**Heuristic Evaluation (HE)**

An inspection method to identify problems with the design of a user interface

# **Purpose**

Our goal as is to provide an easy to use tool to inspect the usability of products and to provide meaningful feedback to product owners.

* If used on a computer, the document can be edited, and screenshots inserted
* If printed as a hard copy, the document can be used for note taking off line

# **Method**

A. **HE Lead** prepares the [Coversheet](#_Coversheet) and distributes the HE document to the Evaluators

B. **Evaluators** independently 'walk through' the tasks/ scenarios to:

1. Examine the design of a user interface

2. Identify issues with the interface that violate usability principles ([heuristics](#_Appendix_A-_List))

3. Collect [findings](#_Findings_Page)

C. **HE Lead** helps Evaluators compile findings and resolve any [heuristic or rating](#_Appendix_B-_Detailed) discrepancies

D. The result of this evaluation will be:

1. [Findings pages](#_Findings_Table_(Add) of the complied list of potential usability issues, each associated with one or more heuristics and rated for severity

2. [Summary Table](#_Appendix_C-_Summary) of the range of severity rating for each heuristic

# **Coversheet**

**A. HE Lead:**

1. Complete preliminary information for the Evaluators.
2. Start Date: \_\_\_\_\_\_\_\_\_\_\_\_
3. Name of Evaluator(s): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. Problem descriptions are Individual: \_\_\_\_\_\_\_\_ Compiled: \_\_\_\_\_\_
5. Product information: name/version: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
6. Target user(s) of product: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
7. Identify either a scenario or 3-5 fundamental tasks that the interface users must be able to accomplish to make the product successful:

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1. If using as a hard copy, print document (one-sided) for each Evaluator.

**B. Evaluator(s)**

1. Consider the interface while attempting to complete a scenario or task (1f above)

2. For each issue identified,

* 1. Start a new Findings Page
  2. Insert a screenshot of the issue
  3. Describe the issue / recommended solution
  4. Add the applicable [brief heuristic description(s)](#V) or [detailed one](#VI)
  5. Add the numeric [Rating](#VI)

# **Findings Page for Evaluators**

A. Consider the interface while attempting to complete a scenario or task (pg. 2, 1f)

B. For each issue identified,

1. Start a new Findings Page

2. Insert a screenshot of the issue

3. Describe the issue / recommended solution

4. Add the applicable [brief heuristic description(s)](#V) or [detailed one](#_Detailed_Description_of)(s)

5. Add the numeric [Rating](#VI)

# **List of Heuristics**

|  |
| --- |
| **# Name: Brief Description of Heuristic** |
|
| 1 Visibility of system status: Keeps user informed about what is going on |
| 2 Match system to real world: Uses familiar conceptual models &/or metaphors |
| 3 User control and freedom: Actions are the result of explicit user inputs |
| 4 Consistency and standards: Interface expresses the same thing the same way |
| 5 Error prevention: User confirmation option before committing to action |
| 6 Minimize memory load: Users see and point rather than remember and type |
| 7 Flexibility and efficiency of use: Provides simple or advanced functions based on context |
| 8 Aesthetic and minimalist design: Eliminate extraneous words or graphics |
| 9 Reversible actions: Provides an obvious way to undo, cancel, and redo actions |
| 10 Help and documentation: Available, concise, concrete, specific, easy to search |
| 11 Informative feedback: Tells the user what is going on and what system is doing |
| 12 Good error messages: Precisely indicates the problem & suggests a solution |
| 13 Clear closure: Each task has a well-defined beginning and end |
| 14 Use user’s language: Uses the standard meaning of words |
| 15 Other (specify\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_) \* Add more lines as needed |

# **Detailed Description of Heuristics and Ratings**

All ratings are on a scale of 3 to 0, where 3=Serious and 0=None

**1. Visibility of System Status**

The user should be informed as to the state of the system at any given moment and should know where she or he is in terms of completing a procedure or task.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Serious | Moderate | Minor | None |  | Not Applicable |
| Rating | 3 | 2 | 1 | 0 |  | n/a |

|  |  |  |
| --- | --- | --- |
| The user has difficulty determining the status of a process; the user cannot ascertain where they are in the process flow; the user cannot determine if an action is in process or if a transaction has been successful |  | The interface has status indicators at each point in the workflow; the interface communicates tasks in process and tasks remaining; the interface communicates when an item is processing and when a transaction has been successful |

**2. Match the System to the Real World**

The system should use the natural language of the user, real-world conventions and natural mappings as much as possible.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Serious | Moderate | Minor | None |  | Not Applicable |
| Rating | 3 | 2 | 1 | 0 |  | n/a |

|  |  |  |
| --- | --- | --- |
| Informational text and directions are steeped in jargon; error messages have no practical meaning to the user; the interface departs from typical design conventions or similar real-world devices |  | The interface uses the natural language of the user; buttons and navigational text are intuitive and map to the user’s mental model; devices and affordances mimic the affordances in real-world devices such as stereos, televisions, card catalogs, notebooks, etc. |

**3. User Control and Freedom**

The user should feel in control of the system and should not feel as though they were irreversibly locked into actions or procedures by the system.

