



**DOCUMENT  
ENGINEERING**

# CMPSC 104 – Document Engineering

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# Overview

## **What is technical writing?**

Technical writing is a method of effectively conveying ideas and instructions by structuring content to enhance the reader's understanding and perception of the information.

## **Who is a Technical Writer?**

A technical writer communicates a product's technical aspects to both technical and non-technical audiences. They simplify complex concepts into clear, easy-to-understand language to help consumers understand and effectively use products.

# Overview

## **What does a Technical Writer do?**

Being a technical writer is not just about writing in a particular style of English. It is more than that.

## **What are the skills needed to become a Technical Writer?**

- Writing Skills
- Technology Savvy
- Communication Skills
- Active Listening Skills
- Common Sense

# Example of documentation


The following page opens:

<https://www.facebook.com/help>.


### How can we help you?

Q Search help articles...


#### Popular topics




**Account Settings**  
Adjust settings, manage notifications, learn about name changes and more.




**Login and Password**  
Fix login issues and learn how to change or reset your password.




**Privacy and Security**  
Control who can see what you share and add extra protection to your account.



**Marketplace**  
Learn how to buy and sell things on Facebook.




**Groups**  
Learn how to create, manage and use Groups.



**Pages**  
Learn how to create, use, follow and manage a Page.

#### Looking for something else?



**Visit Business Help Centre**  
Learn more about promoting your business on Facebook

[→](#)

### Creating an account

#### Create an account

#### How do I create a Facebook account?

Note: You must be at least 13 years old to create a Facebook account.

#### To create a Facebook account:

1. Go to [facebook.com](https://facebook.com) and click **Create new account**.
2. Enter your name, email address or mobile phone number, password, date of birth and gender.
3. Click **Sign Up**.
4. To finish creating your account, you need to [confirm your email address or mobile phone number](#).

#### If you're having problem creating a Facebook account:

To let us know about the problem you're experiencing while creating a Facebook account, you can fill in [this form](#).

#### If you're having problems logging in:

- If you're having trouble with your password, learn [how to reset your password](#).
- If you still can't log in, [find out what to do next](#).

# Software Industry

The software industry includes the development, maintenance, and publication of software. The purpose of software defines industries' functionality and domain.

## **U.S.-based big five companies (FAANG)**

- Facebook
- Apple
- Amazon
- Netflix
- Google

# Types of Software Industry

Product  
Companies

Finance  
Companies

Project based  
Companies /  
Consultancy

Security  
Companies

Ecommerce  
Companies

Cloud  
Companies

Apple

Google

Microsoft

McKinsey

Morgan Stanley

Facebook

eBay

McAfee

Amazon

Amazon Web  
Services

Citibank

# How to Write

**Technical writing is not that easy as it sounds!**

Technical writing helps users achieve their goals easily through clear and effective documentation.

To achieve that goal, you should incorporate the following parameters into your writing:

1. Analyze your audience.
2. Understand the product requirements.
3. Improve your English proficiency.
4. Gather information for documentation.
5. Help users complete tasks.
6. Organize information in a structured manner.
7. Test and edit the documentation.

# Audience

## **Audience in Software Industry:**

- End-User
  1. Role: Utilizes products/services.
  2. Documentation: User guides, help manuals, and getting started guides.
- Admin

Role: Maintains product/services; handles troubleshooting and service continuity.

Types: Differentiates between internal (product admin) and external (customer-side) roles.
- Engineer

Role: Develops or operates the product.

Knowledge Transfer: Builds the product (developers) and uses APIs (Infrastructure/Cloud Engineers).



# Product Requirements.

Understand what type of documentation your product requires.

**Types of documents a Technical Writer may need to create, depending on the product requirements:**

- End user documentation: Simplifies product use with clear, non-technical language.
- Admin documentation: Provides detailed, technical instructions for system maintenance.
- Installation Guides: Step-by-step installation instructions with system requirements
- FAQs: Organized Q&A format to address common user questions
- Glossary: Defines specialized terms to aid user understanding
- Knowledge-base articles: Comprehensive resources for self-service problem-solving
- Whitepapers: In-depth reports offering solutions to specific issues
- Videos: Visual training materials for onboarding and education.
- Infographics: Quick, visual summaries of complex information

# English Proficiency

Technical writing uses clear, concise language and proper grammar to effectively communicate technical details to a global audience in English.

