Digital Humanities – Ireland’s Opportunity

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Digital Humanities – humanities in a new key

Digital Humanities is transforming our understanding of culture, history, and society. Digital Humanities uses information and communication technologies (ICT) to preserve artefacts, to make them more accessible to researchers and the public, and to analyse and mine their information in new and previously impossible ways; in short, Digital Humanities enables new kinds of scholarship, and new discoveries.
We have a wealth of opportunity

Ireland is well poised to excel in this emerging field. We have a tradition of excellence in the humanities, we are a country with a rich cultural heritage, and we have internationally competitive research and industry in information and communications technology. Digital Humanities is at the nexus of these areas, and we are already starting to see the combination of our strengths in important projects. The field is in its infancy but is growing rapidly, and we should leverage our strengths to position Ireland at the forefront of its expansion.

The scholarship and access that Digital Humanities affords offers enormous opportunities for international recognition, research collaborations, leveraged e-tourism, and for engagement with the Diaspora, e-learning and creative industries.

We need to act now

We have to act now in order to harness this opportunity. We need to build an infrastructure that supports practitioners and scholars of Digital Humanities that is not funded on a long-term basis, and not piecemeal through project funding. We need to ensure scholars have the resources to capture, access and analyse artefacts, and a legal framework that supports the access and re-use of cultural heritage and other humanities content. We need to create an awareness and mindset where Digital Humanities is a recognised and valued part of scholarship and scholarly advancement. We know we will have succeeded when Digital Humanities is considered a mainstream part of humanities research.
Why this report?

This report aims to identify the key opportunities for Digital Humanities in Ireland. We hope to raise awareness of the opportunities that Digital Humanities can bring beyond cultural heritage, and provide recommendations on how the field can be strengthened and supported. The time to do this is now, so that Ireland can reap the benefits of being in the vanguard; the opportunity is ripe to create expertise and human capital, develop new forms of scholarship, and further open the door on our rich cultural heritage.

This report summarises the findings of a group of leading researchers in the field, convened at the Royal Irish Academy in October 2014.
To expand the Digital Humanities in Ireland we need:

1. Sustained infrastructure and services beyond project duration

2. Value-recognition for the discipline of Digital Humanities

3. Policy and funding to support the fundamental interdisciplinary nature of Digital Humanities

4. To create a programme of public engagement linking the educational, cultural and business sectors
What is Digital Humanities?

At its bare bones, the discipline applies information and communication technology (ICT) to the humanities, advancing the state of the art in both fields. The fact that Digital Humanities, as with many emerging fields, isn’t always easy to define is actually part of its strength, as it allows innovation and creativity outside the traditional disciplinary boundaries.

In practice, Digital Humanities encompasses many approaches, and perhaps the earliest form involved the preservation and access of artefacts, for example digitising the text of a rare book so that it can be accessed electronically by scholars and general readers, or capturing an image of a discovered archaeological object so that it can be digitally preserved, viewed, analysed and shared electronically.

Audio recordings of interviews and events — important first-hand accounts of history — can also be preserved using digital technology to make them more robust and accessible. 3D physical objects, such as sculpture or paintings, also can be digitised in unique ways, as well as other media, such as TV from the pre-digital TV era. Our own human activities form part of our culture, and these can be converted to digital form, such as in the RePLAY project (http://www.fp7-replay.eu/index.php/en/) which is digitising the skills of GAA games and several traditional European sports. Digital Humanities brings new methods of analysis to both historical and contemporary content.
While preservation and access are important functions in Digital Humanities, it doesn’t end there. Once rendered into digital format, artefacts and records become a new and rich source of information for scholarship that can be interrogated and mined in illuminating ways. Data analytics can be used to identify patterns and answer new questions, such as analysing the writing script in old Irish manuscripts to identify authors.

Digital technologies can also be used to create new or augmented artefacts in the humanities. For example, the Palimpsest project in Edinburgh cross-references place names in historical literature with digital maps of the city to create new interpretations of Edinburgh’s literary cityscape (http://palimpsest.blogs.edina.ac.uk/). In the visual arts, extremely high resolution digitisation of paintings allows us to analyse texture and details that the human eye cannot detect.

