# Capacity Enhancement in Digital Humanities in the United Kingdom and Ireland: Training and Beyond

**First Discussion paper of the UK-Ireland DH Network**

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## I.    INTRODUCTION

**Description**

*This first discussion paper, produced by the UK-Ireland Digital Humanities Network in consultation with the wider Digital Humanities (DH) community in the two countries and beyond, summarises the findings of a) the first workshop organised by the network and b) the post-workshop survey and offers recommendations based on these findings.*[1]

<u>The UK-Ireland DH Network</u>

The UK-Ireland Digital Humanities Network is an AHRC/IRC-funded project (2020-2021) to undertake research and consultation towards the implementation of a permanent DH association for the UK and Ireland. The project is led by the PI Professor Jane Winters (School of Advanced Study, University of London, UK); the full list of project members and participating institutions can be found on the Network's website (https://dhnetwork.org/team).

As part of the Network project, a series of workshops, discussions, surveys and consultations are conducted in order to formulate recommendations that will inform the future of the UK-Ireland DH Network. Planned Impact of the Network project can be consulted on the Network's website (https://dhnetwork.org/about/). The aim of this document is to present the Network's recommendations on capacity enhancement in DH in UK and Ireland (part V, below).

<u>The Workshop and Discussions</u>

The first event of the UK-Ireland DH Network, dedicated to *Capacity Enhancement in Digital Humanities*: *Training and Beyond*, was organised by King's Digital Lab (King's College London, UK) and held online (via Zoom) on the 15th of December 2020.

192 people registered for the event on Eventbrite. The number of participants on the Zoom call varied from 60 to 123 throughout the day.

The programme of the workshop can be found in the "Workshop Overview" (part III, below) and on the Network's website (https://dhnetwork.org/events/event-1/). For the discussion of the workshop's main themes, see "Workshop and Survey Highlights" (part IV, below).

<u>The Survey</u>

During each session of the workshop, live polls were conducted, using questions provided by the organisers, via the Mentimeter tool (https://www.mentimeter.com/), in order to stimulate participation, gauge audience engagement and orient discussion. Results of these polls were not used in this report as the participants had not been informed of the purpose of the polls and the number of participants varied considerably throughout the day. However, after the workshop, a set of focused questions based on the Mentimeter surveys was agreed among the

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[1] For recent reflections on some of the topics discussed in this document, see The Royal Society 2018 (https://royalsociety.org/~/media/policy/Publications/2018/snapshot-uk-research-infrastructures.pdf), McGillivray et al. 2020 (Dx.doi.org/10.6084/m9.figshare.12732164), Bergel, G., Willcox P. and al. 2020 (https://doi.org/10.5281/zenodo.4046266).

Network members, and the Survey was disseminated using the LimeSurvey tool (https://www.limesurvey.org/).

The Survey questions can be found in the Appendix (part VII, below). Only completed surveys were considered for this report. All Survey data were processed according to the General Data Protection Regulations (GDPR -University of London, School of Advanced Study's Ethical Clearance Reference Number: SASREC_1920-492-R).

## The Discussion Paper

The draft discussion paper was open for comments to the wider community via the Open Science Framework (https://osf.io/) tool from 26 April to 24 May 2021. The preprint (https://osf.io/9e4az/) was downloaded 66 times and received 35 user comments. All the comments were considered for the final revision of the paper.

## Methodology

In the analysis leading to the present report a combination of qualitative and quantitative methods was used.

## Qualitative methods

In the drafting of the report, the authors used:

- ideas and opinions expressed in the contents of the workshop's presentations, presenters' slides, participants' notes and transcripts of live chat discussions during the workshop. Workshop slides will be deposited in Open Research Exeter Repository (https://ore.exeter.ac.uk/repository) at the end of the project
- feedback collected from the workshop participants and a wider group of members of the DH community via the post-workshop survey

## Quantitative methods

The survey results were collected between 22 February and 15 March 2021. The information about the survey was disseminated formally via the workshop mailing list, the Network's Twitter account, various professional mailing lists and informally via Network members' personal contacts.

84 completed surveys were received. 77 of the participants said that they were affiliated to an institution with (allowing for multiple affiliations) 65 affiliated to a Higher Education institution, 13 to a Cultural Heritage Institution, 8 to a non-HE Research institution and 5 to a creative or cultural industry/business (Figure 5, below).  52 respondents said their institution was based in the UK, 19 in Ireland, and 13 elsewhere (Figure 9, below).

Extensive references to the survey results (both quantitative and qualitative) are made in the "Workshop and Survey Highlights" (part IV, below).

## II.   ISSUES

*The objective of the event was to contribute to the development of a UK–Ireland DH Network by stimulating discussion, exchanging experiences and best practice, and developing recommendations to:*

- contribute to developing pathways to sustained, effective and widespread **capacity-building** for DH researchers in the **UK and Ireland** across disciplines, institutions and career stages;
- contribute to the definition of specific **pathways for training** highly interdisciplinary humanists able to work across multiple sectors, within and beyond academia;
- contribute to the broad **inclusion** of communities, beyond individuals based in research-performing organisations and including cultural heritage institutions, the arts and creative industries, and interested citizen scientists;
- provide opportunities for individual researchers to develop their skills and networks, and to contribute to international debates about the **future of the field**;
- consider and interrogate critically the concepts of **sustainability**, inclusivity, **training**, and **career progression**.

## III. WORKSHOP OVERVIEW

*Link to the workshop page: https://dhnetwork.org/events/event-1/*

### 9:30 - 10:00 Welcome to participants from the project PI

*Jane Winters (School of Advanced Study, University of London, UK)*

This introduction outlined the aims of the UK-Ireland DH Network, and placed it in the context of European research infrastructures such as the Digital Research Infrastructure for the Arts and Humanities (DARIAH: https://www.dariah.eu/about/dariah-in-nutshell/).[2]

Reference was made to the survey of the DH Landscape in the UK, conducted by Marketwise Strategies in 2017 on behalf of the School of Advanced Study, the Arts and Humanities Research Council, the British Academy and the British Library (Marketwise Strategies Limited 2017: https://sas-space.sas.ac.uk/9216/), and its findings, including:

- level of demand for a national association
- desire to connect and increase recognition of DH work (advocacy)
- need for a more structured approach to DH training at a national scale
- recognition of a need for inclusivity in DH
- equal division between an interest in a learned society (interfacing with policy makers) model *versus* a loose association model (more open and flexible)

### 10:00 – 10:45 Session 1: Framing the problem

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[2] See also DARIAH DESIR project 2017-2019 (https://www.dariah.eu/activities/projects-and-affiliations/desir) that aimed to strengthen sustainability of DARIAH. For DARIAH DESIR final report, see Szprot et al. 2020 (https://hal.archives-ouvertes.fr/hal-02454418).

*James Smithies (King's Digital Lab, King's College London, UK)*

This session identified three main directions for capacity enhancement in DH across all sectors:

- Human Resources (HR) roles and career progression in DH
- education
- sustainability (of software and infrastructure, but also education and HR)

**10:45-11:00 Questions and discussion**

*Chaired by Lorna Hughes (School of Humanities, University of Glasgow, UK)*

**11:15-12:00 Session 2: King's Digital Lab Software Development Lifecycle (SDLC)**

*Arianna Ciula (King's Digital Lab, King's College London, UK)*
*Neil Jakeman (King's Digital Lab, King's College London, UK)*

This session featured an overview of KDL's SDLC and its "Toolkit for documentation and processes for software development in a research setting"; for templates and guidance documents, see King's Digital Lab 2018 (https://github.com/kingsdigitallab/sdlc-for-rse/wiki).

