

User Experience (UX) Heuristics for the Digital Humanities

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Abstract

Although engaging with both academic and general audiences is a key objective of the digital humanities, the extent to which this value influences the full development of a project is less certain. User Experience (UX) has an especially uneven status within DH practice, despite its critical role in producing the best and most accessible versions of highly conceptual, scholarly, and discipline-heavy projects. The disparity results from uncertainties about terminology, methodology, and the transferability of industry practices to humanities research. In response, this article advocates for a reinvention of UX for DH, thus enabling it to serve effectively as a bridge for interdisciplinary teams and help ensure audience comprehension and engagement. As one tangible example of this reinvention, we propose ten user experience heuristics against which digital projects, tools, and platforms can be developed, evaluated, and refined. These flexible guidelines are both practical and theoretical in that they address common impediments that users encounter in content-rich projects of DH and collectively represent the cognitive shift that occurs when translating humanistic inquiry into computational methods and environments.

Introduction

Engaging with diverse audiences is a well-established practice in public-facing fields that intersect with the digital humanities (DH). Designing or writing for explicitly defined users has a lengthy record in rhetoric [Potts 2015], technical/professional communication [Redish 2010], and library and information science [Pattueli 2011] [MacDonald 2015] [Mattern et al. 2015]. The principles of “shared authority” and “community participation” are increasingly emphasized in museum studies and public history as ethical questions of ownership and co-creation are revisited [Frisch 1990] [Alexander, Alexander, and Decker 2017] [Franco 2017]. Practical considerations have also driven the solicitation of audience feedback as academic and cultural institutions strive to meet the changing needs and expectations of modern visitors [Simon 2011] [Black 2015]. Importantly, interacting with audiences is not relegated to the final stages or review of a project or exhibit but is encouraged throughout its lifecycle from ideation to completion [Diamond, Luke, and Uttal 2009] [Gallant and Wright 2014].

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While similar values and concerns have also surfaced within digital humanities scholarship, there is a need for greater certainty or consistency regarding the role of the audience in the conceptualization and development of DH projects and tools [Potts 2015]. User Experience (UX) and related concepts of usability and user-centered design (UCD) have an exceptionally uneven status within DH literature and practice, though their methodologies can support better human-computer engagement. The term *UX* was first coined by Don Norman during his time at Apple Computer, Inc., in the 1990s, to capture the holistic relationship people have with a tool, system, object, or even a place. As an idea, its origins can be traced even earlier to human factors engineering, dating to the 1950s and 60s [Helvey et al. 1964] [Nielsen 2017]. Further development emerged from human-computer interaction (HCI) and usability research in the 1980s as

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scientists sought to acclimate a broader audience to computing [Al-Awar et al. 1981] [Kasik 1982] [Norman 1983] [Shneiderman 1983] [Gould and Lewis 1985]. Today, user experience is often used interchangeably with *usability*, but usability and its focus on how easy or hard it is for someone to accomplish their goals with a system or product is only a part of the overall user experience [Norman 1983]. In the same vein, user-centered design is defined by applying UX principles to creating a product and considering audiences at each stage of development [Garrett 2011].

UX offers critical methodologies to the digital humanities for producing the best and most accessible versions of highly conceptual, scholarly, and discipline-heavy projects. By centering the human user within the digital development process, UX forms a much-needed bridge between humanities scholars' content and their STEM counterparts' technological expertise [Thoden et al. 2017]. Usability heuristics guide project creators in crafting intuitive systems, tools, and interfaces, while various kinds of user testing establish a communication channel by which projects can solicit and integrate audience feedback on content, data, and design [Gibbs and Owens 2012] [Warwick 2012] [Flanders and Jannidis 2019]. In summary, UX can help DH realize its core value of democratizing knowledge [Cohen and Rosenzweig 2006] [Balkun and Deyrup 2020] by assisting practitioners in meeting the diverse needs and expectations of 21st-century audiences.

Too often in DH, however, UX is mistakenly understood to focus primarily on the usability of tools. It is relegated to a step in the design process rather than a holistic methodology to be applied throughout the project timeline. Concurrently, as UX research and practice overwhelmingly concentrate on industry, technology, or social science norms and forums, DH practitioners must adapt or even force these principles to apply to a humanities context. It is not always obvious how UX can support the humanities' distinctive approaches to exploring and expressing narrative, creativity, abstract concepts, identity, culture, and history [Barber 2016]. Much is lost in translation, which renders UX more of a band-aid for projects than an effective strategy for reaching audiences.

These misunderstandings and missed opportunities will only be resolved through more robust interdisciplinary collaboration between DH and UX practitioners. To make UX work as an effective bridge between technologists and humanists, its metrics must be reimagined to achieve what a good user experience means for the digital humanities specifically. Only through a stronger partnership can DH achieve its overarching objectives of engaging both academic and public audiences, ensuring accessibility, and making clear how knowledge is produced.

The following article presents one contribution to this broader reinvention in the form of ten user experience heuristics or guidelines for creating content-rich digital projects, resources, and tools that are accessible to both scholarly and general audiences. These new heuristics prompt conversation and assessment of how humanities information is structured and presented holistically as well as within individual interactions and visualizations. They emphasize the intentional cultivation of an inclusive and engaging environment that helps a wide body of users effectively connect to humanities content within a digital platform. Instead of rigid prescriptions, these flexible guidelines promote cross-disciplinary discussion throughout a project's lifecycle and reflect the cognitive shift required to adapt humanistic inquiry to digital environments while prioritizing user comprehension and engagement.

The Divide between UX and DH

References to UX, usability, and UCD within the DH world only emerged periodically in the early 2000s [Kirschenbaum 2004] [Warwick 2004], with studies on the user behavior of digital resources generally originating outside the humanities [Harley et al. 2006] [Warwick et al. 2008] [Visconti 2010]. Exploration within the world of DH became more common in the 2010s as practitioners sought to further define and defend their field [Edward 2012]. These articles advocated for the better integration of user research in academic tool development, following mounting concerns that most humanities scholars were not utilizing the software and resources designed for them [Gibbs and Owens 2012] [Warwick 2012]. The significant contributing factor to this lack of engagement was not a disinterest in technology or digital resources [Prescott 2011] but that digital humanists often produced the tools without systematic input from the wider scholarly audience they hoped to reach. As one survey discovered, most of the queried DH developers had solicited feedback about the usefulness of their tool from their own colleagues, with less than a third conducting formal usability studies and only 14% conducting surveys [Schreibman and Hanlon 2010]. Even if a tool aligned with and had the potential to

enhance humanities research, poor interface design discouraged its use.