## **Essential Components of Technical Writing:**

- Use simple, clear, and direct words; avoid complex vocabulary.
- Define new or unfamiliar terms clearly.
- Consistently use terms to maintain clarity and avoid confusion.
- Correctly spell out unfamiliar acronyms initially and use consistently.

## **Crafting Effective Sentences:**

- Employ short, clear sentences to enhance understanding.
- Avoid negative constructions; use positive statements.
- Maintain parallel structure in lists and comparisons.
- Minimize passive constructions like "there is/there are".
- Choose strong verbs and provide specific data over vague descriptions.

# English Proficiency

## **Grammar and Punctuation:**

- Use active voice to make sentences clear and direct.
- Keep verb tenses consistent, preferably in the present tense.
- Ensure subject-verb agreement.
- Apply correct punctuation to clarify and enhance readability.

## **Tone and Style:**

- Use a consistent and appropriate tone; avoid colloquial language.
- Employ imperative mood for instructions and indicative for facts.
- Adhere to organizational style guides; use standard templates.
- Ensure all sections include an introduction, detailed steps, and references.

# English Proficiency

## **Quality and Consistency:**

- Ensure documents are grammatically correct and free from typos.
- Maintain uniform terminology throughout the document.
- Continuously update style guides and adopt new technologies for better user experience.

# Gather Information for Documentation

In software industry, writers must continually gather updated information to remain effective.

To effectively gather information, follow these three steps:

1. Understand the product.

- Inquiry and Clarity:

1. Ask questions to understand the product's purpose, design, and functionality.
2. Identify and document any unclear aspects or gaps in knowledge.

2. Develop a search strategy.

- Planning:

1. Develop a list of keywords and essential questions.
2. Frame a strategy based on the audience's needs and the timing of information retrieval.

3. Gather materials.

- Resource Utilization:

1. Use surveys, interviews with SMEs, and existing documentation to gather comprehensive information.
2. Analyze audience feedback and case studies to refine the content.

# Help Users Complete Tasks.

Now that we have all the resources and information gathered, what should we do with this information?

## Focus on Product

- Provides detailed descriptions of functions, features, and interface elements for **technical users like admins and developers**.
- Limitations: Uses technical terms and assumes prior knowledge, making it difficult for end-users who need practical instructions.

## Focus on Process

- **Task-Oriented Approach**: Concentrates on practical tasks users need to perform, such as creating, opening, and renaming documents.
- **Content Strategy**: Emphasizes clear, actionable steps to help users understand and use the product effectively, making it more useful for task completion.

# Process-oriented Document

How to create a process-oriented document?

- To achieve this, consider several key elements that shape the content, including grammatical structure, content description methods, and the adopted style.

## **Grammar Structure**

- Active Voice
- Present Tense
- Imperative Verbs

## **Content description method**

- User's Perspective
- Headings
- Task Segregation
- Completeness and Concreteness

## **Visual elements**

- Graphics
- Visual Cues

# Organizing Information Structurally

Effective technical communication hinges on well-organized information, ensuring users find it coherent and logically structured.

- **Stand in the User's Shoes:** Understand and consider the user's perspective.
- **Document Outline:** Structure the document effectively.
- **Document Introduction:**
  - Coverage: Clearly state what the document covers.
  - Reader Prerequisites: Specify the prior knowledge expected from readers.
  - Scope: Clarify what the document does not cover.
- **Topic Segregation:** Organize topics into distinct categories:
  - Tasks
  - Concepts
  - References
- **Comprehensive Topic Coverage:** Ensure all relevant topics are thoroughly addressed.
- **Chronological Organization:** Present information in a logical sequence.
- **Table of Contents:** Often, include a well-organized table of contents helps your users.
- **Parallelism in Information:** Present similar information similarly.
- **Template Usage:** Adhere to established template designs.
- **Style Adherence:** Follow style guidelines consistently.
- **List Presentation:** Ensure all list items are presented consistently.



# Testing and Editing the Documentation

Accurate and well-edited documents enhance trust and credibility for both the writers and their organization, making the testing and editing phase essential before release.

- Assurance of Complete Information Collection
- Information Inspection
- Information Review
- Information Styling
- Information Comprehensibility
- Information Quality Check
- Application of Information

# Reference

- Google's Technical Writing Course
- Chicago Manual of Style
- Carey, Michelle, Moira McFadden Lanyi, Deirdre Longo, Eric Radzinski, Shannon Rouiller, and Elizabeth Wilde. Developing quality technical information: A handbook for writers and editors. Pearson Education, 2014.