The Guide to Researching Audiences

Case Studies

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JISC, British Library, BBC, National Health Service, Becta, and Museums, Libraries and Archives Council working together to fully realise the potential of e-content for all users. For more information on the Strategic Content Alliance, please visit:

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Contents

1. Introduction 5

2. Archival Sound Recordings 8
   2.1 Background 8
   2.2 The audience analysis ‘brief’ 8
   2.3 How the research was done 9
   2.4 What was learned and how it was useful 9
      Website development 10
      Audience research used to promote the resource 10
      Continued user engagement 10

3. Arthritis Source 11
   3.1 Background 11
   3.2 Audience analysis ‘brief’ 12
   3.3 How the research was done 12
      Log file analysis 12
      Online survey 12
      Telephone interviews 13
   3.4 What was learned and how it was useful 13
      Log file analysis 13
      Online survey 13
      Telephone interviews 15
   3.5 Further audience analysis work 15

4. Design of the BBC iPlayer2 16
   4.1 Background 16
   4.2 Audience analysis ‘brief’ 17
   4.3 How the research was done 17
   4.4 What was learned and how it was useful 18
      Conclusions 18
      Application 18
   4.5 Further audience analysis 19

5. Digitisation of the John Johnson Collection 20
   5.1 Background 20
   5.2 Audience analysis ‘brief’ 21
   5.3 How the research was done 21
   5.4 What was learned and how it was useful 21
   5.5 Further audience analysis 22
      Uptake and use of the digitised John Johnson Collection 22
      Evaluation of the project 22

6. Europeana Project 24
   6.1 Background 24
   6.2 Audience analysis ‘brief’ 25
   6.3 How the research was done 25
      Workshops 25
      Focus groups 25
      Online survey 26
   6.4 What was learned and how it was useful 26
      Focus groups 26
      Online survey 27
      General conclusions 28

7. JISC National e-Books Observatory Project 29
   7.1 Background 29
   7.2 Audience analysis ‘brief’ 30
   7.3 How the research was done 30
   7.4 What was learned and how it was useful 31

8. London Museums Hub 32
   8.1 Background 32
   8.2 Audience analysis ‘brief’ 33
   8.3 How the research was done 33
   8.4 What was learned and how it was useful 34
      Main findings 34
      Developing Hub audience analysis strategy 35
9. Oldbaileyonline

9.1 Background
36
9.2 Audience analysis ‘brief’
37
9.3 How the research was done
37
Providing evidence on the potential audience for the resource
37
Developing the website
37
Redesigning the website
38
9.4 What was learned and how it was useful
38
Providing evidence on the potential audience for the resource
38
Developing the website
39
Use of the website
39
Redesigning the website
40
Lessons learned
41
9.5 Further audience analysis
41

10. Penn Data Farm
42
10.1 Background
42
10.2 Audience analysis ‘brief’
42
10.3 How the research was done
43
Log file analysis
43
Monitoring use of electronic resources
43
Audience segmentation
44
Surveys of audience satisfaction
44
10.4 What was learned and how it was useful
45
Monitoring use of electronic resources
45
Optimising resources produced in-house
45
Redesign of the library website
45
10.5 Further audience analysis
46

11. Teens, Music and Technology: BBC Research
47
11.1 Background
47
11.2 The audience analysis ‘brief’
47
11.3 How the research was done
48
Ethnography
48
Data collection
48
11.4 What was learned and how it was useful
49
Managing the output of the research agency
49
Content of the report
49
Conclusions of the research
50
What the research will be used for
51
Lessons identified
51

Appendix A: The Guide to Researching Audiences
52
A.1 Introduction
52
A.2 Why, what, who...
52
Why do audience research?
52
Who is the guide for?
53
What is in the guide?
53
1. Introduction

1.1.1 This document presents case studies of real-world audience research conducted in the public sector. It is a supporting document to ‘The Guide to Researching Audiences’\(^1\) which is described in more detail in Annex A. The case studies and the guide have been produced by Curtis+Cartwright Consulting Limited on behalf of the Strategic Content Alliance.

1.1.2 The case studies demonstrate the uses and benefits of audience research, and illustrate some of the concepts and good practice outlined in the guide. They cover a range of sectors and showcase different areas, including:

- public-private sector partnerships;
- a range of methods including innovative ethnographic studies;
- service design, service enhancement and research projects;
- the link between digital and non-digital services;
- national and international exemplars.

1.1.3 The table on the following page provides a summary of the case studies, including which research methods have been used (eg web analytics), and what the case study provides a good example of (eg informal audience analysis for monitoring and service development). This information is also provided for each individual case study at the start of each section.

1.1.4 A fictional case study which illustrates audience analysis and modelling in the lifecycle of a museum (both digital and non-digital services) is also available as a separate document.\(^2\) It is designed to demonstrate a range of research methods, highlight some common pitfalls, and show how audience research is linked to the lifecycle and development of a service.

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### Case Studies

<table>
<thead>
<tr>
<th>Summary</th>
<th>Methods used</th>
<th>A good example of…</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Archival Sound Recordings (page 6)</strong>&lt;br&gt;Audience analysis to inform the design of a website to increase access for the UK HE and FE community to an extensive collection of archival sound recordings.</td>
<td>▪ user panels;&lt;br&gt;▪ usability labs;&lt;br&gt;▪ questionnaires;&lt;br&gt;▪ workshops.</td>
<td>▪ engaging users in the design of a website;&lt;br&gt;▪ an ongoing consultative process.</td>
</tr>
<tr>
<td><strong>Arthritis Source (page 11)</strong>&lt;br&gt;Audience analysis to inform redesign of a health information website for non-specialists.</td>
<td>▪ web analytics;&lt;br&gt;▪ online survey;&lt;br&gt;▪ in-depth interviews.</td>
<td>▪ matching audience needs and knowledge to design objectives;&lt;br&gt;▪ combining methods to capture a broader range of information;&lt;br&gt;▪ relative resource costs for different methods;&lt;br&gt;▪ limitations of basic web statistics.</td>
</tr>
<tr>
<td><strong>Design of the BBC iPlayer2 (page 16)</strong>&lt;br&gt;Investigating the likely impact of the new design on audience perceptions of the BBC iPlayer2.</td>
<td>▪ focus groups;&lt;br&gt;▪ in-depth interviews.</td>
<td>▪ value of audience segmentation;&lt;br&gt;▪ exploring audience perceptions;&lt;br&gt;▪ limitations of non-representative data.</td>
</tr>
<tr>
<td><strong>Digitisation of the John Johnson Collection (p 20)</strong>&lt;br&gt;Audience analysis to support an application for funding to digitise the John Johnson Collection and demonstrate return on investment.</td>
<td>▪ informal survey;&lt;br&gt;▪ personas;&lt;br&gt;▪ user testing;&lt;br&gt;▪ web statistics.</td>
<td>▪ demonstrating demand for a service;&lt;br&gt;▪ making use of private sector expertise;&lt;br&gt;▪ monitoring the audience for a new service.</td>
</tr>
<tr>
<td><strong>Europeana Project (page 24)</strong>&lt;br&gt;User testing as part of an iterative user-centred design process for a European cultural heritage web portal.</td>
<td>▪ online survey;&lt;br&gt;▪ focus groups.</td>
<td>▪ the importance of defining the target audience;&lt;br&gt;▪ synthesising findings from different methods;&lt;br&gt;▪ the benefits of user testing.</td>
</tr>
<tr>
<td><strong>JISC National e-Books Observatory Project (p 29)</strong>&lt;br&gt;Research conducted as part of the JISC national e-books observatory project to investigate the demand, usage, delivery and business models for e-books.</td>
<td>▪ web analytics;&lt;br&gt;▪ surveys;&lt;br&gt;▪ focus groups;&lt;br&gt;▪ in-depth interviews.</td>
<td>▪ a research project with clear objectives;&lt;br&gt;▪ relating web log data to user behaviours.</td>
</tr>
<tr>
<td><strong>London Museums Hub (page 32)</strong>&lt;br&gt;Audience analysis to inform institutional strategy and understand the relationship between digital and non-digital services at the London Hub museums.</td>
<td>▪ surveys;&lt;br&gt;▪ focus groups;&lt;br&gt;▪ web statistics.</td>
<td>▪ combining methods to improve confidence in key conclusions;&lt;br&gt;▪ uses and limitations of web statistics;&lt;br&gt;▪ challenges and benefits of developing a common approach to audience analysis.</td>
</tr>
<tr>
<td>Summary</td>
<td>Methods used</td>
<td>A good example of…</td>
</tr>
<tr>
<td>---------</td>
<td>--------------</td>
<td>-------------------</td>
</tr>
</tbody>
</table>
| Oldbaileyonline (page 36)  
Audience analysis to support an application for funding to digitise the Old Bailey Proceedings and inform service design and development. | informal surveys;  
user testing;  
ongoing user engagement activities;  
web statistics. | tailoring design to meet needs of different audience segments;  
informal audience analysis for monitoring and service development;  
costs vs benefits of web analytical techniques. |
| Penn Data Farm (page 42)  
An ambitious project to collect, analyse and exploit audience data to optimise design and delivery of library services and resources at the University of Pennsylvania. | web analytics;  
surveys. | institutional drivers for audience analysis;  
audience analysis is not the only important factor in decisions about services;  
uses and limitations of usage statistics;  
weaknesses of large-scale surveys. |
| Teens, Music and Technology (page 47)  
Research conducted by the BBC to investigate the role that music plays in the lives of young people and the extent to which young people use technology to access music with their friends. | ethnography;  
personas. | using a research agency;  
an innovative research project;  
combining ethnographic techniques. |
2. Archival Sound Recordings

Key features

| Audience analysis to inform the design of a website to increase access for the UK HE and FE community to an extensive collection of archival sound recordings. |
| Methods used: user panels; usability labs, questionnaires; workshops. |
| A good example of... |
| ■ engaging users in the design of a website; |
| ■ continued user engagement. |

2.1 Background

2.1.1 The British Library’s Archival Sound Recordings website, conceived as a way of increasing access to the Sound Archive’s extensive collection, went live in autumn 2006. A project to develop the website was funded by the Joint Information Systems Committee (JISC), with the UK’s Higher Education (HE) and Further Education (FE) communities as the primary audience. Academic institutions have access to a wide range of downloadable content and a small proportion of content is available to other users (including the general public) as streamed files which cannot be downloaded. For more information on the British Library Archival Sound Recordings, see the website: http://sounds.bl.uk/.

