Federal Awardee Performance and Integrity Information System (FAPIIS) Data Entry Usability Test Results

Conducted by Sam Chapman June 22-23, 2010

Federal Awardee Performance and Integrity Information System
FAPIIS Data Entry Usability Test

Report Agenda

FAPIIS Data Entry Usability Test

Steps

Recommended Next

Recommendations

Findings & Data - Criteria

Success - Metrics & Success

Methods & Tasks

Sizes

Participants & Sample

User Segments,

Challenges

Conditions, & Test Locations,

Obstacles

Usability Test

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Executive Summary

- Nine (9) users were tested from a pool of government volunteers.
- Very few participants did not successfully complete ALL 6 tasks.
- Most tasks were completed, but typically with frequent minor errors.
- The design is very simple, and even though the main navigation is a little unorthodox (i.e., it is to the lower left), participants found it easily.
- The errors that were made were consistent across participants.
- Very few participants did not successfully complete ALL 6 tasks.
- Nine (9) users were tested from a pool of government volunteers.
FAPIIS Data Entry Usability Test

Objectives

• To determine challenges for government employees entering awardee performance information. Potential sources of error may include:

  – Field usage
    - Control usage problems: Improper toolbar or entry
    - Exposure to ambiguous terms due to labeling ambiguities
    - Navigation errors: Failure to locate and properly act
  – Presentation errors: Failure to locate and properly act
    - Follow recommended screen flow
    - Excessive keystrokes to complete a function
    - Navigation errors: Failure to locate functions
  – Include:
    - Information. Potential sources of error may include:

To determine challenges for government employees entering awardee performance information.
FAPIIS Data Entry Usability Test

Objectives

• Exercise the application or website under controlled test conditions with representative users.

• Establish baseline user performance and user satisfaction levels of the user interface for future usability evaluations.

• Establish whether usability goals have been achieved.

• Data will be used to assess whether usability goals regarding an effective, efficient, and well-received user interface have been achieved.

FAPIIS Data Entry Usability Test
Testing Location and Dates

• Nine (9) sessions (total) conducted between June 22-23, 2010

• U.S. Department of Health and Human Services Usability Lab – located at 330 C St SW, Washington, DC 20024
Test Conditions

- Participants sat in the testing lab.
- Sessions were recorded using Morae testing software.
- Observers in an adjoining conference room viewed sessions.
- System was a practice system made available via internet access courtesy of Naval Sea Logistics Center Portsmouth, NH.

Sessions were recorded using Morae Usability Testing software.
Recruitment was well managed and 9 participants were scheduled resulting in a successful test. Users were recruited from available government organizations around the Washington, DC area.
User Segments

• Government users with access to awardee performance information
Sample Sizes

Typically, between 4-6 users per segment is sufficient to reveal most usability issues. In order to make sufficient comparisons, sample sizes should relatively equal between segments. Sample sizes should be relatively equal between segments, sample sizes should be relatively equal between segments, sample sizes should be relatively equal between segments.
Methods – Sessions

• Conducted in single-user sessions to eliminate bias and outside assistance

• Scheduled for up to 60 minutes

• One facilitator in the room with additional note takers in the observation room

• Participants were briefed prior to testing

• Conducted in single-user sessions to eliminate bias and outside assistance
• Participants were:
  - Provided with an overview of the facilities and process
  - Informed that the facilitator would only help if they reached a point where they might make a catastrophic error or could go no further or for minor testing conditions
  - Encouraged to “think aloud” in order to let us know what they are thinking
  - Reminded that the session goals was to test the system and not them
• Test was conducted on a practice system provided by the Naval Sea Logistics Center
  located in Portsmouth, NH.

• Participants were given a document including the URL of the test site, along with sample data sufficient to complete the task.
Tasks

Task 1

You work for the Smithsonian Institution, National Museum of Natural History. ABC Inc. is a construction company that was shown to provide pricing that was not appropriate for the federal government on June 4, 2009. Please enter a FAPIIS record of this transgression. You have no attachments, so you plan to come back later and do not want to release the record yet.

Awardee: ABC Inc.

- DUNS Number: 123456789
- Contract Award ID Number: 123456789

Awardee Address:

United States
Anywhere, West Virginia, 123456
123 Main St
ABC Inc.

