



DERBY MUSEUMS

Human-Centred Design

HANDBOOK



Introduction and Context

Derby Museums Trust operates three museums, the Museum and Art Gallery, Pickford's House and Derby Silk Mill. It cares for the collections of cultural heritage on behalf of Derby City Council.

Derby has unique cultural assets. Derby Silk Mill is the site of the world's first factory and is in the Derwent Valley UNESCO World Heritage site (DVMWHS). Derby Museums has the finest collection of work by Joseph Wright of Derby, the 18th Century artist of scientific enquiry and is 'Designated' by Arts Council England as a collection of national significance. Derby's identity was 300 years in the making, and the Enlightenment spirit of creativity and invention resonates today in the city's status as the number 1 high-tech city in the UK.

In our museums we are proud of great men such as Joseph Wright of Derby, the polymath Erasmus Darwin and the clockmaker John Whitehurst. Their curiousness and desire to unlock the wonders of the universe inspired more practical men of industry such as Richard Arkwright to harness nature for manufacturing. Yet unlike the 18th Century, when only those of means were able to feel the pleasure of discovery, we want all our communities to learn new things and explore their creativity. We believe the best museum is a place of encounters. Somewhere people can look at the world differently, form new friendships and be active. Our visitors must feel they are entitled to participate.

*Museums enable individuals and communities to learn together. Museum learning is already all of the things much orthodox learning is not: curiosity driven; non-judgmental; non-compulsory; engaging; informal and fun. The people in the future will need to be resilient, creative, resourceful and empathetic systems-thinkers, exactly the kind of capacities museum learning can support. Our approaches not only enable people to learn but to collaborate and create.*¹

We want people to have collective and meaningful experiences in our museums and to ensure what we do is relevant to their lives, we have developed a co-production approach using this Human-Centred Design Methodology to work together with our stakeholders, listening to, understanding and responding to our collective needs. It is called 'human-centred' because it starts with people!

Human-Centred Design is used by organisations all over the world to develop products and services: *Human-Centred Design is the discipline of generating solutions to problems and opportunities through the act of making 'something new', driven by the needs, desires, and context of the users for whom we are making it.*²

The Derby Museums' Human-Centred Design Methodology draws inspiration directly from the 18th Century Enlightenment and applies in 21st century needs. This is represented beautifully in the work of Joseph Wright (shown below), whose paintings capture the atmosphere and detail of discussions in the 18th Century that shaped the world as we know it.

¹ Happy Museum Paper 2011

² Ref: PDD Consultancy

Joseph Wright's representations of 18th Century Enlightenment principles influence and inform Derby Museums Human-Centred Design Methodology. See pages 8-9 for our contemporary version.



DEFINE



THINK



MODEL

PROTOTYPE

The Derby Museums Human-Centred Design (DMHCD) handbook is intended to support you to design projects, programmes, products and services within your role at Derby Museums. These tools have been drawn together since the launch of Derby Museums Trust and are intended to guide you through our DMHCD approach. This approach underpins our cause to:
'Expand perspectives of what a museum is and can be'.

The handbook itself is a living piece of work, regularly being updated to reflect our thinking – or as we find/develop new tools. 'Our thinking' includes *your* thinking... so if you have any comments, suggested improvements, or tools you would like to see added - please feel free to get in touch!

How to use this handbook:

The centre-spread in this handbook shows the overall workflow for the DMHCD approach - so you may want to start here first. The workflow guides you through the different stages you can go through, the questions you can ask and the tools you can use to help you answer those questions and move to the next stage.

The other pages in the handbook detail tools referenced in the DMHCD workflow and either give you additional information, or a template to use in your work.

The final pages in the handbook help you find other referenced material and sources for more information.

We hope you find the DMHCD handbook useful. If you have any questions, or need help - feel free to get in touch. The following people are best positioned to help you if you get stuck:
 Hannah Fox, Andrea Mercer, Andrea Hadley-Johnson and Jonathan Wallis.

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Our thanks to all the people who have supported the development of this handbook, showing us new tools to try or testing the approaches. In particular, we would like to thank the team and partners of National Arts Strategies for sharing brilliant ideas and being inspirational. We discovered the concepts of 'How Might We' and 'Yes and...' and learned lots more about empathy and great brainstorming through their generous support. Thank you!

