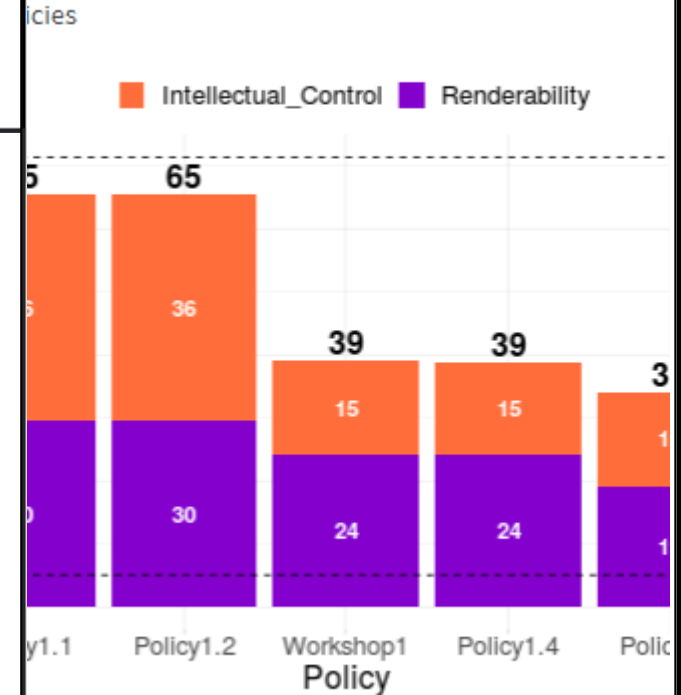


THE

NATIONAL

ARCHIVES

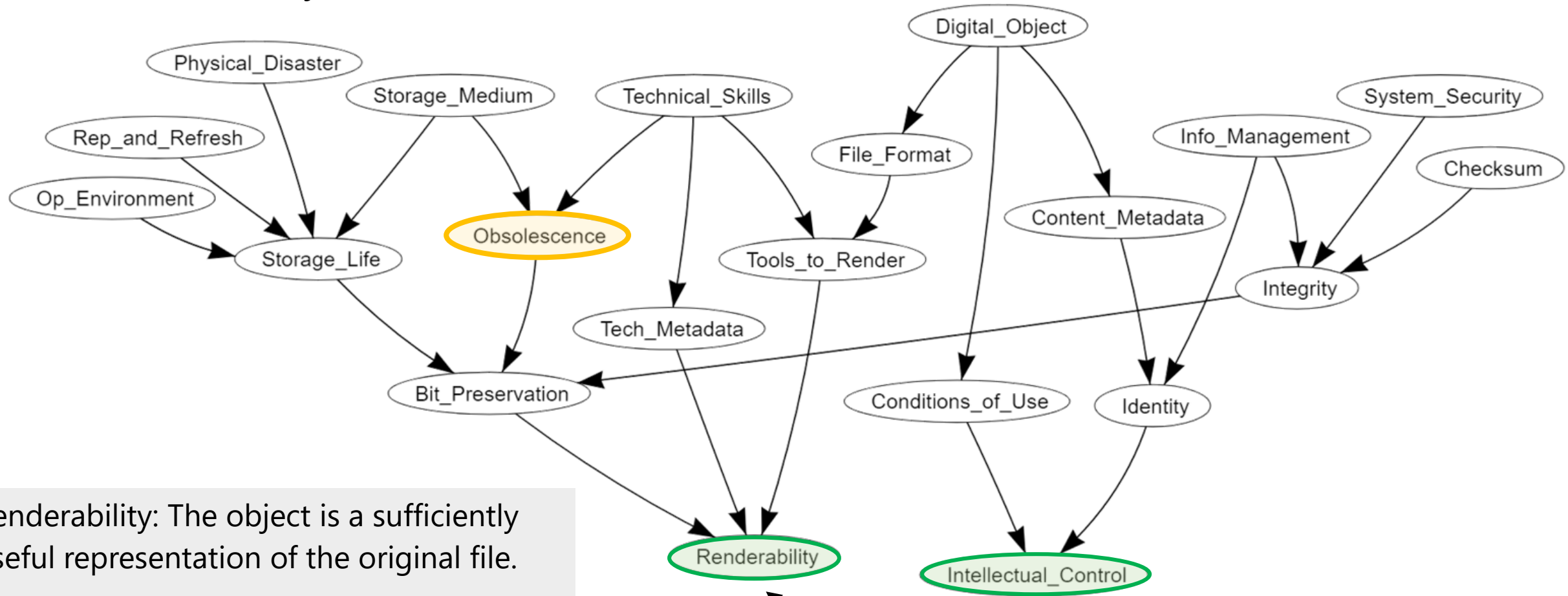
# Introducing DiAGRAM: The Digital Archiving Graphical Risk Assessment Model



Hannah Merwood and David Underdown

17 July 2020

# DiAGRAM Bayesian Network



Renderability: The object is a sufficiently useful representation of the original file.

Intellectual control: Having full knowledge of the material content, provenance and conditions of use.

## Digital preservation outcomes

THE	
NATIONAL	
ARCHIVES	

# Data sources

- Expert elicitation session, held in April 2020 with 22 participants from 10 different UK institutions involved in digital archiving and/or digital preservation.
- Data from the 2019 JISC digital skills survey, answered by over 300 UK archive professionals.
- Data from TNA on file formats by digital object type.
- Data from cloud data storage providers on access and durability.
- Data from gov.uk on the long-term flood risk of UK postcodes.

[illegible]

