English Technical Writing

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Fall 2023 (112-1)
Class 13

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Feedback

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Keep Writing!

- Mentioned as important by two people
- "Today, the empty time is so much"
  - Because I want you to have time to keep writing

3

Coherent and Concise

- "Much needs to be done for the coherence of our introduction. I think collecting more references would make this task easier for us."
  - Yes! Remember a typical Introduction has 30+ citations
- "My English skill is not as good, so maybe I don't know how to make the paragraphs coherent and concise."
  - Keep practicing

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Clarifying the Argument




Connections	Connotations	Work Time	Assignment

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Clear, Concise, Precise

Section 22.1

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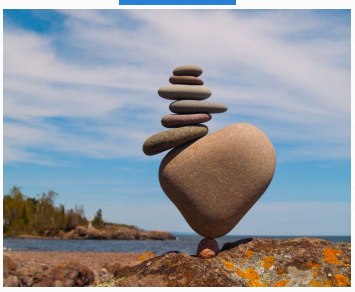
Balance

- Details = clear
- Details = not concise

Clear | Concise

Precise



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7Cs of Change

- Rewriting
  - 1. Coherence — Organization
  - 2. Conciseness
  - 3. Connection — Clarification
  - 4. Connotation
- Revising
  - 5. Consistency — Finalization
  - 6. Correctness
  - 7. Collaboration

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3. Connection

- Markers — Connection to previous research
  - Contribution
  - Achievement
  - Application
- Connectors — Connection within the article
  - Continuity
  - Logical
  - Time sequence

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Connection to Previous Research

Section 22.2.1

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First Claim, Restated

- Your work *connects with* and makes an important *contribution* to the overall body of knowledge in your field

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Contribution vs. Achievement

- Table 22.2: Connection marker types
  - Correction of textbook:
  - Marker types:
    (~~Connection~~) Contribution/Achievement/Application
- Examples shown in Supplemental material

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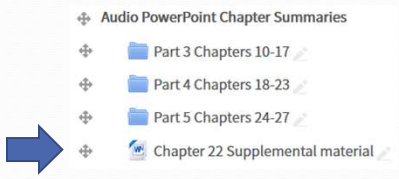
Supplemental material

- Download file from Ecourse:
  Chapter 22 Supplemental material



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Contribution markers

- From supplemental material for Ch. 22:

Modify	advance broaden deepen enhance extend expand (on)	illuminate improve (on) modify provide a framework reveal
Solve	present a solution resolve	solve

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Achievement markers

- From supplemental material for Ch. 22:

Supplemental Table 22.2 Achievement markers

Category	Common achievement markers	
Excellence	better best excellent exceptional	extraordinary outstanding remarkable superior
Importance	critical crucial essential important	invaluable principal valuable vital
Novelty	first new novel remarkable state-of-the-art	striking unique unusual unprecedented

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Contribution vs. Achievement

- What is the difference?
  - Contribution: Verbs
  - Achievement: Adjectives or adverbs
- Which is more common in research articles?

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Using Markers to Highlight your Contribution

Exercise 22.1

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8 Conclusions

In this paper, we introduced the VN-Auth query integrity assurance framework for outsourced spatial databases. Our approach separates the authentication information from the spatial index, thus allowing efficient query processing at the service provider. Additionally, since the verification information depends only on the object and its Voronoi neighbors, database updates can be disseminated quickly to their local regions and be performed independently of all other updates in the database. VN-Auth handles not only kNN and range queries, but also more advanced query types, such as reverse kNNs, k aggregate NNs and spatial skylines. More importantly, VN-Auth produces compact verification objects, which enables fast query verification on mobile devices with limited capabilities. Finally, we showed that our approach facilitates progressive result verification, which allows a user to retrieve objects in an incremental fashion until the results are deemed satisfactory. Our experiments with real-world datasets and on mobile platforms confirm that, compared to the MR-tree variants, VN-Auth produces significantly smaller verification objects, and incurs lower query verification cost, especially for queries with low selectivity.

Achievement:

Contribution

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Connection Within your Article

Section 22.2.2

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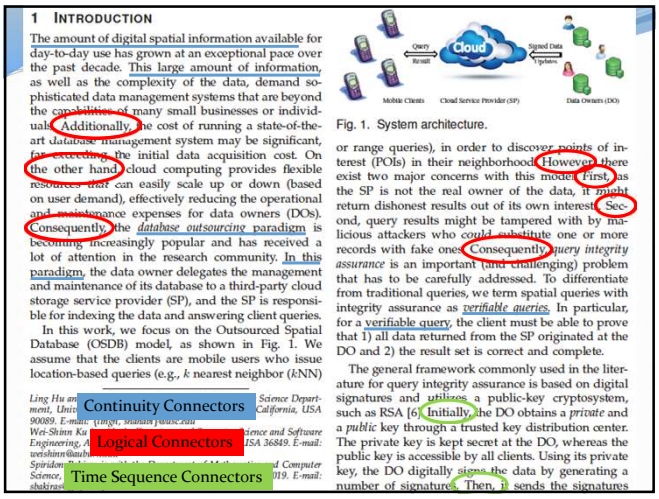

