

Mobile Video Gaming for Humanities Education and Scholarship:

A Case Study in Knowledge Exchange and Digital Humanities



Lena Emelyn Zlock

Master of Science by Research in Education

Linacre College

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Abstract

The humanities at the higher education level presently find themselves at a crossroads. Scholars in the humanities perceive themselves to be under pressure to quantify or describe their work in terms of relevance and monetary value. The alternative solution that presents itself is what many critics argue is a surrender to external agendas and a compromise on the ‘inherent value’ of the humanities (Small, 2013). This existential challenge is reinforced by two factors: first, a policy shift in higher education to promote research that is collaboratively developed and geared towards public, non-academic, or academic-adjacent audiences, called ‘knowledge exchange’ (KE). The second factor is a growing emphasis on the incorporation of digital technology into research methods and outputs, referred to in this thesis as ‘digital humanities’ (DH). KE and DH are flashpoints for controversy in the humanities, with some seeing them as harbingers of the field’s downfall and others viewing such approaches as a way for the field to move forward. The thesis will focus on knowledge exchange projects in the humanities that use digital tools. It would have been, in principle, possible to separately examine knowledge exchange and digitally-driven humanistic scholarship. However, the thesis looks at projects that combine both approaches because 1) while superficially they make look different, at their core they share many attributes and aims, and 2) by looking at projects that involve both, we take as our study the most ‘extreme’ option. This is an ideal way to test the limits of reform and resistance within the humanities, and to get a detailed picture of their impact.

Introduction

Since the global economic recession of 2008, within the humanities in the higher education systems of the United States and the United Kingdom there has been an ongoing debate about the value, relevance, and purpose of the humanities in both academic and societal terms. The contours of this debate often morph into a binary. On the one hand, there are scholars of the humanities who claim that its constituent fields do not need to demonstrate their worth, as it has an ‘inherent value’ (Small, 2013). The corollary of this argument is a suspicion of new or seemingly extrinsic methodologies, which the same scholars perceive as attempts to quantify or render ‘useful’ humanistic scholarship in

quantitative terms. On the other hand, there is a growing and increasingly integrated presence of such methods, like digital humanities (DH) and knowledge exchange (KE). These approaches have their own adherents, from individual scholars to administrative and funding bodies. These methods, which prior to the 2008 crisis were largely marginal or altogether absent from the landscape of the humanities, have become flashpoints for discussions about the area's identity, practices, and future. Many of the key works in this debate were developed in the realm of abstraction or at a distance, by scholars who were not directly engaging with those methods or actively involved in the negotiation of initiatives like university policy, funding directives, or the development of different scholarly practices. Other key works looked inwards and to the past, seeking to reclaim an identity that some believe to be endangered by the developments of the 21st-century. On the other side of the binary, scholars working with tools like DH or KE expound the value of these methods to achieve new outcomes in their research. Still others go further to argue that technology will be an inevitable presence in academia and should be treated as such. It remains a gap in the literature of the humanities to integrate these discussions into a holistic appraisal of the identity and future of the humanities as it stands against the backdrop of rapidly shifting currents in methodology, policy, and funding. Such an appraisal requires a move from abstraction, on the one side of the binary, and another move from the realm of purely technical considerations, on the other, to an approach that combines both perspectives with a rigorous conceptual underpinning. For that reason, this thesis was written, not in a humanities faculty, but in a faculty of educational research. The context of educational research permits an essential process of empirical research to unfold that would be otherwise constrained by humanistic methodology. To fill the gap in the literature, the thesis will use a case study of a DH-KE project to interrogate the conceptual binary that has characterised debates about the identity and future of the humanities.

In order to create a three-dimensional assessment of the state of the humanities in higher education within the microcosm of a case study, the thesis will assess the contributions of the case study across three parameters: existential, policy, and technical. The existential dimension concerns how humanities scholars understand the future of their disciplines and their responses to policy and

methodological approaches like knowledge exchange and digital humanities. The policy dimension looks at shifts in both government and university policy, their implications for higher education, how universities respond and adapt, how digitally-driven knowledge exchange policies are implemented at the departmental and individual level, and how the outcomes of these projects in turn impact the university and how scholars understand themselves in response. Finally the technical dimension looks at the actual construction of a DH-KE project, from its conception to the building process, launch, and reception, and how these processes challenge fundamental components of humanistic scholarship like skills, collaboration, and output. These three dimensions can be found across the vast literature concerning the humanities, albeit in fragmentary and siloed ways. The problems that scholars have identified as facing the humanities cannot be understood through one lens alone. By extension, the solutions that university administrators, department heads, policy pundits, and individual scholars will develop will necessarily have to account for all three. The thesis will make a contribution to the literature by considering them in tandem in the context of a DH-KE project that has been fully conceived, developed, and seen through to its finish. The thesis has a unique perspective on this project through the author's autoethnographic positionality as the project's principal investigator. By looking in depth at such a project, it will permit the thesis to interrogate the binary through the lens of reality, rather than abstraction. The completion of the project likewise permits an honest and thorough appraisal of its potential contributions to humanistic scholarship. The thesis will argue that rather than understanding the future of the humanities as a false choice between tradition and modernisation, between authenticity and compromise, there is a middle road that allows practitioners to bridge their craft with methods that shape their research in positive ways. It will examine in particular the socially-oriented dimensions of DH and KE, arguing these are actually a benefit to humanistic scholarship, as they increase awareness, engagement, and longevity of research. Further, it will argue that rather than understanding the future of the humanities as a binary or as dependent on a reactive approach to external pressures, it will encourage a more embracing, thoughtful, and proactive way to develop and reform.

The thrust of the investigation was to identify a context in which the humanities were being challenged to reexamine what had long been taken for granted (for example, their focus, methods, audience, and practices). There are a variety of possible options in which to examine how the humanities are developing in response to a plethora of different forces. For example, a growing area of investment is the relationship between the humanities and business, including ethics and leadership (Thate, 2023). There has also been significant emphasis on the potential contribution of the humanities to sustainability and climate change (Elliott *et al*, eds, 2017). Still others have oriented humanistic research towards a post-colonial focus, seeking to find tools for grappling with the legacy of colonisation and the pathways of reparation (Huggan, 2008). The digital humanities and knowledge exchange are a further two phenomena which in their advent have raised a host of questions about the value, relevance, and purpose of the humanities. The following section on terminology will provide definitions at length for each of these terms. Here it is worth noting why each was chosen. Within the humanities, DH offers the prospect of incorporating tools that were not previously found within humanistic research, or were otherwise seen as auxiliary to the research process. With DH methods, digital technology was seen as a driving force to handle large amounts of data and answer long-standing research questions (Kaplan, 2015). It challenged what was considered as legitimate practice. The skills required to use digital tools necessitated the involvement of third parties, such as specialists in information technology. These new collaborations challenged the boundaries of who was involved in humanistic research. KE brought a similarly new dimension to many facets of the research process. Its emphasis on building partnerships with extra-academic entities opens new pathways for the facilitation and dissemination of humanistic research. DH and KE provide case studies in which to examine some of the most fundamental issues that target identity, purpose, and practice. The choice of these two areas is also shaped by the author's autoethnographic positionality. In order to move from abstract or hypothetical conjectures about the future of the humanities to an empirically-grounded case study, it was useful to identify an area which the author could speak to both in their capacity as the investigator of this study, and also as the active practitioner of the project that forms its focus. The author's familiarity with the areas of DH and KE and their lived experience as a practitioner help the thesis to be grounded in empirical observations. It would have been possible to examine the

contributions and limitations of DH and KE as separate phenomena. This thesis takes the next step by examining a project that combines both approaches. In doing so, it presents a use case positioned at the outermost end of humanistic practices. The section on limitations will consider in detail the issues that arise with this approach.

The aim of the thesis by its conclusion will be to demonstrate that, in a discourse heavily colored by cynicism, fear, and worry, DH and KE can actually give us hope for a future that balances the concerns of the past with the opportunities of the present.

The first section of the thesis will clearly define the main terms used in the text: humanities, digital humanities, and knowledge exchange. It will make a brief explanation of the term ‘project’, as a concept that operates in the liminal space between traditional and newer humanistic methods. The second section will present the research questions of the thesis, followed by the literature review. The literature review will outline the contours of the discourse that has shaped how the humanities have understood and themselves since the 2008 global economic recession. The review is structured along the three paradigms outlined in this introduction: existential, policy, and technical. The section on existential literature will look at texts concerning the relevance, value, and purpose of the humanities from a variety of perspectives. Policy literature considers documents that seek to shape how research is done and to what concrete or practical ends. The section in particular looks at strategic documentation from third parties like government ministries and funding councils. The section on technical literature will look specifically at the technical issues that arise with DH and KE, and how these interact with humanistic research. It will critically examine the arguments to demonstrate that they frequently locate themselves within the binary explained in this introduction. Following the literature review, the methodology section will explain the unique contributions of the thesis to the research questions through the use of an autoethnographic, narrative-driven approach that allows for an internal view of DH and KE work. The section will present the use of qualitative content analysis (QCA) and thematic analysis (TA) as useful analytical tools to draw out key themes and ideas from the data. The subsequent sections on limitations and ethical considerations will look at the other side

of the proposed contributions of the thesis, what problems may arise from them, and how to mitigate possible risk. The findings and discussion sections use the analysed data to demonstrate in clear terms how the binary first explored in the literature review can be overcome to reveal a more proactive, holistic stance on the future of the humanities.

Terminology

Before beginning the investigation of this thesis, the section will provide a clear definition of the major terms used throughout. It is essential to have this clarification from the outset because, especially in contexts as charged as the future of higher education, terms can be used without precision and often misconstrued or misunderstood. Moreover, different terms may be deployed to various ends in different contexts. To help the reader understand the precise implications of the following pages, the terminology section will define: ‘humanities’, ‘digital humanities’, and ‘knowledge exchange.’ The definitions will be based on existing usage in the context of higher education humanities, rather than the author’s preconceived notions of what these terms mean. This will allow the usage to be meaningful to the reader and be grounded in a real context, as well as to capture their respective nuances, contexts, and implications.

An additional caveat is necessary before proceeding. The thesis will frequently refer to concepts such as ‘traditional’, ‘innovative’, ‘past’, or ‘present’, and other related terms. It does so not with the aim of establishing a normative framework that firmly defines a certain set of methods as traditional or located in the past, versus those which present an ostensibly more forward-looking approach. Rather, the use of these terms draws from the discourse in which the thesis is aiming to make an intervention. The use of these concepts by scholars engaged in this discourse indicates how they themselves often understand the value, relevance, purpose and subsequently the future of the humanities.

Humanities

The humanities, while a frequently used and foundational term throughout discourse on higher education, are in practice defined fluidly and with variation depending on the institutional, policy, or

even national context that is being discussed. This dissertation was developed in the United Kingdom, along with the case study at its heart. The projects used as examples of DH and KE work in the following chapters are predominantly from the Anglo-American context. While even within this context there is variation across universities as to which motivations, disciplines, and methods constitute the humanities, our definition will proceed from the indications given by scholars operating in this area. As it regards the motivations of humanistic study, Wilson (n.d.) explains that, ‘The humanities help us understand the experience of being human by asking the big questions that individuals and societies face day after day, year after year, generation after generation, and century after century: What is true? Why do we do what we do? How should we lead our lives?’ MacCulloch (2018) furthers this definition by expanding the insights of the humanities, particularly the questions regarding ‘we’ to others, ‘of applying this self-knowledge by an effort of creative imagination to the situations of other humans, or to the societies that humans have constructed, in which we or others may find ourselves.’ Drees (2021) writes in agreement, ‘Humanities are academic disciplines in which humans seek understanding of human self-understandings and self-expressions, and of the ways in which people thereby construct and experience the world they live in.’ These proposals establish that the main goal of the humanities is to understand the human experience with the aim of better understanding ourselves and establishing a rapport with others at an individual, communal, and societal level. While this may be largely a consensus view, the question of which disciplines constitute the humanities remains the subject of debate and variety. For example, history may be classified in one institution as a humanities subject and in another as a social sciences subject. Additionally, there is a methodological division between subjects such as literature and those which employ physical tools like the fine arts. A 2021 report from the Higher Education Policy Institute entitled ‘The Humanities in Modern Britain: Challenges and Opportunities’ takes a nuanced position: ‘There is no standard list of which academic subjects count as humanities, although any such list would be likely to include: Ancient and Modern Languages; Classics; English or Literary Studies; History; History or Art; Music; Philosophy; and Religious Studies. The phrase ‘arts and humanities’ is sometimes used to classify the same subjects. Forms of artistic practice such as singing, playing musical instruments, dancing and working in visual media are sometimes counted among the humanities or are classified

alongside them, but neither approach is taken here. This is because the challenges and opportunities facing higher education institutions providing artistic training, such as conservatoires, are different to those teaching and researching the humanities.’ (9) The author makes a similar argument to distinguish the humanities from the social sciences, which ‘fare differently...in areas such as graduate employment.’ (9) The value of this particular definition with its multiple facets for the following sections is that it makes its distinctions on the grounds of the different challenges facing respective disciplines, even those which share conceptual affinities like the arts and humanities. The discussion of this thesis will focus on how methodological and disciplinary approaches like digital humanities and knowledge exchange can address or play a role in the context in which such challenges arise.

Digital humanities

The definition of ‘digital humanities’ (or DH), like its analogue counterpart ‘humanities’, can be a reflection of the wider context in which it is situated, in particular the challenges and opportunities facing a given area of study. And like the definition of ‘humanities’, it requires careful nuance to distinguish from methodologies or disciplines that share overlaps but which have different histories and implications, such as ‘digital scholarship’ and ‘humanities computing’. This definition will highlight three elements: methods, social dimensions, and existential concerns. Schreibman, Siemens, and Unsworth (2004) in their seminal text *Companion to Digital Humanities* define the contribution of DH tools with the following examples:

‘There is, for example, a shared focus on preserving physical artifacts (written, painted, carved, or otherwise created), that which is left to us by chance (ruin, and other debris of human activity), or that which has been near-impossible to capture in its intended form (music, performance, and event). Yet many disciplines have gone beyond simply wishing to preserve these artifacts, what we might now call early forms of data management, to re-represent and manipulate them to reveal properties and traits not evident when the artifact was in its native form.’ (page n.d.)