**Renderability  
score**

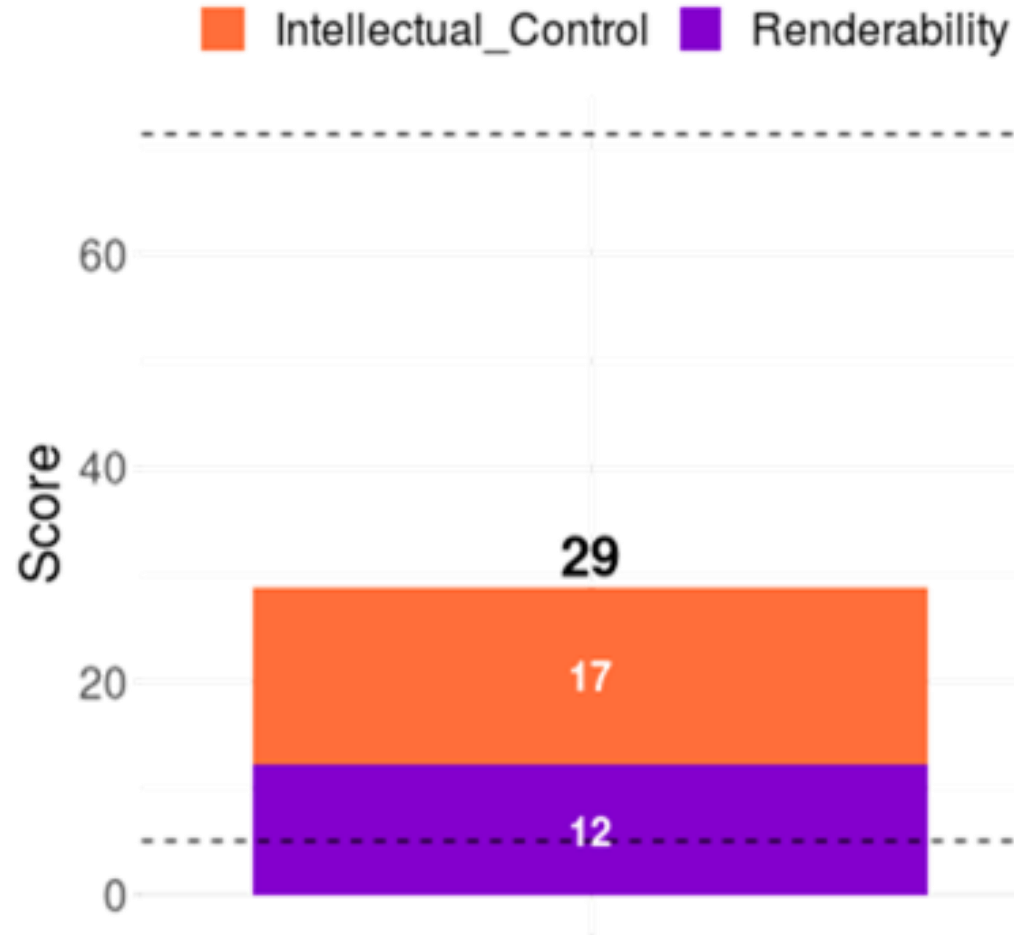
**+**

**Intellectual  
Control score**

**=**

**Risk score**

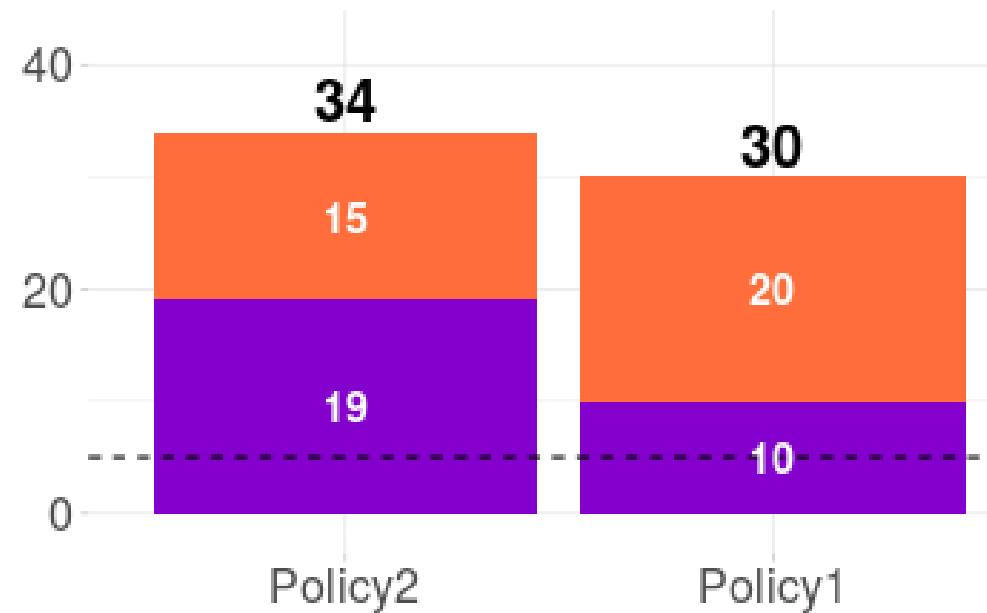
**a higher  
score  
means  
lower risk**



Dashed line:  
Maximum and  
minimum score  
possible without  
changing the  
data

THE	
NATIONAL	
ARCHIVES	

# Comparing two policies



**'Policy1'** has a score 30

**'Policy2'** has a score of 34

Overall 'Policy2' is better than 'Policy1'.

'Policy2' has a higher score for renderability, however 'Policy1' has a higher score for intellectual control.

