DigitalPreservationCoalition

DPC Digital Preservation Competency Framework

Version 1.1

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Contents

1. Document History

Version	Date	Revision Notes
1.0	June 2022	Member preview release
1.1	August 2022	Full public release – incorporating pilot feedback

2. Acknowledgements

This framework builds on previous efforts to identify competencies and curricula for digital preservation, including the DigCurV lenses[1] and the DigCCur Curriculum Matrix[2], as well as a number of good practice models for digital preservation, including the DPC Rapid Assessment Model[3], the NDSA Levels of Preservation[4], the DLF Levels of Born-Digital Access[5], and the Core Trust Seal[6]. This framework would not exist without the hard work and wisdom of those who have produced the above-mentioned resources.

Thanks also go to colleagues within the DPC team and members of the DPC's Workforce Development Sub-Committee for their support, feedback, insights, and encouragement during the development of the framework and related resources.

3. Copyright and Reuse

[1] https://digcurv.gla.ac.uk/
[2] http://web.archive.org/web/20100616210630/http://ils.unc.edu/digccurr/digccurr-matrix.html
[3] http://doi.org/10.7207/dpcram21-02
[4] https://osf.io/qgz98/
[5] https://osf.io/r5f78/
[6] https://www.coretrustseal.org/

4. Introduction

The DPC Digital Preservation Competency Framework identifies and describes information on the skills, knowledge, and competencies required for successful digital preservation. Digital preservation is defined as the series of managed activities necessary to ensure continued access to digital materials for as long as necessary. It refers to all of the actions required to maintain access to digital materials beyond the limits of media failure or technological and organizational change.[7]

The Competency Framework presents information on the skills, knowledge, and competencies required to undertake or support digital preservation activities. It can be used for a number of purposes, including:

- facilitating recruitment
- structuring professional development
- auditing skills
- reviewing curricula

The framework builds on previous work on identifying competencies for digital preservation as well as good practice models. This approach aims to reflect current good practice and a framework designed with flexibility in mind—to offer a balance of detail so that it can be widely applicable but still offer enough information to be useable by digital preservation practitioners across different organizational contexts.

This framework aims to be:

- Applicable for organizations of any size and in any sector.
- Able to support a range of workforce development activities.
- Preservation strategy and solution agnostic.
- Based on existing good practice.
- Simple to understand and quick to apply.

5. How to Use the Competency Framework

This section provides a high-level guide to the framework and how it can be used. Additional guidance and use cases for the framework will be developed by the DPC. This includes the framework's companion resource, the DPC Competency Audit Toolkit (DPC CAT), which provides a structured process for individuals and organizations to audit their skill levels and assess current role descriptions. A set of Exemplar Role Descriptions have also been developed to help identify the skills required for different

[7] From the Digital Preservation Handbook: https://www.dpconline.org/handbook/glossary#D

role types and different levels of seniority. Both resources can be found on the DPC website.

5.1 Explanation of Terms

The terms "competency" and "skill" are used throughout the framework and its accompanying guidance, but it is important to recognize that these terms are not interchangeable. They reflect different levels of information conveyed within the framework. A competency relates to a combination of skills, knowledge, and behaviors that, when combined, allow an individual to perform the duties of their role. A skill is used here to refer to a more specific ability that can be applied to complete a particular task or reach a certain outcome. As is described in more detail in the following section, competency in a particular area is therefore achieved through gaining and being able to apply related skills.

Some of the terms used within the Framework may have different definitions or meanings depending on the individual and organizational context. Unless otherwise specified, they are intended to be open to interpretation by users to offer as much flexibility in application as possible.

5.2 Overview of the Competency Framework

The framework presents information on the skills, knowledge, and competencies required for digital preservation in a hierarchical structure—from generic to granular—to offer as much flexibility as possible for users.

Its main structure, presented in Section 6.1 below, includes:

- Five high-level competency areas that offer an overview of and quick reference to the broad range of competencies required to undertake or support digital preservation work.
- Twenty-eight skill elements, organized in groups under the competency areas, which break down the competencies into more clearly defined units.

The high-level competency areas represent a broad range of interdisciplinary skills and knowledge, with only one of the five areas specifically referencing digital preservation. The other four areas cover issues relating to sustainable organizational infrastructures, communications, technological skills, and proactive management of legal and social considerations. While these four areas are not specifically related to digital preservation activities and are more general in scope, they are important for ensuring successful digital preservation at an organization. When assessing an individual's competency and skills in these areas it is, however, recommended to focus on the generic skill and not its specific application to digital preservation. For example, an individual who has extensive

experience of developing and maintaining policy would score highly for this skill element, even if none of the policy work they had undertaken related to digital preservation.

