Test Results

Federal Awardee Performance and Integrity Information System (FAPIIS) Public Access Usability

Conducted by Sam Chapman

October 11-13, 2011

Principal Investigator, PersonaVision
FAPIIS Public Access Usability Test

Objectives

Testing Location and Dates

Test Conditions, Recruitment, User Segments, Participants, Sample Sizes

Methods & Tasks

Results

– Metrics & Success Criteria
– Data

Findings

Data – Criteria

Design and Recommendations

Results

FAPIIS Public Access Usability Test

Report Agenda
Executive Summary

Six (6) users were tested from a sample of the general public in the Washington, DC area. Most participants (4 of 6) were not able to complete all of the tasks. Out of the 6 tasks across 6 participants (36 tasks), at least 1 error was made for 32 tasks. The errors that were made were consistent across all of the tasks.

Most participants (4 of 6) were not able to complete general public in the Washington, DC area. Six (6) users were tested from a sample of the participants.

The design for search results was very confusing, the dense text was distracting, and the Captcha process was prohibitive.
Objectives

To determine challenges for the general public accessing information regarding contractor performance issues. Potential sources of error may include:

- Control usage problems: Improper toolbar or entry field usage
- Presentation errors: Failure to locate and properly act
- Navigation errors: Failure to locate functions
- Presentation errors: Failure to locate and properly act
- Navigation errors: Failure to locate functions

Potential sources of error may include:

- Excessive keystrokes to complete a function
- Failure to follow recommended screen flow
- Unsuccessful navigation in screens or selection errors
- Failure to properly act upon desired information in screens

To determine challenges for the general public,

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To determine challenges for the general public,
FAPIIS Data Entry Usability Test

Objectives II

1. Exercise the application or website under controlled test conditions with representative users.
   - Data will be used to assess whether usability goals have been achieved.

2. Establish baseline user performance and user-satisfaction levels of the user interface for future usability evaluations.
   - Regarding an effective, efficient, and well-received user interface.

3. Objectives II
   - FAPIIIS Data Entry Usability Test
Testing Location and Dates

- General Services Administration offices, Office of Governmentwide Policy, Acquisition Systems Division (ASD), 1275 First Street, NE, Washington, DC 20417-0001
- Six (6) sessions (total) conducted between October 11-12, 2011
Test Conditions

• Participants sat in a conference room
• Facilitator took notes and observations
• Observers sat in the conference room to view the session
• System was the live system accessed through www.fapiis.gov
Recruitment

Recruitment was managed by PersonaVision, and 6 participants were scheduled resulting in a successful test. Users were recruited from available the general public around the Washington, DC area. 

Recruitment was managed by PersonaVision, and 6 participants were scheduled resulting in a successful test. 

Recruitment
User Segments

• General Public with no specific education or training experience, reflecting casual internet users.

• 4 males, 2 females, all participants over 25 years.
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 be relatively equal between segments.

Typically, between 4-6 users per segment is sufficient.
Methods – Sessions

• Conducted in single-user sessions to eliminate bias and outside assistance
• Scheduled for up to 60 minutes
• One facilitator in the room
• Participants were briefed prior to testing

Conducted in single-user sessions to eliminate bias and outside assistance
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
- Provided with an overview of the facilities and process
Methods – Materials

Test was conducted on the live system at www.fapiis.gov.

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

Test was conducted on the live system at www.fapiis.gov.
Tasks

• Task 1
  You heard about the FAPIIS site and you want to find a place on the site where you (as a member of the general public) can look up information about a company.

  Go to http://www.fapiis.gov

• Task 2
  Starting over again from the http://www.fapiis.gov, find out if there are any reports available for a company called "PersonaVision."
You are interested in seeing some information about a contractor that you heard had some problems with a contract for the Federal Government. Here is what you know about the company:

Company Name: Tecline Supply Company
DUNS number: 829192793

Who was the contract with?
What kind of action was taken against the company?
Find out what kind of reports are available for this company?