2.1.2 The website was developed on the basis that its content would be used by academics, teachers, students and researchers. In the past audio has arguably been undervalued by the academic community in comparison with other primary sources. The appointment of an Engagement Officer signals a desire to address this under-utilisation of audio.
2.2 The audience analysis ‘brief’

2.2.1 The initial phase related to the challenge of developing a website that met the needs of its audience in terms of content, usability and accessibility. Consequently, a specification for the website was developed and this became the focus of the initial audience research work.

2.2.2 Subsequent to launch, audience research was used as a way of ensuring that the website is fulfilling the role intended for it in the HE and FE communities. A programme of audience analysis which has examined how and when the website is used has also been undertaken.

2.3 How the research was done

2.3.1 It was decided that the most effective way of ensuring that the target audience’s needs were being met was to set up a User Panel, which consisted of 10-12 individuals from a variety of HE and FE institutions (a mix of academics, librarians and researchers).

2.3.2 The original specification for the website was drafted in consultation with both a group of experts in the field of rich media content and delivery and the User Panel.

2.3.3 The process of developing and refining the website was directly informed by feedback from the User Panel, including:

   - sending a draft of the website specification to the User Panel for sign-off;
   - trialling the improved website with the User Panel (and up to ten nominated users from each of the institutions represented on the panel) and obtaining feedback via an online questionnaire;
   - a further stage of ‘accessibility testing’ was carried out under controlled test laboratory conditions to ensure that the site could be used by, for example, the visually impaired.

2.3.4 The demonstrator version of the website was also tested on new people who were fresh to the site. Testing was conducted in a dedicated ‘usability lab’, and led by trained facilitators who shadowed the users.

2.3.5 Subsequent to the website’s launch, the development team have been monitoring use of the website by looking at web statistics, and have an ongoing consultative process to obtain feedback from users.

2.4 What was learned and how it was useful

**Website development**

2.4.1 The audience research work fed into the development of the website which was launched in 2006. The User Panel was very influential in the design and development of the website, providing valuable feedback on the user experience.
**Audience research used to promote the resource**

2.4.2 The team responsible for the development of the website has been closely monitoring and analysing usage statistics. Since institutions have been obliged to access the resource via an Athens login (now superseded by the UK Federation), a certain amount of user information has been available (e.g., the number of unique users at each institution and the level of usage at any point in time). The British Library’s own user statistics also show the level of interest in individual collections, although at present, this data cannot be analysed by institution.

2.4.3 A key challenge faced by the website is to promote the value of audio resources for teaching, learning, and research. On the basis of web statistical data, a number of institutions were identified as ‘heavy users’ of the website, and individual heavy users within these institutions were identified with the help of librarians or Athens licence holders. The British Library team have engaged with these users to develop case studies on ways of making use of the Archival Sound Recordings. These case studies will be used to promote the resource to the academic community and will also be placed on a user area of the website.

**Continued user engagement**

2.4.4 In addition to the User Panel already described, workshops (based around the Archival Sound Recordings team visiting an institution) are being used to obtain feedback from users and potential users. This continued consultative process means that assessments can be made about the value of particular collections; it also means that problems can be identified at an early stage and ideas for future collections, content, and initiatives can be tested.
3. Arthritis Source

3.1 Background

3.1.1 The Arthritis Source is an informational website providing accurate and authoritative information about arthritis and related conditions. It was developed at the University of Washington and has been available since 1995. The site sits within the University of Washington School of Medicine: Orthopaedics and Sports Medicine web pages, alongside listings for Clinical Services and Surgeons and Faculty. The content on the site is written by the University of Washington faculty with support from the Arthritis Foundation and consists of:

- patient education materials;
- information for medical professionals;
- multimedia – video clips of surgical procedures, exercises, anatomic descriptions etc.

3.1.2 The site was created with ‘patients with arthritis’ in mind as the primary audience although this was not formally specified. For further information, see the Arthritis Source website: www.orthop.washington.edu/uw/tabID__3370/Default.aspx.
3.2  Audience analysis ‘brief’

3.2.1  In early 1999 audience analysis research was commissioned as part of a redesign effort. Little previous research had been done, so a broad characterisation of the audience was needed.

3.3  How the research was done

3.3.1  The users and usage of the existing site were investigated in order to discover and prioritise redesign objectives. Research focused on dimensions considered important to designing successfully for a particular audience: role; goals; knowledge; human factors; circumstances of use and culture.

3.3.2  Three methods were used: log file analysis, online survey and telephone interviews.

Log file analysis

3.3.3  The analysis was exploratory and intended to provide an indication of the potential benefits of automated analysis. It was intended to explore patterns of usage:

- variation in usage activity over time;
- identity of users;
- relative use of different resources;
- non-use of resources i.e. pages with few or no hits;
- navigation path through the site;
- value of the resources.

Online survey

3.3.4  This method offered the chance to collect a broad range of data through questioning users directly, but both designing the questionnaire and analysing the data were high effort. It was also not possible to control for respondent bias in the sample i.e. some types of user may have been more likely to respond than others.

3.3.5  The questionnaire contained 16 questions covering 4 areas:

- current site visit;
- user’s role with respect to arthritis;
- sources of information about arthritis used;
- demographics.

3.3.6  Data were analysed using descriptive statistics and coded using either emergent categories (the categorisation is developed in the light of the data collected) or a priori categories. Coding with emergent categories is often helpful when research is exploratory and little is known about the audience in advance. In order to ensure that coding was reliable the categories were tested and refined until two different raters agreed on category assignment.
3. Telephone interviews

3.3.7 20 respondents to the online survey agreed to take part in further research and were interviewed by telephone. It was hoped that this would provide more detailed information about their knowledge of arthritis and their interactions with Arthritis Source.

3.3.8 Conducting, transcribing and analysing (including content coding) the interviews proved very time consuming.

3.4 What was learned and how it was useful

Log file analysis

3.4.1 The main measure of users was IP address (although use of dynamic IP addressing etc. means that one IP address does not equal one user).

3.4.2 Use of the site varied across days of the week and time of day. Use of different pages/resources was variable, with some pages being accessed very frequently and others only a single time during the three week analysis period.

Limitations

3.4.3 The analysis revealed the limitations (eg IP addresses saved as digits which did not allow even basic location information to be determined) of this basic log file analysis and contributed to the decision to move to automated log file analysis which allows much more data to be processed with less effort.

3.4.4 Other limitations apply even to more sophisticated log file analysis techniques:

- Measuring a user's success in achieving their goal is not possible.
- Reasons for variability in number of hits per page are not clear. Less frequently viewed pages might have been more specialist, difficult to find, poorly described or not valuable to users. This meant it was not possible to decide which of the less frequently viewed pages should be a redesign priority.
- The meaning of short view times for a page is also not clear. A short viewing time could mean that the page was not useful, or simply that it was an intermediate stepping stone to the user's goal.

Online survey

Goal

3.4.5 Free text responses to a question about reason for visiting the site were coded into emergent content categories. The most common category was ‘seeking information about arthritis’ and only 5% of responses were categorised as ‘seeking emotional support’.
3.4.6 20% of responses to the questionnaire took the form of direct questions, so the redesigned site offered question-based navigation:

- expert articles were written to question and answer templates;
- users can search the site using free text questions;
- the internal search engine returns results in the form of questions, together with the relevant article title and information.

Role

3.4.7 Although the researchers thought they had provided a comprehensive list of user categories (student; researcher; medical professional; medical student; person with arthritis; relative of person with arthritis) over 20% of users selected ‘other’ as the category which best described them. 20% of these ‘other’ users reached the website via a web search for other health conditions. Additional user roles needed to be recognised:

- person with condition they do not recognise as arthritis;
- person with condition which may or may not be arthritis.

3.4.8 To cater for these users information relating to differential diagnosis was included in the article templates and the site structure was designed to help users arriving via searches not referring directly to arthritis to orientate themselves quickly.

3.4.9 The majority of users have some form of arthritis (and over 20% are >60 years old). This meant that accessibility for users with possible visual and/or motor impairments was a design priority:

- all images were made enlargeable;
- the number of steps needed to reach in-depth information was minimised.

Knowledge

3.4.10 The results suggested that users were relatively inexperienced and lacking in confidence in using computers and the internet, so the redesigned site provided extra guidance on using search tools and features eg guidance on downloading and viewing the videoclips.

Culture

3.4.11 Nearly 20% of users were based outside North America so basic changes were made to internationalise the content eg both generic and brand names for drugs were included. Automated log file analysis was used to produce a tool that allowed users to see real time data on the geographical location of users as the international audience was thought to be a selling point and to add credibility to the resources. Further work to explore cultural differences in user needs is planned.

Human factors

3.4.12 Arthritis can be debilitating and frustrating so the audience may have wanted or expected the website to offer social and emotional support services eg bulletin boards, chatrooms etc. These services are expensive to develop and maintain so it was important to assess audience demand before committing resources to them.
3.4.13 Responses to open-ended survey questions were coded for ‘negative emotional content’. None of the respondents mentioned social or emotional support services in response to a question asking about suggestions for the site. This (see also sub-section 3.4.5) suggested that only a minority of users seek emotional support from Arthritis Source.

**Telephone interviews**

3.4.14 Telephone interviews revealed a number of common misconceptions amongst the website audience. Some of these have potentially serious behavioural consequences, so it was important for the website to provide easily accessible information to help users recognise and overcome their misconceptions:

- An online quiz about common myths and misconceptions was designed. Incorrect responses linked the user to useful follow-up information.
- The ‘condition’ template was updated to include questions and information relating to the misconceptions.

3.4.15 The quiz was accessed 2,500 times during the first year of use, with 500 users completing all the questions, suggesting that at least some users found it valuable.

