

Usability for Technical Writing

Technical Writing Course MUNI 2024

The Red Hat Customer Content Services team

About the authors



Shubha Narayanan

A senior technical writer at Red Hat, science enthusiast, always up for diving into new hobbies and ready to converse about anything under the sun and yeah, about the sun as well.



Lakshmi Venkat

Technical Writing Manager with 22 years of experience in technical writing. Happy-go-lucky, very optimistic, believe in smiles :)



Kalyani Desai

Technical Writer at Red Hat, Open source contributor. Fun fact: I am obsessed with Frootloops (the cereal). I tried some strawberry shampoo. It doesn't taste as good as it smells :P



Jiří Herrmann

A long-time Technical Writer at Red Hat, a language enthusiast, proud servant of two cats, and a shameless nerd.



Arati Ajit Belgaonkar

A Technical Writer by day, sculpting words into my work. In the evening, I flex my green thumb in the garden and conquer laps in the pool.

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









Exercise: What's wrong with this table?

Project: default ▾

Virtual Machine Templates

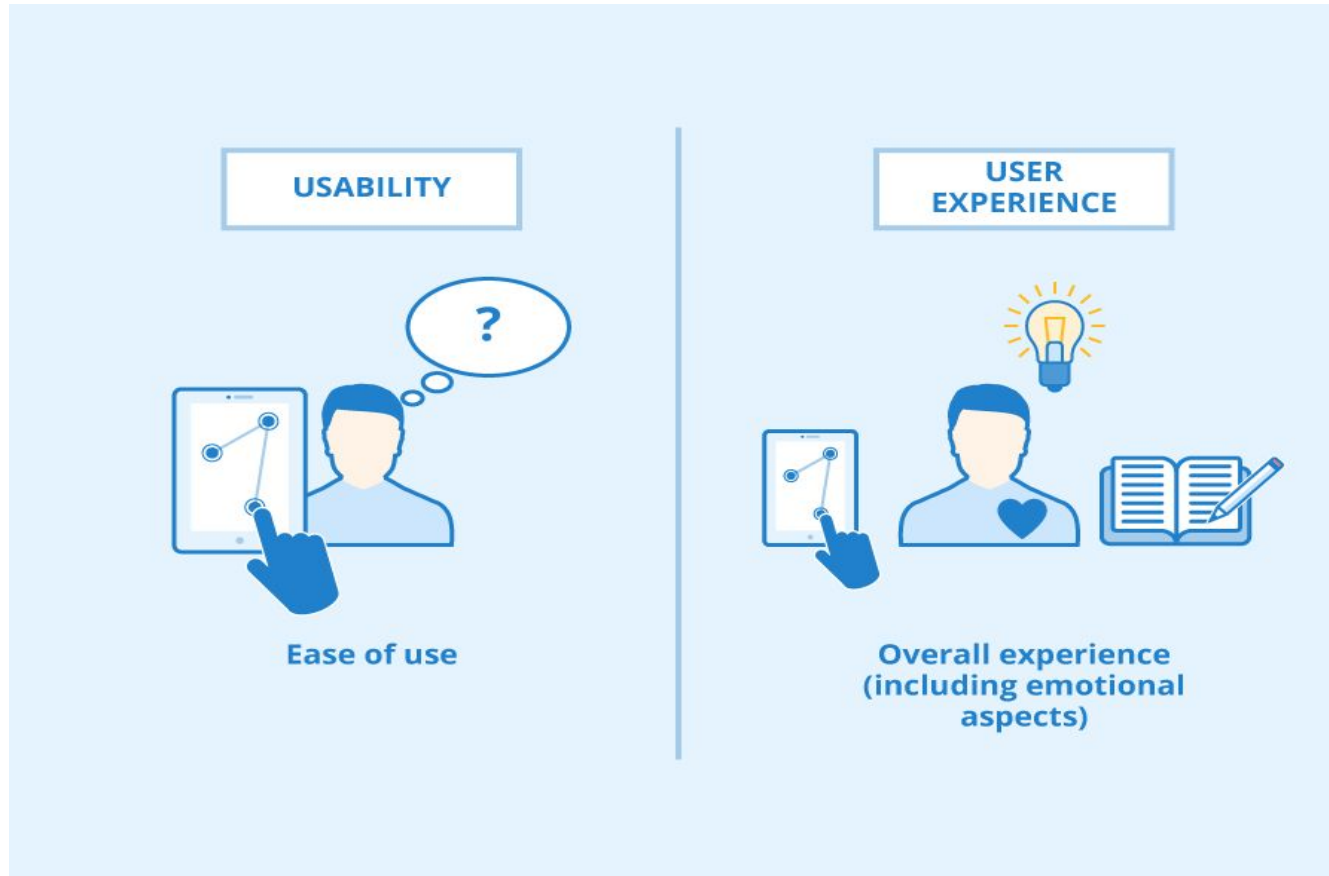
Create Virtual Machine Template ▾

Filter by name... /

Name ↑	Namespace ▴	Description ▴	Source	OS	Flavor	
 test2	 default	-	URL	CentOS 7	small	⋮
 thisisanother test	 default	-	URL	Fedora 31	tiny	⋮
 vm-template-example	 default	VM template example	Container	Fedora 31	tiny	⋮

- Sort features are available only for some columns. Allow sort for all columns, if possible.
- Column heading is missing.

What are user experience and usability?



The basics:

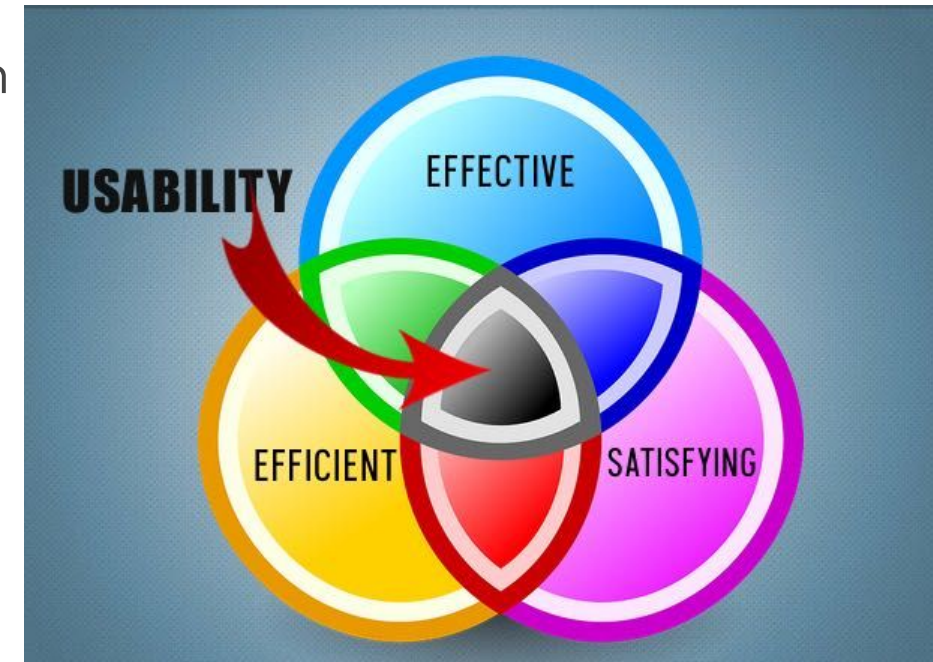
User Experience

Usability

Personas

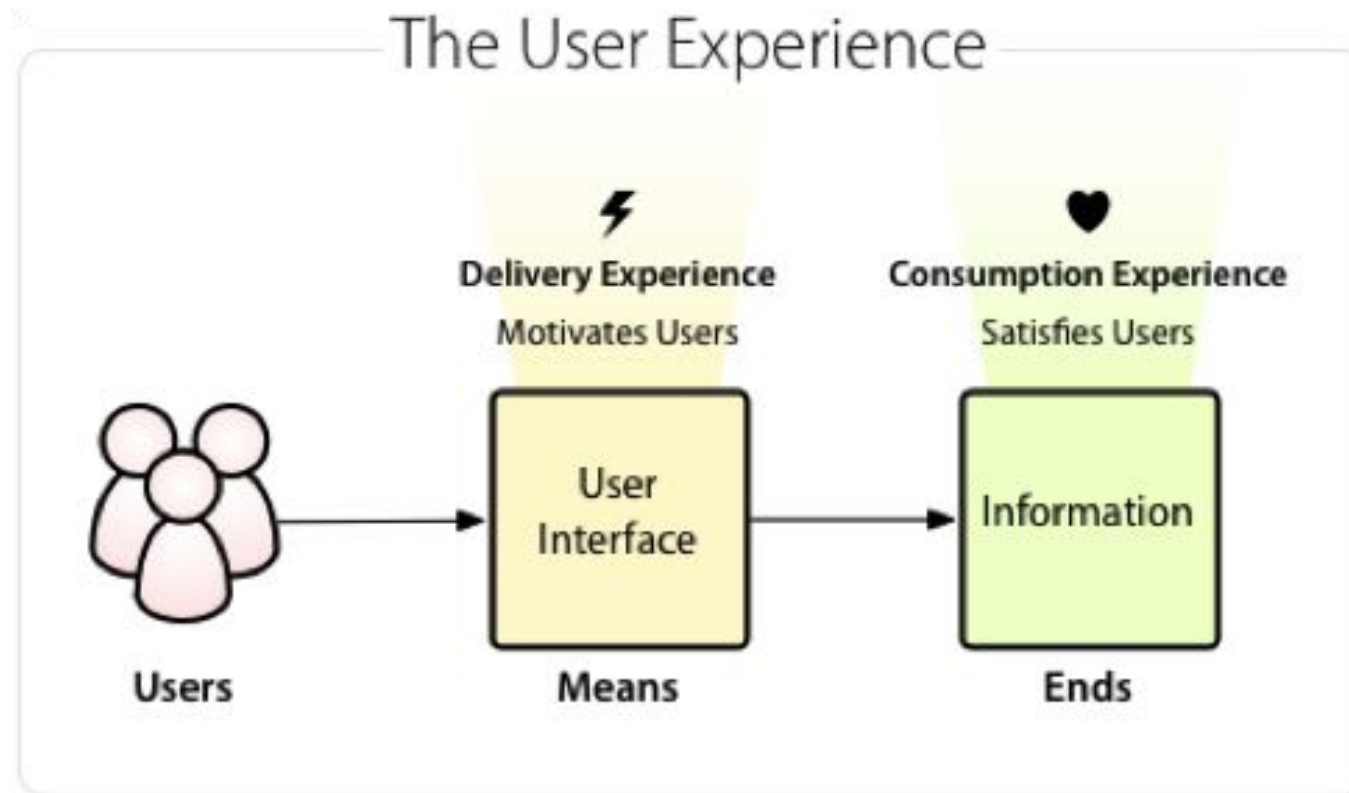
What is usability?

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**.



