Usability in Technical Writing

Technical Writing Course | BUT 2024

The Red Hat Customer Content Services team

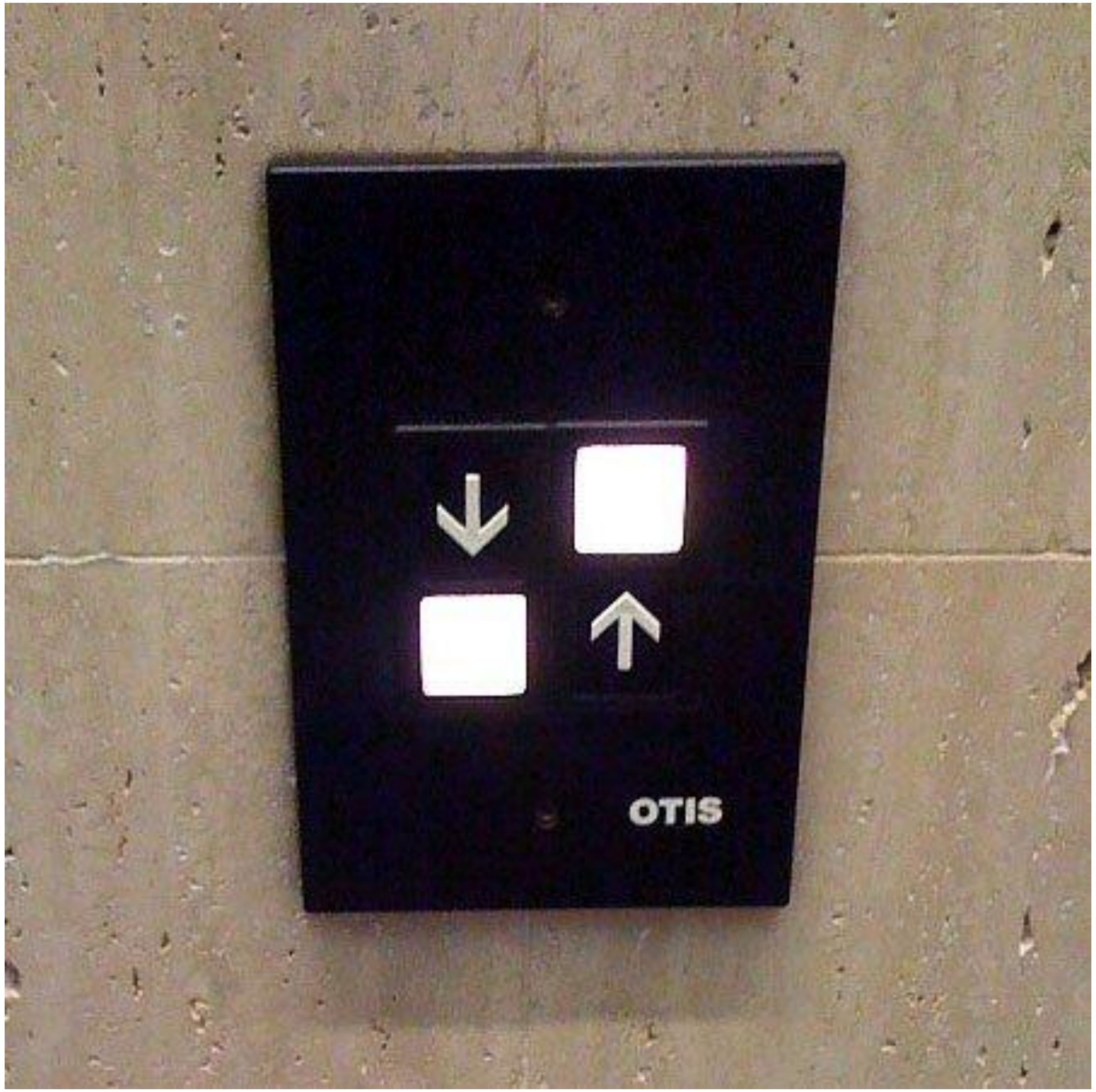
What we’ll discuss today

- Usability Overview
- User Experience and Usability
- About Your Users
- UX Writing
- Usability Heuristics

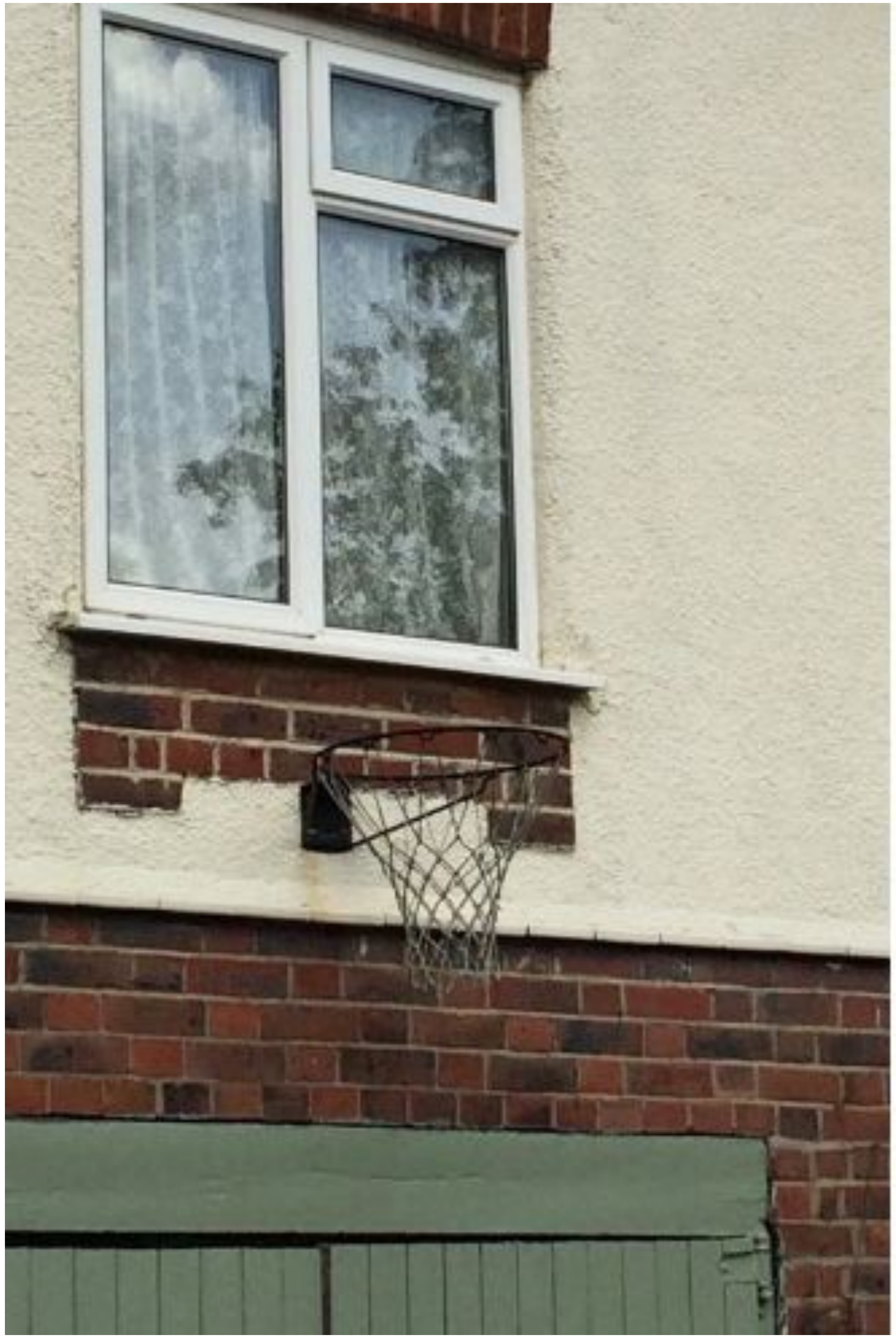
Let’s explore usability

- Usability in our daily life
- User experience and usability
- Functional vs. usable