### 3.5 Further audience analysis work

3.5.1 Audience analysis is routine for Arthritis Source and the design is tweaked when there is evidence of a change in user needs, or to take advantage of changes in the technological landscape eg the site now includes more video clips and podcasts as high speed internet access has become more widely available.

3.5.2 The website’s commitment to assessing and responding to audience needs is signalled to the audience: web statistics are publicly available and very short online quizzes have been placed on many of the pages asking users to rate their usefulness. The real time overall user rating is displayed, giving users an idea of how helpful others have found a feature of the site.
4. Design of the BBC iPlayer2

**Key features**

Investigating the likely impact of the new design on audience perceptions of the BBC iPlayer2.

Methods used: focus groups; in-depth interviews.

A good example of...

- value of audience segmentation;
- exploring audience perceptions;
- limitations of non-representative data.

4.1 Background

4.1.1 The BBC iPlayer, a new product to deliver TV programmes on demand, was first piloted in October 2005 (RadioPlayer for on demand audio content was already well established). User trials of the completed beta version were conducted a year later. The service was approved by the BBC Trust and launched in July 2007, with streaming becoming available in December. The service was widely perceived as a success and an indication of the BBC’s commitment to using new technologies to deliver content in innovative ways. New features were added to the iPlayer as technology and the regulatory regime permitted.

4.1.2 In 2008 the BBC decided to launch a redesigned version of the iPlayer, to be known as BBC iPlayer2, in order to integrate the delivery of on demand TV and radio. The design and development of iPlayer2 relied on extensive user engagement including development of personas etc.
4.2 Audience analysis ‘brief’

4.2.1 The BBC commissioned research on audience perceptions of the design of the new version of the iPlayer2 which was to replace the original iPlayer and the RadioPlayer. They wanted to check that existing users of both services would not react negatively to the new combined service and also find out how perceptions of the design of iPlayer2 might affect the audience’s attitudes towards the BBC as an organisation and content provider in the 21st century digital world.

4.3 How the research was done

4.3.1 Two qualitative methods were chosen to investigate audience perceptions of the design:
- moderated ‘audience labs’ at which participants were able to try out the iPlayer and share responses and reactions with other participants;
- in-depth individual interviews.

The researchers chose to segment the audience on the basis of TV and radio consumption habits:
- TV only;
- mostly TV with some radio;
- mostly radio with some TV;
- radio only.

4.3.2 Respondents were recruited according to this segmentation, with an emphasis on ensuring that radio users reflected the full spectrum of genres (music, drama/entertainment, comedy, news, documentaries etc.). Research was conducted in London and two cities in the north of England, to provide some geographical diversity.

4.3.3 Participants were specifically asked to consider the design of iPlayer2 as separate research was carried out on usability.

4.4 What was learned and how it was useful

4.4.1 The response to the design was generally positive but a number of ‘radio only’ users were critical of aspects of the design and concerned about the implications these design features had for the functionality and service that radio listeners would receive.

4.4.2 Participants’ overall responses to the design fell into the following categories:
- aesthetics and style eg great! cool! wow!
- functionality eg what does it do that’s new?
- change/usability eg how is it different from the old iPlayer, which I know and like using?

4.4.3 A selection of the findings are given below:
The guide to researching audiences

Case Studies

- The general look of the home page was well received: users liked the ‘cinematic’ feel of the widescreen;
- The colour scheme was confusing (pink and white text, black background) because the pink was perceived as more salient;
- The central search box was highly valued;
- The ‘More like this’ feature was considered a good idea, but users wanted it to link to a much broader range of material eg not just more episodes from the same series;
- Users missed the TV channel and radio station logos which were a popular and easy entrance point on predecessors;
- Some users felt that the carousel was a ‘selling tool’ and would be used to direct the audience to what the BBC considered important – there was concern that only trendy shows would be presented;
- The carousel was also criticised for presuming to know audience tastes;
- Extensive use of images suggested that iPlayer was an ‘entertainment portal’.

Radio users had additional concerns:
- They wanted to be able to bypass the home page to access radio content more quickly;
- They wanted a gateway to radio that would offer the same functionality and breadth of content as the RadioPlayer;
- The iPlayer2 experience was too ‘managed’ and appeared to limit self-directed journeys through content;
- They felt that presentation style was too visual and this contributed to an over-emphasis on TV content.

Conclusions

4.4.4 The ‘unashamedly entertainment design cues’ help the iPlayer2 audience to position the BBC alongside modern, commercial brands. The focus on entertainment makes a minority of potential users uncomfortable. Radio users are particularly concerned that their minority tastes will not be properly catered for.
- The design attracted largely positive responses from most participants.
- This design may help the BBC to shake off perceptions that it is paternalistic, old-fashioned etc.
- The design has the potential to enhance perception of the BBC as a provider of varied content and real choice for the audience.

Application

4.4.5 The research team suggested a number of adjustments to the design which could help to address the concerns expressed and further enhance the benefits of iPlayer2, for example:

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3 BBC iPlayer2 design, Research undertaken by BLINC for Amelia Stilt; April 2008.
4. Design of the BBC iPlayer2

- ‘More like this’ could contain a surprise item;
- the colour scheme could be altered to resolve the confused hierarchy of messages;
- radio station logos could be placed prominently to allow radio users to access ‘their’ content more quickly and easily;
- the functionality of the radio pages could be extended as the console is needed less for surfing by radio users.

4.5 Further audience analysis

4.5.1 The BBC is collecting and analysing data from server log files, BBC message boards and blogs hosted elsewhere on the internet and using audience surveys to monitor the success of the iPlayer2. These data will be used to inform further service development.

4.5.2 It will be interesting to see if the integration of radio and TV in iPlayer2 encourages users to try a new medium, eg radio in addition to TV, and whether users continue to consume content from the new medium.

4.5.3 There is some evidence that this may be happening as an initial audience survey indicated that 49% of iPlayer TV users have also listened to radio on the BBC website.4

4.5.4 However there is also evidence that at least some radio users remain unimpressed as comments on the iPlayer blog indicate.5

4.5.5 ‘If you are monitoring BBC radio messageboards you will notice that most posters are unimpressed by the victory of style over substance…. The iPlayer is glitzy, glamorous even. However, these first few days it’s slow to load, cumbersome to navigate and unreliable…. The whole thing seems geared to UK television viewers, which is fine, but radio is a different medium. Radio listeners don’t need a photo of a young woman in bed reading a book – they want to listen to “Book at Bedtime.” The different mediums [sic] really need different players, particularly for those who listen via the internet.’

4.5.6 What a collection of message board posts do not provide, regardless of number or vehemence of opinion, is representative data about audience reactions to the iPlayer: there are likely to be many users who are pleased or indifferent to the redesign and may be exploiting the enhanced functionality offered.

4.5.7 The BBC worked with a group of visually impaired users during design and development of the iPlayer2. Following the launch of the service, it became clear that visually impaired users still had problems and further audience analysis and engagement is in progress to address these concerns.

5  ibid.
5. Digitisation of the John Johnson Collection

Key features

**Audience analysis to support an application for funding to digitise the John Johnson Collection and demonstrate return on investment**

**Methods used:** informal survey; personas; user testing; web statistics.

**A good example of...**
- demonstrating demand for a service;
- making use of private sector expertise;
- monitoring the audience for a new service.

5.1 Background

5.1.1 The John Johnson Collection comprises some 1.5 million items of printed ephemera dated from 1508 to 1939. It therefore covers a wide range of printing and social history and is of worldwide importance. At the start of this project the collection was only partly catalogued and only 15,000 items were accompanied by digital images. The aim of the digitisation project was to make a much broader selection of these important and valuable documents available more widely, particularly to the UK scholarly community. The new digital resource was to be supported by the creation of extensive, carefully controlled metadata and a variety of finding and searching tools to facilitate its full exploitation.

5.1.2 The digitisation was a collaboration between the Bodleian Library (University of Oxford) and ProQuest, a private sector company that specialises in the creation and delivery of electronic resources for the education sector.

5.1.3 For further information on the John Johnson Collection, see the website: [www.bodley.ox.ac.uk/johnson](http://www.bodley.ox.ac.uk/johnson). Some areas of the website are restricted to members of the HE community.
5.2 Audience analysis ‘brief’

5.2.1 In preparation for the bid for funding audience research was undertaken to provide evidence for the size and breadth of the potential audience for the digital resource.

5.2.2 Audience engagement in design and development of the resource was also sought, to ensure that the digitisation would realise maximum benefit for users, taking full advantage of the potential of the digital format.

5.3 How the research was done

Defining and demonstrating the target audience

5.3.1 Letters of support were solicited from potential users in British higher education institutions (HEIs) and international academics with an interest in ephemera.

5.3.2 Research was undertaken to demonstrate the relevance of the collection to a broader audience:

- investigation of HEI course modules which might use the material;
- mapping material in the collection to Key Stages 3 and 4 of the National Curriculum.

Audience engagement in design

5.3.3 Key users were asked to suggest search tools and features that would maximise the utility of the digitised collection and invited to collaborate in the development process.

5.3.4 A prototype was subjected to user testing.

Selection of resources for digitisation

5.3.5 Statistics for physical use of the various components of the collection over the previous three years (number of readers) were compiled to assist in decision-making (other factors were the relationship to previously digitised material and whether or not materials had already been catalogued).

5.4 What was learned and how it was useful

5.4.1 Interviews with potential users formed the basis for development of two distinct user personas: end user and key purchase influencer and end user. The personas included information about IT skills and information discovery and retrieval skills as well as academic and wider interests.

5.4.2 A number of academics provided testimonials in support of the bid, setting out the benefits they believed digitisation would offer for research and teaching.

5.4.3 Although uncatalogued and therefore difficult to work with, usage statistics showed that the Crimes, Murders and Executions material was heavily used; these materials were selected for digitisation.
5.5 Further audience analysis

5.5.1 The bid for funding was successful and the project is currently in progress. Some parts of the collection have already been digitised: uptake and use are being monitored and the results will be used to refine and adapt the initial project plan as necessary.