*Joseph Wright Paintings from left to right:
 A Philosopher by Lamplight (or an Hermit), 1769.
 The Alchemist, in Search of the Philosopher's Stone, discovers Phosphorus, 1771 & 1795.
 A Blacksmith's Shop, 1771.
 An Experiment on a Bird in the Air Pump, 1768. (National Gallery, London)
 A Philosopher Giving that Lecture on the Orrery, in which a Lamp is put in the Place of the Sun, 1766.*



TEST

EVALUATE

MAKE

SHARE

Derby Museums Logic Model Example

Use this draft version of Derby Museums’ logic model as a template to draw up your own project or programme with colleagues or project partners. The top sections ‘inputs/activities/outputs/outcomes/impact’ should stay the same, but you are likely to have different titles in the ‘Areas’ column or indeed not to have it at all - depending on the inputs and resources you have. You can have as many rows as needed, though your final logic model should be as concise and as simple to understand as possible.

Areas	INPUTS	ACTIVITIES	
CULTURAL	COLLECTIONS BUILDINGS KNOWLEDGE/SKILLS	COLLECTION DEVELOPMENT CAPITAL RESTORATION PROGRAMME DEVELOPMENT	
LEARNING	CONNECTIONS universities/lifelong learning schools industry partners METHODOLOGIES human-centred design co-production Equipment/materials	LEARNING PROGRAMMES sessions workshops CPD residencies live projects	
SOCIAL	CONNECTIONS community partners co-production partners wellbeing research	PROGRAMMES social media equality and diversity communities of interest give/get schemes	
PEOPLE	PEOPLE colleagues audiences partners volunteers friends skills talent passion creativity knowledge commitment experience	CO-PRODUCTION & SKILLS volunteer programmes HR - training, communication recruiting co-production approaches	
BUSINESS	investment earned income funding partnerships	BUSINESS OPERATIONS finance operations venue hire retail/catering marketing fundraising	

A logic model can help you to:

- Think about why your project or programme exists, why you do what you do and how that makes a difference.
- Plan a new project. It can help you to think about the need and what you will do to address that need.
- Communicate your thinking to people who support or benefit from your work.
- Develop your evaluation plan.
- Identify project or programme risks and how you might manage them.

OUTPUTS (#represents 'number of')	OUTCOMES	IMPACT
<p>PRODUCTION/DEVELOPMENT collections recorded/ restored/accessioned capital value invested</p> <p>ACCESS #programmes #attendances audience diversity</p>	<p>SATISFACTION high quality collections positive experiences improved facilities</p> <p>RECOGNITION increased investment, raised profile, increased attendance</p>	<p>Derby Museums' vision is to shape the way in which Derby is understood and appreciated and the way in which people from all places are inspired to see themselves as the next generation of innovators, makers and creators.</p> <p>Derby Museums' cause is to expand perspectives of what a museum is and can be and we aim to do this by:</p> <ul style="list-style-type: none"> • Being Independent • Fostering a spirit of experimentation • Pursuing mutual relationships • Creating the conditions for well-being • Proving that we are doing it
<p>PARTICIPATION #participants audience diversity resources usage #activities developed residency graduates skills developed</p>	<p>SKILLS & ASPIRATION career paths developed schools outcomes achieved</p>	
<p>PARTICIPATION #people engaged online audience/volunteer diversity #hours/skills shared</p>	<p>SOCIAL RESILIENCE Happier, more connected and contributing audiences and community partners</p>	
<p>PEOPLE roles and jobs established training delivered partnerships formed jointly delivered projects</p>	<p>CO-PRODUCTION a co-production methodology committed & well trained staff volunteers engaged audiences engaged partners engaged</p>	
<p>RESOURCES diverse income streams profit and sustainability</p>	<p>RESILIENCE reduced reliance on funding organisational stability future development</p>	

How to ask a 'How Might We' Question...

Why ask a 'How Might We' question?

How Might We (HMW) questioning was developed by Min Basadur¹ four decades ago and is used as a creative way to approach an issue or a challenge. It promotes a sense of positive collaboration and offers a more effective way of framing a place to start compared to 'How can we do this?' or 'How should we do that?'

Both of these statements can result in the immediate response of 'we can't do this' or 'we shouldn't do this'. The HMW also importantly encourages a sense of enquiry that resonates with the spirit of Enlightenment that runs through Derby Museums' collections and narratives.

How to formulate your HMW

The HMW questions are sometimes best formed by asking what is stopping us doing this already, then thinking of a point of view (POV) someone could have about the challenge or situation (the empathy map template might help you do this).

For example:

Challenge - Development of a new learning programme for hard-to-reach young people.

What's stopping us from doing this?

Through assumptions and deeper research, we might know the following:

- teenagers think museums are boring and uncool
- we aren't delivering programmes that meet KS4 curriculum
- our current programmes don't seem relevant to young people's lives
- there are additional needs that we may not be equipped to deal with
- we don't know how to communicate with teenagers
- the atmosphere at our museums turns young people off

Real or imagined POV or problem statement -

Disaffected young people feel that museums aren't for them - that they are boring and not cool, full of old people or screaming children.