**12:00 - 12:15 Questions and discussion**

*Chaired by Charlotte Tupman (Department of History, University of Exeter, UK)*

**13:15 – 14:15 Session 3: Teaching and training**

*Paul Spence (Department of Digital Humanities, King's College London, UK)*
*Órla Murphy (School of English and Digital Humanities, University College Cork, Ireland)*
*Pip Wilcox (The National Archives, UK)*

The speakers presented teaching and training programmes and activities at their respective institutions.

**14:15 – 14:30 Questions and discussion**

*Chaired by Michelle Doran (Trinity Long Room Hub A&H Research Institute, Trinity College Dublin, Ireland)*

**14:30 – 15:00 Session 4: Training: National landscape and requirements for RSE training in the UK and Ireland**

*David De Roure (Department of Engineering Science/Humanities Division, University of Oxford, UK)*
*Órla Murphy (School of English and Digital Humanities, University College Cork, Ireland)*

The session outlined the current situation with Research Software Engineering training in the field of Digital Humanities in the UK and Ireland.

**15:00 – 15:15 Questions and discussion**

*Chaired by Federico Nanni (Alan Turing Institute, UK)*

**15:30 – 16:00 *Session 5:* Creative industries provocation**

*Alex Morrison* and *Andy Cummins (CogApp, UK)*

In this session, CogApp (https://www.cogapp.com/), a software company working in the field of Cultural Heritage, and its place in the DH landscape we presented. The speakers called for

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better integration between the Higher Education, Cultural Heritage and Industry sectors and for a reassessment of possible cultural biases integral to the software and methods used in DH.

**16:00 – 16:30 Discussion and next steps**

*Chaired by Arianna Ciula (King's Digital Lab, King's College London, UK)*

## IV. WORKSHOP AND SURVEY HIGHLIGHTS

*This section outlines the common themes that emerged in the workshop presentations and discussions and in the post-workshop survey. These themes inform our thinking and the recommendations that follow about capacity enhancement in DH in the UK and Ireland (part V, below).*

1. Diversity of disciplinary and professional backgrounds in the DH landscape

1.1 The diversity of the disciplinary and professional backgrounds of DH practitioners is reflected in the survey results (Figure 1). Two respondents mention "Digital Humanities" as their disciplinary background under "Other". We note that 10 out 84 respondents chose "Software development" from the menu, and "Computer Science" was mentioned twice under "Other", whereas several comments stress Computer Science's importance for the field of DH.
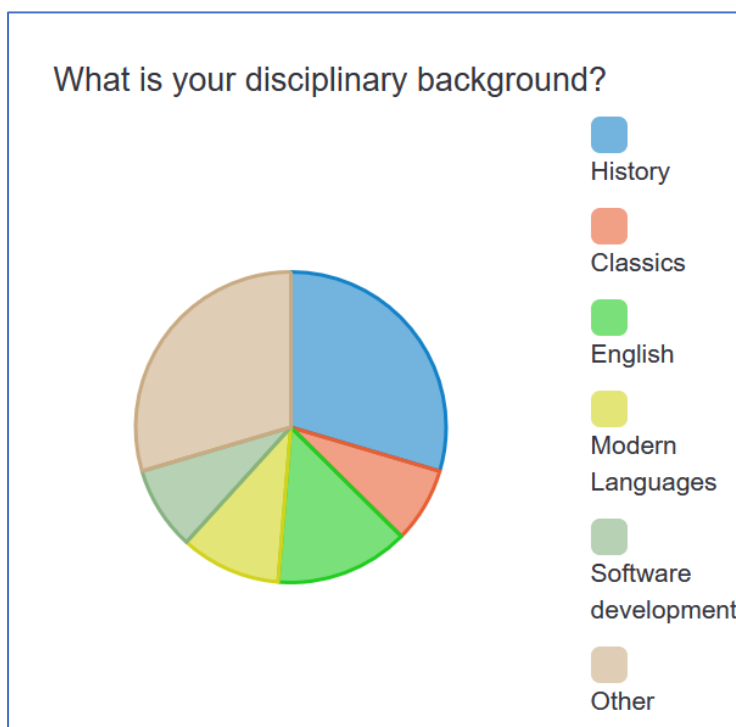


Figure 1. Survey results: "What is your disciplinary background?"

It is important to note the diverse scholarly backgrounds of the respondents, including "Music" and "Musicology", "Celtic Studies", "Earth Science" and "Environmental Humanities".

1.2 The complex nature of the field and the interplay between the "Digital" and "Humanities" in the roles played by DH practitioners was discussed in David de Roure's presentation (Figure 2).
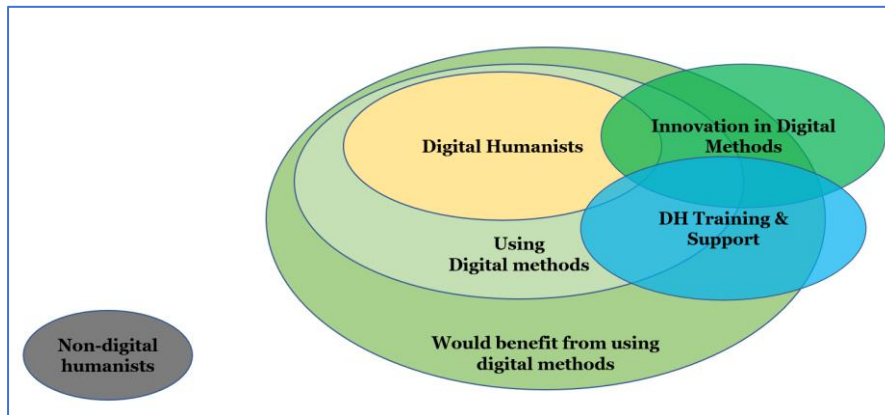


Figure 2. Digital landscape in Humanities (adapted from De Roure 2020, slide 3: https://www.slideshare.net/dder/digital-humanities-rse-landscape).

It is also useful to compare this to the two models of DH, proposed by John Keating in his 2014 essay, where the digital can be embedded in the humanities or the humanities can be embedded in the digital (Figure 3).
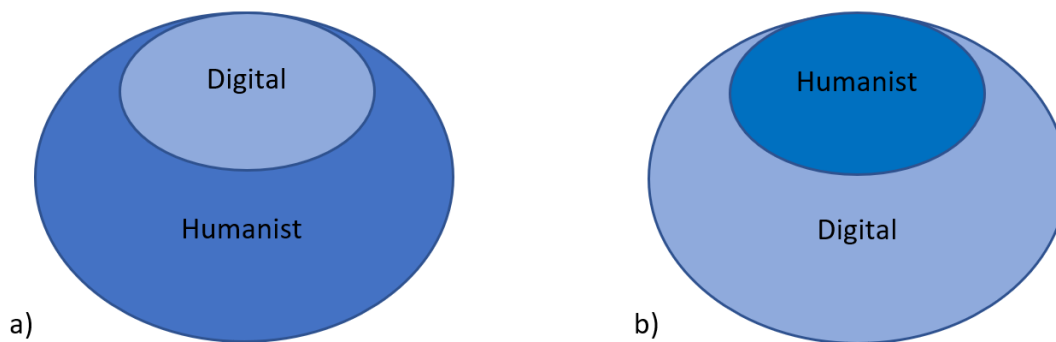


Figure 3. Model view a) where digital context is firmly embedded in, or bounded by, humanities research and teaching; b) where humanities research and teaching are firmly embedded in, or bounded, by the digital, adapted from Keating 2014, 23.

