UI Square

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Professional user interfaces

Checklist of general evaluation heuristics

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Contents

About this checklist

This checklist is designed to support heuristic evaluation of user interfaces of professional information systems and other specific software. You can use it for the evaluation of your HCI solutions or to evaluate existing software.

The checklist includes 70+ heuristics for several areas of user-computer interactivity and some implementations of general business tasks.

The numbering of list items is made continuous to make easier references.

It is an updated free version of checklist, based on my professional experience, so there will be any further updates. Check my blog, its Twitter account or Facebook page for them.

Terms of usage

Checklist

Subject matter and business model

1. The system supports business processes of organizations/users or can be customized to fit them.
2. The user interface reflects the primary workflows.
3. There are multiple starting points for non-linear processes, that can be done in different order.
   E.g., Patient selection > Doctor selection > Timeslot selection or Doctor selection > Timeslot selection > Patient selection, etc.
4. For systems with multiple user roles there are different workstations with different UIs (according to the tasks and responsibilities of each user).
5. The system hides controls and navigation elements, that are not allowed by access permissions.

Environment

6. The range of illumination level of the environment is supported by the user interface and hardware settings.
   For instance, the color theme of the UI can be switched into the day and night mode.
7. The volume and patterns of sound alerts are appropriate to the level of background noise level.
8. The hardware selection is appropriate for environmental conditions
   E.g. rugged tablets instead of office notebooks are used for automobile repair shop systems.

Users

9. The features of the system are adequate to the professional competency levels of all user types.
   If the system is made of different workstations for different users, every workstation UI conforms to competency levels of intended workstation user.
10. The user interface is adequate to the computer literacy of all user types.

General interactive features

11. The system supports the guidelines of operating system on which it is installed.
    The same rule applies for cross-platform applications and distributed systems for every workstation.
12. There are no unnecessary features (“feature creep”) in the system.
13. The system supports different ways to perform the same operation for the users with different habits, if it doesn’t add ambiguity and clutter.
    E.g. context menu, toolbar actions and keyboard shortcuts can be used to add or modify table view items.

Data handling

14. If there are too many data in the table and list views, the quick search feature, supporting key data fields, is available.
15. The filtering and sorting features are available for table and list views.
16. If multiple users can modify the same data item, there are solutions and clear indications to prevent data loss.

UI controls

17. The difference between interactive elements (buttons, etc.) and passive items (labels, headers, text) is clear.
18. All the labels, headers and other text fragments, that doesn’t fit the available space, are shortened and have hints with full text.
19. There is no nonstandard hidden logic in controls.
    Every nonstandard controls have notes (available by hints, by extra labels or by context help), that describe their behavior and logic.
20. The validation of data being entered by the user doesn’t prevent to enter correct values even if during entering they seem to be incorrect.
    For instance, when the user wants to enter 31.03.2015 in the masked date input control, and there is 15.02.2015 date currently, the value 31.02.2015 is allowed while user types the new date.

Keyboard support

21. The tab access and proper tab order is defined for necessary UI controls.
22. The keyboard shortcuts are used for multiple data input operations.

23. The shortcuts are standard for operating system and other systems in the subject matter.
24. The user can redefine, change or cancel the shortcuts for specific operations.

System response and long-lasting actions

25. The user perceives the system as fast and responsive.
26. There are progress indicators or spinners for opening layouts and loading data.
27. Predictable progress indicators are used instead of spinners if it is possible to make estimation.
28. Long-lasting operations are executed in background thread, the user can perform other activities instead of results awaiting.
    Examples of such background operations are report generation, data rendering, export and save operations.
29. All time-consuming actions can be canceled.

Cognitive load

30. The immersive approach is implemented in the user interfaces
31. Necessary data interpretations are made by the system.
    E.g., date and time is converted to relative values (“today”, “5 minutes ago”)
32. Interpretations of data are correct, there are no misinterpretations.
33. The visual hierarchy of the user interface elements reflects their importance and steps of interaction scenarios.
34. It is easy to compare different values and their changes in time.
    E.g., graphs, charts, change direction and rate icons, etc. are used to facilitate the comparison
35. The audio signals and alerts can be muted.
36. User can stop audio alerts and blinking visual indicators for less distraction.
37. Acknowledged indicators are still visible to the user to prevent forgetting.

