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INTERFACE DESIGN

INTRODUCTION

User interface (UI) design is the process of making interfaces in software or computerized devices with a focus on looks or style, and that should be:

1. Easy to learn
2. Easy to use
3. Easy to understand

IMPORTANCE OF INTERFACE DESIGN

Users often first judge a system by its interface rather than its functionality.

A poorly designed interface can cause a user not to use the system.

It is the reason a great number of systems are not used despite being so functional.

INTERFACE DESIGN ERRORS

1. Unfriendly.
2. Too much memorization.
3. No graphics.
4. Unfriendly.
5. Poor response.

WHY IS GOOD USER INTERFACE DESIGN IMPORTANT?

User Interface Design is important because it can make or break your customer base.

1. Reduced number of users.
2. Company will face financial loss.

GOLDEN RULES

Remember the things you do not like in a software interface and try preventing them when you are developing one.

RULE NO.1: PLACE THE USER IN CONTROL

Interaction Mode

Define interaction modes in a way that does not force a user into unnecessary or undesired actions.

Two types of interaction model:

1. <u>Application Model.</u>   2. <u>System Model.</u>

Application Model

- Users are not allowed to work elsewhere in the program while in this mode.
- If working with a text file and View mode is chosen, users can not add, delete or edit the text.
- Visual indicator showing the current user mode must be included in the interface.

System Model

- Users are not allowed to work elsewhere in the computer until this mode is ended.
- The users should be able to enter and exit this mode easily.
- When compiling a code, a message window pops up telling the user to save the file before compiling it. Users can either save and compile the file, or close the message and continue writing the code.

Provide Flexible Interaction

Same actions should be performed via keyboard, mouse or voice recognition.

Uninterruptible User Interaction

The user shall be able to easily interrupt a sequence of actions to do something else.

For example: If they are updating a list of movies they should be able to add a new one even after they've saved the list.

They should be guided through "Wizards" but not forced to follow a set of steps to complete a task.

Provide reversible actions, and immediate feedback

Provide undo and redo actions. Inform users an action can't be undone before performing it.

Provide users with some indication that an action has been performed.

Provide Simple Navigation:

Easy entry and exit.

Navigation is the main interaction technique.

Users should be able to relax and enjoy exploring the interface of any software product.

Streamlined Interactions:

6. Streamlined Interactions

- Streamline interaction as skill levels advance and allow the interaction to be customized
- Don't sacrifice expert users for an easy-to-use interface for casual users. You must provide fast paths for experienced users.
- For example, the menu bar and pull-downs of a program can be set up as "standard" or "advanced", depending on user preferences and the types of tasks being performed.
- The user shall be able to use a macro mechanism to perform a sequence of repeated interactions and to customize the interface

Hide technical internals from the casual user:

The interface can be made transparent by giving users work objects rather than system objects. Trash Can, Scissors, Pen all let users focus on the tasks they want to do using these objects, rather than the underlying system functions actually performed by these objects.

Design for Direct interaction:

The user shall be able to manipulate objects on the screen in a manner similar to what would occur if the objects were a physical thing.

Users should be given full control of their interface so they can personalize it with their favorite colors, patterns, fonts, and background graphics for their desktop.

RULE NO.2: REDUCE THE USER'S MEMORY LOAD

Relive Short Term Memory:

The system should be able to retrieve the previous information so users don't have to remember and retype the information again.

Once details are entered by the customer, the computer should remember it.

Rely on recognition, not recall:

If you present users with too much information at the same time, they may not be able to take it all in.

Provide lists and menus containing selectable items.

Establish Meaningful Default:

The user shall be able to easily reset any value to its original default value, incase user do something stupid.

Real World Metaphor:

Real world metaphor

- The visual layout of the interface should be based on a real world metaphor
  o The screen layout of the user interface shall contain well-understood visual cues that the user can relate to real-world actions
  o For example, a bill payment system should use a checkbook and check register metaphor to guide the user through the bill paying process. This enables the user to rely on well-understood cues, rather than memorizing an interaction sequence.

Provide Visual Clues:

Provide visual cues (inform)

- Whenever users are in a mode, or are performing actions with the mouse, there should be some visual indication somewhere on the screen that they are in that mode.
- Test a product's visual cues—walk away from the computer in the middle of a task and come back sometime later. Look for cues in the interface that tell you what you are working with, where you are, and what you are doing.
- MS Word, MS Power Point

Disclose Information in a progressive fashion:

Disclose information in a progressive fashion

- When interacting with a task, an object or some behavior, the interface shall be organized hierarchically by moving the user progressively in a step-wise fashion from an abstract concept to a concrete action
- e.g., text format options → format dialog box

> The more a user has to remember, the more error-prone interaction with the system will be

RULE NO.3: MAKE THE INTERFACE CONSISTENT

Maintain Information in Consistent Fashion:

The interface should present and acquire information in a consistent fashion.

The user should see information, icons, and objects in the same visual and physical way throughout the product.

For Example:

- Trash bin in one place - Box in another place.
- All visual information shall be organized according to a design standard that is maintained throughout all screen displays.
- Mechanisms for navigating from task to task shall be consistently defined and implemented.

  For Example: Instagram.

Meaningful Context:

The interface shall provide indicators.

For example:

Consistent color coding for specific windows.

User should know what task is to be performed while a specific window is displayed.

Changing Past User Expectations:

If past interactive models have created user expectations, do not make changes unless there is a compelling reason to do so.

For Example:

If CTRL+C is for copy, then this should be followed throughout the program.

Maintain consistency across a family of applications:

Learning how to use one program should provide positive transfer when learning how to use another similar program interface.