They don't actually know what we do as we don't talk to them directly and museums don't feel like places that help them improve their lives.

Resulting HMW - 'How might we develop effective learning experiences for young people at our museums that excite and engage them, enabling them to feel comfortable, safe and valued?'

Through this process the HMW gives much more information and ways to explore the challenge than 'How might we develop a new learning programme for hard to reach young people?'

It gives us something to check our project against asking 'Have we achieved all of the elements in our original HMW?' You may find also that new HMW questions to explore emerge.

¹ Basadur - Applied Creativity. <http://www.basadur.com/>

Quick ideation methods...

Yes and...

At the heart of creativity is the ability to get excited about ideas, to think with a 'Yes, and' attitude... - believing that 'anything is possible!'. If we try to open ourselves up to that feeling, who knows where it might take us?

Adopting that attitude while ideating has real impact and you can warm up before brainstorming by doing this fun partner exercise.

The principle for the exercise is to improvise without judgement - there are no wrong answers.

Two people - A & B. A tells B 'You have a' or 'You are a' and then makes up something totally random. B then responds by saying very enthusiastically 'Yes, and...' then keeps telling a story with A responding with positive vibes and facial expressions but not adding discussion or questions. 2 – 3 mins.

Reverse the process with B telling A the prompt.

Discuss How did that feel - Scary? Challenging? Tough to keep going? Fascinating? Interesting? Strange? Comfortable?

If you move into the brainstorming with this kind of approach - you will find it much easier!

Principles of brainstorming

Brainstorming as a group (5-9 people with post-its) can be a very positive experience.

Encourage high energy and no more than 15 minutes per topic or question.

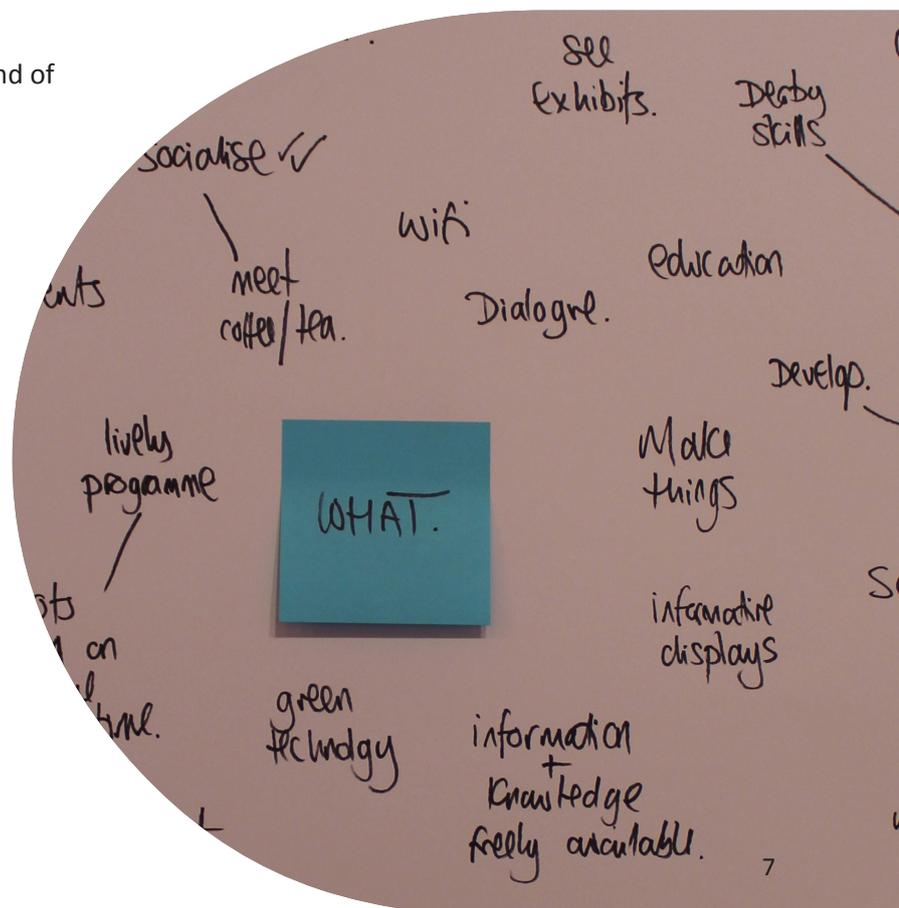
Standing up is good.