The examples are manifold; the definition of Digital Humanities is open-ended and being developed, demonstrated and rethought through diverse and striking projects.
Digital Humanities and the importance of Cultural Institutions

Digital Humanities is intimately associated with both academic scholarship and with the Cultural Institutions who are the custodians of our cultural heritage and who hold the material that forms the foundations of scholarship. National Archives are the custodians of a state’s records, National Libraries preserve and catalogue documents, manuscripts, visual materials and so on. A deep collaboration between academia and Cultural Institutions affords great opportunities for both.
Inspiring Ireland project

A strong example of the potential for this kind of collaboration is Inspiring Ireland (http://www.inspiring-ireland.ie) A recent Irish Digital Humanities project, it brings Ireland’s national cultural treasures, such as digitised paintings, letters, sculpture, manuscripts, and photography, to an international audience. For the first time, there is a national portal for Ireland’s exceptional cultural heritage - curated and exhibited online - to showcase Irish digital-cultural innovation globally.

Inspiring Ireland is a collaboration between the Digital Repository of Ireland and eight of the premier Irish Cultural Institutions - the Abbey Theatre, Chester Beatty Library, Crawford Art Gallery Cork, Irish Museum of Modern Art, National Museum of Ireland, National Archives of Ireland, National Gallery of Ireland, National Library of Ireland – and the Irish Government’s Department of Arts, Heritage and the Gaeltacht (DAHG). This collaboration demonstrates how, through a Digital Humanities approach, academia, technology, and cultural institutions can together create something innovative and of societal and cultural benefit.

More than just an online portal, Inspiring Ireland is part of a systematic programme in preservation, access and discovery for digital objects in Ireland’s Cultural Institutions. Built on the Digital Repository of Ireland’s large-scale preservation infrastructure the pilot showcases our cultural heritage via a curated exhibition that features high quality digital images of the objects, expert interpretation, and contextualisation.
Digital Humanities brings new value

Digital Humanities opens up new forms of access, preservation, creativity and scholarship. It builds knowledge, it opens new angles for analysis, it answers new questions and it adds value to our heritage. It helps us better understand ourselves through an enriched study of history, creativity and society.

Digital Humanities supports the preservation of precious artefacts

One of the early activities of Digital Humanities has been the digitisation of artefacts. Literary and artistic works, factual records and interviews can be captured using digital technology, and the digital object can be preserved for future use. However just as ‘vinegar syndrome’ affects cellulose acetate film and humidity affects paper, a digital object is also at risk. Digital objects can also decay, through ‘bit rot’ deterioration, or through ongoing format changes that render the object unreadable or obsolete over time. The solution to ensure future access is digital preservation – active ongoing data management, including attention to changing formats, standards, and software.
Digital Humanities opens new routes of access

Digitisation and visualisation open up new routes for people to access material. One no longer needs to hold a book or ledger physically to explore its contents, or visit an archaeological collection in person to analyse its discoveries. Contemporary material is often born-digital; no physical equivalent exists for email, websites, social media, etc. This digital world can enable new forms of engagement for scholars, tourists and the general public.

Digital Humanities fosters new forms of scholarship

Digital Humanities creates new forms of scholarship. Approaches such as data analytics, sentiment analysis, stylometry, digital modelling and text mining or extremely high-resolution digitisation all allow researchers to frame and ask new questions about our history, heritage, art, society and culture. For example the ALIGNED project funded under Horizon 2020 and led by Trinity College Dublin is building the technological infrastructure for the Seshat Global History Databank, bringing together history, archaeology and social sciences scholars from around the world to work on time series data on all human societies that have ever existed, a task not possible without a coupling of technology and humanities expertise.

Digital Humanities creates and validates new processes

Techniques and approaches developed and applied in Digital Humanities can be used for other applications. This could include new forms of information capture, processing or analysis that will yield benefits beyond the humanities in other spheres such as science, engineering or maths.