This example captures two essential components of the DH toolkit: first, the preservation of artefacts and other paraphernalia essential to the study of the human experience, and second, the application of digital methods to uncover what was invisible or impossible to do with non-digital methods, and as such as such to tackle unanswered research questions or generate new ones using digital tools. We can therefore posit that one definition of DH is the use of computational and digital technologies to

answer research questions in the humanities that could not be answered sufficiently by existing and longstanding methods within the humanities. This definition emphasises that the use of computational and digital technologies must do something new that could not be done before, thereby cautioning against the use of technology for its own sake (Koh, 2015). The definition can be taken further using Kirschenbaum's (2010) argument that 'digital humanities is also a social undertaking. It harbors networks of people who have been working together, sharing research, arguing, competing, and collaborating for many years' (p. 57). The thesis will demonstrate how humanities research projects that employ DH methods foster this 'social undertaking' in ways that are not typically present within the humanities. In the same way that scholars and policy specialists grapple with the question of what constitutes the humanities, a similar question arises regarding which disciplines, tools, and methods are legitimate to include within a definition of DH. Svensson (2012) argued for a 'big tent' conception of DH that embraces a wide diversity of different tools, infrastructures, and participants, rather than a priori excluding. This approach would foster 'considerable richness' and 'increase[... possible points of interaction between the humanities and the digital, and between the digital humanities and the humanities', with the goal 'to stimulate visionary and transformative thinking, and it can be a site for innovation, reconfiguration and exploration.' (145, 159, 160) For the purpose of this thesis, thinking in terms of the big tent will allow the study to have a holistic appraisal of the DH landscape in order to best inform the research questions. DH of course did not emerge in a vacuum but is a product of its time, and it is essential that any functional definition take this into account. The texts cited in this definition are considered among the most foundational in this area. And on closer examination, the dates of their publications coincide with a flurry of scholarly and policy outputs that interrogated the relevance, purpose, and future of the humanities in higher education. The literature review section will delineate in greater detail precisely how DH responds to these issues. Here it is sufficient to note that while the digital humanities were not born exclusively out of an exigency to salvage the humanities from existential peril, they remain an essential partner in dialogue regarding those issues. Finally, it is necessary to distinguish DH from related but distinct areas of methodological development, namely 'digital scholarship' and 'humanities computing'. Humanities computing historically refers to the period before what is now known as 'digital humanities', the latter emerging as a discreet concept in

the first decade of the 2000s. As a precursor, humanities computing was defined by early attempts to grapple with large amounts of data, whereas DH took this a step further by analysing, preserving, and transforming the data into digitally-driven outputs and artefacts. ‘Digital scholarship’ conversely can be located in the period following the ascent of DH as a methodological toolkit found across humanities faculties. As the name suggests, digital scholarship can potentially encompass a wider range of disciplines and methods, while continuing to be based on the same principles that motivate DH work. (Association of Research Libraries, n.d.; Digital Scholarship at Oxford, n.d.)

Knowledge exchange

Knowledge exchange, like the preceding two definitions, is similarly nested within a field of related terms which are often used interchangeably, and as such risk losing the nuances which make them distinct methodological approaches. KE however has a stronger institutional basis in terms of its history and development. The definition used in this thesis takes its indications from the institutions that promote KE work in order to capture its particular context. For example, the government educational policy and funding body UK Research and Innovation (UKRI), which developed the foundational Knowledge Exchange Framework, defines KE in the following way: ‘Higher education providers (HEPs), such as universities, teach students and undertake research that creates new and useful knowledge. But they also work with many different types of partner [*sic*] to ensure that this knowledge can be used for the benefit of the economy and society - this is known as knowledge exchange (KE).’ (KEF, n.d.) The Economic and Social Research Council adopts a similar definition, noting that

‘Collaboration between researchers and businesses, policymakers, the public and third sector organisations (for example charities and voluntary groups)...can create mutual benefits and contribute to positive economic and social impacts outside academia, for example through changes to policy and practice or new products and services created by commercialising research. Two-way interactions of this type are often collectively referred to as knowledge exchange. This is an umbrella term that covers a wide range of activities researchers might engage in, including policy engagement, public engagement, commercialisation and business engagement.’ (UKRI, n.d.)

Among the terms often used interchangeably with knowledge exchange is public engagement. While these terms are related, they are not bywords for each other. Here the thesis will follow the definition that public engagement is ‘a sub-set of knowledge exchange, i.e. still a two-way process intended to

be mutually beneficial.’ (University of Bedfordshire, n.d.) Public engagement may have shades of nuance apart from knowledge exchange in terms of the audiences typically associated with its activities. For example, KE is often associated with industrial, government, or business partners, where public engagement may touch on other social groups whose interaction is otherwise limited with academia.

Research Questions

1. What is the relationship between the implementation of DH and KE methods, and the wider context of the humanities in higher education?
2. What contribution(s) has the implementation of DH and KE methods made to the way in which humanities scholars understand and conceptualise their work?
3. What contribution(s) has the implementation of DH and KE methods made to the discourse about the future of the humanities and their place in higher education?
4. What is the role of digital technology in the response of a discipline or an institution to perceived existential and practical issues?

Literature Review

Introduction

The aim of the thesis is to assess the contributions made by a DH-KE project to humanistic scholarship within a higher education context. In other words, the thesis is looking at the intervention or contribution that the project is making to an existing context with a long history beyond the project’s immediate digital confines. The study conceives of this context within three interlocking dimensions: existential, policy, and technical questions and issues. The literature review therefore seeks to understand the existing state of knowledge and understanding within the humanities across these three facets, in order to then make an accurate assessment of where a DH-KE project fits into this landscape.

Defining the literature

The first question for such a review is the temporal boundaries of the relevant literature. The purpose of the thesis is not to write a history of DH, KE, or the humanities but rather to delineate the problems and questions that faced the humanities which in turn created an environment in which DH and KE were proposed as solutions, ways forward, and by others as antagonistic forces. At the same time, particularly in scholarship concerning technical developments, there is the risk of looking at topics which are already 'outdated'. It would be possible to take a view of the *longue durée* of the humanities from as far back as the 1980s, when the field of 'humanities computing' was nascent. However, the complex relationship between the humanities, its methods, and the higher educational context in which these entities are situated is not a uniform history. With all of these considerations in mind, the literature review proceeds and considers relevant works since 2008. The global economic recession opened a new arena in which the humanities had to grapple with their identity and their future, laying the foundation for the fields of DH and KE to play their role in the immediate future. The 2012-2013 Humanities Departmental Survey conducted by the American Academy of Arts and Sciences (AAAS) asked, 'How did humanities departments fare during the recent recession?' (American Academy of Arts and Sciences, 2014) While the technical report of the results sought to maintain an optimistic tone, it believed some of the major issues that would reemerge time and again in the literature following the recession, including dropping numbers in students majoring the humanities, and a growing anxiety around workforce preparation for humanities graduates (Chace, 2009). Funding remained a key concern, with a 2014 report by the AAAS noting that 'Total funding for humanities research, education, and programs in the U.S. [is] still below pre-recession levels' (National Endowment for the Humanities). In the United Kingdom, 'Recent changes to policy (such as The Browne Report 2010 and the 2014 REF [Research Excellence Framework]) indicates that humanities research is increasingly required to provide quantifiable or commercial results in order to attain value. Although research assessment exercises have been a formal part of UK higher education since the first Research Assessment Exercise (RAE) in 1986, the last 6 years have seen a significant change in how research is valued within the academy' (Bulaitis, 2017, p. 1). The growing presence of

DH and KE methodologies in the humanities and higher education fields more generally is most closely tied within developments on the existential and policy fronts that this literature represents.

The second issue is the geographical and educational context from which to draw the relevant literature. The issues facing the humanities cannot be generalised across higher education. The conceptualisations of the humanities and their place within their higher education is highly dependent on the educational culture, country, and specific institution in which scholarship is being undertaken. Policy that concerns higher education and the humanities in particular varies from country to country, and can also within a particular region be received and implemented in different ways depending on the institution (such as state vs private universities). Similarly, technical considerations that shape DH-KE projects are closely linked to the resources and infrastructures available in a given area. The major case study of this thesis is a DH-KE project that was developed by an American student at an English university with technical support from a team of Canadian developers. To maintain a close link between the literature review and the selected case study, the review will look at sources from the Anglo-American sphere, either written by authors operating in these areas or by authors who published in Anglo-American scholarly outlets. There are of course crucial differences between both systems of higher education. However, in addition to being closely aligned with the chosen case study, both contexts have produced literature concerning existential, policy, and technical questions that is widely cited and considered essential by scholars working in these fields. The choice of geographical focus is discussed at greater length in the section on limitations.

Existential Literature

The notion of 'existential' literature in the scope of this thesis refers to texts that concern the most fundamental questions about the identity and purpose of the humanities. These questions and the answers proposed are often conceptual or abstract in nature, by contrast to literature that concerns the policy and technical dimensions. These texts provide a starting point from which to understand the landscape in which DH and KE will make their intervention.

Since 2008, a number of scholars have applied an existential lens in response to rhetoric that could be perceived as bellicose or questioning. The early 2010s saw a flurry of literature seeking justifications for the humanities, predominantly from leading scholars in those fields. Collini (2012) in *What are Universities for?* argued ‘...as scholars in the humanities, we should not be willing to re-describe what we most value about what we do purely in terms either of ‘skills’ or of ‘new findings’” (p. 79-80). Small (2013) in *The Value of the Humanities* noted that there are three categories of value: political, economic, and intrinsic. Even with external pressures, Small proposed that the humanities can hold their own by virtue of their intrinsic value, which derives from a ‘distinctive disciplinary character and their distinctive understanding of what constitutes knowledge...’ Belfiore and Upchurch (2013) made a similar argument, urging readers to look beyond reductive metrics to see this ‘intrinsic’ value of the humanities. Nussbaum (2012) took this argument a step further by concretising it in terms of democratic values: ‘Thirsty for national profit, nations, and their systems of education, are heedlessly discarding skills that are needed to keep democracies alive. If this trend continues, nations all over the world will soon be producing generations of useful machines, rather than complete citizens who can think for themselves, criticize tradition, and understand the significance of another person’s sufferings and achievements. The future of the world’s democracies hangs in the balance’ (p. 17). If the position is that the value is intrinsic to the humanities, the natural conclusion is that the problem must surely be a product of external forces (such as government bodies or funding councils). The literature belies an awkward tension: on the one hand, according to these scholars, the burden of proof should not rest in the humanities, who have already demonstrated their importance by virtue of their intrinsic value, but rather on a society which has failed to recognise it. And yet on the other hand, there is clearly a pressure to put this into writing.

Among the most hot-button issues in which this dynamic emerges is the question of relevance. While the authors cited above clearly believe that the relevance of the humanities to a democratic society and to individuals is self-evident, the pressure of the times led others to articulate in concrete terms what this relevance looked like. In *The Public Value of the Humanities* (Bate, 2011), distinguished humanities scholars were invited to contribute chapters with titles such as ‘Live Classics: Or ‘What’s

the use of Aeschylus in Darfur?’ ‘The Value of Genocide Studies’ and ‘The Value of Music Research to Life in the UK’. A similar rhetoric can be found in a 2010 publication from the British Academy entitled, ‘Past, Present and Future: The Public Value of the Humanities and Social Sciences’. The publication highlighted the ‘Humanities for Business’ programme, which included courses entitled “Machiavelli here and now: an exploration of political and entrepreneurial success’, ‘The wisdom of crowds: Rousseau’s impact on modern marketing’, and ‘Inspirational leadership: ethics and deception in Shakespeare’s Henry V” (p. 20). Against the backdrop of intensifying conflict across the globe, Newman (2024) in *Public Humanities* wrote, ‘Only with a turn toward the pragmatic might the esoteric be safely preserved and nurtured. Commitments to curiosity, discovery, and knowledge for knowledge’s sake are the lifeblood of a vibrant civilization. Civil discourse and healthy debate foster such commitments. But all are in danger during prevailing crises that are simultaneously personal, cultural, and planetary. We can deepen the humanities’ essential questions beyond abstractions by applying them in service to solving our society’s most vexing tangible concerns’ (p. 8) These sources are important indicators of a crisis that was unfolding within the humanities, which at its core posed existential questions: who are we, and what do we have to offer? It was a crisis in which the chief stakeholders struggled with what they had valued throughout the course of their careers, but were increasingly aware that this sentiment was not universally shared by the world outside of the ivory tower. And even if there remained any recognition of the inherent value of the humanities, scholars could already see that this value had to be presented in terms of ‘a turn toward the pragmatic’ and the relevant.

The literature demonstrates that this tension led to an increasing polarisation between those, like Collini, who found the entire discourse of relevance and value to be suspect, and those, like Newman and Bate, who sought conciliatory positions that would answer to the exigencies and pressures of the post-recession world. The result of this polarisation was a binary between a reactionary defense against perceived criticism and danger to the humanities, and a more open approach to the integration of new methods and presentations of humanities research, which critics see as a surrender to external forces. It is important to note that this binary was not necessarily a reflection of the actual reality of

choices facing the humanities, as much as it reflected how the humanities struggled with those choices.

DH and KE, both as methodological toolkits and as rhetorical flashpoints, emerge into the world of this binary. DH in particular has become a battleground on which to wage these questions. Koh (2015) warns ‘...“digital humanities” in the guise of ‘humanities computing,’ ‘big data,’ ‘topic modelling,’ ‘object oriented ontology’ is not going to save the humanities from the chopping block. It’s only going to push the humanities further over the precipice. Because these methods alone make up a field which is simply a handmaiden to STEM.’ Roh (in Gold and Klein, 2019) notes that premising the digital humanities on what Watermeyer (2019) calls ‘positional goods’, such as creating relevance for the humanities, sets them up for failure. The focus needs to be on the projects themselves, and on creating a solid foundation, rather than being attracted to the lure of technology in itself (Roh in Gold and Klein, 2019). The third section of this literature review will return to the technical questions that arise from DH and KE. In the scope of the existential literature, understanding how DH and KE are symptomatic of a much deeper discourse about the identity and purpose of the humanities heightens the importance of examining their contributions to scholarship.