In the past decade, a range of scholarship has addressed these concerns through a detailed examination of the research practices of humanities scholars and how these methods intersect with a digital environment. Although somewhat siloed in terms of where they are published, case studies and systematic literature reviews have scrutinized various technologies, including general user interfaces and features [Bulatovic et al. 2016] [Stiller, Thoden, and Zielke 2016] [Schofield, Whitelaw, and Kirk 2017] [Du et al. 2021], search interfaces [Wessels et al. 2015] [Whitelaw 2015] [Verberne, Boves, and van den Bosch 2016] [Muiser et al. 2017], text analysis and visualization [Gibbs and Owens 2012] [Jänicke et al. 2015] [Heuwing, Mandl, and Womser-Hacker 2016] [Given and Willson 2018] [Lamqaddam et al. 2022], text annotation [Burghardt 2014], and publishing platforms [Tracy 2016]. Building upon earlier investigations outside of DH [Bates et al. 1993] [Beaudoin and Brady 2011], these studies seek to create general user profiles highlighting common behaviors, problems, barriers, and needs of humanities researchers to improve existing digital tools and guide future development of this technology.

Alongside this focus on humanities scholars and their use of digital tools, DH scholarship has increasingly recognized the potential of these technologies and whole projects for reaching general audiences outside an academic setting (see [Prescott 2011] [Potts 2015] [Liu, McKay, and Buchanan 2021]). At the same time, there is a recognition that availability online does not necessarily mean that a digital humanities project offers the requisite design or support for these audiences [Brennan 2016]. Several studies have, therefore, extended their user examination to *public* encounters with DH resources and how to transform a casual browser into a critically engaged user. Calls have arisen for increasing accessibility through more generous collection interfaces [Whitelaw 2015] [Muiser et al. 2017], expanding public involvement in curation and annotation [Visconti 2015], and creating more intuitive and appealing visualizations and pathways into humanities content [Andreini 2018] [Chen et al. 2019].

Whether focused on humanities scholars or public audiences, all of these studies invoke usability testing, user-centered design, and/or, more recently, user experience research as essential to engaging, increasing, and supporting users of digital humanities tools, projects, and resources. They reinforce important UX principles, such as the iterative nature of this work [Rosenberg 2014] [Barnum 2019] and the need for collaboration across disciplines and practices [Getto et al. 2013] [Lachner et al. 2016] [Robinson and Lanius 2018]. Various UX strategies (see Table 1) are referenced and applied, including gathering interviews, administering surveys/polls, and analyzing site analytics, as well as conducting focus groups, heuristic evaluations, cognitive walkthroughs, and formal task-based usability testing. Beyond these publications, DH centers, curricula, and initiatives across the academy now regularly incorporate UX design and research into their programming (e.g., the University of Toronto's Critical Digital Humanities Initiative, UC San Diego's Digital Humanities Research Group, UCLA's Introductory DH course on User Experience Design, Yale University's DH Lab).

Strategy	Concise Definition	Use
5-Second Test	Users view a design for five seconds and then recall what they saw.	Evaluating first impressions, clarity, and messaging effectiveness.
A/B Testing	A process of either 1) showing testers two design concepts to see which they prefer or 2) testing two concepts at the same time to see which tests better.	Resolving uncertainty about which design solution is better.
Accessibility Audit	A systematic review of a product to ensure it meets accessibility standards (like Web Content Accessibility Guidelines).	Identifying barriers for users with disabilities.
Card Sorting	A means to obtain feedback about how	Deciding on the

	information is organized on a project by writing (for example) site menu and sub-menu titles on cards that can be rearranged by testers.	terminology used by a product and how to organize site features.
Cloze Test	A comprehension test where users fill in missing words from a passage.	Measuring how easily users can understand written content.
Cognitive Walkthrough	An evaluation wherein subject matter experts step through tasks as if they were users.	Identifying usability issues in task flows.
Comprehension Survey	A questionnaire that checks how well users understand information or instructions.	Validating clarity of content and communication.
Content Strategy Analysis	An assessment by stakeholders of how content is planned, created, and managed.	Aligning content with user needs and project goals.
Focus Groups	A group discussion to provide feedback on a project concept or prototype.	Gaining feedback on a concept or sequence of steps about which a project team feels uncertain.
Heuristic Evaluations	A design audit using a list of criteria to focus the analysis, like the list provided in this article.	Assessing an existing design concept and identifying areas for revision.
Interviews	Focuses on asking questions about users' specific goals, requirements, and desires for a product or system.	Forming detailed, accurate profiles of project audiences and their usage patterns.
Interactive Workshops	Collaborative sessions with stakeholders or users to co-create or evaluate designs.	Generating ideas and aligning perspectives.
Journey Mapping	A visualization of the user's end-to-end experience across touchpoints.	Identifying pain points, opportunities, and emotional states.
Readability Analysis	Evaluation of how easily users can read, scan, and comprehend text content.	Ensuring written content matches the target audience's reading level.
Surveys	Lists of questions that can be sent to many people at a time. Can be used to obtain both qualitative and quantitative data.	Gathering feedback from larger numbers of people than can be interviewed or individually

		observed.
Usability Testing	A moderated or unmoderated series of tasks completed by an individual to assess the ease with which critical tasks can be performed.	Testing the ease of use for critical project features.

Table 1. Practical Strategies in UX Research

The desire and imperative to incorporate UX into DH are evident, but these publications also reveal noticeable frustrations, confusion, and missed opportunities in its application. Partially fueling what Thoden et al. succinctly identified as a “gap between usability in theory and usability in practice” [Thoden et al. 2017, p. 11] are the actual or perceived costs associated with conducting user research. Limits in time, funding, and other resources seem too prohibitive to justify gathering user feedback; even if user testing is possible, a lack of resources may prevent the implementation of these findings (see [Warwick 2012] [Visconti 2015] [Wessels et al. 2015]). Notable exceptions aside (e.g. [Schofield, Whitelaw, and Kirk 2017] [Thoden et al. 2017]), UX and usability research is often remedial and enters late in DH project development rather than being an integral part at the outset [Warwick 2012] [Bulatovic et al. 2016]. Recruitment of testers has also proved daunting, with many projects — even those seeking to reach public audiences — defaulting to individuals within their subdiscipline, institution, or even project team. Too rarely is broad representation sought, thus distinguishing the efforts of [Muiser et al. 2017] who gathered participants partially from a public library. These concerns and practices are not unique to DH but are commonly encountered by UX practitioners in industry as well [Reeves 2019].

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More problematic is the lack of a shared vision of UX within DH. Clarity or agreement is often lacking regarding the definition, relationship, and goal of terminology such as “usability” and “user experience.” Thoden et al. also found “no coherent understanding” [Thoden et al. 2017, p. 4] within DH for the usability guidelines shaping the development and evaluation of projects (see also [Liu, McKay, and Buchanan 2021]). Without a thorough grounding in UX scholarship and practice, methods for gathering user feedback are often conflated or administered imprecisely and unevenly. Uncertainties emerge about whether the user testing conducted is sufficiently thorough or systematic, and whether the results have broader statistical significance or are helpful to an individual project. Citing the heterogeneity of the humanities, many scholars hesitate to propose a larger framework for DH evaluation and instead focus on publishing patterns, lessons, recommendations, or key findings related to a single audience, case study, or type of tool. As important as these findings are, the absence of a common vocabulary and methodology for UX among the disciplinary amalgam of DH scholars can unintentionally distort the community of practice — especially for the uninitiated.