Uptake and use of the digitised John Johnson Collection

5.5.2 Some data is already available on reach and usage of parts of the collection which have already been digitised. So far 331 institutions (this figure includes 299 UK institutions automatically given access when the collection was launched) have signed up for access (this is free to all UK educational institutions and public libraries). This includes 11 public libraries and one subscription library.

5.5.3 Usage statistics for April to September 2008 inclusive show:

- 161 sessions per day (mean);
- 0.8 searches per session (mean);
- 1771 pdf downloads (mean per day = 9.7);
- 949 image downloads (mean per day = 5.2).

5.5.4 The project team have noted that the default Flash viewer is used much more frequently than the jpeg view which offers alternative functionality (mean of 70.8 images accessed per day via Flash; mean of 10.4 images per day accessed as jpegs). This may simply indicate that most users are satisfied with the Flash viewer, but this aspect of usage will be monitored and if necessary further user testing will be used to explore whether users are aware that ‘hit-highlighted’ jpegs are available.

5.5.5 The low searches/session ratio can be partly explained by users who access images by browsing rather than searching, but other factors may also contribute:

- the home page may be shown repeatedly to potential users as part of library induction programmes (if this is an important contributing factor the ratio should be particularly low at the start of the academic year);
- automated web crawlers may be accessing the site;
- the wide availability leads to a large number of casual visitors exploring a new resource that has appeared on their library’s website.

5.5.6 This provides a good illustration of the limitations of web usage statistics. Analysis of the server log files would provide more information, but would still not address the motivation of visitors who don’t use the search tool for visiting the site, their reasons for not using the search tool, nor their level of satisfaction with site.

Evaluation of the project

5.5.7 Audience analysis work forms an important component of the evaluation strategy for the project:
- User satisfaction will be assessed by focus groups and/or surveys.
- Level and nature of user activity will be assessed from usage statistics.
- User engagement with digitised materials may be assessed on the basis of the quantity and quality of user-generated content and tagging.

5.5.8 The project team expect to revise and refine this strategy as work progresses.
6. Europeana Project

Key features

User testing as part of an iterative user-centred design process for a European cultural heritage web portal.

Methods used: online survey; focus groups.

A good example of...
- the importance of defining the target audience;
- synthesising findings from different methods;
- the benefits of user testing.

6.1 Background

6.1.1 Europeana is a two-year project to design and build a web portal to make available to users a wealth of digital objects from across different European countries. Objects will include photographic images, sounds, paintings, maps, manuscripts, books, archival items etc. Content will be provided by museums, libraries and archives from across Europe.

6.1.2 The aim of the Europeana project is to analyse the problems and bring together cross-sector institutions in Europe, to build strategies for cooperation, develop a common business model and look at technical interoperability.

6.1.3 Europeana has set out to be user-driven rather than technology driven. The Europeana project has identified five user profiles: general user; school child; academic user; expert researcher; and professional user. Speaking about the project, Director Catherine Lupovici explained that the difficulty lay in knowing who the general user was and what they would be expecting from a cultural portal.
6.4 A ‘maquette’ – an animated demonstration website – was developed. User requirements for the maquette were determined in consultation with content providers and technical developers. Although the design of the maquette focused on the needs of the ‘general user’ the additional requirements of ‘researchers’ were also considered.

6.5 Following further work a fully functional prototype Europeana site will be launched in November 2008; this will contain approximately 2 million items. The prototype is intended to demonstrate the feasibility of the project to the funding bodies. For further information, please see the Europeana website: www.europeana.eu.

6.2 Audience analysis ‘brief’

6.2.1 The objective was to find out if the maquette lived up to the expectations and wishes of real end-users in terms of functionality, the interface and navigation.

6.2.2 An external market research company was hired to carry out audience analysis according to a three stranded approach:

- structured feedback sessions at a project conference;
- online questionnaires drawing on the same structure as feedback sessions;
- three focus groups to be held in the Netherlands, the UK and Sweden.

6.2.3 Participants were to be ‘general users’ varying in age, educational background and interests but with an interest in cultural heritage.

6.3 How the research was done

Workshops

6.3.1 The maquette was unveiled at the Frankfurt EDL conference (Jan-Feb 2008), which was attended by over 200 information management professionals and digital content experts. Feedback from three workshops held there was used to refine the protocols for online and focus group user surveys.

Focus groups

6.3.2 Three focus groups of general users were held in Sweden, Denmark and the UK. An additional focus group of professional users was held at a conference in Sweden. There were no focus groups with South European participants.

6.3.3 The Swedish and Dutch groups had participants from different occupations and age groups, but the UK group was made up of graduate students at the Warwick University Centre for Cultural Policy Studies, studying European Integration as part of their course. The UK group therefore brought a greater background knowledge to their evaluation and had more experience of research and search strategies.
6.3.4 Discussions concentrated on the home page, social tagging, browsing and searching tools, and a link from the site to YouTube.

**Online survey**

6.3.5 Details of the survey, with a link to the Europeana website, were posted on the websites of project partners. This channel provided most responses. The survey was also available to members of the public visiting the maquette via a search engine or other discovery route. The survey ran for several weeks.

6.3.6 Questions covered the same areas as focus group discussions. Question format was variable, with some requiring a free text response and the remainder asking respondents simply to agree or disagree with a statement about the website.

6.4 What was learned and how it was useful

6.4.1 Although the findings from the focus groups and online survey were broadly in agreement, there were some interesting differences:

- The interactive format of the focus group encouraged participants to reflect more deeply on their experience of the demonstration and perceptions about the website.
- There is a positive bias in surveys: users who disliked, were dissatisfied with, or thought the website valueless are less likely to provide feedback. Users with a positive view of the concept and execution will be willing to provide constructive feedback.
- Older participants in the focus group sometime differed from younger participants, particularly, yet segmentation by age for the online survey responses was uninformative. It is not clear whether this is because the focus group participants were unrepresentative of older website users or because the discussions were a better way of uncovering attitudes.

6.4.2 It is envisaged that the final site will be multilingual, but the demonstration site was only available in English; this may have deterred a substantial proportion of the audience. In view of the potential cultural differences in expectations and usage habits, it may be important to test a prototype or demonstration version which is accessible to users not fluent in English.

6.4.3 These findings may be as informative about the limitations of the two methods as they are about real differences between the samples.

**Focus groups**

6.4.4 Several features of the site were not well understood or used by the focus group users. The image and identity of the site were not clear from the home page and there was confusion about who the site was aimed at – perhaps not helped by the inclusion of some features perceived to appeal to younger or social users alongside text-heavy content. Users with research experience seemed to find the content attractive as a resource but thought the presentation and search tools more suited to the leisure browser. There were a lot of comments about getting lost in the site.
6.4.5 In general the groups were agreed on a number of criticisms:
- the home page was not a good guide to contents of site, was rather old-fashioned in style and too dense with text;
- social tags were poorly understood and had to be explained – many people were only in favour if they were controlled;
- erratic ordering of results; too much information at the results screen were problems for some; refining the search was a popular option;
- the ‘when’ and ‘where’ options were not understood;
- the timeline and map concepts elicited mixed comments – to do with fit with the search item;
- personal archiving was a must-have, downloading was popular;
- there were very mixed feelings about the link to YouTube.

6.4.6 There were clear differences between the groups, which is not altogether surprising given that they deliberately spanned different cultures, ages and backgrounds:
- The Dutch group were disappointed with the site, finding it dull, over-elaborate, time consuming, not cleverly done and unsatisfactory.
- The UK group thought that the browsing tools compromised the utility of the site as a research tool, but that it might appeal to young children. They thought the display for the search results was too detailed. They found the timeline unhelpful, its content too broad and the circular layout self-defeating. Their main complaint was that browsing was confusing and that users could too easily get lost.
- The professional users focus group held in Sweden was the only group to understand the social tagging concept.
- Older users tended to be less unhappy with the home page, but more concerned about the appropriateness of providing links to external sites and more sceptical about the value of social tagging.

Online survey

6.4.7 Of the responses received, users from the Netherlands were heavily over-represented, perhaps because of wider distribution of the survey or greater public awareness of the Europeana project. A small number of responses were received from non-EU countries.

6.4.8 Respondents were fairly evenly split between three age bands and there were no significant variations in results attributable to age. This contrasts with the impressions from the focus groups (see sub-section 6.4.6).

6.4.9 The results were unusually positive, perhaps because users were moving quickly through a scripted route and spent little time reflecting on the structure and content of the site, or about site navigation, perhaps because many questions were styled as an invitation to agree with a positive statement eg ‘General layout of home page is good’.
6.4.10 Over 70% of respondents rated the site as ‘good’ or ‘excellent’ in three broad aspects: general look and feel, navigation around the site, browse option, timeline and map. Most commonly mentioned dislikes included: use of flash; too much grey; no other language options; no advanced search options; slow loading times.

6.4.11 A number of differences between responses to the online survey and the opinions of the focus groups were evident:

- Online respondents tended to agree with positive statements about the home page (although a substantial minority disagreed that ‘Home page gives a clear introduction to what Europeana.eu covers’).
- A large majority agreed that ‘The search results as presented on the screen are displayed in a clear and logical way’. Negative comments overwhelmingly referred to the apparent lack of logical ordering of results.
- Social tagging was seen as a ‘useful feature’ by 84% and 72% said they understood what social tags were.

6.4.12 Although just over half of those who claimed to understand social tagging provided the requested description, these descriptions were generally accurate. The low response rate for the free text description might indicate that understanding was rather limited, but could also be an artefact of the survey design. The accuracy of the descriptions which were given provides some evidence for the latter interpretation.

General conclusions

6.4.13 Although the response to the demonstration site was generally positive a number of common concerns emerged:

- the home page does not give a good introduction to the site and does not make clear what the site is about or the content it can provide;
- the search results page – lacked order in results, level of detail and presentation;
- confusion about ways the site can be browsed and searched.

6.4.14 Some of the concerns and problems with the site may stem from the differing requirements of different users. There is some evidence that the home page suggests a site for research and study, yet the navigation tools available and the social tagging features are more suited to casual, leisure use.