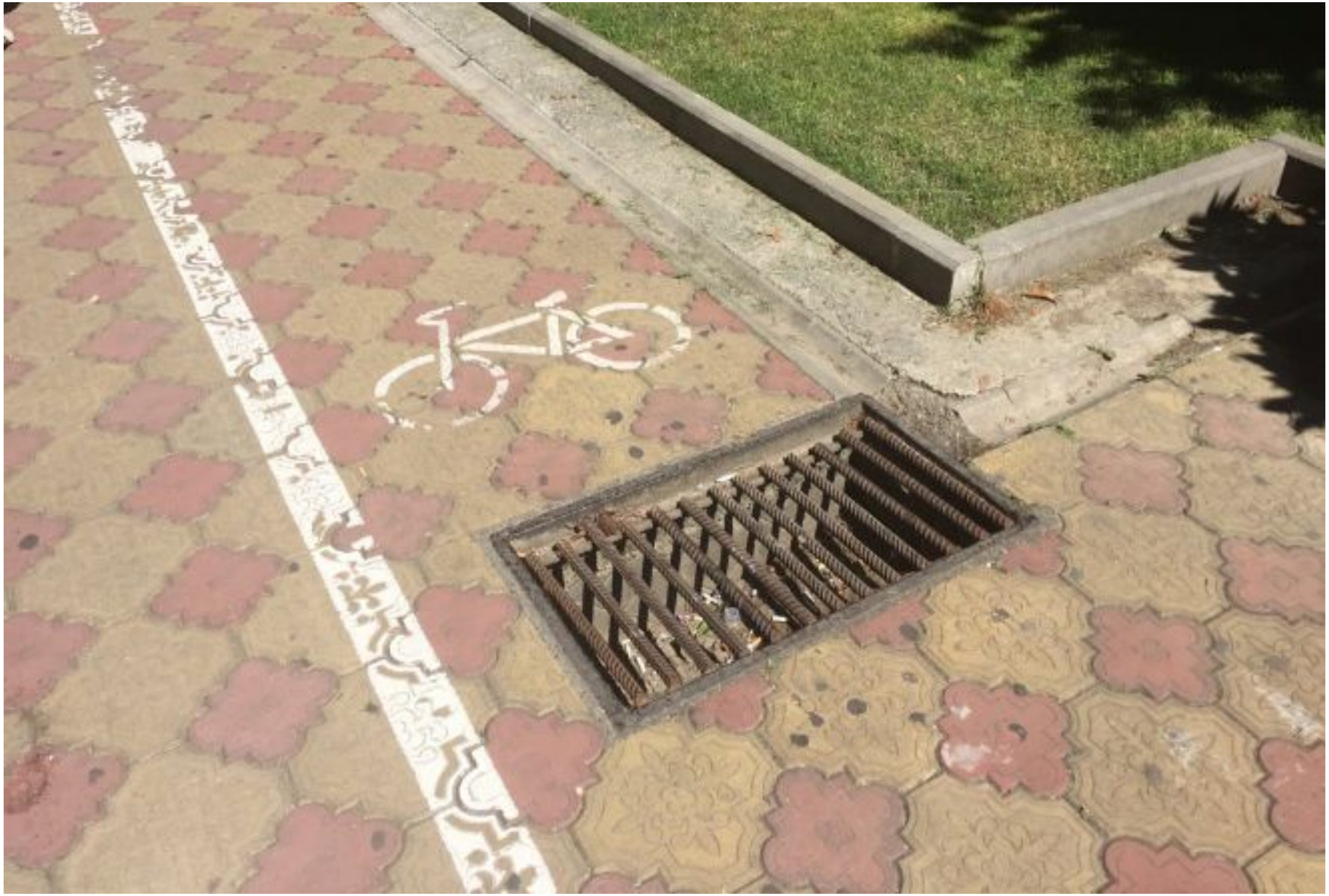
Example 1



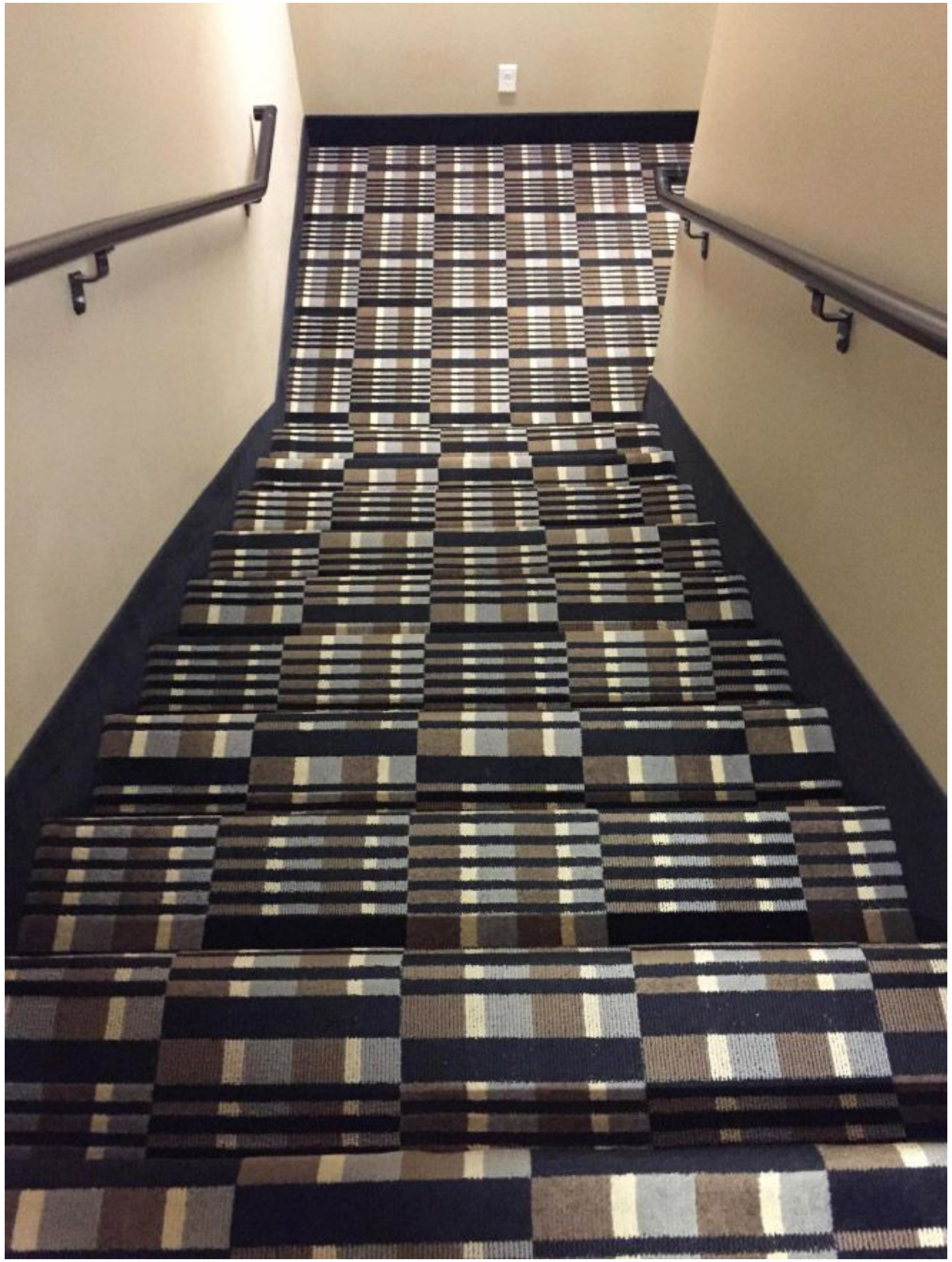
Example 2



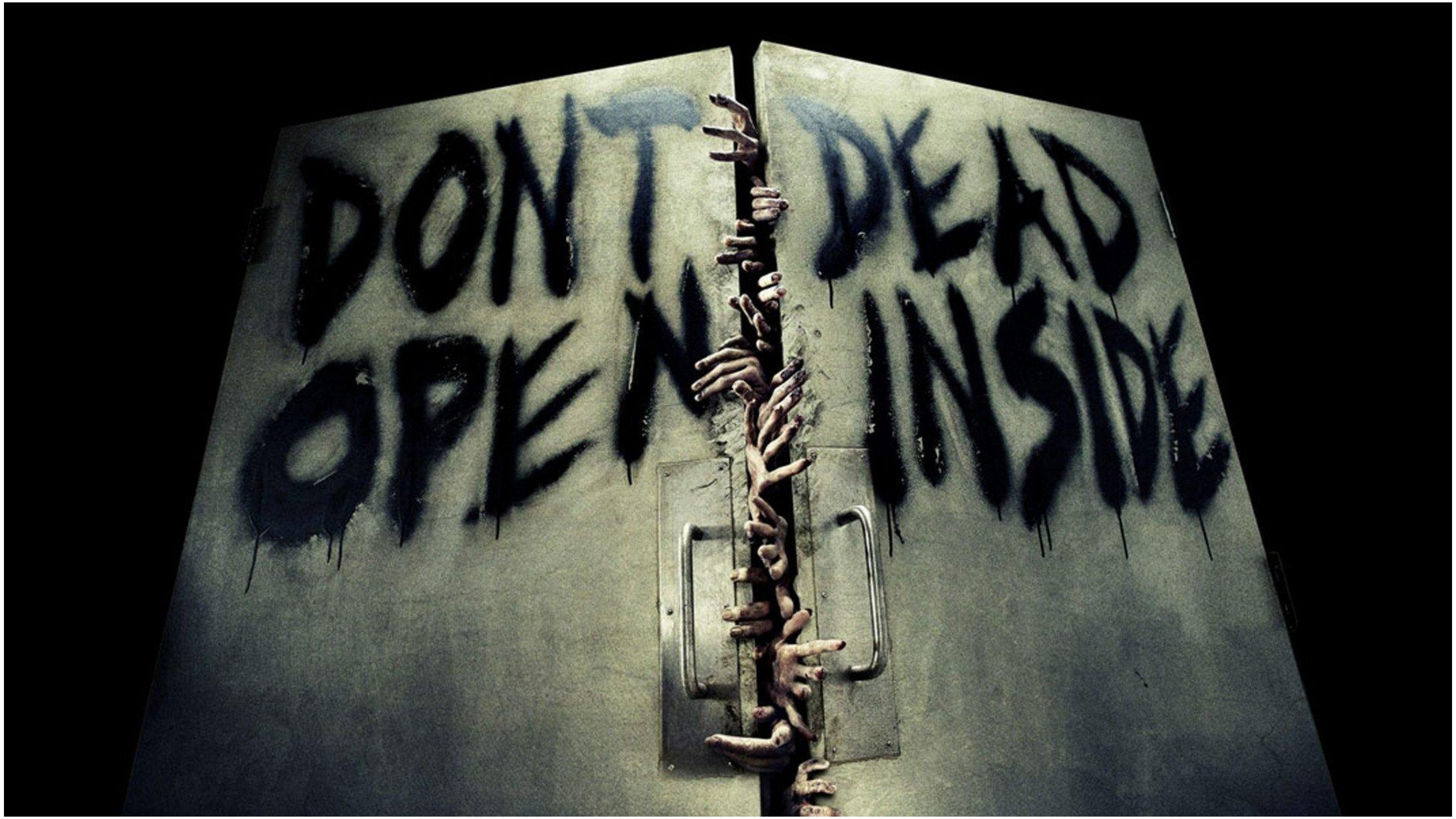
Example 3



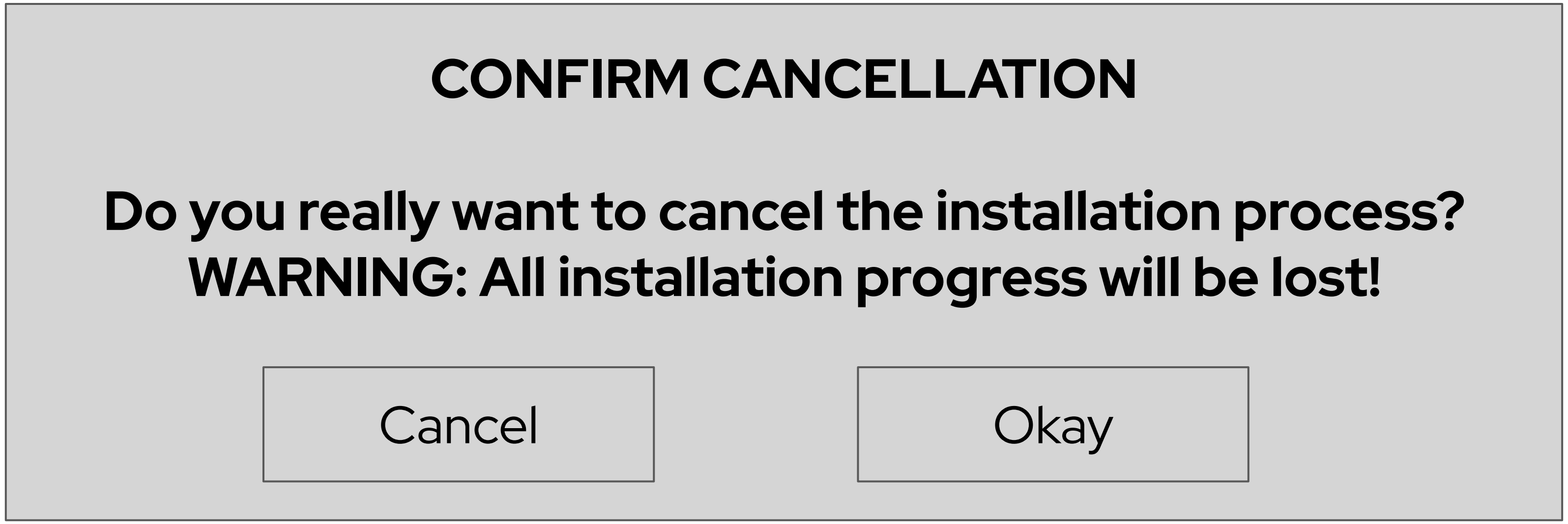
Example 4



Example 5



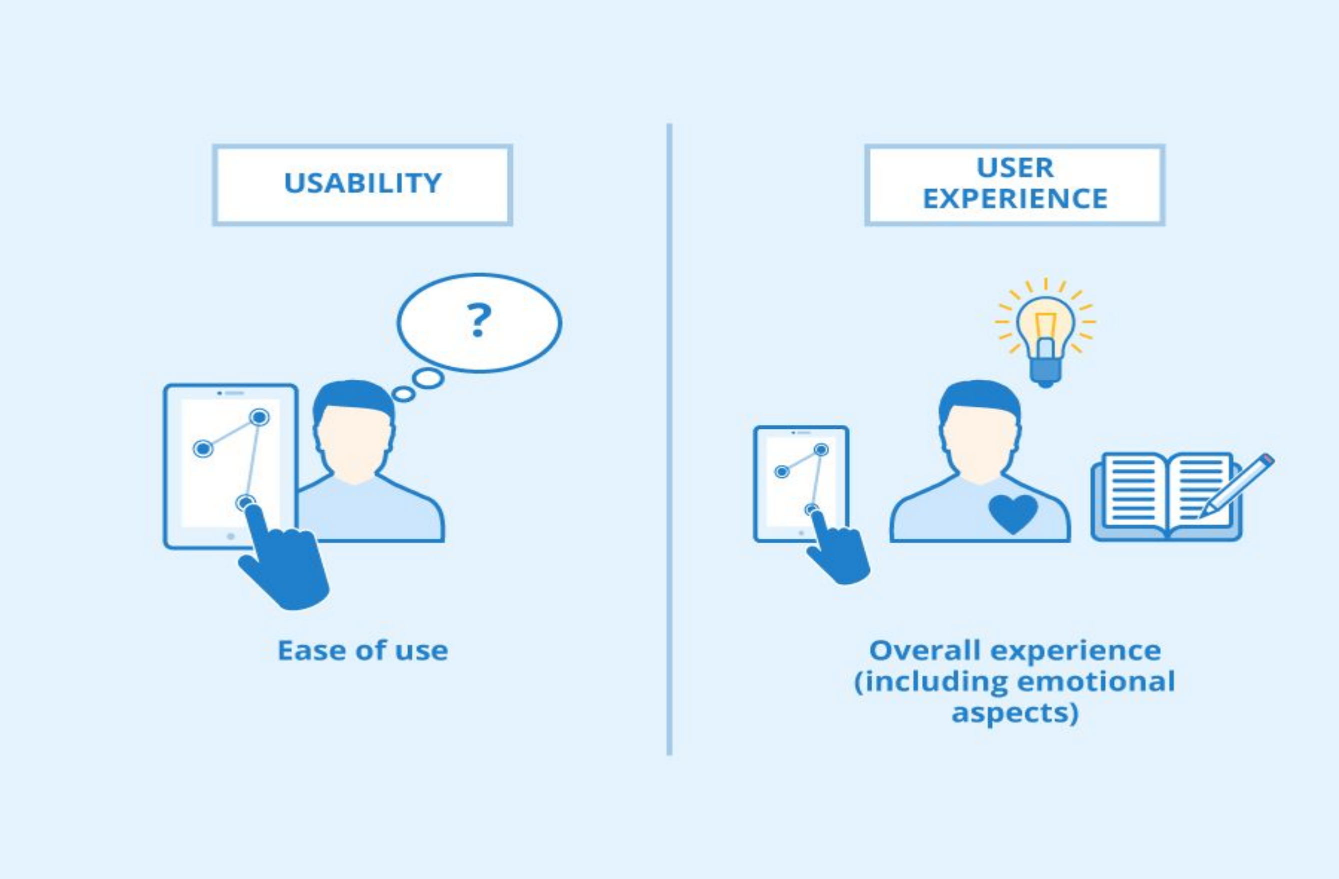
Example 6



CONFIRM CANCELLATION

Do you really want to cancel the installation process?
WARNING: All installation progress will be lost!

What are user experience and usability?

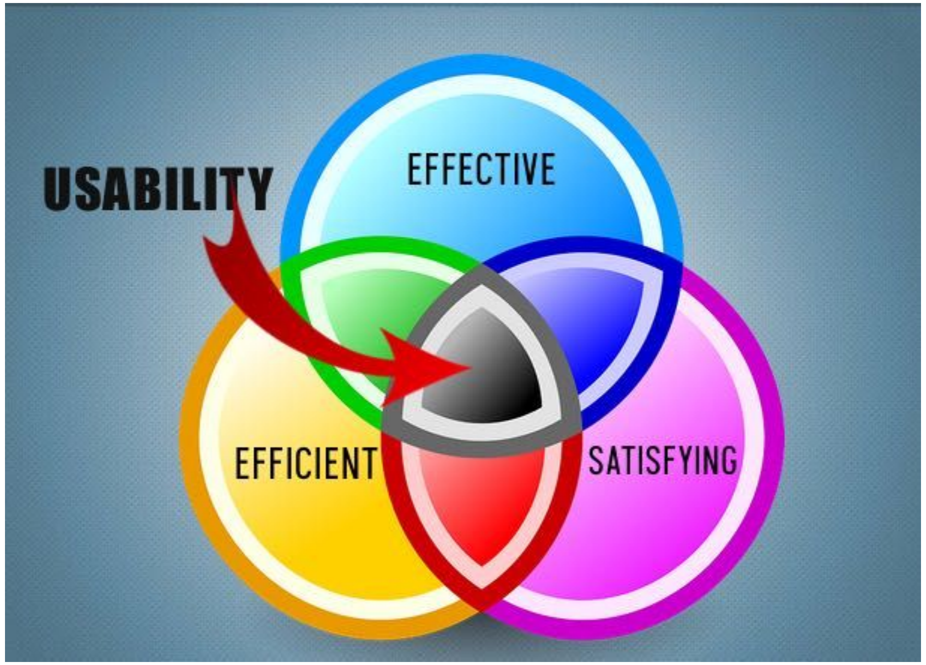


The basics:

User Experience
Usability
Personas