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In turn, UX professionals frequently struggle to agree on methodology within their professional communities [Law et al. 2009] [Lallemand, Gronier, and Koenig 2015], let alone translate these methodologies beyond the technical fields to DH communities. UX as a research area with its own disciplinary pedagogy continues to evolve [de Jong 2014] [Getto and Beecher 2016] [Rodwell 2021] [Temor, Husain, and Coppin 2022], but the role of social scientific methods in informing UX research best practices is rarely mentioned explicitly outside of applied social science forums like EPIC (Ethnographic Praxis in Industry Community) or Practicing Anthropology. Peer-reviewed publications about UX Design have increased, while UX Research, as a subject rather than an applied methodology, remains comparatively less visible. The use of UX research methods to improve digital projects in most fields is generally limited to briefly mentioning usability testing in a project plan that does not otherwise address user experience. Although UX methodologies and theory are the subject of ongoing critique and refinement within HCI forums, such as the Association for Computing Machinery journals, these resources are often outside the scope of materials consulted by scholars in the digital humanities. Due to the technical nature of most of these publications and their focus on UX as a loose collection of methodologies rather than a subject of inquiry, they have not been widely cited in humanities and social science journals. Accurate, updated information about best practices in user experience does not continually circulate outside of HCI forums, and other disciplines are therefore privy to a watered-down and dated version of UX thinking.

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Exacerbating these issues is a fundamental question about the overall suitability of conventional UX methodologies for

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humanities research. UX methodologies were formulated with tech industry framing in mind and a bias toward refining the systems and tools through which content is delivered to audiences. This extends beyond interaction design to industrial design, where the user experience platform may be a physical object, such as a food processor, rather than a digital user interface. Industry UX work also has the advantage of greater financial resources [Gonzales and Turner 2019], but only sometimes greater expertise or sufficient time to comprehensively apply UX best practices.

The production cycle and ultimate goals of DH projects frequently run counter to industry expectations. Rather than emphasizing consumer persuasion, DH projects emphasize the humanistic goals of promoting comprehension, interpretation, and critical engagement with often complex content and discipline-specific methods [Potts 2015] [Whitelaw 2015] [Ruecker and Roberts-Smith 2017]. This is not to say there is no UX focus on content, as increasing attention has turned towards concepts like “UX writing,” which considers how much word choice shapes people’s experiences [Kaley 2024]. However, UX often focuses on the technical aspects of creating digital projects, discussing how to create an effective site menu more than how to present large quantities of data or content in a way that audiences can understand.

Additionally, DH projects tend to move more slowly due to the need to fundraise through grants and frequently utilize the creation cycle as a teaching tool and experiential learning opportunity for students. Periods of delay are inevitable due to student team members graduating or pauses between funding cycles, which naturally result in a slower iteration cycle than is possible with a dedicated, full-time professional staff [Martin and Runyon 2016]. DH projects are also subject to unique review standards for tenure and promotion; to count as scholarship, they must reproduce the values and norms of individual academic disciplines [Gonzales and Turner 2019] [Balkun and Deyrup 2020] (also see the digital evaluation guidelines established by [Garrett 2011]). These differences impact DH, and it is necessary to clarify how much academic and industry UX concerns align and to what extent academic priorities influence industry practices [Gray et al. 2018].

Without better guidance, translation, and cooperation, DH teams are often left to interpret and adapt UX principles on a case-by-case basis, and many of the archetypal features of DH projects fail to deliver on their full potential. Archival materials may require a database or catalog with an effective search engine to help people access them, but it is worth acknowledging the number of sites whose searches are so inadequate that Google is the better alternative for finding an answer or document. Many DH projects rely on visualizations like maps or timelines to explain spatiotemporal concepts, yet these features are often highly inaccessible. Professional designers sometimes create visually stunning solutions that site visitors admire without gleaning useful information. Narrative and storytelling features within DH projects can bring history, literature, art, and abstract concepts to life. However, where many projects get ambitious with multimedia and even virtual reality content, style can outweigh substance. Many DH developers, therefore, face the same problem encountered by the original tool builders discussed above: building something that is beautifully dysfunctional and having to remake it at a significant cost in terms of time and reputation.

The responsibility lies not solely with DH scholars; UX-savvy academics need to engage with DH project teams and be willing to explain their contributions. Too rarely do UX researchers and designers appear as project leads and integrated team members. At best, UX may be outsourced to a designer who remains apart from many project team discussions about the underlying content, data, and audience. Design and content thus exist on separate islands without the mediating effect of humanistic technologists whose priority is the user.

A Vision of User Experience for the Digital Humanities

This divide can only be resolved through meaningful collaboration between academic and professional communities and DH and UX-focused practitioners. Such a partnership must go beyond full-scale adoption of industry UX practices or simply transplanting computer science and design applications of user experience to humanities projects, tools, and platforms. The digital humanities need their own version of UX principles lest attempts to retrofit them into DH studies remain uncomfortable and unhelpful. In essence, UX needs to be reimaged for the digital humanities.

The unique amalgamation of components presented in DH projects justifies such a curated approach. In addition to the concerns highlighted above, DH practice pushes humanities scholars into an environment that deviates from the norms

of their disciplinary traditions [Edmond 2015] [Balkun and Deyrup 2020]. The lone researcher paradigm with which the humanities are so comfortable is unsustainable for DH due to the scale of these projects and their dependence on a range of expertise beyond a single discipline. The solitary scholar model is equally incompatible with UX practices, which flourish in a team environment. As such, humanities scholars require more effective guidance and language to communicate a shared vision within their interdisciplinary teams.

Additionally, DH embraces a transformational ethos, from innovating how knowledge is generated and presented to confronting systems of authority and engaging new and broad audiences far beyond the academy. These projects typically have a large amount of data that needs to be organized, made searchable, visualized, and contextualized in a way that makes sense to a variety of users. Many of the DH studies examined earlier in this article make clear that they need and expect technology to do more. Although they discuss “usability” in a narrow sense, it is evident that the whole user experience is of concern, as is how content delivered through digital platforms best reaches their audiences. In our experience with our own collaborative project and the numerous DH projects we have encountered, consulted on, or evaluated over the years, these factors collectively present significant conceptual challenges for even seasoned user experience professionals. UX professionals and technologists require clear metrics to ensure that complex ideas and materials reach their intended audiences.

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Such translation is less complicated than it might initially seem because user experience thinking is kindred to the humanities in many ways [Bardzell and Bardzell 2016]. As humanists in spaces of technological production, UX professionals in non-academic settings share similar goals: to deliver meaningful content to audiences by focusing attentively on concepts such as language, metaphor, and learning style. More than any specific technology, UX is about building connections. The industry’s use of terms like *human factors* and *human-centered design* to describe aspects of UX praxis indicates a perspective that aligns exceptionally well with the digital humanities. This human-centeredness also means that in the fast-paced business world, UX researchers often find themselves the only members of project teams who are invested in thinking about people beyond invoking users as ambiguous conceptual categories [Cooper and Bowers 1995]. They are equally willing to push for design ethics and inclusivity [Norman 2023], including addressing how design practices can replicate or challenge colonial power structures [Irani et al. 2010] [Bidwell 2016] [Tunstall 2023]. UX researchers also understand that it is not technology that makes the field relevant; it is a societal need to combine all kinds of design with a humanistic perspective.