You are interested in seeing some information about a contractor that you heard had some problems with a contract for the Federal Government.
You are interested in seeing some information about a contractor that you heard had a number of problems with a contract for the federal government. Here is what you know about the company:

**Company Name:** PRECISION STANDARD, INC.

**DUNS number:** 095404182

How many reports are available for this company? What kind are they?

Open the report dated 5/10/2011. Who was the contracting officer for this report?
Now you are really curious and you want to see a list of all the recent actions where contractors have been terminated for one reason or another.

Find a way to get a list. Then download that list to the local computer using the website's available functions.

Task 5: Tasks
Now you want to see a list of Federal Awardees that have had contracts of greater than $10 million and have reported that they have been in trouble (default, etc) within the last 5 years. Download that list to the local drive using the website's available functions.
FAPIIS Public Access 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
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</th>
<th>Effectiveness</th>
<th>% Successful</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Find Search by Company Name</td>
<td>83%</td>
</tr>
<tr>
<td>2</td>
<td>Search by DUNS or Company Name</td>
<td>67%</td>
</tr>
<tr>
<td>3</td>
<td>Search by DUNS or Company Name</td>
<td>83%</td>
</tr>
<tr>
<td>4</td>
<td>Find Govt Entered Reports</td>
<td>83%</td>
</tr>
<tr>
<td>5</td>
<td>Find Awardee Entered Reports</td>
<td>50%</td>
</tr>
<tr>
<td>6</td>
<td>Overall</td>
<td>50%</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
  - Increased user engagement
  - High contact center call volume
  - Increased completion time
  - Critical errors
  - Confusion
  - Abandonment
  - Abandonment

Efficiency: % of tasks completed without error
### Efficiency by Task 1-6

Percentage of completion without error (Success criteria = 80%)

<table>
<thead>
<tr>
<th>Task Description</th>
<th>N = 6</th>
<th>50</th>
<th>0</th>
<th>0</th>
<th>33</th>
<th>0</th>
<th>33</th>
</tr>
</thead>
<tbody>
<tr>
<td>Find Search</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Search by Company Name</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Search by DUNS or Company Name</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Find Govt Entered Reports</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Find Awardee Entered Reports</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Effectiveness & Efficiency for FAPIIS Public Access Usability Test

- Success criteria = 80%
- FAPIIS failed to meet the success criteria for efficiency
  - This reflects a poor design, dense text and non-traditional search results presentation.

<table>
<thead>
<tr>
<th>Segment</th>
<th>Effectiveness</th>
<th>Efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>OVERALL</td>
<td>69</td>
<td>19</td>
</tr>
</tbody>
</table>

N = 6
This reflects extreme dissatisfaction with the FAPIIS failed the success criteria for most tasks, success criteria = 80%.

<table>
<thead>
<tr>
<th>Task</th>
<th>Ease of Use</th>
<th>N = 6</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>FAPIIS</td>
<td>50</td>
<td>50</td>
<td>50</td>
</tr>
</tbody>
</table>
For more detail about the SUS see: http://www.usabilitynet.org/trump/documents/Suschap7.doc

- This reflects a consistently high level of discontent with the website
- Success criteria = 80%
- Failed success criteria
- FAPIIIS public access usability test

<table>
<thead>
<tr>
<th>Segment</th>
<th>Sus Score (%)</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>52%</td>
<td>N = 6</td>
</tr>
</tbody>
</table>

Modified System Usability Scale (SUS)*
Ease of Learning and Memory

All participants were relatively new to the system, so this test was not targeted for memory. It was apparent that in some cases, participants learned from their errors on previous tasks, but a few did not. For instance, one participant never saw the search results at the bottom.
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
- Frequency of users experiencing the problem
during the evaluation activities.