The framework also defines five skill levels, representing a linear progression from an awareness of a skill element through to an in-depth knowledge and practice that would make an individual a leader in the field. These levels are defined in Section 6.2 and are as follows:

0. Novice
1. Beginner
2. Intermediate
3. Advanced
4. Expert

For each of these levels, the framework includes examples of "activity descriptor" words that might be used in a statement describing a skill element in a role description at that level. For example, a novice in relation to Policy Development might be "aware of" policies at an organization, whereas someone at an advanced level would be expected to "develop" policy.

Section 6.3 provides supporting examples that further clarify the skills elements for each competency area. This section aims to provide information to support a range of uses of the framework, in particular in developing or evaluating role descriptions. The examples included are:

- Statements demonstrating how a skill element could be described in a role description
- Specific activities or tasks where the corresponding skill element might be deployed in practice

5.3 Relationship to the DPC Rapid Assessment Model

The Competency Framework has been developed to complement the DPC Rapid Assessment Model (DPC RAM)[8] and also reflects a range of digital preservation good practice models. For example, the five skill levels mentioned above have been aligned with the five levels of maturity defined in DPC RAM (Minimal Awareness, Awareness, Basic, Managed, and Optimized). This helps facilitate crosswalks between RAM and the Competency Framework.

[8] http://doi.org/10.7207/dpcram21-02

DPC RAM and the Competency Framework most closely align through the DPC Competency Audit Toolkit (DPC CAT)[9]. DPC CAT has been designed explicitly for use with DPC RAM, requiring scores from a DPC RAM assessment to be able to complete an audit at an organizational level. As part of the toolkit, the key skill elements for each of the eleven sections of RAM have been identified as well as the skills levels required to support maturity levels for each section. DPC CAT, therefore, allows organizations to carry out a skills audit where they can input their current RAM maturity levels, and the target levels they aspire to in their next phase of development, and measure these against current skill levels across their staffing complement. For more information, please see the DPC CAT user guidance.

5.4 Potential Uses and Their Benefits

The Competency Framework was designed with flexibility in mind so that it can be used for a broad range of purposes relating to workforce development. Some of those potential uses are detailed in this section, alongside the related benefits of using the Competency Framework. While individuals and organizations may already undertake some or all of the activities listed below, using the Competency Framework will help produce more robust and reliable results.

Potential uses of the Competency Framework, and their associated benefits, include:

- An individual wishing to benchmark their own skills as part of planning their professional development or against a post they would like to apply for.
    - Benefit: The Competency Framework will allow the individual to identify which skill elements are relevant to their current or desired role and if their skill levels match or if gaps exist that might be addressed by particular training or development opportunities. Thus, providing a clear and structured process for development planning.
- An educator looking to evaluate the curriculum of a digital preservation course they teach.
    - Benefit: The Competency Framework can be used in conjunction with the Exemplar Role Description for a graduate of an information studies program to complete a gap analysis of an existing curriculum or to help plan a new program. The Competency Framework ensures this process is well-structured and will help produce graduates who have the skills required to succeed in the workplace.
- An organization revising role descriptions for staff, auditing current skills across a team or department, and/or recruiting new employees.
    - Benefit: The Competency Framework can be used in conjunction with the Exemplar Role Descriptions and Competency Audit Toolkit (DPC CAT) to

[9] https://www.dpconline.org/digipres/train-your-staff/dpc-cat

provide organizations with a clear and easy to understand methodology for auditing skills. The results generated offer a structured gap analysis that can then be used to plan professional development across a team, and/or the data required to build a business case for new members of staff. Working with DPC CAT results, along with the Competency Framework itself and the Exemplar Role Descriptions, can ensure the organization takes a structured approach to auditing skills that can be revisited and repeated as well as guaranteeing skills development is robustly managed and that there is consistency across role descriptions.

6. Comments, Feedback and Revisions

While digital preservation as a discipline has been developing over the past two decades, it continues to evolve in response to external drivers and fresh challenges. New solutions, ways of working, and examples of good practice will continue to emerge. While we anticipate that the basic competency areas will remain relatively stable, it is likely that the skill elements and related examples will change over time. Therefore, we plan to submit the framework to a biannual cycle of review to incorporate developments in the field and in response to feedback from DPC Members and the wider digital preservation community. If you have any suggestions for updates or additions or would like to share your experiences of using the Competency Framework and accompanying resources, please email info@dpconline.org.

