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Towards Mapping the March: the methods, processes and challenges in creating a digital resource for medieval Welsh Marcher culture

COLLECTION: DIGITAL RESOURCES FOR THE LANGUAGES IN IRELAND AND BRITAIN

DISCUSSION PAPER

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ABSTRACT

This paper describes a current research project, MOWLIT ("The Medieval March of Wales, c. 1282–1550: Mapping Literary Geography in a British Border Region"), at the University of Bristol. Researchers from different disciplines are exploring the historical and literary context of the medieval Welsh borders following the conquest of Wales by Edward I in 1282, an event of considerable significance in the history of both Wales and England. A major output of the project will be a complex database containing many thousands of names, places, and manuscripts, linked together to show how these entities connect to form a cultural matrix. We will also create and publish new digital maps of the Marcher lordships to show the relations of power between English and Welsh in the March. Since most of the manuscripts are multilingual, reflecting the multiculturalism of the March, researchers will be able to search by the languages of the manuscript as well as by person, place, or text. The website interface is bilingual in English and Welsh, acknowledging users from both linguistic communities. Our methodology demonstrates ways in which digital humanities can collate and visualise historical material to create a lasting resource for researchers.

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(1) CONTEXT AND MOTIVATION

The research project MOWLIT ("The Medieval March of Wales, c. 1282–1550: Mapping Literary Geography in a British Border Region") was selected for funding by the ERC Advanced grant scheme in 2022 and is funded by the UKRI Horizon Guarantee Scheme. The project began in May 2023 and is funded for five years.

The methodologies of the project are drawn from the disciplines of history, literary history, cultural geography, mapping, digital humanities, and data management. The main aim of the project is to construct a cultural history of the medieval March of Wales, the lands straddling modern Wales and England which were colonised by Norman lords after 1066. By bringing together for the first time the people, places, and manuscripts which can be located in the borderlands, we aim to define the March as a specific cultural zone with a distinctive regional identity. We are developing a database and website to present and visualise the multilingual manuscripts and texts circulating in the March, making it easily accessible to researchers (Fulton, 2025a).

The project builds on previous scholarship about the March from a historical perspective, with a number of in-depth accounts of the establishment and development of the March and its laws after 1066 currently available (Davies, 1978; Lieberman, 2010; Stephenson, 2019). While most of the existing historiography focuses on the Norman settlements, we chose to start our cultural survey in 1282 because the Marcher lordships changed rapidly after the Edwardian conquest of north Wales. Starting as very large baronial estates awarded or claimed by Norman settlers after 1066, the lordships after 1282 were smaller and more numerous, enabling more members of the English aristocracy to hold a stake in the March and to influence its politics, especially during the turbulent fifteenth century. After 1282, the patterns of governance and law that typified the March were fully developed and remained more or less in place until the lordships were dissolved by the Acts of Union (Davies, 1978: 282).

Partly due to the disciplinary divide between "English" and "Welsh" studies, the two cultures are rarely studied alongside each other, and the culture of the March as a distinctive zone has only recently begun to be considered (Brady, 2017; Fulton, 2025b; Henley, 2024; Lampitt, 2025). The geographical boundaries of the March have not previously been formally defined, since a political border between Wales and England was not established until after the Acts of Union of 1536 and 1542. Medieval sources routinely refer to "Marchia Wallie", the March of Wales, as distinct from "pura Wallia" ("pure Wales") and the March was recognised by the Magna Carta of 1215 as a region with its own law, distinct from both Wales and England (Lieberman, 2010: 18). However, the use of the term "March" by medieval writers was fairly elastic, sometimes including the lordships of south Wales and sometimes referring only to the eastern border (Lieberman, 2010: 14). One of the innovations of the project will be to use contemporary historical information to set the boundaries of the March by mapping the estates of the Marcher lords, creating a new definition of the March as a geographical region comprising the Marcher lordships.

We are therefore creating digital maps of each of the Marcher lordships, which will be the first accurate digital maps of these territories, shown as snapshots over a period of time, from 1282 to around 1530. There are no contemporary maps of Marcher estates, though one of the earliest maps of Britain, made by Matthew Paris from 1250 to 1259, marked the March in red ink to separate it from both England and Wales (Lieberman, 2010: 15). The elegant maps of the Marches in the fourteenth century, hand-drawn by William Rees (1933), are an important resource but are not cartographically or historically accurate. The new maps generated by the project will therefore be an invaluable resource for scholars, geographers, and those interested in the history of the March and in borderlands more generally.

The project team comprises the Principal Investigator, three postdoctoral research associates, a research administrator, a Ph.D. student, and two software engineers, all based at the University of Bristol. We also buy in the skills of a user experience expert, a web designer, and two experts in GIS mapping from our project partner, the Royal Commission on the Ancient and Historical Monuments of Wales (RCAHMW). This combination of skills and expertise has been crucial for the success of the project.