Digital Humanities builds expertise and human capital

Education and research in Digital Humanities is already enriching a new cohort of graduates in Ireland, whose skills are valued by employers. As Digital Humanities continues to grow and mature in Ireland, our human capital in this field will also flourish.
Digital Humanities and a new generation of graduates

Digital Humanities has grown rapidly as a distinct discipline in Ireland. As an example, in University College Cork, there are already 26 PhD research students working in various Digital Humanities projects, and in 2014 UCC launched the first undergraduate degree in Digital Humanities in Ireland (http://www.apc.ucc.ie/en/dah/study/ba/). Masters programmes have also been introduced in Maynooth University, Trinity College and University College Cork. The Digital Humanities and Information Technology BA in UCC attracted a first class of 27 students based on direct entry and not through the usual mechanism of advertising and recruiting through the Central Applications Office. Students of this programme are offered a course balanced across two areas – information technology, and the arts and humanities. They develop practical skills in using digital technologies and they learn to curate, develop and deliver digital media applications, while also devising and implementing digital learning plans.
As with many contemporary programmes, students in Digital Humanities also develop critical, analytical, research and problem-solving skills which make them valuable for a wide range of future careers.

The skills balance offered by the BA course from UCC is typical of what scholarship in Digital Humanities offers to all researchers and all kinds of scholarship in this field. As is the case with Digital Humanities scholarship, the synergy is not around information technology offering technological support to humanities, nor about humanities/social scientists as merely content creators or end-users. Instead, the synergy is in a creative and integrated approach to scholarly inquiry that spans across traditional University Faculties. This allows students to develop software, to create art as well as apps, and to be critical cultural producers rather than passive consumers of culture and technology.

Developing practical skills in Digital Humanities allows researchers and students to flourish in the digital age as they explore the impact of digital technology on culture, power, and identity. With the skills to use digital tools, computing technologies and programming languages, as well as the skills to curate, develop and deliver digital media applications, students and researchers in Digital Humanities learn to discover what it is to be human in the digital age, and the answers will help to shape how we see ourselves and others as humanity becomes more connected by technology.

As the role and importance of Digital Humanities continues to grow and mature in Ireland, with 72 graduates expected from the first four years of the Digital Arts and Humanities national structured PhD programme (http://dahphd.ie/), our human capital in this field will flourish; additionally, the skills and expertise of those working in this area are valued hugely by employers.
What is Ireland’s opportunity?

Ireland is well positioned to harness the emergence of Digital Humanities. Our strong heritage and culture - which is recognised both in Ireland and internationally - provides a valuable crucible in which the Digital Humanities can thrive, together with our internationally recognised excellence in ICT and Humanities.

There have been major investments in large-scale programs over the last decade. These include the Insight Centre for Data Analytics and the SFI ADAPT Research Centre, PRTLI Cycle 5 funded Digital Repository of Ireland and the Digital Arts and Humanities Structured PhD programme; these investments and their subsequent achievements have drawn international recognition for Ireland.
Ireland can engage through culture and heritage

Ireland has a wealth of heritage and culture stretching back millennia. Our archaeological, literary, musical, artistic and historical records are an enormous resource, matched by few other cultures in the world.

Interest in Irish culture at home and abroad

With such a distinct cultural, literary, political, artistic and linguistic history, our sense of our own heritage is strong and we have an engaged and powerful Diaspora with a desire to understand more about Irish culture and history. Ireland’s cultural heritage and vibrant continuing creative production has generated a level of international interest that is matched by few other countries.

Ireland has expertise in digital technology

Through targeted investment over the last 10-15 years, Ireland has built strength in ICT and data analytics. We are internationally recognised for our expertise in software, hardware and analysis, and the enabling technologies and expertise for Digital Humanities are already in place here.

Ireland can attract further international funding

By strengthening the infrastructure and support for Digital Humanities in Ireland, we will further encourage international collaborators and investors to work with Irish institutions and practitioners to engage in the field. This will attract non-exchequer funding to support initiatives and individuals working and innovating in Digital Humanities.
e-Infrastructures for Open Data

The emerging movement advocating for and enabling open access to research data, Government, and cultural data also enables Digital Humanities, where access to data (such as texts, manuscripts and images) is vital. A key enabler for Open Data is sustained e-infrastructures with data management planning and digital preservation of the holdings.