Policy Literature

Policy literature refers to those texts which concern the rules, regulations, and policies by which humanities scholarship is shaped and conducted. In the first instance, the messaging of this literature comes from bodies external or adjacent to the academic world, such as government ministries or funding councils. The messaging often does not address the humanities directly but puts forth values or objectives that have an impact on the humanities. In the United Kingdom, a major push came on the issue of ‘impact’ as a framing value for the relationship between universities and society and a metric of the return on taxpayer money (Smith *et al*, 2020). Impact is often understood as a pressure, as Sánchez-Barrioluengo, 2014 (cited in Degl’Innocenti *et al*, 2019), explains, ‘there is a tendency from both policy and management perspectives to impose on all institutions the need to be simultaneously centres of excellence in education, research, and in terms of interactions with the

socioeconomic environment’, a process that is reinforced by ‘research evaluation and resource allocation mechanisms at various levels’. The Research Excellence Framework in the United Kingdom is perhaps the most well-known example.

In the literature around the impact agenda in the arts and humanities, there is a push for humanities scholars to determine what impact looks like for them (Bulaitis citing ECHIC, 2020; Benneworth, 2014). This is especially important as much of the discussion around impact emerges from the world of science and policy (Benneworth citing Berman, 2014). Belfiore (2014) argues for a middle way between ‘rejecting impact’ and ‘uncritically or defensively embracing the impact rhetoric’: ‘the focus of our collective effort should be a better quality debate, rather than political consensus, the search for which might lead to complacency and complicity with hegemonic interests and perspectives, as is the case in the official ‘impact agenda’ and in the equivalence between cultural value and economic value that is too often postulated in policy circles.’ (p. 107) Critics of the impact agenda and its attendant mechanisms argue rather than fulfilling its purported goals, the impact agenda creates a performative veneer in which accountability is done for itself (Watermeyer, 2019; Small, 2013).

One of the most visible initiatives that emerged from this shift towards an impact-oriented framework was knowledge exchange (Smith *et al*, 2021). A survey of major funding bodies in the United Kingdom shows significant investment in knowledge exchange. This can be seen in the work by members of the United Kingdom Research and Social Council (UKRI). The Arts and Humanities Research Council (AHRC) have previously sponsored Knowledge Transfer Partnerships (KTP) and pledged £16 million for Knowledge Exchange Hubs (Arts and Humanities Research Council, 2021; Arts and Humanities Research Council, 2021). The AHRC also offers guidance and resources for policy makers seeking to pursue knowledge exchange (Arts and Humanities Research Council, 2021). The organisation’s approach shows an awareness of the different ways in which knowledge exchange happens, including through policymaking, the creative economy, and diversity of stakeholders. The Economic and Social Research Council (ESRC) offers an ‘Impact toolkit for economic and social science’ (Economic and Social Research Council, 2020). The toolkit includes a section on ‘How to do

effective knowledge exchange,' with advice on events, media relations, social media, and more (ESRC, 2020). The introduction emphasises the role of collaborators and stakeholders in the success of knowledge exchange work. Outside of the UKRI, The Joint Information Systems Committee (JISC) is part of a six-nation Knowledge Exchange partnership 'to support the development of digital infrastructure to enable open scholarship' (Manista, 2020, para. 2). On 27 January 2021, JISC published on its website its 'Research and innovation sector strategy 2021-2023' (Joint Information Systems Committee, 2021). Of seven 'themes', one is devoted to 'Applied research and knowledge exchange: supporting commercialisation and deployment' (Ibid, p. 19). The strategy conceives of knowledge exchange as the ability of researchers to develop 'fundamental, applied and practice-based research' (Ibid, p. 7). These different statements underscore the centrality of engaging a team of individuals, in contrast to the traditional model of the lone scholar. It also reflects awareness of a changing reality for researchers, spurred in part by the Research Excellence Framework and its emphasis on impact (Research England, n.d.). Against this backdrop, knowledge exchange has also become a priority for universities in the United Kingdom. In conjunction with its LSE 2030 strategy, The London School of Economics formulated an 'LSE KEI [Knowledge Exchange and Impact] Strategic Plan 2020-2025,' spearheaded by a Knowledge Exchange Framework Strategy Committee (KEFSC). Like LSE, the University of Oxford places inclusion at the heart of its Knowledge Exchange Strategy 2021-2025. There is also a common timeframe across the board: the University of Hull launched a Knowledge Exchange Strategy 2020- 2025; the University of Winchester's Research and Knowledge Exchange Strategy 2020-2030: Re-imagining the world: creating the future; and the University of Plymouth's Faculty of Arts, Humanities and Business Knowledge Exchange Strategy 2019-22. Plymouth outlined five strategic objectives for its knowledge exchange strategy, including 'Actively engage in making a significant impact on the world around us' (University of Plymouth, n.d., p. 1). The four themes and objectives assigned to this objective include 'Industry Engagement', 'Entrepreneurial 'Ecosystem'', and 'Externally Networked' (University of Plymouth, n.d., p. 1). It is noteworthy that these three objectives are grounded in collaboration and communication and are not predicated on the work of any one individual. Oxford's knowledge exchange strategy highlights the gaps in communication between different sectors of the university, such as the Oxford Foundry, the

Oxford Policy Engagement Network (OPEN), and the Gardens, Libraries, and Museums consortium (GLAM). The strategy notes ‘At present we do not always have a consistent way of characterising our relationship with a single company or unifying the university to them. We will develop a holistic understanding of our engagement with any single organisation by connecting relationships and activities across the University into a single visible partnership’ (University of Oxford, n.d., p. 5). The Implementation Plan for the strategy makes a provision to ‘Increase coordination and connection across the University...undertaking a gap analysis to identify areas where demand is not being met’ (University of Oxford, n.d., p. 8). The ‘Groups Involved’ include ‘Research Services, Oxford Foundry, Divisions, Research Staff Hub’ (University of Oxford, n.d., p. 8). The corollary to this cross-disciplinary approach is that the beneficiaries of knowledge exchange are greater than any one individual or discipline (London School of Economics and Political Science, n.d., KEI Strategic Plan 2020-2025).

The advent of KE was often accompanied by an increasing emphasis on the integration of digital skills, not without a critical reception. Castañeda and Selwyn (2018) argue that ‘there are plenty of important conversations that need to take place about digital technology and higher education beyond the presumption that technology is an instrumental issue that is neutrally implemented’, and that the discourse must move beyond instrumental questions of ‘what works?’ and ‘how can technology fix education?’ Some policy initiatives sought to tread this line between potential instrumentalisation and the realities of scholarship carefully. In 2015, the American Historical Association released ‘Guidelines for the Professional Evaluation of Digital Scholarship by Historians’. The document opens with the following observation on the transformed landscape: ‘The context of historical scholarship is changing rapidly and profoundly. Disciplines and universities that emerged two centuries ago in a profusion of print now find themselves confronted with new digital forms. The historical discipline needs to address, directly and frankly, its particular disciplinary position at this historical juncture’ (p. 1). The Guidelines are one example of scholars seeking to adapt to this new landscape.

Policy literature and its topics, by virtue of their frequent positionality outside the immediate remit of the humanities, are all the more important to discuss in tandem with existential and technical questions concerning the humanities. Liu (2011) notes, ‘iPads and other digital devices’ were projections of the university’s ‘social, economic, political, and cultural self-image...’ (p. 9). Liu argues that this function of IT is to prepare the university and its graduates for the ‘postindustrial paradigm of knowledge work’ (Liu, 2012, p. 10). ‘Are the humanities ready to live up to their responsibility to represent the humanities and higher education,’ he asks, ‘as the latter negotiates a new relation to postindustrial society?’ (p. 11). Considering Liu’s argument, humanists should be asking themselves, ‘how do we address environmental pressures while retaining the fundamental traits of our work?’ These environmental pressures must be taken into account in discussions of the future of the humanities, so that considerations of ‘impact’ are appropriately contextualised.

Technical literature

Technical literature, from the outset, may appear at first as an anomalistic inclusion in a paper that is considering the future of the humanities. And yet it is precisely its unusual presence that underscores its importance to the discussion. The increasing presence of DH and KE within a context shaped by both existential and policy considerations led the humanities to the threshold of a new paradigm in which the skills, interlocutors, methods, and outcomes were different from preceding generations of scholars. Interrogating the technical literature is an essential third feature of this review because it highlights the issues that touch on what it means to do humanistic scholarship. This section will look at the challenges that DH and KE present to the development of humanities research.

Departments and individual scholars face similar challenges in equipping interested parties with the requisite skills they need to engage with DH and KE. One of the challenges of achieving the goals embodied in DH and KE is equipping humanists with capacities they may not be able to acquire through a standard humanistic curriculum. Through their engagement with digital humanities and knowledge exchange, scholars are interacting with other fields whose methodologies are often not found in the humanities curriculum. As a result, a number of new courses, both extra-academic and

within academic departments, have emerged to address this gap, pushing the boundaries of what is included in humanistic education.

Within or adjacent to universities can be found dedicated training programmes. Of the ten week-long courses offered by the Digital Humanities at Oxford Summer School in 2022, seven focus on data science or a specific technical methodology: ‘Digital Musicology’, ‘Applied Data Analysis’, ‘Humanities Data’, ‘Digital Cultural Heritage’, ‘Linked data for Digital Humanities’, ‘From Text to Tech’ (Python), and ‘Introduction to the Text Encoding Initiative’. Students taking the minor in Digital Humanities at Stanford University are required to choose a core course from these three options: geospatial humanities, quantitative textual analysis, or text technologies (‘About’ in ‘Minor in Digital Humanities’, Stanford University, n.d.). This technical foundation is supplemented by five electives from a range of disciplines. The focus which many programmes have on the acquisition of technical skills as the starting point reveals the assumptions course convenors and DH practitioners have about the technology that scholars seeking to do DH work will use. It is telling, for example, that the MA/MSc in Digital Humanities at the University College of London requires students to take the following over two terms: ‘Digital Resources in the Humanities’, ‘Internet Technologies’, ‘Introduction to Programming and Scripting’, ‘Server Programming and Structured Data’, and XML. The risk of this approach is that DH could be perceived as a skills-oriented field, where competency in a particular coding language is an end in itself. While practitioners in the field clearly do understand the importance of using the skills as a means to an end, it is worth interrogating how they move from point A – technical competency – to point Z – the goals outlined in the mission statements. The course description of the Digital Humanities MA at King’s College London suggests one possibility. Among other objectives, students will learn ‘How the ethos of openness that the internet encourages – open access, open data – influences the knowledge economy,’ ‘The potential application and limitations of big data techniques to further the study of human culture in an era of information overload,’ and ‘The place of coding in our digital interactions with culture and cultural heritage’ (‘Teaching Structure’ in ‘Digital Humanities MA’, King’s College London, n.d.). KCL uses the word ‘application’ whilst the elective courses in the Stanford DH minor ‘integrate technology and the humanities...’ (‘About the

Digital Humanities Minor', Stanford University, n.d.). The availability of such courses provides an opportunity for humanists to undertake additional training, in the form of summer schools or a master's degree. These courses, however, are by their nature auxiliary to traditional humanities curricula which take place within existing higher education structures. That is to say, these courses are effectively optional. Their pursuit may put additional strain on scholars already burdened with teaching loads and publication quotas. In many ways, this is reflective of the digital humanities and knowledge exchange at large, as approaches that are often not explicitly mandated, fully integrated, or appropriately accommodated within academic research, teaching, and learning. When there is in turn an initiative to codify these approaches in a curriculum, the initiative can appear reactionary and auxiliary. Exercises like the Research Excellence Framework have pushed issues of impact to the centre stage of academic research but there is still a way to go before we have fully and proactively bridged existing humanistic scholarship with digital and public approaches. In the following section, I discuss examples of curricula in DH and regular humanities courses. The purpose of these examples is to show how an increasing presence of digital tools within humanistic scholarship treads the line of inclusion and integration, thereby challenging the very nature of education in these areas.

These courses are not explicitly setting out to do knowledge exchange. However, they are indicative of how practitioners, scholars, and teaching staff are responding to changes in how humanities scholarship is taught and undertaken, and in turn to how digital technology, and in particular socially-oriented methods, are (or not) integrated into existing teaching structures. One area in which this issue is pronounced is assessment in courses with a digital component. In HIST1007: Making History, taught at the University College London's (UCL) Department of History, undergraduates use 'historical skills to work as public historians' and to 'create interpretations for public audiences.' These goals are assessed through a 'multimedia website about a chosen object for a public audience' (70% of the grade) accompanied by a 'group presentation aimed at a non-specialist audience' (30% of the grade). Compare this with the learning outcomes for UCL's MA/MSc in Digital Humanities, which include 'Identify and evaluate Web-based resources for humanities research', 'Understand text manipulation', and 'Create electronic resources'. These learning outcomes encompass a diverse skill

set, including quantitative and qualitative, humanistic and technical. However, these tools are assessed through one single essay, which counts for 100% of the student's grade. The essay is a study 'comparing and contrasting a digital object, system, or presence with its 'real world' counterpart.' The exercise is useful in itself, but is incongruous with the learning outcomes. The relationship between learning outcomes and assessment is reflected in the multitude, or lack thereof, of opportunities to show one's learning. The concerns outlined in this example are also reflected in the AHA Guidelines discussed in the policy section. While these guidelines are designed for tenure-track scholars, the key issues cut across pedagogy, scholarship, and practice. For example, the AHA points to the 'disconnect between emerging practice and the evaluation' of 'digital innovation.' This separation is also found in the examples given in the Literature Review between learning outcomes and assessments. The AHA also stresses the need to embrace and accommodate 'appearance of highly qualified candidates whose preferred practice of digital history significantly challenges print, and perhaps other forms of disciplinary orthodoxy.' Reading the AHA's guidelines, one senses that this acceptance is not optional, but urgent. Crucially, the AHA sees digital scholarship as part of traditional historical scholarship, rather than an auxiliary component. In fact, they urge scholars to 'be ready to explore and consider new modes and forms of intellectual work within the discipline and to expand their understanding of what constitutes the discipline accordingly.'

