SEDP'2024
Introduction to Research Proposal Phase

Seminar, HS24, hasel.dev/hs24-sedp

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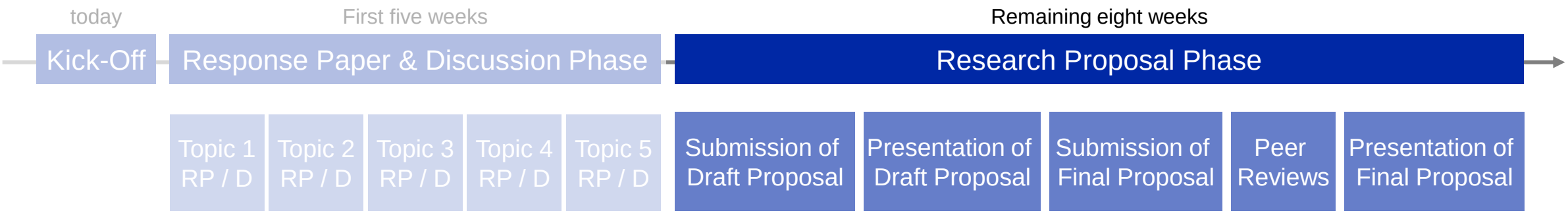
Overview: Seminar Structure



- Reading, reviewing and **discussing papers** on 5 topics
- Individual work for 4 topics: 4 **response papers** (one each week)
- Teamwork for 1 topic: presentation & **lead in-person group discussion**

3 ECTS (90h) → ca. 2/5 for this phase (40h)

- Teamwork: **draft** and present a research proposal
- Teamwork: **improve** proposal and submit final version
- Individual work: **peer review** of proposals
- Teamwork: **present** your proposal to the group

3 ECTS (90h) → ca. 3/5 for this phase (50h)

The Research Proposal (Phase 2)

Overview: Research Proposal Phase (remaining 8 weeks)

In your team of two:

1. Identify a relevant **research problem** / research question in the assigned topic area
2. Perform a **literature review** (main part)
3. Write a **draft proposal**
   Format: max 3 pages in double column format plus max 1 page for references
   Include: motivation, research problem/question, related work, show relevance (research gap), and approach or study method/design
4. Present your draft proposal (+ receive feedback from us and class)
   Presentation: max 8 minutes, and 4 minutes questions
5. Adjust proposal based on feedback → write **final proposal**
   Format: max 4 pages in double column format plus references
   Include: complete related work section (main part), more detail on how to address/answer the research question (i.e., study design/approach) and motivation for doing so (i.e., research gap)
6. Present your final proposal
   Presentation: max 10 minutes, and 5 minutes questions

Individual work:

– Give feedback to others' proposals (peer review)

– Actively participate in discussions

Details: Expectations to Research Proposal

Contents of the Research Proposal

- Identify a **relevant research problem** / research question in the assigned topic area
  → motivate it well, meaning that you back it up using related work (i.e., what is the gap?)

- Provide a good overview of the area, categorizing related work (not just listing/summarizing it), describe commonalities, specialties, and differences (**main part**)
  - What else has been done in the area of interest
  - Highlight how your proposed research is different / complements or extends previous work
- Describe **how to address** the research problem / question (without really having to do it in practice)
  - Specify the **study design/method**
  - Could be a tool to be developed (and evaluated)
  - Could be a lab or field study to be performed
- Clarify **how your idea is different** and how it extends existing related work

- Important: critical and creative thinking, reflection on the topic

Details: Expectations to Research Proposal 2

Expectations towards write-up and quality:

- Find a **suitable structure** for the research proposal
  Hint: Abstract, introduction, related work (2+ pages in final proposal), approach, study method, discussion, conclusion, references, word of honor
- Present your ideas in a **coherent and consistent** way (German: “roter Faden”)
- Sometimes, a good way to structure something (e.g. a field study design or categorization/comparison of related work) is to **visualize** it (e.g. as a flow chart or a table)
- Use correct and **understandable English**
  Hint: Presentation is very important, ask someone to proof-read and/or use Grammarly/Microsoft Editor
- Write in a **formal, scientific way** (e.g. “I like this paper” should not be in the proposal)
- Do **not just enumerate**/summarize related work, instead reflect on it
- Cite and quote correctly to avoid **plagiarism** (please read the UZH Fact Sheet)
- Use Latex **template** provided on the course website (we recommend using Overleaf)
- The expectations are higher for master than bachelor students
- Checkout the **examples** on the course website

Details: Expectations to Research Proposal 3

Word of Honor:

– At the end of your report, include a note on a separate page with your signature that states:

We, [first and last name] and [first and last name], hereby confirm that we have produced this work independently and have used no other than the listed tools and sources.

– Does not count towards the page limit
– Only required for the final version
– Uses of Generative AIs (ChatGPT, Copilot, Gemini, et al.) are not allowed for writing the response paper
– For proof-reading or reformulating small chunks of text it's okay (e.g. Grammarly are pretty good for that)

Details: Giving Feedback on Research Proposals

Review Content

- Follow the template on EasyChair
- Start with a brief summary of the research proposal (2-3 sentences)
- Provide feedback on the **technical quality**, originality/novelty and significance
  Are the arguments in the paper correct? How original/novel is the proposal? How significant is the research question the authors pose? Is the research area well covered? What is good about the proposal and what could (concretely) be improved?
- Provide feedback on the **logical structure**, presentation and style:
  Is the paper coherent and well-written? Are concepts and approaches well-explained? Are graphics/tables used appropriately? Is it easy to follow and clear? How (concretely) could it be improved?