Product/Service Code: AD61
NACs: 212321

Please use the following information:

Please enter a FAPIIS record of this transgression. You have no attachments, so you plan to come back later and do not want to release the record yet. Appropriate for the federal government on June 4, 2009.

You work for the Smithsonian Institution, National Museum of Natural History. ABC Inc. is a construction company that was shown to provide pricing that was not appropriate for the federal government on June 4, 2009.
• Task 2
From the main FAPIIS page, find a list of action items.

• Task 3
You realize that the problem with ABC Inc. was not defective pricing, but it was a Termination for cause. Please delete the ABC Inc. record for defective pricing.
• Task 4

You still work for the Smithsonian Institution, National Museum of Natural History. Now you are ready to enter data for the Termination for Cause for ABC Inc. that happened on June 4, 2009. Please enter a FAPIIS record of this transgression and release it.

- DUNS Number: 123456789
- Contract Award ID Number: 123456789
- NAICS: 212321
- Product/Service Code: AD61

Awardee: ABC Inc.

123 Main St
Anywhere, West Virginia, 123456
United States

You have the attachment in the file: c:/GSA/FAPIISSTest.pdf

You still work for the Smithsonian Institution, National Museum of Natural History.

• Task 4
Tasks

- Task 5: After reviewing the information, you realize that the NAICS code for ABC Inc. contract from above should be "236210." Please go back and make this change.

- Task 6: You want to make sure that your report is complete. Find out what the situation is with the ABC Inc. Termination for Cause record.
Results

FAPIS Data Entry Usability
Metrics – Usability Goals

- **Completion Rate**: "Effectiveness"  
  Goal = 80%

- **Error-free rate**: "Efficiency"  
  Goal = 80%

**Subjective Measures**

- Test Goal = 80% (Agree/Strongly Agree on Ease of Use)

- Task Goal = 80% (Agree/Strongly Agree on Ease of Use)

**Efficiency**

- Goal = 80%

**Effectiveness**

- Goal = 80%
Effectiveness

- Effectiveness: Percent (%) of successful task completion
- Critical errors: Points at which the user cannot complete the task without significant intervention
- Low effectiveness scores result in abandonment, frustration, and insufficient user engagement

Effectiveness
<table>
<thead>
<tr>
<th>Task 1-6</th>
<th>Effectiveness</th>
<th>Defective Pricing</th>
<th>Find Action Item List</th>
<th>Delete a Record</th>
<th>Enter a Termination for Cause</th>
<th>Edit Report</th>
<th>Review Report</th>
<th>Overall N = 9</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>78</td>
<td>100</td>
<td>69</td>
<td>69</td>
<td>69</td>
<td>89</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Percentage of successful completion (Success criteria = 80%)
Efficiency (Error-free rate)

- Efficiency: % of tasks completed without error
- Non-critical errors: Errors that result in backtracking, rework, confusion, or system error messages
- Low efficiency scores can result in:
  - Abandonment
  - Confusion
  - Critical errors
  - Increased completion time
  - High contact center call volume
  - Insufficient user engagement

Efficiency: % of tasks completed without error (Error-free rate)
<table>
<thead>
<tr>
<th>Task</th>
<th>Efficiency (N = 9)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Review Report</td>
<td>78</td>
</tr>
<tr>
<td>Edit Report</td>
<td>67</td>
</tr>
<tr>
<td>Enter a cause termination for</td>
<td>22</td>
</tr>
<tr>
<td>Delete a record</td>
<td>56</td>
</tr>
<tr>
<td>Find action item list</td>
<td>44</td>
</tr>
<tr>
<td>Defective pricing</td>
<td>11</td>
</tr>
</tbody>
</table>

Efficiency by Task 1-6

Percentage of completion without error (Success criteria = 80%)
Effectiveness & Efficiency for FAPiIS Data Entry Usability test

• Success criteria = 80%

FAPIIS exceeded the success criteria for effectiveness, but failed efficiency. This reflects some confusion with data fields, controls, and issues with terminology.

<table>
<thead>
<tr>
<th>Segment</th>
<th>Effectiveness (%)</th>
<th>Efficiency (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>OVERALL</td>
<td>26</td>
<td>91</td>
</tr>
<tr>
<td>N = 9</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For FAPiIS Data Entry Usability test, effectiveness & efficiency.
This reflects satisfaction with the system by task, with one approaching 80% tasks, with one approaching 80%.

