In response to the changing needs at NIH, the NIH Library's services has been expanded into several non-traditional areas. This session will further explore the field of Information Architecture, which blends librarianship, project management, taxonomy, consulting, database architecture, usability, and web site design to create a unique service that provides improved service to customers. The session will also provide practical examples of how Information Architecture has been applied at the National Institutes of Health Library to build custom data rich web sites for specific research needs.

Special thanks to my team, including Dan Blake, Bridget Burns, MaShana Davis, John Morgan, and Lissa Snyders who do the awesome work each day to make these custom web sites a reality.
IA is hard to define

“IAs rely on experience, intuition, and creativity. We must be willing to take risks and trust our intuition.”\(^5\)
IA is the intersection of Users, Content, and Context

“Context: business goals, funding, politics, culture, technology, resources, constraints
Content: content objectives, document and data types, volume, existing structure, governance and ownership
Users: audience, tasks, needs, information-seeking behavior, experience”
“Information Architecture (IA) is not focused on building systems; it is concerned with fulfilling user needs. Yes, technical know-how is useful, and usually the process results in some sort of system or application being built, but IA is about designing an experience that fulfills the user’s information needs.”

Main Components of IA
- Organization Schemes and Structures - How you categorize and structure information
- Labeling Systems - How you represent information
- Navigation Systems - How users browse or move through information
- Search Systems - How users look for information
IA incorporates ideas from many fields

IA jobs are available at a wide range of fields as well
Very similar to the work of librarians
This could easily be the definition of a librarian!

Librarians in the IA role bridge the gap between IT/developers/programmers/technology and users. Trained to understand and elicit needs of users and to leverage technology to meet those needs.
How CIS program got started

- Designed as support to Informationist program. CIS partners with a subject matter expert to develop the custom solution to meet the user’s need
- Brings together technology and information science to help NIH staff solve research challenges. We specialize in Drupal development and have a FEDRAMP compliant cloud hosting solution. Our team’s expertise in website development, data management, information architecture, and project management enable us to develop innovative and comprehensive information solutions, including:
International Alzheimer’s Disease Research Portfolio (IADRP)

- NIA (National Institute on Aging)
- Portfolio Database of Alzheimer’s disease grant funding data from more than 35 public and private organizations that allows users to search, export, and analyze grant funding data.
- IA skills used include project management, budget creation, invoice tracking, contractor oversight, theme development, taxonomy integration, and regular bulk loading.
- Faced with a congressional mandate to make Alzheimer’s disease research funding more visible and global in perspective, the National Institute on Aging (NIA) Office of Planning, Analysis, and Evaluation (OPAE) approached the NIH Library to convert 6,000 rows of printed Alzheimer’s disease grant funding data into a searchable website. The CIS team took this opportunity to expand the concept into the area of portfolio analysis. By facilitating a relationship with a technology partner, we were able to craft a proof-of-concept with searching, exporting, and data analysis capabilities. Today, IADRP provides access to grant funding data from more than 35 public and private organizations in the U.S. and abroad, allowing users to search and export data across 16 different fields including by taxonomy term, funding organization or year, and principal investigator. Through IADRP, NIA now has a powerful tool to inform the public about Alzheimer’s disease research funding.
Interagency Collaborative to Advance Research in Epilepsy (ICARE)

- NINDS (National Institute of Neurological Disorders and Stroke)
- Portfolio of epilepsy research projects funded by public and nonprofit organizations in the United States.
- IA skills used include project management, budget creation, invoice tracking, contractor oversight, theme development, taxonomy integration, workflow development, account and permissions across agencies, and bulk loading
Alzheimer’s Disease Preclinical Efficacy Database (AlzPED)

- IA skills used include project management, budget creation, invoice tracking, contractor oversight, theme development, taxonomy creation, data structure creation, workflow development, bulk loading, and data curation.

- This project was completed in partnership with NIA’s (National Institute on Aging) Drug Discovery and Development Program to address the challenge of successful development of drugs and treatment and/or prevention of Alzheimer’s disease related to poor translation of preclinical efficacy from Alzheimer’s disease models to the clinic. A subject matter expert helped shape project requirements, identify appropriate fields, promote the end product, and curate submitted data. CIS also partnered with a technology firm to develop a publicly-accessible, web-based portal that aims to promote efficiency, transparency, reproducibility, and accuracy of research targeted at preclinical therapy development for Alzheimer’s disease. It offers centralized storage of, and access and visibility to, integrated preclinical efficacy data from published and unpublished preclinical studies in a variety of fields including study design, therapeutics targets and agents, outcome measures, and conclusions. Users can search for studies, browse by topic, and view information in detailed records. AlzPED also integrates with PubMed, PubChem, Clinical Trials, and patent databases to connect users to related and relevant data.
• By no means a complete or authoritative list – just a sample of the types of competencies needed to do IA.
• We are focusing on competencies that are particular to IA with the assumption that basic librarian skills like strong communication, customer service, attention to detail, etc. are also needed.
• These lists are a bit subjective depending on needs of particular role and institution
• These are critical skills that are integral to being an Information Architect. Some can be learned on the job, but must have the ability to master these

Many librarians already have these skills!

• Systems thinking - “A high-level, comprehensive understanding of the ecosystem can help ensure that its constituent elements work together to present coherent experiences to users.”5 Make sure you are solving the right problems.
Don’t need to be an expert in these things – but need a basic understanding of them (helpful skills) in order to manage the work, approve deliverables, know what is possible, how to communicate about design requirements

- Usability/User experience (UX)/Human factors
- Accessibility/Section 508 compliance
- Database design
- Web design/development
Sample PD uploaded as document on conference website for their reference

- Web Development & Information Architecture (40%)
- Project Management/Team Leadership (40%)
- Collaboration (10%)
- Professional Development (10%)

SOPs are desired but often not possible due to innovative nature of work.
While IA programs are a natural fit for libraries and information services, there are still some challenges

- Assessment - Hard to count/measure, especially compared to many library measures (checkouts, visitors, ILL requests, etc.)
- Diversity - requires a diversity of skills not often found in one person and close collaboration and teamwork
- Marketing - Educating coworkers as well as potential customers about this service and its value
- Skills
  - Small number of librarians have necessary skills or are willing to develop the necessary skills
  - Specifically, project management is not a typical skill of librarians
    - PM tools not geared for libraries
    - Closer to website development shop than a library
    - Lots of experimentation and learning on the job to determine the best approach
- Workload - Long, ongoing projects that are hard to scale up without large number of people
Training

- Coursera
- DigitalGov.gov
- Lynda.com
- “Polar Bear book”
- SLA
- Usability.gov

- Coursera
  - Metadata: Organizing and Discovering Information; taught by Jeffrey Pomerantz from UNC
- DigitalGov.gov (GSA)
  - Focus on providing digital information and services to the public
  - Resources, policy discussion, tools, webinars, templates, and guidelines
- Lynda.com
  - Become a User Experience Designer learning path (prototyping, ideation)
  - Drupal, Wordpress, and Project management
- “Polar Bear book”
  - Very readable and understandable for beginners
  - Citation on next slide
- SLA
  - webinars and workshops
- Usability.gov (HHS)
  - Focus on user experience, content strategy, project management, and visual design
  - Offers information about methods, templates and documents, and guidelines
References & Resources


Thank You

James King
NIH Library
Branch Chief/Information Architect

James.King@nih.gov

Thanks to Lissa Snyder for her work in pullintogther this presentation