Research Seminar

Software Science

Introduction

- The Research Seminar Software Science is not a regular course.
- It is a project. You must participate.
- You are expected to be present at the meetings.

Experiential learning of research related tasks. Learning through doing:

- Every student gives two paper presentations.
- After the presentation you write a review about the paper.
- In addition, every student writes four Paper Overviews.
- A Paper Overview focuses on a paper presented by another student.

So for each paper presentation we have:

- A presentation, given by the presenter.
- Two Paper Overviews, written by two students who ask questions.
- A review, written by the presenter. (After the presentation.)

Paper presentation

Read the paper:

- Try to understand every detail.

Prepare your presentation:

- Duration of presentation: approximately 10 minutes.
- Main objective: lively interesting talk that presents the main issues.

Give your presentation:

- Use the general structure for presenting a paper (see next slide).

Structure for presenting a paper

1. Objective: What is the goal of this work? What problem is addressed? What was the current state of the art? Who is the work aimed at?

2. Proposal: If the paper presents a new idea, what, in a nutshell, is it?

3. Evidence: Support for claims? Theorems? Case studies? Simulations? Standard tests to compare performance (benchmarks)?

4. Shoulders of giants: What previous research does this work build on? What are the key underlying theoretical ideas? Software infrastructure?

5. Impact: Has this work been influential? When later research papers cite it, what contribution is being referred to?

6. Writing: Analyse the writing of the reviewed article.

7. Unsolved issues: Mention some unsolved issues.

Reviews

After presenting a paper:

- You have two weeks in which you write your review.
- The review must have the same structure as the paper presentation.

Do not forget:

- Apart from the quality of your review, the quality of your presentation is also important.
- At the end of your presentation you should be able to react to the questions raised by other students. The review must also include these questions and your reactions.
- The quality of the writing of the review is also important (organization, style, mechanics).

More information about organization, style and mechanics is given on the next slide.

Quality of writing

Organization:

- Structure.
- Transitions (for example connections between paragraphs).

Style:

- Sentence flow.
- Variety (for example short and long sentences).
- Diction (word choice).

Mechanics:

- Spelling.
- Punctuation (for example period, comma, brackets).
- Capitalization (upper case and lower case).

Paper Overviews

Rules:

- A Paper Overview must be submitted before the corresponding presentation.
- Length of the Paper Overview is one page.

Clearly separated sections covering the following items:

1. Summary. As briefly as you can. Two or three sentences.
2. Evidence. What evidence is offered to support the claims?
3. Strengths. What positive basis is there for publishing and reading it?
4. Weaknesses. Which negative aspects did you see?
5. Evaluation. Would you recommend acceptance in a conference or journal?
6. Comments on quality of writing.
7. Question(s) you want to ask after the presentation.

Examination

There are two assessed components:

a. The collected set of your four Paper Overviews. [Passed / Failed]
b. The collected set of your two reviews with your two presentations. [Grade 1..10]

If you did all four Paper Overviews seriously, then component (a) will be graded with Passed.

The grade for component (b) is based on your two reviews in combination with your presentations.

Assignments in Brightspace:

- Review 1. Deadline: 14 days after your presentation.
- Review 2. Deadline: 14 days after your presentation.
- Paper Overview 1. Deadline: before the corresponding presentation.
- Paper Overview 2. Deadline: before the corresponding presentation.
- Paper Overview 3. Deadline: before the corresponding presentation.
- Paper Overview 4. Deadline: before the corresponding presentation.

More information?

About writing and reviewing:

a. A guide for new referees in theoretical computer science, I. Parberry.
b. How to have your abstract rejected, M.C. van Leunen and R. Lipton.
c. We are sorry to inform you, S. Santini.
d. How to be a better writer - 6 tips from Harvard's Steven Pinker, E. Barker.
e. Advice on research and writing, M. Leone.

Overviews of prize-winning papers :

a. Edsger W. Dijkstra Prize in Distributed Computing.
b. ACM SIGSOFT Impact Paper Award.
c. LICS Test of Time Award.
d. Most Influential POPL Paper Award.
e. Most Influential ICFP Paper Award.
f. EAPLS Best Paper Award.
g. ETAPS Best Paper Award.
h. ETAPS Test of Time Award.

The organization of the Research Seminar Software Science is based on a similar course given by Dirk Pattinson.

How do you start your participation?

Do this in the FIRST WEEK:

a. Look at the **list of papers** (see Brightspace).

b. You must **choose your first paper, and mail the title** to p.vanbommel@cs.ru.nl

c. Look at the **planning** to see the dates for your presentations and Paper Overviews.