6.4.15 These results have been fed back to the technical development team working on the fully functional prototype.
7. JISC National e-Books Observatory Project

Key features

Research conducted as part of the JISC national e-books observatory project to investigate the demand, usage, delivery and business models for e-books.

Methods used: web analytics; surveys; focus groups; in-depth interviews.

A good example of...
- a research project with clear objectives;
- relating web log data to user behaviours.

7.1 Background

7.1.1 The JISC national e-books observatory project is a two-year project which is investigating user behaviours and the demand, usage, delivery and business models for course text e-books. It is managed by JISC Collections, a limited company that negotiates at a national level with publishers and owners of digital content on behalf of the academic and research community.

7.1.2 The e-books observatory is a research project which was designed to collect extensive information regarding the use of course text e-books in the 127 participating HE institutions. As such, measuring and understanding this usage is a primary aim – more so than would be the case for a typical service. JISC Collections invited tenders to conduct the audience analysis research and awarded it to a university research group (CIBER at UCL) who will report in May 2009.

7.1.3 The audience research being undertaken is termed the ‘Deep Log Analysis Study’. Deep Log Analysis (DLA) is essentially a ‘brand name’ for the research undertaken by the CIBER team, which in this study combines raw web log data to identify real time patterns of discovery, with data from other audience research methods (eg questionnaires and interviews) to
develop an understanding of user behaviour. This case study demonstrates good practice in audience research by combining a variety of research methods – something which should be achievable by non-experts as well.

7.1.4 The project is not yet complete, but it is included here as a good example of how to relate web log data to user behaviour. For further information, please see the project website: www.jisc-collections.ac.uk/catalogue/jiscebooksproject.

7.2 Audience analysis ‘brief’

7.2.1 A key element of the project was to understand the use of course text e-books and the wider context of demand and usage across the sector. Specific areas of interest included:

- the demand from potential users;
- how the JISC licensed course text e-books are used, and how to improve usability;
- how student buying behaviours are affected if their course texts are made available online free at the point of use through the university library;
- the impact on traditional print revenue to publishers;
- the impact on teaching and learning practices;
- the impact on library print circulation.

7.3 How the research was done

7.3.1 Web log data can provide quantitative measures of usage and suggest a number of possible interpretations of user behaviour. However, this data must be treated with care (eg does a low number of searches indicate that a user has quickly found the resource they wanted, or that they have given up after one attempt?). More detailed analysis of usage data (ie web analytics) may be informative, but in most cases other forms of audience research are necessary to really understand the usage statistics.

7.3.2 A wide range of information-gathering activities are being undertaken for this project, including the use of web statistics to investigate patterns of usage directly. These include:

- initial surveys of all librarians and library users to determine awareness and attitudes to e-books;
- analysis of web server logs to determine basic metrics (session length and depth, time on pages, search behaviour etc.), linked to known information about the visitor (ie institution, network information) where possible;
- monitoring changes in behaviour as institutions undertake promotional activities, changes in access mechanisms etc.;
- focus groups with students and staff at participating institutions to investigate views amongst users;
- in-depth interviews with librarians to understand their perspectives, especially regarding pricing models.
7.4 What was learned and how it was useful

7.4.1 At the time of writing, the project is at an early stage, in terms of analysis. Data has been collected, but has not yet been fully analysed. Some of the early survey data has highlighted key issues, including:

- demand for printed course texts far exceeds their supply in the university library;
- there is a high level of interest in e-books, with more than 60% of the academic population using e-books;
- there is a dominant preference for reading e-books on screen;
- 34.6% of university teachers say they spend less than 10 minutes online in an average e-book session, for students the figure is 23.2%;
- students and staff value the convenience of being able to access library services from home.

7.4.2 Generating statistics for the use of resources is relatively easy – the real challenge is understanding what these statistics actually mean in terms of user behaviour. The range of approaches to audiences taken by this project should help validate assumptions and inferences from the web statistics.

7.4.3 The approach taken should help to relate directly measured information (web logs) with information about the audience. The outputs will be put on the e-books observatory website at the end of the project, and also the CIBER DLA Study website at www.ucl.ac.uk/slais/research/ciber/observatory.

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6 The user survey was circulated to the 127 HE institutions participating in the project and gathered information on current user awareness, perceptions and attitudes towards e-books. Over 20,000 responses were received.
8. London Museums Hub

Key features

**Audience analysis to inform institutional strategy and understand the relationship between digital and non-digital services at the London Hub museums.**

**Methods used:** surveys; focus groups; web statistics.

**A good example of...**
- combining methods to improve confidence in key conclusions;
- uses and limitations of web statistics;
- challenges and benefits of developing a common approach to audience analysis.

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8.1 Background

8.1.1 The London Hub is a partnership of four of the ‘big player’ non-national museums in London: the Museum of London (lead partner), London Transport Museum, the Geffrye Museum and the Horniman Museum. Regional hubs are funded by the Museums, Libraries and Archives Council (MLA) to model best practice and provide support and training for smaller museums.

8.1.2 The London Hub wanted to investigate the potential for a joined-up approach to online audiences: building up a shared understanding of who audiences were, their expectations and whether these were being met etc. There was interest in developing a common methodology for audience analysis eg collecting the same audience data in order to facilitate analysis of trends and support development work. The Museum Hubs are already required to report on a variety of Key Performance Indicators (KPIs). The Hub was already required to collect and report website usage data in terms of ‘visits’ as one of its KPIs.

8.1.3 For more information on the London Hub see the MLA London website: [www.mialondon.org.uk](http://www.mialondon.org.uk).
8.2 Audience analysis ‘brief’

8.2.1 The brief for the research stated that ‘the Hub lacks a coordinated strategic approach to qualitative online audience profiling and research... we aim to build a more complete understanding of the Hub’s online audiences, and use this knowledge to take a more strategic user-focused approach to online delivery’.

8.2.2 A further aim was to ‘provide a common framework for recording and using web statistics in a consistent format across the Hub partners’.

8.2.3 More specific objectives were defined:
- Arrive at a more complete understanding of the Hub’s online audiences:
  - understand their motivations for using the websites;
  - understand their expectations of the websites, and the extent to which these expectations are currently being met.
- Identify and understand the patterns and links between online visits and physical visits to the museum sites.
- Provide a practical methodology that will enable the Hub to continue monitoring its online audiences in a consistent way for the future.

8.3 How the research was done

8.3.1 A multi-stranded approach was followed in order to provide a more representative picture of the audience. Convergence in key results across different methods would provide some reassurance of the validity of the conclusions in spite of the fact that each method has shortcomings.
- Online questionnaires were placed on the Hub partner museums’ websites.
- Similar questionnaires were used for face-to-face interviews with visitors to the physical museums.
- Focus groups were recruited from the online and physical survey respondents:
  - young people;
  - adults;
  - families with children.

8.3.2 Current web statistics reporting at the partner museums was also investigated.
8.4 What was learned and how it was useful

Main findings

Composition of the audience

8.4.1 Compared to the national average for museum and museum website visitors two age groups are under-represented in the London Hub museums’ audiences:
- 0-18 years;
- 65+ years (not visitors to the Geffrye Museum).

8.4.2 Online audiences were strikingly similar to the physical audience eg in terms of residential location.

8.4.3 Approximately 70% of online respondents claimed to be female (40% for the London Transport Museum).

8.4.4 8.5% of online respondents consider themselves to have a disability.

Use of the websites

8.4.5 Both the surveys and the focus groups confirmed that the overwhelming majority of website usage was for planning a visit to the museum. However, the website was not a key factor in the decision to visit – the reputation of the museum in a particular field, location etc. were the main factors.

8.4.6 The least common reasons for using the website were:
- browsing for fun;
- saw publicity [for the website];
- recommendation;
- teacher looking for resources or events.

8.4.7 Asked about what they would like to see more of on the website the most popular choices amongst respondents were:
- more information on the museum galleries;
- more information on the museum’s objects;
- more detailed information about collections in store;
- more details about events and exhibitions.

8.4.8 The least popular options were:
- more opportunities to comment or upload own content;
- more opportunities to buy things online.
Use of web statistics by Hub museums

8.4.9 Usage of web statistics across the Hub partners was variable. Different museums used different analysis packages, some used several packages or used different packages for special exhibition features. Both server-side and browser-based analysis packages were used. Web statistics were used for a variety of purposes:

- reporting;
- diagnostics and design;
- marketing and audience development.

Off website internet activity and presence was not measured.

8.4.10 Staff were reluctant to share data with partner museums owing to concerns about how comparisons would be made and conclusions about performance drawn.

Developing Hub audience analysis strategy

8.4.11 The London Hub has found that although there are technical barriers to adopting a common methodology for analysing online audiences, the greater challenge is organisational. Following this exploratory research concrete steps that will enable them to move towards a common approach to audience analysis have been agreed.

8.4.12 A series of workshops were held on themes relating to exploitation of the web by museums. This was intended to deliver specific benefits:

- to promote corporate buy-in for audience analysis work carried out to drive and support service enhancement;
- skill development and sharing expertise across different teams of museum staff – at present audience analysis functions are typically split across the technical and marketing and communications teams.

8.4.13 A two-tier approach to web statistical data is being adopted:

- Statistical measures for reporting purposes (internally to senior management etc. and externally to funders, for advocacy etc.) will be simple and standardised, so that:
  - trends across the Hub can be reliably identified;
  - ‘headline messages’ will be easy to communicate.

- More detailed statistics useful for service design and planning at the project or organisational level do not lend themselves to comparative analysis:
  - meaningful measures are more closely tied to individual website design and structure;
  - standards against which to measure performance at this level are best set by the project or organisation.

8.4.14 Whilst web statistics provide useful measures of the quantity of resource usage, they do not address the quality of the usage experience. The London Hub is committed to developing a framework for collecting data on how online services are received by the audience and the broader impact that online services have on organisations as a whole.
9. Oldbaileyonline

Key features

Audience analysis to support an application for funding to digitise the Old Bailey Proceedings and inform service design and development.

Methods used: informal surveys; user testing; ongoing user engagement activities; web statistics.