													THE	
													NATIONAL	
													ARCHIVES	

## Risks mapped to OALS Functional Entities

## Preservation Planning

## Technical Skills

# System Security

## Tools to Render

# Obsolescence

## File Format

## Physical Disaster

Ingest

# Checksum

## Data Management

# Information Management

# Digital Object

## Content Metadata

## Technical Metadata

## Access

## Conditions of Use

## Identity

## Archival Storage

## Bit Preservation

## Integrity

## Storage Medium

## Storage Life



## Operating Environment



## Replication and Refreshment



# THE

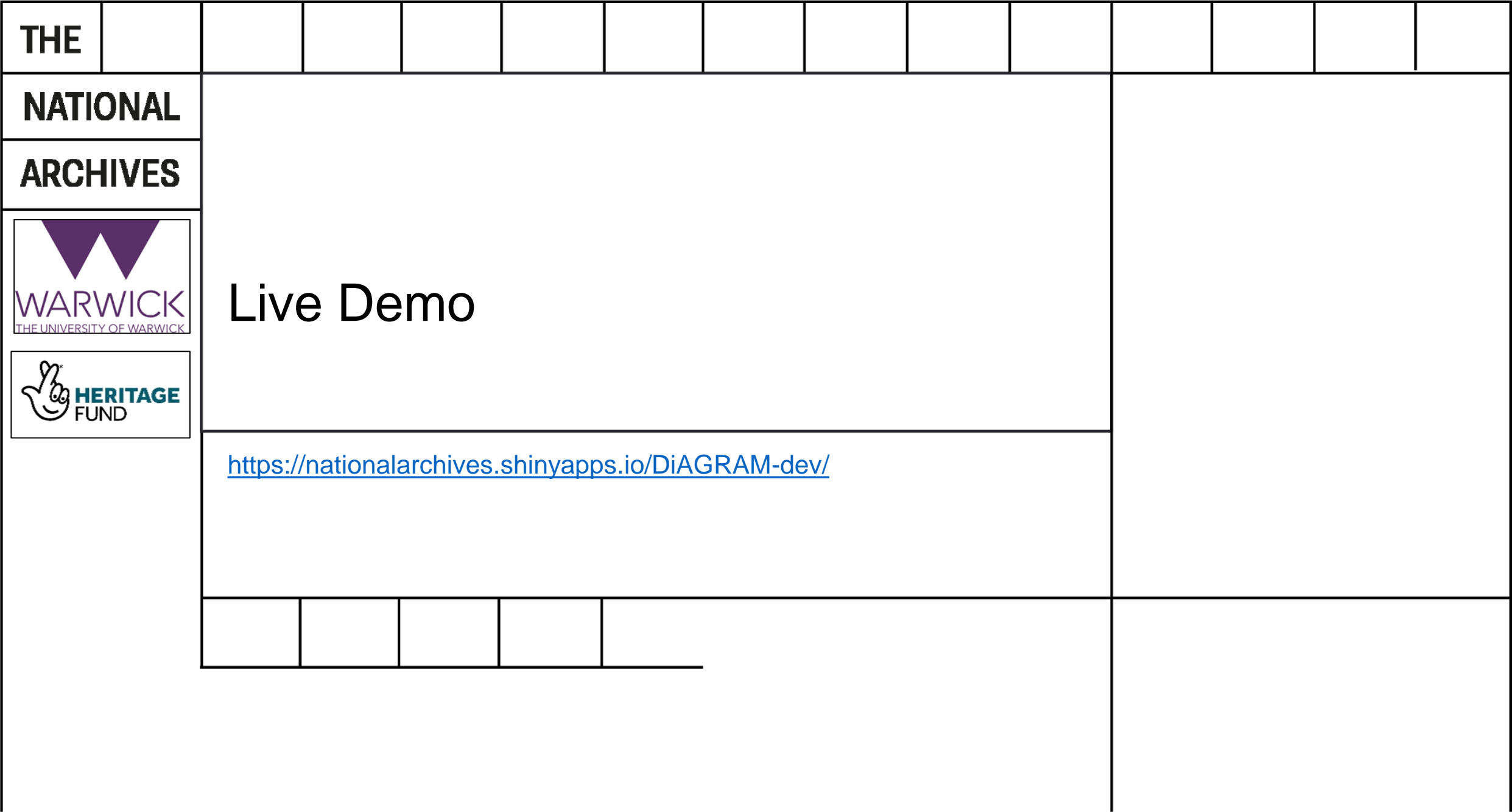
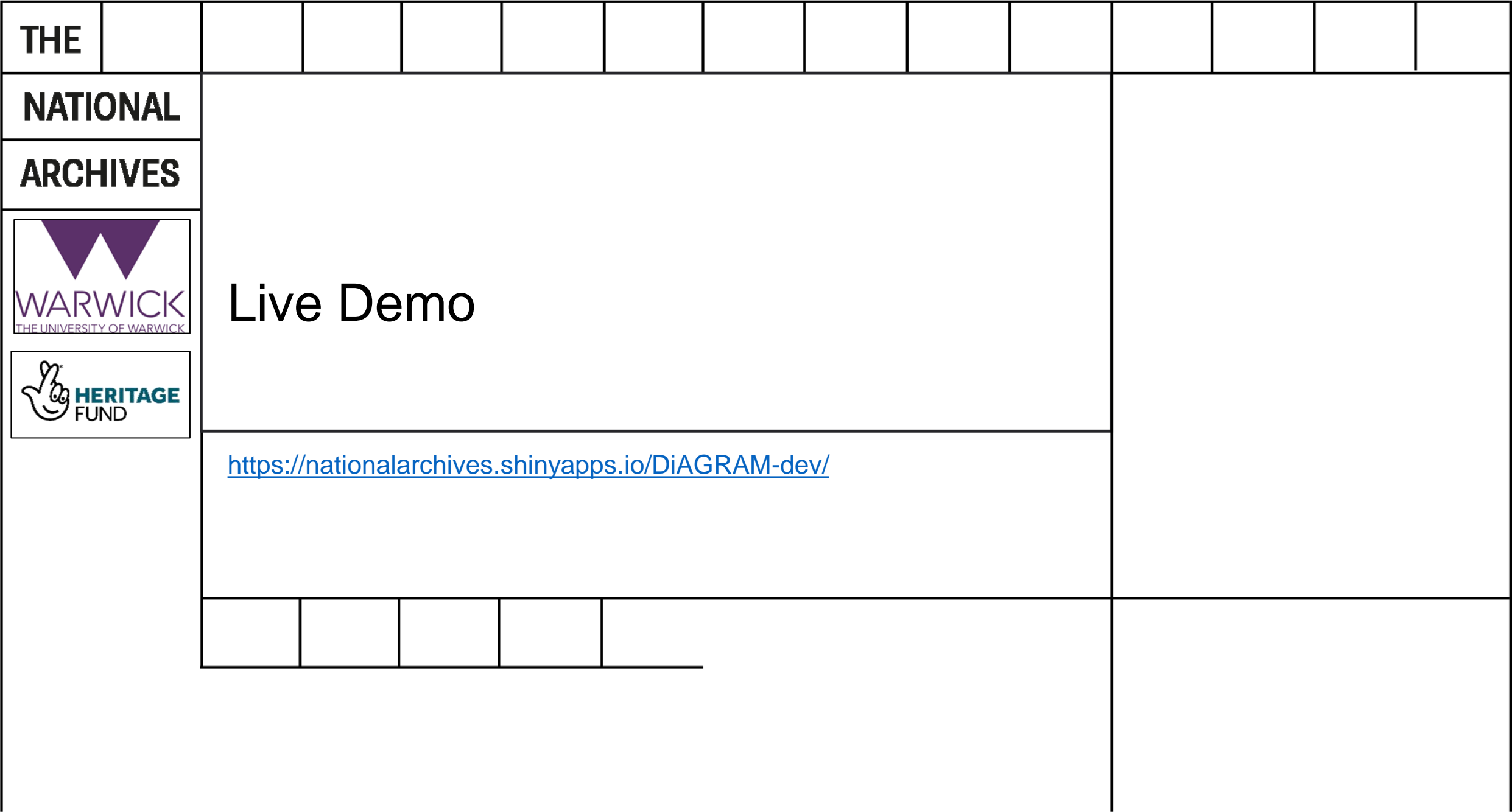
## NATIONAL



## ARCHIVES



THE														
NATIONAL														
ARCHIVES														
	Live Demo													
														
<a href="https://nationalarchives.shinyapps.io/DiAGRAM-dev/">https://nationalarchives.shinyapps.io/DiAGRAM-dev/</a>														

THE														
NATIONAL														
ARCHIVES														
	Live Demo													
														
<a href="https://nationalarchives.shinyapps.io/DiAGRAM-dev/">https://nationalarchives.shinyapps.io/DiAGRAM-dev/</a>														

THE														
NATIONAL														
ARCHIVES														
	Live Demo													
														
<a href="https://nationalarchives.shinyapps.io/DiAGRAM-dev/">https://nationalarchives.shinyapps.io/DiAGRAM-dev/</a>														



THE														
NATIONAL														
ARCHIVES														
	Live Demo													
														
<a href="https://nationalarchives.shinyapps.io/DiAGRAM-dev/">https://nationalarchives.shinyapps.io/DiAGRAM-dev/</a>														

THE														
NATIONAL														
ARCHIVES														
	Live Demo													
														
<a href="https://nationalarchives.shinyapps.io/DiAGRAM-dev/">https://nationalarchives.shinyapps.io/DiAGRAM-dev/</a>														

There will be further user interface changes and additional functionality added as the project progresses. Any feedback to inform the future development would be welcome - please send your comments to a member of the project team.

about the project please see our [project](#)

## Version 0.9.7 (Prototype)

This is the Digital Archiving Graphical Risk Assessment Model (DIAGRAM) built by the University of Warwick and The National Archives with support from the National Lottery Heritage Fund and the Engineering and Physical Sciences Research Council. For more information about the project please see our [project page](#).