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UX for DH must, therefore, emphasize processes that account for non-technologist practitioners working in interdisciplinary teams (sometimes for the first time), complex content as well as technology, and the needs, goals, and behaviors of both academics and general audiences. UX for DH needs to think not just about what we *can* do, but also *why* we are doing it and *who* it is for — beyond merely considering users as abstract categories such as marketing demographics [Cooper and Bowers 1995] [Oudshoorn, Rommes, and Stienstra 2004]. Although UX represents a kind of technological expertise, it must retain its focus on solving human problems and help DH collaborators remember why the humanities have embraced new technological framings in the first place — to reach new audiences with their content. UX researchers will also need to create better resources for a humanities context in forums where humanities scholars can see them and help provide DH scholars with clear direction on integrating UX from the beginning of a project through its final stages. Ideally, every DH team should include a UX professional. Still, where this is not possible due to financial reasons or other constraints, UX professionals should at least do a better job of translating methodologies into a language more accessible to experts in fields outside of computer science and engineering.

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User Experience Heuristics for the Digital Humanities

As one contribution to this vision of UX for DH, we propose a new set of user experience heuristics against which digital projects, tools, and platforms can be developed, evaluated, and refined. The heuristic methodology, in general, is an approach that relies on experience-based techniques, rules of thumb, educated guesses, and practical insights to solve complex problems [Gigerenzer 2008]. Unlike strict mathematical or algorithmic methods, heuristics prioritize efficiency, adaptability, and approximation when exact solutions are difficult or impossible to determine. They also contribute to human-centered learning by aligning strategies to natural cognitive processes and encouraging experimentation and critical thinking over adherence to rigid formulas [Nokes, Dole, and Hacker 2007]. For DH, a heuristic methodology

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offers a flexible, low-cost, and iterative guide that facilitates cross-disciplinary problem-solving and decision-making throughout the entire lifecycle of a project.

The heuristic methodology first gained prominence in mathematical problem-solving with George Pólya [Pólya 1945], before being widely applied in engineering, computer science, and artificial intelligence [Simon and Newell 1958] and analyzed in psychology and cognitive science (e.g. [Tversky and Kahneman 1973] and [Tversky and Kahneman 1974]). Engineers and scientists continue to employ heuristic methodologies in engineering design and risk management to develop practical and efficient solutions when precise methods are infeasible.

In UX and even DH, the concept of heuristics has been frequently equated with Jakob Nielsen's 10 Usability Heuristics for User Interface (UI) Design [Nielsen 2024]. Nielsen developed his list by statistically analyzing how well previously published sets of usability heuristics explained the 249 usability problems he identified across eleven actual projects [Nielsen 1994]. His final, refined synthesis has endured through an evolving technological landscape as standard criteria against which a user interface can be built, evaluated, and improved. Recommendations include keeping users informed about a system's status, ensuring that language and information are presented in a manner familiar to the user, maintaining consistency while allowing for flexibility, and providing help and additional documentation where needed. Like the overarching methodology, these specific heuristics are not strict rules or scientific laws, but broad and flexible principles based on experience that help identify usability issues throughout a product's development.

Because Nielsen's heuristics focus on what makes digital systems usable, they provide guidance on only one, albeit important, aspect of what DH projects seek to deliver. In other words, DH requires a set of heuristics that account for the *content* conveyed through technology, rather than only the technology itself. Similarly, these heuristics must be attuned to the unique circumstances of DH projects outlined above, including helping field-centered scholars better communicate on interdisciplinary teams. Such a goal requires more than a band-aid for Nielsen's heuristics [Stiller, Thoden, and Zielke 2016]; it involves reinventing a user experience heuristic methodology specifically for DH.

The following ten heuristics meet this challenge by offering a holistic concept of user experience for the digital humanities:

1. Respect the Medium
2. Invest in Thoughtful Information Architecture
3. Treat the Homepage as the Project's Abstract
4. Consider the Role of Delight
5. Strive for Inclusivity
6. Avoid Feature Creep
7. Take Extra Care with Data Visualization
8. Eliminate Unexpected Page Behaviors
9. Build Accessible Projects
10. Emphasize Project Development Rather than Deficiencies

These heuristics are both practical and theoretical, as they address common impediments that users encounter in the content-rich projects of DH and collectively represent the cognitive shift that occurs when translating humanistic inquiry into computational methods and environments.

Alongside deep review of scholarship, our validation and refinement process for these heuristics employed three complementary tiers of empirical testing to ensure their applicability across diverse DH contexts. The first tier focused on comprehensive case-study analysis using our project SYRIOS (<https://syrios.uh.edu>), a multifaceted digital humanities prototype focused on ancient coins from Syria that encompasses catalog interfaces, interactive learning activities, narrative presentations, and data visualizations. We conducted extensive user testing with five distinct audience segments: middle school through university students, K-12 educators, hobbyists, subject matter experts and humanities scholars, and museum professionals. Testing methods (see Table 1) included UX interviews and usability testing sessions (2021-2022), focused evaluations of specific features (2022–2024), card-sorting activities using Miro (<https://miro.com/>), and heuristic evaluations by graduate students in public history and digital humanities,

supplemented by expert reviews from humanities advisors.

The second tier of our process involved collaborative consulting with four external DH projects to validate the transferability of findings across different contexts. We conducted formal UX testing for 1) a national archival project focused on biography and rich demographic data, 2) a specialized scholarly database of cultural artifacts, 3) an advanced research tool and data visualization project, and 4) an ethnographic research platform. Each engagement involved comprehensive user testing protocols, stakeholder interviews, and iterative design recommendations.

The third tier integrated our heuristics into educational settings to test usability and user experience with novice practitioners. Graduate students within public history and digital humanities courses at the University of Houston applied the heuristics to evaluate sixteen existing DH projects across the spectrum, including mapping/spatial humanities, textual analysis, digital archives and exhibitions, data visualization, data curation and annotation, and digital games. In their review, the graduate students appreciated how this “comprehensive,” “remarkably straightforward,” and “in-depth rubric” expanded their vision of potential audiences and guided them to think critically about the efficacy and design of their own DH projects in an ideation stage. Undergraduate students in UX, DH, and humanities courses, internships, and the UX Lab at the University of Houston also utilized the heuristics to evaluate digital humanities platforms. Through this guidance, they produced detailed, actionable feedback on a selection of DH projects and described the heuristics as “clear and engaging” and “easily navigated.”

Our analysis integrated findings using a constant comparative method, identifying patterns across project types, user populations, and testing contexts. Each recommendation is securely grounded in historical and contemporary user experience, information technology, and humanities principles and practices. We also presented preliminary versions at the User Experience Professionals Association (UXPA) International 2023 conference for industry validation and suggestions for refinement.