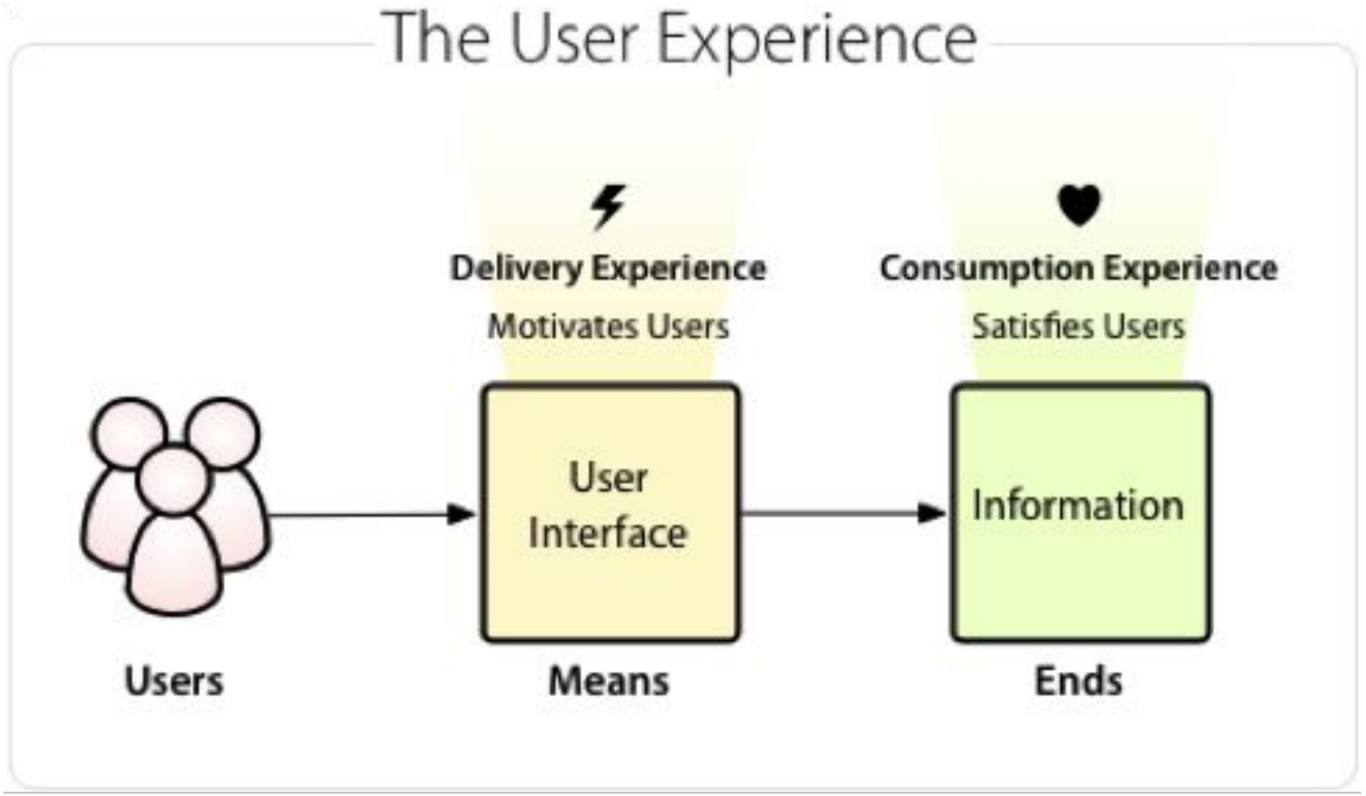
What is usability?

Usability, as outlined by the International Organization for Standardization, is the extent to which a product can be used by specified users to achieve specific goals with **effectiveness**, **efficiency** and **satisfaction in a specified context of use**.



What is user experience (UX)?

User experience, as outlined by the International Organization for Standardization, is a "**person's perceptions and responses** resulting from the use and/or anticipated use of a product, system, or service."



