DMPonline v.4: user-led innovation

Magdalena Getler, Diana Sisu, Sarah Jones & Kerry Miller

www.dcc.ac.uk
Evaluating DMPonline

• Ran from October - December 2012

• Part of the ongoing DCC tools strategy and tied into work on the Edinburgh engagement

• Used a variety of methods to check usability and satisfaction levels
Evaluation methods

- Focus groups
- General email / blog comments
- Survey of Edinburgh users
- Tool analytics
- Heuristic evaluations
- Guided interviews
- Usability testing
User feedback

POSITIVE COMMENTS
• Good to have an online tool
• Technically well-coded
• Liked ‘sharing’ feature
• Demand for customisations
• Has provided an impetus
• Desire to feed into plans – DMPonline community

CONCERNS RAISED
• Difficulty understanding the concept behind the tool
• Too many questions to answer
• Output too long to submit
• Issues with design & workflows

what’s the minimum you can actually get away with
Improving usability

We conducted usability tests with 6-7 potential DMPonline users who had not yet encountered the tool pre- and post-changes.

Each round of testing measured:
• Completion rates
• Task completion time
• Errors
• Usability problems
• Expectation ratings
• Satisfaction ratings
Tasks

Tasks differed slightly as we tested some new features in v.4. However the core tasks were comparable across the two rounds of testing.

• Register for the tool
• Create and fill in a plan
• Update plan
• Share the plan
• Export the plan
Datasets likely to be created by the grant or fellowship which will be made available to a NERC Environmental Data Centre at the end of the Grant.

NERC Guidance

Datasets likely to be created by the grant or fellowship which will be made available to a NERC Environmental Data Centre at the end of the Grant. This section should be in a tabular format addressing the following:

- **Data centre**: the most appropriate NERC Data Centre – projects can contribute to more than one Data Centre
- **Dataset Description**: 1-2 sentences describing the data
- **Release data to Data Centre**: noting that data should normally be delivered to a data centre within 2 years of collection
- **Reuse scenarios**: possible user types and estimate of numbers if possible

UoE guidance on Expected Reuse
Time on task

- Register
- Create plan
- Update plan
- Share plan
- Export plan

Average time in seconds

- v.3
- v.4
Errors

Number of errors

- Register
- Create plan
- Update plan
- Share plan
- Export plan

- v.3
- v.4
Usability problems

• 37 usability problems in v.3
• 18 usability problems in v.4

Each usability problem was given an impact score by combining a rating for frequency of occurrence with a rating assigned to the severity of impact.

<table>
<thead>
<tr>
<th>Rating</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>&gt; 90%</td>
</tr>
<tr>
<td>3</td>
<td>51 – 89%</td>
</tr>
<tr>
<td>2</td>
<td>11 – 50%</td>
</tr>
<tr>
<td>1</td>
<td>&lt;10%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Rating</th>
<th>Impact criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>prevents task completion</td>
</tr>
<tr>
<td>3</td>
<td>causes a significant delay or frustration</td>
</tr>
<tr>
<td>2</td>
<td>has a relatively minor effect on task performance</td>
</tr>
<tr>
<td>1</td>
<td>is a suggestion</td>
</tr>
</tbody>
</table>
# Top 10 usability problems in v.3

<table>
<thead>
<tr>
<th>Usability problems</th>
<th>Impact score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Send notification message when sharing plans not visible, misplaced</td>
<td>7</td>
</tr>
<tr>
<td>Uncertainty and confusion what to do after step 1. Click on 'create plan' or 'select plan templates'</td>
<td>7</td>
</tr>
<tr>
<td>Wording in Checklist and guidance is not clear (&quot;What the heck is RIN data types... confusing&quot;)</td>
<td>7</td>
</tr>
<tr>
<td>Expected to find the quick guide under instructions</td>
<td>6</td>
</tr>
<tr>
<td>Confusion regarding buttons 'Open' 'Download' 'Finished'</td>
<td>6</td>
</tr>
<tr>
<td>Project phases button not understood</td>
<td>6</td>
</tr>
<tr>
<td>Associate account with institutional credential link is in wrong place</td>
<td>6</td>
</tr>
<tr>
<td>After creating a plan, users didn't know how to fill it in</td>
<td>6</td>
</tr>
<tr>
<td>Confusion re: labels 'Export' 'Share' and 'Review'</td>
<td>6</td>
</tr>
<tr>
<td>Read' 'Write' not explained to users. No help or '?'</td>
<td>6</td>
</tr>
</tbody>
</table>
## Top 10 usability problems in v.4