As a methodology, these heuristics are intentionally comprehensive to accommodate the spectrum of DH projects and their varied content, styles, preferences, and platforms. They are not intended to be a definitive metric, a complete diagnostic tool, or a fixed prescription. Instead, through overlapping, general principles, they seek to guide interdisciplinary teams through self-evaluation and collaboration at any stage of project development. These heuristics can serve as an iterative checklist for identifying and assessing the severity of recurring problems in DH projects.

Additionally, to make these heuristics as helpful as possible, we have clarified confusing language and addressed gaps and ambiguities that traditionally render such guidelines difficult for non-specialists to consult. For further illustration of each heuristic, we have also selected case studies from our own experience with SYRIOS as well as examples from observations and publications of other DH projects. Although no project currently meets all ten heuristics, including our own, each cited example still demonstrates how a single principle can apply in a variety of contexts and for a range of audiences. Lastly, Table 2 provides practical advice and recommended UX strategies for DH teams seeking to address each heuristic in their projects.

Rather than teaching DH practitioners to do UX, our goal is to help humanities scholars working alongside technologists and UX researchers explain and translate their research into new formats for broader audiences without diminishing or lessening academic content or rigor. These heuristics provide one clear, adaptable, and practical entry point to more effective collaboration and conversations about user experience.

1. Respect the Medium

How people consume and explore content depends on the medium used to present it [Baron 2017] [Zivan et al. 2023]. Digital projects differ from linear journal articles or monographs and must account for common differences in how people read online versus print/PDF as well as the opportunities offered by a non-linear format [Warwick 2012]. New technologies have the potential to reach users through multiple senses and experiences. Instead of long paragraphs with the occasional image, digitized document, or pull quote to provide substantive narrative and contextualization, digital projects can invest in more welcoming and varied content presentation through a multi-layered approach and new modes of building and presenting knowledge [Burgess and Hamming 2011] [Endres 2017]. Finding creative (and

unobtrusive) ways to cite sources or even taking advantage of hypertext can ease the onslaught of text while preserving the depth of information.

Case Study: From the initial concept design, SYRIOS prioritized concise, interactive narratives to contextualize ancient coins rather than traditional long-form essays. UX testing recommended replacing “monotonous” scrolling through text with a central “story” divided into individual panels and media blocks. The primary narrative is emphasized through color, font, and background imagery, but users can also choose to “read” more deeply through curated layers and alternative pathways of supporting content like descriptions, artifacts, maps, and ancient texts. Users can flip coins to view the reverse side or change the featured image for alternative perspectives. Clicking on reference numbers opens a digital drawer of cited scholarship, allowing access without disrupting the story flow. Hovering over scholarly terms triggers glossary definitions, while hypertext links guide users to additional resources. UX testing revealed that our target audience could quickly and intuitively find information with this design.

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Example: Moving beyond basic digitization, Furnace and Fugue (<https://furnaceandfugue.org/>) reinvents user engagement and scholarly publication through a multimodal, interactive edition of Michael Maier’s 17th-century alchemical emblem manuscript, *Atalanta fugiens*. Each of the 50 emblems opens to a comparative view featuring a zoomable image of the original print alongside a transcription with multiple language options — including normalized and diplomatic English, Latin, and German. Most notably, users can hear the fugue accompanying each emblem with customizable options for listening to the singers. Users can also curate and share personalized selections of the emblems, enabling further non-linear exploration [Bielak 2021].

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2. Invest in Thoughtful Information Architecture

Digital humanities projects are often highly complex in terms of the diversity and volume of content and data presented. Effectively organizing a digital project on a structural level improves visitor engagement with that material. While many DH projects rely upon standardized or inherited information architecture, this may not be the ideal structure for a particular concept, content type, or intended audience [Flanders and Jannidis 2019]. A well-designed information architecture begins with establishing consistent standards, taxonomies, and relationships within and among datasets, as this determines how well a technical system communicates, shares, compares, and enriches data [Rosenfeld and Morville 2002]. Choices made on the back end of a platform (such as how data is described, organized, stored, and queried) also affect how a user navigates a project and receives information on the front end. A thoughtful information architecture allows project visitors to move from an overview to main points to more depth as they choose rather than are forced to explore content at the granular level before understanding the big picture. Likewise, investing in a “generous interface” that supports users’ needs, desires, and expectations strengthens their ability to find and interact with even the most complicated material with minimal effort [Hochheiser and Shneiderman 2000] [Shelton and McNamara 2001] [Whitelaw 2015].

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Case Study: Early versions of SYRIOS built in Omeka (<https://www.omeka.net/>) relied on Dublin Core metadata and a lightly adjusted schema to describe ancient coins. When this content management system (CMS) proved too limiting for our goals, the team transitioned to a custom CMS based on Strapi (<https://strapi.io/>) and structured metadata that better reflected the coins’ complexity as pieces of art, text, mobile objects, and historical artifacts. Adopting Uniform Resource Identifiers (URIs) and Linked Open Data enabled connections with other projects for interoperability and contextual enrichment. Further user testing helped translate these backend decisions into an intuitive and exploratory frontend experience. The initial language used in our dropdown menu options confused non-specialist users and revealed generational differences in expectations. One participant noted, “If you’re after older users, you can’t make us hunt and click.” Through careful abstraction, the team captured multiple evidence dimensions in a non-linear, web-like structure. Users now navigate the information more fluidly and discover connections across stories, interactive features, evidence categories, and terminology.

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Example: Photogrammar (<https://photogrammar.org/>), an extensive photography archive, demonstrates how effective information architecture can transform complex cultural data into an accessible research environment. The project’s redesign restructured metadata and navigation to support exploration across multiple dimensions — location, time,

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photographer, and theme — rather than limiting users to item-level search. This layered structure allows visitors to move from broad overviews to specific details through interactive maps and timelines, revealing context before content. The interface surfaces these relationships through clear, filterable categories, providing users with multiple entry points and control over navigation [Arnold et al. 2020].

Example: The Dutch Folktale Database (<https://www.verhalenbank.nl/>) redesigned an expert-oriented site to serve both casual and scholarly audiences. The project team identified primary user groups, analyzed their search queries, and then reworked browsing around the collection's metadata. Instead of providing a single search box like Google, the advanced search interface immediately reveals how the folktale data is structured via almost thirty different fields. The search tool supports filtering across multiple categories meaningful to non-experts (e.g., storyteller, subject, date, place) and offers suggestions for searching by language, source type, and subgenre. Users can also choose how they want results to be displayed: as a list, on a map, as a timeline, or as a word cloud [Muiser et al. 2017].

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3. Treat the Homepage as the Project's Abstract

A digital project encourages engagement by orienting audiences from their first encounter. A welcoming homepage efficiently and elegantly conveys what the project is about and explains why it was created without forcing users to search for this information on a secondary page [Chen et al. 2019]. Obstructing this delivery with superfluous design, intermediary screens, or vague multimedia vignettes can frustrate visitors and hinder understanding of a project's goals and core message [Schade 2014]. Providing project synopses on secondary pages also proves helpful if search engine results will likely direct people to enter a project outside the homepage.