The author here takes the liberty to provide an autoethnographic example of their own experience working within the remit of educational assessment and digital tools. While this is not the principal case study of this thesis, it provides a small glimpse into the inner proceedings that often shape the final product. As a co-designer of the now-operational Master of Science (MSc) in Digital Scholarship at the University of Oxford, one of the author's primary objectives was to address the problem of assessment, and in particular how to integrate the use of digital tools. The author conducted market research on existing DH courses as well as running a focus group of graduate students to solicit feedback on the proposed assessment structure of the course. From this research emerged the concept of a 'fusion' paper, subsequently renamed as 'bridge paper'. This paper was to take place in the final term of the course, requiring students to write a work in their own humanities discipline that bridged their humanistic research with a digital method they had learned in the course of the year. The timing

of the paper was to coincide with the *practicum*, a hands-on experience where students joined a DH project for the duration of the term. The bridge paper allowed students to directly apply what they learned firsthand to their academic work, visualising clearly the relationship between digital methods and standard humanistic scholarship. It also permitted students to retain firm roots in their home discipline whilst developing the skills required to write a strong paper and develop an innovative digital approach to their research. The example of the MSc in Digital Scholarship is provided here as an example of (1) standing issues within the digital humanities of integrating digital skills, and (2) more broadly of integrating DH and KE as philosophies and methodological toolkits. There is a tension between existing approaches in the humanities and these fields. By virtue of their existence, they sit outside the traditional curricula and methodologies. Kemman (2019) notes that other fields, particularly in the sciences, are not compelled to include the adjective ‘digital’, as it is taken for granted. Yet there is a recognised need to negotiate a relationship with them. This tension can lead to solutions that are not often reactive, rather than proactive. A reactive answer is often rushed or not properly accommodated within existing structures.

Another area in which the limits and assumptions of the humanities are being challenged is in the social dimensions brought forth through DH and KE work. Social and collaborative networks are essential to both the digital humanities, knowledge exchange, and projects synthesising these approaches. Kirschenbaum characterises DH as a ‘social undertaking’: ‘It harbours networks of people who have been working together, sharing research, arguing, competing, and collaborating.’ (Kirschenbaum, 2016, p. 2). This ‘social undertaking’ is girded by what he calls ‘an unusually strong sense of community and common purpose...’ (p. 4) The collaborative nature of DH lends itself to cross- and interdisciplinary research, which in itself is a social endeavour (Pederson, 2016). Oiva (2020) looked at digital humanities centres as places of interdisciplinary knowledge transfer, arguing, ‘The interdisciplinary character of DH amplifies the social aspects of its knowledge construction; therefore, it is crucial to study the means through which transfer of knowledge is facilitated in this field’ (p. 70). Through a series of interviews with stakeholders, she found that these means were an interlocking set of resources: architectural, human, and administrative. As a result, they ‘combine the

elements of the transfer of knowledge in a variety of ways and, therefore, function as engines of diverse information flows.’ (p. 70). The multifaceted nature of DH centres as hubs of knowledge transfer is representative of Olmos-Peñuela et al (2014) noting the prevalence of informal arrangements in knowledge exchange that exist outside of formal documentation, such as ‘research contracts, patent licensing, and the creation of companies’ (p. 493). Scholarship on network building identifies key features across various contexts that are integral to the success of knowledge exchange. The core assumption underpinning many of these network building exercises is a belief that the role of the university has changed to a knowledge resource integrating more fully with society (Frank and Meyer in Frank and Meyer, 2020; Zhang et al, 2016). This assumption is itself premised on a binary separating what transpires within higher education institutions from what happens outside of them (sometimes this is university-industry-society). Thus, scholarship offering insights into network-building often use this binary as the basis for developing ideas about ‘hybrid space’ to overcome these divisions. (Lam, 2007, p. 1013). The word ‘overcome’ is apt in this context as it points to scholars’ recognition that pre-existing assumptions about the relationship between universities and potential (or excluded) recipients of academic research are problematic, and themselves obstacles to knowledge exchange.

The examples in this section on social dimension reveal a language that one might struggle to find within standard humanistic scholarship. The fact that the literature exists in which to explain what methods like DH and KE offer in terms of relationship-building and collaboration suggests that these were features auxiliary or even suspect.

A third area of experimentation and boundary-pushing, as has been referenced multiple times in previous sections, is methods. A consequence of digitally-driven KE projects are network building practices pushing the boundaries of what people and methods are included in the DH and KE toolkits. As a result, the scholarship produced in the course of these projects is also applied to a wider range of contexts than may be found in standard humanities work. The Digital Humanities Manifesto 2.0 notes that DH ‘seeks to play an inaugural role with respect to a world in which, no longer the sole

producers, stewards, and disseminators of knowledge or culture, universities are called upon to shape natively digital models of scholarly discourse for the newly emergent public spheres of the present era (the www, the blogosphere, digital libraries, etc.)... (DH, 2020). True to its computational origins, text mining and analysis remain a core, if not principal, area of study in the digital humanities (Nyhan and Flinn, 2016). However, this focus has encountered resistance, with scholars urging colleagues to include different methodologies in histories of DH (Sula and Hill, 2019). The notion of ‘big tent’ DH, which encompasses a range of approaches and definitions, indicates both a discomfort with privileging any one definition, and also a willingness to think broadly about what it means to do DH (Svensson, 2016). Boundary questions in DH are also intertwined with a changing landscape of practices in the humanities at large, and how these are shaped by interaction with non-humanistic entities. Reflecting on digital history and collaborative practices, Kemman (2019) asks, ‘What practices then make a historian recognisable as practicing historical scholarship?’ (p. 133) *The Hear, Here: Voices of Downtown La Crosse* oral history project uses audio contributions from community members to illuminate physical sites around the city. Beaujot (in Wingo et al, eds. 2020) notes that the project came to play a role in classrooms, the media, and policy discussions, and ultimately effectuated the removal of a local statue. This integration with community structures created a shift in how historical narratives were shared and preserved: ‘The project made his [a participant’s] story consistently visible rather than relegated to historical editorials, university classrooms, or ephemeral Columbus Day protests’ (p. 206). This project can be seen as an example of the ‘trading zones model’, originally developed by Galison (1998) and subsequently applied to digital history projects by Kemman (2021): ‘how two communities with vastly different practices and discourses can interact and negotiate a joint enterprise’ (p. 39). Kemman is predominantly concerned with the relationship between the humanities and computer science, and how this relates to existential issues surrounding the humanities. But as Beaujot’s project, and the volume in which it is included, demonstrate, there is already a line of thinking which not only embraces digital technology in humanistic scholarship, but uses it to promote a vision of community-oriented scholarship. Socially-oriented research pushes disciplinary and methodological boundaries. In the case of the Scribes of the Cairo Geniza project, the issue was the large quantity of data and how to manage it. The creation and analysis of large datasets

has long been a driving motivation for digital humanities projects, as scholars turn to data to answer questions that were otherwise nearly impossible to tackle. The Geniza project used Zooniverse, a citizen science platform, to crowdsource annotations and transcriptions (Manning, 2018). Esten (2020) remarks, ‘The classification and transcription produced...is certainly worthy of note, and provides a strong model for deciphering a large corpus of difficult texts through public digital scholarship. This is further recognized through the project’s public engagement efforts, which have brought compelling contemporary scholarship to a burgeoning community of citizen scholars’ (p. 321). Like *Hear, Here*, the Geniza project’s methodological choices created a series of outputs in which academic progress was intertwined with the communal efforts that made that progress possible. These products can be said to form a ‘hybrid space’, borrowing from Lam (2007), in which the combination of two forces produces something that did not exist before. In the case of DH-KE projects, these are the digital resources as well as the new communities and networks formed through the research process (Esten, p. 324). Other projects seek to enhance traditional academic practices, such as reading and annotation, through digital mediums. ‘By enabling social annotation features,’ the Lacuna project at Stanford’s Poetic Media Lab is designed for ‘complex and comparative engagement with different forms of media concerning an academic topic’ (Stanford University, n.d.). The digital humanities as seen in these examples demonstrate the field’s inward and outward looking features.

Conclusion

Epstein (2012), writing in the depths of a largely cynical and defensive discourse, made a bold statement: ‘However appealing the image of the humanities taking “a monastic refuge” may be, I believe that the humanities are worthy of a better future, and one very different from their past. The crisis in the humanities is first and foremost a crisis of imagination. There is no future for those disciplines and methods that turn away from the future’ (p. 4). No longer is the intrinsic value of the humanities in opposition to attempts to make it relevant to contemporary issues: rather, these two facets must go hand-in-hand. Jopling *et al* (2024), writing on ‘postdigital citizen science and humanities’ note that their article will appear in an issue with the subtitle ‘Survive, Resist, Flourish’, in the hope that ‘this discussion expands towards those who are traditionally excluded from the ivory

tower of the academia.’ (p. 65) Of course, the rapid ascension of artificial intelligence in most nearly all aspects of academic (and civil) life has hastened the closing gap between analogue and digital (cf. Grimm *et al*, 2025).

Methodology

Introduction

The unique contribution of this thesis is that it provides a perspective on the potential contributions of DH and KE methods using the lived experience of such a project and moreover through the autoethnographic positionality of the author who was also the project’s principal investigator. This approach allows the research and conclusions of the thesis to move from a conceptual or abstract discourse on the humanities to one that is grounded within empirically-grounded experience, data, and observations. It would have been possible to make a contribution to the research questions using a theoretical framework. However, the choice to write this thesis in a social scientific context, rather than a humanistic one, was deliberate. Proceeding from empirical evidence will allow us to interrogate multiple overlapping considerations and forces using a worked out case study. In this way, the thesis offers a new approach that is often absent from the literature surrounding developments in the humanities. The methodology chapter will explain the autoethnographic, narrative-driven approach that the thesis uses to answer the research questions.

Researcher Positionality

Normally this section would be separate from the methodology. However, the author’s positionality vis-à-vis the research topic is intrinsic to the selected methodology. To enable a contribution of the thesis that would shed light on some of the most pressing issues facing the humanities, the choice was to proceed from the author’s own experiences as a humanities scholar who became a practitioner in the fields of digital humanities and knowledge exchange. Ellis *et al* (2011) describe autoethnography as equal parts autobiography and ethnography:

‘When writing an autobiography, an author retroactively and selectively writes about past experiences...When researchers do ethnography, they study a culture’s relational practices,

common values and beliefs, and shared experiences for the purpose of helping insiders (cultural members) and outsiders (cultural strangers) better understand the culture. Ethnographers do this by becoming participant observers in the culture – that is, by taking field notes of cultural happenings as well as they part in and others' engagement with these happenings.' (p. 3)

While (auto)ethnography was largely developed as a way of understanding culture, the approach was useful for the research goals of this thesis because it allowed the author to provide an interior view and access to a set of processes, thereby enabling both insiders (fellow practitioners) and outsiders (other humanities scholars, policymakers, administrators) to see inside. The unique feature of autoethnography is that 'Working from insider knowledge, autoethnographers use personal experience to create nuanced and detailed 'thick descriptions' of cultural experience in order to facilitate understanding of those experiences.' (Adams *et al*, 2022, p. 33) Adams *et al* also describe autoethnographic practices as having 'disrupting norms of research practice and representation' (p. 32). The use of an autoethnographic approach in this thesis is designed to 'disrupt' how DH and KE perceived by offering an experience-driven argument that shows a third way from the binary.

The question of positionality is also central within discussions of the dynamics between practitioners, participants, and stakeholders involved in DH and KE work. The way in which each of these actors perceives themselves shapes their contribution to the project. These dynamics often have a reverberating effect beyond their immediate context to reach scholars who are not directly involved. In this section, the author will explain their positionality vis-à-vis the thesis and in particular the case study it is examining. While such an explanation is a typical feature of such a dissertation, in this study it serves the dual purpose of contributing to the main argument. It is also essential for ethical reasons to have a full disclosure of the author's involvement and stance.

The author approaches this study as both a student and a practitioner in the field of DH and KE. Their interest in digital humanities emerged prior to the beginning of their undergraduate studies, spurred by a belief that these methods could make the humanities, and in particular the field of history, more engaging to people outside academia. It was important to maintain an awareness of this assumption,

both in the actual development of the project in the case study, as well as in the writing of this dissertation, so as to avoid any normative statements or technological determinism. Over the course of their undergraduate studies, the author conducted a DH project called the Voltaire Library Project. The objective was to understand the French Enlightenment philosopher's influences through a data-driven analysis of his private collection of 6,763 books. The project gave the author firsthand experience working with a wide range of specialists in both the humanities and technology, navigating the funding landscape, creating outputs that bridged technical acumen with humanistic methods, and acquiring the requisite skills. As a graduate student at the University of Oxford, the author was heavily involved with a number of digital scholarship initiatives. This included working as a co-designer of the MSc (Master of Science) in Digital Scholarship. The author did not have a particular qualification that enabled them to engage in these developments. Rather, they underwent a process of developing into a self-made practitioner, where the work was the classroom. Their status as a newcomer to a field where more senior members of the university had already been doing work gave them a unique perspective on what it means to be a consumer, creator, and user. As there was no 'manual' for engaging with these methods, the author can testify to every aspect of the development process with fresh eyes.

Defining and selecting a case study

To answer the research questions, the thesis employs a case study. Crowe *et al* (2011) explain that 'The case study approach is particularly useful to employ when there is a need to obtain an in-depth appreciation of an issue, event or phenomenon of interest, in its natural real-context.' (p. 1) The case study approach will help us to move from the realm of abstraction and theoretical conjectures to an empirically-grounded understanding of what DH and KE might be able to contribute to the humanities. The thesis builds on the structure of existing case study literature concerning DH and KE. Maryl *et al* (2020) in their paper 'A Case Study Protocol for Meta-Research into Digital Practices in the Humanities' explain

'The main assumption behind this research is that a meaningful change in scholarly practices is taking place and is worth investigating. Moreover, a full assessment of this transformation

should not focus exclusively on pioneering research, but rather on the selective uptake of digital practices and methods by researchers in the humanities: those who do not necessarily affiliate themselves with DH but simply use digital tools to explore particular problems. Hence, this paper should be of interest not only to researchers willing to conduct meta-analysis, but to all DH practitioners willing to gain critical perspective on their work, as well as for those working on funding, evaluation and research policy.’ (p. 1)

Other practitioners have used case studies as a way to answer bigger questions about the humanities, such as ‘When undergraduates add to an existing digital humanities project, do they advance their own digital literacy?’ or to touch on essential practices like storytelling (Kelley, 2017, p. 1; Fu *et al*, 2023)

The next question was how many case studies to examine. The thesis makes a deep investigation into one case study. First, for practical reasons of length and timeframe, focusing on one case study would allow the thesis to devote a considerable amount of attention rather than providing a broad overview of multiple studies. Second, examining and comparing multiple case studies runs a number of risks. No two DH-KE projects are alike, and to draw out their respective nuances would require space and attention beyond the scope of this dissertation. Third, the thesis focuses specifically on the use of gaming technology as one specific microcosm that can illuminate many fundamental questions facing the humanities, DH, and KE, rather than seeking fragmentary answers from multiple sources.