As soon as a post-it is on the wall, it doesn't belong to the individual – it belongs to the group...

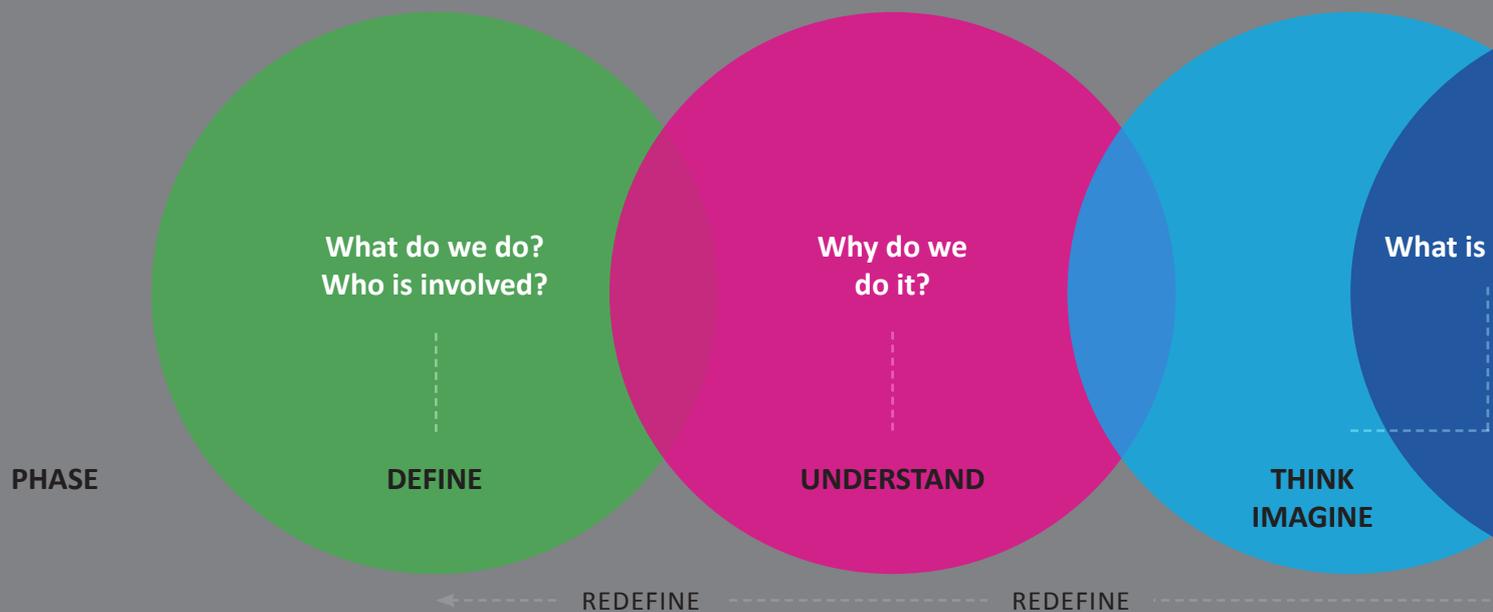
There are some other guiding principles that everyone should be clear on:

- defer judgement (both negative and positive)
- encourage wild ideas - all ideas are good
- build on the ideas of others (don't shut ideas down, explore them)
- stay on topic (put other discussions in the car park)
- have one conversation at a time
- be visual
- go for quantity over quality

Once you have a full set of ideas you can then start refining, or taking one idea and start brainstorming further...