A good example of...

■ tailoring design to meet needs of different audience segments;
■ informal audience analysis for monitoring and service development;
■ costs vs benefits of web analytical techniques.

9.1 Background

9.1.1 The Old Bailey Proceedings are the reports of almost 200,000 trials for serious crimes which were held at the Old Bailey, London’s Central Criminal Court, between 1674 and 1913. Initially they were published as a popular magazine, widely read by Londoners of all social classes keen to know the details of the latest grisly crimes. Over time, the Proceedings became more serious and more comprehensive and the audience narrowed.

9.1.2 The trial records are an exceptionally compelling resource. They provide a rich and detailed record of the lives of ordinary Londoners. As well as being of interest to academic historians the material is also interesting and attractive to a much wider audience: family and local historians, schools and the general public.

9.1.3 The project (a collaboration between the University of Hertfordshire, University of Sheffield and the Open University) received money for the digitisation from the Big Lottery Fund New Opportunities Fund (under the Digitisation of learning materials programme) and the Arts and Humanities Research Council (AHRC). The digitised resource provides access to the text and scanned images of the trial records, marked up and tagged to provide powerful searching tools. In addition the website provides historical background materials and resources for schools.
9.1.4 Following receipt of further funding, the website was redesigned, updated and extended in April 2008 to include the whole of the *Proceedings* and texts of *Ordinary’s Accounts* (‘richly detailed narratives of the lives and deaths of convicts’) which have been linked to the relevant trials. For further information on the oldbaileyonline, see the website: [www.oldbaileyonline.org](http://www.oldbaileyonline.org).

9.2 Audience analysis ‘brief’

9.2.1 The project directors were convinced that the material would be interesting and appealing to a very wide audience and this influenced the decision to apply for Lottery funding from a programme whose criteria included production of online learning materials for the public at large, to increase learning and public use of the internet. This had consequences for the project:

- the application for funding needed to provide evidence that the digitised resource would be widely read and used;
- the resource needed to meet requirements and expectations of non-academic users.

9.3 How the research was done

Providing evidence on the potential audience for the resource

9.3.1 The project team contacted a wide range of groups to whom they thought the material was particularly relevant, setting out their proposal and asking if it would be of interest:

- local and family history societies;
- community groups;
- groups representing minorities eg the black community, the gypsy community.

9.3.2 This target audience was identified on the basis of the content of the *Proceedings* (many references to placenames, black servants/slaves, other immigrants and gypsies) and the project team’s professional experience of working in the London Archives: ‘they’re full of family historians looking up their ancestors.’

Developing the website

9.3.3 The project team were determined to create a resource that would reflect the needs of the different target audience segments. Their personal experience and consultations with the target audience guided the design and features of the website. An initial prototype was tested widely:

- historians in the field were asked to use and comment on the prototype;

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7 Robert Shoemaker, Project Director; pers. comm.
expert evaluators specialising in provision of digital content for the humanities assessed the design;

the Project Directors ran a series of focus groups with undergraduates.

Redesigning the website
9.3.4 At the time of the redesign more data were available to inform the redesign:

- user feedback (via the contact email address on the website, conversations at conferences, presence in newsletters etc. for family and local historians to maintain a dialogue with users);
- web statistics provided by the University of Sheffield Computing Service;
- evaluation by an expert in designing web content.

9.3.5 The team considered carrying out more sophisticated analysis of site usage to capture users’ clickstream histories but decided against this. It would have been expensive and they were advised that it would be unlikely to add significantly to what they already knew about usability and usage of the site.

9.3.6 Engagement with school users of the site was sought via items in the Historical Association (a professional body for historians, including school teachers of history) newsletter. A list of schools teaching the *Crimes and punishment through the ages* syllabus was obtained from the examinations board, but email contact details were not provided. It was decided not to attempt to contact schools by ‘snailmail’:

- school users were not a priority audience from the perspective of the AHRC who were funding the redesign;
- teachers have very specific demands of new materials owing to examination syllabus requirements and resources that have not been tailored to meet their needs are unlikely to be used.

9.4 What was learned and how it was useful

Providing evidence on the potential audience for the resource
9.4.1 A number of positive responses to the proposal were received from local history societies, local archives, schools and family history societies. Extracts from these were included in the business plan as part of the application for funding.

9.4.2 The team do not remember receiving any negative responses, but the exercise deliberately solicited support and anyone uninterested or unenthusiastic would simply not have responded. As a consequence this evidence for the breadth of the audience remains anecdotal and provides little indication of the likely volume of use.
Developing the website

9.4.3 The design specification included features aimed at meeting the needs of different audience segments. In particular:

- Search pages were structured to provide tools for different users eg a personal name search and a placename search were featured explicitly as well as being possible via keyword searching.
- Data were extensively tagged to meet a range of user requirements.
- A lot of background material was provided. This was written explicitly to be accessible to users not familiar with 18th century history.
- A Trial of the day feature was included to appeal to general users and offer a friendly introduction to the resources.
- Dedicated For Schools pages provided guidance for teachers on ways of using the Proceedings in teaching and resources tailored to school students including a timeline, glossary, tasks and primary source.

Use of the website

9.4.4 The project team have continued to develop their knowledge of the user community through informal engagement mechanisms:

- email correspondence;
- features in historical newsletters and journals.

9.4.5 The website is used extensively in university research and teaching and although most use is for one-off projects a significant minority of the audience are regular users. Family historians, local historians and academics all email, or occasionally telephone or send ‘snailmail’ with comments and questions on the site. Most correspondence is specific research queries or technical queries and the team also receive unsolicited letters of appreciation.

9.4.6 Email feedback from website users averages about one email requiring a response per day. The majority of correspondents are family historians, but specific queries from academics and university students are also common as are requests from linguists for access to the raw data files (these are referred to a linguist with whom oldbaileyonline have an informal agreement). The Project Manager notes topics which recur frequently – these are considered for addition to the FAQ pages of the website – and issues for consideration when the site is updated or redesigned.

9.4.7 Although statistics for oldbaileyonline are compiled rather little importance is placed on them owing to well known limitations of these data, however the statistics do provide some useful information about the audience:

- Although the project team were confident they would produce a resource of interest and value to a broad audience they have been surprised by the size of that audience.
- Although 16% of hits are from UK IP addresses, 40% are from ‘US commercial’ addresses, with a further 10% from Australia, Canada and New Zealand.
There is considerable academic use of the site: .ac.uk addresses rank 7th in the list of referrer sites.

The high number of personal name searches provides confirmatory evidence that the site is used extensively by family historians.

Redesigning the website

9.4.8 Further funding allowed the later Proceedings to be digitised and the original site was updated and redesigned.

9.4.9 The expert evaluation of the design was a big influence on the redesign eg:

- the home page was made shorter, the number of links was reduced and a brief introduction to the resources was added;
- the On this day feature was made more prominent;
- search tools were structured and grouped together;
- fonts and capitalisation were altered and the menus aligned to improve readability.

9.4.10 The team looked at statistics for hits per page on the website (for three randomly selected months) when making decisions about redesign. This revealed that a number of site features the project team were considering dropping, eg different types of search, detailed features within the historical background pages, were in fact well used, and these were therefore retained.

9.4.11 A rich Personal Details search was included: this allows searching for combinations of name, gender, age, occupation and place.

9.4.12 There was a poor response (only two replies) to calls for teachers to assist with the redesign of the For Schools pages although usage data indicates persistent and consistent use of them. The needs of school users are markedly different from those of academic historians, family historians and local historians: resources must meet the very specific demands of examination syllabuses if they are to be easily used. Without involvement from school users the team felt they lacked the expertise to update and redesign these pages successfully.

9.4.13 The For Schools pages were dropped from the redesigned site, with a note advising ‘The Schools Pages have [also] been withdrawn, owing to the difficulty of finding partners among school teachers who are willing to advise on the redesign of these pages. Should you wish to help with this please contact us…. Until December 2008 you can continue to use the Schools Pages on the old website, last updated in November 2007.’

9.4.14 The team are disappointed that they have found it so difficult to engage with the schools user community and continue to be worried that they will receive complaints when the pages cease to be available. The resources for schools will be placed on a wiki associated with the website. This will:

- ensure the resources remain accessible;
- facilitate involvement by the schools community in updating and amending them.
9.4.15 The Bibliography pages were dropped when the site was redesigned, because although popular, they were time consuming to maintain. This provoked complaints, so the Bibliography pages will be restored as part of a wiki associated with the website.

Lessons learned

9.4.16 Making it easy for your audience to communicate with you provides a simple way of engaging with them and building up a good picture of their requirements and satisfaction with a resource, but some audience segments are more difficult to engage than others.

9.4.17 Development of a website should be an iterative process so that successive updates can incorporate feedback from users.

9.4.18 The requirements for audience analysis, including provision for engagement, need to be factored into applications for funding, otherwise any award will not include provision for these activities, which may constrain service development.

9.4.19 Although the audience for the oldbaileyonline has always ‘exceeded expectations’ and the service is clearly widely used and appreciated there has been no comparative measure of success; one problem with adopting such an approach would be defining suitable benchmarks, particularly for specialist services and resources. There has also been no motivation to look at non-usage or under-usage of the resource in particular audience segments: this is difficult to do. The project team have to a certain extent assumed that awareness of the resource amongst the target audience is high enough (owing to good publicity and word-of-mouth recommendation) to make this problem negligible in practice.

9.4.20 The project team attribute part of the success of the redesigned website to good publicity. Press coverage by national media when the redesigned site was launched ensured high levels of awareness.

9.5 Further audience analysis

9.5.1 The project team have learned a lot from their user community about how people respond to the website and what its weaknesses are. The most common complaint is that there simply isn’t enough of it eg historians of crime want to see it extended to include lesser crimes as well as felonies, cases that didn’t go to court etc.