The User Experience

Delivery Experience
Motivates Users

Consumption Experience
Satisfies Users

User Interface

Information

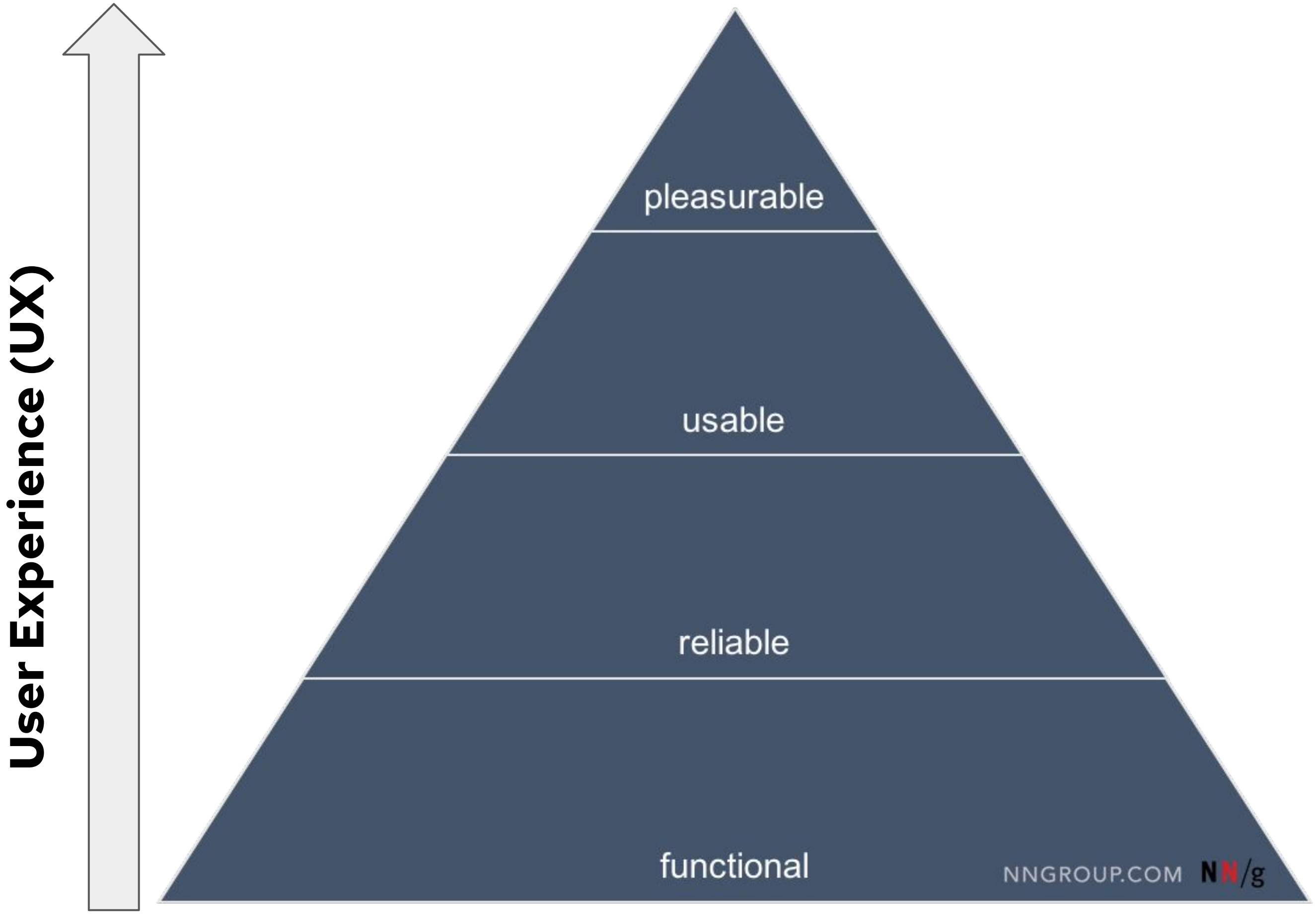
Users

Means

Ends

How can we achieve a pleasurable user experience?

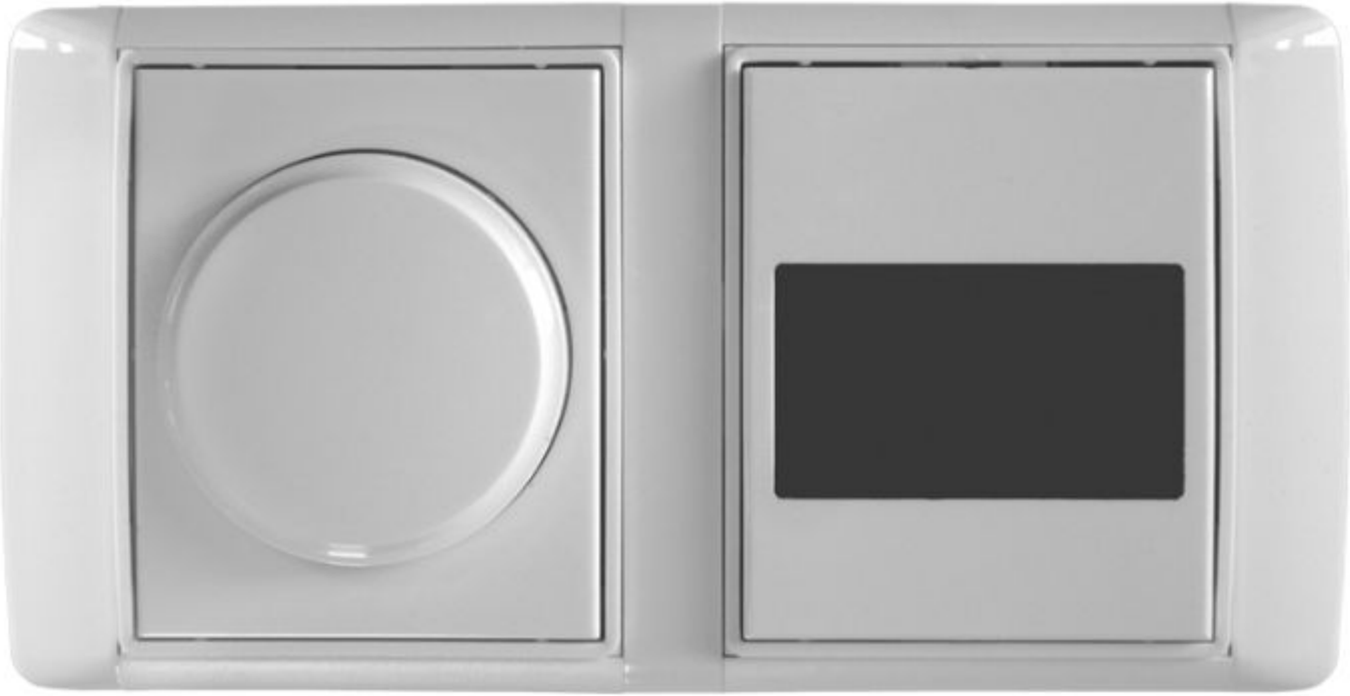
In *Designing for Emotion*, Aarron Walter describes superior needs, which can be **achieved only after** more foundational ones are fulfilled.



Reference: https://www.nngroup.com/articles/theory-user-delight/

Exercise: Improving usability

The interface configures a HVAC unit (heating/ventilation/air conditioning). Unfortunately, there is no icon or label.

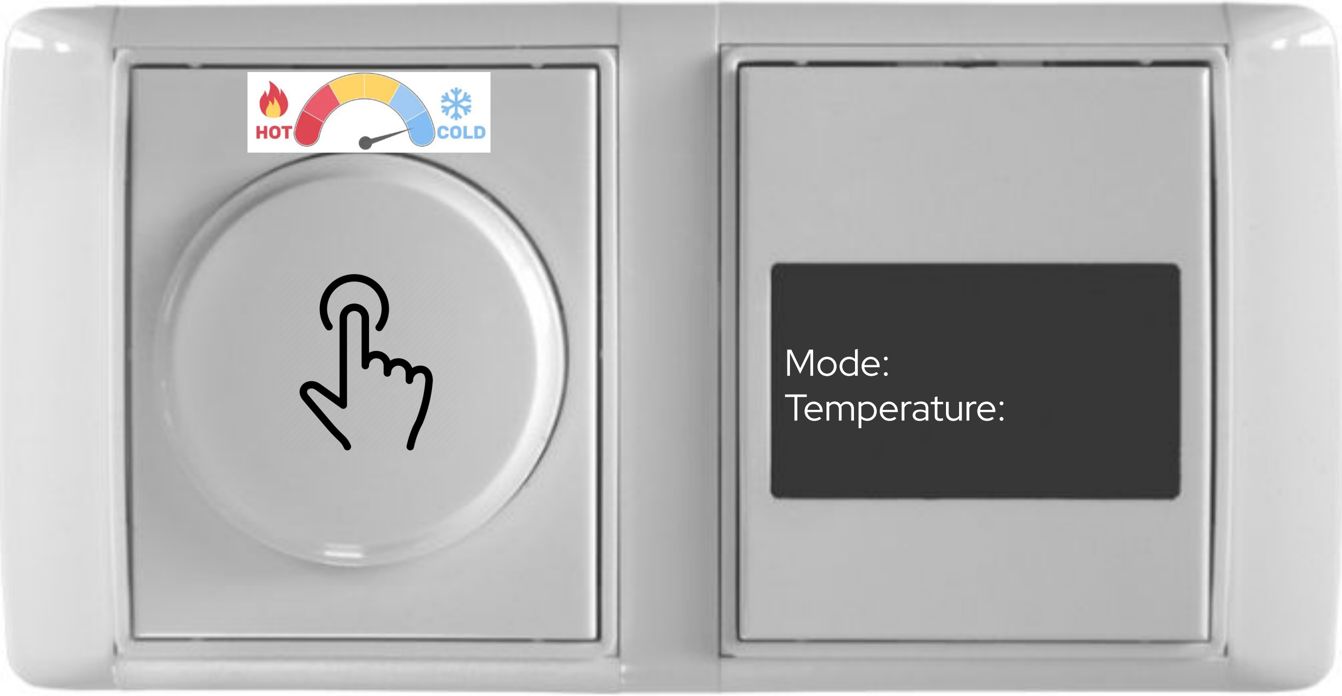


Function:

- If you press the button, it switches between heating, cooling, and ventilation (fan).
- If you turn the button, the temperature changes.
- The temperature is set for each mode individually.
- There is also a pre-programmable display screen.

Your task: Design visual (or any other) elements to make this interface easier to use. This includes what the display screen should show.

Improving usability - a possible solution



System components where usability matters

Graphical user interface (GUIs)

Enable users to interact with electronic devices through graphical icons and audio indicator.

Command-line interfaces (CLIs)

Enable users or applications to execute commands on an operating system or program.

Application programming interfaces (APIs)

Enable users or applications to interact with other applications.

How can tech writers improve interface usability?

- Write supplementary guides and other docs
- Get involved in the design stage (ideally with *UX designers*)
- Help with **microcopy** (-> **UX writing**)
- Represent the user

UI **quality components**

- Learnability
- Efficiency
- Memorability
- Errors
- Satisfaction

APIs and CLI **quality components**

- Naming and syntax
- Prerequisites
- Parameter definitions
- General information
- Error messages
- Help

Additional resources for API and CLI UX

- Design APIs like you design user experience
- Empathetic design - UX for APIs
- Real developers don’t use UIs
- 3 commandments for CLI design
- 10 design principles for delightful CLIs
- 12 Factor CLI Apps

Who are your users?

User personas

User personas

Think about Adam!

But exactly what are user personas?