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The outcomes of this project, in both digital and published forms (on Open Access), will revolutionise the study of medieval Welsh and English political and social history, including book history, literary history, and linguistic history. The history and culture of medieval Wales have been neglected compared to those of medieval England, and the interdependence between the two nations, exemplified particularly in the March where the two cultures intersected to form a distinctive cultural zone, has been greatly underestimated by historians and literary scholars. Our project will change the way that medieval British history and literature are researched and discussed in the future.

(1.1) HISTORICAL CONTEXT

The March describes the lands around the border of Wales and England, and along the south coast of Wales, that were settled by the Normans after 1066. Between 1066 and 1282, the Normans progressively annexed large estates of land in Wales. Although the Welsh fought, with some success, to retain their ancient kingdoms, the Anglo-Normans were securely entrenched in the March by the thirteenth century. The consequence was intermittent warfare between the Anglo-Normans and the Welsh princes who were determined to retain their ancestral lands, while frequent cases of intermarriage, cultural exchange, and strategic co-operation mitigated the territorial struggle.

In 1282, the English king Edward I decisively crushed the Welsh resistance, campaigning fiercely in Wales and finally killing the self-styled prince of Wales, Llywelyn ap Gruffudd. With the loss of their leader, the other Welsh princes submitted to Edward, who removed most of the princely families, often through death, imprisonment, religious enclosure, or exile, and established crown governance across their lands. From 1282, Wales was divided into the Marcher lordships, governed by individual Marcher lords, and the Principality, the region of west and north Wales under the control of the English crown (Davies, 1978).

Despite this trauma, the old tradition of court poetry once supported by the Welsh princes continued to flourish under the patronage of an emergent class of Welsh gentry, the *uchelwyr* or high-born men. These gentry families co-existed and intermarried with English Marcher families, resulting in a flourishing of multilingual texts and manuscripts, in Welsh, English, French, and Latin, which engaged directly with the multiculturalism of the March (Fulton, 2019). Our project will provide a handlist of these manuscripts and texts, linked to the patrons, scribes, and readers who used them, as well as to the places where they were produced or circulated. While other languages were spoken in the March, notably Flemish, Breton, and Irish, the surviving written evidence for these is sparse, but the evidence of place-names and family names will be taken into account as traces of these linguistic usages.

(1.2) CREATING DIGITAL RESOURCES

We aim to create significant digital resources which will help other scholars and students to understand and explore the culture of the medieval March. We are constructing a large database of the people, places, texts, and manuscripts that belong to the March, with the aim of showing how the connections between these entities create a distinctive cultural zone. The data will be explored through an interactive website enabling researchers to follow connections between these entities and discover new links and information. The digital maps of the Marcher lordships will also be accessible on the website. Users will be able to move a slider to show how the boundaries of the lordships changed over the centuries, how some of the lordships were disbanded or created, and how they changed in size and ownership. This will provide valuable information about the politics and power relations of the medieval March.

An additional challenge is that we need to provide all the material bilingually, in English and Welsh. This is normally required for research on Wales conducted in collaboration with Welsh institutions, since English and Welsh are the official languages of the nation. We have set up a project blog, “Mapping the March”,[1] which we are developing as a bilingual site. Users can click on a language button to select “English” or “Cymraeg” in order to access the blog in their preferred language. The final website containing all the data will also be bilingual, adding another element of challenge in managing and presenting the data.

1 At https://blog.mowlit.ac.uk/ Last accessed 11/03/2026.

(2) DATASET DESCRIPTION

As we are currently (2026) building the database, we have no datasets published. However, in the final year of the project (2028), we intend to publish several datasets, including geospatial data on the extent of the Marcher lordships and network graph data on the entities for which we have captured information. The final datasets will be based on the entities people, places, manuscripts, texts, institutions. The full nature and extent of the datasets are not yet finalised, but they are expected to take several forms. The most basic format will be a series of comma-separated value (CSV) files for each entity, providing the collected data in a format that can be queried programmatically or viewed via applications such as Microsoft Excel. This will include details of the connections between entities, including how those connections have been classified, e.g., certain, probable and possible. The geospatial data may be provided as Esri Shapefiles or GeoJSON so applications such as ArcGIS[2] and QGIS[3] can query them, similar to how RCAHMW provides historical mapping datasets for Wales.[4] Network graph data might be provided as CSV or GraphML files, so that they can be queried programmatically or used in applications like Gephi.[5] We also anticipate providing the dataset as a knowledge graph in the Resource Description Framework format;[6] because we record a Wikidata URL for many of our entities, it will be a linked open dataset. Researchers outside the project might use the datasets in various ways, such as creating maps for their own research and publications, exploring office-holding or manuscript possession across lordships and, with the linked data, exploring individuals across other historical datasets: for example, can we link individuals in the MOWLIT dataset via the Wikidata references to the Virtual Record Treasury of Ireland Knowledge Graph[7] to identify individuals who held offices in both Ireland and the Welsh March?