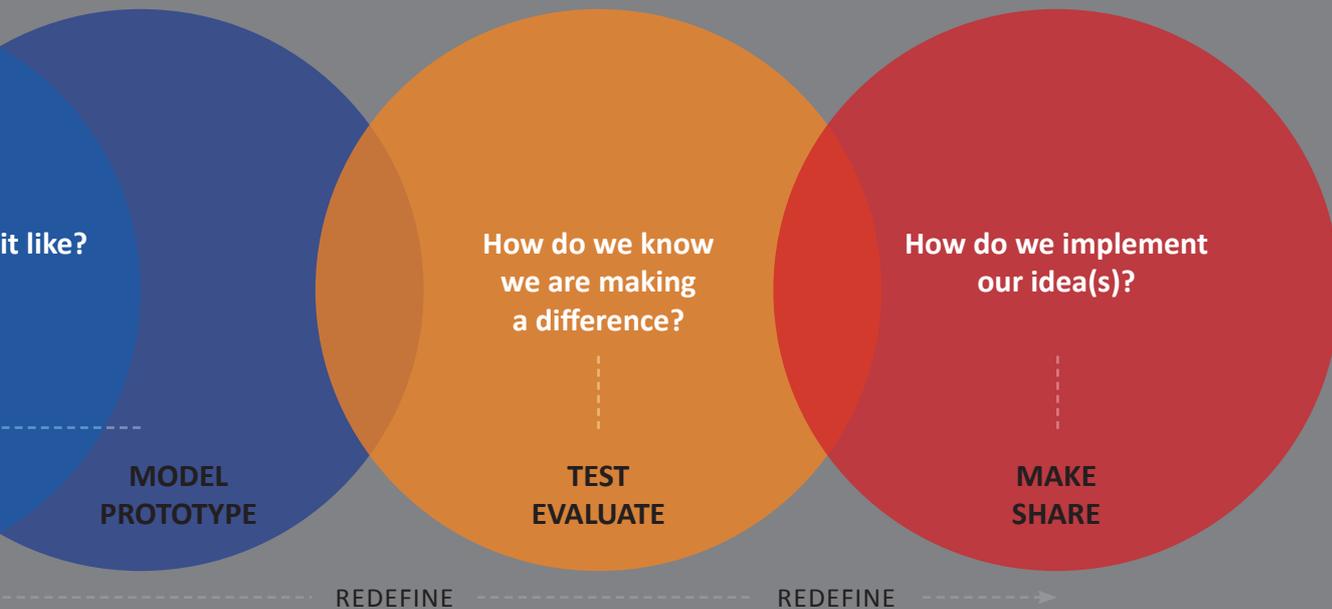


Derby Museums Human-Centred Design Workflow



PHASE	DEFINE	UNDERSTAND	THINK IMAGINE
QUESTIONS we can ask	<ul style="list-style-type: none"> What is the issue we are trying to solve? What are our guiding principles? Who is the audience? Who are the partners? How urgent is this? What does success look like? What are the available resources/constraints? 	<ul style="list-style-type: none"> What are our assumptions/hunches? (brainstorm) What does our primary research tell us? (End users thoughts) What do we find when we go deeper? (including other examples of people meeting this type of challenge) 	<ul style="list-style-type: none"> What are the needs and motivations of our end-users? (Could create a Journey Map using info from UNDERSTAND). What are the analogies we can draw to help us? What are our initial ideas?
METHODS to help us answer the questions	<ul style="list-style-type: none"> Create our 'How Might We' (HMW) question/s Develop initial project team Brainstorm who might have the same or similar issue, or an interest in ours - invite them to join the conversation. 	<ul style="list-style-type: none"> Research and Surveys Interview with empathy Audience/stakeholder workshops Set up a Project Lab 	<ul style="list-style-type: none"> Generate as many ideas as possible to serve these identified needs. Get as many views as possible. Ideas tracking
TOOLS we can use	<ul style="list-style-type: none"> Audience development toolkit Volunteer framework How to develop a 'How Might We' Question guide (pg 6) DM Learning Strategy 	<ul style="list-style-type: none"> Empathy Map Template (page 10) Visitor surveys - analogue and digital (social media etc) Sector/Industry surveys - analogue and digital (inc social media) 	<ul style="list-style-type: none"> Journey Map template (pg 12-13) Brainstorm guidelines (pg 7) Smart Boards Social Media/online
INTERNAL REFERENCES we can look at	<ul style="list-style-type: none"> DM Vision/Cause/Principles DM Business Plan DM Learning Strategy Audience Development Strategy Previous similar projects 	<ul style="list-style-type: none"> DM Vision/Cause/Principles DM Business Plan Audience Development Strategy Previous similar projects 	<ul style="list-style-type: none"> Audience research Ideas library DMHCD Process
PEOPLE who can tell us more or help us	<ul style="list-style-type: none"> Executive Director and Exec Team Audience & Communities Team Volunteer Coordinator Visitor Services Manager 	<ul style="list-style-type: none"> Executive Director and Exec Team Audience & Communities Team Volunteer Coordinator 	<ul style="list-style-type: none"> Other colleagues Other organisations

We use our Derby Museums Human-Centred Design methodology to design, develop and deliver our projects hand-in-hand with our stakeholders. You can use this process from the beginning, or dip in at relevant points but do try to ensure that you are at least checking off that you have considered each section, as they are there to help us realise our projects and activities to their fullest potential for everyone involved, maintaining relevance and resilience and growing our own learning.