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| --- | --- | --- | --- | --- | --- | --- |
|  | Serious | Moderate | Minor | None |  | Not Applicable |
| Rating | 3 | 2 | 1 | 0 |  | n/a |

|  |  |  |
| --- | --- | --- |
| The interface does not provide clearly marked exits; the user cannot easily undo or redo actions; users can easily commit irreversible transactions; the interface only affords one workflow and does not accommodate variation |  | The interface allows the user to feel in control of the experience; the interface provides clearly marked exits and navigation controls; the user can clearly undo and redo actions; significant transactions can be reversed or include a second warning; the interfaces permits variation in workflow and provides interruption recovery |

**4. Consistency and Standards**

The user interface and basic system operations should be consistent.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Serious | Moderate | Minor | None |  | Not Applicable |
| Rating | 3 | 2 | 1 | 0 |  | n/a |

|  |  |  |
| --- | --- | --- |
| Modules within the same system do not share the same look and feel; organizational layout varies between screens; buttons, dialog boxes, and other affordances are haphazardly placed |  | All modules within the same system share the same layout and conventions; users have little difficulty learning basic operations of the interface; menus, buttons, and controls have a consistent appearance and use standard terms |

**5. Error Prevention**

Interfaces should be designed specifically to decrease the potential for slips and mistakes.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Serious | Moderate | Minor | None |  | Not Applicable |
| Rating | 3 | 2 | 1 | 0 |  | n/a |

|  |  |  |
| --- | --- | --- |
| Screens include complex modes; affordances are difficult to operate or learn; input devices are confusing and error prone; interactive devices are arranged in a way the promotes slips; messages tend to be misinterpreted by users |  | Screens and messages are simple and unambiguous; interactive devices are arranged in a way to decrease unintentional slips in system use; messages and buttons are arranged to limit mistakes or misinterpretations of meaning or action |

**6. Minimize Memory Load**

User interfaces should support recognition rather than recall.

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| --- | --- | --- | --- | --- | --- | --- |
|  | Serious | Moderate | Minor | None |  | Not Applicable |
| Rating | 3 | 2 | 1 | 0 |  | n/a |

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| --- | --- | --- |
| Important reference information is distributed over several screens; users are forced to remember large numbers of unrelated data elements; menus and screens contain large numbers of items |  | All relevant information for a transaction is located on a single screen; the user is not required to recall any information from a prior transaction to complete a transaction; screens and menus and simple and contain only a few items |

**7. Flexibility and Efficiency of Use**

User interfaces should be as customizable and flexible as possible.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Serious | Moderate | Minor | None |  | Not Applicable |
| Rating | 3 | 2 | 1 | 0 |  | n/a |

|  |  |  |
| --- | --- | --- |
| The system does not provide experienced users with any shortcuts; the interface does not address all the typical scenarios anticipated for the implementation setting; interfaces cannot be customized |  | The system provides workflow and process path shortcuts for experienced users; the interface is customizable and flexible to meet various user needs; the interface easily covers all relevant scenarios encountered in the implementation setting; interfaces can be configured to accommodate user conditions |

**8. Aesthetic and Minimalist Design**

The simplest and most minimal design options are often the best for ensuring usability. Attempts should be made to limit distracting content or extraneous features.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Serious | Moderate | Minor | None |  | Not Applicable |
| Rating | 3 | 2 | 1 | 0 |  | n/a |

|  |  |  |
| --- | --- | --- |
| The interface includes many features that are distracting and detract from the primary design goals; messages are confusing and suffer from information overload; the interface includes too many flashy “add-ons” |  | Screens are clean and simple; attempts made to simplify the appearance of screens, dialogs and menus; complex information is layered in a series of simple and easy to understand screens; less used or super-user features do not clutter primary screens |

**9. Reversible Actions**

The system should provide clear and easy to understand information about how to recover from the error.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Serious | Moderate | Minor | None |  | Not Applicable |
| Rating | 3 | 2 | 1 | 0 |  | n/a |

|  |  |  |
| --- | --- | --- |
| The user is not offered any way to back out from mistakes; error messages are cryptic and phrased using technical jargon; error messages do not provide any recovery recommendations; no warnings appears before irreversible actions |  | The system provides clear and easy to understand information about how to recover from error; error messages are phrased in clear and meaningful language; error messages are precise and constructive |

**10. Help and Documentation**

Help should be available and recognizable to users when needed.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Serious | Moderate | Minor | None |  | Not Applicable |
| Rating | 3 | 2 | 1 | 0 |  | n/a |

