

Scholarship Skills

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Style

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Personal Pronoun: I or We?

- “I” is becoming more common in technical writing. It used to be thought inappropriate, but that’s not longer so, particularly in dissertations.
- “We” is okay for a single author as long as it means you’re taking the reader by the hand and leading them along:

We next come to the case where n is prime.

or if you’re describing what you did with collaborators

We then tried reducing the number of queues.

Personal Pronouns (continued)

- Pick a personal pronoun and use it. Avoiding personal pronouns can lead to sentences in passive voice.
- Dupré (segment 2) says:
 - call yourself *I* if you are the only author, or *we* if you have coauthors.
 - call the reader *you*;
 - call the team comprising you and your reader *we*.
- Golden rule: be clear what the pronouns mean at each point. Don't vary them arbitrarily.

Tense

- Try to use the present tense as much as possible. Reserve past tense for referring to previous parts of the text.
- Use the past tense for a completed activity.

We surveyed 24 software engineers on their use of unit tests.
- A theorem stays true over time. has
Recall that in Chapter 2 we proved that every integer ~~had~~ a unique prime factorization.
- Look again if you find yourself changing tense in the middle of a paragraph.

Subjunctive, Idioms

- Avoid the use of “would” if you actually did something.

Doubling the cache size would result in a third as many cache misses.

- Be careful with idioms — will all your readers know them or be able to infer them from the context?

The language LIKON is just a strawman.

There are two kinds of refactoring: floss refactoring and root canal refactoring.

Clarity

- Don't intentionally try to baffle the reader.
- A reader (or listener) is most impressed when he or she learns something without a big struggle
- Make sure material stands by itself

Don't rely on section headings

Section 3.2: Simulated Annealing

This randomized method ...

Make sure tables have labels on columns; give units.

Make sure graph axes are labeled.

Extra Information Can Confuse!

[Core Rule: Be concise.]

- Don't say "A or B" if $A = B$

If duplicates are allowed, the algorithm will be $O(n^2)$ or quadratic.

- Don't repeat information immediately

This class of applications requires multimodal interfaces with interactive response. These multimodal interfaces with interactive response can reduce ...

This class of applications requires multimodal interfaces with interactive response, which can reduce ...

Ambiguity

[Core Rule: Be clear.]

- Can your text be misread, or could it require backtracking?

The interface points to the database schema provide ...
Get requests read locks to check ...

- Singular form can eliminate some ambiguity.

The databases contain table definitions and constraints.

Database D contains table definitions, while database C contains constraints.

The database contains table definitions and constraints

- Does a gerund modify a verb phrase or a noun?

(Kim [2012] transformed nested queries into (flat queries) *using* join.)

Terminology

- If you appropriate a term for a new concept, make sure it won't conflict with the common usage and that it has the right connotation.

We will call an algorithm *big* if its space complexity is quadratic or greater.

We will call a time series with sudden changes in direction *goofy*.

- In creating and explaining terms, figure out what they are the "unit of"

Example:

"segment of a file"

Unit of:

allocation?

data transmission?

replication?

Help for the Reader

[Core Rule: Be simple]

- Break up long noun phrases (beware of 5 words or more)

This value is compared to the latency feedback policy packet rate adjustment range limit.

- Give names to specific objects.

The root node is guaranteed to have a left child^L and a right child^R ...

~~The right child^R of the root must have a larger value ...~~

- Don't change technical terms unnecessarily. [Core rule: consistent lexical set.]

Each table contains multiple rows, each with one or more fields.
The records are the unit of insertion and deletion.

- Don't assume that programming language code is self-describing.

Understanding may hinge on style or naming conventions that the reader doesn't know.

`(IMPLIES (NOT (LISTP A)))`

`(EQUAL (APPEND (APPEND A B) C))`

`(APPEND A (APPEND B C)))`

Brevity

[Core Rule: Be concise.]

- Wordiness hampers understanding.
- Learn to filter out “filler words” from your writing.
 - ▶ Remove words that are not specific to the domain of discourse.

This change would create a situation where a query could give two answers.

The purpose of this attempt is to be able to measure the effect of double buffering.

The user needs an understanding of the underlying ...

- Seek words that advance the sentence. Do your words add new information?

We investigate ~~the process of~~ data flow analysis.

- Prefer “action” verbs to “perform” verbs with an auxiliary noun:

The designer must ~~make a judgement~~ ^{judge} whether ...

You Try It!

During the course of this investigation ...

In order to explore the ramifications of ...

Two potential problems that can occur when trying to combine a hash table with a B-tree ...

This observation provides an explanation of the difference ...

We added a module for the management of exceptions ...

An explanation facility that would provide users with help in selecting the appropriate ...

We conducted interviews with four groups ...

In the face of this exciting opportunity, however, there are several changes that need to be made to existing query engines to make them applicable for the task of querying the Internet.

Try these!

Two approaches have been used to address the issue of correctness of parallel prefix computation algorithms.

“Sustainability” is a widely used term whose meaning remains elusive. Nevertheless, a wide variety of organizational strategies and policy tools/techniques are now being pursued by governments, NGOs and businesses in support of efforts to accomplish sustainable development.

Repetition

- Can be okay when used to clarify, or to keep sentences or clauses *parallel*.

The search process proceeds from parent to child. ~~Each child is visited after its parent.~~

Hinze [2004] originally solved this problem by... Subsequently, Sheeran [2007] solved the problem by...