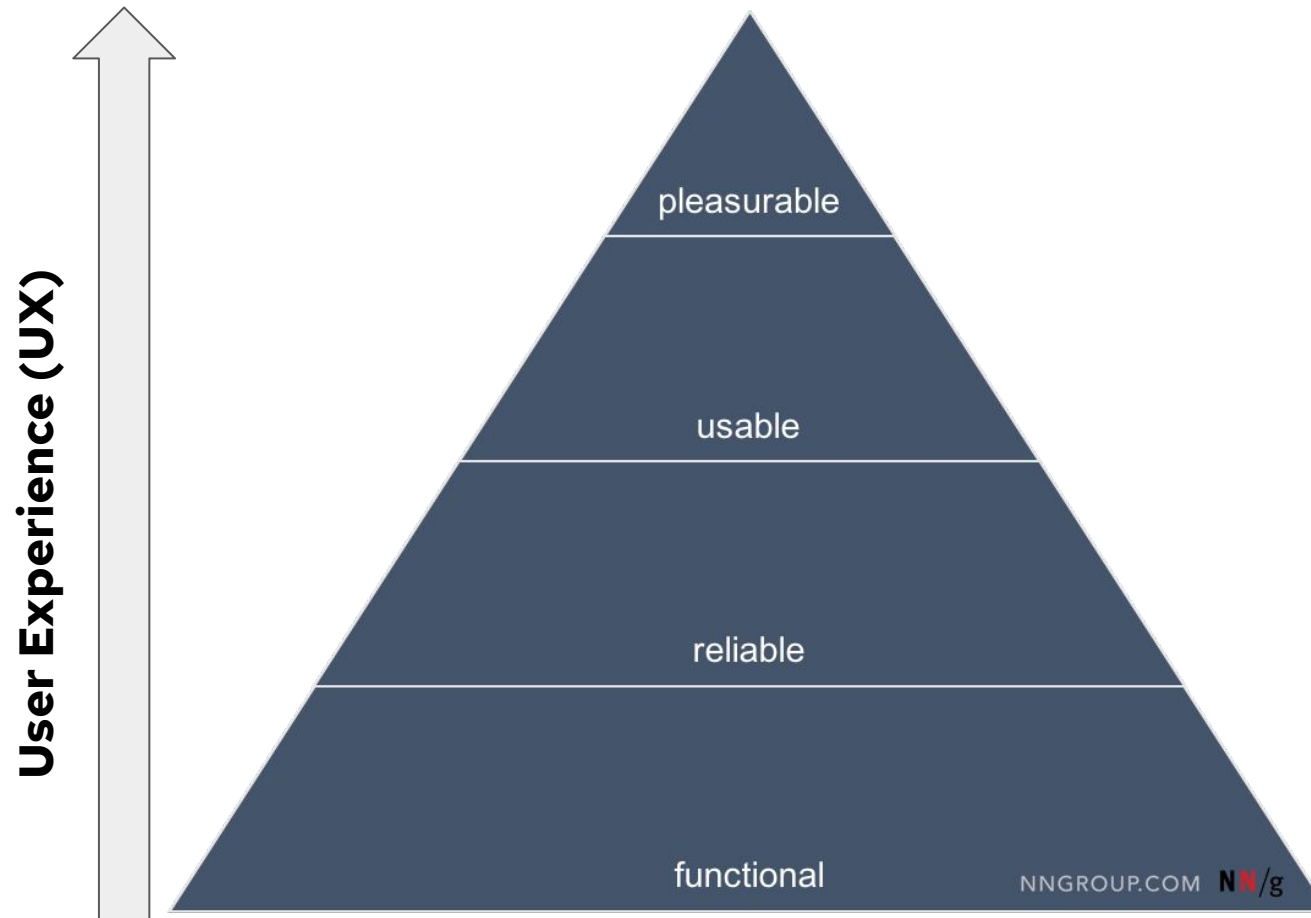
What is user experience (UX)?

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.”



How can we achieve a pleasurable user experience?

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



Exercise: Improving usability

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

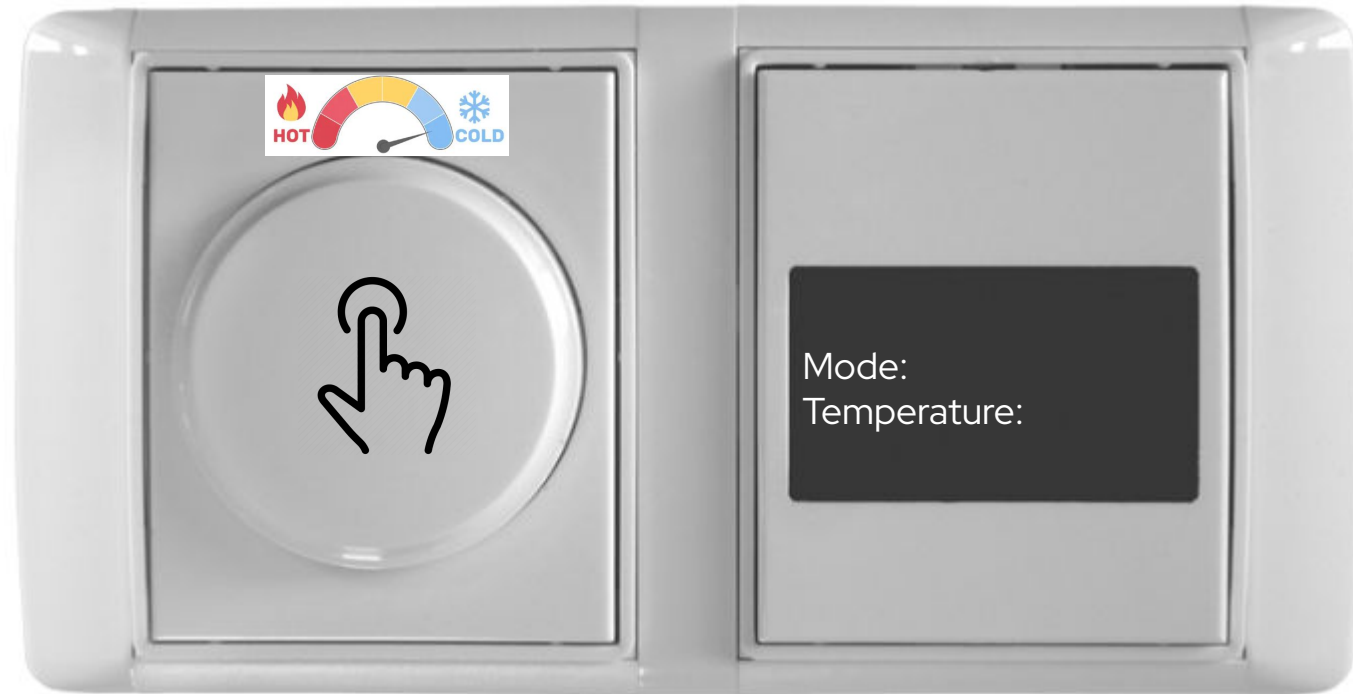


Function:

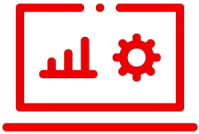
- If you press the button, it switches between heating, cooling, and ventilation (fan).
- If you turn the button, the temperature changes.
- The temperature is set for each mode individually.
- There is also a pre-programmable display screen.