1.3 The above is confirmed by the fact that nearly half of the survey respondents (46.43%) said that only part of their work can be described as DH (Figure 4).
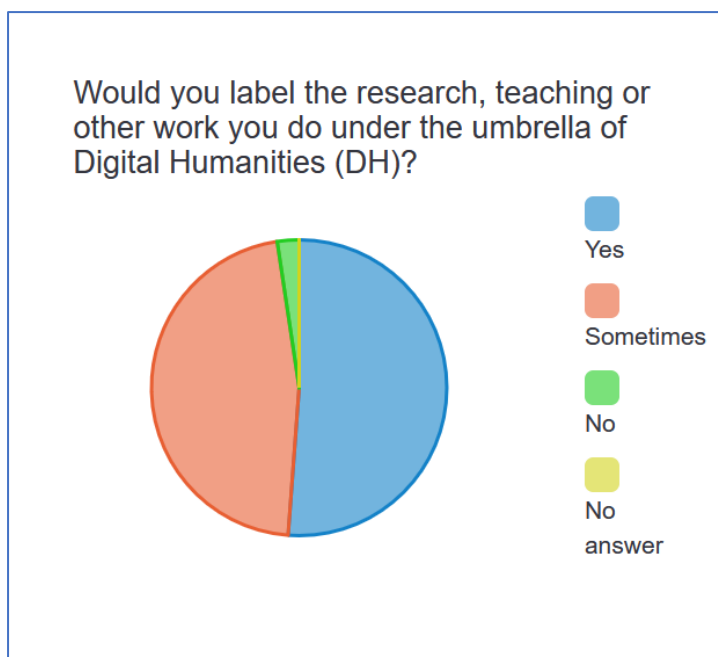
Would you label the research, teaching or other work you do under the umbrella of Digital Humanities (DH)?

- Yes
- Sometimes
- No
- No answer

Figure 4: Survey results: "Would you label the research, teaching or other work you do under the umbrella of Digital Humanities (DH)?"

This poses the requirement for the Network to address and accommodate the needs of practitioners across the spectrum of the DH landscape, including, but not limited to, both those identifying as "digital humanists" and "humanists with digital interests/requirements" (see Recommendation 1, part V, below).

1.4 Several participants identified themselves as "managers". To the question "How would you describe your career stage?", one participant answered "manager", two as "middle management" and a further two "senior management".

1.5 The creative industries sector plays an important role in the current DH landscape. It is noteworthy that members of the creative industries community were relatively difficult to reach for the survey, with 5 out of 84 participants stating that they work in a "Creative or cultural industry/business" and one further respondent describing themselves as part of a "Company (doing mostly Cultural Heritage work)" (Figure 5). The Network will attempt to address this disparity for any future surveys and reach more participants from the creative industries community.

At the same time, there is a general sense of enthusiasm surrounding collaboration between the Higher Education (HE) and Galleries, Libraries, Archives and Museums (GLAM) sectors and creative industries that can be gleaned both from the workshop and from the survey (see also "DH and collaboration between sectors", below).
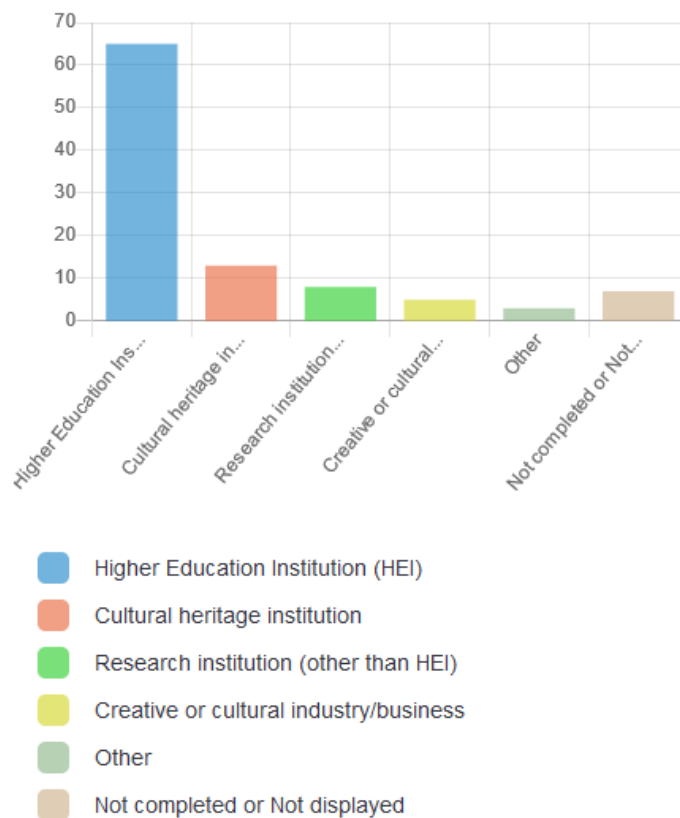
1.6 In recent years, the notion of DH expanded to include research into the digital world and the impact of digital technologies on contemporary society and individuals (whether supported by digital methods or not).[3] DH is fast becoming a diverse landscape that includes a range of approaches from digitally assisted research into traditional humanities disciplines to transdisciplinary work reflecting on the impact of the digital on the modern world (see also "Teaching/Training in DH", section 7.1, below).

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[3] See, for example, research interests of the staff at the Department of Digital Humanities at King's College London (https://www.kcl.ac.uk/ddh/about/people).

One respondent to the survey, for example, comments on a "growing divide" between "the 'traditional' DH rooted in Humanities disciplines, and a more expansive DH which crosses over with a variety of disciplines and concerns from the social sciences, law, economics, policy, and so on."

In a field that since its inception has been characterised by multidisciplinarity, it is important maintain a sense of cohesion and inclusivity, and the challenge for UK-Ireland DH Network will be to recognise the diverse and ever-changing nature of the field and accommodate the needs and requirements of a heterogenous set of researchers and different groups of researchers and practitioners.

What type of institution are you affiliated to?



Higher Education Institution (HEI)

Cultural heritage institution

Research institution (other than HEI)

Creative or cultural industry/business

Other

Not completed or Not displayed

1.7 At the same time, there is a strong sense of identity amongst DH practitioners, that goes beyond any disciplinary background, an identity that should be maintained and developed. 59 out of 84 respondents to the project survey said that they are expecting the UK-Ireland Digital Humanities Network to advocate for DH in the two countries (Figure 6).