**FAPIIS exceeded the success criteria for most success criteria = 80%**

<table>
<thead>
<tr>
<th>Task</th>
<th>N = 9</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Review Report</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Edit Report</td>
<td>89</td>
<td>89</td>
</tr>
<tr>
<td>Enter a cause termination</td>
<td>90</td>
<td>100</td>
</tr>
<tr>
<td>Delete an item list</td>
<td>78</td>
<td>78</td>
</tr>
<tr>
<td>Find action (defective pricing)</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>

Percentage of ratings for Agree or Strongly Agree (success criteria = 80%)

**Subjective (self report) Ease of Use by Task**
Modified System Usability Scale (SUS)* for FAPIIS Data Entry Usability test

Success criteria = 80%

FAPIIS met success criteria
Success criteria = 80%

This reflects a general content with the website.

For more detail about the SUS see: http://www.usabilitynet.org/trump/documents/Suschapt.doc

<table>
<thead>
<tr>
<th>Segment</th>
<th>SUS Score (%)</th>
<th>N = 9 OVERALL</th>
</tr>
</thead>
<tbody>
<tr>
<td>OVERALL</td>
<td>80</td>
<td></td>
</tr>
</tbody>
</table>
All users were relatively new to the system, so this test was not targeted for memory testing. There was some confusion regarding some labels and the appearance of some controls, but users adapted with some minor errors and were able to complete the tasks successfully, for the most part.
Problem Severity

To prioritize recommendations, a method of problem severity classification will be used in the analysis of the data collected during evaluation activities.

The approach treats problem severity as a combination of two factors:

- Frequency of users experiencing the problem
- Impact of the problem

The approach treats problem severity as a combination of two factors:

- Frequency of users experiencing the problem
- Impact of the problem

During the evaluation activities, the analysis of the data collected during the evaluation activities will be used in problem severity classification, a method of prioritizing recommendations.
Impact:

Ranking of the consequences of the problem by defining the level of impact that the problem has on successful task completion:

- **High**: Prevents the user from completing the task (critical error)
- **Moderate**: Causes user difficulty but the task can be completed (non-critical error)
- **Low**: Minor problems that do not significantly affect the task completion (non-critical error)

Impact: Ranking of the consequences of the problem by defining the level of impact that the problem has on successful task completion.
The percentage of participants who experience the problem when working on a task –

- **High**: 30% or more of the participants experience the problem
- **Moderate**: 11% - 29% of participants experience the problem
- **Low**: 10% or fewer of the participants experience the problem

**Frequency** The percentage of participants who experience the problem when working on a task
Problem Severity Classification

• Critical
  - High impact that often result in a critical error & varied frequency
  - Includes obvious 508 non-compliance
  - Characteristic of calls to the Help Desk
  - Reward for resolution is typically exhibited in fewer Help Desk calls, increased user satisfaction, and reduced development costs

• High
  - Moderate to high frequency or moderate to low impact
  - Reward for resolution is typically exhibited in reduced time on task and increased user satisfaction

• Medium
  - Either moderate problems with low frequency or low problems with moderate frequency
  - Minor annoyance problems faced by a number of participants
  - Reward for resolution is typically exhibited in reduced time on task and decreased training costs
  - Increased data integrity

• Low
  - Low impact problems faced by few participants; there is low risk to not resolving these problems
  - Reward for resolution is typically exhibited in increased user satisfaction
  - Fewer Help Desk calls and reduced development costs

• Best Practice
  - Deviations from best practices that contribute to poor performance, but not necessarily a direct observation of error, including possible 508 non-compliance
  - Reward for resolution is typically exhibited in fewer Help Desk calls, increased user satisfaction, and reduced development costs

Rewards & Risks

• Critical
  - High impact that often result in a critical error & varied frequency
  - Includes obvious 508 non-compliance
  - Characteristic of calls to the Help Desk
  - Reward for resolution is typically exhibited in fewer Help Desk calls, increased user satisfaction, and reduced development costs

• High
  - Moderate to high frequency or moderate to low impact
  - Reward for resolution is typically exhibited in reduced time on task and increased user satisfaction

• Medium
  - Either moderate problems with low frequency or low problems with moderate frequency
  - Minor annoyance problems faced by a number of participants
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• Low
  - Low impact problems faced by few participants; there is low risk to not resolving these problems
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  - Deviations from best practices that contribute to poor performance, but not necessarily a direct observation of error, including possible 508 non-compliance
  - Reward for resolution is typically exhibited in fewer Help Desk calls, increased user satisfaction, and reduced development costs
FAPIIS Usability

Findings
Overall User Interface Trends

• All participants attempted to click on the "Enter Record" button before selecting a record type.

