UI/UX Design and Development

Concept to Creation

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Heuristic Evaluation of Viewtrust Flagship Product of Virtustream
# Table of Contents

- Executive Summary ................................................................. 1
- Methodology ............................................................................ 5
- Severity Ratings ...................................................................... 6
- Findings .................................................................................. 7
- Proposed UI Solution ............................................................... 19
- Conclusión .............................................................................. 23
- System Usability Scale (SUS) .................................................. 24
- System Usability Rating .......................................................... 26
Executive Summary

Product and Goals
This report documents heuristic evaluation of viewtrust, an enterprise grade, cyber security and compliance solutions for government and enterprise customers worldwide. The goals of this heuristic evaluation were to evaluate the usability of viewtrust using a set of heuristics and disclose a prioritized list of issues to developers’ attention. The findings along with the proposed UI Solution will guide future changes in the software’s interface.

Methods
Researchers utilized Nielsen’s ten usability heuristics (Nielsen, 1994) to evaluate common tasks in viewtrust: Dashboard & Homepage Section. Heuristic evaluation is done to find the usability issues and which heuristic violations occurred, then rated each issue in terms of severity. Usability Analyst later consolidated and prioritized usability issues according to severity.

Findings
This evaluation identified 41 usability issues in total. A proposed Solution is given in the presentation.
Methodology - Ten Usability Heuristics

• Visibility of system status
The system should always keep users informed about what is going on, through appropriate feedback within reasonable time.

• Match between system and the real world
The system should speak the users’ language, with words, phrases and concepts familiar to the user, rather than system-oriented terms. Follow real-world conventions, making information appear in a natural and logical order.

• User control and freedom
Users often choose system functions by mistake and will need a clearly marked “emergency exit” to leave the unwanted state without having to go through an extended dialogue. Support undo and redo.

• Consistency and standards
Users should not have to wonder whether different words, situations, or actions mean the same thing. Follow platform conventions.

• Error prevention
Even better than good error messages is a careful design which prevents a problem from occurring in the first place.

• Recognition rather than recall
Make objects, actions, and options visible. The user should not have to remember information from one part of the dialogue to another. Instructions for use of the system should be visible or easily retrievable whenever appropriate.

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• Flexibility and efficiency of use
Accelerators -- unseen by the novice user -- may often speed up the interaction for the expert user such that the system can cater to both inexperienced and experienced users. Allow users to tailor frequent actions.

• Aesthetic and minimalist design
Dialogues should not contain information which is irrelevant or rarely needed. Every extra unit of information in a dialogue competes with the relevant units of information and diminishes their relative visibility.

• Help users recognize, diagnose, and recover from errors
Error messages should be expressed in plain language (no codes), precisely indicate the problem, and constructively suggest a solution.

• Help and documentation
Even though it is better if the system can be used without documentation, it may be necessary to provide help and documentation. Any such information should be easy to search, focused on the user’s task, list concrete steps to be carried out, and not be too large.
The following 0 to 4 rating scale has been used to rate the severity of usability problems:

0 = I don't agree that this is a usability problem at all

1 = Cosmetic problem only: need not be fixed unless extra time is available on project

2 = Minor usability problem: fixing this should be given low priority

3 = Major usability problem: important to fix, so should be given high priority

4 = Usability catastrophe: imperative to fix this before product can be released
Severity Rating Score:
3 = Major usability problem: important to fix, so should be given high priority

Consistency and standards

A. Mandatory Field are not clearly defined
B. Forgot your password & New User Account should be part of Login form

(Design is not as per general Form Design pattern)

Severity Rating 3
Consistency and standards

A. Different color for same button type (GO & Add New Case) & Go button show inactive cases
B. Page size input box control Inconsistent size
C. Inconsistent grid actionable items, icon + text & Icons
D. Inconsistent font color for different column items
E. Spacing between Alphabets is very less and no visible difference between Alphabets & All items as Active
F. Two logos on header is confusing, unwanted usage of space.
G. Footer should be in the Bottom of the page
H. Header Font Color is not clearly visible