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Case Study: Initial UX testing of SYRIOS found the landing page “pretty,” “welcoming,” and “friendly,” but “uninformative” and “not very explanatory.” Without sufficient foregrounding of the core ideas of coins as historical evidence for ancient Syria, testers struggled to identify the project's purpose and main themes and could not place it in its chronological and geographical context. The redesigned landing page now provides a clear project statement and description, a welcome video with a brief historical overview and project orientation, and visual navigation leading to other sections of the exhibit.

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Example: The First Days Project (<https://firstdays.saada.org/>) foregrounds its archival mission and structure with a simple and yet visually robust homepage. Following the clear title (“What's your story?”) and description (“The First Days Project shares 831 stories of immigrants' first days in the United States.”), the homepage immediately presents multiple avenues for users to enter the project, including a standard search and browse, as well as rotating story highlights, a clickable timeline visualization of archived stories, and the options to browse by map, gallery, random story, recently added, or most viewed. No scrolling is necessary to identify the sponsor of the project, the South Asian American Digital Archive [Moon 2016].

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4. Consider the Role of Delight

Digital platforms and technologies support more than the delivery of scholarly content and can also facilitate unique opportunities for audiences to engage actively and even play with source material [Potts 2015]. More than just being “fun,” *delighting* people viscerally, behaviorally, and reflectively captures their senses, immerses them via an easy-to-use and reliable system, and connects them to their emotions, values, and identities [Norman 2003] [Walter 2011]. Strategically leveraging digital features to encourage thoughtful participation and exploration helps audiences convert knowledge into experience. This is the *experiential* aspect of UX that is often neglected in favor of technical correctness. With so much competition for people's attention, they will not return to or promote a project without an element of delight. By considering users more holistically, digital projects can attract and retain audiences.

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Case Study: Rounds of UX testing on SYRIOS reinforced the link between a visually pleasing project and user engagement. As one tester remarked, “The logo and the design and the colors make me feel like it wants to provide a better experience.” UX testing also revealed the importance of recreating tactile encounters, such as allowing users to handle, inspect, and sort through a digital pile of ancient coins. Alongside comments on the “fun” of this interface, testers requested goal-oriented prompts to guide their exploration of the artifacts.

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Example: What is Missing? (<https://www.whatissing.org/>), an ecological digital humanities project by artist Maya Lin, fully embraces a sensory and affective experience both to capture and challenge users about environmental loss, conservation, and sustainability. A natural soundscape accompanies the central “Map of Memory,” a dynamic globe that facilitates self-directed exploration of multimedia and interactive “ecological histories” and solutions (both real and imagined). Users are encouraged to react with grief and hope by submitting their own memories about the natural world, which are then integrated within the site [Ladino 2018].

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Example: Virtual Angkor (<https://www.virtualangkor.com/>) draws upon 3D technology to recreate the Cambodian metropolis around 1300 CE. The project offers three digital experiences: 1) a simulation of life for different agents at the temple complex over a single day, 2) an interactive aerial map of the greater territory, and 3) a first-person virtual reality tour of the city. Intentionally built for classroom use, the project’s reconstructions have been carefully populated with soundscapes based upon actual field recordings, 3D scans of museum artifacts digitally repatriated, and over 20,000 human and animal characters [Whiteman 2023].

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5. Strive for Inclusivity

How data and other content are digitized, cataloged, and communicated can obstruct or welcome diverse audiences [Zaagsma 2023]. Choices in language can be especially powerful in shaping how information is accessed and knowledge constructed [Gazi 2014]. Freeing projects of jargon that a non-expert cannot understand broadens the potential user base [Loranger 2017] [Rosenberg et al. 2023]. Where specialized language is unavoidable, providing clear definitions invites audiences into the scholarship. As the DH community expands, projects have also begun considering whether their audiences or the communities they represent require or will benefit from metadata and content in more than one language [Galina Russell 2014] [Dombrowski and Burns 2023] or through an intersectional presentation [Bauer et al. 2021]. Being attuned to where additional contextualization, representation, or alternative perspectives are needed helps achieve a core DH value in democratizing knowledge without perpetuating colonial and other harmful structures [Cohen and Rosenzweig 2006] [Balkun and Deyrup 2020].

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Case Study: Language use has been a critical focus of SYRIOS in its goals to bridge academic and general audiences and connect Western audiences with Middle Eastern cultural heritage. With the goal of making ancient Syrian coins accessible to a broader audience, care has been taken to explain and provide glossary definitions for unfamiliar words. A card-sorting study with general audiences helped further identify challenging terminology commonly used in numismatic research. As one tester commented, “The site doesn’t seem to be talking down to users, and I really like that.” One area of weakness that continues to be addressed is the Western (and even American) bias in language and reference points. One tester, a Syrian national, recommended adding Semitic or Arabic place names where possible, instead of relying solely on Greco-Roman nomenclature.

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Example: The Healers Project: Decolonizing Knowledge Within Afro-Indigenous Traditions (<https://healers.uoregon.edu/>) is an ethnographic archive that prioritizes the voices, experiences, and expertise of Indigenous and Afro-descendent healers and knowledge keepers within the Caribbean and Pacific Northwest. Richly informed by an intersection of disciplines, this project has evolved from a focus on Caribbean women healers to encompass a broader and more complex vision of the community. At each stage, project leaders collaborated with interviewees to determine how they wanted to be recorded and subsequently presented online [Gaede et al. 2022]. All material is presented in both English and Spanish.

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6. Avoid Feature Creep

Digital technologies offer an astounding array of possible website and app features, yet many of these components go unused due to being irrelevant or inappropriate for a user [Warwick 2012] [Shmueli, Pliskin, and Fink 2015] [Liu, McKay, and Buchanan 2021]. DH teams can avoid feature creep by clearly defining and prioritizing a project’s scope, regularly reviewing initiatives with all stakeholders, and establishing strict processes for introducing new additions. A mindful project incorporates features that support both core objectives and the needs of its audience(s), particularly in helping people find information and engage with content in a compelling way [Travis 2011]. Features are best selected when

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backed by an actual use case for the project rather than for the sake of applying a new or flashy technology [Thoden et al. 2017].

Case Study: Ambitious undergraduate UX and social science students working on SYRIOS suggested an AI-powered chatbot as a potential new feature for the project. They are not alone, as many websites are jumping to incorporate bots without a meaningful reason to do so. However, SYRIOS does not have a use case for a chatbot. We have collected no evidence from user testing that any of our persona categories would prefer conversing with a bot over self-directed exploration of the project. It might be fun for students to create the bot, but it is likely to be more annoying than helpful for most of our project's visitors.