• Some participants did not easily understand the difference between a "To Do List" and the "Status Report." Just prior to getting the record deleted confirmation, they would get "No Records Found" just one in the list, they only one in the list, they were confused and disoriented by the lack of a delete button on the deletion page.

• If a participant deleted a partial record and it was the only one in the list, they would get "No Records Found" just after attaching a file, the file disappeared.

• When a participant deleted a partial record and it was the only one in the list, they would get "No Records Found" just after attaching a file, the file disappeared.

• A couple of participants were confused and disoriented by the lack of a delete button or control on the deletion page.

• Some participants did not easily understand the difference between a "To Do List" and the "Status Report." The button before selecting a record type.

• All participants attempted to click on the "Enter Record" button before selecting a record type.
<table>
<thead>
<tr>
<th>Best Practice</th>
<th>Critical Classification</th>
<th>Impact</th>
<th>Frequency</th>
<th>Reward type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>High</td>
<td>High</td>
<td>Variable</td>
<td>High</td>
</tr>
<tr>
<td>Moderate</td>
<td>High</td>
<td>High</td>
<td>High</td>
<td>Moderate</td>
</tr>
<tr>
<td>High</td>
<td>Low</td>
<td>Moderate or Low</td>
<td>Variable</td>
<td>Moderate to low</td>
</tr>
<tr>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td>Moderate</td>
<td>Low</td>
<td>Moderate to Low</td>
<td>Low</td>
<td>Moderate to low</td>
</tr>
<tr>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td>Moderate</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Low</td>
</tr>
<tr>
<td>Call volume</td>
<td>↑</td>
<td>↑ Satisfaction</td>
<td>↑ Time</td>
<td>↑ Satisfaction</td>
</tr>
<tr>
<td>Safety</td>
<td>↑</td>
<td>↑ Data integrity</td>
<td>↑ Training costs</td>
<td>↑ Call volume</td>
</tr>
</tbody>
</table>
The control buttons are dated and caused confusion for the users at first.
Some users felt that there was little difference between "To-Do List" and "Status Report." They were able to figure it out with some small errors.
While users were able to get to this screen successfully, with some errors, they were confused about the exact nature of the "outstanding action." One user said, "What am I supposed to do with this?"
It was not clear to the users by the screen design that they were required to select a "Record Type" before they started to enter a record.
Recommendations

FAPIIS Data Entry Usability
Provide a closer visual association between the action and the button.
Recommend to associate Actions with Buttons
Recommendations

More FAPILLS Data Entry

- Save user information when users go through an action. That is, if a user makes an error, do not require the user to re-attach documents or perform work again.

- For record deletion, provide a “Delete” button, rather than have the user select a link for the action.
Next Steps

- Review findings and recommendations for timeliness and feasibility
Usability Test Results
(FAPIS) Report Retrieval
and Integrity Information System
Federal Awardee Performance

Conducted by Sam Chapman
July 28-29, 2010
FAPIIS Report Retrieval Usability

Test Report Agenda

FAPIIS Report Retrieval Usability

• FAPIIS Report Retrieval

Objectives

• Test Locations, Conditions, & Challenges

• User Segments, Sample Sizes

• Participants, & Sample Sizes

• Methods & Tasks

Steps

• Recommended Next

Recommendations

• Findings & Data

- Criteria

- Metrics & Success

Results

• Test Locations,

Obstacles

Usability Test

• FAPIIS Report Retrieval

• Test Report Agenda
Executive Summary

- Search was not easy, and users could not effectively use the system at the first try.
- It was not apparent to users when they viewed search what fields would be required for the search.
- Because of technical difficulties, screen shots were unavailable after the test.
- It was not apparent to users when they effectively used the system at the first try.
- Search was not easy, and users could not

Executive Summary
Test Objectives

To determine challenges for government employees reviewing past awardee performance information.