Any datasets, when published, will be linked from the MOWLIT website[8] and published on the University of Bristol's Data Repository.[9]

(3) METHOD

The project team is cross-disciplinary, comprising literary critics and historians, some of whom specialise in digital humanities; cartographers and mapping specialists; user experience (UX) practitioners and graphic designers; and software engineers who, although they have worked across disciplines, have a track record of developing and supporting digital humanities resources. The team worked collaboratively to define the data we wanted to capture and the abstract data model that would represent it. The software being developed for the project focuses on two core areas: first, a private data management tool that allows the research team to collect and import data; and second, a public search and browse interface that allows other researchers and third parties to explore and visualise our dataset. What follows are descriptions of the broad areas involved in creating the digital resource and supporting data collection, along with a discussion of the challenges faced.

(3.1) DATA MODELLING AND DATA COLLECTION

At the start of the project, we held several workshops with the software engineers and researchers to discuss the types of data the project needed to capture so that we could determine which entities to model in the database. Aspects of the user experience (UX) engagement (see 3.6) informed the data modelling. We originally determined that we needed to model people, places, manuscripts, texts, events, and institutions, along with their relationships. (The entity 'events' has since been deprecated, see section 4 below.) Initial data modelling and data collection were

2 https://www.arcgis.com (last accessed: 2 November 2026).

3 https://www.qgis.org (last accessed: 2 November 2026).

4 https://www.historicwales.gov.uk (last accessed: 2 November 2026).

5 https://gephi.org (last accessed: 2 November 2026).

6 https://www.w3.org/RDF (last accessed: 2 November 2026).

7 https://virtualtreasury.ie (last accessed: 2 November 2026).

8 https://mowlit.ac.uk (last accessed: 2 November 2026).

9 https://data.bris.ac.uk (last accessed: 2 November 2026).

carried out in Airtable[10] — an online data collection and workflow tool — which enabled rapid prototyping of relationships and the types of information we needed to capture for each entity, and which helped identify the information that would require a Welsh translation (Figure 1).

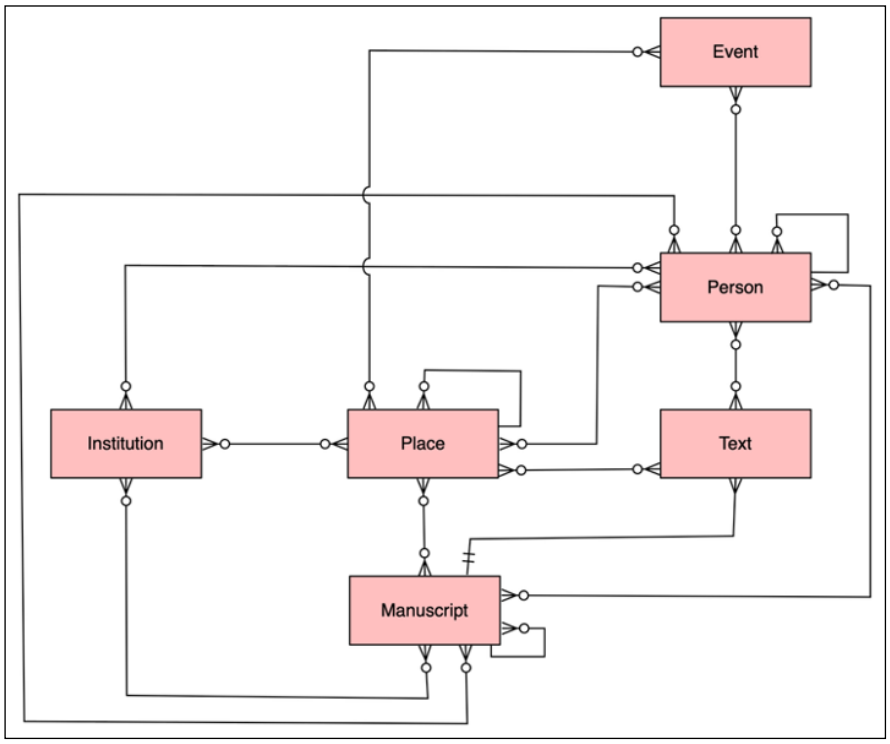


Figure 1 Simplified entity-relationship.

(3.2) DATA MANAGEMENT TOOL

A Django-based tool[11] was developed to replace Airtable for managing project data. The software engineers worked with the researchers to understand the expected research and data entry workflows, and built functionality to enter and manage data (Figure 2). Django provides Object-Relational Mapping (ORM), which maps the entities we represent in Python code and their relationships to an underlying database. For the database, we used PostgreSQL[12] with geospatial extensions.

