

## Collaboration to Clarify the Cost of Curation



### D1.2—Final Sustainability & Benefits Realisation Plan

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University of Essex	UESSEX	UK
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Digital Preservation Coalition Limited by Guarantee	DPC	UK
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## Executive Summary

This deliverable sets out the finalised plan for ensuring that the investment made by the European Commission and the project partners into the 4C initiative has the best possible chance of delivering a return and making a long-term difference. It sets out some of the challenges and risks of extending the work that 4C has initiated and speculates on likely routes to sustainability.

The most pressing sustainability issues for the project are:

- To keep the assets/resources live and up to date
- To appropriately deal with ownership/use of previously gathered sensitive data
- To address some/all of the issues highlighted in the roadmap
- To ensure someone has ownership of the problem/space

The benefits that the post project group is looking to realise are:

- Creation of a self-sustaining coalition that will further the original values of the 4C project
- A raised awareness of the key concepts associated with the economics of digital curation
- An ongoing resource that facilitates the exchange of data about the economics of digital curation
- A roadmap that forms the basis for future action by appropriate organisations

The core proposals for the sustainability and benefits realisation plan are as follows:

- Assets will be prioritised according to how important they are beyond the duration of the project:
  - The Curation Costs Exchange (CCEX) will be maintained and further developed. The data used to feed it will be kept up to date and additional data sought. The commitment to maintain and develop it will be reviewed periodically
  - The newly developed Digital Curation Sustainability Model (DCSM) will be further developed if the community validates and supports the model
  - The progress of the Roadmap will be reviewed periodically
  - The deliverables from the project will be kept available and have DOIs assigned
  - The initial reviews will be at one year after the end of the project

### Principles

- Where possible this will be done through an open source / crowd-sourced development process
- Current partners will be invited to join a post-project coalition (PPC) that will contribute “in kind” (probably through the provision of people and infrastructure)
- Where allowed by the data providers, the data assets will be taken on by a trusted third party organisation—that has appropriate data safeguards already in place—working in a related field
- Key points in the roadmap will be addressed by the coalition and a related stakeholder network. The coalition and the related network will take the lead on the items set out in the Roadmap.

Questions of organisation and governance are discussed and a proposal put forward. What will happen to the principal products and key assets of the project is also discussed. The report concludes with a proposed time line.

# 1 Introduction

The partners in the 4C project believe that digital curation needs to move from being a bolt on, hand crafted, bespoke service—in many cases an afterthought when it comes to costing an activity—to being ‘business as usual’. We see the outputs of this project as being of particular importance to this future vision, the foremost of which are the outputs that facilitate costing and business case preparation—the Curation Costs Exchange<sup>1</sup> (CCEX) and the Digital Curation Sustainability Model (DCSM)—and that which clarifies the way forward for digital curation—the Roadmap<sup>2</sup>.

The project deliverables are, however, not static, unchanging, ‘deliver and forget’ elements. They require maintenance and updating to reflect the changing landscape of digital curation. Indeed, in the short lifetime of the project they have already changed considerably. There is no reason to suppose that this situation will be any different after the European funding stage of the project has ended. In addition, it would appear that there is already a demand for the services we have begun to offer<sup>3</sup> so it makes sense to update our offering and to continue to develop further services.

Quite apart from the need to maintain and update the Roadmap we also envisage a need to address some of the issues and steps highlighted within it; the Roadmap ‘Actions’. At the end of the development of the road map a number of directed actions emerged aimed at seven stakeholder groups. Furthermore, it has become clear that the Roadmap and sustainability plan are inextricably entwined. Some of the Roadmap’s Actions undoubtedly fall within the remit of funding agencies, national bodies, and international bodies. However, some fall squarely within the sphere of activity of the curation community itself. Fortunately, there are already industry specific partnerships and organisations<sup>4</sup> in place that can take on this responsibility (some of whom are represented within the 4C partnership). Some of these organisations have digital curation and preservation centrally in their remit. But, given the relative novelty of the roadmap

<sup>1</sup> <http://www.curationexchange.org>

<sup>2</sup> Deliverable 5.2—Roadmap report [<http://4cproject.eu/roadmap>]

<sup>3</sup> Based upon downloads and views of the deliverables released to date and use of the CCEX

<sup>4</sup> The Digital Preservation Coalition (DPC) [<http://www.dpconline.org/>], Network of Expertise in Long-term Storage of Digital Resources (NESTOR) [[http://www.langzeitarchivierung.de/Subsites/nestor/DE/Home/home\\_node.html](http://www.langzeitarchivierung.de/Subsites/nestor/DE/Home/home_node.html)] and Open Preservation Foundation (OPF) [<http://openpreservation.org/>] to name but three

## Key DOW quotes

*“T1.6—The activities of the project and its outputs should continue to deliver benefit and be accessible and useful beyond the life of the project. A plan will be drawn up to ensure that this optimal outcome is realised and that maximum benefit is realised from EC investment into this project. Measures would include establishing:*

- *sustainable hosting and availability of all reports;*
- *a continuity strategy for the Curation Costs Exchange,*
- *an ongoing development plan for the Economic Sustainability Reference Model,*
- *and methods for exploitation of the roadmap into the future.*

*Impact monitoring of the project and its outputs will also inform the plan.”*

*“T2.2—.... Consideration will be given... ..how [the Register of stakeholders and stakeholder initiatives] might be maintained beyond the duration of the project.”*

*“T5.3—...The Sustainability and Benefits Realisation planning activity (T1.6) will consider ways that the Roadmap might remain current and relevant beyond the duration of the project.”*

and the broad scope of the identified stakeholders—from practitioners through to funders and to service providers—it is still quite optimistic to expect someone to step forward and own this agenda.

In an earlier draft of this document we speculated about how a post-4C project Coalition (PPC) would need to ensure that ‘someone’—or more likely more than one ‘someone’—actually did ‘something’ about the roadmap. We even went so far as to suggest that the PPC should take on the role of that ‘someone’ itself. On the plus side most of the partners within the 4C project were already cooperating before the project began (a factor which greatly facilitated the creation of the consortium). This cooperation has been enhanced by the interactions within the project which has in turn led to an intention to further cooperate in this area after the project finishes. On the other hand a loose coalition such as the PPC may not have the “clout” to progress the roadmap. In the long term a cross-stakeholder group formed around the PPC<sup>5</sup> might be in a position to take ownership of the roadmap. However, in the short term, it is probably better for a single entity to shepherd the plan through its first year.

One challenge that we need to address in moving forward is that posed by the information that has been entrusted to the project partners. To date we have been provided with a wide range of information that falls into the realms of commercially sensitive and/or personal data—“personal” in the sense that it could be covered by various European data protection legislations. Obviously we were aware from the outset that a great deal of the information we gathered would be of this nature and we designed our tools accordingly concentrating particularly upon informed consent. However, we have a duty of care to ensure that such data is handled sensitively at the end of the project. We could of course simply destroy it, but in light of the efforts required to gather it in the first place this would be the least favourable scenario. Conversely, we cannot simply open it up to all and sundry. Any sustainability solution implies appropriate stewardship of this data (with the appropriate consent of the providers of course).