Potential sources of error may include:

- **Navigation errors**: Failure to locate functions, excessive keystrokes to complete a function, failure to follow recommended screen flow.
- **Presentation errors**: Failure to locate and properly act upon desired information in screens, selection errors due to labeling ambiguities.
- **Control usage problems**: Improper toolbar or entry field usage.

To determine challenges for government employees reviewing past awardee performance information.
Exercise the application or web site under controlled test conditions with representative users.

Test Objectives II

Establish baseline user performance and user satisfaction levels of the user interface for future usability evaluations.

Data will be used to assess whether usability goals regarding an effective, efficient, and well-received user interface have been achieved.

FAPIIS Report Retrieval Usability
Testing Location and Dates

• Six (6) sessions (total) conducted between July 28-29, 2010
• Integrated Acquisition Environment Offices – located at 2011 Crystal Drive, Arlington, VA 22202, Suite 911
Test Conditions

• Participants sat in a conference room.
• No observers were in attendance.
• System was a practice system made available via internet access courtesy of Naval Sea Logistics Center, Portsmouth, NH.

Test Conditions
Recruitment

Recruitment was challenging, but 6 participants were scheduled resulting in a successful test.

Users were recruited from available government organizations around the Washington, DC area.

Recruitment was challenging, but 6 participants were scheduled resulting in a successful test.
User Segments

Six government users from the following segments:

- We had 4 government employees
  - 1 from the Bureau of Prisons
  - 1 from ATF
  - 2 from GSA

- We had 2 convenient volunteers
  - 2 contractors for GSA

- Six government users from the following segments:

User Segments
Sample Sizes

- Typically, between 4-6 users per segment is sufficient to reveal most usability issues.
- In order to make sufficient comparisons between segments, sample sizes should be relatively equal.

Sample Sizes
Participants were briefed prior to testing.

One facilitator in the room taking notes.

Scheduled for up to 60 minutes.

Bias and outside assistance eliminated.

Conducted in single-user sessions to eliminate bias.

Methods – Sessions
Methods – Briefing

- Participants were:
  - Provided with an overview of the facilities and process
  - Informed that the facilitator would only help if they reached a point where they might make a catastrophic error or could go no further or for minor testing conditions
  - Reminded that the session goals was to test the system and not them
  - Encouraged to “think aloud” in order to let us know what they are thinking

Participants were:

Methods – Briefing
Methods – Materials

• Test was conducted on a practice system provided by the Naval Sea Logistics Center, Portsmouth, NH.

• Participants were given a document that included the URL of the test site, along with sample data sufficient to complete the task.

• Test was conducted on a practice system.
Tasks

Note: Due to the limited scope of this test, there were only 3 tasks.

Task 1
- You are looking for information about a FAPIIS report filed on the company, "Test Company with nine 9's." Find a "Termination for Material Failure to Comply" report for this company. What is the reporting agency?

Task 2
- Find a FAPIIS "Recipient Not-Qualified Determination" Report for "Test Company with thirteen 9's." In case you need it, the Cage code is "CPARS." What is the date that it was filed?

Task 3
- For the report that you just found, review the attachments (if any).
FAPIIS Report Retrieval Usability

Results
Metrics – Usability Goals

- Completion Rate: "Effectiveness"
  - Goal = 80%

- Error-free rate: "Efficiency"
  - Goal = 80%

Subjective Measures

- Task goal = 80% (Agree/Strongly Agree on Ease of Use)

- Test goal = 80% Modified SUS score

- Goal = 80%

Error-free rate: "Efficiency"

- Goal = 80%

Completion Rate: "Effectiveness"

- Metric - Usability Goals
Effectiveness

User engagement, abandonment, frustration, and insufficient intervention result in low effectiveness scores. Critical errors: Points at which the user cannot complete the task without significant intervention. Effectiveness: Percent (%) of successful task completion.
## Effectiveness by Task 1-3

<table>
<thead>
<tr>
<th>Task</th>
<th>Successful Completion (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Find Attachment</td>
<td>67</td>
</tr>
<tr>
<td>Search by Cage code</td>
<td>100</td>
</tr>
<tr>
<td>Search by name</td>
<td>17</td>
</tr>
</tbody>
</table>