1 INTRODUCTION

The amount of digital spatial information available for day-to-day use has grown at an exceptional pace over the past decade. This large amount of information, as well as the complexity of the data, demand sophisticated data management systems that are beyond the capabilities of many small businesses or individuals. Additionally, the cost of running a state-of-the-art database management system may be significant, far exceeding the initial data acquisition cost. On the other hand, cloud computing provides flexible resources that can easily scale up or down (based on user demand), effectively reducing the operational and maintenance expenses for data owners (DOs). Consequently, the *database outsourcing* paradigm is becoming increasingly popular and has received a lot of attention in the research community. In this paradigm, the data owner delegates the management and maintenance of its database to a third-party cloud storage service provider (SP), and the SP is responsible for indexing the data and answering client queries.

In this work, we focus on the Outsourced Spatial Database (OSDB) model, as shown in Fig. 1. We assume that the clients are mobile users who issue location-based queries (e.g., k nearest neighbor (kNN)

Continuity Connectors

Logical Connectors

Time Sequence Connectors

Fig. 1. System architecture.

or range queries), in order to discover points of interest (POIs) in their neighborhood. However, there exist two major concerns with this model. First, as the SP is not the real owner of the data, it might return dishonest results out of its own interest. Second, query results might be tampered with by malicious attackers who *could* substitute one or more records with fake ones. Consequently, *query integrity assurance* is an important (and challenging) problem that has to be carefully addressed. To differentiate from traditional queries, we term spatial queries with integrity assurance as *verifiable queries*. In particular, for a verifiable query, the client must be able to prove that 1) all data returned from the SP originated at the DO and 2) the result set is correct and complete.

The general framework commonly used in the literature for query integrity assurance is based on digital signatures and utilizes a public-key cryptosystem, such as RSA [6]. Initially, the DO obtains a *private* and a *public* key through a trusted key distribution center. The private key is kept secret at the DO, whereas the public key is accessible by all clients. Using its private key, the DO digitally signs the data by generating a number of signatures. Then, it sends the signatures

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Logical Connectors – Types

(Table 22.3)

• Addition	A and B
• Contrast	A vs. B
• Result	A causes B
• Cause	A caused by B
• Unexpected result	A does not cause B
• Unexpected cause	A not caused by B
• Clarification	A restated as B
• Illustration	A exemplified by B

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Logical connectors: addition

- From supplemental material:

Addition

Supplemental Table 22.4 Logical connectors: Addition

Type	Examples	Use with
Addition 1	Secondly, Thirdly Additionally In addition Furthermore What is more Moreover In fact As a matter of fact	Emphasis (with "and" in a single clause) or Independent clause
Addition 2	Not only … but also	Emphasis (in a single clause)
Addition 3	Besides In addition to	Noun or participial phrase

Within a type, connectors are grammatically identical

Addition 1: used either following "and," or set off by a comma at the beginning of an independent clause, as shown in the following examples.
Addition 2: used for emphasis within a single clause.
Addition 3: Phrases like "in addition to" that end in a preposition are used as part of a noun phrase (or participial phrase). "Besides" is one of relatively few connectors followed by a noun or participial phrase that do not require a preposition, along with "unlike" (Contrast 3), and "despite" and "notwithstanding" (Unexpected cause 2).

Use described

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Logical connectors: addition

- From supplemental material:

Example(s) of how to use each type

- [Conjunction] Our algorithm is more efficient and faster than the current standard.
- [Addition 1] Our algorithm is more efficient and furthermore faster than the current standard.
- [Addition 1] Our algorithm is more efficient. Additionally, it is faster than the current standard.
- [Addition 2] Our algorithm is not only more efficient but also faster than the current standard.
- [Addition 3] Our algorithm is more efficient, besides being faster than the current standard.

Basic

Emphasis

New sentence

Change other words

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Connotation

Section 22.3

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4) Connotation

- Making supportable claims
- Establishing Causation
- Qualifiers — Make claims easier to support
  - Likelihood
  - Frequency
  - Similarity
  - Modal Verbs
  - Delimiters, Hedges
  - Verb connotations

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Tailored suit

- Fasteners
- Necessary
- At end
- Cannot make up for
  poor fabric
  poor stitching

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Making Supportable Claims

Section 22.3.1

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Why would you modify claims?

- My work is
  - Best? — The current best may be your reviewer
  - Second best? — Why should it be published?
  - Best in a particular situation
- A caused B
  - Are you 100% sure? — Never
  - A appears to have caused B

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Modifying your claim

Can I really support that?

- Original
  - This is the first paper to present an optimal solution.
- Revised
  - To the best of our knowledge, this is the first paper to present a method that optimizes value B for all values of A within range A_1-A_2.

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"Significant"

Section 22.3.2-3

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Significantly

- Specific technical meaning related to statistics
- If no statistical test has been performed, use other words

- A was much larger than B. Weak
- A was ~~significantly~~ larger than B. No statistics
- A was _____ larger than B.
  - Substantially, appreciably, noticeably, considerably

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Qualifiers

Section 22.3.4

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How often does it happen?