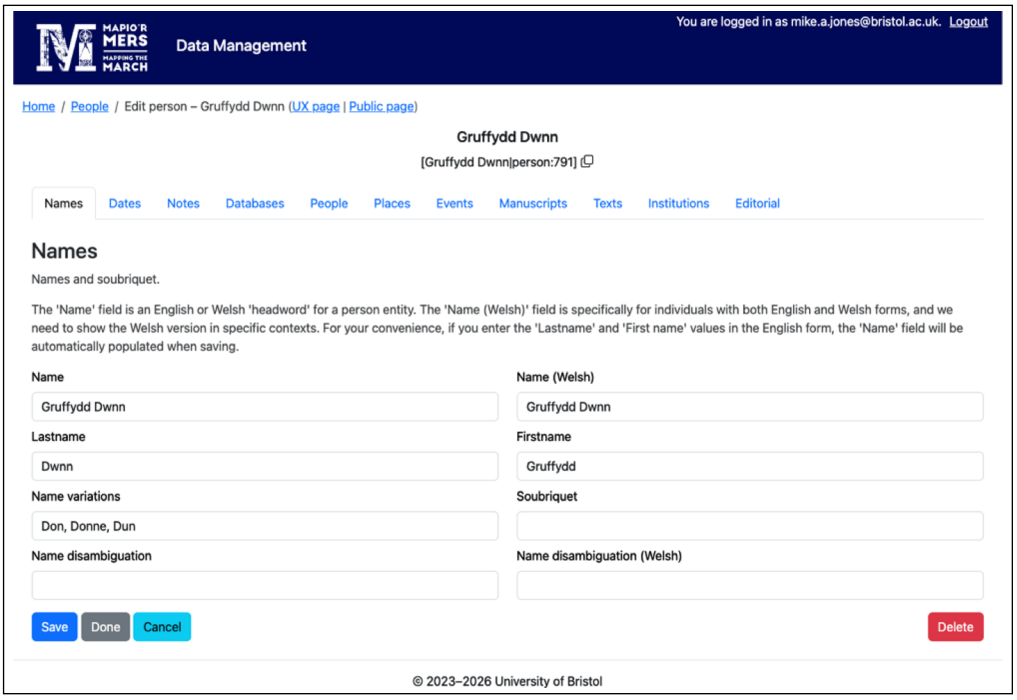


Figure 2 Example data management page for editing a person.

10 https://www.airtable.com (last accessed: 2 November 2026).

11 https://www.djangoproject.com (last accessed: 2 November 2026).

12 https://www.postgresql.org (last accessed: 2 November 2026).

(3.3) DATES

At the earliest stages of the project, it was clear that capturing dates and date ranges would be challenging, since dates could range from specific, e.g., "12 May 1457", to broad or vague, e.g., "late fifteenth century". This is understandable, since an attested charter or grant would normally have a specific date, whereas the dating of a manuscript or text can be uncertain and broad, based on multiple factors, including the handwriting style, linguistic characteristics of the text, or evidence of ownership (Clemens and Graham, 2007). Therefore, an editorial policy on dates was established before data collection; this allowed the research team flexibility in attributing a date to an entity or a relationship, e.g., "4 October 1352", "4–10 October 1352" (from the 4th to 10th October), "1352", "1352–1358" (from 1352 to 1358), "1352 × 1358" (some point between these earliest and latest possible dates), "Early 13th century", "<1300" (before 1300), but also provided guidelines that enabled the MOWLIT software to parse the string into a numerical range that could be computationally processed. Custom validators were created to ensure that submitted dates conformed with the project's editorial policy on dates, and the policy and the validators were amended and adapted as the researchers identified new use cases for date formats.

Any date (or date range) is converted into a date range. For example, the year 1352 could be represented by a start date of "1352-01-01 00:00:00" and an end date of "1352-12-31 23:59:59". The internal Python datetime library uses the Gregorian calendar, whereas our medieval dates use the Julian calendar. We therefore store our dates as floating-point numbers using the astronomy starfield package,[13] which represents dates in the Julian calendar. The application will not perform complex date arithmetic, but we will want to filter searches and visualisation by date ranges.