Gaming is a crystalline area of inquiry for looking at these research questions, and more specifically issues that the examples discussed above raise, such as audience, collaboration, methods, format, and impact. Outside academic contexts, game developers naturally think about their intended audience to calibrate the material and technical skill needed to play and enjoy the game. While players may not take an active role in the game’s initial development, they create communities around the game that transform it. ‘Serious games’ can be found within academic contexts, as they are ‘designed for purposes beyond pure entertainment, often to train or to educate the player’ (Symborski et al, 2017: 253). Another description is ‘entertainment education in games’, and “the intentional placement of educational content in entertainment messages” (Singhal, 2006, p. 117). Depending on the positionality of the creator, these games, however innovative their intentions, may fall into preexisting

teacher-student dynamics. Cox and Lewis (2023) notes in their study of a video game for art museums that ‘students may also be experiencing psychological discomfort in art museums due to the differential in power between ‘visitors’ and institutional insiders (including their teachers)’ (53). While looking at gaming may not be obvious when it comes to thinking about the future of the humanities, the following case study will demonstrate how in fact one example of a ‘serious game’ can shed light on the evolution of the humanities.

To that end, the case study will look at a mobile video game that uses augmented reality to promote public engagement with the collections of a major library. The project combined DH approaches with KE methods and aims to produce a digital tool that would answer a long-standing issue, namely how to foster public interest and activity in the library’s collections.

To concretise the autoethnographic approach to the case study, the thesis will make use of narrative. Narrative is not only a description of events but in itself a type of method and analytical process. As Volschenk (2024) explains, ‘Narrative inquiry involves the sense-making of lived experiences through storytelling.’ There is already precedent in existing literature on DH work that employs narrative to explain how a given project developed and what it contributed (Kelley, 2017; Antonijevic *et al*, 2018; Chen *et al*, 2022). The discussion of the case study will follow the lifecycle of a project from conception to development to output.

The following table lists the pseudonyms that will be used to refer to the components of the case study. The use of pseudonyms is explained at length in the section on ethical considerations.

Principal investigator (PI)	PI refers to the principal investigator of the project who is also the author of the thesis.
Game₁	Game ₁ refers to the project itself, namely the augmented reality mobile video game that will form the subject of the case study.
Team₁	Team ₁ refers to the group of specialists who actually undertook the technical development of

	Game ₁ .
Library_A	The library where Competition _B physically took place and for whose benefit Competition _B was organised.
Competition_B	Competition _B was the competition held at Library _A to promote the development and identification of digital tools for public engagement for the benefit of Library _A .
Foundation_C	Foundation _C organised Competition _B for the benefit of Library _A . Foundation _C provided financial support for the projects that were entered into Competition _B .
Library_D	Library _D refers to the second library that expressed interest in Game ₁ .

Table I. Pseudonyms used in the thesis.

Data collection

The aim of the case study is to furnish answers to the research questions using empirical methods of inquiry. The research questions interrogate the contributions of DH-KE projects to the wider discourse surrounding the future of the humanities, as well as the role of digital technology in an institution or a discipline's response to perceived existential and practical threats. What this means effectively in terms of the data that is required to answer those questions is evidence from all points of the project's lifecycle: from its conception and the motivations for its creation; its development; and its outcomes and reception. It would be tempting but ultimately insufficient to examine the final polished product and to draw conclusions from it, hence why an internal positionality is necessary. In reality, the decisions taken at every stage of the project lifecycle reflect the three interacting forces outlined at the start of the thesis (existential, policy, and technical), and each decision, however seemingly small, has implications for a discussion about the evolving landscape of the humanities. The data collection is therefore structured around conception, development, and outcome and reception. The acquisition of the data is facilitated by the author's position as principal investigator of the project. Such access, particularly to internal correspondence between the different entities that were party to the lifecycle, raises a number of ethical considerations, which are addressed in the eponymous section below. Regarding the unit of analysis, the data collection and analysis uses Drisko and Maschi (2015) on

‘texts’: ‘a wide range of communication media that can be stored in many different formats...texts, audio recordings, television shows and movies, images, and telephone calls, as well as to many forms of electronic data, now including social media.’ (p. 7) This is an important framework to have as DH and KE projects generate different kinds of documentation (such as text, visual, audio, and other forms of multimedia), often beyond the scope of what is typically found in humanities research.

Data analysis

The analytical process draws on two major methodologies: qualitative content analysis (QCA) and thematic analysis (TA). In the first instance, QCA is a useful method to draw upon because it was developed to work with multiple kinds of data (textual, visual, etc), therefore dovetailing neatly with the multimedia interpretation of ‘text’ found above (Schreier, 2012). The focused nature of QCA is another reason to apply to this particular dataset, as ‘with QCA, your research question specifies the angle from which you examine your data’ (ibid.). Our focus is on identifying the rapport between DH and KE methods and wider discursive contexts regarding the humanities, rather than providing a comprehensive report of the case study (ibid.). At the heart of the QCA method is development of a coding framework through a process of refinement, ‘used to determine the presence of certain words, themes, or concepts within some given qualitative data’ (Columbia University Mailman School of Public Health; Mayring, 2014). Our interest is to find evidence of a dialogue between methods and discourse, therefore looking at the texts in terms of ‘segmentation’ provides a focused approach (Mayring, p. 51), Vaismoradi and Snelgrove (2019) note that ‘In both QCA and TA, during the theme development process the researcher relies on the analytic examination of narrations related to social phenomena through breaking transcriptions into small units and performing data analysis’ (p. 4) However, the same article notes that TA offers a greater emphasis on the researcher’s interpretation. This in turn can facilitate the development of a narrative ‘marked by a thick description’ (p. 7). The development of themes also helps move the analysis from a focus on codes to ‘seeing a broad picture of the data’ (ibid). In the case of this dissertation, the aim is to construct a narrative linking seemingly disparate or often siloed areas of practice and discourse to form a coherent picture of the relationship

between existential and practical considerations. Bringing together QCA and TA allows for more interpretative freedom and substance.

Both of these methodologies require a significant process of iteration and refinement. Within the limited timeframe and scope of this dissertation, as well as in consideration of the dataset, the following process was developed to analyse the data. First, three sections will be devoted to the respective stages of the project lifecycle: conception and motivations; development; and outcome and reception. Each of these three sections will present a series of ‘texts’ from that particular stage. Following the exposition of the texts, the analysis will identify the key, unusual, and / or recurring words, phrases, or ideas found across the texts within that section. The subsequent section on findings will return to the three axes (existential, policy, and technical) and examine how the themes identified by the analysis reflect on each of those three axes.

Limitations

The same features that make Game₁ a compelling case study should also be accounted for as possible limitations. The author can speak to the project’s inner workings, conception, and motivations. Insofar as their positionality enables me to know and discuss Game₁ at a deeper level than analysing another practitioner’s work, it can also narrow the analytical perspective. The author will take the necessary precautions against using Game₁ to draw any universal or absolute conclusions about DH- KE work, or even about the specific fields in which Game₁ is located. With respect to its defining characteristics, Game₁ works within the gaming and library spaces. The author will take care to contextualise these fields, and how they are distinct from methods and presentations like crowdsourcing and databases. It should also not be assumed that the practitioners with whom the author collaborates see themselves as engaging in DH-KE, and accordingly not to project my assumptions. Because the project is nascent, we are able to more closely examine its foundations. That does not mean that they will be able to draw conclusions long term about its impact and end result, apart from stating my own objectives.

By focusing on DH and KE, the thesis necessarily excludes other areas of interest in which the future of humanities scholarship could also be fruitfully discussed. The key with this in/ex-clusion is to ensure that the thesis does not draw any overarching conclusions so as to universalise the potential contributions of DH and KE. Similarly, the use of one case study runs the risk of focusing too narrowly on the particulars of that work. By once again avoiding a tendency to universalise, the focus on one case study, particularly within the limits of this thesis, allows for a fuller and more nuanced exploration of the project lifecycle.

It could also be argued that a richer discussion would be had by discussing DH and KE separately. It is however the particular approach of this thesis to bring these methodological toolkits into dialogue with one another. In doing so, by pushing the case study to an 'extreme' or more complex situation, the thesis is able to intensively analyse the many interlocking dimensions that shape this work and humanities research in turn.

Ethical Considerations

The case study of this thesis raises a number of fundamental ethical considerations. In the first instance, the project that the case study examines was spearheaded by the author of the thesis. Second, the project emerged from an ambient of DH and KE but it was also firmly embedded into a context of institutional and financial support for start-ups. In combination, the selection of the project raises questions of bias, anonymity, and research and development (R&D), the latter a particularly relevant issue in the early stages of a start-up. Bias is an important issue because analysing the project within a thesis that seeks to holistically appraise DH-KE work has the potential to overstate the positive benefits and outcomes of the project, and/or obscure limitations and failures. The author will ensure that the decisions which she took or in which she was personally involved over the course of the project lifecycle will be explicitly stated and explained if and where such instances arise, thereby also mitigating bias. While the anonymity of the project's principal investigator (PI) is of course clear, care must still be taken to protect the collaborators, interlocutors, and institutions that were part of the project's development, support, and outcomes. In addition to referencing and explaining their role in

the case study, the following sections make use of internal correspondence to shed light on the development process. To that end, the thesis will pseudonymise identifying data for all three of these parties. Depersonalising the data, as opposed to anonymising it, serves three functions. First, it acknowledges that the parties can in some measure still be identified if any search was conducted into the author's professional work (such as through online biographies or publicly available resumes) or through any publicly available statements on the websites or profiles of said parties, thereby precluding the use of anonymisation. Second, it allows for the use of pseudonyms that will help guide the reader through the case study. To that end, this section includes a table of pseudonyms. Third, it addresses any potential issue that the thesis is being used to promote the services of any of the parties in question.

By virtue of its nature as a DH-KE project, the case study naturally came into contact with funding structures, and in particular those which aim to support early-stage start-ups. This section on ethical considerations will be followed by a statement of disclosure regarding financial support for the project. In the previous iteration of this section on ethical considerations, there was a portion regarding the possibility of Game₁ becoming a commercial enterprise. As the author decided not to pursue this, issues of potential conflicts of interests are no longer to the thesis.

Disclosure of Support

The project received funding from Foundation_C to develop a pilot of Game₁. The funding for the pilot was given to Team₁ to compensate the specialists who built the game. PI received a stipend from Foundation_C to attend the workshops and final round of Competition_B at Library_A.

Findings

Conception and Motivations

As we previously discussed across the three axes in the literature review, DH and KE projects can often arise in response to different stimuli, such a research question that requires analysis of large or complex data; an institutional goal to promote extra-academic partnerships; or an existential inquiry

into the relevance of a discipline. And as we will see in this section, Game₁ encapsulates these different interlocking forces, making it an exemplary case study for assessing DH-KE work. Therefore, the first impetus for its development was unusual even in the varied landscape of DH and KE: a competition. It is possible to find funding calls or other kinds of motivational artefacts, but the organisation of a competition lends a new dimension. First, the way in which the competition is announced will determine the participants, and as such the makeup of those who will ultimately engage in what can be termed as DH-KE. As the term ‘competition’ suggests, it is not one frequently found within strictly academic settings. The first indication that the development of this project would go beyond even the already-pushing boundaries of DH-KE work was the fact that its announcement came, in one format, through an email sent by a general-interest publication. The email came from *Hey Alma*, an online newspaper that describes itself as a ‘feminist Jewish culture site and online community bringing you a diversity of voices’ (Hey Alma, 2023). *Hey Alma* is owned by 70 Faces Media, which brands itself as ‘the largest and most diverse Jewish media organization in North America’ and ‘a not-for-profit digital media company that aspires to connect as many people as possible to all sides of the unfolding Jewish story’ (70 Face Media, n.d.). While it is not possible to fully know the reasons why they chose to advertise with Hey Alma, it sends a message that they were hoping to find participants with forward-looking values. Perhaps there was also a calculation that participants from North America may have access to greater funding for the development of their projects. These represent two major facets of much DH-KE work today: pursuing a socially liberal agenda whilst grappling with limited funding.

At the top of the email a small statement reads, ‘A sponsored message from Competition_B’. The email stated, ‘Foundation_C, a philanthropic foundation, is supporting Library_A by distributing up to \$3 million for smart and original ideas that use innovative technology to bring content from Library_A and archives to the public.’ The tagline for Competition_B read, ‘A once-in-2000-years competition’, while Foundation_C presented itself as, ‘a philanthropic foundation...supporting Library_A by distributing up to \$3 million for smart and original ideas that use innovative technology to bring content from Library_A and archives to the public.’ It is curious that the competition description opens with the

charitable organization sponsoring it, rather than the institution at its heart. It is an acknowledgement that large-scale investment in the arts and humanities does indeed rely on third party philanthropic bodies. The competition organisers, both on the part of library and the foundation, thus had paid money to spread the word through a liberal, American Jewish newspaper headed by women for ‘young Jews’ and owned by a progressive company (*Hey Alma*).

In addition to being a marketing ploy, the tagline speaks to what the organisers likely hope is the historical, global magnitude of the competition. The competition’s goals will move the library’s collections from a limited audience to a wider one, ideally including those who are not from the region of the library. The website is as a result is offered in multiple languages, and includes an accessibility toolbar (this paper analyses the English version of the website). Following the tagline, a quote from the Lord Rabbi Jonathan Sacks, Chief Rabbi of the United Hebrew Congregations of the Commonwealth, reads, ‘We achieve greatness by handing our values onto the next generation and empowering them to go and build the future’ (Competition_B, 2022). The quote captures the idea of ‘*l’dor va dor*’, ‘from generation to generation’. The competition is about using new technology for enduring, historical purposes

While the terms ‘digital humanities’ and ‘knowledge exchange’ are not explicitly used in the email, they are operating in the background. A brief description of the criteria states that ideas must ‘have potential for wide impact’, and that they are for engaging the public with the Library. Digital Humanities @ Stanford echoes this with their definition, ‘the Digital Humanities are a collection of practices and approaches combining computational methods with humanistic inquiry’. If we consider this definition within the context of DH-KE, the ends of humanistic inquiry also shift- from individual, academic, circumscribed work to outward-facing, collaborative, ongoing projects.

