Programming Language Research Seminar

Fall 2022 — With an Opportunity to Write!

UPDATE: We only do writing!

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Why Writing Seminar?

• Our papers are hard to read!
• Reviewers seem to struggle…
• I often don’t understand our papers myself…
• Also: Derek Dreyer’s slide about how to get rich & famous.

So if you can write clear, accessible papers…

• People will **enjoy** reading them!
• People will **learn** something from them!
• They will get **accepted** to ICFP!
The Engineering Approach to Writing

- We will experiment with Norman Ramsey’s approach.
- The focus is not grammar, but clarity. (Also relevant for Estonian writing.)
- We will have 3 types of sessions:

  1. Exercises on Editing Principles
  2. Discussions of Working Practices
  3. Paper Talks by our Non-Writers 😊

Editing principles

0. **Correctness.** Write correct English, but know that you have more latitude than your high-school English teachers may have given you.

*1. Consistent names.** Refer to each significant character (algorithm, concept, language) using the same word everywhere. Give a significant new character a proper name.

*2. Singular.** To distinguish one-to-one relationships from n-to-m relationships, refer to each item in the singular, not the plural.

*3. Subjects, verbs, and objects.** Put your important characters in subjects, and join each subject to a verb that expresses a significant action. Understand what object, if any, is acted upon.

*4. Definitions.** Mathematical definitions lack significant actions, so clarify them using examples.

*5. Information flow.** In each sentence, move your reader from familiar information to new information.

*6. Emphasis.** For material you want to carry weight or be remembered, use the end of a sentence.

*7. Coherence.** In a coherent passage, choose subjects that refer to a consistent set of related concepts.

*8. Purpose.** Give each paragraph a purpose, which is the effect you want in the mind of your reader.

*9. Paragraph = Issue + Discussion.** Begin a paragraph with one to three sentences, which end by emphasizing the issue. Finish by using the issue in in coherent subjects or thematic strings.

*10. Parallel structure.** Order your text so your reader can easily see how related concepts are different and how they are similar.

11. Abstract.** In an abstract, don’t enumerate a list of topics covered; instead, present the essential information found in your paper.

Working practices

*1. Pause mindfully, frequently.** Mind your body, thoughts, and feelings—and the stage of your work.

*2. Write in brief daily sessions.** Ignore the common myth that successful writing requires large, uninterrupted blocks of time—instead, practice writing in brief, daily sessions.

*3. Focus on the process, not the product.** Don’t worry about the size or quality of your output; instead, reward yourself for the consistency and regularity of your input.

*4. Prewrite.** Before you write, think, talk out loud, and jot down notes, diagrams, outlines, and so on.

*5. Use index cards.** Use them to plan a draft or to organize or reorganize a large unit like a section or chapter.

*6. Write a Shitty First Draft**. Value a first draft not because it’s great but because it’s there.

7. Don’t worry about page limits.** Write the paper you want, then cut it down to size.

8. Cut.** Plan a revision session in which your only goal is to cut.
Editing Principles: What will we focus on?
Grammar versus style

• Please read Ramsey’s notes for students!

• The focus here is on how “writing causes events to happen in readers’ minds”

• Good writers are masterful at controlling these events!

• We will not focus on English grammar here (use grammarly for that…😊)

• But you need to understand grammar to write clearly: the principle “subjects, verbs, and objects” requires that you make key actors the subject of sentences.
Editing Principles: What will we focus on?
Grammar versus style: Example

• Which is better: “My friend was killed!” or “Someone killed my friend.”?

• Decide based on who is the key actor in this context: your friend or the mysterious killer?

• Either way, it’s not about a dogmatic preference for active voice…

• Goal: your ideas are faithfully enacted in the sentences, so that you evoke similar ideas in the mind of the reader.

• When this does not happen, we say that the reviewer missed to point. ;}
Working Practices: What will we focus on?
How to manifest writing success… 😊

• There is quite a cottage industry of writing self-help…

• Almost all emphasize small bouts of regular writing!

• Ramsey suggest that you should try some of the principles and see if it works…

• We should dedicate at least a couple of sessions to best practices, based on Boice.

“Amateurs sit and wait for inspiration, the rest of us just get up and go to work” (Stephen King)

“I write only when inspiration strikes. Fortunately it strikes every morning at nine o’clock sharp.” (W. Somerset Maugham)
Working Practices: What will we focus on?
Example: Stopping with restarting in mind

- Ramsey’s discussion question: “How can we end a session in a way that facilitates the next session?”

- I am personally very bad at stopping… might be worth some discussions.

- It may be worth reading some of Boice’s papers and discuss.
Paper Talks by Non-Writers
What to do if you have no clue what to write about?

• Choose a paper from top PL conferences.

• I might also allow PL-intersecting conferences, such as FSE and ASE.

• Would be nice if it’s a distinguished paper since we could then also look at the writing…

• You give two talks: one new paper and one old that provides the context.

• Aim for deeply understanding the key idea. Do NOT aim for completeness.

“I don't know how the human brain works but it's almost magical: when you read enough or talk to enough experts, when you have enough inputs, new ideas start appearing. This seems to happen for a lot of people that I know.”
(Andrew Ng)
The most important decision now…

Writing or Presenting

- Do you want to read or write?
- You may still join our writing exercises.
- Either way, please read Norman Ramsey’s course notes. (Sooner or later you will write…)
- We should arrange some individual zoom calls to help you decide on topics.
Grading & Deadlines
Who submits what to whom (and when?)

• The main form of grading is *Apinis Collaborative Quality Assessment*.
• Trust the process: very high student achievement!
• Are there any questions about it?

• What about deadlines for the writing?
• We could instead have these exercises.
• Maybe a lab notebook or some moodle activity amazingness.
UPDATE: No Writing
Based on your feedback at the Seminar & the Poll

• Thank you for helping me make decisions… :) 

• There will be only writing during the Fall. (We have reading seminars during the Spring)

• Some you were interested in the editing principles, so we’ll the clinics.

• The course has been updated to have a clean mandatory core. The writing clinics are optional.