(3.4) GEOSPATIAL DATA

The MOWLIT web application will offer a range of digital maps, with an emphasis on the borders and extent of the Marcher lordships from the Edwardian conquest to the years following the so-called Acts of Union, or Laws in Wales Acts 1536 and 1542. As a starting point, we used polygon data created by the Royal Commission on the Ancient and Historical Monuments of Wales (RCAHMW) and published on Historical Boundaries of Wales,[14] covering parishes, counties, commotes, cantrefs, and townships. The geometry data was created in ArcGIS[15] by tracing boundaries recorded on the first edition of the Ordnance Survey (OS) County Series maps, published in the nineteenth century and now digitised. The most significant of these geographical entities is the township, as it was a subdivision of the lordships and is mentioned in extant records such as the steward's and bailiff's accounts. Archival research allows us to link townships to lordships and even to trace when they moved between neighbouring lordships. The data management tool allows us to import this geospatial data, which creates a place entity in our database, recording the name, type (e.g., "commote"), polygon data representing the boundary, and dates of existence, if relevant (e.g., >1536, before 1536).

For other places added to the database, such as a castle or a gentry house that may have been referenced in a manuscript or text, a single point representing latitude and longitude was added via the Django-based management interface (Figure 3). Although it is technically possible to add polygons rather than points for these other places, points are more feasible given the time constraints. Often, the first edition OS maps provide the best clues to the location of historical places compared with their modern counterparts. Both the polygon and point data are associated with places, and those places are associated with other entities, including other places, allowing us to search and visualise the data both spatially and temporally. We also link place entities to external databases such as Coflein, Historic England, and Wikidata.

13 https://pypi.org/project/starfield/ (last accessed: 2 November 2026).

14 https://historical-boundaries-of-wales-rcahmw.hub.arcgis.com (last accessed: 2 November 2026).

15 https://www.esriuk.com/en-gb/arcgis (last accessed: 2 November 2026).

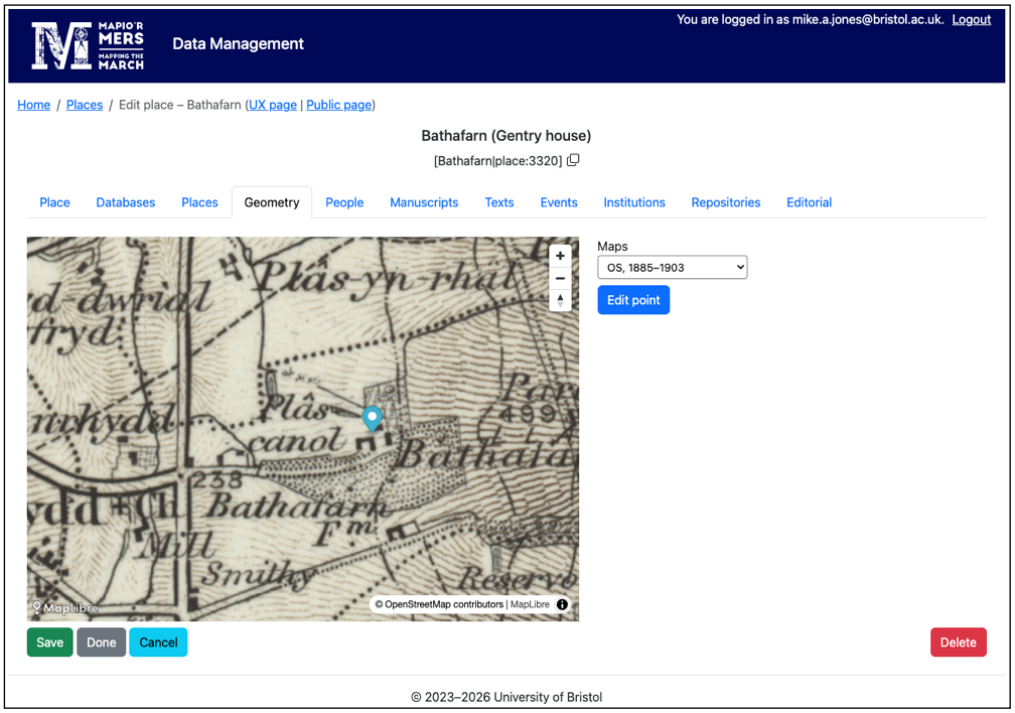


Figure 3 Example data management page for adding a point for a place.

(3.5) SOFTWARE DEVELOPMENT PRACTICES

The project has adopted "agile" software practices. Although we have not adopted a formal methodology such as Scrum[16] or a strategy such as Kanban,[17] the software engineers work in monthly development "sprints", and priorities are agreed with the project team. Work is planned, and issues are tracked in JIRA.[18] In addition to the monthly meeting, the principal software engineer on the project meets the postdoctoral researchers weekly to discuss any issues that may have arisen with the data model and workflows. These regular meetings have fostered a good, productive relationship in the development of the software and the dataset.