To sum up, we want to maintain capability beyond the lifetime of the European Funding.

- To keep the assets/resources live and up to date
- To address some/all of the issues highlighted in the roadmap
- To ensure someone has ownership of the problem/space
- To appropriately deal with ownership/use of previously gathered sensitive data

## 1.1 How we’ve got to this point

A number of options were considered by the project partners whilst drafting this plan and this version reflects a synthesis of what might be considered an optimal sustainability solution. This plan was initially drafted in the first period of the project. It has been refined in the intervening period taking into account input from both the partners and the wider community as well as the practicalities of achieving the objectives we set ourselves. It is not, however, necessarily a long term solution. The nature of the projects outputs and the rapid changes currently being experienced in the field of digital curation mean that a programme of continuous monitoring of this plan and revaluation of its aims and objectives would be prudent.

As a preface to our discussions about the nature of any sustainability plan we first considered if a sustainability strategy was required. However, given that one of the prime outputs of the project is a

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<sup>5</sup> We feel strongly that the PPC should not be a closed shop. There is room for additional partners from across the stakeholder spectrum to join those currently involved.



Roadmap highlighting five years of future digital curation activity, it was clear from the very early stages that a sustainability strategy would be necessary.<sup>6</sup>

The proposed PPC will be made up of stakeholders with real incentives to see that the Roadmap is acted upon. A practical sustainability strategy should provide a framework to shape and guide such future activities.

Having considered—and rejected—the possibility that the sustainability plan was not needed, we then went on to consider the questions of:

- **Why**—Why is it important to sustain the work and what impact are we seeking to achieve?
- **Who**—Which stakeholders are likely to engage with post-project activity (and how they might differ from the current stakeholders)?
- **How**—How should we go about sustaining the assets and maintaining capacity to promote the aims of the original project, and how should we measure our success in achieving these aims?  
and
- **How long**—What sort of time periods should we consider in our plans?

These and other ideas are considered in the sections that follow.

After the publication of the initial draft we sought input from the community and refined our plan as a result. It should be noted that this input was generally in the form of commentary and interactions with stakeholders in relation to the individual project outputs—in particular the outputs that are the prime focus of this plan—as opposed to the draft document itself.

## 1.2 Abbreviations

AB—Advisory Board

CCEx—Curation Costs Exchange

CCM—Cost Concept Model

DoW—Description of Work

DCSM—Digital Curation Sustainability Model

ESRM—Economic Sustainability Reference Model

FP—Funded project (the current status of the 4C project)

IED—Indirect economic determinant

PPC—Post-Project Coalition

TTP—Trusted Third Party

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<sup>6</sup> We were also well aware that we were contractually obliged to produce a plan as well.

## 2 Aims, stated objectives and core proposals

### 2.1 Aims

One of the broader goals of the FP7 programme is to achieve impact beyond the ICT sector. Effective digital curation is certainly an area which should have such wider impact—choosing what to preserve and what not to preserve and then doing so efficiently is something which concerns all users of ICT, not just those involved in its development and dissemination. One of the overarching goals of the 4C project is to have that wider impact, helping a much wider range of actors understand their role in digital curation and the costs and benefits associated with that role. From individuals with concerns about digital photographs and social media content to national and transnational organisations, helping people make use of the knowledge and techniques that already exist has the potential to have wide impact.

The issues in question are primarily trans-national and require coordinated European action—with even wider coordination where possible. One relatively small European project cannot achieve all the outreach necessary and it is likely that some local and national activities will be able to reach specific communities in ways that we cannot. The project has sought to develop material and encourage approaches which will achieve such ends and will build upon knowledge and experience gained by its partners in comparable activities. The impact from ERPANET, for example, is still being felt beyond the set of specialist digital curation research groups at its core long after the project ceased activity.

As a project we seek to promote excellence and seek long term impact focussed especially around the 6 core concepts in the roadmap. Namely:

*"Identify the value of digital assets and make choices"*

*"Demand and choose more efficient systems"*

*"Develop scalable services and infrastructure"*

*"Design digital curation as a sustainable service"*

*"Make funding dependent on costing digital assets across their whole lifecycle"*

*"Be collaborative and transparent to drive down costs."*

Costs are not the only criteria for making such selection, and neither are benefits, a concept that has become increasingly clear over the course of the project. A holistic approach encompassing both costs *and* benefits is the only one that will produce credible outcomes. Together, these are the primary concerns to be applied when making decisions about the selection of resources and the processes to be applied to them in order to ensure effective digital curation. By developing a greater awareness of existing knowledge and research outputs relating to digital curation costs, this project has enabled individuals and organisations to make better-informed decisions about their capability to preserve and to discard, what processes to use, and how to do so in the most efficient manner.

The decisions faced by organisations considering digital curation are as varied as the organisations themselves and need to be considered at many different levels within the organisations. For instance, a library deciding whether to be a holding library (a top level strategic decision), an institution deciding whether or not to ingest a collection, a company deciding if they should offer curation services on a commercial basis. All these options need to be understood in economic terms and, as such, will inform decision-making at many levels within an organisation's management structure.

We the curation community are starting to provide base components that allow the embedding of digital curation as a business function within organisations, that provide clarity as to the true costs and benefits, and that allow organisations to be in control (and seen to be in control for those that require transparency for their stakeholders) of their expenditure.

The problems faced by organisations in this area are dynamic. The parameters are continuously changing and the conundrums need to be revisited on a regular basis. More to the point the challenges won't go away at the end of the funded phase of the 4C project.

We know that potential users of the emerging 4C services are faced with hurdles when it comes to entering data. We know also that one of the key use case scenarios is the ability to compare costs, both with one's peers and one's own costs over time. If users know that the ability to compare will be available for the foreseeable future, and that the underlying data set is up to date, then there will be a significantly greater incentive to participate. As has been stated before, this requires maintenance and updates. Moreover, as is seen by the demand for digital curation training<sup>7</sup>, there are rising numbers of stakeholders realising that they need to consider digital curation who will need the tools in the future.

In short, we have started out down a path that defines digital curation differently within the organisation. The goal of establishing the activity as an integral part of decision-making requires maintenance of tools and data to support such actions.

## 2.2 Stated objectives

After some discussion the project partners have come up with the following as the stated objectives of a PPC:

- To create a self-sustaining coalition of partners to further the original values of the 4C project
- To continue to raise awareness of the key concepts associated with the economics of digital curation, in particular (but not limited to):
  - Identifying and comparing the costs
  - The indirect economic determinants (IEDs)
  - The benefits and risks associated with curating assets
  - A Digital Curation Sustainability Model (DCSM)
  - An Economic Sustainability Reference Model (ESRM)
  - A Cost Concept Model (CCM)
- To ensure the stewardship of the data entrusted to the project
- To ensure that the assets/services produced in the funded phase of the project are maintained and further developed
- To ensure that the suggestions outlined in the Roadmap are acted upon by the appropriate organisations

It would be inappropriate to articulate specific quantitative measures of success, but the qualitative criteria for successful Coalition activity might usefully emulate those already outlined in the funded project's Description of Work (DoW). These could include:

- The number of partners committed to taking part in an ongoing coalition of organisations

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<sup>7</sup> Anecdotal from the DPC, a project partner, who are seeing significant on-going demand for their "Getting Started in Digital Preservation" training offering.

