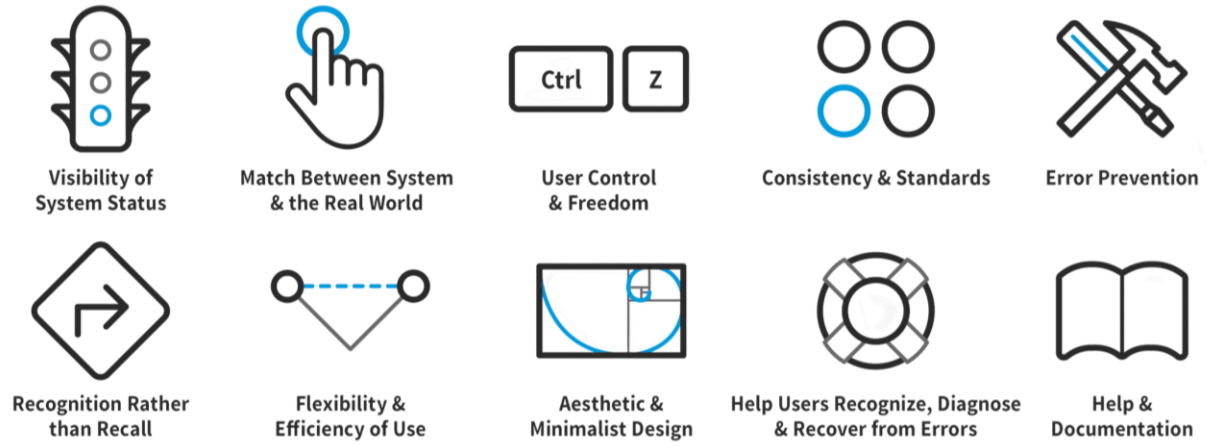
Design Evaluation Heuristics – Schneiderman, Jakob Nielsen

Ms. Sana Ashraf

Ten (Usability) Heuristics Evaluation for User Interface Design

Jakob Nielsen's 10 general principles for interaction design

They are called "heuristics" evaluation because they are broad rules of thumb and not specific evaluation guidelines. These principles will guide the designer and they will form the basis of evaluation of products and services.



#1: Visibility of system status

The design should always **keep users informed** about what is going on, through **appropriate feedback** within a reasonable amount of time.

When users know the current system status, they learn the outcome of their prior interactions and determine next steps. **Predictable interactions create trust in the product** as well as the brand.

Example: “You Are Here” indicators on mall maps show people where they currently are, to help them understand where to go next.

#2: Match between system and the real world

The design should speak the **users' language**. Use **words, phrases, and concepts familiar** to the user, rather than internal jargon. **Follow real-world conventions (pacts)**, **making information appear in a natural and logical order**.

The way you should design depends very much on your specific users. Terms, concepts, icons, and images that seem perfectly clear to you and your colleagues may be unfamiliar or confusing to your users.

When a **design's controls follow real-world conventions and correspond to desired outcomes (called natural mapping), it's easier for users to learn and remember** how the interface works. This helps to build an experience that feels intuitive.

#3: User control and freedom

Users often perform actions by mistake. They need a clearly marked **"emergency exit"** to leave the unwanted action without having to go through an extended process.

When it's easy for people to **back out of a process or undo an action, it fosters a sense of freedom and confidence**. Exits allow users to **remain in control of the system and avoid getting stuck and feeling frustrated**.

#4: Consistency and standards

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

Jakob's Law states that people spend most of their time using digital products other than yours. Users' experiences with those other products set their expectations. **Failing to maintain consistency may increase** the users' cognitive load by forcing them to learn something new.

Example: Check-in counters are usually located at the front of hotels. This consistency meets customers' expectations.

#5: Error prevention

Good error messages are important, but the best designs carefully prevent problems from occurring in the first place. Either eliminate error-prone conditions, or check for them and **present users with confirmation option before they commit to the action**.

There are two types of errors: **slips and mistakes**. Slips are unconscious errors caused **by inattention**. Mistakes are conscious errors based on a mismatch between the user's **mental model and the design**.

#6: Recognition rather than recall

Minimize the user's memory load by making elements, actions, and options visible. The user should not have to remember information from one part of the interface to another. Information required to use the design (e.g. field labels or menu items) should be visible or easily retrievable when needed.

Humans have limited short-term memories. Interfaces that promote recognition reduce the amount of cognitive effort required from users.

#7: Flexibility and efficiency of use

Shortcuts may speed up the interaction for the expert user so that the design can cater to both inexperienced and experienced users. Allow users to tailor frequent actions.

Flexible processes can be carried out in different ways, so that people can pick whichever method works for them.

Example: Regular routes are listed on maps, but locals with knowledge of the area can take shortcuts.

#8: Aesthetic and minimalist design

Interfaces should not contain information that is irrelevant or rarely needed. Every extra unit of information in an interface competes with the relevant units of information and diminishes their relative visibility.

This heuristic doesn't mean you have to use a flat design — it's about making sure you're keeping the content and visual design focused on the essentials. Ensure that the visual elements of the interface support the user's primary goals.

#9: Help users recognize, diagnose, and recover from errors

Error messages should be expressed in plain language (no error codes), precisely indicate the problem, and constructively suggest a solution.