Before using the tool for the first time, we would advise you to read the [presentations](#) from our online workshop with the Digital Preservation Coalition, where there is also an [exercise sheet](#) you can work through.

### Create your model

This decision support tool enables users to score their archive's digital preservation risk and then explore how this would change under different policies and risk scenarios. The risk score is based on the proportion of files in the archive that are renderable and where the archivist has full intellectual control.

The underlying methodology used to create this model is based on a Bayesian network - a probabilistic graphical model that captures the conditional dependencies of risk events. When historical data were unavailable, data from an expert elicitation session conducted in April 2020 were used to inform the probabilities needed for this model.

This interface enables users to:

- Understand the risk definitions used in the model and how the risk events are linked together
- Create a model that reflects the policies and practices for their Digital Archive
- Test alternative policies to see how this impacts the risk score
- Download the model and a summary of the results
- Upload a pre-built model and continue exploring scenarios from there
- Update the probability tables for the model based on the user's own data or experience
- Create bespoke scenarios by directly manipulating the probabilities used in the model



Engineering and  
Physical Sciences  
Research Council

**Definitions:** This page has a visualisation of the underlying network of digital preservation risks and allows you to see the full definitions, states and data sources used for each 'node'.

**1. Create your model :** This goes through 9 questions to create a risk model and a score which is based on the user's archive and policies.

**Recommendations :** This page looks at the impact changing each of the answers to the input questions would have to the risk score.

2. **Compare policies** : Create and save different policies and see how the risk score changes.

**3. Advanced customisation:** This tab allows users to edit the marginal and conditional probabilities in the model directly. This allows for users to input their own data for any nodes within the model or create scenarios by altering conditional probabilities.

**4. Report :** This contains a summary and comparison of the policies for each model, and allows the model and plots to be downloaded.

[DiAGRAM home page](#)

## NATIONAL

## ARCHIVES





## Definitions

Please select a node from the menu to view its definition.

Please select a node from the menu to view its definition.

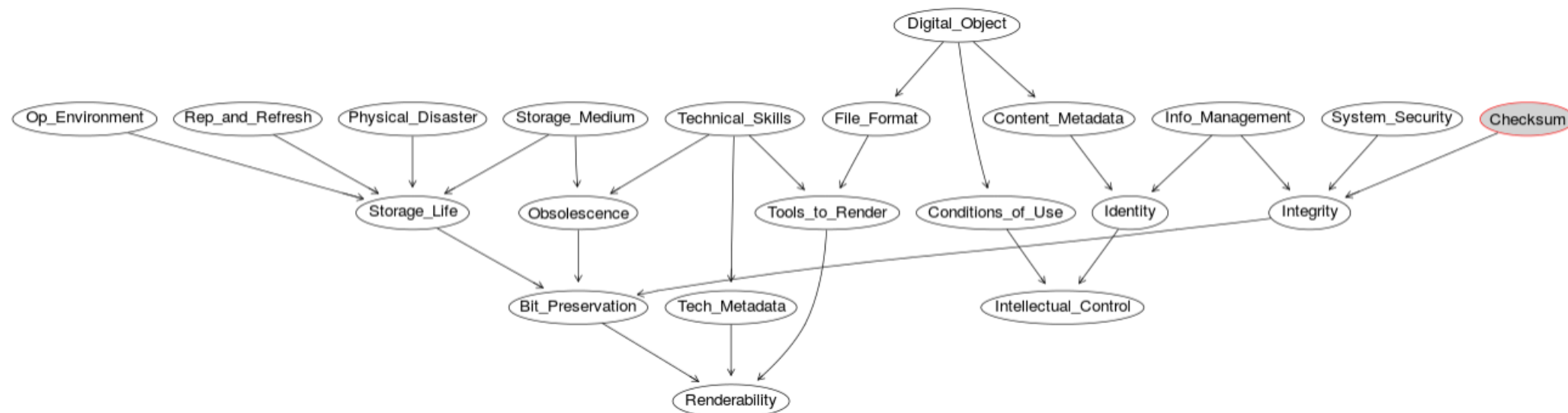
### Node description

**Data source:** Loosely based on JISC digital skills survey results

**Data collected: 2019**

Node State	State Definition
Yes	We have a checksum from the depositor.
Self_Generated	We do not have a checksum from the depositor but generated one ourselves instantly upon receipt.
No	We do not have a checksum or have only generated one post-ingestion.

## DiAGRAM structure



Definitions page, showing details of the Checksum node

## NATIONAL

## ARCHIVES

THE														
NATIONAL	Modelling your archive													
ARCHIVES														

# The resource poor, but skills rich, archive

At our digital archive, we have

- some very skilled and passionate members of staff but increasingly strained resources
- an already fairly substantial digital collection and we are finding it hard to keep on top of everything,
- a need to prioritise which preservation activities will have the most impact
- on top of that, there is a budget review coming up shortly and we will have to make a strong case if we don't want to see our funding reduced further.

[illegible]

Home

Definitions

1. Create your model

Recommendations

2. Compare policies

3. Report

Advanced customisation

Important note: This model is still in development

There will be further user interface changes and additional functionality added as the project progresses. Any feedback to inform the future development would be welcome - please send your comments to a member of the project team.

Create your model

1 / 9

1. Technical\_Skills

Please answer the following question:

How would you rate the digital preservation technical skills within your archive? Questions to consider when answering include... Does capability exist within your organisation to carry out file format migration, software emulation, and data recovery from damaged/obsolete media? Do staff have the skills to investigate and manipulate data, including the ability to make pivot tables in Excel and/or basic coding?

Good %

0%

55%

The default is based on responses to the JISC digital skills survey and how many said that there was full capability within their organisation to do file format migration, software emulation or data recovery. (55%)

Back

Next

Model risk score

Intellectual\_Control

Renderability

Score

60

40

20

0

29

17

12

Default Policy

Upload a previous model

Please ensure any models uploaded have been generated from DIAGRAM

Choose custom model

Browse...

No file selected

Custom Model Name

Add model

THE	
NATIONAL	
ARCHIVES	

DIAGRAM

Home

Definitions

1. Create your model

Recommendations

2. Compare policies

3. Report

Advanced customisation

Important note: This model is still in development

There will be further user interface changes and additional functionality added as the project progresses. Any feedback to inform the future development would be welcome - please send your comments to a member of the project team.