- User personas represent typical users
- Developed by user experience or marketing after customer interviews
- Personas highlight common behavior patterns, skills, and attitudes
- Present the users as real people

Source: Red Hat User Experience Design (UXD)

User persona example

Daisy the Developer

Developer with a new subscription to KickassOS

Key Needs:	Get a system image without overhead Install needed packages Easy access to help documentation
Infrastructure:	Free Linux; Recently got Developer subscription for KickassOS
IT Organization:	Developer-led adoption of technology Not current KickassOS customers
Key Tasks:	Get a KickassOS image for her development environment Understand the capabilities of KickassOS Evaluate KickassOS for her development needs

Photo source: https://unsplash.com/photos/jsx4qvopjG4

UX Writing

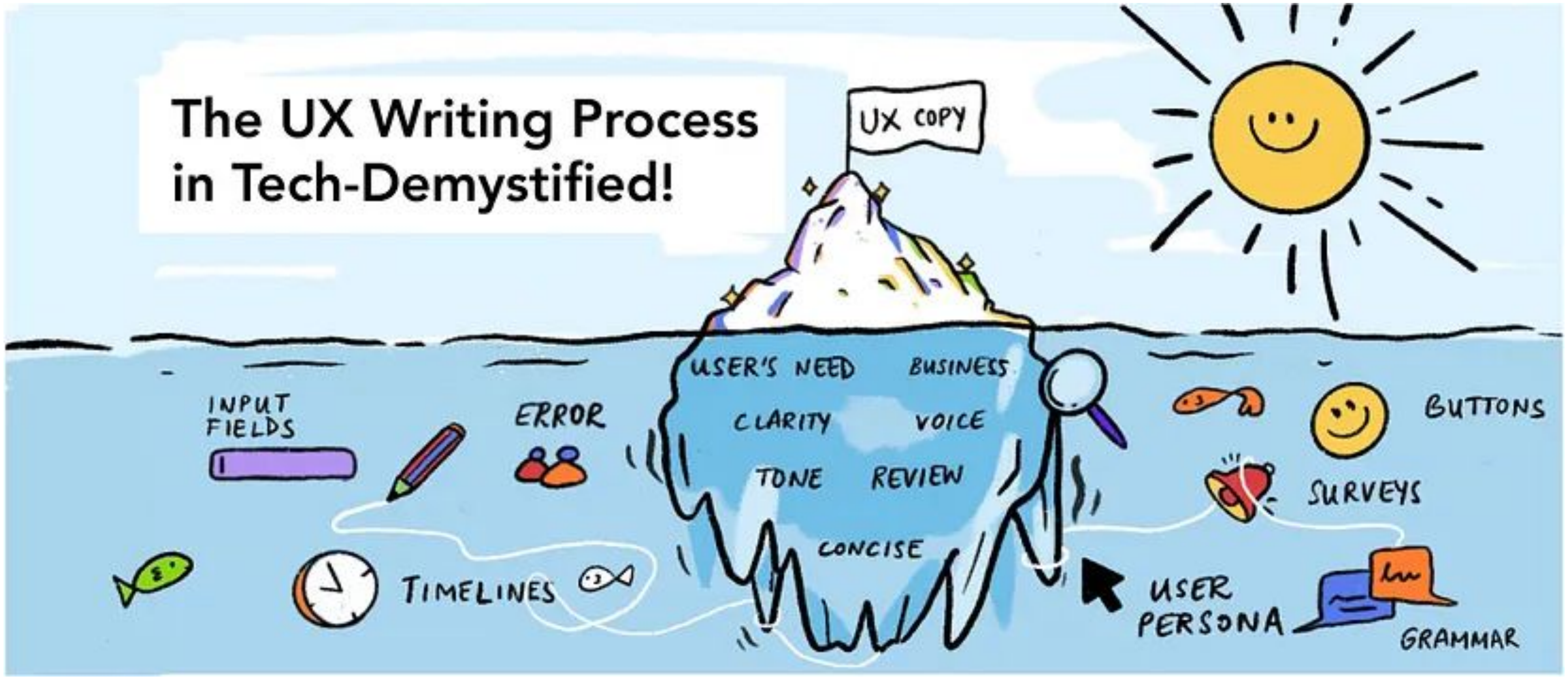


Image Source:: Zeta Design

- Basic Guidelines for UX Writing
- Exercises

What's UX Writing?

- Crafting customer-facing text that appears in digital products.

Who is a UX Writer?

- Creates copy for products that help users navigate and interact with the product.

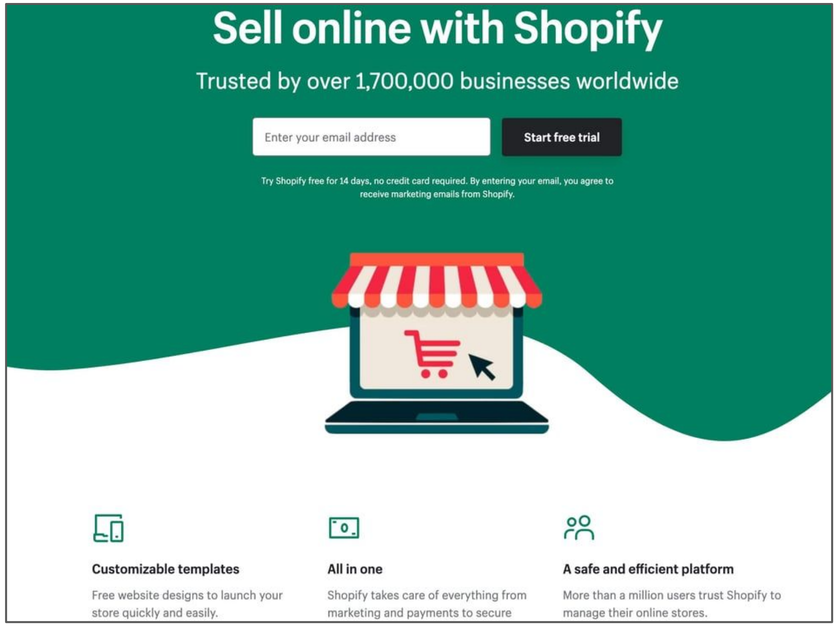
salesforce ORACLE

Why UX Writing?

- Helps to create a good User Interface design.
- Shapes the overall user experience.
- Navigate through the product to seamlessly complete tasks.

Examples of UX Writing

Welcome message



Sell online with Shopify

Trusted by over 1,700,000 businesses worldwide

Try Shopify free for 14 days, no credit card required. By entering your email, you agree to receive marketing emails from Shopify.

Customizable templates

Free website designs to launch your store quickly and easily.

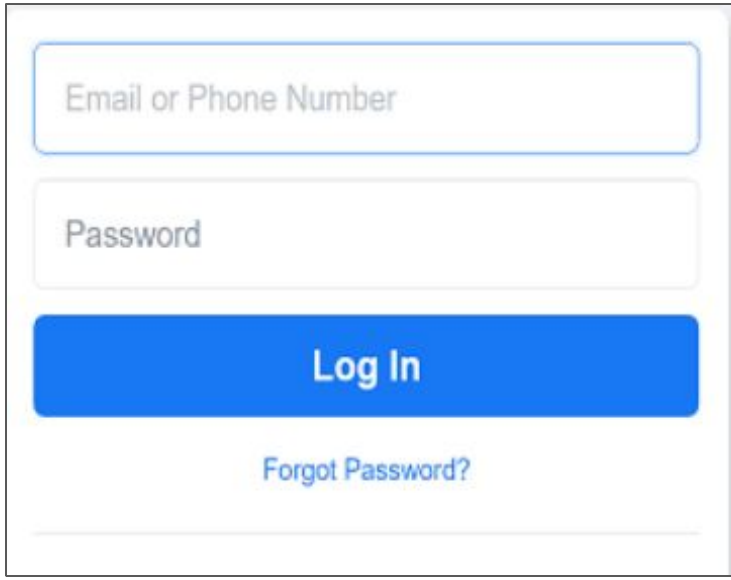
All in one

Shopify takes care of everything from marketing and payments to secure

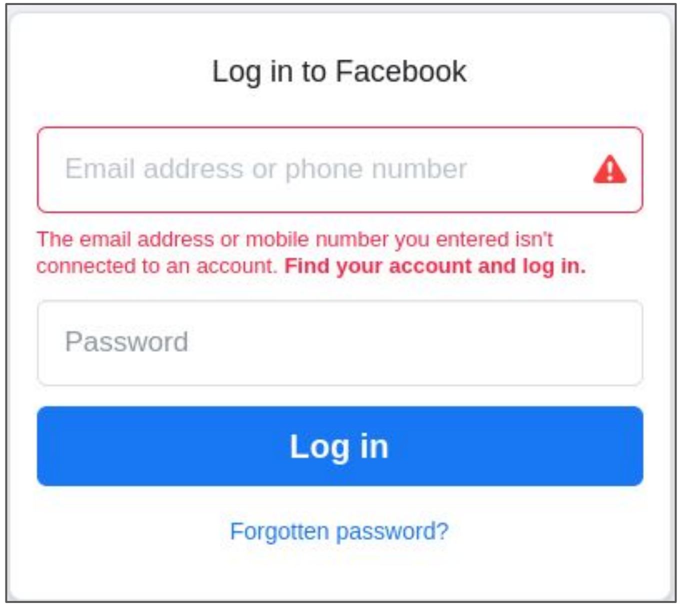
A safe and efficient platform

More than a million users trust Shopify to manage their online stores.

Button text



Error messages



Log in to Facebook

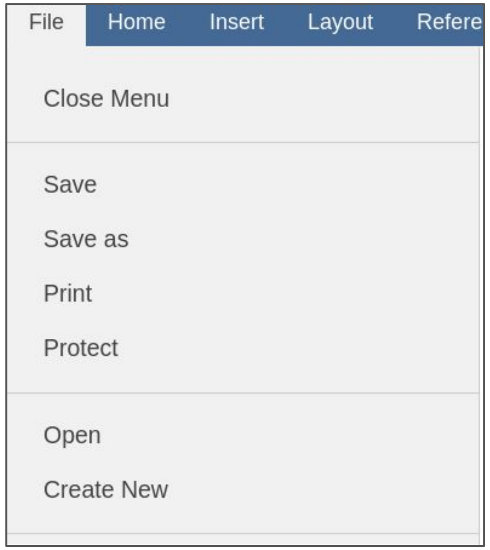
The email address or mobile number you entered isn't connected to an account. **Find your account and log in.**

Image Source:

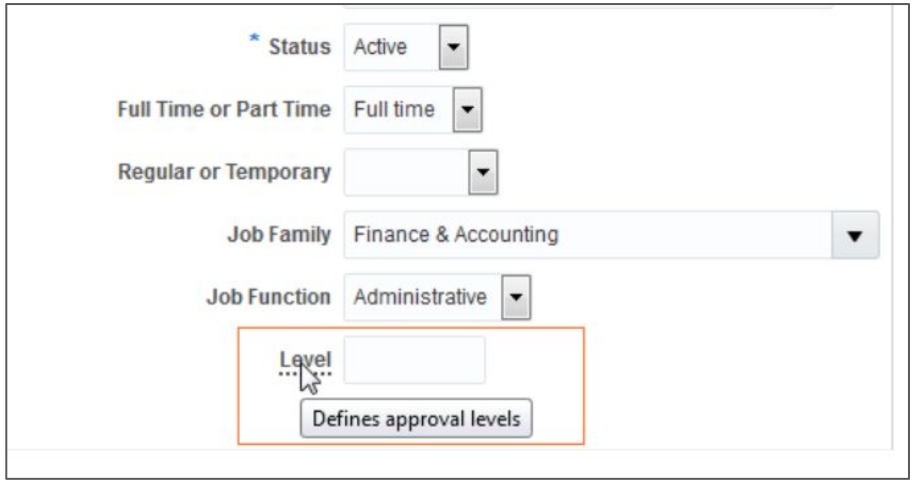
- **Menu Items: OnlyOffice**
- **Tooltip: Oracle**
- **Manpage: https://www.javatpoint.com/linux-man**

Examples of UX Writing

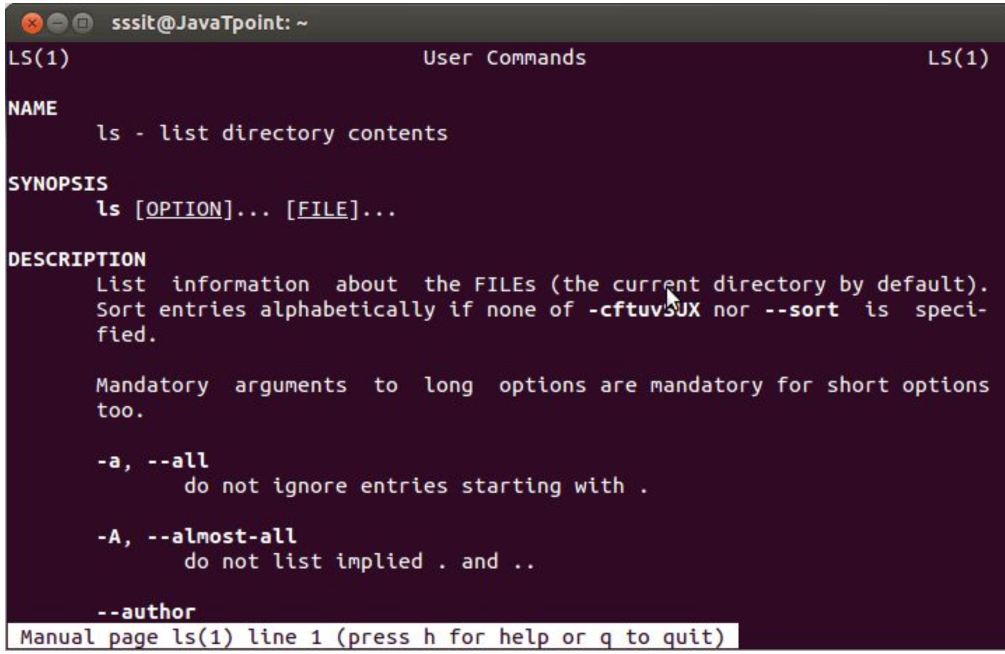
Menu items



Tool tips


* Status: Active
Full Time or Part Time: Full time
Regular or Temporary:
Job Family: Finance & Accounting
Job Function: Administrative
Level:
Defines approval levels

Man pages


```
sssit@JavaTpoint: ~
LS(1)                          User Commands                          LS(1)

NAME
       ls - list directory contents

SYNOPSIS
       ls [OPTION]... [FILE]...

DESCRIPTION
       List  information  about  the FILEs (the current directory by default).
       Sort entries alphabetically if none of -cftuvSUX nor --sort  is  speci-
       fied.

       Mandatory  arguments  to  long  options are mandatory for short options
       too.

       -a, --all
              do not ignore entries starting with .

       -A, --almost-all
              do not list implied . and ..

       --author
 Manual page ls(1) line 1 (press h for help or q to quit)
```

Image Source:

- **Menu Items: OnlyOffice**
- **Tooltip: Oracle**
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Basic guidelines for UX writing

Understand the context

**Who is the user?
What do they want?
How do they feel?**

Lead with benefit

Start instructions with the purpose or expected outcome.

Use positive, action-oriented language

Simple direct sentences in present tense and active voice

3 Cs: clear, concise, consistent language

Short sentences and paragraphs, no ambiguous or unnecessary words.

See PatternFly guidelines for more detailed examples

Understand the context

Literally

- Identify user’s potential paths.
- Plan the user’s journey.
- Every Page Is Page One.

Personally

- Use terminology that the user expects.
- Provide any additional information they might need.

Emotionally

- Consider the user’s situation.
- Empathize with user’s problems and goals.
- Use an appropriate tone.

Understand the context

Before

The email address that you entered does not match with the required format. Please enter your email address using the standard format.

After

Enter the email address in the format yourname@example.com.

Lead with benefits

- Focus on the user’s tasks, goals, and questions.
- Put the WHY before the HOW.
- Start each instruction with one of the following:
  - Condition, if any.
  - Why the user should take the action.
  - The outcome, purpose, or objective of the action.
  - The context (location or position).

Lead with benefits

- Condition

  Optional: If the trusted platform module (TPM) endorsement key (EK) cannot be verified by using certificates…

- WHY

  To verify if a user can run a command with `sudo` privileges, switch the account: `# su <username> -`

- Outcome, purpose, or objective

  Apply the changes by rebooting your system.
  Apply the changes: `# reboot`

- The context (location or position).

  In the `/etc/sudoers` file, find the lines that grant `sudo` access to users in the `wheel` group.

Use positive, action-oriented language

- Active voice
- Present tense
- Positive sentences
- Strong sentences

Active voice

- Use active voice.
  - More concise, direct, and easier to understand.
  - Does not hide who or what performs the action.
- Address users directly as *You*.
- Use imperatives to convey a direct tone.

Exception: Use passive when the agent is not important, such as in descriptions of state (prerequisites and error states).

Active voice

Active voice + User focus + Imperatives = Clear sentence

Original	Active voice	User focus	Imperative
Transactions can be assigned to subclasses.	The system administrator can assign transactions to subclasses.	You can assign transactions to subclasses.	Assign the transaction to one or more subclasses.

Present tense

- Use past or future only when you cannot use present tense.
- Do not use future tense in a cause and effect sentence, but you can use it for valid future situations.

Example:

Before	After
The application will automatically file the document in the related folder.	The application automatically files the document in the related folder.

Positive sentences

- Use positive sentences.
- Negative constructions are harder to understand.

Examples:

Before	After
You do not need to enter address information when you change the password.	To change the password, enter the user name and the new password.
The current request is not different from the previous request.	The current request is similar to the previous request.
You cannot reconnect without logging on again.	To reconnect, log on again.

Strong sentences

- Use strong sentences that use the subject-verb-object order.
- Avoid weak phrases such as *there is, there are, and it is.*

Examples:

Before
There are two databases in the table space.
It is important to verify the serial number before you register the product.

After
The table space contains two databases.
Before you register the product, verify the serial number.

3 Cs: clear, concise, consistent language

- ***Please avoid using any and all extraneous words so that your content sounds much more interesting to the reader and provides more information in less space!***

- ***Use the fewest necessary elements to convey the information.***

- ***Remove the fluff!***

3 Cs: clear, concise, consistent language

- Use simple language.
  - Avoid jargon, slang, idioms, and long noun strings.
- Be specific.
  - Better be repetitive than unclear.
- Write short sentences (25 words or fewer)
  - Break long sentences into two or three sentences.
- Write short paragraphs (3 sentences or fewer)
  - Break walls of text with lists, diagrams and admonitions.

3 Cs: clear, concise, consistent language

How does this sound to you?

In your mobile interface, an interesting feature empowers you to seamlessly switch between diverse themes, offering a vibrant visual experience. This multifaceted functionality gives you highly personalized and dynamic aesthetics, catering to your preferences. You can easily navigate through a comprehensive palette of thematic choices, enhancing the overall customization of your mobile ecosystem.

You can customize your device by applying a visual theme.

3 Cs: clear, concise, consistent language

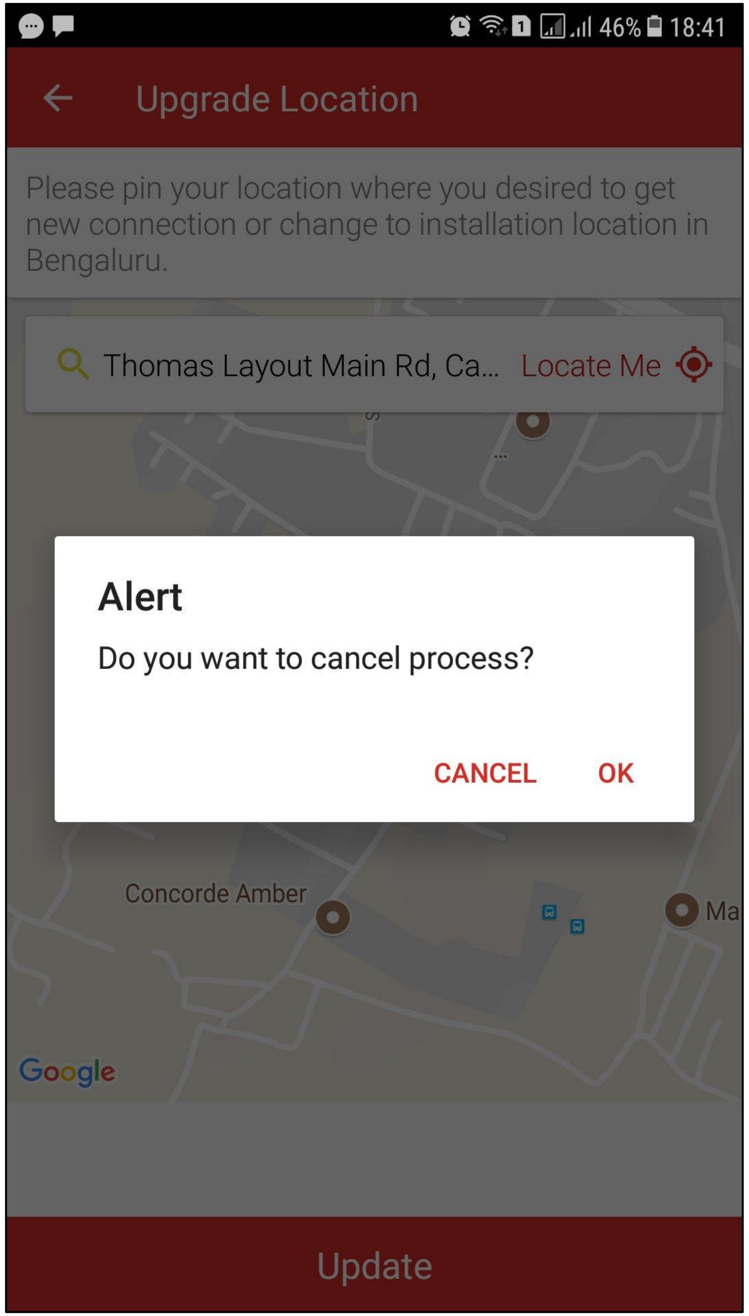
Before
Would you like to save your changes?
You must enter your 6 digit passcode in order to log in.
Make the decision to send a notification to your administrator.