The project also follows software development best practices. Most notably, the software is underpinned by a comprehensive test suite that includes unit tests, i.e., tests that verify the accuracy of a discrete piece of functionality, such as ensuring that a string representing a date can be parsed correctly; integration tests, which verify that various components work together, such as confirming that objects are created in the database once a Django form has been successfully validated and submitted; and end-to-end tests, which validate an entire workflow, such as adding a new person entity to the database and linking that user in a relationship with another entity, e.g., creating a family relationship. These tests are used in our continuous integration (CI) pipeline, which automatically builds and tests the software whenever a software engineer commits code to the version control system (Git). Before any software is deployed to the servers, the pipeline checks that any third-party libraries used by the project have no reported vulnerabilities, that the code builds without issues, and that all tests pass.

(3.6) USER EXPERIENCE AND DESIGN

As part of the project's collaborative nature, we engaged a user experience consultant and a graphic designer. Working with UX enables us to plan the creation of a digital product that is useful and easy for other people, such as other researchers and members of the public, to use. Using User-Centred Design (UCD) also allows us to design a well-defined tool that can be built within the project's budget (Church, 2025). Software development is labour-intensive and therefore expensive — even if AI coding tools and agents were adopted — so we needed a process that gave us confidence that we were designing and building the correct tool. The

16 https://www.scrum.org (last accessed: 2 November 2026).

17 https://kanbanguides.org (last accessed: 2 November 2026).

18 https://www.atlassian.com/software/jira (last accessed: 2 November 2026).

UX process used the "Double Diamond" framework defined by the Design Council (Figure 4), where the first diamond relates to the "problem space" in which "discovery" and "define" activities occur; this links to the second diamond which relates to exploring and iterating over a number of possible solutions, eventually pointing to one that will meet user requirements, be technically feasible, and be delivered within budget (Church, 2025).

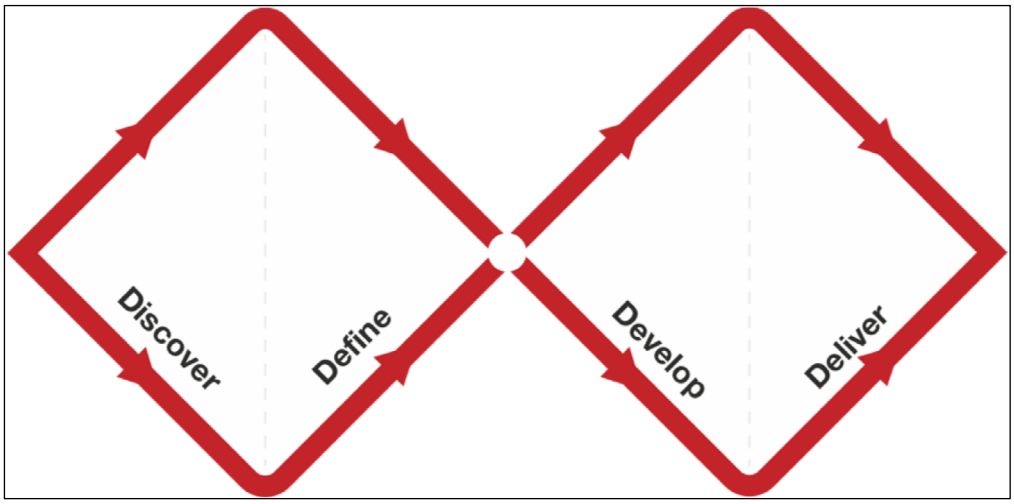


Figure 4 The Double Diamond by the Design Council is licensed under a CC BY 4.0 licence.[19]

With MOWLIT, the UX process led to multiple workshops with the project team, which helped define what we were trying to achieve with the database. In turn, this informed the data modelling process (see 3.1). Through a series of digital mock-ups, we explored and tested assumptions about how the data might be searched, explored, and used by others. A mock-up version of the site, using real data, was then tested in a workshop with members of the MOWLIT Advisory Board and other researchers from the University of Bristol to elicit feedback. The graphic designer was also involved in the UX workshops, which resulted in iterative digital designs that aligned with the UX mock-ups. Both processes led to concrete templates that can serve as blueprints for software engineers when creating the digital output.

(3.7) SUPPORTING DATA COLLECTION AND DATA INTEGRITY

In addition to developing the data management tool and the public-facing aspects of the MOWLIT database, the software engineers create ad hoc reports to improve the quality and integrity of the data. For example, a relationship between a person and a place has a certainty level — certain, probable, or possible — so we can assign a weight to it in any network graph visualisation. The certainty level was added after the entities were initially created, so existing relationships would not be weighted. A management tool was written to provide researchers with a list of people and places with no certainty assigned, allowing them to manually assign "probable" and "possible" relationships, which will be the minority, and to assign the remainder as "certain" with a single command.