9.5.2 The project team are now involved in a further project, creating a more radical digital resource: Plebeian lives and the making of modern London 1690-1800. This will integrate different resources (poor relief records, the registers of births, deaths and marriages etc.) and will make it possible to piece together the lives of ordinary Londoners. The project team see the creation of federated search tools as the big challenge.
10. Penn Data Farm

<table>
<thead>
<tr>
<th>Key features</th>
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<tbody>
<tr>
<td>An ambitious project to collect, analyse and exploit audience data to optimise design and delivery of library services and resources at the University of Pennsylvania.</td>
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**Methods used:** web analytics; surveys.

**A good example of...**
- institutional drivers for audience analysis;
- audience analysis is not the only important factor in decisions about services;
- uses and limitations of usage statistics;
- weaknesses of large-scale surveys.

10.1 Background

10.1.1 Penn Data Farm is a Management Information System for the University of Pennsylvania. The aim is to design and implement an architecture for data-gathering and processing. As more and more resources are digitised and more services accessed online the profile and importance of the data farm have increased.

10.1.2 The project is an ambitious attempt to reconceive how data are gathered from the web and other electronic formats; the team are developing a system of metrics that they would like to pilot in collaboration with other institutions. For further information, see the Data Farm website: [http://metrics.library.upenn.edu/prototype/datafarm](http://metrics.library.upenn.edu/prototype/datafarm).

10.2 Audience analysis ‘brief’

10.2.1 The overarching objective behind the Penn Data Farm is to exploit the data generated during use of electronic resources to support excellent ‘customer’ management. There is an organisational imperative to excel in meeting university members’ expectations and anticipating their future requirements.
10.2.2 There are two important drivers for interest in audience analysis at the University of Pennsylvania:

- The university operates a system of ‘responsibility-centred budgeting’: each academic school has control over its own budget. Central services are essentially funded by a tax on the schools who are therefore very keen to make sure that they are getting a good return on their investment.

- The Penn libraries have moved towards evidence-based management and as a result more emphasis is placed on using audience analysis to aid informed decision-making about resource allocation.

10.3 How the research was done

10.3.1 Management present a problem to the data farm and ask them to capture usage data etc. which will provide useful evidence. The data farm will negotiate appropriate metrics with management staff and explain the limitations of possible approaches and the likely granularity of the analysis. Importance is also placed on understanding the broader objectives and environmental context for audience analysis projects.

Log file analysis

10.3.2 The data farm analyses proxy log files, which contain a University of Pennsylvania identity code. This has advantages over standard log file analysis, which typically provides the IP address, file requested and referring site:

- more powerful analyses are possible as information about the user’s status, subject affiliation etc. can be linked to his or her behaviour ie search patterns, journal usage etc.;

- the clickstream history can be recorded and will offer insight into what the user was actually doing.

10.3.3 The disadvantage is that relying on proxy logs samples an unknown fraction of users as the default method of accessing university services relies on IP authentication because this makes for quicker access to resources and therefore a better user experience. Proxy structures are used to access university services when a user is out of IP range and at certain locations on campus, eg the library or student residences, so off-campus use is clearly over-represented in the proxy logs.

Monitoring use of electronic resources

10.3.4 Some data about usage is available from vendors, but this doesn’t include any information about users and doesn’t even include cost per use. Often the university finds it more helpful to rely on internally collected data: whenever a member of the university connects to a proprietary resource via the library website this is logged. Although this misses members of the university connecting directly or through other routes, the data farm is confident that it provides a good picture of resource usage: there is a strong correlation between results based on library log-ins and vendor statistics.
10.3.5 Log files can also be used to look at which library collections are most used, which specialist collections receive attention from outside the Pennsylvania University membership etc. Usage data is normally segmented by academic school.

**Audience segmentation**

10.3.6 Although segmentation by school is widely used in decisions about resource allocation other segmentation schemes are also being considered. Schemes based on how individuals interact with information and what type of information they need are sometimes more appropriate.

10.3.7 A bottom-up approach to segmentation has produced different groupings, in terms of both subject affiliation and institutional role. These provide evidence to support effective interdisciplinary research, which is a cornerstone of the university’s strategic vision.

**Surveys of audience satisfaction**

10.3.8 A number of large-scale proprietary survey tools are available for regular tracking of audience satisfaction with eg library services. The University of Pennsylvania Library no longer makes use of these, because of reservations about large-scale, relatively infrequent surveys including:

- data collection is remote from the point of use, eg long after the user’s last exchange with the service, and this can distort responses;
- atypical experiences of the service tend to be salient in users’ recollections;
- validity of the data is questionable eg when respondents are asked about frequency of service usage, survey data and usage statistics don’t match;
- the audience’s generally positive attitude to centrally provided services tends to produce reflexive positive responses.

10.3.9 The University of Pennsylvania relies instead on point-of-delivery survey methods. The library monitors satisfaction with and effectiveness of the reference and instructional service. Rather than asking the user to supply general ratings which are supposed to relate to quality of service the emphasis is on uncovering the outcomes of interactions between the user and the service:

- for every appointment, the librarian can record specific information about the encounter (this has to be done manually and adoption of the protocol varies across departments);
- two weeks later the data farm will send the user a personalised email questionnaire asking only four questions about the encounter, focusing on whether the user feels better prepared as a result of the consultation;
- the questionnaire also includes a section for free text comments;
- analysis of responses is fed back to the service.

10.3.10 The survey provides data which is highly contextualised and localised – it relates to a single, identifiable experience of the service. At present the response rate is ~35%. The Director of the data farm feels that ‘some of the best information is in the comments… but this doesn’t seem to get the emphasis it warrants.’ One of the drawbacks to the method is that some
members of staff feel it puts them on the same footing as a widget on the library web pages and there continue to be concerns amongst staff that the data collected might be exploited for evaluation.

10.4 What was learned and how it was useful

Monitoring use of electronic resources

10.4.1 As library budgets are squeezed it has become imperative to determine the optimum allocation of money. The data farm provides evidence about frequency of usage, cost per use, subject affiliations and status of users etc. to support informed decision making.

10.4.2 The Medical School had long been very critical of the funding formula for library services, complaining that its faculty and students didn’t use the library much. The data farm provided statistics on usage of library services indicating that in actual fact the Medical School had very high figures for per capita consumption of both print and electronic resources. As a result relations between the library and Medical School are now more constructive.

Optimising resources produced in-house

10.4.3 A lot of effort is devoted to producing resources tailored to University of Pennsylvania members eg course guides, teaching materials, resources for independent learning, guides to library services for a subject etc.

10.4.4 The data farm is able to track use of these resources. Both librarians and teaching staff are continually in negotiation to refine their understanding of university members’ needs and work out how to meet them. If a library-developed resource is not well-used it might be taken down, the content or style reviewed with teaching staff etc. Similarly, librarians are able to focus effort and resources in areas of the service where usage statistics indicate heavy demand.

10.4.5 In-house research guides rank third in terms of usage – ahead of proprietary e-books and online dictionaries. This success, partly attributable to ongoing analysis of audience needs, has helped to justify the library’s strategic aspiration to produce more reusable, tailored e-resources.

Redesign of the library website

10.4.6 The data farm used audience analysis techniques including clickstream analysis to discover how users preferred to navigate university websites – search strategies, use of keywords, filtering tools etc. – and this informed a radical redesign of the library website:

- in order to provide a Google-style front end a federated search box was a prominent feature of the new site;
- additional, technically innovative functionality was included to reduce the number of clicks it would take to access a particular resource.
When the redesigned website was launched the old website remained available. Audience analysis was used to monitor use of the new site and refine it. As might be expected there were numerous complaints about the new website; but usage statistics showed a different picture:

- ‘balk rate’ (the proportion of sessions in which the user opted to bail out of the new site) provided a measure of intolerance to the redesign – only 1.4% during the first month;
- number of clicks before bail out provided additional information about intolerance for the redesign;
- the redesign was intended to reduce the mean number of clicks per session for users exiting to an external resource;
- use of e-resources via the library website is a crude measure of its success and value to users – during the first two months of the redesign usage of e-resources increased gradually when compared to figures for the same period the year before.

Although the library believed the redesign was an improvement and could provide audience data to support this the redesign was taken down after a short period. The look and style of the site was deemed to be at odds with the University of Pennsylvania institutional ‘brand’ and the institutional leadership team felt that maintaining consistent branding was essential.

**10.5 Further audience analysis**

The team at the data farm are always looking for ways to collect and exploit more audience data, but they remain very conscious of the limitations of their data. Joe Zucca, Director of Planning and Communications, University of Pennsylvania Library mentioned:

- it is often difficult to know what web usage statistics really mean – usability analysis is an important complement when designing new tools etc. for a digital service;
- there are lots of other, unrecorded data about the library service eg library staff may know about changes to faculty staff which can explain a change in resource use;
- analyses of audience data always lag behind events – Joe sees the development of more proactive, responsive approaches to audience analysis as an important challenge.

Traditional institutional structures are still a barrier to improving understanding of the audiences for University of Pennsylvania services eg there is only very limited sharing of information between different ‘silos’ in the university.

The challenge for the future is to integrate usage analysis into institutional business processes – as already happens in the commercial sector. The data farm is developing a relational database to provide a means of integrating information about the audience and their use of information, resources and services. The team at the data farm is interested in uncovering user communities (audience segments) and patterns of usage which can be used to continually improve the university’s service.

**Further details of the project can be found in this presentation at www.libqual.org/documents/admin/zuccaar08.ppt.**
11. Teens, Music and Technology: BBC Research

Key features

Research conducted by the BBC to investigate the role that music plays in the lives of young people and the extent to which young people use technology to access and perhaps share music with their friends.

Methods used: ethnography; personas.

A good example of...

- using a research agency;
- an innovative research project;
- combining ethnographic techniques.

11.1 Background

11.1.1 The BBC Future Media and Technology for Audio and Music team focuses on delivering BBC programmes to audiences in new ways. In early 2008, this team embarked on a project aimed at providing a deeper understanding of the role that music plays in the lives of young people and the extent to which young people use technology to access and perhaps share music with their friends. The project focused on young people aged 13-18.

11.1.2 The project was motivated by a wish to challenge some of the assumptions that might be held about how young people use technology to listen, share and discover music. The hope was that an insight into the behaviours of this age group would lead to new ideas about how the BBC should be developing mobile products and services for this audience group. A research agency, Flow Interactive, was commissioned by the BBC to undertake the work.