Severity Rating Score:

3 = Major usability problem: important to fix, so should be given high priority
2 = Minor usability problem: fixing this should be given low priority

G. The content should be placed at the footer and not at this position as it falls under the Menu section.

Severity Rating 2

Aesthetic and Minimalist design

H. Header Font Color is not clearly visible

Severity Rating 3
Consistency and standards

A. Inconsistent tab size, confusing Tab navigation pattern & Color

B. Button size is very small, padding within the button is missing

C. Breadcrumbs & Form Data grid, total no of. Result in same row.

D. Inconsistent grid actionable items, icon + text & Icons

Severity Rating Score:

3 = Major usability problem: important to fix, so should be given high priority
Consistency and standards

A. Add Enterprise Unit open additional section in bottom of page, should be open as popup. On low resolution page create additional scroll on the page.

B. Inconsistent button design for Spellcheck, Save & Cancel

Severity Rating 3

Severity Rating Score:

3 = Major usability problem: important to fix, so should be given high priority
Consistency and standards

A. Missing Label for view type (e.g. Tree view)
B. Header (Title) is Missing
C. Add Enterprise Function form Error message space is not defined
D. Add Enterprise Function form should be open as popup

Severity Rating 3

Severity Rating Score:

3 = Major usability problem: important to fix, so should be given high priority
Error Presentation

A. Error/mandatory fields, Message space is not defined in popup.
B. Button size should be made bigger for better user interaction
C. Popup should be as model popup so that user cannot click any item behind the popup

Severity Rating Score:
3 = Major usability problem: important to fix, so should be given high priority
Consistency and standards

A. Confusing Back button for closing the window
B. Confusing Select button

Severity Rating Score:

3 = Major usability problem: important to fix, so should be given high priority
Aesthetic and Minimalist Design

A. Enterprise Unit & Enterprise Function dropdown should be in same row

B. Message should be displayed as popup and different color should be used for saving data. Red color usually used for error message.

C. Data grid row text item should be left aligned

Severity Rating Score:

3 = Major usability problem: important to fix, so should be given high priority
Consistency and standards

A. Inconsistent Button size & spacing between each button
B. Disabled & Active Buttons should be shown in Different color
C. Inconsistent space between form control. Should use the available space for better UI.
D. Dropdown label missing

Severity Rating Score:

3 = Major usability problem: important to fix, so should be given high priority
Asset Management Page - Inventory

Consistency and standards

A. Message should be displayed on top of page or in popup
B. Created & Updated By information should be shown separately from Input form
C. Group Header should be shown distinctly by putting background color
D. Actionable Button should be visible in similar pattern (Text, Icon with Text or Icon)
E. Confusing Back button
F. Unclear button

Severity Rating 3

Severity Rating Score:
3 = Major usability problem: important to fix, so should be given high priority
Visibility of system status
A. Navigation/ Breadcrumbs is missing. System does not inform which page is loaded
Severity Rating 3

Aesthetic and minimalist design
B. Note/ Instruction should be shown separately in light font tone
Severity Rating 2

Severity Rating Score:
3 = Major usability problem: important to fix, so should be given high priority
2 = Minor usability problem: fixing this should be given low priority
Visibility of system status

A. Dashboard page showing Homepage icon Selected

Severity Rating 3

Consistency and Standards

B. Different Header Text color

Severity Rating 2

Severity Rating Score:

3 = Major usability problem: important to fix, so should be given high priority

2 = Minor usability problem: fixing this should be given low priority
Proposed UI Solution
Proposed UI Solution for Dashboard

My Audit Case(s) in Progress

<table>
<thead>
<tr>
<th>Case Name</th>
<th>Phase</th>
<th>Enterprise Function</th>
<th>Status</th>
<th>% Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 75 Users Audit</td>
<td>Annual</td>
<td>EF02</td>
<td>Active</td>
<td>0%</td>
</tr>
<tr>
<td>2 75 Users Audit</td>
<td>Annual</td>
<td>EF02</td>
<td>Active</td>
<td>50%</td>
</tr>
<tr>
<td>3 75 Users Audit</td>
<td>Annual</td>
<td>EF02</td>
<td>Active</td>
<td>70%</td>
</tr>
<tr>
<td>4 75 Users Audit</td>
<td>Annual</td>
<td>EF02</td>
<td>Active</td>
<td>100%</td>
</tr>
<tr>
<td>5 75 Users Audit</td>
<td>Annual</td>
<td>EF02</td>
<td>Active</td>
<td>40%</td>
</tr>
</tbody>
</table>