- The number of new organisations that step forward to become active stakeholders and affiliate partners
- The frequency and quality of invitations the PPC receives to participate in external events
- The number of organisations that use the assets/services provided and the frequency of that use

The question of time scales was considered at length in the discussions surrounding the preparation of this plan. On the one hand, given the volatility currently being experienced in the field of digital curation and the rapidity with which new, techniques, standards and certifications are emerging, a far distant end point would patently be inadvisable. On the other hand, too close an end point would not allow for meaningful achievements. With this in mind the current plan has been pitched around a 5 year activity period—in line with that of the roadmap—with annual go /no go reviews.

## 2.3 Core proposals

In order to achieve the stated aims the following core proposals have been put forward:

- All project outcomes will be assessed and where appropriate maintained and further developed beyond the lifetime of the project. In particular:
  - The CCEx will be further developed to add new functionality. The data used to feed it will be kept up to date and additional information will be added to the dataset.
  - The Roadmap will be reviewed annually
- Where possible this will be done through an open source / crowd-sourced development process
- All current partners will continue to be involved with a post project coalition and will contribute “in kind” (probably through the provision of people and infrastructure)
- Where allowed by the data providers, the data assets will be taken on by a trusted third party organisation—that has appropriate data safeguards already in place—working in a related field
- Key points in the roadmap will be addressed by the PPC and a network of stakeholder organisations. The PPC will lobby other organisations to take on aspects of the Roadmap ‘To Do’ list
- The PPC will continue to actively seek out opportunities for engagement both with future coalition partners and other stakeholders in the digital curation arena.

## 3 What type of body/organisation will the Post Project Coalition be?

Although most of the assets and outputs generated by the project—some of which are listed in section 4—are published and open (and are being offered to the community on a ‘CC By’<sup>8</sup> basis), some of the information used to populate/drive those assets is not. During the lifetime of the project data will have been gathered on a non-disclosure basis. We have been able to exploit it due to specific and individual agreements between some (but not necessarily all) partners in the consortium and those who have provided the information. We have been considered by many as a broker or ‘trusted third party’ (TTP) who can be relied upon not to pass on potentially sensitive information without permission and/or thoroughly anonymising it.

Whilst this type of organisation has been successful in the short lifetime of the project it, is not optimal for the future especially when you consider the potential increase in “data providers”. Trust has been—and will continue to be—a constant consideration. This has led us to the conclusion that there needs to be a future TTP with some form of corporate identity to take responsibility for data oversight. On the other hand, one of the major strengths of the consortium lies with its diversity (both geographically and across stakeholder groups). Putting all our metaphorical eggs into one TTP basket risks damaging that strength.

Bearing all this in mind, as well as the desire to continue to work together as a team the current proposal is to form a hybrid organisation. The data oversight / TTP role is to be undertaken by an existing organisation with aligned aims. A number of organisations have been approached and negotiations have been successful. The TTP in this case is already a partner in the project, which simplifies considerably the reassignment of the stewardship of the data. The current project partners will form the core of a loose coalition dedicated to pursuing the aims outlined in Section 2.2—Stated objectives above.

### 3.1 Ownership

The partners in the project all primarily participated on the basis that they saw a direct benefit to their organisation—and to the community as a whole—in doing so. Potential commercial advantage was either absent or a secondary consideration. The assets of the funded project, such as they are, are all published (apart from the private data) and are (and will remain) freely available for others to utilise. The intellectual property remains with the partners. However, after the end of the funded phase of the project, the partners will be ideally placed to exploit the value of the investment to date. It was proposed that the current consortium agreement be extended through an exchange of letters to allow the partners to continue to develop products and services on a shared IP basis.

### 3.2 Funding

One commonly accepted definition of a sustainable organisation is one that can meet its own costs. The hybrid model proposed should have very low overheads in that activities associated with the organisation should form part of the core mission of all the organisations involved, and hence be absorbed in general running costs. It is proposed that the organisation be funded through ‘in kind’ contributions from the

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partners. Should the number of organisations that get involved in the future engender the need for a permanent secretariat then a subscription model will be considered to cover this cost—essentially funding on a break-even basis.

The PPC may also actively seek funding from various sources including, but not limited to, the European Union H2020 program, other international funding bodies, national funding bodies, and commercial partners. It is anticipated that this funding will be for identified projects and not to cover general running costs. Towards the end of the project a number of applications for funds were made<sup>9</sup>. To date applications have been unsuccessful.

### **3.3 Governance**

The current projects governance structure with the Project Board as the decision making body and with one member per active organisation (see below for a proposed definition of an active organisation) will remain in place.

The current Advisory Board will be invited to continue that function, albeit on a reduced scale—given the geographic spread of the current board participation is likely to be on a “virtual” basis only (as opposed to face to face). It is anticipated that they will take an active part in discussions at any annual review event.

### **3.4 Participation and stakeholders**

All of the current partners have expressed a wish to be involved in the PPC. A number of outside organisations have also expressed a desire for closer involvement to a greater or lesser extent. The initial core group of active organisations will consist of the current project partners.

It is anticipated that there will be a second, wider tier of registered stakeholders who will wish to be involved (at least at the level of providing data and helping to shape the projects outputs), but who will be unwilling or unable to make the commitment to development and related activities that an active partner would. Whilst this group will not be directly involved in the governance of the PPC, their interests may either be represented via input from the Advisory Board or through the various input channels that will be setup to ensure stakeholder views are heard and understood, the simplest and most straightforward of which might be the setting up of a dedicated mailing list or an online discussion forum.

Those who do not wish to commit to registering will still be able to benefit from the public outputs of the PPC, albeit on a slightly reduced scale—with access to summary reports and global trends as opposed to detailed analysis reports for instance. The project partners felt it was important that those who were willing to be involved and to share information should see some increased benefits for doing so.

### **3.5 Secretariat**

As said above, a full time secretariat is not expected to be needed in the short term. The secretariat functions of the current project are handled by the lead partner. It is anticipated that in the short term this would continue to be the case. It may be appropriate, if a TTP is appointed, for this function to devolve to that body.

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<sup>9</sup> For example <http://researchatrisk.ideascale.com/a/dtd/Extension-of-a-curation-cost-comparison-tool-to-cover-pre-ingest/103181-31525>

## 3.6 Lifetime

As mentioned earlier, time scales were considered in depth. After discussion it was decided that all those involved as active partners would commit to a five year involvement (based in part upon the time span of the roadmap). However, the PPC as a whole would be reviewed on an annual basis with a view to either concluding the PPC as a whole at an earlier date, or extending the end date. In other words, if the majority of the active partners agreed to conclude operations earlier than the original end date then all partners would remain fully committed to that new date. Likewise, should the majority of partners decide that the end date should be extended, all the partners would remain committed to that date. It should be noted that any decisions to extend the PPC Coalition would need to be ratified by the management of individual partners and active partners may be required by their own management bodies to resign from active participation in the PPC at that point.