11.2 The audience analysis ‘brief’

11.2.1 The BBC identified teens as an under-served audience and one which to date it has struggled to fully engage with. The objectives of the research flowed from this position and were two-fold:
To understand the way in which young people aged 13-18 listen to, share and discover music and to use this insight to spark discussion and generate ideas about how new technology-based products and services can be developed for this audience group.

To gain an overview of the ethnographic research process, exploring how it can be used within future projects as part of the process of developing ideas and identifying users’ needs.

11.2.2 It was especially important that the project had music at its centre, rather than using technology as the focus.

11.3 How the research was done

Ethnography

11.3.1 The programme of research needed to ‘get beneath the skin’ of young people and offer a real insight into the part music plays in their lives.

11.3.2 It was agreed at an early stage that the output of the research would be used to inspire and stimulate discussion and spark ideas: consequently, a traditional research project producing traditional outputs (for example, statistical tabulations describing and quantifying attitudes and behaviour) was rejected on the basis that it would be unlikely to generate the necessary level of interest and genuinely interesting observations about young people, how they live and, in particular, how they listen to music. Instead, an ethnographic approach was adopted. Ethnography has the potential to offer rich detail and deep insights into the behaviours, practices and everyday lives of people.

11.3.3 Ethnography can be especially useful for researching young people since it removes the need to design structured research tools to collect data. It also aims to minimise research effect by observing subjects – in this case teenagers – in their ‘natural’ context (ie whether they are relaxing at home or going out with their friends).

11.3.4 Given the reasons why the research needed to be undertaken and the type of data that was required from it, ethnography offered the most appropriate and effective approach.

Data collection

11.3.5 The design of the research process was heavily influenced by the belief that young people tend to form friendship groups based on having an affinity with other teenagers who share their interests and tastes. This pattern of behaviour was reflected in the decision to focus on four friendship groups (each of three young people).

11.3.6 An innovative approach to researching these groups was adopted, using a range of techniques to gain insights into the lives of these young people:

- Initially, four two-hour group sessions (one with each of the friendship groups) were conducted by the research agency. These served as an introduction to the young people, who they were, why they were friends, the part that music plays in their lives and so on.
Each of the 12 young people was asked to keep a diary over the course of 5 days, recording in particular any occasions on which they came into contact with music.

The 12 young people were also given disposable cameras so they could take pictures of their everyday lives: their friends; the places where they spend time; the things they do etc.

One person from each of the groups was ‘shadowed’. This meant that the researcher spent time ‘participating’ in the person’s everyday life and environments. For example, as part of the shadowing process, researchers went on nights out, spent time in teenagers’ bedrooms observing online gaming and eavesdropped as two 16 year old girls gossiped. As appropriate, the researcher observed what was happening, asked questions and took photos.

At the end of the project, after studying the diaries and photographs, the researchers conducted one-hour interviews with each of the young people. This was an opportunity to fill in any gaps, clarify specific details and generally bring the project to a satisfactory conclusion.

11.4 What was learned and how it was useful

Managing the output of the research agency

From the outset, the BBC was very specific about what it wanted from the output of the research (ie the way in which the data was analysed, interpreted and reported). It was not to be a set of recommendations; nor was it to be carefully considered conclusions drawn from a structured data set. What was needed was a ‘design tool’, something which would instantly engage designers, producers and anyone else who had an interest in shaping the way that the BBC develops products and services which appeal to and have relevance to the teenage audience.

Content of the report

Flow Interactive designed the report to be visually stimulating, full of images of the different lifestyles and interests of each of the participating teenagers and the groups they belong to, and most importantly, a document that invited readers to immerse themselves in the world of these teenagers. The report centred on the personas of four friendship groups, representing different interests, lifestyles and, importantly, tastes in music. The friendship groups were christened:

- the Gamers;
- the Streetwise Teens;
- the Social DJs;
- the Indie Teens.

There were sections dealing with key questions and issues:

- How they use mobile phones for music;
How they get the music they own;
How they listen to music;
How they find out about new music.

The report also included a variety of other devices and techniques for communicating just what it is that motivates these young people, how they actually behave and in particular how they interact with music. For example, included in the report were the following:

- Profiles of the participants, with a summary of information about their age, where they study, how they listen to music, what music they like (eg current top five tracks), what mobile phone they own and their other interests and hobbies.

- Stories of participants to give an insight into their worlds. For example: ‘Amy decides to have a party as her parents are away. She tells her parents she is going to have five friends over, but really she is arranging a party for 25. Most of her friends are from school, but Georgia is also coming, a close friend she knows from elsewhere. Georgia has different musical taste from Amy and her friends. Georgia prefers garage, Amy prefers indie and rock. Georgia asks Amy if she will download “garage” dance music to her iPod to play at the party. They go to the computer, start up Limewire and search for some garage music.’

- Photo montages to bring various important parts of a young person’s life together so that an instant impression could be created of the type of environments they live in, the items that are important to them and the way they spend their time.

- Empty your pockets where the participants were asked to empty their pockets and place the items they were carrying within a series of concentric circles drawn on the desk. Items placed nearer to the centre were the most important (examples included cash, mobile phones, Oyster Cards and house keys). Those items placed towards the outer circles were considered less important (for example, these included rulers, gloves, pens and hand-cream).

- Brands that young people often spoke of during the course of the project.

Conclusions of the research

The report provided many examples of how teenagers discover new music, listen to music and share it with their friends. The insights in this area were numerous and diverse and included the following observations:

- young people download illegally – but are aware of the risks;
- there are various ‘download lifecycles’ that young people adopt in slightly different ways but which often contain common elements (eg Bluetooth sharing; lending and borrowing phone memory cards; lending and borrowing CDs which are converted to MP3 files via iTunes etc.);
- not all teenagers are IT experts; some are technophobes;
- young people consider file size before sharing and downloading;
- local music talent is supported and music events can be an important way of discovering new artists.
What the research will be used for

11.4.6 Research on this occasion was conceived as a way of provoking discussion and debate, stimulating innovative thinking and sparking ideas about how the BBC can better engage with young people and more fully understand the role that music plays in their lives. For example, the research suggests that there is a lifecycle based around the way in which music is shared: How can the BBC become part of this lifecycle? At what stage and using which technologies can it break in?

11.4.7 To date, the output of the research has been used in an informal way. However, it is planned that a series of creative workshops will be organised, challenging designers to react to the findings with new ideas, solutions to some of the issues that young people have identified and generally engage in constructive debate about the way forward for the BBC in this area.

Lessons identified

11.4.8 Ethnography is worthwhile and represents an effective way of stimulating discussion and sparking new ideas. However, it is both time-consuming and expensive – especially in relation to more traditional research formats. Also, the topic of the project (young people and technology) meant that the findings can date very quickly. Some stakeholders have questioned the reliability of data based on such a small sample, and the team responsible have had to work hard to present the project as a worthwhile initiative.

11.4.9 Given the BBC’s very specific reporting and output requirements for this project, it was necessary to work closely with the research agency. A continual dialogue was essential, beginning at the point that the idea for the research was conceived and continuing right through to final reporting. The format of the report was critical to kick-start discussion amongst designers and producers, and this led to close consultation with the research agency on iterative drafts of the report to ensure it lent itself to this purpose.
Appendix A: The Guide to Researching Audiences

A.1 Introduction

A.1.1 The case studies are a supporting document to ‘The Guide to Researching Audiences’ which was produced by Curtis+Cartwright Consulting Ltd on behalf of the Strategic Content Alliance. This annex provides some background information about the guide.

A.2 Why, what, who…?

Why do audience research?

A.2.1 It is increasingly important for public sector services and resources to be able to demonstrate that they are used and valued by an appropriate audience. The uses of audience research extend far beyond simply demonstrating a certain number of visitors or website hits to tick a box on a service level agreement. For example, audience research can be used to:

- develop a product or service;
- evaluate the service (eg audience satisfaction);
- demonstrate accountability to funders (eg value for money, highly valued by a niche audience);
- inform long-term planning;
- attract sponsorship and marketing;
- inform business planning (eg to feed into a business case);
- inform the management of contractual relationships;
- support professional development.

Audience research does not need to be perfect to be useful

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A.2.2 Audience research should be seen as an ongoing process, rather than an occasional, one-off event. Even a small audience research project is worthwhile. Many techniques can be implemented quite cheaply or adapted to a shoestring budget. Some insight into your audience is vastly better than none at all.

Who is the guide for?

A.2.3 The guide has been written for people in the UK public sector delivering online digital services who wish to research their audiences.10

A.2.4 It is primarily aimed at non-experts who do not have market research skills themselves, and who do not have access to dedicated market research teams. It is therefore likely to be most useful for people in small organisations/services, or those conducting small projects in larger organisations. It may also be useful for people procuring services who want to know what guidelines to provide, and for those setting policies.

What is in the guide?

A.2.5 The guide sets out the basic principles of audience research:

- describing and defining the target audience;
- planning audience research (including setting clear objectives for the research);
- collection of audience data;
- modelling the audience;
- making use of audience research.

A.2.6 These principles can be followed regardless of the type of service or audience, and will help you to conduct audience research more effectively (better results) and efficiently (lower effort), with fewer problems and unforeseen complications. They provide the building blocks to enable you to design, conduct and apply your own audience analysis research. What the guide will not provide you with is a ready-made audience analysis programme specifically designed for your service.

A.2.7 It is a guide to current good practice and a starting point for further reading. There is nothing very radical in the guide – there are many other resources available on audience analysis and modelling, some of which are referenced in the guide.

A.2.8 The guide has a specific focus on online digital services. The digital revolution has resulted in an explosion of possibilities: new and innovative services; a deluge of content; availability of additional research techniques (eg web statistics); and potentially new audiences. Relationships between digital content and non-digital content, between digital services and non-digital services and between a ‘digital audience’ and a ‘non-digital audience’ are a new and interesting consideration for service providers.

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10 Although it is focused on online digital services (ie those accessed via the internet), it will also be useful for researching audiences reached via other channels.