System A&A Process Types

System Audit Case(s) - IA Control Compliance Status
Proposed UI Solution for Dashboard

- My Audit Case(s) in Progress
- System A&A Process Types
- System Audit Case(s) - IA Control Compliance Status

Dashboard Breakdowns

- Audit Cases
  - A&A Types
  - Systems
  - POAMs
  - Tasks
  - Assets
  - Enterprise 360 Risk View
  - Reports
  - Compliance View

Welcome - Note: Current Logged in Time: Last Logged in Time
# Proposed UI Solution for Home screen

Welcome - Note: Current Logged in time. Last Logged in Time

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**My Active Case**

<table>
<thead>
<tr>
<th>#</th>
<th>ID</th>
<th>Audit Case Name</th>
<th>Status</th>
<th>Process Type</th>
<th>RMF Steps</th>
<th>Artifacts</th>
<th>Tasks</th>
<th>Audit IAC</th>
<th>Team Members</th>
<th>Copy</th>
<th>Delete</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>70</td>
<td>75UsesAuditCase [system Name: AS22] [NIST DHS] EF02</td>
<td>Active</td>
<td>Annual</td>
<td>Annual Phase</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**My Tasks**

<table>
<thead>
<tr>
<th>Task No.</th>
<th>Status</th>
<th>Task Description</th>
<th>Open Date</th>
<th>Updated By</th>
<th>Past Days</th>
<th>Enterprise Function</th>
<th>Assigned to</th>
<th>Artifacts</th>
<th>Add Sub task</th>
</tr>
</thead>
<tbody>
<tr>
<td>PALL-44</td>
<td>Draft/Open</td>
<td>Test Summary 18</td>
<td>08/25/2016</td>
<td>AU01 AU01</td>
<td>147</td>
<td>All</td>
<td>Not-assigned</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PALL-49</td>
<td>Draft/Open</td>
<td>Test Summary 18</td>
<td>08/27/2016</td>
<td>AU01 AU01</td>
<td>All</td>
<td>All</td>
<td>All assigned</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Usability Analyst yielded a large number of usability problems from the heuristic evaluation of Virtuetrust. The Virtuetrust development group can use the list of usability issues, in order of severity, to guide the redesign of the software’s interface.

Some of the findings are repetitive. Fixing those issue will help to sort out most of the issues in the application.
## System Usability Scale (SUS)

<table>
<thead>
<tr>
<th>Question</th>
<th>User 1 rating</th>
<th>SUS score</th>
<th>User 2 rating</th>
<th>SUS score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I think that I would like to use this application frequently</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>2. I found the application unnecessarily complex</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>3. I thought the application was easy to use</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>4. I think that I would need the support of a technical person to be able to use this application</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>5. I found the various functions in this application were well integrated</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>6. I thought there was too much inconsistency in this application</td>
<td>4</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>7. I would imagine that most people would learn to use this application very quickly</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>8. I found the application very cumbersome to use</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>9. I felt very confident using the application</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>10. I needed to learn a lot of things before I could get going with the application</td>
<td>4</td>
<td>1</td>
<td>5</td>
<td>0</td>
</tr>
</tbody>
</table>

### SUS score

1 means they strongly disagree, 5 means they strongly agree, and 2 and 3 are somewhere in the middle.

| SUS score | 55 | 45 |

The Average SUS Score is considered to be 68.

This means that if your score is BELOW 68, then you’ve got work to do. If it’s around 68 then you’re doing OK, and if it’s high above 68 then congratulations, your website/application is delivering an excellent user experience; good job!
THANKYOU