

IS 214 Needs Assessment and Evaluation of Information Systems

Usability Testing Analyze & Report

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Usability Testing - Readings

- Nielsen, Usability Engineering, Chapter 6 "Usability Testing"
- Spool et al, "Web Site Usability: A Designer's Guide"
- Molich, DialogDesign, "Comparative Usability Evaluation"

Usability Test - Analyze & Report

- Compile data
- Summarize data
- Analyze data
- Draw conclusions
- Recommend changes
- Write report

Compile Data

- Ask observers to summarize their notes, identify verbal comments, observed problems
- Collect data from loggers and enter into spreadsheet or other analysis tool
- Combine questionnaire ratings and written responses from all users together
- Transcribe audio recordings (?)
- Compile after each user, if possible

Summarize Data

- Task timing (mean, median, range, SD)
- Task completion (% success, within time and not, with and without assistance)
- Errors and other measures
- Preference ratings (scale, mean, SD)
- Verbal and written comments
- Observed problems

Analyze Data

- Identify problem areas (time objectives not met, failed tasks, excessive error rate, poor ratings, negative comments)
- Identify the source of the problem (what was missed, what did the user try to do instead, stated confusion, observed problems)
- Prioritize problems (rate severity, frequency)

Draw Conclusions

- Summarize related problems in conclusions
- Project how well users will perform in their own tasks and how satisfied they will be
- Base conclusions and projections in data, don't exaggerate, overreach, or invent
- When possible, use terminology and data from users or test materials

Recommend Changes

- Closing the loop with design
- Debrief conclusions with the team before making recommendations - ownership
- Identify alternative solutions to be compared or short-term vs. long-term
- Where more testing is needed to clearly identify the source of problems

Write Report

- Executive summary with major conclusions and recommendations up front
- Detailed issues, discussion, solutions
- Detailed results from all users and observers
- Appendix with methodology details and materials (tasks, questionnaires, etc.)

Example #1 - Written Comments

- Written comments on user questionnaire

Written Comments - Compiled

- What features did you find easiest to use?
 - A1 "Registration"
 - A2 "Registration"
 - A3 "Registration and share/add folders (only things that worked)"
 - B1 "Navigation"
 - B2 "Login"
 - B3 "Logging in"

Written Comments - Compiled

- What features did you find most difficult?
 - A1 "Sharing, inviting shares, navigation, editing a shared document & letting others know (was not sure...)"
 - A2 "Uploading a file - couldn't find necessary info or instructions. Inviting a new member - server error."
 - A3 "Bugs: couldn't move doc to shared folder, couldn't access other user's shared folders."
 - B1 "Figuring out what icons mean first time. Need to tell user that a folder must be created in order to share."
 - B2 "Notifying members when I changed a file. Sharing."
 - B3 No response

Written Comments - Summarized

- What features did you find easiest to use?
 - 5 users mention registration / login
 - 1 user mentions share/add folders
 - 1 user mentions navigation
- What features did you find most difficult?
 - 4 users mention sharing
 - 2 users mention notifying others
 - 2 users mention bugs inviting or sharing

Written Comments - Analyzed

- Almost all users found registration easy
- Most users found sharing difficult

Written Comments - Conclusions

- Registration process is easy and no barrier to adoption of service by users
- Sharing process is not intuitive and causes significant frustration for users

Written Comments - Recommend

- Insufficient cause identified to guide design

Example #2 – User Ratings

- User satisfaction ratings from questionnaire

Ratings – Compiled

	A1	A2	A3	B1	B2	B3
Easy to Register	2	1	1	1	2	1
Easy to Use	4	3	5	2	5	3
Performance	4	3	5	4	4	3
Has all the functions I want	5	4		5	3	3
Graphically Appealing	4	2	2	2	4	2
Overall Satisfaction	4	4	5	4	4	2

Ratings - Summarized

	A1	A2	A3	B1	B2	B3	Average
Easy to Register	2	1	1	1	2	1	1.3
Easy to Use	4	3	5	2	5	3	3.7
Performance	4	3	5	4	4	3	3.8
Has all the functions I want	5	4		5	3	3	4.0
Graphically Appealing	4	2	2	2	4	2	2.7
Overall Satisfaction	4	4	5	4	4	2	3.8

Ratings - Analyzed

	A1	A2	A3	B1	B2	B3	Average	
Easy to Register	2	1	1	1	2	1	1.3	Strong (<2)
Easy to Use	4	3	5	2	5	3	3.7	OK (<3)
Performance	4	3	5	4	4	3	3.8	OK (<3)
Has all the functions I want	5	4		5	3	3	4.0	OK (<3)
Graphically Appealing	4	2	2	2	4	2	2.7	Weak (>3)
Overall Satisfaction	4	4	5	4	4	2	3.8	Weak (>3)

