator
- Recommendations from collaborative researchers
- End user needs
  - Sometimes captured through website nomination forms submitted by users
- Financial budget, or data budget with subscription service, or local storage capacity
- Legal mandates or restrictions
- Review of other similar or potentially overlapping collections
- Functionality or limitations of technology used to capture
- Resources and staff

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Selection vs Scoping

- Selection = WHAT to crawl & what NOT to crawl
- Scoping = HOW MUCH to crawl
- Scoping involves deciding:
  - How often to capture a web page
  - How much of an entire website to collect (e.g. number of "hops")
  - How long a single crawl session can last
  - What files formats to capture or exclude

- Selection and scoping are often iterative, occurring at several stages of the process as curators learn more about the size of their target web pages and ability of their tools to capture them

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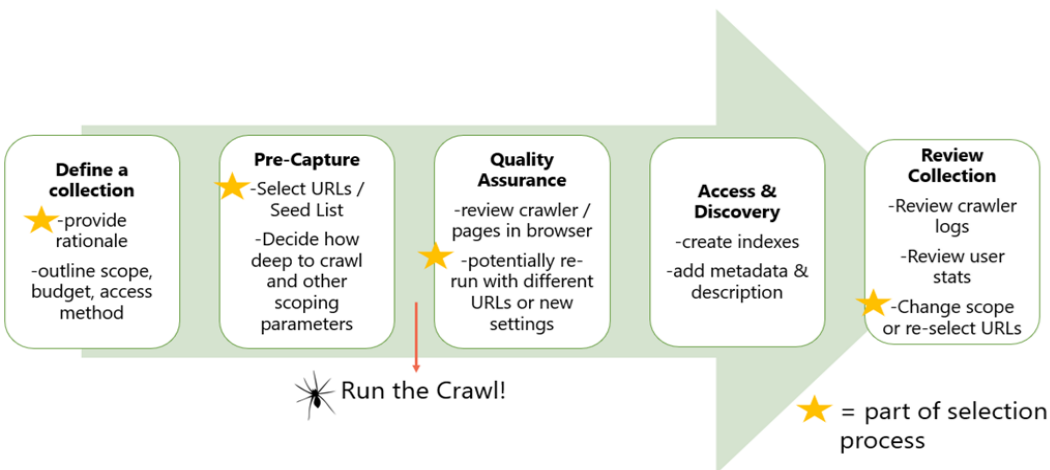
Example Workflow Based on an Archive-It User



Based on similar diagram from: 'If these crawls could talk: Studying and documenting web archives provenance' by Emily Maemura, Nicholas Worby, Ian Milligan, Christoph Becker (May 2018): https://doi.org/10.1002/asi.24048. Fig 1 General Workflow for creating a web archives collection at University of Toronto Library

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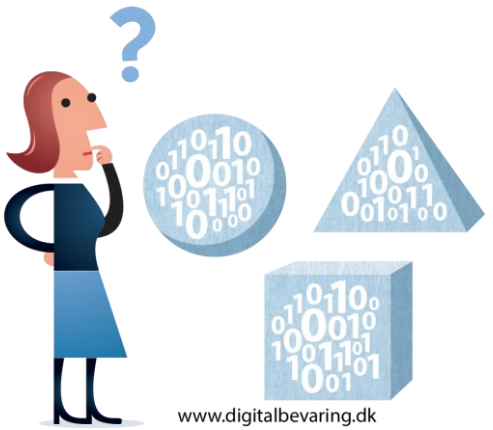
Group Discussion

In your groups discuss your organization's:

1. Key motivations for web archiving
2. Which selection methods might help to meet your aims



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