These error messages should also be presented with visual treatments that will help users notice and recognize them.

#10: Help and documentation

Its best if the system does not need any additional explanation. However, it may be necessary to provide documentation to help users understand how to complete their tasks. Help and documentation content should be easy to search and focused on the user's task. Keep it concise, and list concrete steps that need to be carried out.

Shneiderman's Eight Golden Rules of Interface Design

Ben Shneiderman is an American scientist with a strong expertise in the field of human-machine interaction. Shneiderman's eight golden rules are intended to help designers solve problems. Shneiderman offers significant help with his eight heuristics. In order to improve usability, an interface needs to be well designed to be "user-friendly".

1. Strive for Consistency

Whether it is the layout, the size of the button, the color code or the tone used when writing the page, it is important to be consistent throughout the site. This consistency will allow you to **develop your identity** and not lose users as they navigate your site.

2. Enable Frequent Users to Use Shortcuts

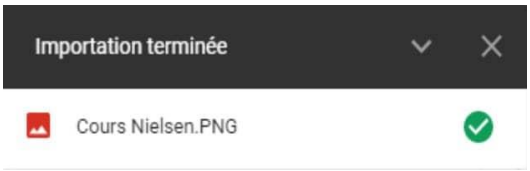
Allow your users to access all parts of the website with a **minimum of clicks**. To do this, you not only need to establish a good hierarchy in the menu, but also make things clear.

You should think about incorporating features for advanced users and for beginners for example, with keyboard shortcuts or macro facilities, as for example with Canva which allows its users to use shortcuts to copy and paste.

3. Offer Informative Feedback

If your users have performed or are performing actions on your website, it is best to display feedback immediately so that they have an idea of where their processes are. We will take an example with a tool that many professionals use, Google Drive:

- For this example, you'll have to create a new folder that you can delete right after.
- When you are in this folder, choose a document of your choice, photo/video, a PDF file and use drag & drop to transfer it to your folder.



- Once your transfer is in progress, this window will appear to keep you informed of the progress of your transfer.

4. Design Dialog to Yield Closure

Remember to close any interaction made with a user-based on the cause of interaction:

- Thank you message.
- Validation message.
- Summary message during a purchase.

Your user must see the path in his action, by offering him the end of interaction through feedback. This reduce his mental load and improve his experience on your interface.

5. Offer Simple Error Handling

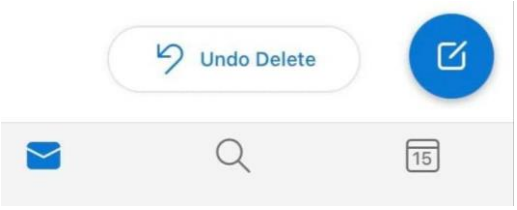
A good interface should be designed to avoid errors as much as possible. However, if something goes wrong, your system should make it easy for users to understand and resolve the problem. Simple ways to deal with errors include **displaying clear error notifications and descriptive hints to resolve the problem.**

For example, system can tell you when you log in if your login information is wrong.

6. Permit Easy Reversal of Actions

Immediately discovering that it is easy to choose **"Cancel"** after making an error is a very good thing for the user. If your users know that there is an easy way to solve a problem, they will feel less anxious and more willing to explore the options.

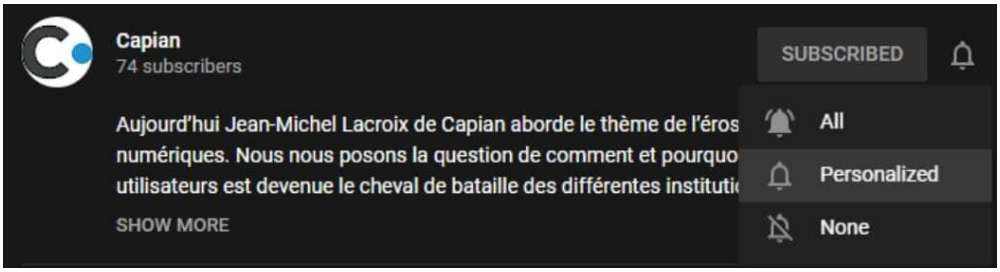
For example, here, in Outlook mobile app, when archiving an email, a small window automatically appears at the bottom of the screen offering to cancel the archiving.



7. Keep users in Control

We need to give control & freedom to the users, so that they can feel that they are in control of system themselves, giving them some form of free will helps to reassure the user.

For example, in the screenshot below we are on Capian's YouTube page, and we can choose to turn on notifications or not, YouTube lets us choose how much notification we want to see, by doing this, YouTube is giving freedom to the users and making them feel like they have control over what they will receive.



8. Reduce Short-Term Memory Load

The limitation of human information processing in short-term memory requires that displays be kept **simple**, multiple page displays be consolidated, window-motion frequency be reduced, and sufficient training time be allotted for codes, mnemonics, and sequences of actions.

Avoid overloading your site or application with information of the same level. You have to deduce which ones should be placed first or you will lose the user's attention. No matter where you place your site, whether it's the home page or the menus, make sure that your **user can't be distracted by unnecessary information**.