## 4 Assets and resources

The assets that the project will deliver include all of the following:

- A Sustainability and Benefits Realisation Plan
- Baseline Study of Stakeholder and Stakeholder Initiatives
- Register of Stakeholders and Stakeholder Initiatives
- Final Stakeholder report
- Final Report on Outreach Events
- Project Communication Plan
- Report on Communication Activities
- Project Website
- Curation Costs Exchange
- Evaluation of Costs Models and Needs & Gap Analysis
- Cost Concept Model and Gateway Requirement Specification
- Assessment of Indirect Economic Determinants
- An Economic Sustainability Reference Model
- A Digital Curation Sustainability Model
- Report on Trustworthiness and Quality
- Report on Risk and Benefit
- Report on Business Models
- Roadmap (and related materials)
- The 4C Glossary

Whilst all of these outputs are integral to the work of the 4C Project, it is clear that a subset of them represent analysis at a point in time. On the other hand others will need to be maintained and updated in order to realise their full value over time. In this context we have identified four broad categories:

- **Primary focus activities**—activities that will be the main focus for the PPC and will be addressed in the plan.
- **Secondary focus activities**—activities that fall outside the main focus for the PPC and should be addressed in the plan. This category also encompasses 4C outputs that will probably be adapted to be PPC outputs
- **Tertiary focus activities**—activities that fall outside the main focus for the PPC and may be addressed in the plan<sup>10</sup>.
- **Complete activities**—activities that have produced a completed output that is unlikely to be revisited in the short to medium term.

We have classified the outputs as follows:

### Primary sustainability focus

- Curation Costs Exchange
- Project Website (this will reflect the PPC environment)
- Roadmap

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<sup>10</sup> These are Essentially WIBNIs (Wouldn't It be Nice If...)



- The Economic Sustainability Reference Model (the use of the ESRM is pending community validation and may become a secondary or tertiary focus activity)
- The Digital Curation Sustainability Model
- The Register of Stakeholders and Stakeholder Initiatives (this will be owned by the TTP)

### **Secondary sustainability focus**

- Project Communication plan (this will reflect the PPC environment )
- 4C Glossary
- Sustainability and Benefits Realisation Plan (this will reflect the PPC environment)
- Cost Concept Model and Gateway Requirement Specification

### **Tertiary sustainability focus**

- Baseline study of Stakeholders and Stakeholder Initiatives (This was a point-in time analysis that could be the basis of a future exercise)
- Evaluation of Costs Models and Needs & Gap Analysis report (This is a substantial activity that the PPC will struggle to prioritise re-visiting)

### **Complete**

- Final Stakeholder report
- Final Report on Outreach events
- Report on Communications Activities
- Assessment of Indirect Economic Determinants
- Report on Trustworthiness and Quality
- Report on Risk and Benefit
- Report on Business Models

The value in many of these assets lies in the currency of both the tools/services (the underlying models need to be as up to date as possible in order to be truly useful) and the freshness of the data used to ‘feed’ the tools. Comparing the costs of curation today against data that is 5 years old is not as useful as comparing costs against data that’s 6 to 12 months old. It could be argued that given the speed of developments in this field, 5 year old data is useless or misleading.

This inevitably leads to the conclusion that the maintenance and development of these tools/services and the gathering of fresh data are pre-requisites for a sustainable future project and that someone must take responsibility for that maintenance/development. However, this maintenance, etc. doesn’t need to be undertaken solely by the PPC. Although interconnected, it is not inconceivable that ‘ownership’ or ‘responsibility’ for individual components of these assets could be parcelled out to more than one organisation. Indeed, the philosophy of open development allows (in fact it actively encourages) the ‘forking’<sup>11</sup> of products followed by reintegration of new features into the main development. It could be argued that this would lead to a dilution of impact of the PPC’s activities. However, the PPC’s *raison d’être* isn’t to perpetuate its own existence, but rather to ensure widespread adoption of the products, tools and models that were the output from the funded project alongside any emerging resources (from other projects, organisations or services) that align with and sensibly promote the declared goals.

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<sup>11</sup> Forking—Making a copy (of code, documents, etc.) with a view to developing a separate (but related) product.

In the short term it is envisaged that the maintenance and development of the tools/services will be undertaken by the PPC (or a subset of suitably qualified PPC members). However, other organisations will be actively encouraged to fork the development and possibly in the future become the lead partner for that aspect of development/maintenance.

## 4.1 Asset assignment in detail

The following 4C project assets have had detailed continuity plans put in place.

### 4.1.1 The Curation Costs Exchange (CCEX)

The CCEX is designed to be the post project sustainability platform and as such has had a specific PPC agreement put in place (see Appendix A.2 for details). In essence it covers the following:

- Hosting and day to day management—The DPC will provide hosting and basic technical support relating to the underlying content management system.
- Content refreshing/updating—Nestor and the Netherlands Coalition for Digital Preservation (NCDD) will manage the content and provide an annual content review
- Technical support—DPC's web host and technical service provider will support the content management system. KEEPSS will manage the custom developments.
- Data—The UK Data service will periodically extract and process anonymised data periodically.

The agreement will be reviewed annually with the first review due to take place in January/February 2016.

In line with the project commitment to open source project outputs the source code for the main bespoke developments found on the CCEX—the Cost Comparison Tool (CCT)—has been published on git-hub (<http://my.curationexchange.org/>). Developers are free to contribute to the main code development and/or fork their own copy as required.

### 4.1.2 The Roadmap

We have put in place a number of measures to take the roadmap plan forward now that the funded phase of the project has ended. Firstly Jisc, the lead partner in the project, has undertaken to put together a workshop in one year's time to review/revisit the roadmap. The three major topics to be addressed will be:

- Is it still relevant?
- Has anyone been acting upon it?
- Does anything need to be updated?

We are also considering a pre-workshop information gathering survey that will ask key stakeholders where they are in relation to the timetable.

The on-line discussion forum<sup>12</sup> is (currently located on the 4Cproject.eu website) will be moved to an alternative platform (such as the Curation Costs Exchange) as soon as it is practical to do so.

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<sup>12</sup> <http://4cproject.eu/roadmap-discussion>

### 4.1.3 The Stakeholder registry

As mentioned a number of times earlier, 4C takes the stewardship of the data entrusted to it particularly seriously and this is one of the main reasons we have been considering a hybrid approach with a TTP. A TTP—the DPC—has now been appointed. All providers of data have been approached to see if they consent to their data becoming the responsibility of the TTP (see Appendix A.1). If consent isn't forthcoming the source data will be destroyed. We will, however, endeavour to retain the inferences and meta-conclusions that the data has allowed us to synthesise.

As consent was already granted to the 4C project (and by extension the partners within the 4C project) to use the data in the CRM, each partner has been offered a CSV copy of the contact data for use internally.

