DEF National Digitisation Programme and Policy

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1.0 Introduction

The objective of this work is to support Denmark’s Electronic Research Library (DEF) with information and recommendations that will enable it to contribute to a management framework within which Danish national policy on digitisation can be effected.

After 2002 DEF will be involved in a broader national context that goes well beyond its current focus on the research community; DEF will assume a key role by virtue of its growth and experience over the preceding years. This material is specifically concerned with how DEF can best support national policy on digitisation in that broader context.

HEDS has carried out desk research on the national policies and programmes of other countries and the main findings of that investigation are summarised in section 2.

A model for managing digitisation policies is offered in section 3. This section also discusses how DEF might organise a similar management framework.

Section 4 will highlight the specific digitisation programme elements and potential project working arrangements that DEF can consider in support of the policy making function.

Section 5 makes recommendations for DEF action.

2.0 Summary of National Policy Research

2.1 Our findings are derived from information sources in Europe, North America and Australia. Within the timescale of this task we were not able to pursue our investigations in other domains.

2.2 Statements offered as national policy are often re-statements of specific preservation/access policies from particular memory institutions (libraries, museums, archives etc.) or individual government departments.

2.3 Content for digitisation programmes can be divided into four broad categories:

♦ Culture/Heritage
♦ Research
♦ Learning/Teaching
♦ Government information

Most significant digitisation activities are in the Culture/Heritage category.

We have discovered no digitisation policy that comprehensively addresses all four content categories.

2.4 Policies are created and implemented mainly by:

♦ Government departments
♦ Memory institutions
♦ Consortia (memory institutions, educators, publishers, broadcasters etc.)

2.5 Digitisation policies are driven from two directions:

♦ Political agendas (top down)
♦ Information user/owner wants and needs (bottom up)

2.6 There is significant activity in Europe and the UK on the development of digitisation policy management frameworks. This work is still in the research/debating phase and has yet to produce anything concrete.

EU member nations have been asked to mount web sites containing statements of their digitisation policies and the frameworks for managing them. At the time of writing we discovered that the UK is the only member state to mount a site.
It seems likely that the EU will create a European secretariat or agency to co-ordinate the
digitisation policies and programmes of the individual member states.

2.7 There exist some highly developed digitisation policies at the institutional level. These
policies can and do inform the policies of higher level bodies.

2.8 There exist some management frameworks in specific categories of digitisation that, with
some modification, could be applied to a national policy.

2.9 Digitisation policies can be volatile; they may have a lifetime of two or three years or even
less.

3.0 A Management Framework for Digitisation Policies

Our main conclusions from the results given in section 2 are:
♦ There is no country with a comprehensive national digitisation policy.
♦ This is because no country has yet created a management framework within which such a
policy can be defined and implemented.

In this section a model for digitisation management frameworks is discussed. The model
borrows from several frameworks discovered during the research and new elements have been
added in an attempt to create a structure that is responsive to the changing needs of
stakeholders. The basic model was derived from a Canadian management framework1.

Further discussion is offered on applying the model to the current DEF remit of digitisation in
support of research activities.

3.1 The Model

3.1.1 The model makes a clear distinction between policy formation and policy execution.

Policy formation is the responsibility of the Digitisation Board. The primary function of the
Board is to resolve the drivers for digitisation (see 2.5) into a single coherent force and
produce clear statements of policy.

To be effective, the Board must be inclusive. That is, it must offer a decision making process
in which all stakeholders participate.

With respect to any specific policy, each stakeholder may act in one or more roles. Possible
roles include: Funder, Information User, Information Owner. It is important that each
stakeholder is not perceived as being cast permanently into one particular role or set of roles.
However, each role must be represented by at least one Board member with the authority to
represent a stakeholder and commit that stakeholder to specific policies.

Policy statements from the Board make clear why digitisation should take place and what
will be digitised. The output of each Board meeting is a set of digitisation policy statements. Each
digitisation policy is captured in a short (one or two page) document with four sections as
follows:

(i) Aim.
A statement of why digitisation will be performed under this policy.

(ii) Scope.
A statement of what classes of content are appropriate for digitisation under this
policy.

(iii) Duration.
A start date and an end date for the policy.

(iv) Budget.