7. The Competency Framework

7.1 Competency Areas and Skills Elements

Competency Area	Skill Element No.	Skill Element
Governance, Resourcing, and Management	1	Policy Development
	2	Risk Management
	3	Resource Management
	4	Staff Management
	5	Strategy and Planning
	6	Analysis and Decision-Making
Communications and Advocacy	7	Effective Communication
	8	Collaboration and Teamwork
	9	Stakeholder Analysis and Engagement
	10	User Analysis and Engagement
	11	Advocacy
	12	Training
	13	Producing Documentation
Information Technology	14	General IT Literacy
	15	Computer Programming
	16	System Procurement
	17	Storage Infrastructures
	18	Information Security
	19	Workflow Development and Implementation
Legal and Social Responsibilities	20	Legal and Regulatory Compliance
	21	Environmental Impact
	22	Inclusion and Diversity
	23	Ethics
Digital Preservation Domain Specific	24	Metadata Standards and Implementation
	25	Information Management Principles
	26	Approaches to Preservation
	27	DP Standards and Models
	28	Managing Access

7.2 Skill Levels

Level No.	Skill Level	Description	Example Activity Descriptor Words
0	**Novice**	Limited awareness of the skill element.	Has heard of, recognizes, is aware of
1	**Beginner**	A basic understanding of the skill element. May have received some training, but little or no practical experience.	Understands, has studied, familiar with, uses, collaborates, communicates, supports
2	**Intermediate**	A sound understanding of the skill element and some experience of its practical application.	Has delivered, has used, applies, implements, inputs to, plans, selects, documents
3	**Advanced**	A thorough understanding of the skill element and significant experience of its practical application.	Develops, leads on, manages, analyzes, monitors
4	**Expert**	An in-depth understanding of the skill element and a leader in the development of approaches to its practical application.	Innovates, authors, designs, researches

7.3 Skill Element Examples

A. Governance, Resourcing, and Management			
No.	**Skill Element**	**Example Statement**	**Example Activities**
1	**Policy Development**	Can develop robust policy with reference to organizational goals, values, and existing policy	Contextualizing digital preservation in relation to organizational goals, values, and existing policy frameworks
			Drafting policy statements, either to form a standalone document or as additions to existing policies
			Progressing a new or updated policy through internal approval
			Managing regular reviews and updates of policy
2	**Risk Management**	Can apply risk management techniques for decision making, planning, and management	Developing a risk management plan using with reference to standards, and using common methods and approaches
			Planning to ensure preparedness for natural and man-made disaster
			Developing continuity and succession plans
3	**Resource Management**	Can effectively manage available resources	Financial planning, budgeting, and cost analysis
			Negotiating and managing contracts
			Developing business cases
			Evaluating business cases
4	**Staff Management**	Can recruit, manage, motivate, and support competent staff	Drafting role descriptions and staff recruitment
			Line management, team building, and supporting staff
			Professional development planning
5	**Strategy and Planning**	Can develop and implement strategy using suitable project planning and management techniques	Developing strategy to implement organizational policy, including roadmaps
			Project planning and management
			Management or participation in steering or working groups
6	**Analysis and Decision-Making**	Can think critically, analyze data, make difficult decisions, and solve complex problems	Comparing solutions based on identified requirements and selecting an option
			Analyzing user data to develop plans
			Making decisions that take into consideration relevant factors such as organizational policy, available resources, risks faced, and legal and social responsibilities

B. Communications and Advocacy			
No.	**Skill Element**	**Example Statement**	**Example Activities**
7	**Effective Communication**	Can communicate effectively, both verbally and in written formats	Giving presentations
			Authoring reports, conference papers, or publications
			Negotiating with depositors
			Authoring blog or social media posts
			Participating in networking opportunities and making connections
8	**Collaboration and Teamwork**	Can collaborate with internal and external colleagues, including working well as part of a team	Participating in working groups
			Working as part of a project team to achieve goals
			Cooperating with other departments to identify issues and implement solutions
9	**Stakeholder Analysis and Engagement**	Can manage stakeholder engagement, incl. identification, mapping, and planning	Identifying stakeholders
			Stakeholder mapping and analysis
			Developing/implementing a stakeholder engagement plan
10	**User Analysis and Engagement**	Can undertake an analysis of users and their needs through a variety of techniques	Identification of users/groups
			User needs analysis
			User experience/usability testing
			Holding user group meetings/workshops
11	**Advocacy**	Can employ a range of advocacy techniques to raise awareness of digital preservation	Raising awareness of digital preservation issues, solutions, and activities.
			Presenting the need for additional resources
			Creating tailored messages for different stakeholders
			Analyzing and presenting the benefits of digital preservation
12	**Training**	Can develop and present training and development opportunities using appropriate delivery methodologies	Developing training courses
			Delivering training courses
			Facilitating peer to peer learning and information sharing
			Facilitating or undertaking mentorship
13	**Producing Documentation**	Can produce documentation required to manage effective digital preservation	Documenting procedures and workflows
			Producing technical documentation
			Creating and maintaining digital asset registers
			Documenting actions carried out on digital content