<p>Which ideas are strongest? Can we combine, expand and refine our ideas? What do other people (including our users) think of these ideas? How can we make a prototype?</p>	<p>What tools are we using to track the level of success? Did it work? What do people think and feel (including us?) How can we improve? Do we need to redefine?</p>	<p>What resources do we have? Who will be part of it? What are the tasks? How are we tracking success? Who should we be telling about what we are doing? How should we be telling them? What is our next HMW 'How Might We' question? How does this feed into our other work or areas or the work of others?</p>
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<p>Seek feedback. Present a selection of ideas to the user. Reserve judgement and maintain neutrality. Create and present actual working prototype(s)</p>	<p>Gather feedback & data, document. Measure success. Review the objective (HMW) and Journey Mapping outcomes against the prototype experiences Determine if the solutions met the goals (Set aside emotion and ownership of ideas.)</p>	<p>Determine resources. Plan and assign tasks. Make/produce. Deliver!! Measure the outcomes. Share the outcomes...</p>
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<p>Project Plan Template Workshop resources</p>	<p>Evaluation framework Logic Model (pg 4-5) Online platforms (e.g. Tumblr) De-brief meetings</p>	<p>Project Plan template Presentation template Evaluation framework Social Media/online platforms PR/Marketing/Film/Photography</p>
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<p>Evaluation library - case studies DMHCD Process Journey Maps</p>	<p>Evaluation library - case studies summary reports learning logs</p>	<p>Evaluation summary reports Presentation examples PR/Marketing strategy</p>
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<p>Other colleagues Other organisations</p>	<p>Other colleagues Other organisations SM Workshop supervisor DM Technician Audience & Communities Team</p>	<p>Other colleagues Other organisations Co-production Team Wider Management & Exec Team Audience & Communities Team</p>
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Audience Development elements to consider

The Derby Museums Audience Development Strategy asks:

“How might Derby Museums extend and build on existing core audience groups and develop new ones, particularly from under-represented and excluded audiences?”

In order to approach this, the following further ‘How Might We’ questions should be explored and considered: (See page 6 for more on How to ask a ‘How Might We’ Question...)

How might we increase the number of people engaging with Derby Museums and offer the widest possible access to all of our buildings, collections, facilities and services?

- How might we identify barriers to access?
- How might we improve physical and sensory access; intellectual access; emotional access; cultural access and financial access?

How might we build effective, positive and proactive relationships with our communities through co-produced programmes, projects and activities?

- How might we work in co-production with our communities?
- How might we undertake consultation?
- How might we develop marketing and publicity?

How might we reflect the diversity of Derby’s communities?

- How might we represent our communities past and present and connect with our developing communities?
- How might we create relevant and accessible programming and interpretation?
- How might we be sensitive to culturally diverse artefacts?

How might we contribute to the quality of people’s lives in Derby, act as a catalyst for social change, and create the conditions for well-being?

- How might we effect Social Impact?
- How might we develop our role as a social hub?
- How might we counter social exclusion?
- How might we effect regeneration through redevelopments and activities?
- How might we promote community cohesion?

How might we build our capacity as a pioneer in audience development work, with consistently high quality, progressive and sustainable work?

- How might we create a staff structure which actively promotes diversity?
- How might we develop our audience knowledge and research?
- How might we evaluate what we do, and share this information?





DERBY MUSEUMS Empathy Map Tool

What am I...



thinking?

seeing?

hearing?

saying?