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Example: The William Blake Archive (<https://blakearchive.org/>), a digital humanities project first launched in 1996, has intentionally addressed the challenge of feature creep or “the wish to make existing tools perform more and more functions, just because they can” [Reed 2014]. Proposed changes to features or tools are carefully evaluated in relation to the project's core mission, resource limitations, and the risk of “unnecessary redundancy.” Rather than constrain the project, this approach has enabled a thoughtful development of the archive, such as enhancing the compare feature to accommodate newly added media.

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7. Take Extra Care with Data Visualization

The ubiquity of digital tools and programs creates the illusion that data visualizations (e.g., maps and timelines) are easy to produce; however, selecting the right content expression requires time and careful consideration. This process begins with a firm understanding of the data itself (e.g., its variables and what or whom it represents), the objective for the visualization (e.g., synthesize complex data, communicate a narrative or argument, promote free exploration or research queries, pose a challenge or task), and the needs of intended audiences (see [Ma 2013] [Lupi 2017] [Grandjean 2022]). Whether static, dynamic, or interactive [Graham, Milligan, and Weingart 2016], strong data visualizations prioritize clarity and legibility of information over flash and novelty. Controls are intuitive, legends and keys are easily interpreted, and instructions — if needed — are easy to find and clearly worded. Finally, DH projects can help remind a data-saturated society about the humanity behind the numbers by being transparent about decisions made during the building process, acknowledging limits or lacunas in the underlying data, and providing context for quality interpretation [Boyd Davis, Vane, and Kräutli 2021].

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Case Study: UX testing for SYRIOS and other coin-based projects revealed that mapping interfaces present significant challenges for both general and scholarly audiences. Regardless of the platform used (e.g., Tableau, ArcGIS), testers expressed frustration with navigation, data filtering, a lack of contextual information, and overall comprehension and interpretation. Revisiting the project's core objectives for mapping coins — visualizing curated data sets of excavated coins to highlight how and why these objects moved through the ancient world — underscored the need for a custom-built interface. Still in development, such an interface will give users more control over background topographical and political layers, chronological filters, and the types and filters of coin data displayed. Explanatory content will accompany each mapped perspective to support user interpretation.

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Example: Atlante Calvino: letteratura e visualizzazione (<https://atlantecalvino.unige.ch>) foregrounds data visualization to explore and critically analyze the narrative works of 20th-century Italian author Italo Calvino. Users engage with a wide variety of dynamic visualizations by following three “itineraries” based on Calvino's major themes of doubt, space, and form. The project prioritizes the interpretation of its specialist audience by offering detailed explanations and keys for each complex visualization (“What is it?”, “How does it work?”, and “Reading Tips”), along with a comprehensive user guide, video introduction, and “Compass” (three visualizations (i.e., timeline, flow diagram, and network visualization) contextualizing Calvino's full literary career). It also emphasizes transparency by documenting the decisions and definitions involved in constructing the data and providing downloadable datasets [Giustetto and Parigini 2025].

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8. Eliminate Unexpected Page Behaviors

People want a sense of agency when they are online. Websites or apps that suddenly make sounds, launch videos and

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other pop-up windows, go to an external site, or automatically download PDFs generate feelings of annoyance, lack of control, and general anxiety [Nielsen and Kaley 2020]. Providing opportunities for users to decide (e.g., tapping a button to trigger an action) and clarifying what that decision will do (e.g., downloading a file or moving to an external page) cultivates a more transparent experience. Rather than relying on default developer solutions and website behaviors, teams can also collectively brainstorm meaningful and secure ways of delivering content that will not be impeded by pop-up blockers [Edwards, Li, and Lee 2002].

Case Study: UX testing for SYRIOS and other coin-based projects revealed multiple instances where unexpected page behaviors frustrated testers. In one instance, about a quarter of testers unintentionally ended up on an external page while trying to find a specific section. Ongoing efforts to prevent this include adding clear icons that indicate when a link will direct users to an external site. In another example, a pop-up of a coin image while a page was loading prompted an older tester to say, “Oh no, did I do that, or did you do that?” UX testing recommended replacing the confusing image with an hourglass to indicate the page is loading.

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Example: The educational site and mobile app Clio (<https://theclio.com/>) relies upon crowdsourcing to preserve a broad definition of local historical and cultural sites within the United States. One of the features offered is guided walking tours, both virtual and physical, which includes the option for generating a printable map. Before the PDF downloads, a pop-up window allows users to customize their tour according to whether they are driving or walking, which direction the tour should follow, and how much information and images they would like the guide to include. This added level of customization keeps the user in control.

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9. Build Accessible Projects

Accessibility concerns the needs of neurodiverse people and those who require physical accommodations [Kohler 2023]. Providing equal access to content entails being vigilant in addressing unnecessary barriers (e.g., lack of video captions or transcripts, poor color choice, or inadequate contrast) and in considering the functionality of assistive technology (e.g., screen readers) and alternative navigation methods (e.g., keyboard-only navigation) [Scherer and Federici 2022]. Accessibility also extends to neurodiversity and the varied sensory and attentional needs of audiences [Hecks 2024]. Taking accessibility seriously from the earliest design stages can avoid the challenges of retrofitting a project later [Oswal 2019].

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Case Study: One challenge faced by SYRIOS was the use of colors on our timeline to indicate geographical regions. Although the project’s overall visual branding had passed accessibility checks, the use of color as the sole means of helping users distinguish information was risky and required additional checks. Because SYRIOS is designed in the prototyping software Figma (<https://www.figma.com/>), we checked each of our colors using its color contrast checker and discovered that our color palette failed all contrast tests and required a new design. Similarly, the instructional videos on the site did not display closed-caption text. YouTube provides automatic, albeit imperfect, captions, but requires a subscription for users to avoid advertising interruptions. We thus chose Vimeo as our host, which currently requires captions to be already embedded in the video or a paid subscription to generate them.

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Example: Digit(al) Shakespeares, a short film for #transformDH, advocates for greater accessibility for the Deaf community within the online Shakespearean canon (Digit(al) Shakespeares (Tyrone Giordano and Jill Marie Bradbury) [#transformDH 2015] [Gottlieb 2023]. Presented in American Sign Language (ASL) with English subtitles and no audio, the film highlights how new technologies can support the sharing, preservation, and study of staged translations by Deaf and hearing audiences alike (e.g., ASL Shakespeare (<http://aslshakespeare.org/>)). At the same time, digital archives of spoken-word performances must improve their captioning practices and prioritize accessibility in their design process.

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10. Emphasize Project Development Rather Than Deficiencies

Until they are archived, DH projects are living and evolving products with multiple milestones, varied outcomes, and different phases of completion [Brown et al. 2009]. Making a dedicated page about project timelines and long-term goals can invite audiences into the process and help them understand the decision-making behind how content is digitized and presented. However, many projects overemphasize what is still under development, not yet working, or will be

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created in the future, instead of focusing visitor attention on the features that have already been developed, tested, and published [Dale 2015]. Instead of apologizing for what a project is not, teams can confidently highlight what visitors can do now while inviting audiences to join the project’s community by subscribing to updates.