### 4.1.4 The Project Website and deliverables

As referred to above, the main web presence for the PPC will be the [curationexchange.org](http://curationexchange.org) web site. The Project web site will remain on-line for as long as is practical<sup>13</sup>. A snapshot of the site has already been archived locally and requests have been made to a number of web archives with the appropriate remit to store material of this type.

All the deliverables will have DOI's assigned and will remain available through the site as long as it's on-line. They are also being archived in Jisc registry (<http://repository.jisc.ac.uk/>) which will expose them through the OpenAire2020 portal.

### 4.1.5 DCSM

The Digital Curation Sustainability Model (DCSM) is now the principal sustainability modelling output of the project (taking over from the original ESRM model). The measures in place to ensure its continuity and future are as follows:

- A copy of the DCSM text is currently available on the 4C web site<sup>14</sup>. The text and the presentation materials are will be made available on the Curation Costs Exchange Platform in the near future.
- The DCSM is designed to align and integrate with other resources that are outputs of the 4C work, in particular: the 'Costs Framework' that is a further developed iteration of the 'Nested Model for Digital Curation' as featured in D3.2—Cost Concept Model and Gateway Specification: <http://4cproject.eu/d3-2-ccm-grs> (see p.42-48). This integration should ensure that the 4C outputs are dealt with in future as a suite of related resources rather than individual and isolated components. The DCSM concepts are also closely linked with the aims and objectives of the 4C Roadmap, particularly in relation to the focus on 'digital curation as a service' and concepts of 'value'.
- The DCSM will feature in conference paper proposals for 2015-16 (iPRES 2015 for instance) and this should mean further exposure and development of the ideas underpinning the model.
- Partners have suggested that the DCSM and other component parts of the 4C work (in particular the Costs Framework and the Indirect Economic Determinants) would constitute good material for a book length explanation of the concepts. This idea is being investigated.

<sup>13</sup> The 4C website is hosted on a CMS that has recently attained 'end of life' status and no longer has security updates issued. This type of project website for projects that have "finished" have proved to be particularly attractive to hackers in the past. At present the site should be sufficiently safe and is being backed up regularly. We have made the decision not to migrate it to an updated version for now. This decision will be revisited at the end of the first PPC review period.

<sup>14</sup> As part of the D4.2—Community Validation of ESRM deliverable— <http://www.4cproject.eu/d4-2-esrm-2>

- Invitations will be issued (via the migrated 4C list and other mailing lists) to consider using the DCSM for teaching purposes on relevant courses. Feedback will be requested via the CCEX platform.
- Invitations will also be issued (via the migrated 4C list and other mailing lists) to consider using the DCSM for consultancy purposes where people are working with organisations on sustainability planning. Feedback will be requested via the CCEX platform.

## 5 Timeline and acceptance criteria

### 5.1 Pre project end

Note: Month 1 for this plan is month 25 for the current funded project (February 2015).

Note: Some of the acceptance criteria have been left blank pending consortium and stakeholder validation of the draft sustainability plan and post project discussion with the PPC.

Component / Method	Status
Refine sustainability plan	Complete
Research and recruit active partners	Complete
Recruit TTP	Complete
Communicate with stakeholders	Complete
Continue to cultivate new stakeholders	Complete
Create buy in	Complete
Formalise relationships	Complete
Transfer of assets	Complete
Seek funding	On-going

Table 1—Timeline and status—Pre project end

### 5.2 Short term

Component /Method	Action Steps	Acceptance Criteria	Timeline	Status
<b>Asset development</b>	Identify areas for further development/maintenance	List of prioritised development tasks	Month 1 – Month 3	Started and on-going
	Recruit appropriate active partners for that development	Clearly identified maintainers/developers		
	Create a development/maintenance action plan and delegate tasks to previously identified active partners			

<p><b>Roadmap activities</b></p>	<p>Identify areas for immediate action and the appropriate bodies to undertake those actions</p> <p>Lobby external (to the PPC) bodies to initiate actions from the Roadmap 'To Do' list</p> <p>Undertake actions from the Roadmap 'To Do' list identified as appropriate for the PPC.</p>	<p>List of stakeholders to be approached</p> <p>List of PPC actions from the Roadmap 'To-Do' list</p>	<p>Month 1 to Month 3 and ongoing</p>	<p>Started and on-going</p>
<p><b>Communicate</b></p>	<p>Keep up with regular reports on the web page</p> <p>Direct mailing to stakeholders where appropriate</p> <p>Utilise other channels (such as mailing lists, guest blogs, etc.) where possible and appropriate.</p> <p>Continue to attend events where there are opportunities to disseminate information regarding the PPC.</p>		<p>Month 1 to Month 12</p>	
<p><b>Governance</b></p>	<p>Appoint a small core group from within the Active partners to undertake the day to day running of the PPC.</p> <p>Hold regular meetings of the core group</p> <p>Hold regular meetings of the wider active partners group.</p>	<p>1 on-line call a month</p> <p>1 annual meeting</p>		

<b>Further buy in</b>	<p>Continue to identify new stakeholders</p> <p>Continue to recruit new active partners</p> <p>Identify and publish new features/developments.</p> <p>Celebrate successes.</p> <p>Ensure all active partners and registered stakeholders are still benefiting from their participation</p>	Month 1 to Month 12	
<b>Review</b>	<p>Gather active partners and Advisory Board for a progress review.</p> <p>Review governance.</p> <p>Review requirement for secretariat function.</p> <p>Review stated aims and core proposals in the light of the current state of digital curation.</p> <p>Review the Assets and identify areas for further development.</p> <p>Review the Roadmap and update as required</p> <p>Make the decision to proceed as planned and/or set a new PPC end date.</p>	<p>Revised PPC aims and objectives</p> <p>Revised Roadmap</p>	Month 12 and then annually thereafter
<b>Seek funding</b>	<p>Identify and approach appropriate funding bodies.</p> <p>Identify funding calls that have stated outcomes that are closely aligned with the PPC stated outcomes and bid for funding</p>	Month 1 to Month 12	Started and on-going

*Table 2—Timeline and acceptance criteria—Short term*

## 5.3 Medium term

Component /Method	Action Steps	Acceptance Criteria	Timeline
<b>Conference</b>	Mid-term conference to disseminate current progress and identify areas for future development. <sup>15</sup>		Between Month 24 and Month 36
<b>Asset development</b>	Identify areas for further development/maintenance  Recruit appropriate active partners for that development  Modify the development/maintenance action plan and delegate tasks to previously identified active partners		Month 13 – Month 15 and ongoing
<b>Roadmap activities</b>	Continue to lobby external (to the PPC) bodies to undertake actions from the Roadmap ‘To Do’ list  Undertake actions from the Roadmap ‘To Do’ list identified as appropriate for the PPC.		Month 13 and ongoing
<b>Communicate</b>	Keep up with regular reports on the web page  Direct mailing to stakeholders where appropriate  Utilise other channels (such as mailing lists, guest blogs, etc.) where possible and appropriate.  Continue to attend events where there are opportunities to disseminate information regarding the PPC.		Month 13 to ongoing

<sup>15</sup> Given the economics of the Sustainability Plan this is likely to be tacked onto an existing event.