1 http://www.pch.gc.ca/cdde-iccan/eng/secretariat.htm/
A statement of the total sum of money to be spent on executing the policy and its sources together with references to supporting agreements.

It is important to observe the distinction between policies and content selection criteria (see section 4.2). For example, a particular policy Aim might be: To improve access to government information on the population in the interests of business and the general public. The Scope of this policy could include demographic data. When this policy is executed, it would be appropriate to select content from records of births, marriages and deaths as well as information from the register of electors and statistical analyses of these and similar resources.

3.1.2 Policy execution is the responsibility of the Digitisation Secretariat. The principle functions of the Secretariat are to determine how digitisation and product delivery will be performed and to determine who will perform the digitisation and product delivery. There is no responsibility upon the Secretariat beyond securing effective delivery of the product to its intended users; specifically, it is not required to address issues relating to sustainability of the end product. The Director of the Secretariat is a member of the Digitisation Board.

The Secretariat receives digitisation policies from the Digitisation Board after each Board meeting. For each policy, the Secretariat assigns a Programme Manager who devises an appropriate strategy and implementation plan for executing the policy.

The principle tasks of the Programme Manager are:

♦ Factor the programme into projects
♦ Specify the workflow and other inter-dependencies among the projects
♦ Define the management and financial controls under which the programme will be run
♦ Commission suppliers to execute the projects
♦ Monitor and maintain the quality of output from the projects
♦ Evaluate and report on the progress of the programme to the Director.

The skills and techniques necessary for carrying out this work are not discussed further here except to note that, in addition to the usual project management competence, specific knowledge and experience in the field of document conversion and document delivery is required.

3.2 Managing Digitisation Policy in DEF
At this time there is no body in DEF that equates directly to the Digitisation Board of the model. But such a body could be created from the existing Liaison Committee and a subset of the Steering Committee together with some representation from the academic publishers. The position of the DEF Secretariat already matches well with that of the Digitisation Secretariat in the model.

4.0 DEF Programme Activities and Projects
This section highlights the specific digitisation programme elements and potential project working arrangements that DEF can consider in support of policy execution.

4.1 Relationships and Responsibilities
The DEF will be responsible for the management and execution of digitisation programmes to meet the objectives of digitisation policy. DEF currently has an estimated 8 million DKr per year to deploy on digitisation activity. DEF will be responsible for the programme of work, which will create digital content in subject areas that meet the policy and selection criteria.

DEF will procure services and content creation activity to meet the policy and selection criteria. DEF will not be responsible for maintaining or developing any supplier of digital content or digitisation services. DEF will engage with the various institutions that hold unique physical materials and negotiate for the realisation of digital products from these materials. Content creation will most likely be a hybrid of host institutions digitising content, either themselves or via partner institutions, and also via commercial suppliers.
The content created in the DEF digitisation programme will be made accessible via the def.dk domain – responsibility for maintaining this service will reside within the wider DEF structure. The content providers will be responsible for ensuring that any product created for a DEF digitisation programme is interoperable with other NLA/DEF digital products (see technical parameters). The DEF digitisation programme will also not be responsible for clearing rights or for the preservation or sustainability of the digital content created. These responsibilities will rest with the institutions supplying digital content as part of a project. Suppliers will not be prevented from factoring rights clearance costs or preservation/sustainability issues into their project plans.

The model for the DEF digitisation programme is one of client (DEF) and supplier (e.g. libraries, archives, universities, businesses etc.). DEF will provide support and guidance to the supplier throughout a project but will expect the supplier to deliver the required digital products on time, to budget and within the parameters set by the programme.

A DEF digitisation programme is likely to have the following elements:

- **Selection criteria** – the subject criteria upon which projects will be defined.
- **Programme administration** – the design, development and management of the digitisation programme.
- **Dissemination** – to raise awareness about the programme objectives.
- **Evaluation** – to measure and report the success of the programme in meeting objectives.
- **Training** – organising training activities to share experience and raise competencies in project participants.
- **Technical parameters** – to define and set the technical boundaries and requirements for the projects. To provide practical guidance to projects and some policing of whether best practice is followed.
- **Competence** – to provide a focal point of guidance and experience.

### 4.2 Selection Criteria for DEF Programmes

DEF will need to design various selection criteria to enable it to decide which digital content and products should be given priority and be funded from within the programme. This can be divided into:

- Subject content criteria
- Project management criteria
- Technical criteria

Project management and technical criteria will be dealt with in Sections 4.3 and 4.4. This Section focuses upon the subject content criteria for selection.