**OVERALL**

N = 6

Percentage of successful completion (success criteria = 80%)
Efficiency (Error-free rate)

- Efficiency: % of tasks completed without error
- Non-critical errors: Errors that result in backtracking, rework, confusion, or system error messages
- Low efficiency scores can result in:
  - Abandonment
  - Confusion
  - Critical errors
  - Increased completion time
  - High contact center call volume
  - Insufficient user engagement

Efficiency: % of tasks completed without error (Error-free rate)
## Efficiency by Task 1-6

<table>
<thead>
<tr>
<th>Find Attachment</th>
<th>Search by Cage code</th>
<th>Search by name</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>33</td>
<td>83</td>
<td>0</td>
<td>N = 6</td>
</tr>
</tbody>
</table>

Percentage of completion without error (Success criteria = 80%)
Effectiveness & Efficiency for FAPIIS Report Retrieval Usability Test

- Success criteria = 80%
- FAPIIS failed to meet the success criteria for efficiency and effectiveness.
- This reflects extreme confusion with search functions.

<table>
<thead>
<tr>
<th>Segment</th>
<th>Effectiveness (%)</th>
<th>Efficiency (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>OVERALL</td>
<td>39</td>
<td>61</td>
</tr>
<tr>
<td>9 = N</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For FAPIIS Report Retrieval Usability Test

Effectiveness & Efficiency
not rate the system poorly, on the whole. This reflects satisfaction with the system because the system was not particularly complex, participants did not rate the system poorly, on the whole.

FAPIIS exceeded the success criteria for most tasks. Success criteria = 80%
Modified System Usability Scale (SUS) for FAPIIS Data Entry Usability test

- Success criteria = 80%
- FAPIIS met success criteria
- Success criteria = 80%

For more detail about the SUS see: [http://www.usabilitynet.org/trump/documents/Suschapter.doc](http://www.usabilitynet.org/trump/documents/Suschapter.doc)

<table>
<thead>
<tr>
<th>Segment</th>
<th>SUS Score (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>OVERALL</td>
<td>80</td>
</tr>
<tr>
<td>N = 9</td>
<td></td>
</tr>
</tbody>
</table>
Ease of Learning and Memory

- All users were relatively new to the system, so this test was not targeted for memory.
To prioritize recommendations, a method of problem severity classification will be used in the analysis of the data collected during evaluation activities. The approach treats problem severity as a combination of two factors: Impact of the problem and Frequency of users experiencing the problem during the evaluation.

The analysis of the data collected during evaluation activities will be used in problem severity classification, a method of prioritizing recommendations.
Impact

• Impact: Ranking of the consequences of the problem by defining the level of impact that the problem has on successful task completion

  - High: Prevents the user from completing the task (critical error)
  - Moderate: Causes user difficulty but the task can be completed (non-critical error)
  - Low: Minor problems that do not significantly affect the task completion (non-critical error)
Frequency

The percentage of participants who experience the problem when working on a task.

- High: 30% or more of the participants experience the problem.
- Moderate: 11% - 29% of participants experience the problem.
- Low: 10% or fewer of the participants experience the problem.
### Problem Severity Classification