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

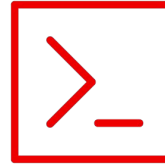


System components where usability matters



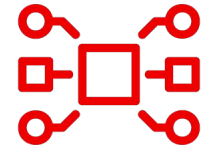
Graphical user interface (GUIs)

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

User persona example



Daisy the Developer

Developer with a new subscription to KickassOS

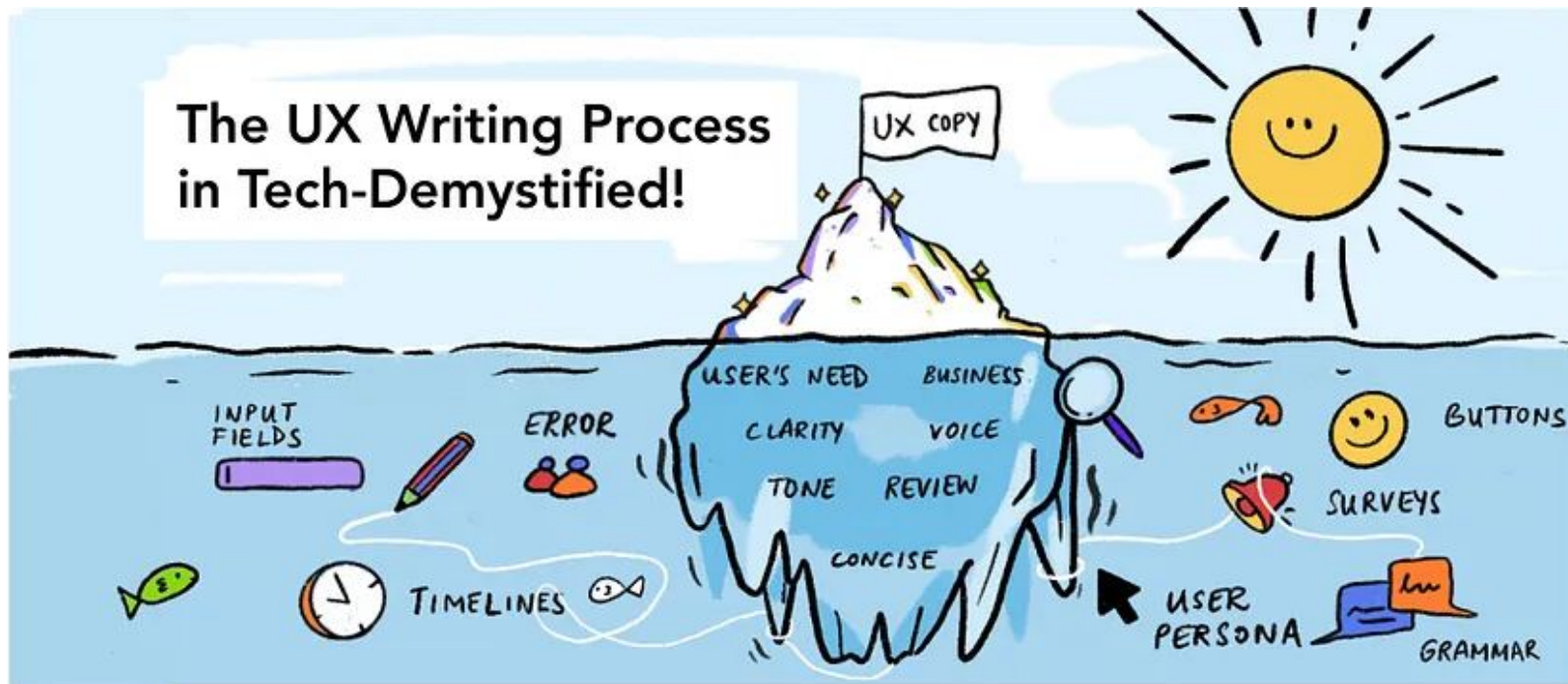
Key Needs: Get a system image without overhead
Install needed packages
Easy access to help documentation

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

UX Writing



- 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.



ORACLE



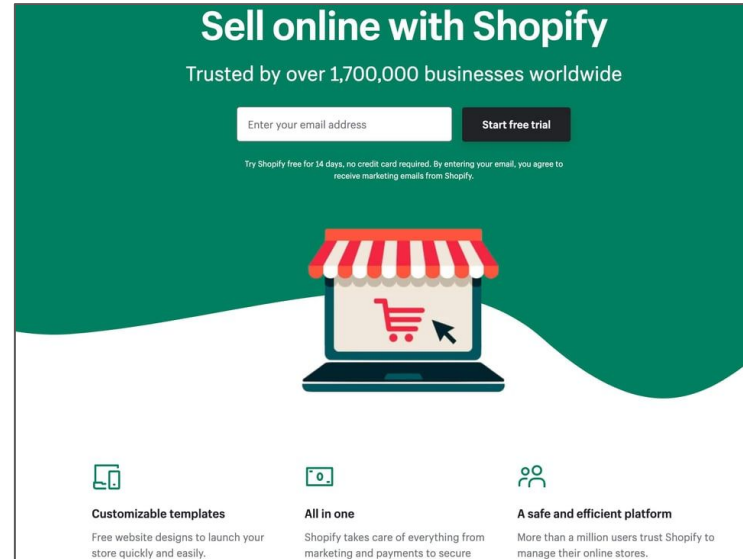
Why UX Writing?

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

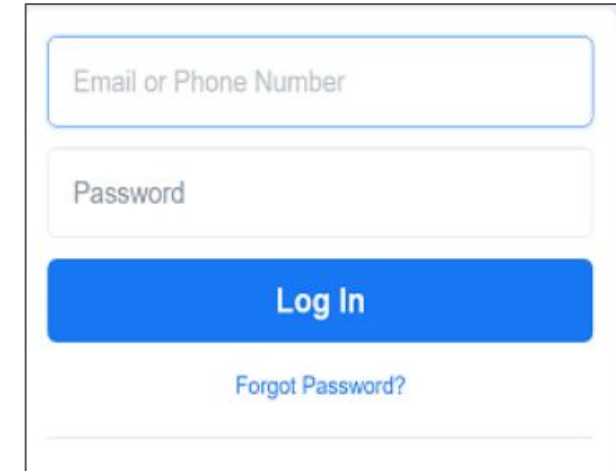


Examples of UX Writing

Welcome message



Button text

A login form with a white background. It has a light blue input field for "Email or Phone Number" and a white input field for "Password". Below these is a large blue button with the text "Log In" in white. At the bottom, there is a link that says "Forgot Password?" in blue.