All digitisation selection criteria are a function of applying policy decided at a higher level. The key issue will be to achieve a digitisation programme that delivers a co-ordinated and cohesive set of products which complement and reinforce each other.

The prioritisation of digitisation projects has already been discussed within DEF and these are suitable as a starting point for project selection in the absence of a formal policy framework.

- The national *provenance* of the information content or original materials.
- The level of *usage* of the information content or original materials.
- The significance to *research and learning* of the information content or original materials.
- The significance in terms of *cultural heritage* of the information content or original materials.

Any project within likely future DEF digitisation programmes should be selected on the basis that it fulfils at least 3 of these criteria. National provenance is likely to be a requirement for all projects.

It is an important principle that selection for projects should deliver cohesive and joined up collections of digital information resources. As such the DEF programme focus must remain upon the information content and purpose of the desired end resources rather than the physical collections or the collection owners from which they might be derived. It is not the purpose or
remit of this report to suggest exact selection and content criteria as these wholly dependent upon the overarching digitisation policy.

The research has revealed some examples of structured content selection strategies at university libraries in the USA. The most rigorous strategy HEDS discovered was found in: Chapter IV; Selection of Materials for Scanning (D Vogt-O’Connor), Handbook for Digital Projects, ed. MK Sitts, Northeast Document Conservation Center, Andover Massachusetts, 2000. Another well-used resource in this area is: Selecting Research Collections for Digitization, Hazen and Horrell and Merrill-Oldham, Council on Library and Information Resources, Commission on Preservation and Access, 1998.

4.3 Technical Guidelines for Programmes and Projects

The DEF digitisation programme will need to define technical guidelines within which the projects should be created. These will be designed to ensure that the projects deliver digital resources that conform to a common set of technical principles. The advantage of this approach will be to ensure:

♦ the resources created are interoperable with other resources in the def.dk domain
♦ the resources have sufficient descriptive metadata to be retrieved easily within the def.dk domain
♦ the resources are created to open technical standards to ensure the underlying content is not dependent upon a single supplier or software solution
♦ the resources are created and stored in a fashion that enables digital preservation policies to be implemented
♦ the resources enable accessibility by the widest audience possible, including those with disabilities or other barriers to access
♦ the resources may be integrated with other resources or collections to create new products for teaching, research or cultural access.

There is evidence that the international community is beginning to harmonise the documents and guidelines available for digitisation programmes. The New Opportunities Fund (NOF) in the UK is leading the way and other programmes are adapting the NOF-digitise Technical Standards and Guidelines; including Canada’s Digital Cultural Content Initiative and the UK Distributed National Electronic Resource. There is evidence of further interest in the USA and elsewhere to use NOF Guidelines.

HEDS recommends that the DEF digitisation programme adopt the NOF-digitise Technical Standards and Guidelines. These would provide a strong base from which only minor modifications might be required to account for special circumstances in Denmark.

4.4 Decision Making

The model recommended to DEF for project definition is that the DEF Programme Manager gains information from the collection owners about physical resources that may be suitable for digitisation. These are mapped onto the programme objectives set by the digitisation policy. The programme then decides which digital resources should be created from the available collections and what features those resources should have to meet the digitisation policy. Collection owners and prospective suppliers are free to suggest potential projects or resources to DEF, but the DEF will not formally tender for project proposals within broad subject areas. Rather the DEF will negotiate with collection owners for the realisation of digital products from their materials. Content creation will most likely be done by a hybrid of the collection owners host institution digitising content, either themselves or via partner institutions, and also via commercial suppliers.

2 http://www.nedcc.org/digital/TofC.htm/
3 http://www.clir.org/pubs/reports/hazen/pub74.html/
4 http://www.peoplesnetwork.gov.uk/nof/technicalstandards/index.html
5 http://www.cultivate-int.org/issue5/giants/
This allows the DEF digitisation programme to focus decision making upon the information content required from the projects and its efficient realisation, as opposed to sifting through many project proposals from disparate institutions which may or may not meet the digitisation policy and selection criteria. The realm of DEF’s remit is small enough that this recommendation is feasible to implement.