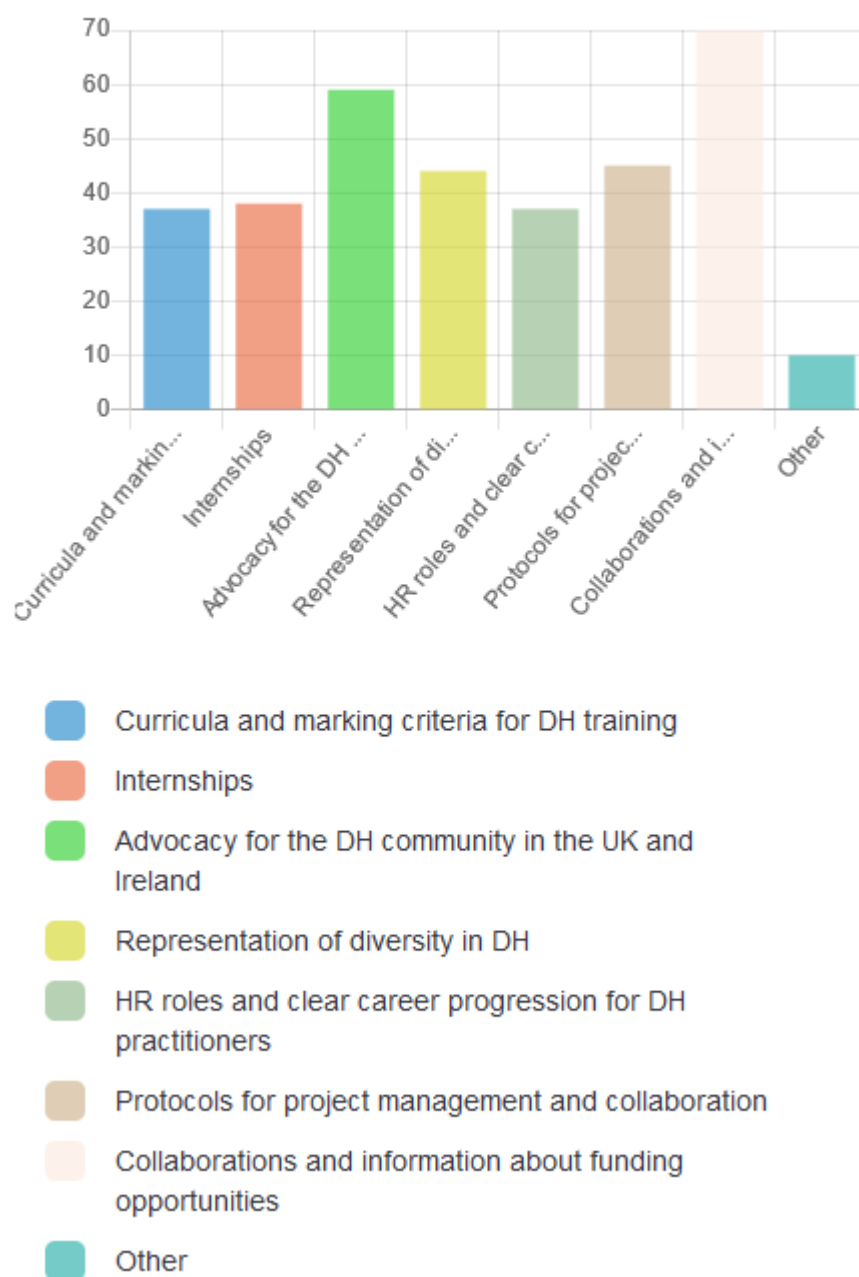## In which areas would you expect the Network to provide support/guidance?



Figure 6. Survey results: "In which areas would you expect the Network to provide support/guidance?"

## 2. DH careers and career progression

2.1 Questions of career progression and career opportunities in DH are very important for the participants of the survey. A large proportion of the survey participants are at early stages of their career: 7 out 84 respondents described themselves as postgraduate or PhD students, 18

as "early career" (researchers or lecturers) and a further two as "postdocs". One response hinted that DH can offer opportunities for career change (e.g. after redundancy). A relatively large proportion, 7 out of 84 respondents, are not currently affiliated to an institution.

2.2 Some comments in the survey hinted at the hybrid nature of many DH careers that can span academia and the commercial sector, with practitioners moving between different types of jobs several times during their career. See, for example, the sample response in Figure 7.

> *« Non-traditional! In academic terms, I would (just) still be considered early career. As a practitioner, I'm an established professional / senior management. I think this actually an important point: many DH-ers don't fit a neat academic career trajectory. We have more patchwork, portfolio careers crossing many disciplines and boundaries. »*

Figure 7. Sample response to the survey question "How would you describe your career stage?"

2.3 While offering a certain amount of flexibility and widening opportunities for change for individuals (also in mid- and later career), this "non-traditional" nature of many DH careers can present a number of disadvantages, related, for example, to:

- lack of clear career progression (in HE as elsewhere)
- difficulty in retaining DH practitioners such as software developers and designers (often due to project-based resourcing and short-term contracts or less than competitive salaries offered to certain groups of professionals)
- difficulty in articulating the objectives and advantages of DH education (see below "Teaching/Training in Digital Humanities")

2.3.1 Recent years have seen a number of successful models for integrating Research Software Engineering career roles in Higher Education institutions.

As shown by James Smithies in his presentation, since its establishment in 2015, King's Digital Lab has demonstrated a commitment to a successful implementation of Research Software Engineering career pathways in DH (see also Smithies 2019: https://doi.org/10.5281/zenodo.2564790).

David De Roure outlined the diversity of RSE roles in Humanities at Oxford University (Figure 8).

At the same time, it is important to stress (as does one respondent to the survey), that career progression in RSE roles and other research support roles is not a challenge exclusive to DH but is present in most academic disciplines.[4]

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[4] Established in 2013, UK Research Software Engineers Association was replaced by the Society of Research Software Engineers in 2019 (https://society-rse.org/). The Society brings together RSEs working in different disciplines and aims to create and support a research environment that recognises the crucial role of software in research.
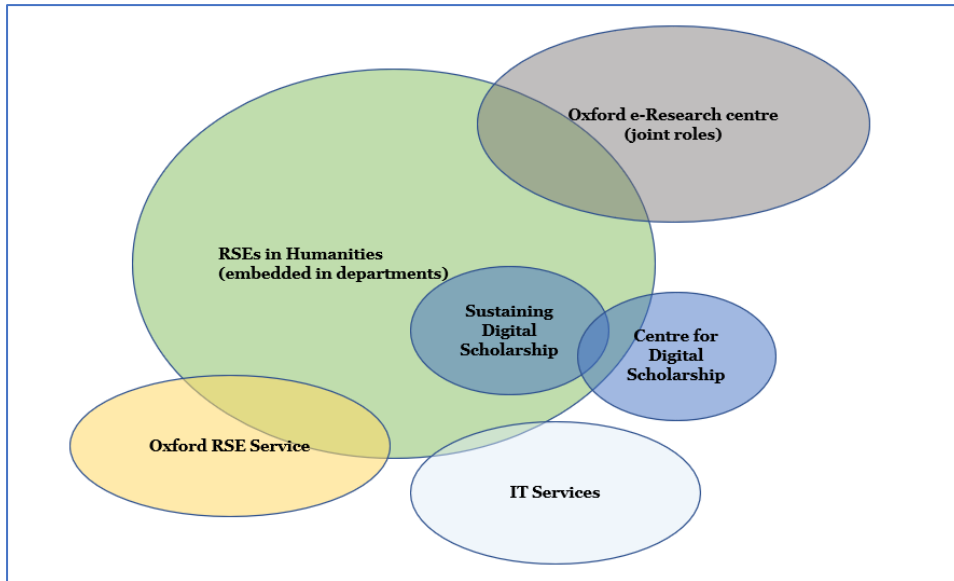
Figure 8. The Humanities and RSE roles at Oxford University (adapted from De Roure 2020, slide 12: https://www.slideshare.net/dder/digital-humanities-rse-landscape).

2.3.2 The inadequacy of HE salary scales for RSE roles was highlighted in the workshop discussion and in the survey. In addition, one respondent said that outsourcing work to external technical partners was "Often the only way to get the required skills since academic salaries aren't competitive" (see "Dedicated DH teams", below).

2.3.3 There may be a discrepancy between the perceived need for DH graduates and the existence of clear career paths, in academia and beyond. Thus, one respondent noted that many PhDs in DH have recently been funded but few jobs are available at post-doctoral and early career levels.

