CSE/ISE300 Communications S14

• Location: Room 2205 Computer Science, 2nd floor, Multimedia Lab
• Time: Tue/Thur 5:30-6:50PM
• Required Book: The Elements of Style, 4th edition (Sep 1999), by Strunk & White, 978-0205313426, Hardback ($12 new, Amazon.com) or ISBN 978-0205309023, Paperback ($10 new, $5 rental, SBU Bookstore)
• Free Online Webbook: Technical Writing, by David McMurrey http://www.prismnet.com/~hcexres/textbook/
• Recommended Text: Pocket Guide to Technical Communication, 5th ed. (2010/2011), by Pfeiffer, 978-0135063965 ($50 new, $23 rental, SBU) or ($43 new, Amazon)
• Instructor: Professor Larry Wittie
• Office/Lab: Room 1308 Computer Science, 1st floor, Network Lab
• Office Hours: 4:10-5:25+7-7:15pm Tu/Th, if door is ajar, or by appointment
• Phone: 632-8750 (not 2-8456)
• Email: larry.wittie@stonybrook.edu
• Course Homepage: http://www.cs.sunysb.edu/~lw/teaching/cse300
Talks on Why I Need a New Work Computer begin in class Thursday, 27 March 2014.

Assume the reader is your computer-savvy, but non-expert boss in a company with 50 or fewer employees. Justify why the firm will benefit from buying you (or your team) new computer(s). Be clear why you need a new machine, what computer model with what features, and what total price from what source. Address your boss politely. Avoid subtle insults such as “As you probably know,”.

Aim for a 7-minute (6-8 min.) talk to your boss and colleagues in your company. Persuasively request a new computer for your work. Bring your own laptop (Mac or PC with VGA capability) or bring your power point slides for a PC on a USB stick or CD.

Email your ppt (or pptx) slides to larry.wittie@stonybrook.edu with the Subject: 300 slides.
CSE/ISE 300
New Computer Talks: Day 1 27 March 2014

Speakers Order
Day 1 Thursday 3/27/14

1.1 Philip Graziosi
1.2 Christian Ricard

Do you want to talk on Day 2, Tuesday April 1? If so, send email today to larry.wittie@stonybrook.edu

Subject: 300 talk day.
CSE/ISE 300
New Computer Talks

Derive your talk from your memo2 submission, but with visual aids, 4 to 10 slides. Explain why you need a new computer, its type, and how it will increase your value to the firm. (In doing so, let me know what is your job and your company’s business, but in a way that will not bore your boss, who knows what business, but not why you need a new machine for your own job.) Describe the key technical features of your new computer; tell why each one is critical for you to do your job more efficiently. Precisely specify the computer brand, model, cost, and vendor. Convince your boss to spend a little money.

On the slide just before your final “conclusions” slide, list all web and printed references used for your talk, including the precise URLs of all websites which gave you details about your desired new computer. Use a small font, if needed to fit at bottom of the slide.

See lectures 12+13 for guidelines on slide creation and talk delivery.
Suggested Contents of Slide 1

Title of Your Talk

Your Name

Your Title, Company Name or Department

Date of your talk

Abstract – two or three sentences

Good => 36 pt  32 pt  28 pt  24 pt  <= too small

Bold Good => 36 pt  32 pt  28 pt  24 pt  <= too small
Suggested Contents of Slides 2-4

What We Need to Buy and Why

Two paragraphs

or

One short paragraph

+

List of 3 to 5 points

or

One short paragraph

+

A picture of your dream machine.
Suggestions for Next-to-Last Slide

What It Costs and Where to Buy It

Vendors and costs of proposed model(s)
Total purchase price

Reference URLs
for vendor, model, and price.
Suggested Contents of Last Slide

An Image

+ 

Concluding Paragraph
Summarizing which computer system,
How it will help company’s income, and
Where best to buy it, at what total cost.

25mar14 Lect15
Suggested Slides Are Only Hints

Many of the best talks on day 1 will use more than 4 slides. Most will have more than one image. Slides with colors may work well.

If you show 5 to 8 slides, make sure you can cover all the material without talking too fast. Very rapid speech is poorly understood and may bore listeners.

Lists in large fonts are better on slides than long paragraphs in smaller fonts.