<table>
<thead>
<tr>
<th>Usability problems</th>
<th>Impact score</th>
</tr>
</thead>
<tbody>
<tr>
<td>User is not clear how to add rows to the table</td>
<td>7</td>
</tr>
<tr>
<td>Headings in the table are not editable</td>
<td>6</td>
</tr>
<tr>
<td>Unclear relationship between DMPonline &amp; DCC, and whether DCC guidance would be useful</td>
<td>5</td>
</tr>
<tr>
<td>User expected live on-screen indication of password strength</td>
<td>5</td>
</tr>
<tr>
<td>Extra security layer needed for changing the password</td>
<td>5</td>
</tr>
<tr>
<td>Error messages do not explain the mistake made by user</td>
<td>5</td>
</tr>
<tr>
<td>Delayed action when confirming registration via mobile</td>
<td>5</td>
</tr>
<tr>
<td>User does not know how to move between cells in the table</td>
<td>4</td>
</tr>
<tr>
<td>User expects a pop-up window asking whether to 'save' or 'view' the plan before export</td>
<td>4</td>
</tr>
<tr>
<td>On-screen confirmation messages are not clear enough</td>
<td>4</td>
</tr>
</tbody>
</table>
Expectation ratings

Where red line is higher than the blue line = user found task easier than expected.
Satisfaction ratings

- The SUS score for v.3 was 64
- The SUS score for v.4 was 87

<table>
<thead>
<tr>
<th>SUS Score Range</th>
<th>Grade</th>
<th>Percentile Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>84.1 - 100</td>
<td>A+</td>
<td>96 - 100</td>
</tr>
<tr>
<td>80.8 - 84</td>
<td>A</td>
<td>90 - 95</td>
</tr>
<tr>
<td>78.9 - 80.7</td>
<td>A-</td>
<td>85 - 89</td>
</tr>
<tr>
<td>77.2 - 78.8</td>
<td>B+</td>
<td>80 - 84</td>
</tr>
<tr>
<td>74.1 - 77.1</td>
<td>B</td>
<td>70 - 79</td>
</tr>
<tr>
<td>72.6 - 74</td>
<td>B-</td>
<td>65 - 69</td>
</tr>
<tr>
<td>71.1 - 72.5</td>
<td>C+</td>
<td>60 - 64</td>
</tr>
<tr>
<td>65 - 71</td>
<td>C</td>
<td>41 - 59</td>
</tr>
<tr>
<td>62.7 - 64.9</td>
<td>C-</td>
<td>35 - 40</td>
</tr>
<tr>
<td>51.7 - 62.6</td>
<td>D</td>
<td>15 - 34</td>
</tr>
<tr>
<td>0 - 51.7</td>
<td>F</td>
<td>0 - 14</td>
</tr>
</tbody>
</table>

Curved Grading Scale Interpretation of SUS scores (Sauro & Lewis, 2012)
Summary and future plans

- Marked increase in usability between v.3 and v.4 across all measures of assessment

- Plan regular usability testing as new features are released to ensure the tool remains easy to use

- Facilitate more input from the RDM community
  - Establish a developer/user group to shape future direction
  - Encourage co-development so it’s more of a community resource than DCC owned tool
Further information

Full results from the usability testing and more detail on the methods is available in the paper on your USB stick.

www.dcc.ac.uk/blog/usability-testing-dmponline-version-40

Try out DMPonline at: https://dmponline.dcc.ac.uk