The DEF digitisation programme will work to develop projects with the collection owners’ institution and any other potential partner that can aid the delivery of the desired end product. The DEF digitisation programme will therefore need to keep abreast of the competencies and capabilities of Danish institutions and commercial providers and thus become itself a focus point for competency in Denmark.

Any DEF digitisation programme will wish to limit the risk of failure to achieve policy objectives whilst maximising the opportunity to create as much content as possible within the financial constraints of the programme. To enable the DEF digitisation programme to decide which projects to fund and support, and which to reject or defer, it will require the following types of information from prospective projects:

- a financial plan
- a project plan
- a technical plan, including a pre-defined delivery mechanism

HEDS recommends that no project be funded without this basic information being made available. HEDS has suggested to DEF a structured document to elicit this information from prospective projects and this is contained in Appendix A.

Having designed the project in conjunction with the relevant project partners the information needed to decide whether the project is feasible in terms of duration, cost, technology and project planning should be available. Upon the formalisation of this information in a document, as suggested above, the DEF programme can submit these to the decision making body within DEF for final ratification and funding approval.

4.5 Copyright and Licensing Issues

The DEF digitisation programme will not be responsible for the copyright or licensing issues within specific projects. The project owners will be responsible for factoring into their plans any funding required for either securing or protecting intellectual property. The DEF digitisation programme will only become responsible for copyright or licensing issues in specific projects where formally instructed by the NLA or the DEF executive as fulfilling a wider policy than its content creation remit. In such circumstances additional funding from NLA, DEF or other sources may be sought to ensure the digitisation programme is not unduly affected.

4.6 Competencies – Supporting and Developing Capabilities

HEDS recommends that any DEF digitisation programme support content creation projects only. As such, a programme will not provide direct funding to any digitisation unit or “centre of competence” in Denmark. Rather the natural flow of projects, with the technical aspects completed by those units most competent, will support, sustain and develop centres of excellence.

The DEF digitisation programme will itself need to become a focal point for competencies. It will need to employ and develop staff with experience in managing digitisation projects with particular focus upon financial, project management and workflow skills built from a foundation of technical knowledge and practical experience. Should this experience not be available in the immediate future then “experience bridging” can be procured for a period from industry consultants.

The DEF digitisation programme would also need to be a focal point for training and skill development within the community it serves. New projects would need information and training in the digitisation programme management processes and reporting frameworks. Project owners may need training in areas such as project management, metadata creation,
scanning techniques, workflow, data management, delivery mechanisms, and other technical skills. The DEF digitisation programme team should arrange for such training activity. Such centralisation of training would deliver overall cost savings and consistency of content. Studies (such as at Yale University’s Project Open Book) document the significant impact of training and practice on digitisation costs with productivity improved by 44% for scanning and 50% for indexing. It is thus to any DEF digitisation programmes advantage to pursue a training remit to improve the likely digital resources created and to reduce the risk of project failure.

4.7 **Evaluation and Dissemination**

Any DEF digitisation programme will need a mechanism for project and programme evaluation. There is also an important role to be played in disseminating information about the programme and the projects completed. The purpose of evaluation is to measure success against the policy aims and objectives and to inform decisions in designing future programmes and projects. HEDS recommend that a DEF digitisation programme require projects to provide regular reports of progress, finances etc and carry out evaluation in line with current DEF procedures for managing DEF funded projects.

4.8 **Preservation and Sustainability**

HEDS recommends that the DEF digitisation programme not be responsible for the long term preservation of digital resources or the sustainability of service provision. The remit of any programme would be focused on content creation and providing access to created resources. Any extension of this to a digital preservation role would have negative consequences for the ability of the programme to create fresh content in subsequent years as the cost of preservation grows year on year. Similarly the cost of maintaining service provision of a resource is not within the expected remit of a digitisation programme. Again such maintenance costs would compound year on year and reduce significantly the funds available for content creation.

This is not to suggest that a DEF digitisation programme would take no interest in these issues. Any programme would require projects within it to address issues of digital preservation and service sustainability in its project plan. The project institution would be responsible for demonstrating its capabilities and long term commitment in these areas. Should funding for digital preservation and service sustainability be required to support these institutions then this is a separate policy area from digital content creation and should be addressed by the relevant policy making body rather than a DEF digitisation programme.