<b>Further buy in</b>	<p>Continue to identify new stakeholders</p> <p>Continue to recruit new active partners</p> <p>Identify and publish new features/developments.</p> <p>Celebrate successes.</p> <p>Ensure all active partners and registered stakeholders are still benefiting from their participation</p>	Month 13 and ongoing
<b>Review</b>	<p>Gather active partners and Advisory Board for a progress review.</p> <p>Review governance.</p> <p>Review requirement for secretariat function.</p> <p>Review stated aims and core proposals in the light of the current state of digital curation.</p> <p>Review the Assets and identify areas for further development.</p> <p>Review the Roadmap and update as required</p> <p>Make the decision to proceed as planned and/or set a new PPC end date.</p>	Month 24 and then annually thereafter
<b>Seek funding</b>	<p>Identify and approach appropriate funding bodies.</p> <p>Identify funding calls that have stated outcomes that are closely aligned with the PPC stated outcomes and bid for funding</p>	Month 13 and ongoing

*Table 3—Timeline and acceptance criteria—Medium term*

## 5.4 Long term

Component /Method	Action Steps	Acceptance Criteria	Timeline
<b>Conference</b>	End of PPC conference to disseminate current progress and establish the communities appetite for continuing the PPC		Between Month 54 and month 60
<b>Review</b>	<p>Gather active partners and Advisory Board for a final review of progress.<sup>16</sup></p> <p>Review stated aims and core proposals in the light of the current state of digital curation.</p> <p>Review the Assets and identify areas for further development.</p> <p>Review the Roadmap and update as required</p> <p>Make the decision to end as planned and/or set a new PPC end date.</p>		Between Month 54 and month 60

*Table 4—Timeline and acceptance criteria—Long term*

<sup>16</sup> This is likely to be combined with the end of PPC conference.

## 6 Risks

A number of risks and barriers to uptake have already been identified and are outlined below.

Risk	Analysis of Risk	Likelihood 1 (low) to 5 (high) (L)	Impact 1 (low) to 5 (high) (I)	Risk score (L x I)	Mitigation
No one wants what we have to offer.	Current enthusiasm for our offerings to date leads us to believe that this won't be the case	2	5	10	Continue to consult with stakeholders regularly to establish current and future needs
Partners are unable to achieve consensus regarding the sustainability plan.	All partners have been involved in the drafting of the plan and to date there have been no issues about which a consensus couldn't be achieved.	2	4	8	Continue to consult with partners, be flexible with the planning of the PPC and address issues as they arise.
The community is unable to achieve consensus regarding the sustainability plan.	The advisory board has had an input in the drafting of the plan in their stakeholder representative capacity.	2	3	6	Consult with the stakeholders and consult further with the Advisory Board and address issues as they arise.
The EC reject the final Sustainability plan deliverable.	The sustainability plan was one of the deliverables presented/discussed at the first periodic review.	1	5	5	Take careful note of any direction provided by the project reviewers and incorporate appropriate measures in the final plan.
Partners are unable to sign up to the PPC.	All partners have supported the aims of the plan to date. However, the proposed PPC can progress even if all the partners are not directly involved as active	2	4	8	Continue to consult with partners and address issues as they arise.  Ensure that the partners consult with their local management to ensure

Risk	Analysis of Risk	Likelihood 1 (low) to 5 (high) (L)	Impact 1 (low) to 5 (high) (I)	Risk score (L x I)	Mitigation
	members.				that they accept the proposed plan. Be prepared to proceed with a reduced PPC.
Having signed up to the PPC, partners are unable to follow through on their commitments.	All partners have indicated that they wish to be committed as active partners. Initial analysis indicates that for most partners the commitment is likely to be only in the order of a few hours a month.	2	4	8	Continue to consult with partners and address issues as they arise. Ensure that the partners consult with their local management to ensure that they accept the proposed plan. Be prepared to proceed with a reduced PPC.
No additional active partners can be recruited.	We have already been approached by a number bodies interested in getting involved.	1	3	3	Consult (and regularly re-consult) with current and future stakeholders to ensure that the PPC offering is attractive to them.
No appropriate TTP can be found or the selected TTP is unwilling to take on the role.	A TTP has already been identified.	1	5	5	No longer a risk.

Risk	Analysis of Risk	Likelihood 1 (low) to 5 (high) (L)	Impact 1 (low) to 5 (high) (I)	Risk score (L x I)	Mitigation
Data providers don't trust the selected TTP.	This is mission critical. Trust is an essential factor in the PPC.	2	5	10	Consult with stakeholders to establish the reasons for the lack of trust. Take steps to resolve those issues. Be prepared to choose an alternative TTP if the issues can't be resolved. Ensure that the 'Trust' expertise in the consortium is used to further mitigate against this outcome.
The selected TTP experiences a Data breach.	This is mission critical. Trust is an essential factor in the PPC.	1	5	5	Select a TTP who meets industry standards for data protection and is prepared to be audited (by an appropriate auditing body). If necessary, audit the TTPs data protection policies and ensure that they are actually enacted. Re-audit at appropriate intervals.
Individuals and organisations whose details are stored within the CRM wish to have their information removed.	The people in question have been offered an opt-out before the data is transferred. The channel in question is not a mission critical one and is (deliberately) only used occasionally.	2	1	2	Encourage people not to select to opt-out by highlighting the advantages of remaining involved.

Risk	Analysis of Risk	Likelihood 1 (low) to 5 (high) (L)	Impact 1 (low) to 5 (high) (I)	Risk score (L x I)	Mitigation
We are unable to generate interest in and a community around the PPC and products.	Current interest within the community is high. However as yet, most stakeholders do not have a clear idea of what the PPC will be. In addition, outside of 4C initiated activities and the usual curation community activities, direct inter-stakeholder interaction regarding is not yet apparent.	2	4	8	<p>The 4C engagement programme incorporates PPC evangelism and tools for inter-stakeholder interaction. It makes clear the remit of the PPC and its relationship with other organisations. Post project build upon the current 4C engagement programme to continue keeping the PPC high profile.</p> <p>Tie Roadmap dissemination in with PPC evangelism and vive versa</p> <p>Consider closer links with suitable membership organisations</p>
We are unable to establish the viable on-line community needed to drive the development of the products.	Current interest within the community, some of whom are ready willing and able to get involved in development, is high.	2	4	8	<p>We have provided appropriate platforms to establish a viable on-line development community (git-hub)</p> <p>The 4C engagement programme incorporates on-line developer community building. Post project build upon the current 4C engagement programme to continue keeping the PPC and its services high profile.</p>