The resulting Game₁ was therefore born in a context that would inevitably bring together both academic expertise, as such that is needed for understanding the particular historical, literary, and sociopolitical context in which Library_A is situated, along with technical expertise and participants who are forward-minded. The motivation is threefold: first, the competition is by Library_A’s strategic

vision to foster its public engagement; second the foundation is motivated to engage in a philanthropic endeavour with a global reach; and third, the participants are motivated to create a new tool and contribute to that same endeavour. The threefold nature of this motivation is a key indicator of a project that draws on DH and KE methods: its potential for impact, reach, and inclusion goes beyond the individual researcher. Projects that are responses inevitably raise the question of ‘who’ and ‘for whom’. The particular case of this being framed as a competition asks us to reflect on who is invited to be part of the development process and who stands to be the beneficiary.

A number of important themes emerge just from this initial stage of the project. The first is communication. The announcement of the competition diverged from the normal pathways by which knowledge and opportunities are communicated between researchers: for example, by coming through a non-academic channel, through explicit disclosure of the institution-funding body relationship, and through the framing device of a ‘competition’ rather than a funding call or another typical application process. This in turn has implications for who will take part in the DH-KE work.

The second is funding. While a perennial issue across higher education, the texts in this section demonstrate a powerful overture between a non-profit organisation (Library_A) and Foundation_D which helps the former achieve its goals. Rather than operating behind the shadows, philanthropy plays a high-visibility role in building a future for Library_A.

The third is genealogy. Rather than breaking from tradition or casting aside any consideration or reverence for humanistic scholarship, the call for applications firmly locates the competition in the genealogy of values transmission, a particularly important part of Jewish culture. At the same time, the organisers recognise that the nature of the projects to emerge from this concourse will have ramifications far beyond the tradition itself.

It is essential to clarify at this stage that the organisers of Competition_B may very well not have understood themselves explicitly as operating in a DH and / or KE framework. However, as a close examination of the project lifecycle will reveal, that even without these labels, the ways of thinking and working are very much in line with the aims of DH and KE.

Development

At each stage, Competition_B challenged the boundaries of what constitutes digitally-driven work with a public orientation. In the first instance, a major library decided to have a competition to promote their strategic vision. Second, the library used an external organisation to spearhead and sponsor the competition. Third, the nature of the marketing for the competition set up the kind of community that was to come together to develop tools for public engagement. On the one hand, the competition offset the burden of technical development by inviting submissions, with the promise of financial reward. On the other hand, it opened the process of strategic planning to categories of individuals and collaborators that would not normally be found in the traditional remit of humanistic scholarship or institutional policy. This unusual feature was codified in the three tracks offered to potential competitors: general, start-up, and student ('as long as the applicant (an individual or a group representative) is an educational institution pupil or a student (at any age and from any country)' (Competition_B, 2022)). Superficially it may appear that these tracks could put certain competitors at a disadvantage, such as students, who would not have access to the same resources as existing start-ups. However, participants were informed by the organisers that proposals were only judged against one another within their given category. Moreover, these distinctions actually served to make the competition more clear, accessible, and equitable in terms of who was able to participate. With respect to the student track, it sent the message that even individuals at an early stage of their studies have the potential to make an impact, thereby challenging what contributions may look like in different career progressions. There was notably no criteria regarding the discipline, field, ethnicity, or religion of the participant. It may be said that the competition rules were bound tightly to the intended competition outcomes regarding the potential nature, impact, and reach of the tools. From this we can discern the first theme of the section, equity. Within humanistic scholarship, and it can be said throughout higher education, there are certain established pathways with determined points at which one can contribute to research or administration. The competition, by contrast, levelled the playing field to create a framework in which a variety of people at different stages in their career and of varying backgrounds could contribute to the same goal at the same time.

The website of Competition_B is itself a text. The website contained the form for submissions, including a question as to whether the PI and / or their team had the requisite technical skills and knowledge to complete their proposed tool. The PI at the time did not have sufficient training in coding, and was therefore compelled to select the option 'no'. However, this option prevented the submission of the form, whereas clicking 'yes' sent the form through. This of course presented an ethical and technical dilemma. Having submitted the form, the PI had a limited amount of time to rapidly assemble a team that would provide the expertise to support the proposal. It is understandable why the competition organizers would seek participants who can manage their project in all aspects. At the same time, technical competency is one of the major obstacles humanists face when looking to engage in DH. Programs like the Digital Humanities Summer School at Oxford and the Programming Historian are two examples of how humanists are organizing solutions. Nevertheless, collaboration remains a fundamental aspect of DH and KE work. In this communal spirit, the PI contacted colleagues in the field in anticipation that they would be familiar with experts or start-ups. They referred to the Higher Education Video Game Alliance (HEVGA) and their mailing list, wherein the PI sent an email with the following text: 'Co-develop a video game app for a national library to increase access to and engagement with the library's collections, bring visitors to the building, and build virtual pathways through the treasures.' The company that would form Team₁ expressed interest in the project. The firm is a pandemic-era spinoff company founded by a faculty member in a country different from where PI was located at the time, making the project an international collaboration. They were an ideal collaborator for several reasons, not least because their own trajectory bridged academia and industry, and brought expertise in augmented and virtual reality gaming. The second code that emerges from these texts is expertise. The episode of assembling a team in order to gain access to the competition demonstrates how no one individual is singularly equipped to undertake DH-KE work. While this may initially appear to be an obstacle, its resolution led to a more fruitful outcome and collaboration than would have been possible by one person alone. The necessity of collaboration inevitably reshapes the pathways by which research develops and its subsequent outcomes.

The competition had multiple stages, through which the development process naturally became an iterative one. Below is a timeline of the competition, to help with contextualising the texts discussed in this section. The timeline is drawn from the website of Competition_B and documentation made available internally to finalists in the competition. It is a notably short timeframe, compared to the rather lengthy duration in which traditional scholarly outputs, such as monographs, are completed. There was surely a consideration from the part of the library about quickly identifying a new tool that could be implemented in rapid succession. Nevertheless, the workflow anticipated in this timeline diverged from what academically-based participants would be used to, leading to the third code, time.

Date	Objective
20 January 2022	Competition opens for submissions
25 May 2022	Last submission date for competition entires
July 2022 (the announcement was actually made in direct communication with finalists 9 June 2022)	Announcement of finalists
20 July 2022	Deadline for returning memorandum of understanding and workplan
27 July 2022	Transfer of \$4,000USD to finalists for development
6-7 September 2022	Accelerator workshop in Jerusalem for finalists
14 September 2022	Transfer of \$4,000USD to finalists for development
30 September 2022	Last submission date for finalists' proposals

Table II. Timeline of Competition_B

In a document dated 14 July 2022 'Competition_B Proposal Final', the PI outlined the game as follows:

'...a video game app...which users can download on their mobile and laptop devices. Game₁ standardises the different kinds of workflows that shape a person's experience of a library and turns those workflows into a multipurpose 'choose your own adventure.' By wrapping gameplay around workflow, Game₁ (1) highlights the library's collections and builds pathways for deeper exploration; (2) brings visitors and patrons into the newly built library building by transforming the physical space into a virtual wonderland; and (3) fosters access and engagement with the collections by giving the user agency in their experience and by bringing them into closer contact with the Library's treasures.'

The experiences Team₁ designed in collaboration with the PI were dual: one for visitors and another for scholars and students. This was the team's imposition of how it understood patrons' use of libraries. That is to say, it is largely the vision of an academic, one uninformed by user testing. In retrospect, it is probably unhelpful to push players into such a binary. At the time of this proposal, the team had understood from the organisers that the game would be played entirely on site at the library. As the proposal goes on to say, the team was inspired by similar experiences, like 'the Audio App at the British Museum, the eponymous Rijksmuseum App, and the Met App at the Metropolitan Museum of Art... [and] open-world games like Minecraft, Sims, Myst, Ingress, and Pokémon Go.' It was only after speaking with the organisers, however, that the team understood they were looking for tools that could be used locally and globally. This raises a host of challenges:

(1) Audience: for a game without any clear geographical limitation, it will have to accommodate the widest range of players who may not, or cannot, visit the library in person. By extension, this means that they may not be local to the area, geographically or linguistically.

(2) Functionality: In the initial iteration of Game₁, players walked around the library space and interacted with it via the app (for example, through Bluetooth triggers). The team needed to find a solution that allowed players to remotely 'walk through' the library without compromising the experience. The solution was to build an augmented reality game through which users projected a model of the library using their phone camera onto their physical surroundings. The player would then walk a small character through the library towards different objects. These objects were 3D computer models of collection items which Team₁'s specialists rendered in high quality. Through this pivot, we were able to rework the sudden shift to include more options for engagement. Thanks to the highly rendered items and AR model, users who may not be able to come to the library could zoom in and manipulate the treasures, while experiencing the Library from the comfort of their home. For each object, the user could 'collect' it for their own treasury, and / or complete a challenge to save that object. An issue that would come up repeatedly was how to ensure that users engaged with the objects, rather than simply completing the challenges and moving on. In the 'Revised work plan', we

wrote, ‘An important feature of the challenges is that when you complete one, you are shown a web of related resources based on the object’s linked data. This is a key feature of introducing users to the wider web of resources in the library.’ The work plan also opens with an acknowledgement of the pivot: ‘The primary focus will be making the widest possible [use] of Library_A’s digital materials online and remotely.’ In a progress update made after the pivot, the first slide lists three aims:

- (1) Build incentive;
- (2) Foster active engagement;
- (3) Get people ‘in’ the library.

The first goal was designed to close what the PI perceived, having looked at other similar apps, as a likely gap between availability and uptake in DH, KE, and cultural tools and experiences. The PI wanted to avoid a situation in which the game was made public but no tools were in place to get people to use it. In effect, the game rejects the notion that, ‘if you build it they will come’. It was important that we would be able to show empirical data on the numbers- how many people used it, for how long, retention, etc.- rather than a shiny webpage alone. The problem can be extended even to analogue collections. It can be safely assumed that in the library, the dominant patrons are likely those with an academic purpose- even though the collections are meant to represent and be used by a wide swath of the population. Indeed, it is not only accessibility but active engagement that KE projects need to address: ‘Game₁ goes a step further by building in tools, incentives, and rewards for not just looking at objects, but actively engaging with them. It recognises the needs of its user and makes the learning experience fun.’ Part of the engagement the PI envisioned was moving visitors away from passively looking at objects to taking an active part in their story. When we developed Game₁, we wanted to move from ‘passive’ exploration of the library to ‘active’ engagement. These descriptors are not meant to pass judgment on the apps reviewed herein, but rather to denote a different kind of visitor experience. The priority was to help visitors make meaning from the object they encounter through their own actions. Games provide an equalising method for learning about cultural materials.

Instead of being told by a guide, or hearing a lecture, the user learns through decisions they themselves take regarding the object.

Here the PI drew on educational principles from the French writer Michel de Montaigne (1533-1592) and the Bohemian pedagogue Johann Amos Comenius (1592-1670). In his essay *De l'institution des enfants* (1580), Montaigne writes,

‘It is good that he [the teacher] should let him [the student] run ahead of him to evaluate his pace et judge at what point he should descend to adapt to his speed...it is one of the most difficult tasks that I know; and is the effect of a noble and strong soul, to know how to condescend to his puerile speed and accompany him. I march more surely and firmly in climbing than in descending’ (Montaigne, n.d.).’

This extract speaks to the importance of letting the student guide their learning, and finding ways to connect with them at their speed. Montaigne’s conceptualisation of teaching as a shared experience rather than a top-down hierarchy can be used to shape more level educational games. Cox and Lewis (2023) embodied this approach in their development of ‘Mantles in the Museum’:

‘Rather than echoing the work of museum educators, we approached the development of this pedagogical tool with an outsider’s viewpoint in mind. We solicited input from our undergraduate students about the reasons they had been hesitant to talk about works of art or reluctant to visit art museums. Creating a disturbance to institutional insider expectations of typical art museum visitor behavior was also intentionally built into our pedagogical tool, both to empower students to share their perspectives and to address their concerns’ (p. 54).

Comenius maintained similar ideas about pedagogical practice, drawn from his own experience as a child in early modern central Europe. His magnum opus, *Janua Linguarum Reserata (The Gate of Languages Unlocked)*, revolutionised how Latin was taught. The book was dual language, with Latin on one side and another European language on the other (the book was so popular that copies can be found in 16 languages) (Encyclopædia Britannica, n.d.) As students worked their way through the book, the sentences became increasingly difficult, creating a ‘step-pyramid’ that brought the students deeper into the language. In classical early modern fashion, Comenius designed the Janua in sections of knowledge categories, such as botany and astronomy. Montaigne and Comenius’ work mapped neatly onto our objectives for the game. In modern terms, the player was endowed with the agency to create their own journey and meaning. In their article on gaming in museums, Wang and Nunes (2019) note that when museums first engaged with ‘informal’ types of learning, ‘the teacher-led

nature of these early programs was based on pedagogical strategies that were still essentially based on a passive learning mode that did not enhance motivation and enhancement of students' (p. 324). Their study found that 'An emphasis on informal learning can provide the basis to change visitors' cognitive behaviour through engagement in helping to change passive habits of engagement with collections and artefacts into a more participative visiting experience. It is this nature of participative visiting experience that can encourage visitors' change in habits from cultural consumption to cultural production' (328). By 'informal', Wang and Nunes referred to learning that took place outside of traditional learning spaces like classrooms. This is the type of binary that KE can engender, in distinguishing between the spaces of relative safety and legitimation and those in which innovation, and consequently risk, take place. The notion of cultural production is precisely the idea we wanted to capture in the game's development. In doing so, we were able to blur the distinction between formal and informal, to create fluidity between academic research and exhibition and non-academic engagement. Learning is an essential code to establish from the texts. Experimentation with formats like gaming challenge a variety of prevailing conventions and dynamics, and press teachers and students alike question how they learn and why.

The first step towards developing a new kind of approach to learning within the game was to distinguish it from existing museum and library apps. The table below forms a certain typology of the current landscape. On the one hand, these tools below could have provided a model for our work with Library_A. But on closer examination, the principles of active learning and the promotion of user agency were notably missing.

Institution and tool name	Functions	Learning activity
Metropolitan Museum of Art, 'Met App'	Map, searching, customisation	Discovery
Rijksmuseum, 'Rijksmuseum App'	Tours, purchases, map, customisation	Discovery
New York Public Library App, 'The New York Public Library App'	Searching, membership	Discovery, profile management

San Francisco Public Library, 'SFPL'	Searching, membership	Discovery, profile management
Library of Congress, 'LOC Collections'	Searching, viewing	Discovery, research

Table III. Comparable museum applications and their functionalities.