Create your model

2 / 9

2. System\_Security

Please answer the following question:

How would you rate the system security within your archive? Questions to consider when answering include... Do you have regular security audits? Do you have appropriate IT support? Do you check for viruses on acquisition? Do server communications go through a restrictive firewall? Is physical access to equipment appropriately restricted? Is server access restricted to specific personnel? Is there permissions management to archival systems? Do you ensure that no member of staff has access to all copies?

Good %

0%

40%

100%

0

10

20

30

40

50

60

70

80

90

100

Back

Next

The default is based on responses to the JISC digital skills survey and how many agreed that their IT provider supports the requirements of the archival activities of your organisation to a large or very great extent and that their digital collections are protected with access restrictions/ permissions. (17%)

Model risk score

Intellectual\_Control

Renderability

Score

60

40

20

0

29

17

12

Default Policy

Upload a previous model

Please ensure any models uploaded have been generated from DIAGRAM

Choose custom model

Browse...

No file selected

Custom Model Name

Add model

THE	
NATIONAL	
ARCHIVES	

[illegible]

Home

Definitions

1. Create your model

Recommendations

2. Compare policies

3. Report

Advanced customisation

Important note: This model is still in development

There will be further user interface changes and additional functionality added as the project progresses. Any feedback to inform the future development would be welcome - please send your comments to a member of the project team.

Create your model

3 / 9

3. Checksum

Please answer the following question:  
For what proportion of files do you have a checksum from the depositor? If none, for how many have you generated a checksum instantly upon receipt?

Yes (%)

0%

100%

Self\_Generated (%)

0%

100%

No (%)

0%

100%

Back

Next

Model risk score

Intellectual\_Control

Renderability

Score

60

40

20

0

29

17

12

Default Policy

Upload a previous model

Please ensure any models uploaded have been generated from DIAGRAM

Choose custom model

Browse...

No file selected

Custom Model Name

Add model

- For some time we have been generating checksums when we receive material and performing fixity checks, and we are now encouraging depositors to generate these themselves

THE	
NATIONAL	
ARCHIVES	

Home

Definitions

1. Create your model

Recommendations

2. Compare policies

3. Report

Advanced customisation

Important note: This model is still in development

There will be further user interface changes and additional functionality added as the project progresses. Any feedback to inform the future development would be welcome - please send your comments to a member of the project team.

Create your model

4. Info\_Management

Please answer the following question:

For all your files today, what proportion do you have sufficient internal information management systems in place to track the preservation actions since acquisition?

Sufficient %

0%

50%

100%

0

10

20

30

40

50

60

70

80

90

100

The default is based on responses to the JISC digital skills survey. 70% of respondents agreed that their catalogue management system meets the needs of the organisation and 40% that their digital asset management system meets the needs of the organisation. We have estimated that 55% would therefore have sufficient information management systems, as you don't need a bespoke digital asset management system to have support for coherent information management and documentation of preservation actions, but you may need more than just a catalogue system.

Back

Next

Model risk score

Intellectual\_Control

Renderability

Score

60

40

20

0

29

17

12

Default Policy

Upload a previous model

Please ensure any models uploaded have been generated from DIAGRAM

Choose custom model

Browse...

No file selected

Custom Model Name

Add model

THE	
NATIONAL	
ARCHIVES	



DIAGRAM

Home

Definitions

1. Create your model

Recommendations

2. Compare policies

3. Report

Advanced customisation

Important note: This model is still in development

There will be further user interface changes and additional functionality added as the project progresses. Any feedback to inform the future development would be welcome - please send your comments to a member of the project team.

Create your model

5 / 9

5. Digital\_Object

Please answer the following question:  
What proportion of your digital archive are the following?

Born\_digital (%)

0%

40%

100%

Digitised (%)

0%

5%

100%

Surrogate (%)

0%

55%

100%

Back

Next

Model risk score

Intellectual\_Control

Renderability

Score

60

40

20

0

29

17

12

Default Policy

Upload a previous model

Please ensure any models uploaded have been generated from DIAGRAM

Choose custom model

Browse...

No file selected

Custom Model Name

Add model

- Compared to others we do have a lot of born-digital material, though the majority are surrogates.

[illegible]

Home

Definitions

1. Create your model

Recommendations

2. Compare policies

3. Report

Advanced customisation

Important note: This model is still in development

There will be further user interface changes and additional functionality added as the project progresses. Any feedback to inform the future development would be welcome - please send your comments to a member of the project team.

Create your model

6 / 9

6. Storage\_Medium

Please answer the following question:

What proportion of your records are stored on the following media types? A) less stable, B) more stable, C) outsourced data storage.

A (%)

0%

100%

B (%)

0%

100%

C (%)

0%

100%

Back

Next

Expected lifespan below 10 years or unknown, highly susceptible to physical damage, requires specific environmental conditions and very sensitive to changes, does not support error-detection methods, supporting technology is novel, proprietary and limited. Examples include USB flash drive, floppy disk, SD drive and CD-R disc.

A proven lifespan of at least 10 years, low susceptibility to physical damage, tolerant of a wide range of environmental conditions without data loss, supports robust error-detection methods, supporting technology is well established and widely available. Examples include LTO tapes, Blu ray discs and CD-ROM discs.

An external company is taking responsibility for our data storage. Examples include Amazon Simple Storage Service, Microsoft Azure Archive Storage and Google Cloud Storage.

Model risk score

Intellectual\_Control

Renderability

Score

60

40

20

0

29

17

12

Default Policy

Upload a previous model

Please ensure any models uploaded have been generated from DIAGRAM

Choose custom model

Browse...

No file selected

Custom Model Name

Add model

- We keep everything on LTO tapes, a stable storage medium

[illegible]

DIAGRAM

Home

Definitions

1. Create your model

Recommendations

2. Compare policies

3. Report

Advanced customisation

Important note: This model is still in development

There will be further user interface changes and additional functionality added as the project progresses. Any feedback to inform the future development would be welcome - please send your comments to a member of the project team.

Create your model

8 / 9

8. Op\_Environment

Please answer the following question:

Do you have a copy of the material stored in a different geographical location? If not, do you have adequate mitigation strategies in place in case of a flood? Factors to consider include building design, location of storage media within the building, having flash flood doors and sandbags etc. Answer 0% only if all your copies are in the same location and you do not have adequate mitigations in case of a flood.

Yes %

0%

100%

0

10

20

30

40

50

60

70

80

90

100

Back

Next

Model risk score

Intellectual\_Control

Renderability

Score

60

40

20

0

29

17

12

Default

Policy

Upload a previous model

Please ensure any models uploaded have been generated from DIAGRAM

Choose custom model

Browse...

No file selected

Custom Model Name

Add model

100% - we always have three copies of our digital objects

[illegible]

Diagram

Home

Definitions

1. Create your model

Recommendations

2. Compare policies

3. Report

Advanced customisation

Important note: This model is still in development

There will be further user interface changes and additional functionality added as the project progresses. Any feedback to inform the future development would be welcome - please send your comments to a member of the project team.