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6 [http://www.library.yale.edu/preservation/pobweb.htm](http://www.library.yale.edu/preservation/pobweb.htm)
5.0 Recommendations for DEF Action.

5.1 Organise a response at the earliest opportunity to the call for information on national digitisation policy from the European Commission\(^7\).

Leverage on digitisation funding from the EC may depend on early active participation in these developments.

5.2 Maintain awareness of work on management frameworks for digitisation policy in the UK and Europe\(^8\).

5.3 Consider implementing a management framework based on the model offered in this paper.

With development between now and the end of 2002, the DEF implementation of the model could mature into a national entity. If that were to happen, Denmark would be the first country in the world to achieve this.

5.4 Consider implementing a DEF digitisation programme framework with the elements and relationships identified in 4.1.

5.5 DEF should procure services and content creation activity to meet its policy and selection criteria, but should not be responsible for maintaining or developing any supplier of digital content or digitisation services.

5.6 DEF should select projects for funding based upon whether the digital resources created fulfil at least 3 of the criteria described in 4.2, with special priority given to satisfying national provenance.

5.7 The DEF digitisation programme should define technical guidelines within which the projects could be created.

The NOF-digitise Technical Standards and Guidelines\(^9\) are recommended as a foundation for DEF technical guidelines.

5.8 Establish a programme management function, which makes decisions upon structured project application documentation as proposed in Appendix A and 4.4.

HEDS recommends that no project be funded without a financial plan, a project plan and a technical plan, including a pre-defined delivery mechanism.

5.9 Design the digitisation programme so that it will not be responsible for the copyright or licensing issues within specific projects. This responsibility to be devolved to the projects.

5.10 Create a focal point for Danish digitisation competency within the DEF digitisation programme staff.

5.11 Organise a cohesive training programme to supplement and optimise the skills and experience available to pursue DEF digitisation projects.

5.12 Design the digitisation programme so that issues of digital preservation and service sustainability are the responsibility of the project owner and not the DEF digitisation programme.

Long term funding for these activities should be supported by policy from outside of the DEF digitisation area of activity.

5.13 Establish modes of evaluation and dissemination to measure and report performance and success in meeting policy objectives.

\(^8\) http://www.cultivate-int.org/issue5/giants/
\(^9\) http://www.peoplesnetwork.gov.uk/nof/technicalstandards/index.html
Appendix A: Project Description: Application Information Requirement

A1. Project Name
What is the name of your project - this will be used widely in communications about the project.

A2. Proposing Institution
2a. Give details of the lead institution legally responsible for this funding application.
2b. Give details of all partner institutions responsible for the completion of the project.

A3. Project Purpose
Briefly describe the core purpose of the project in relation to DEF's goals.

A4. Funding Request
What is the total amount of funding you are requesting from DEF?

A5. Overview project plan
Give a brief description of the work of your project under the following headings.
5a. Vision - the overall idea of what will be achieved and delivered.
5b. Key aims and objectives - the main targets to be completed to achieve the vision.
5c. Content - describe the materials, formats, information content and total volume of items.
5d. Processes - list the processes required to achieve the project goals and create a viable digital resource. List the technologies that will be used.
5e. Deliverables - list the project deliverables.
5f. Timescales - detail the timescale for completion of the project and each deliverable.
5g. Target Audience - who will benefit from access to the resource created by the project?
5h. Intellectual Property Rights - how will the project ensure IPR is respected and cleared?

A6 Project Management
Give details of the project management for the proposed project including the financial relationships, partner relationships, reporting structures, management procedures, quality assurance, a list of staff and expertise involved etc.

A7 Evaluation
How will you monitor, evaluate and demonstrate the benefit and success of the project?
A8 **Sustainability**
How will you sustain the resource created by the project after completion? Detail any digital preservation policies in place or planned. Detail also any financial arrangements or plans to guarantee long term access to the resources.

A9 **Project risks and mitigating factors**
Detail the risks in your project and how you will mitigate those risks. Where there are multiple partners show how disputes between partners would be resolved.

A10 **Overview of project costs**
What is the total cost of your project and the amount that is requested of DEF?
Please give details of all expenditures in terms of capital and revenue costs across time and partner institution.
Give details of the amount of your own resources you will be committing to the project for which you are not requesting funds from DEF.
Please break down the amount requested from DEF over the relevant timescale of your project.

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