Ireland and e-tourism

Irish culture and heritage are a hugely attractive draw for tourists to Ireland, and tourism contributes significantly to the Irish economy. Digital Humanities stands to deepen our understanding and presentation of cultural and historical artefacts – and enables the public to engage with culture in novel ways, through gaming, tourism apps, and crowd-sourcing.

Digital Humanities will build human capital in Ireland

Digital Humanities is already enriching education in Ireland as students and researchers are being trained in new and innovative approaches. This is helping to create a diverse and competitive workforce which in turn helps to build up Ireland's reputation as a dynamic and attractive locale.

Ireland can harness change quickly

Ireland has an educated workforce, we have developed a knowledge economy and we are proud of our heritage and culture. Ireland is also a small, networked country, and this should enable us to bring in changes rapidly to support Digital Humanities.
The 1641 Depositions Project

The 1641 Depositions Project is a collaborative research project between the Schools of History and Computer Science in Trinity College Dublin (TCD), which includes PIs and funded investigators from the SFI ADAPT research centre (http://www.adaptcentre.ie/). TCD collaborated on the project with the University of Aberdeen, the University of Cambridge and IBM LanguageWare. Eneclann (http://www.eneclann.ie/) was commissioned to digitise the manuscripts and to design and plan the technology behind the project and execute the final publication.

The 1641 Depositions are witness testimonies from all social backgrounds (mainly by Protestants but also by some Catholics), concerning people’s experiences of the 1641 Irish rebellion. The testimonies document military activity, the loss of goods, and the
alleged crimes committed by the Irish insurgents, including assault, stripping, imprisonment and murder. This body of material is unparalleled anywhere in early modern Europe, and provides a unique source of information for the causes and events surrounding the 1641 rebellion and for the social, economic, cultural, religious, and political history of seventeenth-century Ireland, England and Scotland.

The research project sought to conserve, digitise, transcribe and make the depositions available online. The project began in 2007 and finished in September 2010. The entire collection is published online at http://1641.tcd.ie. The Irish Manuscripts Commission (http://www.irishmanuscripts.ie/) have published a hard copy of the first three volumes of the 1641 Depositions, with nine more to follow.

The project received funding from the Irish Research Council for the Humanities and Social Sciences (IRCHSS), the Arts & Humanities Research Council (AHRC) in the UK, and the Library of Trinity College, Dublin.

The 1641 Depositions project built a foundation of true collaborative Digital Humanities research in Trinity College, between Historians and Computer Scientists, which sowed the seeds for a series of further individual and collaborative research projects. Examples of these are:

1. **Language and Linguistic Evidence in the 1641 Depositions** was an AHRC-funded collaboration between Trinity College Dublin and the University of Aberdeen which explored the application of natural language processing technologies to support scholars interested in historical and corpus linguistics in working collaboratively with historians and other specialists to interrogate the 1641 Depositions.

2. **CULTURA** was an FP7 ICT project which sought to deliver personalisation and community-aware adaptivity for Digital Humanities communities through an innovative environment which is tailored to the investigation, comprehension and enrichment of Digital Humanities collections. CULTURA aimed to stimulate and support the communities of interest which form around such collections.
How to enable the growth of Digital Humanities in Ireland

Numerous independent initiatives, projects, courses and services are already engaging in Digital Humanities, but in order for the field to mature, and in order to capitalise on the opportunity for Ireland, we need infrastructure and tools, value recognition, supporting policies, funding and public engagement.
1. Sustained Infrastructure and Tools

By its nature, Digital Humanities benefits from researchers and data curators sharing large amounts of data (such as text corpora). Ireland needs a robust and accessible platform to enable such sharing, and to foster a mindset and culture where sharing is seen as common practice. The Digital Repository of Ireland provides a trusted national digital repository for humanities research data funded by project investment from the Programme for Research in Third Level Institutions – but national e-infrastructure also needs to be sustained beyond original project funding if it is to continue to provide much-needed services. We have an opportunity in Ireland to think outside of a project framework to sustain valuable, proven infrastructures and tools.