The severity classification will be used in problem severity prioritization recommendations, 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 is categorized as follows:

- **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

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 data integrity
  - Reward for resolution is typically exhibited in reduced time on task and decreased training costs

• **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 increased data integrity
  - Reward for resolution is typically exhibited in reduced time on task and decreased training costs

• **Low**
  - Low impact problems faced by few participants; there is low risk to not resolving these
  - Reward for resolution is typically exhibited in reduced time on task and decreased training costs
  - Reward for resolution is typically exhibited in increased user satisfaction

• **Best Practice**
  - Devisations 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
<table>
<thead>
<tr>
<th>Class</th>
<th>Satisfaction</th>
<th>Reward type</th>
<th>Frequency</th>
<th>Impact</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical</td>
<td>High</td>
<td>High</td>
<td>Variable</td>
<td>High</td>
<td>Call volume ↑ Reward type</td>
</tr>
<tr>
<td>Medium</td>
<td>Low</td>
<td>Low</td>
<td>Moderate to low</td>
<td>Low or Moderate</td>
<td>Time ↑ Data integrity ↓</td>
</tr>
<tr>
<td>Low</td>
<td>Low</td>
<td>Low</td>
<td>Low or Moderate</td>
<td>Low</td>
<td>Satisfaction ↓ Call volume ↑</td>
</tr>
</tbody>
</table>
Overall User Interface Trends

- Captcha caused many errors and it was not easily associated with the different list views.
- Search results were hidden from view at the bottom of the page, and almost all users thought that they had made some Captcha mistake even when they had a successful set of results because there was no visible indication that search results were "below the fold."
- All participants found the search page easily, but most commented that there was too much information (text) and none of the participants read it.
FAPIIS Public Access Usability

Test

Annotated Findings
The Main FAPIIS page has no design, and it appears to be a single page with no navigation and only 3 hyperlinks.

Several participants were quick to point this out:

- The one that went to "training," was disappointed with the results and returned to the page to attempt to find another alternative.
- No participants read the dense text, and all but one attempted to go to the very first hyperlink available to them.

Hitps://www.fapiis.gov
No explicit consent action is given, such as "I agree."

Access Website:

- Link to "FAPIIS Public Access Website" is provided, even though the user has already chosen to go the FAPIIS Public
  site.
- Reference to "User Agreement" is made, but no access is provided to the user.
- Alternative Awarders/Contractors link is provided, but not simply.
- All red text is not necessary, and it is hard to read.
- Design is different from original Main Page, but it still has no navigation.

HTTPS://WWW.FAPIIS.GOV/FAPIIS/INDEX.ISP

SECURITY WARNING

THE FEDERAL AWARD PERFORMANCE AND INTEGRITY SYSTEM (FAPIIS)

No comprehensive context is given, such as "I agree."
Access

All three of the initial pages might be considered the "Main" page for Public Access.

The "Main" link takes the user back to the Security Warning page.

No indication is provided to the user regarding the intent or main task(s) provided.

User is required to take additional steps in order to search for FAPIIS reports.

No access to help or instructions regarding how to read the report is provided.

Dense text is redundant (and unnecessary) from the original pages.

The "Main" link takes the user back to the Security Warning page.

All three of the initial pages might be considered the "Main" page for Public Access.

Below it, navigation. The heading for the "Reports Menu Items" has only one link.

Design is different from the first two pages, but it now has minimal information from the Excluded Parties List System (EPLS).

Information from the DSER System (DSER) and the Suspension/Debarment module in the Contractor Performance Assessment Reporting System (CPARS) is also included in the FAPIIS reports.

FAPIIS provides users access to integrity and performance information from the FAPIIS Repting System that contains specific information on integrity and performance of covered Federal agency contractors and grantees.

The Federal Award Performance and Integrity Information System (FAPIIS) was developed to address those requirements. FAPIIS public access will only display integrity performance, and contractors and grantees.

October 14, 2009. Section 727 of the act required the Development and Maintenance of an Information System was enacted for the Duncan Hunter National Defense Authorization Act of 2009 (Public Law 110-417) was enacted on
The instructions at the top of the page are more distracting than helpful. Help links are glossaries, and the "pdf" version is broken. Participants had extreme difficulties understanding what order to perform functions and how the Captcha applied to the list search. No participant expected the results to be located at the bottom of the page.
Part 1

Instructions are complex and not provided in relevant areas.

- "Help(pdf)" link is broken.
- "Help(html)" link is a pop-up window to "FAPIIS Terms and Definitions" with no navigational instructions or help.