## 3. Geographical impact of the UK-Ireland Network

3.1 The workshop and the survey were primarily aimed at participants from the UK and Ireland but also welcomed participation from practitioners from other countries. Information about the event and the survey was disseminated primarily via UK and Ireland-based channels, but the organisers encouraged opinions from other countries as the Network aims to maintain close connections with DH practitioners in Europe and further afield internationally.
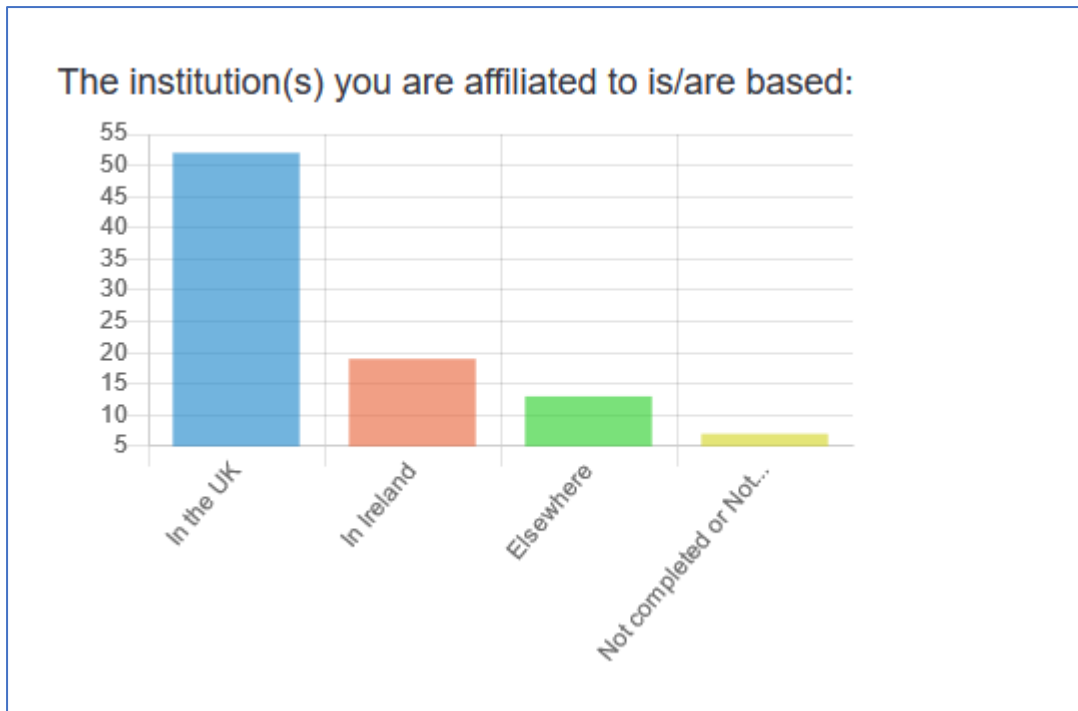
Figure 9. Survey results: "The institution(s) you are affiliated to is/are based: In the UK/In Ireland/Elsewhere/Not completed or Not Displayed."

Allowing for the possibility of multiple affiliations, survey participants indicated that the institution(s) to which they are affiliated is/are based in the UK (52 out of 84), Ireland (19 out of 84) or elsewhere (13 out of 84) (Figure 9).

3.2 The workshop and discussion, as well the comments to the survey, confirmed that the DH landscape in the UK and Ireland is healthy and developing at much the same pace, although there are several issues that would benefit from joint action:

- RSE careers: slower development in the Irish context.
- Undergraduate degrees in DH and employability: the teaching landscape is evolving in both countries with a rich selection of programmes. One of the offers highlighted at the workshop was University College Cork's with a successful degree that combines technical and critical skills with humanities knowledge that prepares students for a range of careers, also outside academia. There is a paid work placement integrated in the BA in DH based on an exemplar from Computer Science Colleagues, further to that the university has also partnered with industry to create employment-based PhD scholarships. The Irish Research Council (IRC)'s "Employment-Based Postgraduate Programme" provides a full scholarship for successful PhD candidates, from across all disciplines (https://research.ie/funding/ebp/).
- Funding: one respondent to the survey drew attention to the need to address "variation in eligibility requirements for funding between UK and Ireland" stressing that, in Ireland, non-established scholars are extremely unlikely to attract funding.

3.3 Several respondents noted that they are members of The European Association for Digital Humanities (https://eadh.org/) and the Alliance of Digital Humanities Organizations (https://adho.org/). As one respondent pointed out, the Network needs to engage with these international organisations in order to encourage and maintain international collaboration.

## 4. Institutions and DH infrastructure

4.1 Although the majority of survey respondents (52 out of 84) reported having a dedicated technical infrastructure at their institution (Figure 10), the comments reflected a certain frustration at:

- lack of access to this infrastructure (e.g.: "Infrastructure exists but is not always optimally deployed due to lack of personnel and training")
- the infrastructure's inadequacy for DH research ("Blackboard (I assume that's what you mean?)"; "Technical infrastructure for humanities disciplines lags behind that for science and even social science")
- the researchers' and support staff's lack of training and/or awareness of the ways to use existing infrastructure for the purposes of DH research in their discipline ("It is possible that we have this but not in the area of music")

4.2 In the workshop discussion it was mentioned that, given that creation and maintenance of a dedicated research infrastructure requires significant investment, larger institutions tend to have the resources to establish it. As a result, they are more likely to attract funding for its development, thus leaving smaller institutions fewer chances for creating their own infrastructure.

Rather than purely an impediment to development, however, this situation can be interpreted as an opportunity for all institutions to benefit by pooling their resources and knowledge. Whereas larger institutions can attract funding to develop their infrastructure and leadership in a particular area of research, smaller ones can be funded to develop collaborations and practices that will allow them to take advantage of existing infrastructures and expertise elsewhere.[5]

One way in which the UK-Ireland DH Network could address this challenge may be by creating a system of infrastructure sharing across different institutions in the UK and Ireland.



Figure 10. Survey results: "Do you have a dedicated technical infrastructure (physical or distributed) in your institution which can be used for research and teaching in the humanities/cultural heritage?"
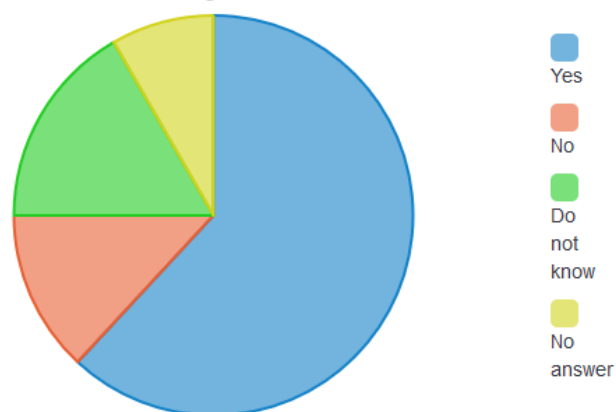
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[5] See, for example, numerous collaborative projects between the Digital Humanities Institute in Sheffield (https://www.dhi.ac.uk/) and researchers from other institutions.

## 5. Dedicated DH teams

5.1 46 out of 84 survey participants answered "Yes" to the question "Do you have a dedicated technical team (more than one person) at your institution?" Deliberately phrased ambiguously, the question prompted respondents to comment on the difference between IT Services and a research support team:

> "Well, we have IT"; "Yes, of course we have an ITS support staff department but they're not always supporting our research"; "Technical/IT support team very stretched."