Analysing the network of relationships in the database also reveals the current state of the data. Using NetworkX,[20] a Python library for exploring complex networks, we observe that the MOWLIT dataset is not yet fully connected. At the point of analysis shown in Figure 5, rather than forming a single network, the dataset comprises 96 separate networks. The largest network contains most of the nodes, while the others form smaller clusters. Since every entity will eventually be linked to a place, we anticipate that these separate networks will merge into one large network as our maps and geospatial data development progresses. Such insights will help us identify gaps in our data so they can be addressed.

19 https://creativecommons.org/licenses/by/4.0/ (last accessed: 2 November 2026).

20 https://networkx.org/en/ (last accessed: 2 November 2026).

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```
# get the connected components and sort them by size
cc = list(nx.connected_components(G))
cc_sorted = sorted(cc, key=len, reverse=True)[:5]

# print the top 5 connected components
print(f"{len(cc)} components. Top 5 connected components by size:")
for i, comp in enumerate(cc_sorted, 1):
    print(f"{i}: size={len(comp)}")

✓ [38] 14ms
96 components. Top 5 connected components by size:
1: size=6123
2: size=30
3: size=20
4: size=19
5: size=12
```

Figure 5 Using NetworkX to analyse the MOWLIT dataset.

(3.8) FUTURE-PROOFING

The long-term survival of digital resources remains a constant problem. Resources are lost or abandoned for many reasons, ranging from personal factors (retirement, institutional changes, or death) to financial constraints (lack of funding) and unexpected events such as natural disasters or hardware failure (Meneses and Furuta, 2019). Without post-funding support, resources may remain on old, unpatched software and operating systems, leaving them vulnerable to hacking and denial-of-service attacks and forcing IT departments to take them offline. With the advent of Large Language Models (LLMs), software vulnerabilities have surged, making constant, timely patching and updating more urgent. On 21 October 2026, a vulnerability discovered in the PHP programming language took many websites offline until underlying systems could be updated (Gerken and McMahon, 2026). Furthermore, underinvestment in digital infrastructure can leave institutions vulnerable to cyber-attacks with severe consequences—even today (2026), several resources at the British Library remain unavailable after the devastating cyber-attack it suffered in 2023.[21]

Research IT at the University of Bristol is committed to an initial five-year period of post-funding support and maintenance. However, it hopes to extend this further with additional maintenance funding. To keep maintenance costs minimal, Research IT adopts several strategies when developing research-based applications, including MOWLIT. As noted earlier (3.5), it uses mature technologies which provide long-term support, and each project includes a comprehensive suite of unit, integration, and end-to-end tests. This provides some confidence that when underlying libraries are updated, the MOWLIT application will function as expected. If further maintenance funding is unavailable, or maintaining the software becomes prohibitively expensive, one strategy might be to create a "static" version of the website, i.e., create a version that is composed of fixed and unchanging HTML, JavaScript and data files that can be delivered via a web server without the need for a database and other components. This might be considered a degraded experience, as we are left with only the "browse" aspect of a search-and-browse experience, but it keeps the resource available and supports web links that might be referenced in other works. Furthermore, in addition to the MOWLIT website, datasets from the underlying database will be publicly available on the University of Bristol's data repository[22] and published under the National Archives' Non-Commercial Government Licence for public sector information.

21 https://bl.libguides.com/currently-available/introduction (last accessed: 2 November).

22 https://data.bris.ac.uk (last accessed: 2 November 2026).

(4) RESULTS AND DISCUSSION

We are keeping a running total of the entities and connections in the database, and we have so far entered more than 8000 entities and nearly 9000 connections between the entities. We have also mapped 14 historic counties as the basis for the maps of the Marcher Lordships. The project has two more years to run so the database will continue to grow for at least one more year, with the final year used for checking and adjusting the data and completing the maps.

Our results already show the richness of Marcher culture between 1282 and 1550, with a vigorous practice of manuscript production, the circulation of texts in Welsh, English, French, and Latin, and the growth of a multilingual reading public. We can now provide the evidence for what has previously been assumed, namely the close connections of family, marriage, and patronage among the gentry, poets, and scribes of the medieval March. We can also show that relations between English and Welsh are more complex than previously assumed, with both groups involved in the production and consumption of texts in multiple languages. We hope the network graph data will help us explore and visualise the complex relationships between our entities, such as allowing researchers to see who owned and interacted with manuscripts and books. For example, the following figure (Figure 6) shows who interacted with National Library of Wales MS Peniarth 14, a composite manuscript made of several extant manuscripts.