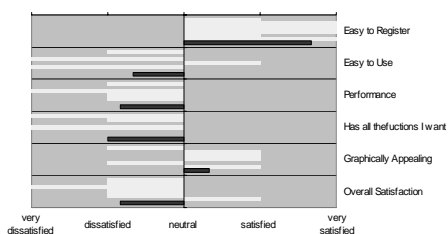
Ratings - Conclusions

- Users are very satisfied with the ease of registration
- Users are dissatisfied with the ease of use, performance, and functionality
- Users are dissatisfied overall

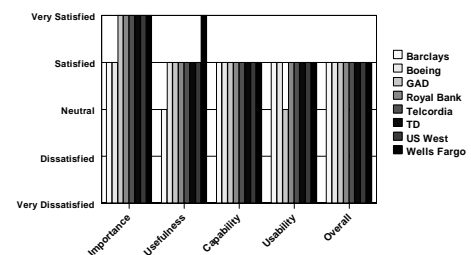
Ratings - Recommendations

- Improve ease of use, performance and functionality

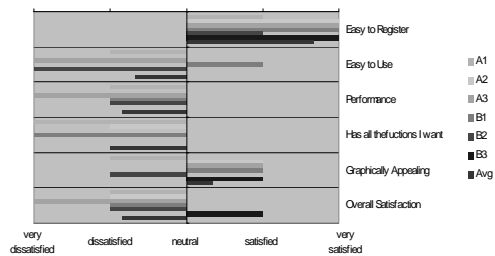
Ratings – Report Chart



Ratings – Example Chart By User



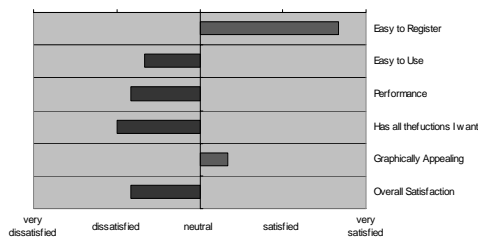
Ratings – Report Chart



Ratings - Summarized

	A1	A2	A3	B1	B2	B3	Average
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Easy to Use	4	3	5	2	5	3	3.7
Performance	4	3	5	4	4	3	3.8
Has all the functions I want	5	4		5	3	3	4.0
Graphically Appealing	4	2	2	2	4	2	2.7
Overall Satisfaction	4	4	5	4	4	2	3.8

Ratings – Report Chart



Example #3 – Observed Problems

- Problems identified in observer notes

Observed Problems - Compiled

- O1 - A1 Confused by new and share behaving same
- O2 - A2 Unclear on sharing status, permissions
- O3 - A3 Could not move document to shared folder
- O4 - A3 Could not access other users shared folders
- O5 - B1 Missed fact that folders need to be shared
- O6 - B1 Needed guidance on how to move documents
- O7 - B1 Confused by add to invite vs. add to contacts
- O8 - B2 Not clear on sharing vs. inviting more people
- O9 - B2 Did not see notify option
- O10 - B3 Confused by the term "Location"
- O11 - B3 Looking for "Notify button, but did not see it"

Observed Problems - Summarized

- S1 – Users A1, A2 and B1 found process for creating a shared object unclear (O1, O2, O5)
- S2 – Users A3, B1, and B3 had problems uploading or moving docs into folders (O3, O6, O10)
- S3 - Bugs (O4)
- S4 – Users B1 and B2 had problems distinguishing between sharing, inviting, and contacts (O7, O8)
- S5 - Users B2 and B3 did not see the Notify checkbox when they were looking for it (O9, O11)

Observed Problems - Analyzed

- Sharing is difficult because
 - The fact that the Add and Share buttons display the same dialog causes confusion (O1)
 - Sharing status and permissions are unexplained (O2)
 - The requirement to share through folders is hidden (O5)
 - Users don't know where to go to move the docs into folders (O3)
 - Users don't understand the term "Location" (O10)
 - Similar terminology is used for sharing, inviting, contacts, but users don't see the distinctions (O7, O8)
 - The Notify checkbox is hidden at the bottom (O9, O11)

Observed Problems - Conclusions

- The sharing process needs to be redesigned to be more obvious

Recommendations - Discussion

- Dave's summary of problems & solutions
- Linkify team's redesign ideas