5.2 The difficulties associated with maintaining and developing expert digital research teams were also commented upon:

- in HE institutions, digital support for STEM research is often prioritized over Humanities, with disciplines outside History/Classics/English – e.g. Music - finding it even more difficult to find assistance (Figure 11)

> *"I have an unknown number of "technical" people in the university that support research. But they don't build my DH projects for me."*
>
> *"Since we are in Arts, we don't get budget for technicians."*
>
> *"We depend on a 'general-purpose' IT team and it can be difficult to gain assistance or investment on anything that's specialist in any way, though science is well served by dedicated staff."*
>
> *"Not specialised in technology as it relates to music. For instance to support OMR and Music Machine Learning."*

Figure 11. Selection of answers to the question: "Do you have a dedicated technical team (more than one person) at your institution?"

- the challenge is to build teams of technical professionals (e.g. RSEs) given that these roles are often funded by short-lived project grants; in addition to being short-term, these may not offer competitive salaries
- outsourcing to dedicated companies is often the only way to get relevant skills (see "DH careers and career progression", section 2.3.2, above, and see also "DH and collaboration across sectors", below)

5.3 In the workshop presentations and subsequent discussions, the topic of "mutual respect" in the collaboration between a dedicated technical team and a research team working on a DH project was mentioned at various points. For the success of any project, the technical team needs to be treated as a "research partner" and not just as a "service unit". This often requires a change of research culture, but also consistent funding and robust planning of the research and development workflow.

At King's Digital Lab 10% of the solution development team's time is dedicated to individual research and exploration. RSEs, whose work on projects is acknowledged in project teams' publications and REF submissions (see KDL's "Checklist for digital output assessment", Ciula 2019: https://doi.org/10.5281/zenodo.3361580), are also encouraged to develop their own research interests.

## 6. DH and collaboration across sectors

6.1 Just over a third of the survey participants (32 out of 84) answered "Yes" to the question on collaboration across sectors (Figure 12).
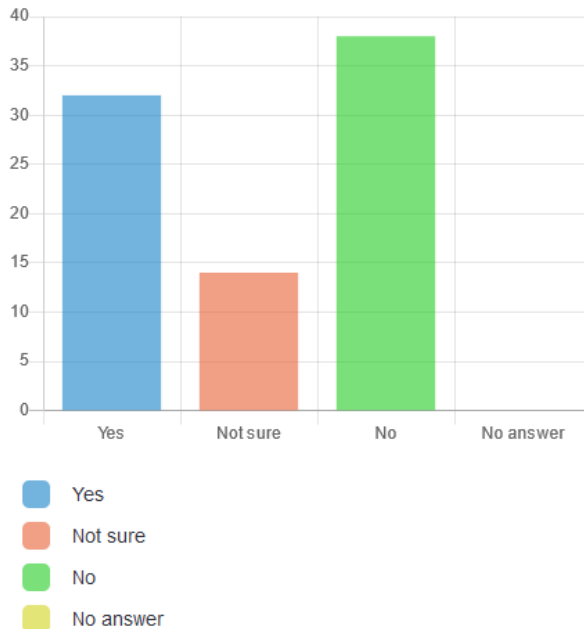
Figure 12. Survey results: "Have you been involved in projects here a Higher Education Institution (HEI)/Independent Research Organisation (IRO) and creative businesses acted as partners?"

6.2 When asked about the strengths and weaknesses of such collaborations, the respondents' feedback clusters around four major topics, some of which, depending on the circumstances and the attitudes of collaborators, can constitute advantages or disadvantages of such cross-sector projects:

a) diversity of disciplinary backgrounds, approaches, skills and experience of the participants:
e.g.: "Variety of voices aids in the creative process"; "Differences of outlook, agility and market awareness - these can be strengths or weaknesses depending on how they are handled"

b) differences in "language" used by partners:
e.g. "complexity, harder to maintain most effective communications, sometimes differences between work/epistemic/institutional cultures"

An interesting illustration of this point is that fact that, when asked whether and how they document their projects, some participants answered that they use "project management tools" or "ad hoc mechanisms (e.g. own unstructured notes) etc." for documenting the process of project creation, whereas others stressed "publication" or "blogs" as means of documenting the results of the project.

c) different timescales: larger institutions (e.g. HE institutions) tend to have longer waiting times whereas the business/creative sector may need to work to tighter deadlines to accommodate a fast turnover of projects:

e.g.: "Understanding and aligning each other's timelines, metrics and processes takes time. Collaboration is incredibly rewarding but time-consuming"; "misalignment of production schedules (esp. with publishers - slow - and creative industries - very quick)."

d) possibly differing/misaligned goals of the different types of institutions and differing attitudes to risk-taking, innovative initiatives and the final outcome of the project:

e.g. "For example, the creative might be interested in public audiences and less so with written outputs. HE is also excessively risk averse and bureaucratic. Makes a creative partnership tougher"; "Differing understanding and expectation of potential research outcomes as either a contribution to knowledge or the creation of an end user tool or cultural infrastructure"; "HEI was risk adverse with regard to any hint of controversy and tended to have a project-focused approach rather than seeking a longer term collaboration"; "Concern around reputation of public institutions can hinder progress which may involve progressive improvement or prototyping."

Nevertheless, several respondents stressed that recognising and working through these issues can result in an even more fruitful collaboration.[6]

## 7. Teaching/Training in DH

7.1 The workshop, discussions and the survey reflected the variety of ways in which teaching and training in DH can be understood (see also Figure 2).

DH are best envisaged as a *continuum* that spans a) critical, humanities-informed approaches to technologies, b) a variety of roles involved in creating digital projects (from RSEs to project management roles) and c) *ad hoc* use of digital technologies for humanities research and/or robust awareness of digital methods and their affordances (see also "Diversity of disciplinary and professional backgrounds in the DH landscape", section 1.6, above).

7.2 At the moment, there are no standards or benchmarks in DH teaching and training. The workshop, however, provided a useful snapshot of the current situation across three institutions in UK and Ireland, including undergraduate and postgraduate programmes and teaching and training within a Cultural Heritage organisation (see Session 2, "Teaching and Training").

The majority of survey respondents said that they have some form of DH teaching or training available to students and staff at their institution. Nevertheless, 22 out of 84  answered "No" and 9 out of 84 "Do not know" (Figure 13).

In addition, 37 out of 84 survey participants said that they expected the UK-Ireland DH Network to provide help with "Curricula and marking criteria for DH training" (Figure 6).

The National Archives in the UK (Session 2, "Teaching and Training", presentation by Pip Willcox) have developed an array of training options outside academia, from workshops and reading groups for staff to apprenticeships that allow trainees to gain digital skills while being employed by TNA and seconded to a host institution. Trainees can work towards a foundation membership of Archives and Records Association (ARA) and some then progress to gaining degrees (see The National Archives n.d.: https://www.nationalarchives.gov.uk/archives-

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[6] For successful examples of cross-sector collaborations, see, for example, the list of projects by CogApp (https://www.cogapp.com/work) or "The Digital Ghost Hunt" (https://digitalghosthunt.com/), a collaborative project involving Tom Bowtell (KIT Theatre: https://www.kittheatre.org/), Elliott Hall (King's Digital Lab), digital artist Mary Krell (https://maryagneskrell.com/) and Karina Westling (Sussex University).

sector/projects-and-programmes/bridging-digital-gap-technical-traineeships-archives/about-the-traineeships/).