Create your model

8 / 9

8. Op\_Environment

Please answer the following question:

Do you have a copy of the material stored in a different geographical location? If not, do you have adequate mitigation strategies in place in case of a flood? Factors to consider include building design, location of storage media within the building, having flash flood doors and sandbags etc. Answer 0% only if all your copies are in the same location and you do not have adequate mitigations in case of a flood.

Yes %

0%

100%

0

10

20

30

40

50

60

70

80

90

100

Back

Next

Model risk score

Intellectual\_Control

Renderability

Score

60

40

20

0

29

17

12

Default Policy

Upload a previous model

Please ensure any models uploaded have been generated from DIAGRAM

Choose custom model

Browse...

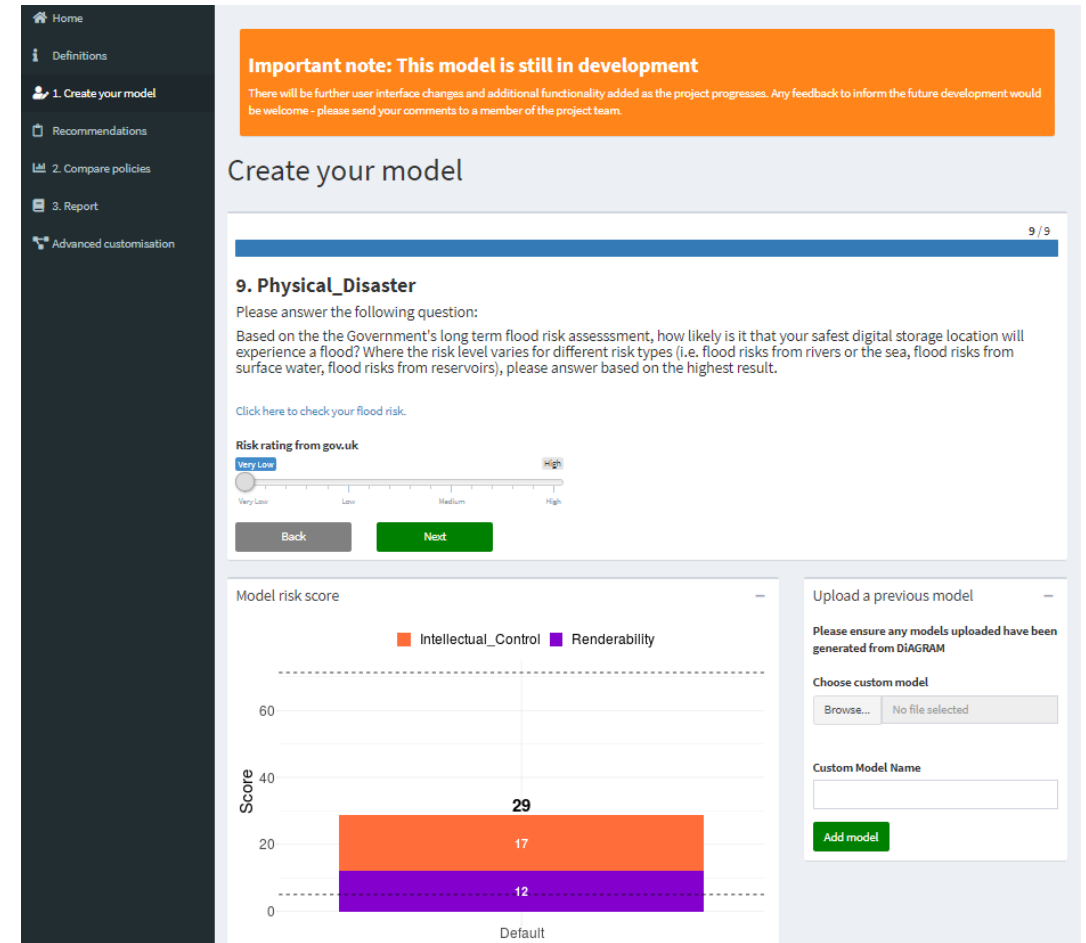
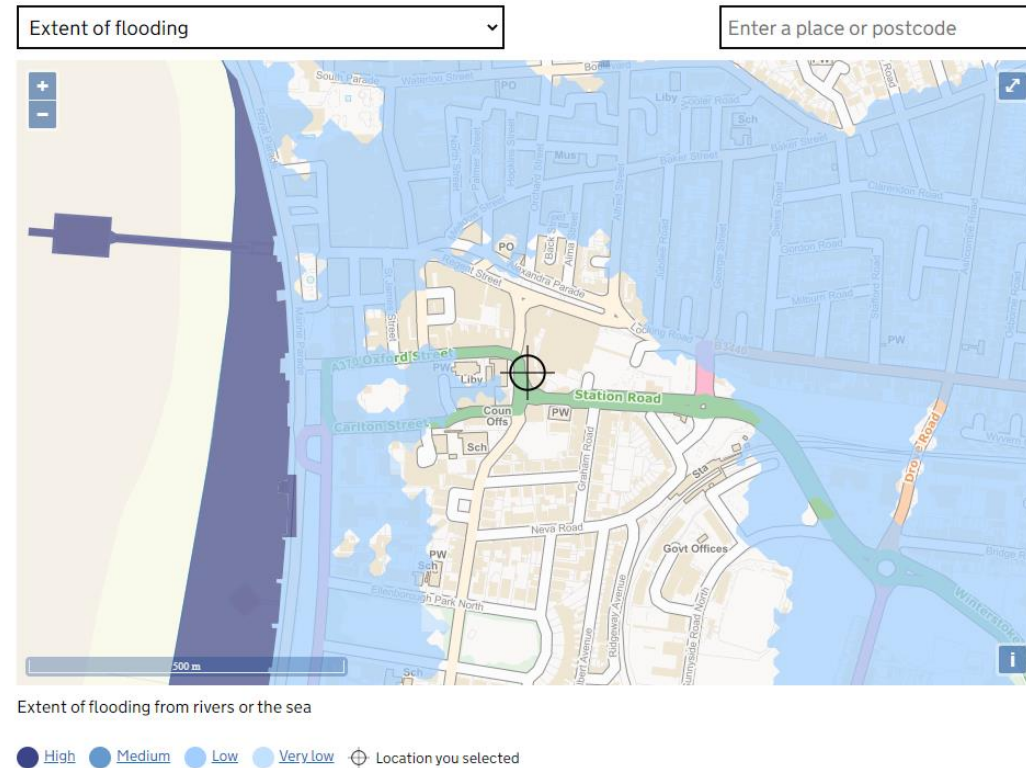
No file selected

Custom Model Name

Add model

100% - we have a separate copy of every record held off-site

														<b>ARCHIVES</b>
--	--	--	--	--	--	--	--	--	--	--	--	--	--	-----------------



Home

Definitions

1. Create your model

Recommendations

2. Compare policies

3. Report

Advanced customisation

Important note: This model is still in development

There will be further user interface changes and additional functionality added as the project progresses. Any feedback to inform the future development would be welcome - please send your comments to a member of the project team.