Avoid backgrounds that hide your text.
Problems in Talks Last Semester

1. Speaking too fast, especially with accented English
2. Mumbling just before finishing discussion of a slide
3. Slide tables and graphics copied from the web
4. Too many details in tables and lists
5. Too many colors in tables on one slide
6. Too small, illegible fonts used in tables and graphics
7. Reading from screen too often, not scanning the audience
8. Not speaking for at least six minutes
The Science of Scientific Writing
Reader Expectations

There will be a short quiz in class next week, on Thursday 4/3/2014, about *The Science of Scientific Writing*. The website, http://www.cs.stonybrook.edu/~lw/teaching/cse300/, has a link to download the paper.

Be sure to read the paper before the class Thursday of next week. You may refer to a printed copy of the paper and the following slides (plus any other class slides) during the quiz. You cannot use the web to answer the quiz questions.
The Science of Scientific Writing
Reader Expectations

Rule 1: “Do Not Confuse the Reader”
Effective writing does not fool the reader.

Set up readers’ expectations and meet them.
Readers should always know how to understand and interpret what they are reading.
What is important; what is ancillary (or secondary).
What is new information; what is old information.

1) Set up context and then
2) Give the critical information.

Every piece of writing ought to have a “story” (or narrative.)
The “story” provides a context and expectations. It tells what the piece is about; who is the player, who is in a supporting role. What is important; what is less important.
The Science of Scientific Writing
Which table format is easier to understand?

Table A: \( t=15, T=32, t=0, T=25, t=6, T=29, t=3, T=27, t=12, T=32, t=9, T=31 \)

or

Table B:

<table>
<thead>
<tr>
<th>Time (min)</th>
<th>Temp (C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>25</td>
</tr>
<tr>
<td>3</td>
<td>27</td>
</tr>
<tr>
<td>6</td>
<td>29</td>
</tr>
<tr>
<td>9</td>
<td>31</td>
</tr>
<tr>
<td>12</td>
<td>32</td>
</tr>
<tr>
<td>15</td>
<td>32</td>
</tr>
</tbody>
</table>

Why is B the better way to display this info?
A has unordered pairs of time, Temp with same comma (,) separators.
B is ordered by a regular sequence of times from row to lower row and regular times (context) are left of varying temps (info) on the right.
We read English from left to right: context → information; time → temp.
B shows that temperatures stabilized at 32° C after 9 to 11 minutes.
The Science of Scientific Writing
Structure of Prose: Example

“The smallest of the URF’s (URFA6L), a 207-nucleotide (nt) reading frame overlapping out of phase the NH₂-terminal portion of the adenosinetriphosphatase (ATPase) subunit 6 gene has been identified as the animal equivalent of the recently discovered yeast H⁺-ATPase subunit 8 gene. The functional significance of the other URF’s has been, on the contrary, elusive. Recently, however, immunoprecipitation experiments with antibodies to purified, rotenone-sensitive NADH-ubiquinone oxido-reductase [hereafter referred to as respiratory chain NADH dehydrogenase or complex I] from bovine heart, as well as enzyme fractionation studies, have indicated that six human URF’s (that is, URF1, URF2, URF3, URF4, URF4L, and URF5, hereafter referred to as ND1, ND2, ND3, ND4, ND4L, and ND5) encode subunits of complex I. This is a large complex that also contains many subunits synthesized in the cytoplasm.”

The gist of this paragraph is “The smallest of the URF’s, an [A], has been identified as a [B] subunit 8 gene. The functional significance of the other URF’s has been, on the contrary, elusive. Recently, however, [C] experiments, as well as [D] studies, have indicated that six human URF’s [1-6] encode subunits of Complex I. This is a large complex that also contains many subunits synthesized in the cytoplasm.”
The Science of Scientific Writing

Expectation 1 in the example prose

**Expectation 1**: Subjects are closely followed by verbs.

Expectation 1 follows from need for semantic resolution. After hearing a subject, one expects to hear a verb and waits to hear it. Anything between the subject and the verb is interlude and feels like an interruption. Verbs should closely follow subjects.

For each sentence in the example, underline the subject and verb, and count the words between them. Can you rephrase the sentences to bring subjects and verbs closer together?