After
Save changes?
To log in, enter your 6-digit passcode.
Notify your administrator.

Exercise: Revise the Error Message

Situation: This is a mobile application for booking flights. A user is trying to book a flight to Bangalore from their office. They are trying to place a pin on the map to mark their office. They get this error message because there are no nearby airports.

Instruction: Rewrite this error message to give the user better feedback and help them solve the problem.



Please pin your location where you desired to get new connection or change to installation location in Bengaluru.

Alert

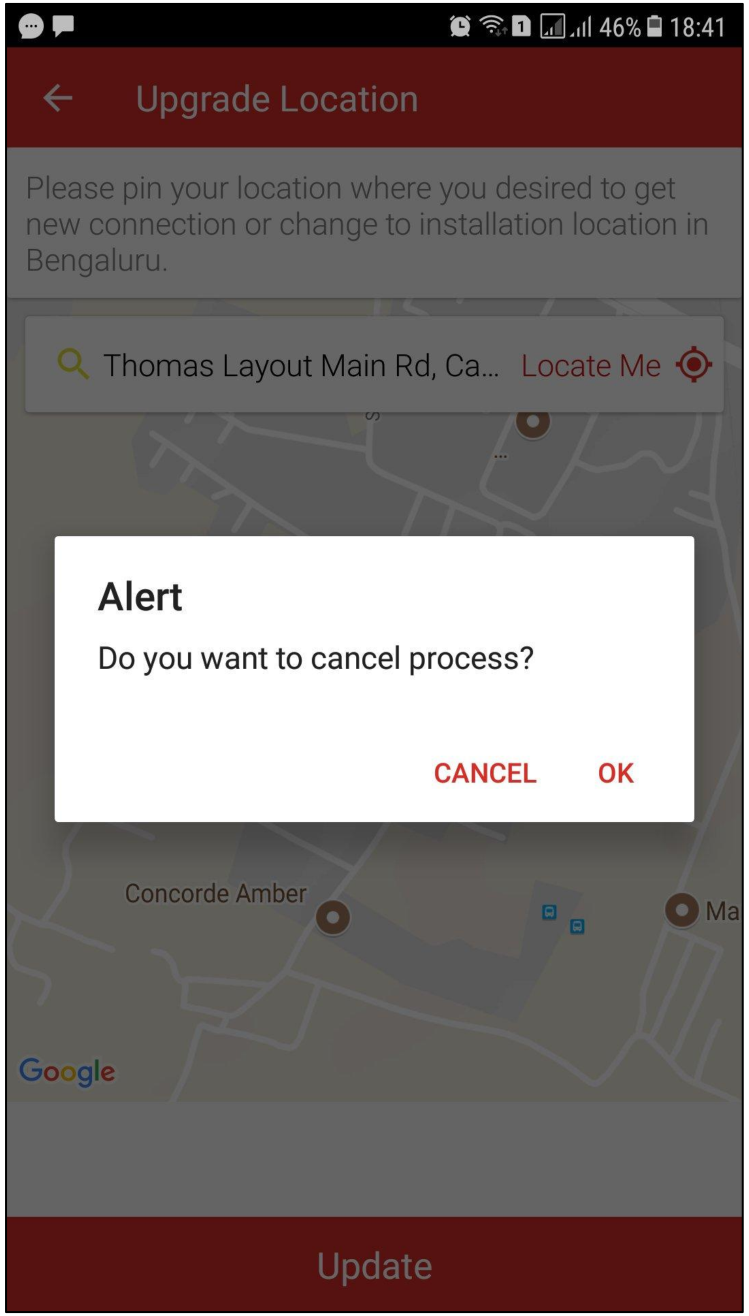
Do you want to cancel process?

Possible Rewrites

1. There are no airports near the location that you have selected. Would you like to choose another airport from the list? (*Show list of available airports*)

2. No airports available near the site you have chosen. Select one of the following airports. (*Show list of available airports with distance to each airport from the location.*)

3. No airports found near the location you have marked. Choose an airport from the menu. (*No list is shown to the user*)



Upgrade Location

Please pin your location where you desired to get new connection or change to installation location in Bengaluru.

Thomas Layout Main Rd, Ca...

Alert

Do you want to cancel process?

Usability heuristics for improving user experience

Source: https://blog.prototypr.io/improve-website-user-experience-c2be20c3b75a

- Usability heuristics
- Jakob Nielsen's 10 Usability heuristics

Usability heuristics

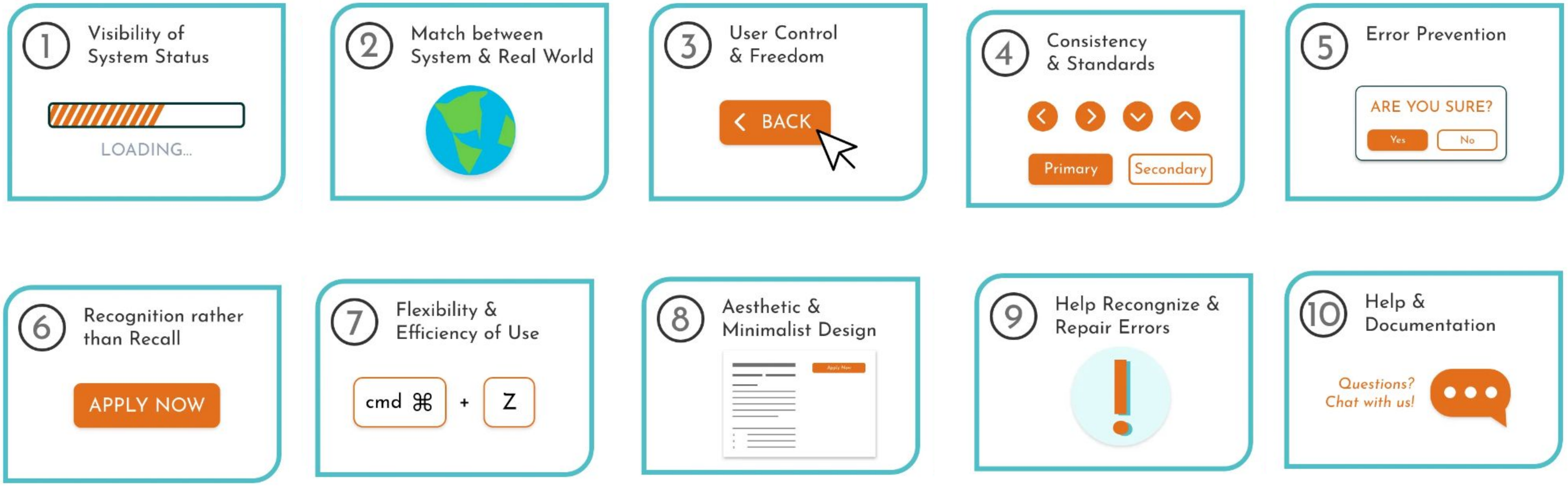
Heuristics are:

- Broad rules of thumb or best practices.
- Used to identify any design issues associated with the user interface.

Benefits:

- **Straightforward and quick** way to assess the website usability.
- **Improve** the **usability** of an application.
- Identify and correct **design issues**.
- Increase the **user retention period**.

Jakob Nielsen's 10 Usability heuristics



1 Visibility of System Status

2 Match between System & Real World

3 User Control & Freedom

4 Consistency & Standards

5 Error Prevention

6 Recognition rather than Recall

7 Flexibility & Efficiency of Use

8 Aesthetic & Minimalist Design

9 Help Recongnize & Repair Errors

10 Help & Documentation

Reference: https://morioh.com/p/7a5aaad1fcf5

Usability heuristics- Additional Resources

- https://www.nngroup.com/articles/ten-usability-heuristics/
- https://medium.com/@erangatl/10-usability-heuristics-explained-caa5903faba2

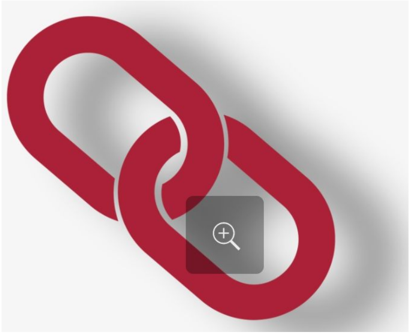


Image Source:
https://www.pngkey.com/detail/u2e6w7o0w7u2y3q8_links-resources-icon-resources-and-links-icon/

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Homework!

Your own examples of good and bad usability

[Copy the gdoc with the homework here]

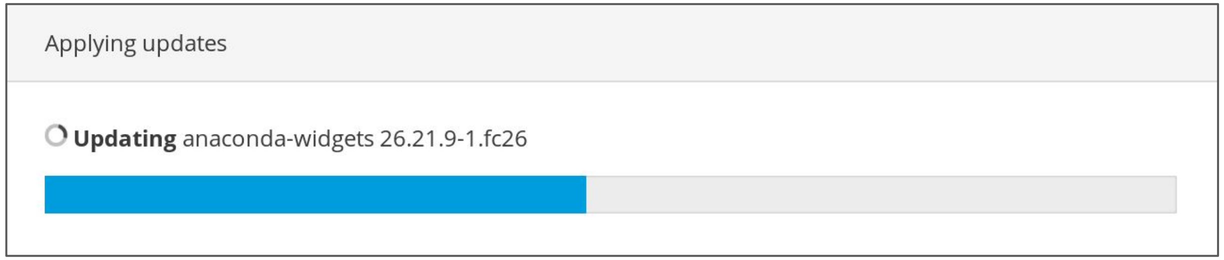
Thank You

Bonus:
Usability Heuristics

#1 Visibility of System Status

- Keep users informed about the system status.
- Helps to understand about prior interactions & to determine the next steps.

Example: When the user performs an action, show the progress of that action.