Do you have a teaching programme (formal or informal) in DH and/or technical skills available to students and/or staff in your institution?
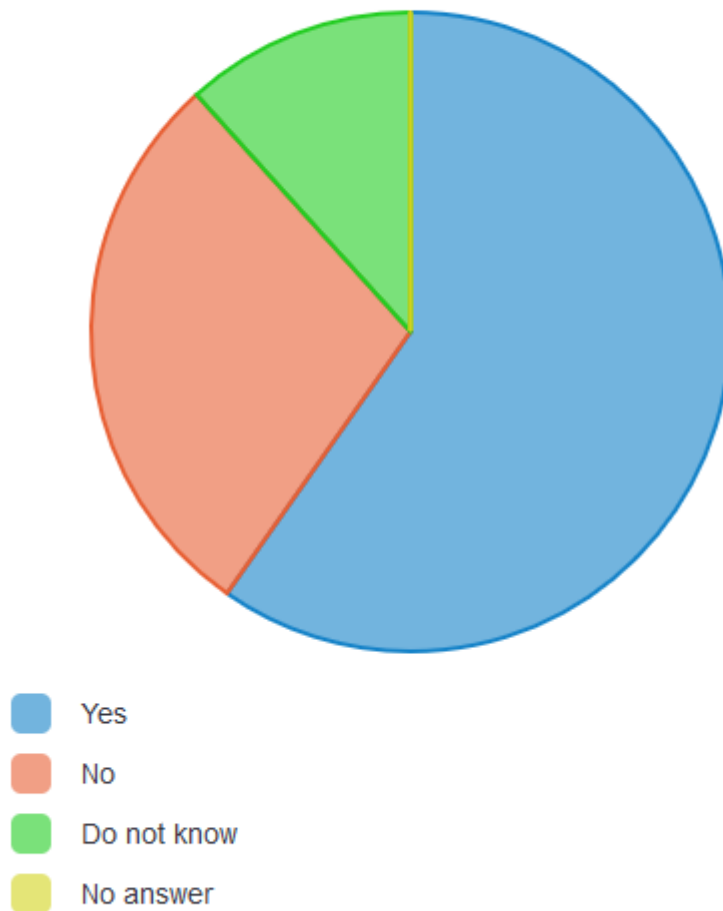


Yes

No

Do not know

No answer

Figure 13. Survey results: "Do you have a teaching programme (formal or informal) in DH and/or technical skills available to students and/or staff in your institution?"

7.3 There is a tension between "training", understood as skills acquisition, and academic programmes of education in DH. Both should be recognised as different, if often complementary, spheres of DH capacity enhancement.

Some survey participants commented on the difficulty of acquiring basic training in DH and digital methods relevant to humanities practitioners at their institutions. At the same time, the importance of supra-institutional initiatives (The Carpentries, "training the trainers": https://carpentries.org/) that offer digital training to staff and, in some cases, students in all disciplines (not exclusively in the Humanities), was mentioned in the comments.

7.4 The possibility of "learning on the job" (i.e. internships or work placements) is an important way of gaining training in DH and preparing students and early career staff for the job market in academia, cultural heritage sector and in industry.

About a third of respondents, 27 out of 84, said that students and staff at their institution could undertake technical internships/secondments (within or outside their institution). 38 out of 86 respondents said that they expected the UK-Ireland Network to help and/or provide guidance with respect to internships (Figure 6).

7.5 The global pandemic in 2020-2021 made some initiatives (such as internships) more difficult or impossible to implement, but the experience of virtual teaching/learning has the potential to influence, if not transform DH education and training (already heavily reliant on the use of technology) in the future (e.g. wider geographical coverage; possibility of pooling expertise in one event or course while minimising time commitments and travel expenses etc).

## 8. Sustainability

8.1 The topic of sustainability permeated all the workshop presentations and discussions and also featured in the survey comments. The need for a consistent approach to sustainability runs through every aspect of DH.

8.1.1 Funding

a) challenges associated with project-based funding
b) imbalance in different institutions' ability to attract funding to develop DH initiatives and infrastructures (see also "Institutions and DH infrastructure", section 4.2)
c) variation in (funding) eligibility requirements in the UK and Ireland (see also "Geographical impact of the UK-Ireland Network", section 3.2.3).

8.1.2. People

a) challenges associated with project-based funding (see section 2.3 above)
b) lack of consistent career progression in different DH roles
c) non-competitive remuneration for some RSE roles compared to the commercial sector
d) integration of RSEs into the DH community (insufficient visibility and recognition of these roles in DH)

8.1.3 Infrastructure

a) challenges/lack of clarity associated with decaying/out of date infrastructure with unclear responsibilities associated with maintenance costs
b) national shared infrastructures have been developed in the UK and Ireland with varying degrees of success and failure that future developments could reflect upon and learn from

8.1.4 Software

a) in the workshop discussion, a significant difference between DH projects and traditional software development was mentioned: in order to ensure sustainability of their work, DH practitioners need to plan beyond individual projects or 5-year project cycles
b) different institutions/labs have started to specialise in particular areas of DH; there needs to be a strategy to connect these different institutions with researchers who could benefit from particular approaches (see also "Institutions and DH infrastructure", section 4.2)

8.1.5 Data and collections

a) important milestone: UKRI's recent recognition of heritage and collections as research and innovation infrastructure (UKRI 2020, p. 12: https://www.ukri.org/wp-content/uploads/2020/10/UKRI-201020-UKinfrastructure-opportunities-to-grow-our-capacity-FINAL.pdf)
b) King's Digital Lab's ongoing archiving and sustainability effort was mentioned as an example of a useful holistic approach (see Smithies et al. 2019: http://www.digitalhumanities.org/dhq/vol/13/1/000411/000411.html)

8.2. In general, it was noted that, in a context where innovation is valued above all, rewards (on the part of funders and of institutions) for sustainability and support are missing. It should be recognised that ensuring sustainability of resources is the necessary condition for innovation and progress.

## 9. Inclusivity and representation in DH

*The UK-Ireland DH Network project will organise a workshop dedicated to "Inclusive DH" in the Autumn 2021 (see https://dhnetwork.org/events). Topics of inclusivity and representation are, however, central to any discussion of capacity enhancement and training in DH and were therefore important for the workshop and survey participants. In the presentations and discussions in the first workshop, linguistic and cultural inclusivity, on the one hand, and access to DH training, on the other, were touched upon, thus laying the groundwork for further discussions in later events organised by the Network.*

9.1 Session 5 of the workshop, "Creative industries provocation", challenged DH academics to re-evaluate methodologies and tools and question their biases and Eurocentric and English-centric approaches. For DH labs and creative industry businesses these questions have practical value as more and more projects and partnerships deal with materials and are created in collaboration with partners from non-western countries.[7]

One example of the growing awareness of the need for linguistic diversity in DH is the recent "Language Acts and Worldmaking" project (https://languageacts.org/) that organised a workshop on "Disrupting Digital Monolingualism" in June 2020 (https://languageacts.org/digital-mediations/event/disrupting-digital-monolingualism/).

9.2 Session 3, "Teaching and training", drew the audience's attention to the importance of recognising the needs and interests of many international students who come to study DH in the UK and Ireland, and to the importance of a dialogue between cultures in the classroom.

9.3 Paid traineeships and apprenticeships (such as those offered by The National Archives, see section 9.3, above) can facilitate access to training, education and employment for people who would not otherwise have considered a university degree or equivalent.