- Data do not speak for themselves

- Highlight what you want readers to conclude
  - This occurred in 23% of the cases Is that a lot or a little?
  - This occurred rarely, in 23% of the cases
  - This occurred frequently, in 23% of the cases

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How close to expectations?

- How similar are your data to expectations?
  - Predicted values based on hypothesis
  - Expected values based on model

- Eight occurrences were detected in a single trial.
  - As many as 8 occurrences were detected in a single trial, so the results were essentially the same as predicted.
  - No more than 8 occurrences were detected in a single trial, which is appreciably less than formerly reported.

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Modals: modifying 'Truth value'

- How likely is something to be true?
  - The rise in temperature was due to …
    - Fact, with evidence to back up the claim
  - The rise in temperature must have been due to …
    - Virtually certain, but no direct evidence
  - The rise in temperature ought to have been due to …
    - Probable, but no evidence
  - The rise in temperature may have been due to …
    - Possible, but no evidence

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Hedges

- Ours is the best solution! It is far better than the previous one proposed by Chen. That may be, but I am reviewing your paper, which will never be published
- Our solution appears to be better than the one proposed by Chen, within the range x-y. Ok, I can accept that

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Verb connotations: How strong is the claim?

- Our results demonstrate that …
- The tests show that …
- This finding indicates that …
- We conclude that …
- The outcome suggests that …
- The observation implies that …
- It appears that …

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Presentation

11/14	Planning your writing (Ch 10, 19.1-2) Exercise 19.1 Argument structure outline	Charles
11/21	Brainstorming and linearizing (Ch 18, 19.3-4) Exercise 19.3 Topic sentence outline	Tran
11/28	Writing and organizing (Ch 20, 21) Exercise 21.1, 2 Coherence and conciseness	Neo
12/5	Clarifying your argument (Ch 22) Exercises 22.1, 2, 3 Connection and connotation	Hai
12/12	Final revision and final parts (Ch 23, 26.1-3) Exercises 26.1, 3 Abstract and title	Charleen

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Work time

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Share what you have written

- For each paragraph:
  - Is there a clear topic sentence?
  - Is the component claim clear?
  - Is the support clear and sufficient?
  - Could connections within the paragraph be improved?
  - Could connotation be improved?

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Assignment

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1. Write and rewrite

- Continue to write, adding citations
- Reorganize to make a clearer argument
- Add connectors, qualifiers to strengthen argument

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2. Turn in

- Peer Review 2
- Just like Peer Review 1

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Peer Review 2

- Help one another do better on "First draft":
  - Check topic sentences
  - Check components in each paragraph

1. Do your Assignment
   - Send assignment to your partner by Friday night
   - AND Upload your assignment to Ecourse
2. Score their assignment, and give comments
   - Send comments back to your partner by Sunday night
   - AND Upload your comments/score to Ecourse

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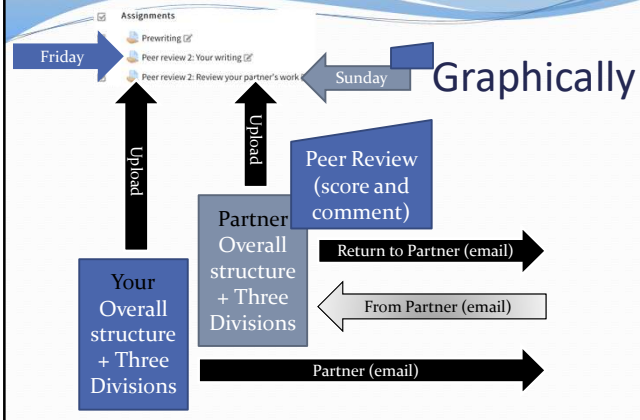
Graphically



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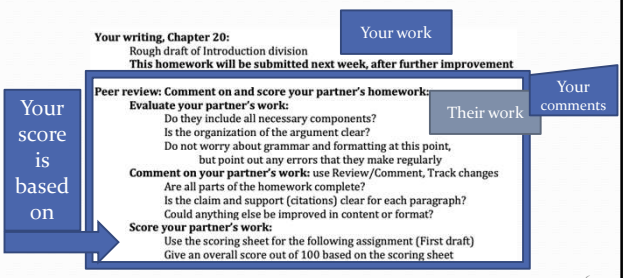
Turn in: Two documents



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Scoring your partner's work

- Use the scoring sheet for "First draft"
  - Score your partner's work for each category
  - Give helpful comments on how to improve
- Purpose of peer review
  - Help one another improve before submitting

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"Partners"

- Since we have an odd number of people:

Send your work to the next person on the class list

- Tran
- Charles
- Neo
- Hai
- Charleen

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3. Read

- Chapter 23.3 Rewriting: Finalization (Correctness)
- Chapter 26.2-3 Title, Abstract

- One more article
  (focus on what you need for your Introduction)

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4. Bring

- Full draft with comments
  - From me and from your partner

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