Risk	Analysis of Risk	Likelihood 1 (low) to 5 (high) (L)	Impact 1 (low) to 5 (high) (I)	Risk score (L x I)	Mitigation
The PPC Costs too much to run and we are unable to get funding	The initial PPC as envisaged above is low cost (in the early stages)	3	2	6	Review the current and proposed future activities of the PPC on a regular basis. Consider a subscription based offering if it becomes necessary. Seek alternative funding.  Alternatively, re-scope the purpose of the PPC to suit available resources.
Key personnel leave/die.	There is sufficient distributed expertise within the group for this to be more of an inconvenience than a show stopper.	4	1	4	Ensure that the work in progress and delivered is: <ul style="list-style-type: none"> <li>• easily accessible and understandable</li> <li>• developed on open platforms with commonly available or freely available tools.</li> <li>• developed by more than one or two key individuals</li> </ul> Ensure regular information exchange and progress reviews so many people on the project are “up to speed” with developments.
The current Advisory Board are unwilling to continue in that role post project	Given current displayed enthusiasms, at least some of the current board will be willing to continue to be involved. There	2	2	4	Approach the current board to establish their willingness (or otherwise) to remain involved. If

Risk	Analysis of Risk	Likelihood 1 (low) to 5 (high) (L)	Impact 1 (low) to 5 (high) (I)	Risk score (L x I)	Mitigation
	are also a number of other potential members who could also be approached to fill any gaps that might arise.				necessary, approach and gain the acceptance of new potential board members.
The roadmap is rejected by the EC and/or the community	This is also a mission critical risk. Buy in from all stakeholders is an absolute necessity if there is to be any hope of progressing the objectives of the Roadmap.	2	5	10	Consult with as many stake holders as possible as much as possible throughout the drafting process.  The presentation of the Roadmap at the final conference will also provide an opportunity for detailed feedback and rework before the final roadmap is published.
The issues highlighted in the roadmap are overtaken by post project developments in the curation field	Although in this risk analysis as a 'Risk' this could be seen as a positive outcome if the developments lead to a better understanding of curation and widespread excellence. Members of the consortium are deeply engaged in the digital curation field and we believe that we are unlikely to be in the dark about developments.	2	3	6	Regular review/refocusing of the roadmap is built into the PPC timeline.



Risk	Analysis of Risk	Likelihood 1 (low) to 5 (high) (L)	Impact 1 (low) to 5 (high) (I)	Risk score (L x I)	Mitigation
We are ineffectual in our efforts when lobbying the community and funders to act upon the Roadmap recommendations	Partners in the project (and by inference the PPC) and the Advisory Board are already influential in the field of digital curation.	2	3	6	Include as many decision makers and influencers in the drafting of the roadmap as possible. Ensure that their concerns are addressed. Be prepared to enlist the help of additional projects and organisations.
We are unable to follow through on the items from the Roadmap 'To Do' list that have been identified as appropriate for the PPC to undertake.	Given that the finalised Road map is in its very early stages, it is difficult to evaluate this risk at this stage. It will be revisited in later post project versions of the sustainability plan.	2	3	6	Divide up responsibilities at an early stage of the development of the Roadmap amongst multiple members of the 4C project / PPC. Enumerate those responsibilities in any PPC agreements. Regularly review these responsibilities via the governance processes.
Another group takes the open sourced assets of the PPC and assumes the role the PPC was trying to establish itself in.	Although in this risk analysis as a 'Risk' this could be seen as a positive outcome. As stated above the PPC's raison d'être isn't to perpetuate its own existence, but rather to ensure widespread adoption of its products, tools, models, etc.	1	5	5	Maintain a watching brief of other initiatives in the curation arena. Establish links with other organisations and, if appropriate, join forces.
Failure of governance	The question of governance has been discussed earlier in this document	1	5	5	Establish robust governance procedures and review them regularly.

Table 5—Risk analysis

## 7 Conclusion

The preparation of this sustainability plan has highlighted a number of potential problems going forward as well as areas for further research<sup>17</sup>. The risk analysis above lays out various detailed issues that might be challenging to deal with. But the headline challenge for sustaining momentum for the work started by the 4C Project is how to establish an effective and incentivised post-project coalition and a related stakeholder network that is willing and able to address the work set out in the 4C Roadmap. At a more granular level, the two most significant outputs of the project phase, the Curation Costs Exchange and the 4C Roadmap will require close attention in different ways.

Designing the mechanisms and the conceptual basis of the CCEX has already proved to be complex and it is clear that it will need to be carefully maintained and further developed in order to deliver the kind of ongoing benefits to the wider community that are anticipated and expected.

The Roadmap is a different proposition but also represents a significant challenge. We need to ensure that it genuinely sets out a political and strategic reality for a wide swathe of organisations across Europe (and beyond) and outlines the types of activity that will create the right conditions for digital curation to mature and for cost-effective curation solutions and services to flourish. The direction of travel in terms of funding agency policy is to increasingly demand data management plans from those who are seeking grants for specific pieces of research work<sup>18</sup>. It is logical that such planning should include the likely costs of maintaining that data over time, which should—in turn—create ongoing conditions of demand for the 4C Project outcomes.

As with all of the 4C work, we must be careful to identify and factor in the work that is being done across the community and retain a determination to build on rather than duplicate the work of others. This becomes even more important after the funded project phase finishes when resources are scarce and the only activities that give the highest return on investment (and where the effort is universally agreed to be commensurate with the likely impact) will be prioritised.

In this respect, lessons will need to be taken on board and understood from other initiatives or organisations that are operating sustainably and addressing the needs of the digital curation community. Initiatives like the DANS Data Seal of Approval have been mentioned by consortium partners as an example of a resource that has gained useful traction across the community. Membership organisations such as the Open Preservation Foundation, Network of Expertise in Long-term Storage of Digital Resources and the Digital Preservation Coalition can all feed useful wisdom into the formulation of the post project coalition. Fortunately, the links with all of the abovementioned initiatives are strong within the existing consortium (and we have other examples in our extended stakeholder network that can serve as sustainability exemplars).

We are keeping an open mind about sustainability pathways and whilst there would seem to be an implicit assumption within this plan that the outcomes of the 4C project will be community-sustained and non-commercial in nature, there is no concrete presumption that this will be the case long term. Depending on various factors (for example community validation, impact, maintainability) it is not out of the question that a component such as the CCEX might benefit from adoption and maintenance by a

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<sup>17</sup> In particular, we have yet to address the details—the who and the how—of the digital curation of our own project outputs (web archiving, permanent identifiers, the internal documentation archive and how we handle the domain name and continued email responsiveness).

<sup>18</sup> For example: The EPSRC (Engineering and Physical Sciences Research Council) Policy Framework on Research Data - <http://www.epsrc.ac.uk/about/standards/researchdata/Pages/policyframework.aspx>

commercial partner with appropriate licenses and conditions of use being negotiated to complement its origins as European Commission-funded work.

From the outset we have maintained that sustainability is an integral part of 4C Project planning and activity. The work and the outcomes of the project are ambitious, but, based upon the reception the project has had to date and the capabilities of the current partners, we believe that they are achievable.

# Appendices

## A.1 Customer Relationship Management (CRM) Handover permission email

Dear colleague,

As you know the funded phase of the 4C project has come to an end. We are proud of the community we have built up around the project and we would like to see it continue in some form.