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[7] See, for example, MaDiH: Mapping Digital Cultural Heritage in Jordan (https://madih-jordan.org/), a collaborative project involving  King's Digital Lab (http://kdl.kcl.ac.uk/), the Hashemite University (https://hu.edu.jo/), the Council for British Research in the Levant (http://cbrl.ac.uk/), the Department of Antiquities of Jordan (http://doa.gov.jo/en/), the Jordanian Open Source Association (https://opencollective.com/josa), and the Endangered Archaeology in the Middle East and North Africa (http://eamena.arch.ox.ac.uk/) or the Quatar Digital Library project (https://www.qdl.qa/en) created in partnership with Qatar Foundation, the Qatar National Library (https://www.qnl.qa/en), The British Library (https://www.bl.uk/) and CogApp (http://www.cogapp.com/).

## V. RECOMMENDATIONS

*This section outlines recommendations to the UK-Ireland DH Network to enable capacity enhancement in DH in the UK and Ireland, based on the workshop and survey highlights noted above.*

1. The Network should take into account the needs and interests of DH practitioners in the United Kingdom and Ireland equally, while being aligned to European and international networks and infrastructures. Efforts should be made to ensure that Ireland is represented adequately in the Network's activities.

2. The Network should recognise the diversity of roles and backgrounds of DH practitioners and DH research managers in the UK and Ireland and work toward recognition of each group's contribution and provision of adequate training, career paths and remuneration at every step of career development.

3. The Network should conduct advocacy for DH in the United Kingdom and in Ireland, working to raise issues of and propose contextual solutions for sustainability of funding, people, infrastructure, software and data. Ensuring collaboration and sustainability will allow researchers in both countries to focus on producing innovative and ground-breaking research. [8]

4. The Network should aim at strengthening integration of different sectors working in the field of DH (Higher Education, Cultural Heritage, Independent Research Organisations, the Business/Creative sector) through development of networks and protocols for collaboration. Such collaborations will not only make business sense as they will ensure more efficient development of new projects, data collections and software but they will contribute to intellectual development and enrichment of all the participating individuals and organisations.

5. In order to strengthen these collaborations, three points will need to be addressed:
a) development of networks and pathways of communication, cooperation and knowledge exchange across sectors (e.g. via mailing lists, networking events, but also internships and apprenticeships)
b) development of collaboration protocols to facilitate communication and enable collaboration across sectors
c) alignment of processes and timescales that would work for all participants involved

6. It is recommended that the Network address issues of inclusivity in DH, making sure that the interests of all groups are represented and any biases inherent in methodology are critically addressed.

7. It is recommended that the Network facilitate exchange of experience and work towards the creation of shared curricula, benchmarks and marking criteria for DH degrees (at undergraduate and postgraduate level).

8. As part of a) integration of different sectors working in the field of DH, b) working towards the creation of a shared curriculum and c) development of clear career paths for DH practitioners, the Network could facilitate internships and work experience (possibly

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[8] See also the UK-Ireland second workshop on "Advocacy", organised by the University of Glasgow that took place online on 16 March 2021 (https://dhnetwork.org/events/event-2/).

across the two countries) for DH students and early career researchers, but also Business/Creative sector participation in formal training of DH practitioners (e.g. guest lectures, placements in projects, secondments, apprenticeships).

9. It is recommended that the Association act as a broker, disseminating information about funding opportunities, careers and training and collaboration opportunities (within and across different sectors).

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## VII. APPENDIX (SURVEY QUESTIONS)

### INTRODUCTION

Welcome to this post-workshop survey following the first event organised by the UK-Ireland Digital Humanities Network, dedicated to Capacity Enhancement, that took place on 15 December 2020. You have been invited to take part in this survey because you attended the workshop and/or you work in the field of Digital Humanities (DH) in the UK or in Ireland.

The purpose of this survey is to discern gaps in capacity and training strategies in UK / Ireland DH in order to inform the discussions around the creation of a future UK-Ireland DH Association.

The anonymised survey data will be used as evidence for the report of the 15 December 2020 workshop.

Completing this survey will take approximately 10 minutes.

All survey data will be processed according to the General Data Protection Regulations (GDPR).

School of Advance Study's Ethical Clearance Reference Number: SASREC_1920-492-R.

Data will be stored anonymously and securely by LimeSurvey. For the duration of the UK-Ireland Digital Humanities Network project, the anonymised survey data will be stored by the School of Advanced Study (SAS) for the purpose of evaluating the community's interest in the UK-Ireland DH Network. At the end of the project, it will be archived in University of Exeter's research repository (Open Research Exeter). Please do not include any personal identifiable information in your responses.

## PART I: YOU AND YOUR INSTITUTION

1. What is your disciplinary background? *(multiple answers possible)*
- History
- Classics
- English
- Modern Languages
- Software Development
- Other : Please provide details.
2. How would you describe your career stage? *(free text)*
3. Would label the research, teaching or other work you do under the umbrella of Digital Humanities (DH)?
- Yes
- Sometimes
- No
4. Are you currently affiliated to one or more institutions?
- Yes
- No
5. What type of institution are you affiliated to? *(multiple answers possible)*
- Higher Education Institution (HEI)
- Cultural heritage institution
- Research institution (other than HEI)
- Creative or cultural industry/business
- Other : Please provide details *(free text)*
6. The institution(s) you are affiliated to is/are based: *(multiple answers possible)*
- In the UK
- In Ireland
- Elsewhere

7. Do you feel supported by your institution in your research and/or teaching in DH?
- Yes
- No
- It varies
8. Are you a member of one or more professional associations?
- Yes : Please provide details *(free text)*
- No

## PART II: YOUR RESEARCH PROJECTS

1. The projects you work on are:
- Mainly collaborative
- Mainly individual

2. Have you been involved in projects where a Higher Education Institution (HEI)/Independent Research Organisation (IRO) and creative/cultural businesses acted as partners?
- Yes
- No
- Not sure

3. Any comments? *(free text)*
4. Could you outline the strengths and weaknesses of such collaboration(s)? *(free text)*
5. Any comments? *(free text)*
6. Do you document your project work and/or collaboration with partners?
- Yes
- No
- Sometimes

7. How do you document your work? *(multiple answers possible)*
- Project management tools (e.g. Trello, Jira, ActiveCollab etc.)
- Project templates or other reference documents
- Ad hoc mechanisms (e.g. own unstructured notes)
- Other: Please provide details *(free text)*


**PART III: TEACHING AND TRAINING AT YOUR INSTITUTION**

1. Do you have a teaching programme (formal or informal) in DH and/or technical skills available to students and/or staff in your institution?
- Yes
- No
- Do not know

2. At what level is teaching/training offered? *(multiple answers possible)*
- Undergraduate
- Master's
- PhD
- Training
- Summer school or other seasonal school(s)
- Workshops/Workshop series
- Single module(s)
- Other : Please provide details *(free text)*

3. Can students/early career staff at your institution undertake technical internships/secondments?
- Yes
- No
- Do not know

4. Students/early career staff can undertake internships: *(multiple answers possible)*
- Within your institution
- Outside your institution


**PART IV: YOUR EXPECTATIONS OF THE UK-IRELAND NETWORK**

1. In which areas would you expect the Network to provide support/guidance? *(multiple answers possible)*
- Curricula and marking criteria for DH training
- Internships
- Advocacy for the DH community in the UK and Ireland

- HR roles and clear career progression for DH practitioners
- Protocols for project management and collaboration
- Collaborations and information about funding opportunities
- Other: Please provide details *(free text)*
2. Is there anything you would like to add? *(free text)*