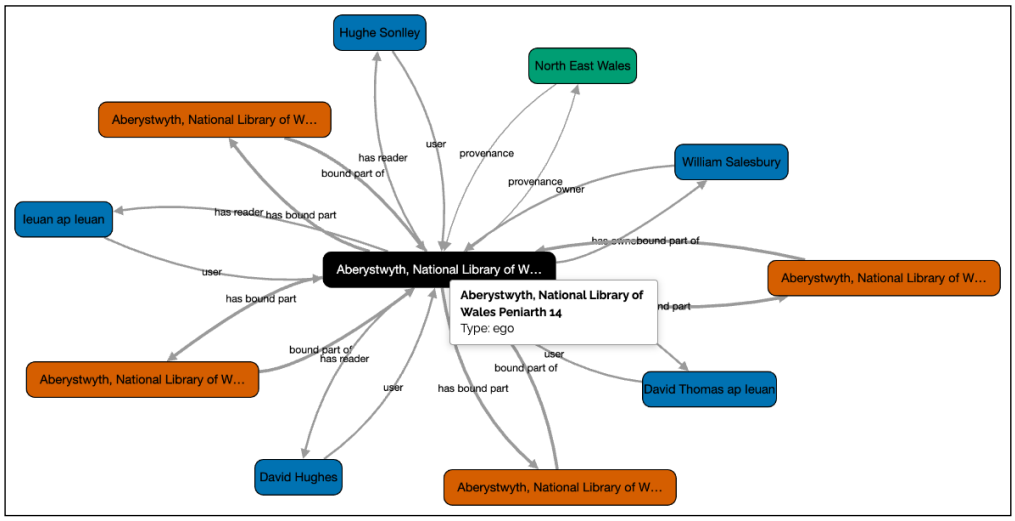


Figure 6 A network diagram showing the relationships with National Library of Wales MS Peniarth 14.

The data collection process has led to some changes in our original priorities, often in response to the overhead of managing data, but occasionally from the need to redefine what our entities represented, based on the experience of research and data entry. For example, we anticipated that the entity "institution" would be populated by religious and administrative organisations, particularly religious houses. However, we settled on "institution" as representing a supralocal entity, such as the Council of the Marches of Wales, which, although it often met in Ludlow, was itinerant and had no fixed meeting place during the period of our study (Harkes, 2026). The religious houses were fixed in a locality, so a place entity seemed like a better fit. Furthermore, the event entity has been deprecated and will be removed. The event entity had several issues, but the most problematic was its definition. What type of thing, occurrence or occasion, did we want to capture? Battles, grants, appointments to office, etc.? Some "events", such as births and deaths, were implicit in the data we were capturing in other entities, such as the "person" entity. A broad definition of events would also lead to data management issues – adding the connections between people and other entities to events would be likely to become an administrative burden.

One clear conclusion is the importance of having a multi-disciplinary team. Our combined skills in archival research, medieval history, literary history, text analysis, linguistic competence, and software development have ensured that the database and the final website can be as comprehensive as possible.

We are also pleased that our current blog, and the final interactive website, will be fully bilingual in English and Welsh. Although two of the team are reasonably fluent Welsh speakers and writers, we have employed a professional translator to ensure that the Welsh version of the website uses a professional discourse and carries authority for Welsh-speaking users of the site.

(5) IMPLICATIONS/APPLICATIONS

The implications of our research are numerous. Most importantly, the research shows that there was a distinctive culture of the March, which can be evidenced from the nature of the connections between the people, places, and manuscripts located there. It is also clear that the geography of the March, especially its administrative organisation into Marcher lordships, is a key factor in the nature of cultural production, with manuscripts clustered around major towns and abbeys, and texts conforming to the readerly requirements of a high-status multicultural community. There are further implications regarding the roles played by specific families in the copying and collection of manuscripts, and the popularity of particular genres of literature common to the region, such as prophecy and British history.

The applications of the research will be wide-ranging across literary, historical, spatial, and border studies. Much of the information contained in the database has never been in the public domain before, as it comes from archival documentary sources that are not easily accessible to the general public or to many researchers. Users of the site will be able to draw on the database, in either English or Welsh, to find out specific information about people, places, and manuscripts, and also to gain a broader overview of Marcher culture, including the way in which manuscripts circulated among reading communities, the cultural leadership role played by key families and individuals, and the links between text and language in a multilingual context. The maps of the Marcher lordships, a major output of the project, will show for the first time how the boundaries of the lordships changed over time and the resulting effect on inhabitants of contested spaces. The maps will also provide visual evidence for the geographical connections between gentry families and sites of manuscript production and circulation. All this information, the database and the maps, can be applied by researchers and members of the public to enrich their own investigations into the medieval March of Wales and border cultures more generally. The wealth of new information, made easy to access and explore, will change the way border studies are conceptualised and provide a new view of medieval multilingualism.

AI DECLARATION

No AI tools were used in the preparation or writing of this article.

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The authors have no competing interests to declare.

AUTHOR CONTRIBUTIONS

Helen Fulton: conceptualization; methodology; writing–first draft; writing–review and editing.

Mike Jones: formal analysis; methodology; software; visualization.

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