Error messages

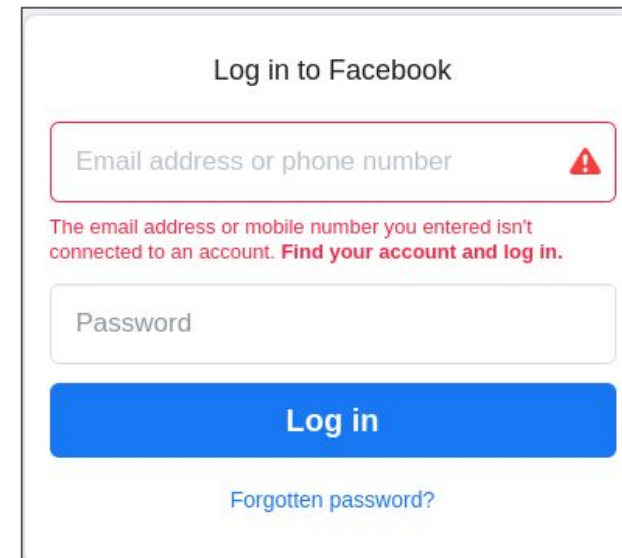
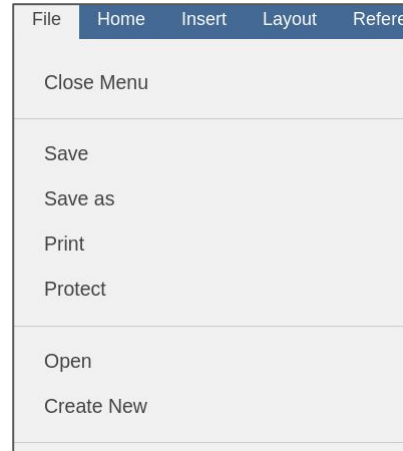
A Facebook login form with a white background. It has a title "Log in to Facebook". Below it is a light blue input field for "Email address or phone number" with a red warning triangle icon on the right. Below the input field is a red error message: "The email address or mobile number you entered isn't connected to an account. Find your account and log in." Below this is a white input field for "Password". At the bottom is a large blue button with the text "Log in" in white. At the very bottom is a link that says "Forgotten password?" in blue.

Image Source:

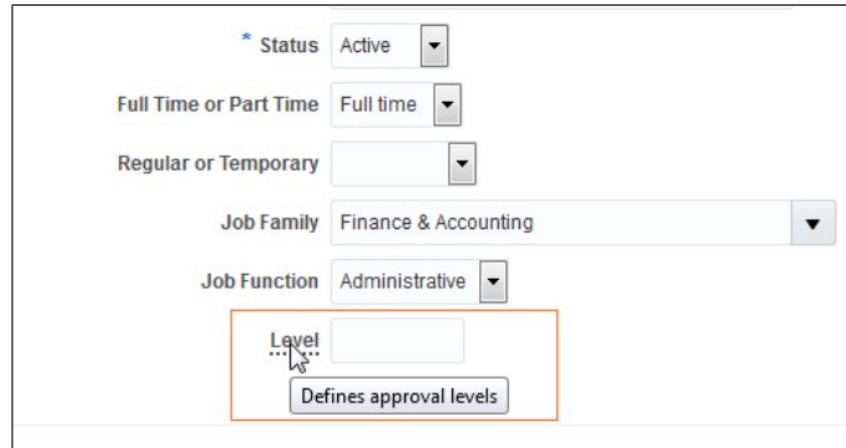
- Menu Items: OnlyOffice
- Tooltip: Oracle
- Manpage: <https://www.javatpoint.com/linux-man>

Examples of UX Writing

Menu items



Tool tips

A screenshot of a web form with several dropdown menus. The fields are: 'Status' (Active), 'Full Time or Part Time' (Full time), 'Regular or Temporary' (empty), 'Job Family' (Finance & Accounting), 'Job Function' (Administrative), and 'Level' (empty). A tooltip is visible over the 'Level' dropdown, stating '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 -cftuvX 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
- Manpage: <https://www.javatpoint.com/linux-man>

Basic Guidelines for UX Writing

PatternFly guidelines are the place to start



Understand the context

- Identify the potential paths.
- Use that context to plan for the information.



Lead with Benefit

- Focus on the beginning of the sentence.
- Start instructions with the outcome.



Use Positive-Action Oriented Language

- Focus on what the user needs to do to complete a task.



Be Clear and Concise

- Use plain language.
- Be concise
- Avoid long paragraphs.

#1 Understand the Context

- Understand where the user is coming from.
 - Literally
 - Personally
 - Emotionally

Think about Adam!



Understand the Context Literally, Personally, & Emotionally

Understand the Context Literally

- Identify user's potential paths.
- Use that context to plan for the help information.

Understand the Context Personally

- Consider the following:
 - What terminology are the users expecting to see?
 - Are they familiar with the information you're giving them?
 - Do they need additional information?
- Choose the right terminology and prioritize your content.

Understand the Context Emotionally

- Consider the situation that the user is in.
- Empathize with user's problems and goals.
- Use an appropriate tone.

Understand the Context Example

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.

#2 Lead with Benefits

- Focus on the user's tasks, goals, and questions.
- Start your instructions with the benefit by explaining:
 - Why user should take action?
 - The outcome

#2 Lead with Benefits - Examples

Example 1

Before

Install this extension to learn more about email.

After

To learn more about email, install this extension

Example 2

Write better code

Collaboration makes perfect. The conversations and code reviews that happen in Pull Requests help your team share the weight of your work and improve the software you build. [Learn about code review.](#)

Manage your chaos

Take a deep breath. On GitHub, project management happens in Issues and Projects, right alongside your code. All you have to do is mention a teammate to get them involved. [Learn about project management.](#)

Find the right tools

Browse and buy apps from GitHub Marketplace with your GitHub account. Find the tools you like or discover new favorites—then start using them in minutes. [Learn about integrations.](#)

Lead With Benefits – More Examples

Before (Product Focus)

Press the 'Play' button to start streaming your favorite music.

Scroll down the page to view more options in the menu.

The website permits you to save your credit card information.

After (User Focus)

To start streaming your favorite music, press the 'Play' button.

View more options in the menu by scrolling down the page.

You can save your credit card information on the website.

#3: Use Positive, Action-Oriented Language

- Use active voice
- Use present tense
- Use positive sentences
- Use strong sentences

Active Voice

- Use Active Voice.
 - Subject acts on the verb.
- Considered more concise, direct, and easier to understand.
- Address users directly as *You*.
- Use imperatives to convey a direct tone.

Active Voice

Active Voice + Address Users Directly + Imperatives = Clear sentence

Original Sentence

Transactions can be assigned to subclasses.

Active Voice

The system administrator can assign transactions to subclasses.

Address Users Directly

You can assign transactions to subclasses.

Use Imperatives

Assign transactions to subclasses.

Present Tense

- Use present tense.
- Use future tense only when describing a future action.

Example:

Before

The application will automatically file the document in the related folder.

After

The application automatically files the document in the related folder.

Positive Sentences

- Use positive sentences.
- Avoid negative constructions.
 - Negative sentences can interfere with accurate reader comprehension.