Applying updates

Updating anaconda-widgets 26.21.9-1.fc26

Real Life Example

You Are Here indicators on mall maps show people

where they are currently to help them understand

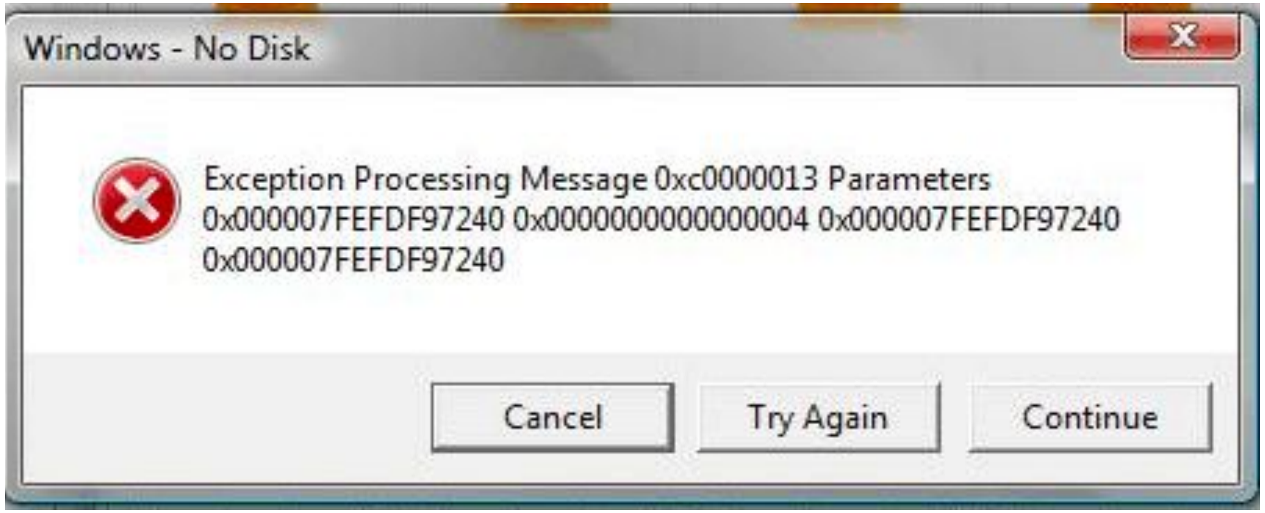
where to go next.

Reference: Nielsen Norman Group

#2 Match Between System and The Real World

- Use terms that users understand.
- Avoid jargon, acronyms, and system parameters.

Example



Windows - No Disk

Exception Processing Message 0xc0000013 Parameters 0x000007FEFDF97240 0x0000000000000004 0x000007FEFDF97240 0x000007FEFDF97240

Real Life Example

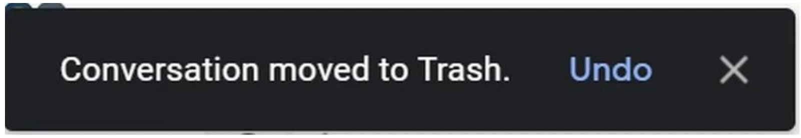
The stove top controls match the layout of heating element. It is easy to understand which control maps to which heating element.

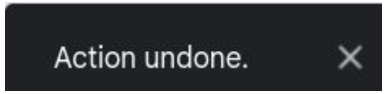
Reference: Nielsen Norman Group

#3 User Control and Freedom

- Allow users to take their desired path.
- Examples of Emergency Exit
  - X in dialog boxes
- Allow users to exit, modify values, undo/redo actions.
- Make sure the exit is clearly labeled.

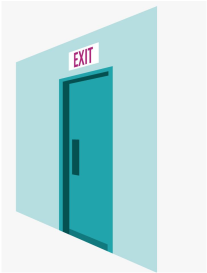
Example:


Conversation moved to Trash. Undo ✕


Action undone. ✕

Real Life Example

Digital spaces need quick emergency exits, just like physical spaces do.



Reference: Nielsen Norman Group

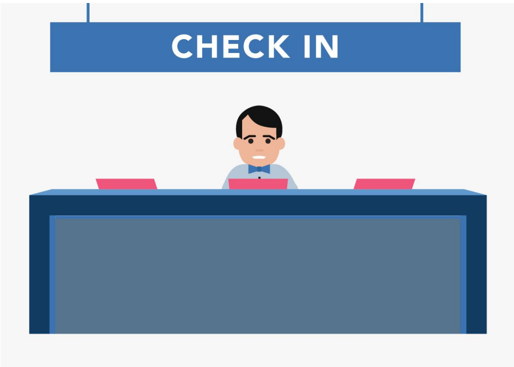
#4 Consistency and Standards

- Be consistent in UI design and terminology.
- A familiar design provides a uniform:
  - Visual layout
  - Terminology
  - UI components

Real Life Example:

Check-in counters are usually located at the front of hotels.

This consistency meets customers' expectations.



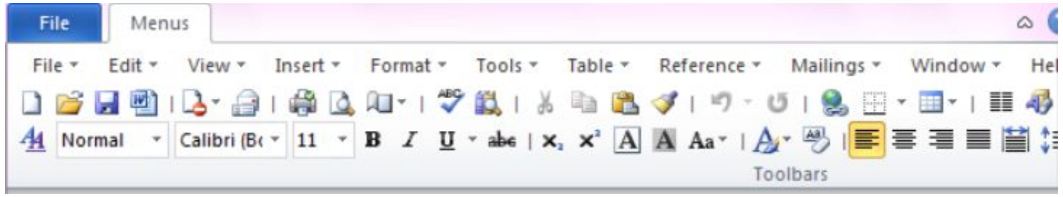
Reference: Nielsen Norman Group

#4 Consistency and Standards - Examples

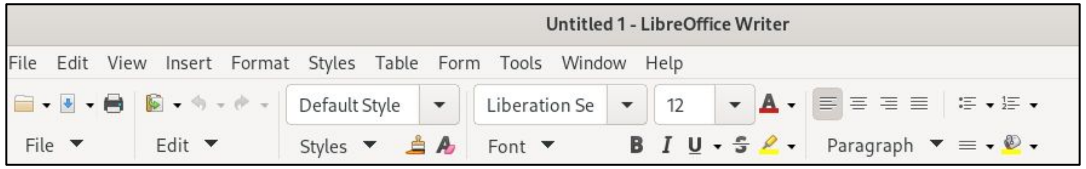
MS Word and LibreOffice have the same standard menu design.

Follow established industry conventions:

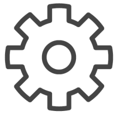
MS Office



Libre Office



Home icon

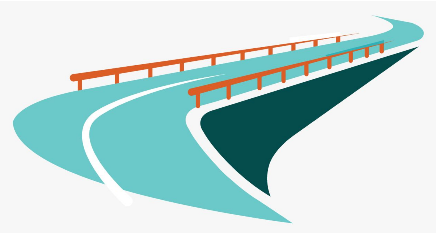


Gear icon

Reference: Nielsen Norman Group

#5 Error Prevention

- Best designs prevent problems.
- Eliminate errors-prone conditions.
- Provide the ability to users to reverse actions
  - Example: Edit, Undo actions.
- Provide the ability to users to review and correct information.
  - Example: Confirmation message
- Provide tooltips.
  - Example: In **Date** field, provide MM/DD/YYYY.
- Provide most common **default** values.
  - Example: For units of measurement



Real Life Example:

Guard rails on curvy mountain roads prevent drivers from falling off cliffs.

Reference: Nielsen Norman Group

#6 Recognition Rather Than Recall

- **Recall:** Process of remembering where you left off.
- **Recognition:** Process of picking up cues.
- Interface should promote recognition over recall.
- Make objects, actions, and options visible.
- **GUI-based applications**
  - Based on recognition.
  - Visual cues, such as buttons, check box, choice list, help the user.
- **Non-GUI applications**
  - Based on recall.
  - Specify hints.

Real Life Example

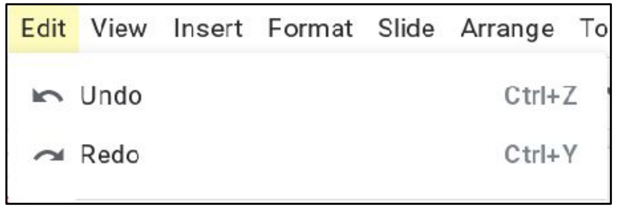
It's easier for most people to recognize the capitals of countries, instead of having to remember them.

Reference: Nielsen Norman Group

Image Source: Adobe Stock

#7 Flexibility and Efficiency of Use

- Design UI for both novice and advanced users.
- Allow expert users to complete common tasks quickly.
- For expert users, **add accelerators**.
  - Display the accelerator along with the function.
- Common accelerators include:
  - Keyboard shortcuts
  - Navigation
  - Macros
  - Touch gestures

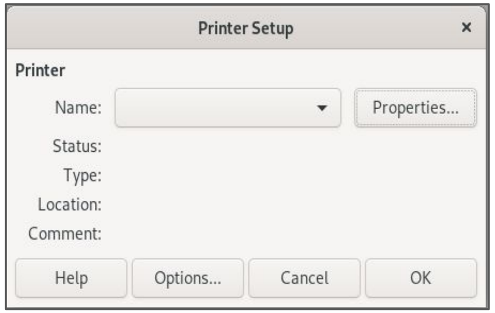


Real Life Example:
Regular routes are listed on maps, but locals with knowledge of the area can take shortcuts.

Reference: Nielsen Norman Group

#8 Aesthetic And Minimalist Design

- Dialog contains only the most relevant and minimum information.
- Provide enough information for users to achieve their goals.
- Progressive disclosure: Use buttons and tabs to display the additional information.
- Ensure proper use of labels for UI components.
- Moderate use of white space.


Printer Setup

Printer

Name:

Status:

Type:

Location:

Comment:

Real Life Example:

An ornate teapot may have excessive decorative elements, like an uncomfortable handle or hard-to-wash nozzle, that can interfere with usability.

Reference: Nielsen Norman Group

#9 Help Users Recover from Errors

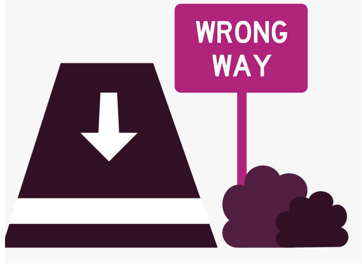
- Express error messages in plain language.
- Error messages should indicate the problem and suggest a solution.
- Present error messages with icons and visuals (like **bold red text**)..
- Include advice on how users can fix the problem.

Important: Be polite.

Real Life Example:

Wrong way *signs on the road remind drivers that*

they are heading in the wrong direction and ask them to stop.



Reference: Nielsen Norman Group

#9 Help Users Recover from Errors - Examples

Before	After
Give Next Steps	
Your list already has the maximum number of items. You are not able to continue customizing.	Your list has the maximum number of items. To continue customizing, remove one item.
Never blame the user	
You entered the wrong password.	The username or the password is invalid. Enter valid credentials to sign in.

Reference: Nielsen Norman Group

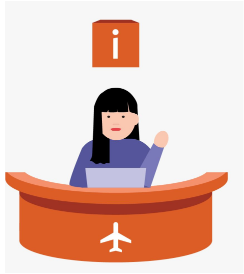
#10 Help and Documentation

- Ensure help and documentation are readily available.
- Decide the type of help content that you must create.
- Types of help content:
  - Help center (Getting Started Guides, FAQs, Users Guide)
  - Knowledgebase articles
  - Tutorials and videos
  - Tooltips
  - API/CLI content
- Documentation should:
  - Be **easy** to **search for.**
  - Be **focused** on the **user's task.**
  - Provide **a list** of short, concrete **steps.**

Example:

Information kiosks at airports are easily recognizable

and solve customers' problems in context and immediately.



Reference: Nielsen Norman Group