Create your model

9 / 9

All questions answered. Please give model a name:

Workshop1

Name Model

Create New Model

Model risk score

Intellectual\_Control

Renderability

Score

Workshop1

Policy

Default

Upload a previous model

Please ensure any models uploaded have been generated from DiAGRAM

Choose custom model

Browse...

No file selected

Custom Model Name

Add model

Policy	Renderability	Intellectual_Control	Total Score
Workshop1	24	15	39
Default	12	17	29

- |          |  |
|----------|--|
| THE      |  |
| NATIONAL |  |
| ARCHIVES |  |

[illegible]

THE														
NATIONAL	Comparing policies													
ARCHIVES														

Compare Policies initial screen – our Workshop1 model has been selected as the basis for comparison

[illegible]



## Policy 1.1 – better data management

DIAGRAM

Home

Definitions

1. Create your model

Recommendations

2. Compare policies

3. Report

Advanced customisation

Important note: This model is still in development

There will be further user interface changes and additional functionality added as the project progresses. Any feedback to inform the future development would be welcome - please send your comments to a member of the project team.

Create and compare different policies

Select model

Workshop1

Select OASIS Function Entity

Data Management

Nodes checklist

☒ Content\_Metadata

☐ Digital\_Object

☒ Info\_Management

☒ Tech\_Metadata

Tech Metadata

Sufficient %

0%

100%

Previous

Enter policy name

Policy1.1

Add policy

Reset model

Score

Intellectual\_Control

Renderability

65

36

30

39

15

24

Policy1.1

Workshop1

Policy

Remove policy

Select policy to remove

Policy1.1

Remove

Here we use the OASIS Functional Entity option to initially reduce the number of nodes under consideration

- Choose "Data Management"
- Deselect "Digital Object"
- Set "Content Metadata" to 100% - "Next"
- Set "Info Management" Sufficient to 100% - "Next"
- Set "Tech Metadata" Sufficient to 100%
- "Enter policy name" – Policy1.1
- Click "Add policy"
  - *Score improves by 26*

THE	
NATIONAL	
ARCHIVES	

Diagram

Home

Definitions

1. Create your model

Recommendations

2. Compare policies

3. Report

Advanced customisation

Important note: This model is still in development

There will be further user interface changes and additional functionality added as the project progresses. Any feedback to inform the future development would be welcome - please send your comments to a member of the project team.

Create and compare different policies

Select model

Workshop1

Select OAS Function Entity

None

Nodes checklist

☐ Bit\_Preservation

☐ Checksum

☐ Conditions\_of\_Use

☐ Content\_Metadata

☐ Digital\_Object

☐ File\_Format

☐ Identity

☐ Info\_Management

☐ Integrity

☐ Intellectual\_Control

☐ Obsolescence

☒ Op\_Environment

☐ Physical\_Disaster

☐ Renderability

☐ Rep\_and\_Refresh

☐ Storage\_Life

☐ Storage\_Medium

☐ System\_Security

☐ Tech\_Metadata

☐ Technical\_Skills

☐ Tools\_to\_Render

Op Environment

Yes %

0%

100%

Enter policy name

Policy1.2

Add policy

Reset model

Remove policy

Select policy to remove

Policy1.1

Remove

Intellectual\_Control

Renderability

65	65	39
36	36	15
30	30	24

Policy1.1Policy1.2Workshop1

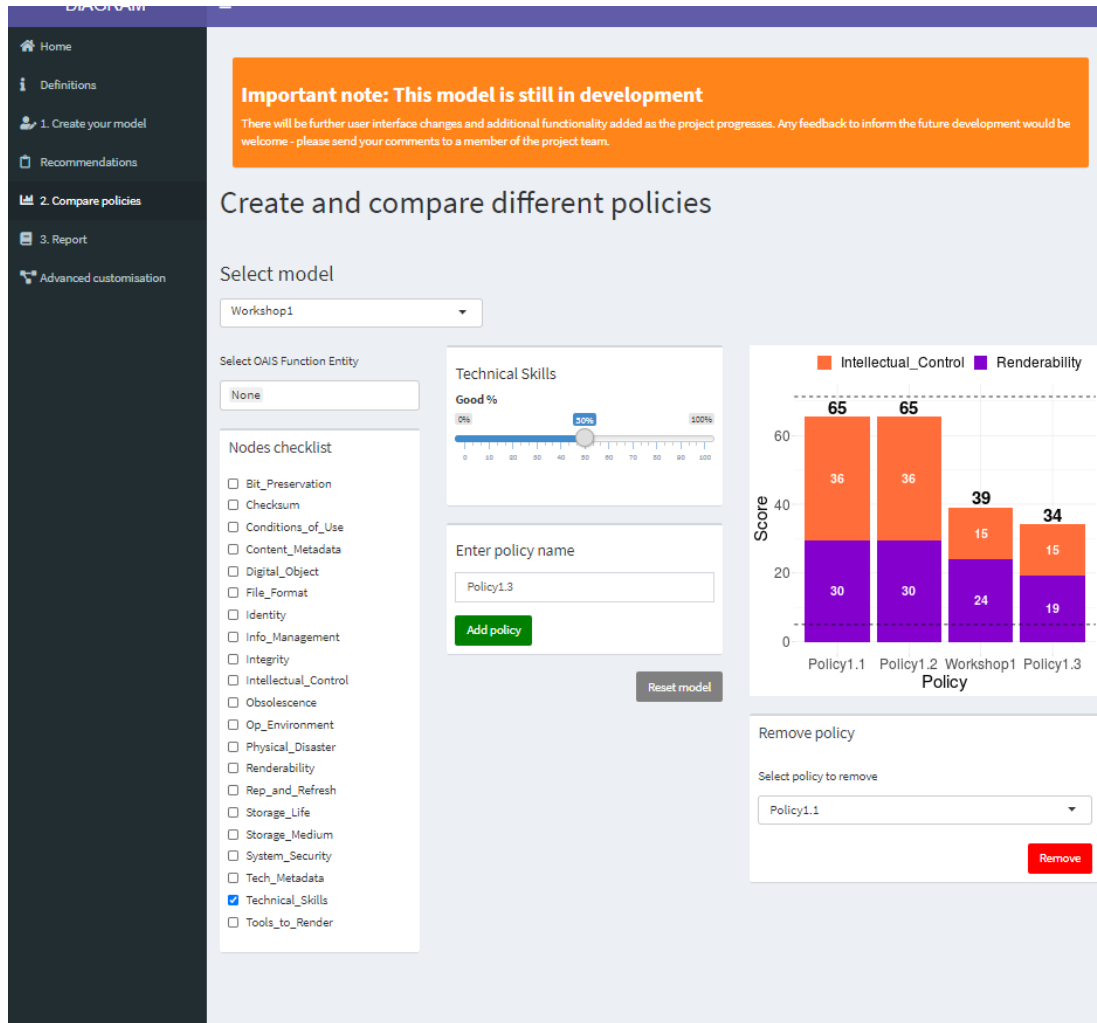
Policy

- ~~Set "Content Metadata" to 100% - "Next"~~
- ~~Set "Info Management" Sufficient to 100% - "Next"~~
- Set "Op Environment" to 0%
- ~~Set "Tech Metadata" Sufficient to 100%~~
- "Enter policy name" – Policy1.2
- Click "Add policy"
  - *Score decreases negligibly*