Examples:

Before
You do not need to enter address information when you change the password.
The current request is not different from the previous request.
You cannot reconnect without logging on again.

After
To change the password, specify the User Name and the new password.
The current request is similar to the previous request.
To reconnect, you must log on again.

Strong Sentences


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

Examples:

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

After
Two databases are in the table space.
Verify the serial number before you register the product.

Be Clear and Concise - Remove the Clutter!

- ***Before: Please remove those extra words so that your content sounds interesting!***
 - ***After: Remove extra words to write interesting content!***
- 
- Has a lot of clutter!

Has a lot of clutter! :)

Take away:

To write clearly,

- Remove clutter.
- Chunk content into short, related sections.



Be Clear and Concise

- Use simple language.
 - Avoid jargons, slangs, idioms, and long noun strings.
- Be specific.
 - Don't use more words than you need.
- Write short sentences.
 - Limit sentences to 25 words or fewer.
- Avoid long paragraphs.
 - Limit a paragraph to less than 3 lines.
 - Break long sentences to two or three sentences.

Be Clear and Concise

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.

Be Clear and Concise

Before:

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.

After:

You can customize your device by applying a theme from our wide range of options.

- Use simple language.
 - Avoid jargons, slangs, idioms, and long noun strings.
- Be specific.
 - Don't use more words than you need.
- Write short sentences.
 - Limit sentences to 25 words or fewer.
 - Break long sentences to two or three sentences.
- Avoid long paragraphs.
 - Limit a paragraph to less than 3 lines.

Be Clear and Concise – Examples

Before

Would you like to save your changes?

Are you sure you want to remove this downloaded book? You won't be able to access it unless you are online.

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?

Remove this downloaded book?
You can access it only when you are online.

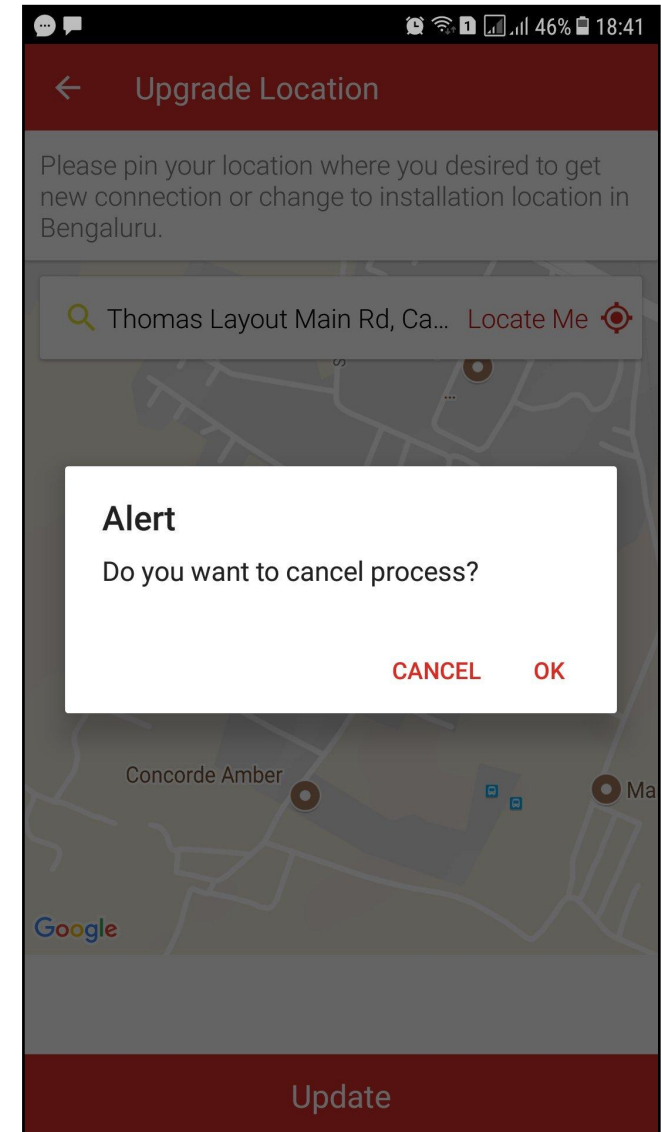
To log in, enter your 6 digit passcode.

Notify your administrator.

Exercise: Revise the Error Message

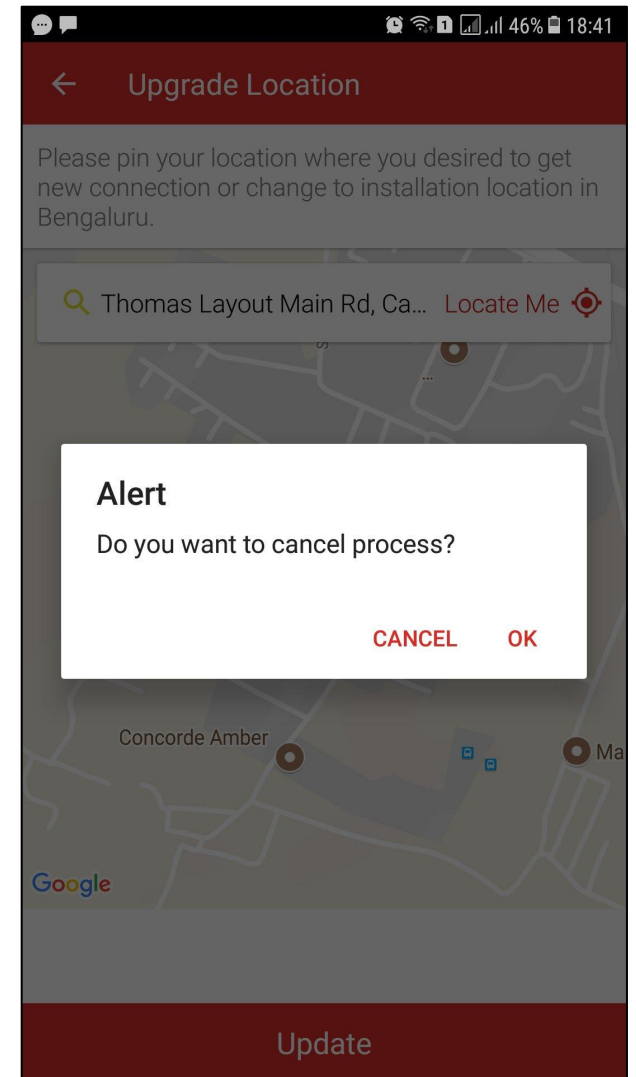
Situation: This is a mobile application for booking flights. A user is trying to book a flight to Bangalore from their office. They are trying to place a pin on the map to mark their office. They get this error message because there are no nearby airports.