Navigation

38. The current location of the user in the system is clearly indicated.
39. The user understands, what he can do in current location.
40. The user understands, where he can move from current location.

41. The user can easily return to previous position.
    E.g., by the Back button in browser and non-browser applications
42. The system allows to quickly return to the starting point (dashboard, homepage, etc.)
43. If necessary, global navigation is visible to the users of the system from any location
    This requirement can be unnecessary for instrumental and other systems without global sections and modes.
44. Items in navigation panels match the names of destination screens/pages.

Attention interruption handling

45. When the user opens the system after some time of inactivity, the system indicates what has changed since last visit.
46. The system clearly displays current state of workflow/process/data manipulation.
47. The system supports more than one workspace for work.
    It allows to save current task when interruption for urgent affairs is required
48. There are draft versions of current document or other manipulated data.
    See iterative work section of checklist
49. The system can start from last position after restart or re-login, including opened documents, text cursor position or focused field, undo/redo operations.
50. All the filters and view customizations are saved across sessions.
    E.g., width, position and visibility of table columns

Iterative work handling

51. The user can save documents and data as drafts.
52. Only key data inputs are marked as obligatory in forms.
53. Undo/redo actions are available for most system actions (item deletion, etc.)
54. The user can easiliy withdraw any documents and data for update. Status and workflow changes are made by the system

Error handling

55. The system protects the user from making errors.
56. The error indication is adequate to the degree of its importance.
    E.g., no screaming red alerts for missed data fields
57. The description of the error clearly indicates, why the error occurred.

58. There is a meaningful description how to resolve the reason of the errors
59. The system helps to correct typo and unintentional errors in input fields
    E.g. “Did you mean…?”
60. If there are too many similar errors, the system groups them
    E.g., no multiple exclamation dialogs for each of 100 erroneous items during data import.
61. System and context related errors, that can affect future system usage, are saved in the log file.
62. If necessary, all warnings and errors can be stored in separate feed to be reviewed in future.

Language

63. The labels are short, informative and cannot be treated incorrectly
64. Navigational items and action labels start with most meaningful and important keywords.
65. The language is familiar to the users, there are no unnecessary specific technical terms and jargon words.
66. The language of the system is neutral, without excessive familiarity, reproaches and accusations.

Graphic design

67. There are no bright saturated colors, that conflict with color coded indicators.
68. The design style doesn’t add visual clutter by itself.
    E.g., too many dividers, rulers, borders, dark shadows, etc.
69. The graphic design is modern and adequate to current trends of B2B and B2C software, that is familiar to the user.
70. The visual style doesn’t conflict with the guidelines of operating system(s).
    This requirement can be ignored by fullscreen applications, that run in kiosk mode (OS is inaccessible by the user from the system)
71. The text/background color contrast rate conforms to WCAG 2.0 (ISO/IEC 40500) requirements.
72. The users perceive the design of the system as aesthetically pleasing.

User support and system learning

73. The documentation is the indistinguishable part of the system

74. Parts of documentation are task and context-based
    It is not just a formal description of user interface and available operations
75. There is a quick start guide for beginner users
76. The user can quickly get information about current control, widget, mode, etc.
77. Keyboard shortcuts for certain operations can be identified when the user makes these operations by mouse
    For instance, if there is a shortcut for an action button, the button hint contains the shortcut.
78. The user can get and easily print all available keyboard shortcuts
    It can be done by additional “Help” menu item
79. When the error occurs, the system displays clear and helpful information about the reason of the error and the ways to resolve it.
80. When hardware or unusual error (such as exception) occurs, the system allows to send necessary system/technical data to the support team.
81. Contacts of technical support team (website URL, email, phone, etc.) can be found easily.

Feedback and donation

Any feedback about this checklist, especially including missed requirements, content ambiguity, typos and grammar errors is appreciated. Please share your thoughts at mail@uisquare.com

If you like this report and want to support my further activity related to this checklist and my blog, please make a donation via Paypal.

Change History

Date	Description
11 November 2015	Section “User support and system learning” added. Minor corrections of other items.
11 October 2015	First version of the checklist