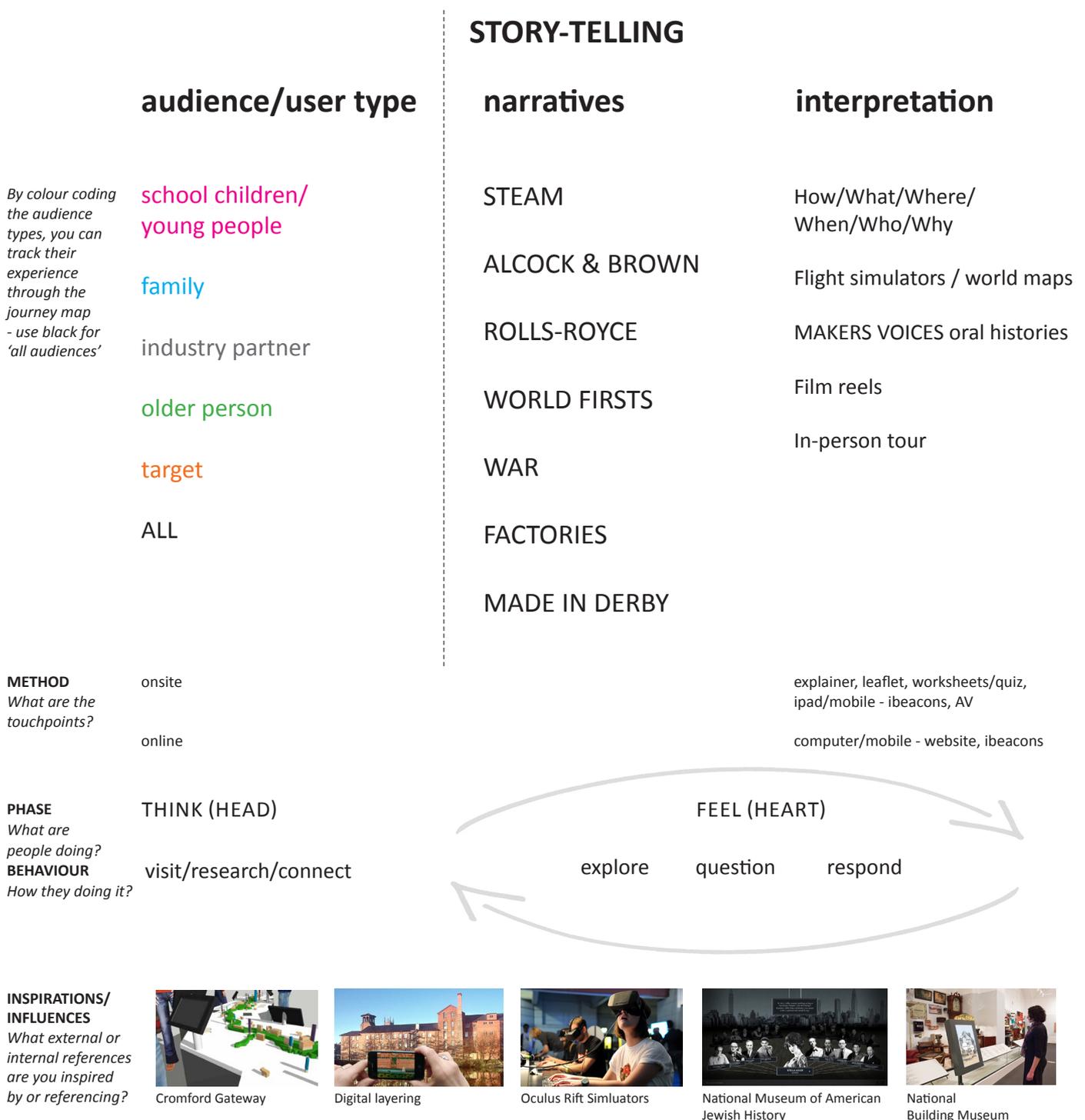
feeling?

doing?

Journey Map Example

Use the bold black headings to develop what the visitor/user experience will be, whether specific to that user-type or a universal experience. What connections do you think they can make and how are they going to know? What do you want the outcomes to be and will the journey help make those outcomes reality? How can we help people to 'think with their heads, feel with their hearts, do with their hands'? Headings and post-it notes on wall can be an effective way to start your journey map....

EAGLE ENGINE (your project or artefact name)



The Journey Map can be used to explain to other people what the intention is for the project or experience. It can also be used as a quality check to see whether you have covered all of the areas and explored all of the opportunities - you can use it to at the end of project stages to assess whether you have done everything you said you were going to, or to add more that you have discovered during the process for the next stage.

CONNECTIONS

objects

Merlin

RB211

Whittle

Prospect of Derby

RR blade

smallest engine

Grasshopper (engines)

programmes

Schools Programme

Young Makers

Talks inc Lunar 21

Meet the Maker

Derby Makers

STEM Ambassadors

Makers' Voices Project

RR Heritage Trust Days

links/networks

Materials library

STEM ambassador scheme

Volunteer scheme

Code Club

Science Museum

Rolls-Royce Heritage Trust

MAG - Natural History Enlightenment (Darwin/Wright)

RETAIL - kits/flight

OUTCOMES

These outcomes should be decided at the outset and can be drawn from our organisational aims, our funders' requirements or by the additional identified needs of our audiences and stakeholders.