C. Information Technology			
No.	**Skill Element**	**Example Statement**	**Example Activities**
14	**General IT Literacy**	Can understand and work with a range of key information formats and systems	Using common software packages
			Installing and setting up new software tools
			Understanding basic IT concepts, e.g. software, systems, file formats
			Liaising with IT colleagues
15	**Computer Programming**	Can develop algorithms and generate related programs and/or scripts	Customize a software tool
			Create scripts to automate processes
			Provide programming support for system implementations
16	**System Procurement**	Can identify the requirements for a new system or service and utilize these to select and procure a solution	Requirements analysis
			Developing use cases
			Drafting an Invitation to Tender or a Request for Proposals
			Piloting systems and/or services
17	**Storage Infrastructures**	Can understand the elements required for robust storage infrastructures and processes required to manage them	Selecting a mix of storage media types
			Planning and managing back-ups
			Undertaking integrity checking
			Implementing processes for media refreshment
18	**Information Security**	Can understand and input to the implementation of information security protocols and processes	Managing permissions to control access
			Undertaking virus checks
			Capturing and analyzing access logs
			Using encryption to secure sensitive data
19	**Workflow Development and Implementation**	Can design, document, and use workflows to manage the preservation of digital information	Designing new workflows
			Testing proposed workflows
			Writing procedures for using workflows
			Carrying-out quality assurance
			Reviewing and enhancing existing workflows

D. Legal and Social Responsibilities			
No.	**Skill Element**	**Example Statement**	**Example Activities**
20	**Legal and Regulatory Compliance**	Can manage the organization's legal and regulatory compliance in relation to digital preservation	Identification of relevant regulatory requirements and legal frameworks
			Managing Intellectual Property Rights
			Managing legal agreements
			Managing sensitive data
			Assessing legal risks
21	**Environmental Impact**	Can understand the environmental impact of digital preservation and incorporate this into decision-making, planning, and practice	Gathering information on energy consumption
			Assessing the organization's carbon footprint in relation to digital preservation
			Making and implementing recommendations for environmental sustainability
22	**Inclusion and Diversity**	Can ensure inclusion and diversity good practice is embedded in all digital preservation activities	Supporting, overseeing, and evaluating staff in a responsible, inclusive, and fair manner
			Assessing activities for unconscious bias
			Ensuring the use of inclusive language in communications, documentation, catalogs etc.
			Ensuring that community outreach programs are inclusive, including encouraging dialogue with minority groups on the selection, preservation, and access to a diverse record.
			Making systems and resources accessible where possible
23	**Ethics**	Can understand and apply ethical approaches to digital preservation	Ensuring accountability
			Applying ethical collecting policies and practices
			Maintaining an ethical approach to professional conduct
			Considering the ethics of providing access to sensitive collections

E. Digital Preservation Domain Specific			
No.	**Skill Element**	**Example Statement**	**Example Activities**
24	**Metadata Standards and Implementation**	Can identify and implement relevant metadata standards for managing and providing access to digital content	Developing and implementing a preservation metadata schema
			Implementing controlled vocabularies
			Developing and implementing a schema for structural metadata based on information package designs
			Implementing persistent identifiers
			Capturing descriptive metadata to facilitate discovery and access
25	**Information Management Principles**	Can understand and apply core information management principles	Ensuring the management of key characteristics of records: integrity, reliability, authenticity, and usability
			Documenting provenance
			Maintaining chain of custody
			Setting collecting policies to facilitate selection
			Carrying out appraisal
			Auditing collections
			Setting retention periods and facilitating managed disposal
26	**Approaches to Preservation**	Can understand, select, and implement suitable preservation approaches	Developing and implementing information package designs
			Monitoring changes that will trigger preservation actions through technology watch
			Developing preservation plans
			Implementing preservation actions
27	**DP Standards and Models**	Can understand, select, and implement relevant digital preservation standards and models	Selecting standards and/or models to guide the development of the organization's approach to digital preservation
			Managing the continuous improvement of the organization's digital preservation capabilities using maturity modelling
			Auditing the organization's digital preservation capabilities
28	**Managing Access**	Can plan and input to the implementation of discovery and access services	Incorporating accessibility into discovery and access plans
			Developing systems for resource discovery and access
			Developing functionality to facilitate the use and reuse of digital content
			Implementing services for user support

8. Appendix One - Key Bibliography

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