Navigation area provides no additional information to the user regarding their current location.

Part 1

https://www.fapiis.gov/fapiis/fapiis/govt/adversereportsearch.do?action=initScreen
Part 2

The “Enter” key is not associated with a default action, such as “Search.” Users have to "click" on any button. It’s not clear that the secret code relates to all of the search options. It is not clear that the secret code violates accessibility requirements for government websites. "Click here" is an inaccessible label for a button for those with disabilities requiring assistive devices. Most important element (DUNS) number should be the default and upper-most data field. Error warnings do not appear in the section where errors are made, but in a section above. Successful search result has appeared caused several critical errors for participants. Search results are located at the bottom of the page, with no indication to the user that a search was successful.
Some errors break the site. During testing two participants received this error and the Captcha interface disappeared.
This is an illustration of when search results are hidden at the bottom of the page. This resulted in multiple critical errors where participants were unable to understand that they had actually done everything correctly with respect to the interface.
While participants were able to accomplish most tasks, a number of errors were made, and the instructions were not simple and clear.
With so few options, it might make sense to remove persistent navigation. Rearranged some of the content and deleted some content. Deleted the Security warning page and made it a link – this could be a dialog box. Inserted some headers to break up the content areas into something meaningful. Added an arrow to the link for the public portal to make it more prominent.
not make sense to add persistent navigation. Page but just in case. Since there is so little the user can do but search – it does
Add a back to Main page (not sure why anyone would want to go back to that
for every search
Use the Captcha on only this page so that the user does not need to enter it
Simplify search page

Before searching reports please enter the text you see in the image below and select the Submit button to continue searching.

Reports
Back to Main page

Search FAIIIS Reports

FAIII
Federal Award Performance and Integrity Information System

Search Page
- Remove the CAPTCHA from the search page.
- Remove "Begins with" and "Contains" options because these are uncommon and confusing.
- Separate search into the 3 categories of search and added explanatory text.
Search Results

Add a quick link to the types of search results.

Add the sections for the results and separated them with a thin line.

Add a back to Main page and a back to Search link at the top and bottom of the page.
Remove unnecessary and erroneous instructions.

Add a back to Main page and a back to Search link at the top (and bottom) of the page.

Provide simplified links.
Recommendations (based on Best Practices and Guiding Usability Principles and Highlighted in boxes above):

- "Excluded Parties List System (EPLS) at www.epls.gov" should be an actual link, without the url as in "Excluded Parties List System (EPLS) at www.epls.gov." There is no link "download spreadsheet" visible. Recommend: "Select an Awardee Name or DUNS for a summary report of the organization." Without the url as in "Excluded Parties List System (EPLS)" with a download spreadsheet visible. Recommend: "Download all FAPIIS Records in Microsoft Excel format." Should be an actual link, without the url as in "Download all FAPIIS Records: Click here to download data in Microsoft Excel format." Provide a default sort with an arrow indication. Also, enable hover-over links for the column sorting to provide additional visual clue to the user. That is, change the arrow cursor pointer to a hand. Then, additional instructions regarding taking action will probably be unnecessary.

<table>
<thead>
<tr>
<th>Awardee Name</th>
<th>DUNS</th>
<th>Number</th>
<th>Number</th>
<th>Federal/Centr. Number</th>
<th>Record Date</th>
<th>Awarded Date</th>
<th>Awarded Name</th>
<th>Awarded SOC Code</th>
<th>Awarded Class Code</th>
</tr>
</thead>
</table>

List Results & Download Details

You may also download all FAPIIS Records in Microsoft Excel format. Select an Awardee Name or DUNS for a summary report of the organization.
If Captcha is necessary (Required), then separate pages for each purpose.

Search results should appear on a separate page.

Place DUNS (search element with highest precedence) in the first position.

Remove excessive text. Add those instructions to help and provide a link.

Search page alternative
If Captcha is necessary (Required), then separate pages for each purpose.

- Remove excessive text and replace it with scanable bullets.
- Removed excessive text. Add those instructions to help and provide a link.
- List results should appear on a separate page.