It is understandable that libraries would in the first instance prioritise the ability to search quickly through their collections. The Bibliothèque nationale de France and the Library of Congress took a different approach, releasing a series of apps with different functionalities. 'BnF Gallica' allows users to search through the library, similar to the 'LOC Collections' multimedia style. Others are for creating new products, 'BDnF' for building comics strips and 'Fabricabrac' for 'making one's own creations' using the library's materials. Both national libraries have an app devoted to helping children read with rich multimedia content (Aesop for Children and Gallicadabra).

The presence of multiple apps, rather than one central app, with different programs reveals a range of different possible user types. The converse of developing a series of apps is that this gives the library more flexibility with what they can do, instead of compromising. This can be seen in the case study of the Katona József Library in Hungary, where the librarians created one app and decided to 'target young people, perhaps the hardest-to-reach age group for libraries' (Csapó and Dani, 2022: 35). Within a conceptual framework developed with young players in mind, the app includes a range of options, including book reviews and games. These three libraries are experimenting against a backdrop in which researchers have found that educational 'games are inheriting the worst properties...in the creation of a boring e-book instead of a learning stimulating game' (Mozelius et al, 2017, citing Wiklund and Mozelius, 2013: 343).

Another point of comparison was to look at popular games, both born out of academic contexts and those with a more popular dimension. Undertaking this comparison belies how DH and KE, and especially the latter, look to the world outside of the ivory tower to develop tools that will have resonance beyond their immediate disciplinary context.

Program and tool name	Functions	Learning activity
Pokémon Go mobile game	Augmented reality, roaming, collecting, collaboration	Using AR, roam outside to 'find' and 'collect' Pokémon. Collaborate with other trainers. Environmental awareness.
Assassin's Creed Unity video game	Role player, customisation, roaming, combat, collaboration, open-world	Engaging in hand-to-hand combat and stealth missions to take down the enemy. Historical awareness.
WillPlay immersive educational experience	Artificial intelligence, chatroom	Use an AI-powered chatbot to interact with characters from Shakespeare's plays. Literary awareness.
Arcade	Augmented reality, artificial intelligence, storytelling	Platform for integrating digital characters into physical spaces to create AR games.
Orpheo Hybe multimedia guide and interpretive device	Touring, listening, looking, typing, wireless	Interpretive devices for cultural spaces.
ATS Heritage multimedia guides	Touring, listening, looking, typing, wireless	Interpretive devices for cultural spaces.

Table IV. Comparable popular game applications and their functionalities.

Pokémon Go and *Assassin's Creed* are an ideal blend of possible models for Game₁. The first example shows how a simple task like finding objects can generate huge appeal. And the second is a major example of how richly constructed historical worlds and narratives appeal to a popular audience. *Assassin's Creed* in particular promotes tangential learning through the depth and attraction of the open-world game. Players learn about a range of historical time periods through intense first-person gameplay, like ancient Greece and the French Revolution. The appeal of both games is also the key to their sustainability, whether it is the ability to keep creating objects for finding, or to enfranchise the overarching narrative.

From a professional standpoint, it was essential to consider what work had been done in immersive experiences. The three examples – Arcade, Orpheo, and ATS – above were given showcases at the

Museum and Heritage Show 2023 in London. ATS holds a Royal Warrant for Supplier of Digital Guide Services. A brief survey of Orpheo and ATS products reveals a surprising consistency: the handheld devices are largely similar, at least visually and in basic function, to those found in cultural sites over a decade ago. Orpheo's creators are looking for long-term solutions, advertising their product as 'not only a product but an ecosystem consisting of the device itself, the smart charging station and Cloud services, all interacting with each other' (Orpheo, 2022). ATS also offers a package of solutions and content management (ATS Heritage, 2023). The quality of the images is advertised as higher, and in certain cases with choices for more engagement with the touchscreen. This is effectively a more enhanced form of passive engagement. There remains however the implicit insider/outsider boundary that Cox and Lewis (2023) identify as a persistent issue with engagement. The devices are a feasible option for sites to purchase because it is, in principle, universally deployable across most age groups and requires minimal technical proficiency to use. By the same token, flattening the device's potential dynamism does little to build an ongoing relationship between the user and the site. Arcade's AR experiences closely resemble what Game₁ looked like in its first iteration. The creators use the term 'experience', denoting a comprehensive approach to the site. The game uses AI and AR to bridge the player's perception of the artefacts with curated games and activities that engage and generate meaningful experiences. The selection of games is also more explicitly targeted towards certain demographics, like a given age range or families. WillPlay is distinct in the table as it is explicitly an academic KE project, and one which successfully evolved into a public product (as a pilot with the BBC).

The need to distinguish one's work from existing literature is an age-old dilemma across scholarship. However, developing a pedagogical framework for Game₁ led to an exercise in market research that scoured a wide variety of academic, popular, and cultural resources. Suddenly learning was no longer exclusively bound to the classroom but was framed by a number of different forces. The resulting code borrows its terminology from the world of start-ups and entrepreneurship, 'unique selling point.'

Audience remained a persistent question as we moved into the final stages of the competition. After receiving notification that the team had made it into the final 20 out of over 400 submissions, the pace of the competition picked up. In September 2022, finalists attended a workshop where they met library staff and several judges, and received feedback. Following the workshop, they had two months to rework the project accordingly before the final rounds in November. In a revised work plan from 18 August 2022, we outlined what game play could look like:

‘Challenges become increasingly difficult: as you progress through the nodes and the different sefirot, you can win power-ups, such as a key that allows you to skip nodes. As you progress through each of the leaves, you are placed on a leaderboard and can win exclusive access to a chat room and community with other users. You also gain badges indicating your achievements in the game. Another potential prize might be a special token that allows you to view restricted items remotely. Throughout the game other treasures from the library are revealed as surprises. This combination of status, community, leadership, and recognition are incentives to drive engagement.’

The key was closing the gap between the availability of the game and its potential uptake. There are different ways to evaluate the distance of the gap, including through statistical analysis and user reviews. However, as Csapó and Dani (2022) note, looking at data from the Google Play Store, for example, is limited because it cannot show engagement with individual parts of the app. Games are a possible solution for collecting data about user behavior as by their very nature they generate data through scores, player progression, and leaderboards. Part of the evolution that Game₁ could enable through building a community around the library- and therefore generating buy-in- was moving from the lone scholar model of research to a communal endeavour. We recognised early on that a rewards structure was essential to incentivising players. An issue that arose was how to bring players deeper into the library collections. One of the challenges fuelling this may be library anxiety, or ‘not knowing where to start...[the] process of searching for information’ (Moore and Trysnes, 2021, citing Mellon, 1986: 5). With a challenge- based game, it is also possible to move through the steps without engaging more deeply with the material: ‘An important feature of the challenges is that when you complete one, you are shown a web of related resources based on the object’s linked data. This is a key feature of introducing users to the wider web of resources in the library’. Game₁ was conceptualised as a gateway to the collections, rather than a comprehensive study of the whole library, as the objective was targeting people who would not have visited the library in the first place. This allowed the game

to be more sustainable, as we accounted for only one part of the visitor experience. Our solution to onboarding was using tangential learning, meaning ‘that a game should introduce a theme, a technique or a concept to inspire learners to further self-studies. Instead of direct teaching and learning a game should engage and stimulate learning by putting abstract knowledge in an attractive and engaging context’ (Mozelius *et al*, 2019). Particularly within the KE context, tangential learning has the potential to transform passive observers to excited learners and active participants. Incentive as a code points to a central issue: students may engage with humanistic research through intellectual curiosity or academic requirement, but once these subjects leave the realm of the university, incentivizing engagement becomes a significantly more complex and multi-dimensional challenge.

Output and Reception

Ahead of the finals round, the PI broadened the scope of the project to gather feedback through user testing. A major limitation of this period was that the user testing could have been much deeper and wider. The discussions of the PI with users were predominantly limited to a small community of graduate students. This included a presentation at their weekly seminar, where the PI received feedback and positive reinforcement from the scholars. The PI also reached out and asked for volunteers from the same university to play the game and provide a review for the final competition. These elements were useful to have from an entrepreneurial and presentational standpoint, particularly when it came to demonstrating the thoroughness of our approach. For example, we asked for user reviews from head librarians at the university. One respondent said, ‘I have found the project to be challenging, very creative and [a] wonderful tool. I can see how it will increase the exposure of the Library and enable it to serve its potential readers throughout the world. I am deeply impressed by it.’ A second respondent said, ‘This promises to be a significant new approach to engaging readers at all levels with the collections, services and spaces that libraries have to offer their communities. I am particularly excited at the way potential users who will never have come to a library might become part of a library’s online community, and eventually transition to full participation.’ The purpose of these specific reviews was to demonstrate that the project was feasible in the context of a large library system like Library_A. The third review came from an alumna of the university, who said the game ‘has

an Indiana Jones feel to it'. This review was included to demonstrate that the game had potential for a wide popular appeal. But the reviews were designed precisely for the purpose of selling the product, rather than advancing or critiquing it. They were also limited to academic specialists within the specific university where the PI was located at the time of the project;s development. In a future iteration of the project, it will be necessary to allocate sufficient time to collect a wide range of feedback, both of the type that can be shared with potential investors and clients, and which can be used internally (McAllister and Long, 2018). Below in Figure II is a possible model for future user testing. According to the model, we can define 'academic' as a player that is likely to be actively involved with academic pursuits prior to playing the game. These can include university and school students and staff; librarians; archivists; and GLAM (Gardens, Libraries, and Museums) staff. 'Non-academic players' represents those who are less likely to be actively involved with academic pursuits prior to playing the game. Rather than drawing a distinction between those who have or have not received a certain level of education, the model targets distinction between players who are likely to be more positively disposed towards engaging with a museum or library exhibition without the use of a game. The below model for future user testing is best understood in conjunction with the figure immediately following, 'the five-layer model for game evaluation' (Figure III). The five-layer model is useful (as opposed to the four-layer model) because it includes appeal. As McAllister and Long (2018) note, the four-layer model 'assumes that the player has somehow managed to get as far as actually downloading the game. Therefore, it is also critical to understand why a game appeals to players to begin with' (120). They state that the five layers are dependent on one another. In the model of future mapping, the circles are concentric to denote an increasingly large selection of inter-dependent demographics stemming from rigorous academic research and ending with the broadest group, non-academic players. The success of one model thus relies on and is complementary with the other. In Figure II, the people who will become involved will in the first instance have the chance to play the game. However, this can be expanded to include a variety of roles to effectively form a knowledge exchange project. For example, through playing the game, participants can help create a new scenario or challenge; find ways to share the project with their respective communities; and contribute to an ongoing conversation. In this way, they become active stakeholders in the game

and play a role in its continuous development. That in itself is a form of sustainability. Below is a list of different groups of users that could be found engaging with a game like the one discussed herein.

1. Academic specialists and students within the discipline represented by the game: Evaluating Game₁ begins with evaluating the positionality of its creators. As with many KE projects, the creators themselves have undergone a process of transformation, often from individuals engaged in highly specialized academia research, to collaborators working across disciplinary lines with new methodologies. By the same token, many KE projects originate within academic contexts. This first layer serves as a sanity check to ensure accurate and thoughtful representation of the material. By involving specialists from that discipline, the aim is also to encourage conversations about how their research may be translated into these contexts, and to generate buy-in.
2. Specialists and students outside of the discipline represented by the game: In the first instance, this includes specialists in disciplines adjacent to the one in the level above. This ensures the game can transcend particular disciplinary boundaries. In the second, it will be critical to invite feedback from potential users and contributors in other fields, such as STEM. This will test for appeal for players who are not typically interacting with cultural materials on a daily basis, but are invested in teaching and learning.
3. Non-university academic player: These refer to potential users, distributors, and testers who work at the interface of academic outputs and public interaction, such as staff at public libraries. The testers will be well positioned to assess how non-academic players may react, whether they themselves would want to play, and the scale of responsibility for maintaining the game in these institutions.
4. Non-academic player: This group is likely best composed through self-identification. For example, lawyers, doctors, and government officials would fall into this remit. They may not have time, space, or responsibility that would bring them into contact with academic or cultural materials on a daily basis. Apart from professional designations, the call for testers would allow people to self-identify on any basis, to include a range of age groups and

occupations, including retirees. Another important criterion will be people who may not see themselves in cultural spaces, have anxiety or discomfort in those spaces, or otherwise have confusion about how best to engage with them. Financial and knowledge barriers are additional considerations.

Through the process of developing the game in tandem with the staff at the library, we crystallised the core issues into three main ones. In the presentation given at the semi-final round, 'the problem' slide listed:

1. 'Limited Audience: Research libraries mostly attract people already invested in research
2. High Threshold: Interacting with a research library presumes an existing level of knowledge and education
3. Lack of Outreach: There is currently no good solution for bringing non-researchers into research libraries'

Each of these statements is effectively talking about a conversion point. Tackling these problems requires converting individuals who would not normally use the library, or who may find it challenging, to users with the tools and agency to conduct meaningful engagement with the collections. However, as the feedback from the judges, and our own experience, suggest, building a pathway for conversion requires moving from assumptions to empirically driven insights.

In this last stage of the competitive process, two intertwined codes emerge. We have previously used the word to describe the relationship between the game and its users but this term can also imply a certain passivity. As this case study shows, the use of DH and KE methods gives new complexity to what it means to be the audience of an initiative like Game₁. In order to make the game effective, we had to understand the users as active agents who demanded more from the tool than passive acquisition of knowledge. This is an important impetus for humanities scholars to think about whom they write and produce for, to what end, and what they hope for those who engage with their work to

achieve or benefit. The notion of soliciting feedback, the second code, is also highly unusual within the orbit of humanistic scholarship. The integration of digital tools at a delicate primeval phase requires scholars and practitioners to invite perspectives into their development process that may have previously been confined to themselves and a select few within their discipline. The audience is no longer remote or depersonalised but a clear and active voice.