<table>
<thead>
<tr>
<th>Severity</th>
<th>Description</th>
<th>Rewards &amp; Risks</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Critical</strong></td>
<td>High impact that often result in a critical error &amp; varied frequency</td>
<td>- Includes obvious 508 non-compliance&lt;br&gt;- Characteristic of calls to the Help Desk&lt;br&gt;- Includes obvious 508 non-compliance&lt;br&gt;- High impact that often result in a critical error &amp; varied frequency</td>
</tr>
<tr>
<td><strong>High</strong></td>
<td>Moderate to high frequency or moderate to low impact</td>
<td>- Reward for resolution is typically exhibited in fewer Help Desk calls and reduced development costs&lt;br&gt;- Reward for resolution is typically exhibited in increased user satisfaction&lt;br&gt;- Reward for resolution is typically exhibited in reduced time on task and increased data integrity&lt;br&gt;- Reward for resolution is typically exhibited in reduced time on task and decreased training costs</td>
</tr>
<tr>
<td><strong>Medium</strong></td>
<td>Either moderate problems with low frequency or low problems with moderate frequency</td>
<td>- Reward for resolution is typically exhibited in reduced time on task and decreased training costs&lt;br&gt;- Reward for resolution is typically exhibited in reduced time on task and increased data integrity&lt;br&gt;- Reward for resolution is typically exhibited in increased user satisfaction&lt;br&gt;- Reward for resolution is typically exhibited in fewer Help Desk calls and reduced development costs</td>
</tr>
<tr>
<td><strong>Low</strong></td>
<td>Low impact problems faced by few participants; there is low risk to not resolving these</td>
<td>- Reward for resolution is typically exhibited in reduced time on task and decreased training costs&lt;br&gt;- Reward for resolution is typically exhibited in low frequency or low problems with moderate frequency&lt;br&gt;- Reward for resolution is typically exhibited in fewer Help Desk calls and reduced development costs&lt;br&gt;- Reward for resolution is typically exhibited in increased user satisfaction</td>
</tr>
<tr>
<td><strong>Best Practice</strong></td>
<td>Deviations from best practices that contribute to poor performance, but not necessarily a direct observation of error, including possible 508 non-compliance</td>
<td>- Reward for resolution is typically exhibited in reduced time on task and increased data integrity&lt;br&gt;- Reward for resolution is typically exhibited in increased user satisfaction&lt;br&gt;- Reward for resolution is typically exhibited in fewer Help Desk calls and reduced development costs&lt;br&gt;- Reward for resolution is typically exhibited in fewer Help Desk calls and reduced development costs</td>
</tr>
</tbody>
</table>
Findings

FAPIIS Report Retrieval Usability
Overall User Interface Trends (1 of 3)

• Only one participant was able to complete the first search successfully without intervention. All other participants were presented with numerous error screens because the search criteria “Begins with” was selected. All users began by attempting to enter an exact match for the company name, but it would not work.

• Most participants (5/6) did not initially see that the results from a radio button selection action would be shown in the table below, and they were often confused.

• Most participants (4/6) commented that the font shading and background were too light and difficult to see.

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• Most participants (5/6) did not initially see that the results from a radio button selection action would be shown in the table below, and they were often confused.

• Most participants (4/6) commented that the font shading and background were too light and difficult to see.
Overall User Interface Trends (2 of 3)

- The very similar look for all sections of the table made it difficult for the participants to distinguish between the content and nature of each section. They often made errors because they assumed a nearly identical list of company names, and they were presented with a list of reports with an identical look. The test system was slow, exacerbating the fact that one radio button at a time. This was exacerbated by the fact that selecting more than one company name at a time was often problematic and confusing. Half of the participants had difficulty with the radio buttons for the initial selection of a company. That is, they had just viewed a nearly identical list of company names, and they were confused when the report list came up after the selection of a company.

- Some participants (2/6) were confused when the report list came up after the selection of a company. They often made errors because they assumed that the table was continuous and difficult to read details of each section. They often made errors because they assumed that the table was continuous and difficult to distinguish between the content and nature for the participants.

- The very similar look for all sections of the table made it difficult for the participants.
Overall User Interface Trends (3 of 3)

• Most participants (4/6) were initially confused with the presentation of the specific report list at the bottom of the screen, rather than a new screen or visual distinction. This caused them to read the list of reports rather than see the list of reports. This resulted in errors because they didn’t see the list of reports.

• Participants found it challenging to locate report attachments. Half of the participants were not able to find the report attachments, and 4/6 users half of the participants were not able to find the report attachments. Half of the participants were not able to find the report attachments, and 4/6 users half of the participants were not able to find the report attachments, and 4/6 users.

• With respect to the Contractor view, participants became very confused when they were presented with an additional "Password" field after they had entered the DUNS, DUNS+4, and MPIN, and then selected "Login." Although they had entered the DUNS, DUNS+4, and MPIN, and then selected "Login," All thought that attachment and the use of a radio button to view the "Attached" for that column did not provide sufficient queues to the participants for the task.

• Because the system was not particularly complex, participants did not rate the process poorly, on the whole.
Instructions are technical and complex, and users do not understand them.

Dop down lists with conditional searches are too technical for most users, and they did not work well.

Users do not expect or understand how/why one field may "take precedence" over another.

No examples are given.