Case Study: As SYRIOS is still in its prototyping phase, the team has had to balance experimentation and ongoing development with delivering a polished product to the public. In one iteration of the project, we even placed a feedback button on several pages to solicit user comments on deliberately incomplete features, such as the timeline. However, earlier UX testing had already demonstrated that the interactive map required extensive development, so it was removed from the top navigation to not distract from the project’s other sections.

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Example: A significant puzzle for Sharing Stories from 1977 (<https://sharingstories1977.uh.edu/>) has been that the biographies of delegates to the National Women’s Conference are published gradually as students and historians complete them. Because this is time-consuming collaborative work, the available datasets are overshadowed by those still in progress, and the site risks having pages that emphasize what is not yet available. Among many solutions, the project team decided on a map that visualizes current data and allows the “Researching the NWC” page to “light up” new U.S. states each time one is completed. Between that and a newsletter with updates, Sharing Stories from 1977 has been able to move away from an “under-construction”-centered approach to managing data rollout.

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Heuristic	Practical Advice for Addressing a Heuristic	Relevant UX Strategies (see Table 1)
1. Respect the Medium	Eliminate long paragraphs, breaking them into smaller ones. Prioritize copywriting to be as succinct as possible without losing content or important context. Consider multimodal presentation of material. Audit the project to identify places where citations might take users out of the project, and revise so that citation information can be found without interfering with their journey.	Content Strategy Analysis, User Interviews, Journey Mapping
2. Invest in Thoughtful Information Architecture	Think carefully about how data is arranged/categorized and any intended uses of it within the backend and frontend. Map out project structure using flow charts to make sure it is well organized. Test any frontend search or navigation thoroughly, and do not launch a search feature until it is fully functional.	Card Sorting
3. Treat the Homepage as the Project's Abstract	Identify key aspects of project information and media to deliver to users immediately and establish expectations. Ask external reviewers who have never seen your project to explain what it is about based only on your homepage. Have a second pool of testers enter from a secondary page and do the same.	“5-Second test”, Usability Testing
4. Consider the Role of Delight	To check for delight, observe people engaging with your project, either during usability testing or independently. Then, talk to your user experience designers about skeuomorphic design (i.e., when user interfaces mimic familiar, real-world objects and experiences) and other	Usability Testing, Interactive Workshops, A/B Testing

	engagement approaches.	
5. Strive for Inclusivity	Assess the need for your project to be translated into other languages based on its subject matter and audiences. Review your project for language that exceeds an 8th-grade reading level; consider testing your project with 12–14-year-olds. Also review for language that might not otherwise be accessible to all and build solutions into your system for things like regional or historic spelling variations, colloquialisms, and wordiness. Usability testing can help projects avoid language bias, as perspectives outside the project team are critical to identifying confusing terminology.	Cloze Test, Comprehension Survey, Readability Analysis
6. Avoid Feature Creep	Audit project features to check whether they contribute to the project's goals and have a clear audience or distract from features that do meet these goals. Ask whether the feature is something users need and want rather than something the project team thinks they should want.	Surveys, Card Sorting, User Interviews
7. Take Extra Care with Data Visualization	Before selecting a tool, sketch out key concepts for your visualization (on paper is fine). Solicit extensive user feedback on both content and technology. Do users understand how to read and interpret the data visualization? Can users find information readily using this visualization? Does it suffer from lag (i.e., taking too long to load)? Are its controls intuitive? Can the data visualization be used without reading directions first? If it requires directions, is this information easy to find and understand? Pay attention to the location and clarity of legends and keys. Make sure to test with people who represent your future audience and not project team members.	Usability Testing
8. Eliminate Unexpected Page Behaviors	Eliminate pop-up windows. Make sure the use of PDFs is communicated to visitors, as they will either download a file or open it in a new browser tab. Make link language clear. When testing, take note of places where users ask, “What did I do?”	Cognitive Walkthrough, Usability Testing
9. Build Accessible Projects	Review accessibility guidelines and use online accessibility checkers. Perform an accessibility audit of your project with the help of someone experienced in accessible technology and/or involve testers who use accommodations. If your project is run from a university campus, involve students with cognitive or physical	Accessibility Audit, Usability Testing, Focus Groups

	differences in testing.	
10. Emphasize Project Development Rather Than Deficiencies	Remove language about features that are unavailable, “under construction,” “coming soon,” or not yet working the way they will in their final form. Hold back features until they are fully usable (and tested). Consider making a “project timeline” page to communicate your process and plans to promote transparency about your project’s evolution.	Focus Groups

Table 2. Practical Advice and Recommended UX Strategies

Conclusion

User experience (UX) represents a form of expertise akin to technical and subject matter specialization. Its integration within the digital humanities is long overdue, ensuring that the projects, tools, and resources we build meaningfully reach our audiences. UX provides the research and methodologies to assess how users encounter our work at each stage and whether their engagement aligns with our goals and expectations. UX helps to refocus and refine our questions, underscoring the centrality of functionality and audience reception alongside academic rigor and technical sophistication. In fact, by prioritizing the user, UX practices provide an excellent bridge between the humanities content and the technical solution for that content. UX helps humanists articulate effective design for their content and assists technologists in building practical and delightful systems, platforms, and interfaces.

Additionally, in a climate where budgets for DH projects may be limited, integrating UX best practices early on in development can help teams avoid wasting time and resources. Talking with intended users, testing labels and navigation through detailed sketches, and checking overall clarity lets projects confirm needs before the software and data team members begin major construction of project databases, interfaces, and pipelines. With a clear and verified plan, technologists build only once instead of spinning up parallel versions or massively reworking features after launch. In short, a little user research up front prevents expensive rebuilds and keeps resources focused on the scholarship rather than avoidable engineering churn.

While ideally a UX practitioner will be a part of every DH team, reimaging and clarifying UX methodologies for a DH context is a step in the right direction. The ten heuristics proposed in this article serve as an efficient contribution to this larger vision. They function as an iterative checklist to facilitate self-evaluation and collaboration on a project, regardless of members’ backgrounds, expertise, or financial resources. Their very generality means that they can be scaled and adapted depending on a project’s goals and budget, which allows teams to prioritize accessibility, user comprehension, and engagement over flashy and expensive technology. DH teams need not feel pressure to address all the heuristics at once, but rather to revisit them throughout a project lifecycle as a reminder of audiences’ needs and expectations in a digital environment.

Further discussion is still needed on these heuristics as well as on other methodologies and practices in UX research. Although we have shared our proposed heuristics with other teams developing DH projects, we invite more review of their application and efficacy with digital tools, projects, and resources throughout the community. Continued conversation is also beneficial for UX research. User experience professionals frequently must work at a rapid pace and with a focus on business objectives. Participation in DH projects allows UX professionals to slow down and apply foundational principles of the field towards the goal of enhancing understanding and knowledge. As learning opportunities for their creators as well, DH projects enable UX professionals to experiment with new research methods and tools in a manner that benefits the entire team. Ultimately, deeper engagement on the integration of UX and DH will elevate our work and help us produce substantive projects that cater to diverse audiences, general and scholarly alike.

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