2. Value Recognition

Without commonly adopted standardised measures, it is currently difficult to quantify the value and impact of Digital Humanities, which in turn makes it difficult to justify or attract funding. Without the mindset and evidence that Digital Humanities adds value, attracting talented experts and funding is more difficult. The field needs accurate, reliable and discipline-sensitive metrics to measure and value data management or curation. This will incentivise people – researchers, policy-makers and the public – to support and engage with Digital Humanities.

3. Supporting Policies and Funding

Policies and funding streams to support Digital Humanities will provide incentives for practitioners. Clear policies around Digital Humanities are key as funding policies can incentivise and enable research and application. Funding agencies need to be aware of future-proofing projects, and we suggest that a fixed allocation of funding should be reserved for supporting activities specifically in Digital Humanities as is being done in other countries. There is also a need for policy, legislation and practice around cultural data, digital preservation, copyright, orphan works, and data protection to ensure continued access to our cultural and social heritage.

4. Public Engagement

We need community engagement to build support, awareness and impact in the Digital Humanities. Educational institutions, employers and the academic community have important roles to play. Outreach work needs to be properly resourced and supported, in order to engage with policy-makers, potential practitioners, collaborators and the public. Programmes of education and training are essential and these can be an innovative means to actively engage the public in ‘citizen science’ for the Digital Humanities.
This report resulted from an invited workshop held in conjunction with a public lecture given by Professor Jon Oberlander of Edinburgh University, at the Royal Irish Academy on 30 October 2014. Both events were supported by the Irish Research Council, and organised by Insight and the Digital Repository of Ireland.

The Royal Irish Academy / Acadamh Ríoga na hÉireann

is a publicly funded institution established for the promotion of learning in the sciences and humanities throughout Ireland. The Academy was founded by Royal Charter in 1785. Membership is by election and is open to people who have attained distinction in scholarship as evidenced by their published work. At its inception the Academy had 88 members; now there are over 460, divided almost equally between the sciences and the humanities and social sciences. The Academy maintains a network of committees representing specialist disciplines; through these committees it represents Irish scholarship internationally. The Academy’s home is Academy House, a historic building in the centre of Dublin, which houses a library of international importance, provides a forum for academic conferences and accommodates the great majority of the Academy’s administrative, library and research staff. www.ria.ie

The Digital Repository of Ireland (DRI)

is a national trusted digital repository for social and cultural content held by Irish institutions funded by the HEA PRTLI Cycle 5. As a national digital infrastructure, the DRI is working with a wide range of institutional stakeholders to link together and preserve Ireland’s rich and varied humanities and social science data through a broad portfolio of leveraged projects. The DRI also acts as a focal point for digital best practices and policy on digital preservation and access, promoting the benefits of digital preservation and open access to data, while respecting rights and data protection. DRI has built its repository on open-source platforms, and seeks to share best practices with the community to enable cost savings and improved standards of preservation and access. www.dri.ie

Insight Centre for Data Analytics

is a joint initiative between researchers at Dublin City University, NUI Galway, University College Cork, University College Dublin and other partner institutions. Insight brings together more than 350 researchers from these institutions, with over 30 industry partners, to position Ireland at the heart of global data analytics research. Insight was established in 2013 by Science Foundation Ireland as an SFI Research Centre. Insight undertakes high impact research in data analytics that has significant impact on industry and society by enabling better decision making. The Insight vision is of a healthier, safer, more productive world based on empowering a data-driven society to enable better decisions by individuals, communities, business and governments. www.insight-centre.org

The Irish Research Council

was formed in 2012 as the merger of two previous councils: one (IRCHSS) covering Humanities and Social Sciences and the other (IRCSET) Science, Engineering and Technology. It has the broad remit of supporting and enhancing human capital development, in particular at postgraduate and early stage postdoctoral researcher levels, and in encouraging independent exploratory research across the full range of disciplines spanning the humanities, social sciences, business, law, sciences, engineering and technology. www.research.ie

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