One issue that we need to address in moving forward is that posed by the information that has been entrusted to the project partners. To date we have been provided with a wide range of information that falls into the realms of commercially sensitive and/or personal—“personal” in the sense that it could be covered by various European data protection legislations. We have a duty of care to ensure that such data is handled sensitively at the end of the project. We could of course simply destroy it, but in light of the efforts needed to gather it in the first place this would be the least favourable scenario.

So the point of this email is to obtain your permission to pass over custody of your contact information—you are receiving this email because we hold your contact information on our database—to the Digital Preservation Coalition (DPC—<http://www.dpconline.org/>) one of the 4C project partners. The DPC’s status as a membership organisation means that they have suitable data protection protocols in place and we feel that they are best suited of the project partners to be the stewards of the data.

To quote from their website:

*“The Digital Preservation Coalition (DPC) is an advocate and catalyst for digital preservation, enabling our members to deliver resilient long-term access to content and services, and helping them derive enduring value from digital collections. We raise awareness of the importance of the preservation of digital material and the attendant strategic, cultural and technological issues. We are a not-for-profit membership organisation and we support our members through knowledge exchange, capacity building, assurance, advocacy and partnership. Our vision is to make our digital memory accessible tomorrow.”*

So please can we pass over your information into the care of the DPC?

If you want your information to be removed please reply to this email with a one line message saying

**No, please do not include my data in the CRM passed over to the DPC**

Thank you for your participation in the project.

Paul Stokes (Jisc)

4C Project coordinator

Senior co-design manager—Research data

## A.2 Curation Costs Exchange Post-Project Consortium

### Summary agreement of management and maintenance for the period 2015 - 2016

#### 1. Introduction

This agreement pertains to the ongoing maintenance of The Curation Costs Exchange (CCEx) [www.curationexchange.org](http://www.curationexchange.org), a deliverable of the 4C Project (Collaboration to Clarify the Costs of Curation project). The CCEx has been designed to outlast the life of the 4C project and go on to be owned, cultivated and driven by the very user community who employ it.

The CCEx will also rely on a number of representatives from within the project and the project's community to form a 'Post-project consortium' which will review and manage the administration, content and relevance of the CCEx.

#### 2. The Curation Costs Exchange

The Curation Costs Exchange: Delivery of a functional framework and platform for the exchange of curation costs-related information. The CCEx platform, including the Cost Comparison Tool (CCT) and all related tools and resources, is an online framework for exchange of curation cost knowledge and data.

The CCEx is designed to be a living platform, which will evolve and be added to by the community which will own and adopt it. The deliverable 'Curation Costs Exchange' represents the whole CCEx platform and all related tools and resources, including the Cost Comparison Tool.

#### 3. Parties to the agreement

This agreement is shared with the following organisations

- Digital Preservation Coalition (DPC) with its registered office at the Innovation Centre, Science Park, Heslington, York YO10 5DG, England, UK
- nestor, the German network of expertise in digital preservation (nestor), with its office at the German National Library, Adickesallee 1, 60322 Frankfurt, Germany
- NCDD, the Netherlands Coalition for Digital Preservation, with its office at the National Library of The Netherlands, Prins Willem-Alexanderhof 5, 2509 LK Den Haag, The Netherlands
- KEEP Solutions (KEEPS), with their office in Rua Rosalvo de Almeida, no. 5, 4710 - 429, Braga, Portugal
- UK Data Service (UKDS), with their offices at University of Essex, Wivenhoe Park, Colchester CO4 3SQ, England, UK

#### 4. Roles and responsibilities

Content Management and administration

- DPC to manage the 'day to day' running of the content management system [estimated contribution - 2.5 days per month]

##### Content Refreshing/ Updating:

- Estimated contribution - nestor to provide 2 hours every month to check links and currency of content. [Or alternative: 4 hours every 2 months]

- nestor and NCDD<sup>19</sup> to provide an annual review of currency and relevancy of CCEX content (estimated contribution - 1 person day per partner = 16 hours)

**Technical Support:**

- DPC's web host and technical service provider Cyber Media will support the standard Joomla! applications within the CCEX. They have observed the other, custom developments which sit in an MVC/Joomla compatible framework, so are capable of supporting these elements once they are handed over.
- Ongoing support from Cyber Media sits easily alongside the arrangements already in place for DPC's own web support and will include bug fixing and standard enhancements.
- If for any reason Cyber Media are unable to support the custom developments, KEEP Solutions will contribute to a shared support function whereby Cyber Media will maintain the standard applications and KEEPS will manage the custom developments.

**Data:**

- Partners note a dearth of suitable costs data available to service providers and cost model developers for testing and refining cost and business models.
- The UK Data Service will extract anonymised data, fully describe the data, assign an identifier and deposit with the UK Data Service for future use as sample data for curation costs related research and innovation. This is in line with the CCEX terms and conditions which clearly states that users agree to allow 'snapshots of anonymised cost data to be collected periodically.'
- The UK Data Service will harvest and clean any additional data collected by the CCT every month for a period of 12 months following the end of the project and link to the initial CCT data set.
- A longer term decision on collecting data submitted via the CCT will be made by the partners at the first review after 12 months.
- All data will be processed and held in line with the terms and conditions of the CCEX.

**5. Review and future plans**

The first review of the CCEX, in January 2016, will assess the currency and relevance, not just of the platform's content, but of the platform as a whole. This will determine actions for the following year(s).

This agreement will remain in force until such times as partners choose to revise it.

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<sup>19</sup> NCDD may be able to commit more time and resources through their Cost Management project due to start in April 2015.

## A.3 Draft Memorandum of Understanding

### Memorandum of Understanding (MoU)

Between

[Organisation name] and the 4C Project Post Project Consortium (PPC)

#### 1. Preamble

This document outlines the areas where [Organisation name] and other members the PPC wish to co-operate in order to continue the tasks initiated by the 4C project (<http://4cproject.eu>) and maintain the assets of the 4C project. These include (but are not limited to):

- A Sustainability and Benefits Realisation Plan
- Register of Stakeholders and Stakeholder Initiatives
- Final Stakeholder report
- Project Communication Plan
- Project Website
- Curation Costs Exchange
- Evaluation of Costs Models and Needs & Gap Analysis
- Cost Concept Model and Gateway Requirement Specification
- Assessment of Indirect Economic Determinants
- An Economic Sustainability Reference Model
- A Digital Curation Sustainability Model
- Report on Trustworthiness and Quality
- Report on Risk and Benefit
- Report on Business Models
- Roadmap (and related materials)
- The 4C Glossary

#### 2. Commitments and liabilities

This document is deliberately light touch when it comes to commitments and liabilities. Members of the PPC are asked to commit to a minimum of 1 hour a month of post 4C project related activities and an input into the annual review. There is no financial commitment beyond this support in kind.

Members of the PPC cannot be held liable by any other members for their actions/inactions related to their activities in the PPC.

#### 3. Confidentiality

Whilst it is not anticipated that the PPC will deal with any confidential materials (the default position for the 4C project has always been open), should the confidentiality of any materials be made clear when they are supplied the members of the consortium agree to respect that confidentiality.

#### 4. Time scale



This agreement will remain in force until such time as the PPC members agree to end it. It will be reviewed annually (in February/March)