(e.g. The smallest of the URF’s is an [A]. It has been identified as a [B] subunit 8 gene.

or

URFA6L is the smallest of the URF’s. It is an [A] and has been identified as a [B] subunit 8 gene.)
The Science of Scientific Writing

Expectations 2 and 3 in the example prose

**Expectation 2**: Each unit of discourse makes a single point.

Every unit of discourse, no matter the size, should serve a single function or make a single point. Clauses may elaborate that one point, but those should be (very) subsidiary points. If it is another important thought, it deserves another sentence.

**Expectation 3**: Emphasized material is at the end of a sentence.

The end of a sentence is the “stress position“. (Why is that? build to climax? momentum? Move to reward?) Put the important point of a sentence at its end so the reader knows what to interpret as important.

Stress position corresponds to the moment of syntactic closure, i.e., nothing more is coming in the clause or sentence that is being read.

What different ways might we say the same thing as sentence 1? In each of these ways, what is emphasized? In other words, what is more important and what is less important?
The Science of Scientific Writing
Summary and Topic Position

As a writer you want to tell the reader what is important and what is supportive. How you put the ideas into sentences and order those sentences should convey your intended meaning.

Reality 4: Communication is ambiguous. We cannot make even a single sentence unambiguous. We can only increase the odds that the majority of readers will interpret our discourse as we intend.

The “topic position” begins the sentence and is normally the subject. The beginning of a sentence establishes a perspective for viewing the sentence as a unit. The topic position provides perspective and context to reader. The stress position provides closure and fulfillment. The topic position tells you what (who) the sentence is about.

“Bees disperse pollen” -- story about bees
“Pollen is dispersed by bees.” -- story about pollen

The topic position provides linkage. It connects back to what came before and provides context for what will come next.
Excerpt from “The Science of Scientific Writing” p. 3-4, on website.

Each unit of discourse, no matter what the size, is expected to serve a single function, to make a single point. In the case of a sentence, the point is expected to appear in a specific place reserved for emphasis.

The Stress Position
It is a linguistic commonplace that readers naturally emphasize the material that arrives at the end of a sentence. We refer to that location as a “stress position.” If a writer is consciously aware of this tendency, she can arrange for the emphatic information to appear at the moment the reader is naturally exerting the greatest reading emphasis. As a result, the chances greatly increase that reader and writer will perceive the same material as being worthy of primary emphasis. The very structure of the sentence thus helps persuade the reader of the relative values of the sentence’s contents.

The inclination to direct more energy to that which arrives last in a sentence seems to correspond to the way we work at tasks through time. We tend to take something like a “mental breath” as we begin to read each new sentence, thereby summoning the tension with which we pay attention to the unfolding of the syntax. As we recognize that the sentence is drawing toward its conclusion, we begin to exhale that mental breath. The exhalation produces a sense of emphasis. Moreover, we delight in being rewarded at the end of a labor with something that makes the ongoing effort worthwhile. Beginning with the exciting material and ending with a lack of luster often leaves us disappointed and destroys our sense of momentum. We do not start with the strawberry shortcake and work our way up to the broccoli.

{Emphasis added.}
Excerpt from “The Science of Scientific Writing” p. 4-5, on website.

Within a sentence, secondary stress positions can be formed by the appearance of a properly used colon or semicolon; by grammatical convention, the material preceding these punctuation marks must be able to stand by itself as a complete sentence. Thus, sentences can be extended effortlessly to dozens of words, as long as there is a medial syntactic closure for every piece of new, stress-worthy information along the way. …

By using a semicolon, we created a second stress position to accommodate a second piece of information that seemed to require emphasis.

We now have three rhetorical principles based on reader expectations: First, grammatical subjects should be followed as soon as possible by their verbs; second, every unit of discourse, no matter the size, should serve a single function or make a single point; and, third, information intended to be emphasized should appear at points of syntactic closure. Using these principles, we can begin to unravel the problems of our example prose.

The information that begins a sentence establishes for the reader a perspective for viewing the sentence as a unit. … {Emphasis added.}

The Topic Position

To summarize the principles connected with the stress position, we have the proverbial wisdom, “Save the best for last.” To summarize the principles connected with the other end of the sentence, which we will call the topic position, we have its proverbial contradiction, “First things first.” In the stress position the reader needs and expects closure and fulfillment; in the topic position the reader needs and expects perspective and context. With so much of reading comprehension affected by what shows up in the topic position, it behooves a writer to control what appears at the beginning of sentences with great care.