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| No help menus, windows, or drop-downs exist; the device lacks hover-over messaging; there are no messages providing decision support or follow up content |  | A variety of help resources are available at every interface screen; help topics are robust and easy to navigate; point-of-care and context-dependent messages, warnings, and hover-over notes are available; there are decision support notices or suggestions for follow up advice and feedback |

**11. Informative Feedback**

Users should be given prompt and informative feedback about their action.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Serious | Moderate | Minor | None |  | Not Applicable |
| Rating | 3 | 2 | 1 | 0 |  | n/a |

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| Lack of feedback or feedback is not easily visible; feedback uses technical language foreign to users or too general to be useful; feedback takes a long time to appear to the users; users must search for feedback in a separate location of the system (e.g. log file) |  | Feedback appears promptly following user’s action in a readily visible area of the interface with succinct, easily understandable, unambiguous wording; feedback should also direct expert users to documentations that provide more details |

**12. Good Error Messages**

The messages should be informative enough such that users can understand the nature of the errors, learn from errors, and recover from errors

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| --- | --- | --- | --- | --- | --- | --- |
|  | Serious | Moderate | Minor | None |  | Not Applicable |
| Rating | 3 | 2 | 1 | 0 |  | n/a |

|  |  |  |
| --- | --- | --- |
| Error message uses obscure codes and technical language; error messages too vague or general to be useful; impolite messages (e.g. “illegal action,” “fatal errors”); no specific course of action is given to remedy error |  | Error messages phrased in unambiguous language, easily understandable, constructive, and polite; messages include specific suggested course of action to take (if applicable); may include direction to documentations providing more details |

**13. Clear Closure**

Every task has a beginning and an end. Users should be clearly notified about the completion of a task.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Serious | Moderate | Minor | None |  | Not Applicable |
| Rating | 3 | 2 | 1 | 0 |  | n/a |

|  |  |  |
| --- | --- | --- |
| No clear tracking of progress; no action confirmation; users left wondering if the task is completed |  | Clear indicator of the current step or progress in a sequential task; each action produces a prompt or visible change in the output; clear prompt if system is processing; clear feedback to indicate goals are achieved |

**14. Use Users’ Language**

The language should be always presented in a form understandable by the intended users.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | Serious | Moderate | Minor | None |  | Not Applicable |
| Rating | 3 | 2 | 1 | 0 |  | n/a |

|  |  |  |
| --- | --- | --- |
| Uses jargons, abbreviations, or words defined in a way that is unfamiliar to the intended users; uncommon aliases and references outside the scope of users’ knowledge; badly structured sentences; messages written from the system’s perspective |  | Uses language familiar to the user; uses standard meaning of words; may use specialized language for specialized groups; incorporate user-defined aliases; messages written from the user’s perspective |

# **Summary Table**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Heuristics** | **Severity Rating Range** | | | | |
| Serious | Moderate | Minor | None | Not Applicable |
| 1. Visibility of system status  • Keeps user informed about what is going on | 3 | 2 | 1 | 0 | n/a |
| 2. Match system to real world  • Uses familiar conceptual models &/or metaphors | 3 | 2 | 1 | 0 | n/a |
| 3. User control and freedom  • Actions are the result of explicit user inputs | 3 | 2 | 1 | 0 | n/a |
| 4. Consistency and standards  • Interface expresses the same thing the same way | 3 | 2 | 1 | 0 | n/a |
| 5. Error prevention  • User confirmation option before committing to action | 3 | 2 | 1 | 0 | n/a |
| 6. Minimize memory load  • Users see and point rather than remember and type | 3 | 2 | 1 | 0 | n/a |
| 7. Flexibility and efficiency of use  • Provides simple or advanced functions based on context | 3 | 2 | 1 | 0 | n/a |
| 8. Aesthetic and minimalist design  • Eliminate extraneous words or graphics | 3 | 2 | 1 | 0 | n/a |
| 9. Reversible actions  • Provides an obvious way to undo, cancel, and redo actions | 3 | 2 | 1 | 0 | n/a |
| 10. Help and documentation  • Available, concise, concrete, specific, easy to search | 3 | 2 | 1 | 0 | n/a |
| 11. Informative feedback  • Tells the user what is going on and what system is doing | 3 | 2 | 1 | 0 | n/a |
| 12. Good error messages  • Precisely indicates the problem & suggests a solution | 3 | 2 | 1 | 0 | n/a |
| 13. Clear closure  • Each task has a well-defined beginning and end | 3 | 2 | 1 | 0 | n/a |
| 14. Use user’s language  Uses the standard meaning of words | 3 | 2 | 1 | 0 | n/a |
| Other (specify\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_) \* Add more lines as needed | 3 | 2 | 1 | 0 | n/a |