Game₁'s story does not end, but rather begins with the finals round. Its arrival in the world coincided with a policy shift at another major library, in which gaming was part of a potential digital engagement package. This library is located in a wider university context that attracts scores of visitors from across the globe every year. The library itself is a major attraction of that university, thanks to its history, architecture, and representation in popular culture. Generating an audience therefore is not the primary issue. The challenges in this particular case study are somewhat different from those encountered at library_A. Through discussions with library staff, it was determined that the game should address the following:

1. How to convince players to buy a ticket to visit the library who may not otherwise have done so; how to create players locally and globally;
2. How to transform gameplay into a subsequent engagement with the library's major digital collections platform ('Extending the user's engagement past their initial visit, to include further engagement with the digital collections');
3. How to create a short-term pilot of Game₁ that might inform long-term practices; how to bridge 'digital augmentation with the library physical environment';
4. And how to provide 'users with a 'behind the scenes' experience using digital means - allowing them to see virtually what they would not be able to see otherwise', in particular the work librarians and curators do.

The game was thus asked to enable a transformative process by which passive observants become visitors; visitors become readers; and the library evolves from a local attraction to a global

engagement hotspot. Another key distinction between Library_A and this library was that the new iteration of Game₁ would be for an exhibition in the first instance, as opposed to an introduction to the entire collection.

This distinguished our work from the apps and programmes discussed in the tables above, and put into another category of digitally-driven exhibition support. A survey of other exhibitions' and museums' use of technology shows that there is a certain predilection for implementing tools that are 'trendy' or in the popular media. As Lee *et al* (2020) point out, virtual reality can be a 'marketing tool' for museums 'to attract visitors to actual tourism sites...and can encourage travellers to visit the actual museum' (3). For example, at the Tate Modern Museum in London, visitors could use a VR headset to explore the study of Italian artist Amedeo Modigliani. VR is a new kind of opportunity to step in time and immerse oneself in a now-gone environment, among other benefits noted in the literature (Tennent *et al*, 2020; Morsman *et al*, 2022). However, as a study by Shahab *et al* (2022) found, 'Most of the VR literature suggests that users experience VR for entertainment purposes, but this research suggests that visitors get a more pleasant experience through educational content...The findings provide initial evidence that VR, if well-designed, can be an effective tool for museums' (12). Studies like this point to the fundamental need to underpin the use of digital technology, however popular, with pedagogical theories and to follow up on their use with data analysis. Another consideration is the cost of the implementation. It took six months to build the Modigliani programme, while the exhibition only lasted five months, raising a question about return for investment. VR headsets now come in a range of price points, allowing for restricted museum budgets to accommodate them (Liu, 2022). This opens up the possibility that museums could provide more headsets and welcome more visitors at one time. But the core issue of sustainability remains. In their analysis of NFTs and bio-conservation, Dumitriu *et al* (2021) use Rubio's (2014) binary of docile and unruly objects to classify artefacts: 'Docile objects...are objects—such as oil paintings – that adapt to museum structures or, in other words, for which the museum was created. Unruly objects...are objects that resist the (infra)structures of the museum, unfolding over time, usually in unpredictable and risky directions' (384). This distinction illuminates why the sustainability of digital technology is an

ongoing problem, namely that museums are not typically built to accommodate the technology physically, to assess its use internally, to sustain it financially, to integrate it long-term, and to build cohesive teams around it. This is why articles like the Guardian’s piece on the British Museum’s use of NFTs may in fact be more damaging than helpful. In the article different members of the enterprise are quoted describing the project as ‘new and exciting’ (Khomami, 2021). A blog post from the neoliberal Adam Smith Institute downplayed concerns about the Museum’s strategy, observing that ‘...we allow, encourage, even applaud, the attempts. Because we face uncertainty and can only find out by doing. The time for the rethink is after having done and the collapse of that uncertainty down to “Ah, so, that’s what happens then’ (Worstell, Adam Smith Institute, 2022). But this outsider’s view neglects the fact that museums cannot afford to take continued risks, especially when the financial stakes are so high (the last line of the Guardian article reminds readers ‘An incident earlier this month, in which a collector bought a fake Banksy NFT for £244,000, shone a light on the vulnerabilities of NFT trading.’). Some might see sustainability as the antagonist of optimism but the alternative can be irresponsibility. Game₁’s priority at this stage was to minimise costs at the project outset, undertake risk management, and create a generic structure that can be easily modified down the line. The exhibition at the second library was to showcase their archive of a famous 20th-century author. While the author’s name may be well-known, potential visitors may be less familiar with his work. The anxiety that Cox, Lewis, and Mellon note may arise from a lack of familiarity with the author, and subsequently limit visitor numbers and range from the outset. Any potential knowledge-based boundary will hinder outreach, and the potential to educate a wider range of audiences about this author. The materials were to be shown in what can be described as a hybrid museum-library space. The exhibition organisers would likely have to contend with Hughes and Moscardo (2019) found in their study of young people in museums, namely ‘a shared social representation of museums as places for school groups, families, or cultural elites who sought to learn from exhibits of authentic objects... it was clear that neither group regards museums as places for young adults’ (516).

Communication	Creating opportunities to include participants beyond the traditional remit of academic
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	projects
Funding	Solidifying the relationship between academic institutions and extra-institutional funding bodies
Genealogy	Weaving new technologies and methods into longstanding traditions and processes of value transmission
Equity	Flattening the hierarchy of expertise and contribution to create a more level environment in which different areas of knowledge and skill can interact with one another
Expertise	Expanding the boundaries of which types of expertise are included; equipping scholars with skills beyond the typically prescribed set
Time	The timelines associated with certain forms of DH and KE work and the processes that these timelines shape impact research workflow. Digital tools can also enable learning for people with limited time.
Learning	Experimenting with new ways of learning that adapt to different learning styles, backgrounds, and contexts.
Unique selling point	Identifying and developing features that will distinguish the product from the market; thinking with an entrepreneurial mindset.
Incentive	Shifting away from a model of 'build and they will come' to developing active modes of incentivising engagement with learning.
Audience	Expanding the remit of who is included as a recipient of humanistic knowledge and also moving from a passive engagement to active participation.
Feedback	Building in dialogue where it otherwise would not be present with audience members and collaborators to create a product that has viability and reception.
Sustainability	Thinking critically about the longevity of research and the infrastructure needed to sustain it in a period of rapid technological development.

Table VI. Codes generated from the data and their descriptions.

Discussion

This section will examine how the codes and themes extracted from the analysis of the documentation in the preceding section can help reflect on the three axes outlined in the opening to the dissertation.

Existential Questions

The analysis brought to the fore a number of themes that can help bridge the divide, or binary, that characterises much of the literature surrounding the future, relevance, and impact of the humanities. The integration of new technologies within tradition was a key feature of Competition_B, and set the stage for the team's project to be a vehicle for the transmission of history, culture, and values. It demonstrated that the question of whether and how to use digital tools was not a zero sum game or a choice between adherence to important questions or submission to passing trends. A number of the authors in the literature review raised the issue of who is able to participate in the creation of humanistic scholarship. The theme of equity created a haven for practitioners of humanities, entrepreneurship, and technical expertise to come together without a superimposed hierarchy of expertise or authority. Indeed, the challenges encountered at the start of the project in fact led to a novel situation where humanities scholars and computer scientists worked alongside one another to solve a problem in the service of the library's values and strategic mission.

These existential concerns necessarily touch on the function of humanistic learning and research—how, for whom, and why. Precisely because of its unconventional position at the crossroads of libraries, philanthropy, and gaming, Game₁ was a useful test case for these fundamental questions. The need to create a tool that stood out from the vast landscape of museum and library tools led to a rigorous conceptualisation of pedagogy that is active, empowering, and continuously self-renewing. Operating outside the traditional context of the university classroom, the game had to find creative ways to incentivise potential users to play, particularly those who do not consider themselves academics. The audience in turn grew into a rich array of potential users from both within and without

the ivory tower who now had the opportunity to access priceless treasures on their own terms. The outcomes of this project should give a measure of hope in an often bleak conversation.

Policy Questions

Conversations about the role of policy and extra-academic pressures are often marked by suspicion, especially on the end of those receiving directives and mandates from university administrators and funding bodies. However, the codes identified in the conception stage offer a different perspective on the relationship between research and policy. The way in which organisers spread the news about the competition created a welcoming environment that did not have the usual characteristic of fulfilling an agenda or meeting a series of bureaucratic objectives. The source of funding was not only transparent, but the partnership between the philanthropic organisation and the library was posited as a beacon of progress. Another topic that frequently emerges in policy questions is one of expertise, and who can participate in scholarship particularly if they are coming from a non-academic background (i.e. non-academic partners). The collaboration at the heart of Game₁ demonstrated how a partnership between a humanities scholar and a firm specializing in augmented reality could exercise the skills of both parties while retaining a certain parity and mutual respect.

Technical Questions

At the heart of the technical questions is a continuous assessment as to whether these mechanisms actually move research forward or are simply concessions to passing trends in order to stay relevant. One of the aims of using this project as a case study was to demonstrate that the incorporation of digital tools was not superficial or an empty gesture towards an external pressure. Rather, if we follow the principle that the ‘tree is known by its fruits’, the narrative of the project shows that a willingness to work with digital tools gave forth a variety of opportunities. In these opportunities, the PI and her team were able to experiment with different modes of learning, help a major institution think critically about its public engagement, and also create an exchange of ideas and skills that would likely not have been possible in the environment in which the PI was normally operating nor the context in which the institution pursued its mission. The technology was a catalyst for thinking through key issues that one

way or another the humanities will have to address. These include research workflows (in particular the code ‘time’); the longevity of research outputs and the best ways to preserve them for future generations (sustainability); and the demographics of who is included in humanistic scholarship (feedback, expertise). Indeed, the spectres of relevance and impact are still hanging like a sword of Damocles. What the project did was to move past the often bitter or defensive elements of the discourse surrounding these issues and reframed them in terms of a practical, worked-through example. The ‘unique selling point’ was a productive way to think through the positioning of humanistic research in the knowledge landscape, and in particular how that scholarship can engender new ways of learning and engagement.

This next section will propose answers to the research questions using the codes and findings of the previous sections.

1. What is the relationship between the implementation of DH and KE methods, and the wider context of the humanities in higher education?

DH and KE methods have conventionally been treated as possible solutions to promote the relevance, impact, and value of the humanities both within higher education and to non-academic audiences. However, as the findings demonstrate, DH and KE are also invaluable methods to pose difficult yet essential questions about the form, function, and constituency of humanistic scholarship. Scholars benefit from their implementation not only for the purpose of generating new research insights and partnerships, but also for the exercise of asking these questions, which they may not have done in the pursuit of traditional methods.

2. What contribution(s) has the implementation of DH and KE methods made to the way in which humanities scholars understand and conceptualise their work?

The inroads that DH and KE have made in terms of equity, access, funding, communication, and other key areas means that scholars cannot look at their work in the same way as before. Many may still hold on to the conviction that the standard methods of scholarship remain the gospel truth, but now in order to maintain that conviction they must confront the empirical results of DH and KE work in the humanities. And of course, there are those who, having seen the positive outcomes and mastered the challenges, will pioneer the next phase of digitally-driven, publicly-oriented, and socially-underpinned research.

3. What contribution(s) has the implementation of DH and KE methods made to the discourse about the future of the humanities and their place in higher education?

There is a certain inevitability about these methods, simply because of their rapid integration, and as such their increasingly permanent place in the humanities. And yet this is not simply a matter of resignation on the part of scholars. There appears to be an increasing recognition that rather than a binary between tradition and trend, these methods offer new ways to look at the same research. And in classic humanistic fashion, they are an opportunity to reflect on the purpose of these disciplines (Grimm *et al*, 2025).

4. What is the role of digital technology in the response of a discipline or an institution to perceived existential and practical issues?

It would be superficial to call digital technology a ‘solution’, as thinking in terms of a silver bullet does an injustice to the complexity of these issues. Rather, it is a flashpoint that illuminates the problems and tensions that have formed under the surface of the discipline. To an important degree, this quality is almost more important than its capacity for making research appear more in line with contemporary trends. It is a paradigm that forces scholars, students, administrators, and policy experts to confront difficult questions, all the while offering the hope of a future that breaks from the crises of the past.

Conclusion

The thesis began by delineating the binary that characterises key elements of the discourse surrounding the future of the humanities. Many of the important texts and lines of thought in this discourse proceed from a position of abstraction, hypotheticals, or theoretical conjectures. The thesis aimed to contribute a new perspective to this debate, first by selecting two flashpoints that have pushed the humanities to rethink their ways. Second, it used empirically-driven narrative to present a case study grounded in reality and experience.

The case study of Game₁ is a microcosm of the challenges that face practitioners wishing to engage in DH-KE work. The rise of DH-KE in the first place is a recognition that people outside the traditional boundaries of academic research can, and should, benefit from the insights of those within. At the heart of this field lies the need to convert people, from passive recipients to active players, across academic, cultural, religious, and technical boundaries.

Perhaps more importantly, Game₁ embodies in a living form some of the most pressing questions facing the humanities. It did not seek, nor does its discussion here, to answer them conclusively. However, it demonstrated, first, the importance of working through these issues with practical steps, such as the development of a project. Second, in its own small contribution, shows that there is in fact a middle road, one upon which DH and KE work, particularly its social aspects, can enhance research rather than detract from it. As the findings of this dissertation show, the binary identified at the very start, between retaining traditional forms of humanistic research and resisting any perceived external pressure to change, is false and ultimately destructive.

Research is only as good as the people it impacts. Digital humanities and knowledge exchange are our clarion call to rethink how knowledge is made and for whom.

Evidence of presentation

I first presented my research at the weekly seminar of the Ertegun Graduate Scholarship Programme in the Humanities on 25 Wednesday, 2020. The programme details are as follows: Lena Zlock (PRS/DPhil candidate in Education), 'Pen, Paper, Produce: Adaptation and Integration as Prospects for the Humanities' The environment in which the humanities find themselves is changing. The way people come to the humanities, and whether and how they choose to interact with it, is changing, motivated in part by questions of justification. The pressures of the higher education market and the self-perception of universities compound this problem. In other words, the humanities are between a rock and a hard place. Humanists should be asking themselves, 'How do we address environmental pressures while retaining the fundamental traits of our work?' This paper proposes a model for how the humanities should respond to this changing environment while retaining their 'distinctive disciplinary character', with a focus on the advent of digital technology. I gave two presentations in the Department of Education: one at the Learning and New Technologies Group on 4 March 2021, and a second at the Research Training Seminar on 10 June 2021.

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