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



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*)



Usability heuristics for improving user experience



- Usability heuristics
- Jakob Nielsen's 10 Usability heuristics

Usability heuristics

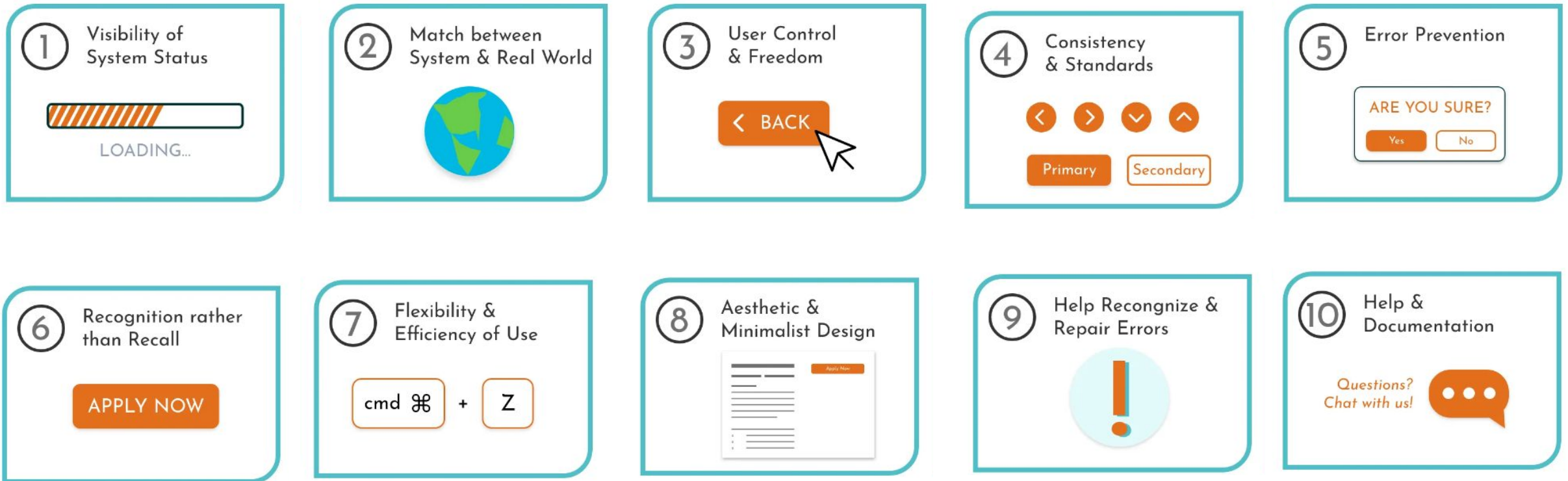
Heuristics are:

- 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



Usability heuristics- Additional Resources

- [User Experience Heuristics and Severity Levels](#)
- <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-resource-s-icon-resources-and-links-icon/

Final takeaways



- **Structured evaluation**
- **Efficient improvement**
- **Enhanced usability**
- **Improved user satisfaction**
- **Continuous iteration**

Write for the user experience



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**



Be Clear and
Concise

**Use short sentences
and paragraphs, avoid
ambiguous or
unnecessary words.**

Final project schedule

- Week 1, March 25 (after class 6, Tools II): Choose a project, sign up for issues, and clone the repository.
- Week 2, April 1 (after class 7, Tools III): Conduct thorough research on the subject. Ask questions to your SMEs.
- **Week 3, April 8 (after class 8, Usability): Create a draft.**
- Week 4, April 15 (after class 9, Soft Skills): Create a draft pull request and undergo SME review.
- Week 5, April 22 (after class 10, LLMs): Close the SME review.
- Week 6, April 29: Peer review.
- Week 7, May 6: Present the project.

Contributing to the team

-> to be continued in the next class



- Broader scope of technical writing
- How can we influence our teams to embrace usability?

Image Sources:

<https://strategistworld.com/team-work-effective-team-building-an-effective-team-importance-of-a-team/>

<https://makingteams.com/building-effective-teams-and-teamwork/>

Thank You

Bonus:

Usability Heuristics

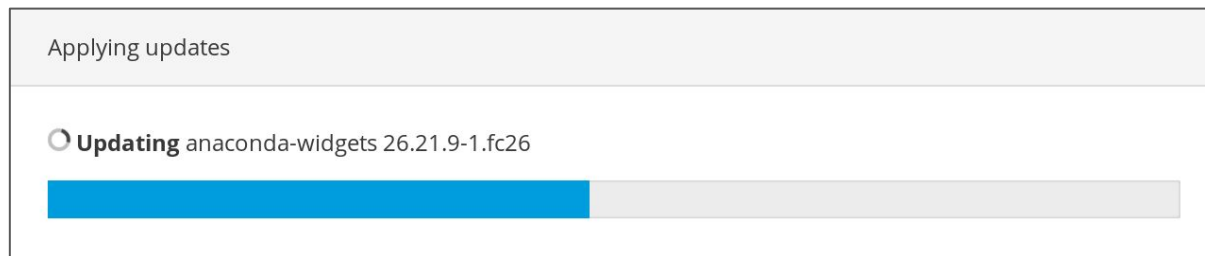
#1 Visibility of System Status

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

Real Life Example

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

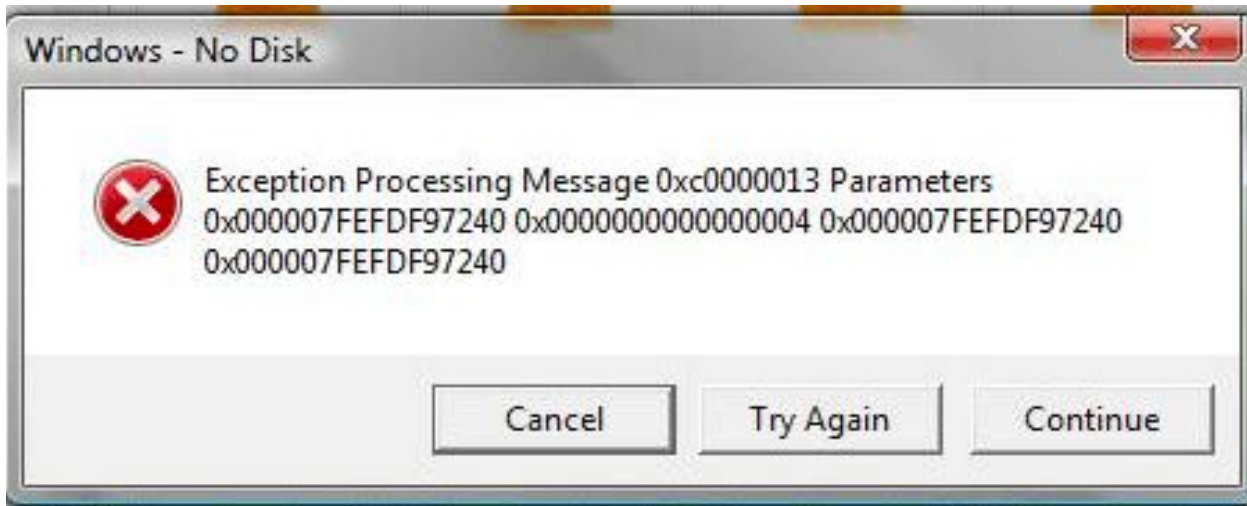
Example: When the user performs an action, show the progress of that action.



#2 Match Between System and The Real World

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

Example



Real Life Example

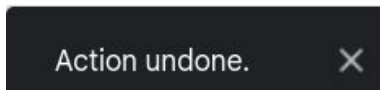
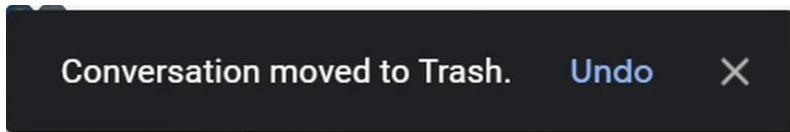
The stove top controls match the layout of heating element. It is easy to understand which control maps to which heating element.



#3 User Control and Freedom

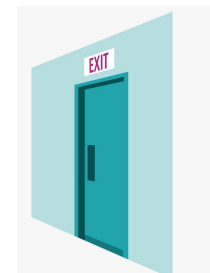
- Allow users to take their desired path.
- Examples of Emergency Exit
 - X in dialog boxes
- Allow users to exit, modify values, undo/redo actions.
- Make sure the exit is clearly labeled.

Example:



Real Life Example

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



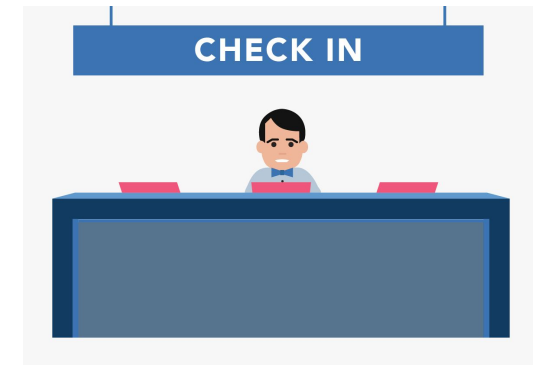
#4 Consistency and Standards

- 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.

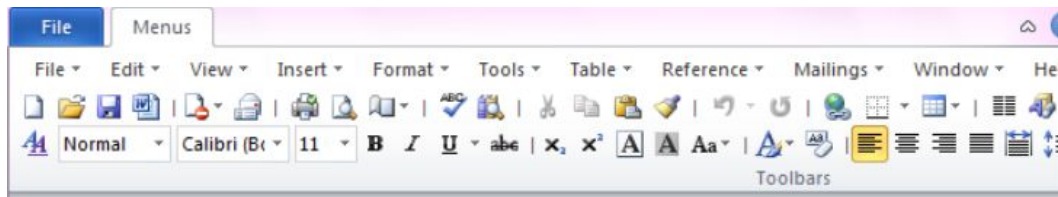


#4 Consistency and Standards - Examples

MS Word and LibreOffice have the same standard menu design.

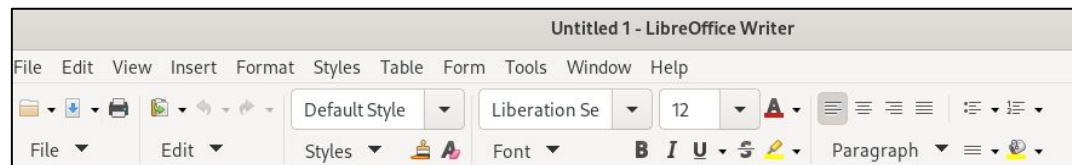
Follow established industry conventions:

MS Office



Home icon

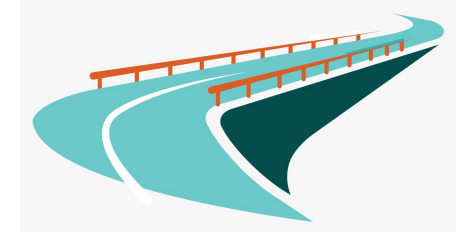
Libre Office



Gear icon

#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.

#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.



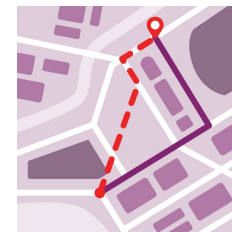
#7 Flexibility and Efficiency of Use

- 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



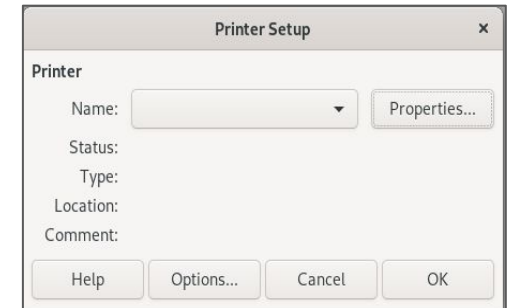
Real Life Example:

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



#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.



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.



#9 Help Users Recover from Errors

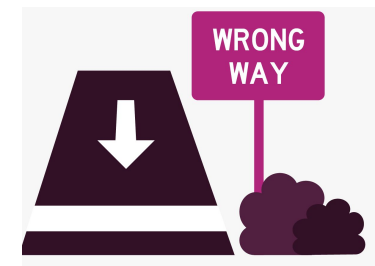
- Express error messages in plain language.
- Error messages should indicate the problem and suggest a solution.
- Present error messages with icons and visuals (like **bold red text**)..
- Include advice on how users can fix the problem.



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.



#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.

#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.