## Reset model

THE	
NATIONAL	
ARCHIVES	

## Policy 1.3 – staff turnover reduces skill levels



Unfortunately our most skilled member of staff is likely to leave, and it's unlikely any replacement will have the same skill levels

- Select "Technical\_Skills"
- Set to 50%
- "Enter policy name" – Policy1.3
- Click "Add policy"
  - *Decrease score by 5 from Workshop 1 model, but notice it's all on the renderability side.*

## Reset model

THE	
NATIONAL	
ARCHIVES	

## Policy 1.4 – stop generating checksums on receipt if not provided

**Important note: This model is still in development**

There will be further user interface changes and additional functionality added as the project progresses. Any feedback to inform the future development would be welcome - please send your comments to a member of the project team.

## Create and compare different policies

- Home
- Definitions
- 1. Create your model
- Recommendations
- 2. Compare policies
- 3. Report
- Advanced customisation

Select model  
Workshop1

Select OASIS Function Entity  
None

**Nodes checklist**

- ☐ Bit\_Preservation
- ☒ Checksum
- ☐ Conditions\_of\_Use
- ☐ Content\_Metadata
- ☐ Digital\_Object
- ☐ File\_Format
- ☐ Identity
- ☐ Info\_Management
- ☐ Integrity
- ☐ Intellectual\_Control
- ☐ Obsolescence
- ☐ Op\_Environment
- ☐ Physical\_Disaster
- ☐ Renderability
- ☐ Rep\_and\_Refresh
- ☐ Storage\_Life
- ☐ Storage\_Medium
- ☐ System\_Security
- ☐ Tech\_Metadata
- ☐ Technical\_Skills
- ☐ Tools\_to\_Render

**Checksum**  
Yes (%)  
 0% 100%  
Self\_Generated (%)  
 0% 100%  
No (%)  
 0% 100%

Enter policy name  
Policy1.4  
Add policy

Reset model

Policy	Intellectual_Control	Renderability
Policy1.1	36	30
Policy1.2 Workshop	36	30
Policy1.4	15	24
Policy1.3	15	24
Policy1.3	15	19

Remove policy  
Select policy to remove  
Policy1.1  
Remove

We decide that if the depositor does not provide a checksum with their materials, we will not generate one either. Over time, this will lead to a greater proportion of files for which we have no checksum

- Select "Checksum"
- Set Yes – 5%
- Self\_generated – 85%
- No – 10%
- "Enter policy name" – Policy1.4
- Click "Add policy"
  - *Decrease score negligibly from Workshop 1*

THE	
NATIONAL	
ARCHIVES	

Home

Definitions

1. Create your model

Recommendations

2. Compare policies

3. Report

Advanced customisation

Important note: This model is still in development

There will be further user interface changes and additional functionality added as the project progresses. Any feedback to inform the future development would be welcome - please send your comments to a member of the project team.

Report

Select model

Workshop1

Summary

The Workshop1 model has 5 policy(ies), including the original. The overall risk scores for each are:

Workshop1	39.0301
Policy1.1	65.3842
Policy1.2	65.3824
Policy1.3	34.0799
Policy1.4	38.8952

The policy with best score is **Policy1.1**

Score function weightings

+

Downloads

Select what you would like to download:

☒ The plot

☒ The model

☐ A policy

Select policy to download

Policy1.1

Download

Comparing policies

Intellectual\_Control

Renderability

Policy	Intellectual_Control	Renderability	Total Score
Policy1.1	36	30	65
Policy1.2	36	30	65
Workshop1	15	24	39
Policy1.4	15	24	39
Policy1.3	15	19	34

- The plot – save as an image
- The model – a BIF file that we can reload into the model on another occasion (so we can try further policies more easily)
- A policy – save details of an individual policy

THE	
NATIONAL	
ARCHIVES	

THE														
NATIONAL	Advanced modelling													
ARCHIVES														

## Advanced Model Customisation

```

graph TD
    DO([Digital Object]) --> OE([Op_Environment])
    DO --> RR([Rep_and_Refresh])
    DO --> PD([Physical Disaster])
    DO --> SM([Storage_Medium])
    DO --> TS([Technical_Skills])
    DO --> FF([File_Format])
    DO --> CM([Content_Metadata])
    DO --> IM([Info_Management])
    DO --> SS([System_Security])
    DO --> CS([Checksum])
    
    OE --> SL([Storage_Life])
    RR --> SL
    PD --> SL
    SM --> SL
    SM --> O([Obsolescence])
    TS --> SL
    TS --> TR([Tools_to_Render])
    TS --> TM([Tech_Metadata])
    FF --> TR
    CM --> CU([Conditions_of_Use])
    CM --> ID([Identity])
    IM --> ID
    IM --> I([Integrity])
    SS --> I
    CS --> I
    
    SL --> BP([Bit_Preservation])
    O --> BP
    TR --> BP
    TR --> TM
    TR --> IC([Intellectual_Control])
    CU --> IC
    ID --> IC
    I --> IC
    
    BP --> R([Renderability])
    TM --> R
    IC --> R
  
```

- Imagine we know a bit more about our specific storage system, so amend the Bit\_preservation values for Integrity=No, Obsolescence=No, Storage\_Life=Yes to Bit\_Preservation=Yes to 60% and Bit\_Preservation=No to 40%

[illegible]

## ARCHIVES

**Changed nodes**

- Bit\_Preservation

**Save model**

Modified model name:

Workshop2

**Add as policy** **Add as custom model**

**Node probability**

**Conditional Probabilities for Node Bit\_Preservation**

Level	Bit_Preservation	Probability
No	No	0.0
No	Yes	1.0
Yes	No	0.0
Yes	Yes	1.0

**Policy comparison**

Intellectual\_Control (Orange) Renderability (Purple)

Policy	Intellectual_Control	Renderability	Total Score
Base	17	12	29

**Model comparison**

Intellectual\_Control (Orange) Renderability (Purple)

Model	Intellectual_Control	Renderability	Total Score
Workshop1	15	24	39
Default	17	12	29
Workshop2	17	11	27

The updated risk score will then be shown on the relevant graph again.

[illegible]