These are HLF outcomes...

for heritage

Better managed.
Better condition.
Better interpreted/explained.
Better identified.

for people

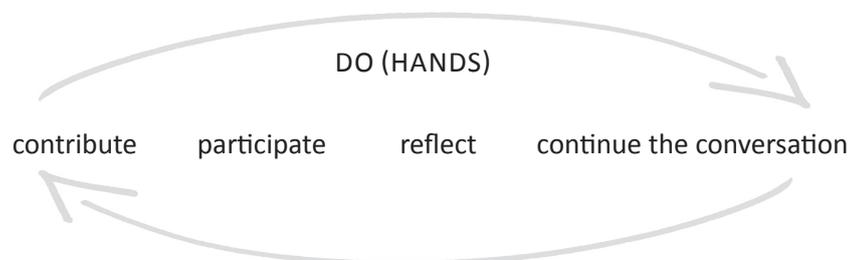
Developed skills.
Learned more about heritage.
Changed attitudes.
Had an enjoyable experience.
Volunteered time.

for communities

More people and a wider range of people will have engaged with heritage.
Local area/community will be a better place to live/work/visit.
Local economy will be boosted.

wayfinding, trail/tour, leaflet, VSA, industry partners

computer/mobile - website, ibeacons, industry, social media



MAKE A DIFFERENCE



Prospect of Derby



RR Eagle Engine



RB211



Schools Programme



Young Makers



STEM Ambassadors

Project Plan Elements

Questions to ask in planning for delivery

Related headers in a Project Initiation Document

What is our How Might We (HMW) question? ----->	Project Definition
Why is this necessary? ----->	Rationale/Mandate/Background/Objectives
What do we know so far? ----->	Assumptions
How are we going to know more? ----->	Consultation
How are we going to do it? ----->	Approach/Task list
What resources do we have? ----->	Resources
Who will be part of it? ----->	Project Board
How are we tracking success and learning? ----->	Evaluation & Learning Log
Who should we be telling about what we are doing? ----->	Communications
and How should we be telling them?	
How does this feed into our other work or areas?----->	Project interactions
When is it going to happen? ----->	Timescale & Delivery Schedule
What could stop it from happening? ----->	Risk Register

Evaluation elements to consider

See the DM Evaluation Framework and Library for further information

Questions to ask -

How might we:

- Define what we need to evaluate, and who this might involve?
- Understand why are we doing it and the value of evaluation in our work practice and development?
- Gather, record, collate, measure, analyse, share, respond to or act on the evaluative information?
- Test and trial methods of evaluation?
- Share the outcomes of our evaluation - with staff, colleagues, audiences, communities?

In order to achieve this, how might we...

- Establish a monthly reporting system to report on:
 - > Visitor Figures
 - > Participation Figures
 - > Audience Satisfaction
 - > Feedback from events and activities
 - > Volunteer numbers and hours
 - > Digital Engagement
 - > Engagements with target audience groups?

- Create a template for project leaders to plan, review, evaluate and summarise their projects?
- Create feedback/evaluation opportunities for all events and activities to measure outcomes?
- Use the AIM Visitor Verdict cards, and from 2015 the Audience Finder process, to evaluate visitor satisfaction and audience profile?
- Set up consultation groups with representatives of our audiences and target audiences to work with on evaluation and other issues?
- Develop tools and frameworks to measure and evaluate social impact?
- Create a public access area on the website for project summaries so that staff, audiences, communities and colleagues have access to information about the work we are doing?
- Respond to feedback?
- Share significant feedback, comments, evaluation and responses via website?
- Share the social impact of our work?

Other tools & references and where to find them

Audience Development Strategy & Toolkit - T-Drive > Audiences and Communities > Audience Development

Volunteer Framework - T-Drive > Volunteer Co-ordination

Visitor Survey Templates - T-Drive > Audiences and Communities > Audience Development

Learning Strategy - T-Drive > Audiences and Communities

Project Initiation Document (PID) Template - T-Drive > Project Management

Evaluation Framework - T-Drive > Audiences and Communities > Evaluation

Derby Museums Human-Centred Design Workflow - This booklet, pages 6 & 7

How to Develop a 'How Might We' Question - This booklet, page 8

Quick Ideation Methods - This booklet page 9

Journey Map Template - This booklet, pages 12 & 13

Empathy Map Template - This booklet, page 11

Logic Model Template - This booklet, pages 4 & 5

Workshop Resources - Silk Mill via site manager

Social Media and Digital Engagement Strategies - T-Drive > Business Handbook > Digital Engagement

Presentation Templates - T-Drive > Business Handbook > Presentations

Derby Museums Vision/Cause/Principles - T-Drive > Business Handbook > Business Planning

Derby Museums Business Plan - T-Drive > Business Handbook > Business Planning

Evaluation Library - T-Drive > Business Handbook > Project Management > Past Projects

(inc case studies/summary reports/learning logs)

Project tumblr sites - www.derbysilkmill.tumblr.com
www.remakemuseum.tumblr.com
www.dmnature.tumblr.com
www.dmusa.tumblr.com
www.wrightusa.tumblr.com



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Written and produced
by Derby Museums

Version 3.0
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