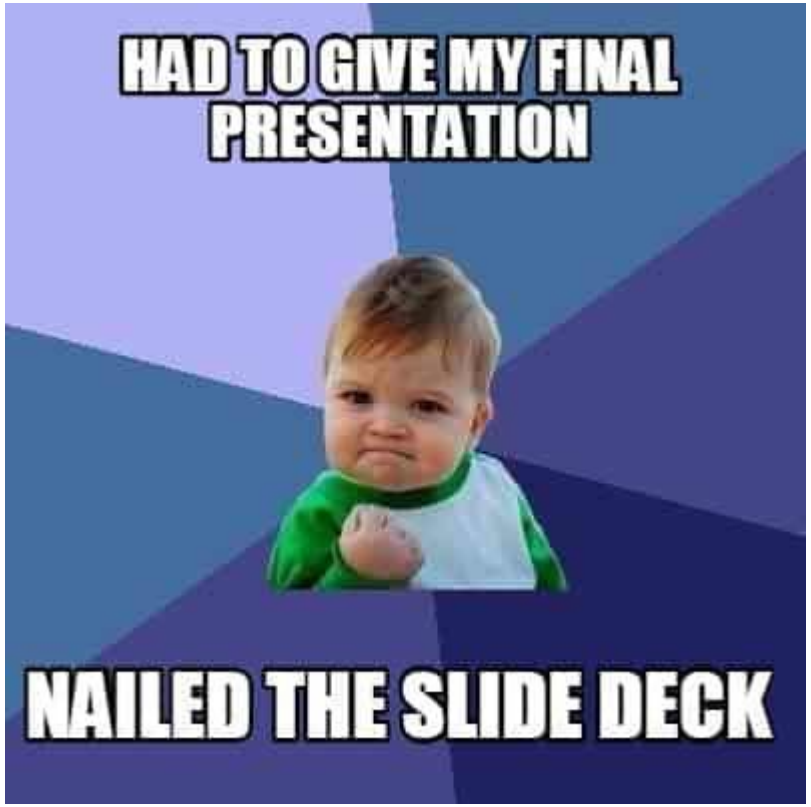
Review Style:

- Review 2 proposals on EasyChair
- Provide your review and grade them with the following options: accept, weak accept, weak reject, reject
  Note: The proposal will be graded by André and Alexander, so you can provide critical,
  but constructive feedback without negatively influencing the authors' grade.
- Be constructive, polite and positive
- Examples of good reviews can be found on the course website

Details: Presenting your (Draft) Proposals

Your slides:

- Have a flow / **storyline**
- **Motivate** the topic (e.g. motivating example), explain concepts, provide an overview
- Sensible use of **animations** (no animations is usually better)
- Meaningful use of **visualizations** (not just text)
- **Avoid** having too many slides, too much text, actual sentences, too many bullets, too small fonts



Your presentation:

- **Duration** for draft proposal is 8 mins and for final proposal is 10 mins (don’t exceed the time limit!)
- **Practice** the talk beforehand and don't read from slides
- Check your presentation with the projector beforehand in the specific classroom

Schedule Overview

Most updated version, always on:
hasel.dev/**hs24-sedp**

Date and time	Topic/deliverable
4:00 – 15.45 (BIN 1.D.29)	**Kick-off**
Response Paper & Discussion Phase	
20.09.2024 13:00	**Submission of 3 paper preferences** and partner via Mail to Dr. André Meyer and Alexander Lill
21.9.2024 EOD	Receive email about **Topic and group assignment**
26.09.2024 14:00 – 15.45 (BIN 1.D.29)	**Topic 1: Productivity**
03.10.2024 14:00 – 15.45 (BIN 1.D.29)	**Topic 2: Software Engineering with Generative AI**
10.10.2024 14:00 – 15.45 (BIN 1.D.29)	**Topic 3: Developer Communication and Coordination**
17.10.2024 14:00 – 15.45 (BIN 1.D.29)	**Topic 4: Task Context**
24.10.2024 14:00 – 15.45 (BIN 1.D.29)	**Topic 5: Socio-technical nature of development**
Research Proposal Phase	
05.11.2024 23:59	**Submission of draft proposals** on Seafile Dropfolder The proposal should be max. 3 pages double-column format plus max. 2 for references, ACM Overleaf Format see more details below
07.11.2024 14:00 – 15.45 (BIN 1.D.29)	**Presentation of draft proposals** (per team max. 5 minutes presentation + 3 minutes Q&A)
06.12.2024 23:59	**Submission of final proposals** on EasyChair The proposal should be max. 4 pages double-column format plus max. 2 for references, ACM Overleaf Format see more details below
12.12.2024 23:59	**Peer Review due** (also on EasyChair)
19.12.2024 14:00 – 16.30 (BIN 1.D.29)	**Presentation of the proposals** (per team max. 10 minutes presentation + 8 minutes Q&A)

Attendance is **mandatory** for all events.

Grading & Assessment

- **Response Paper & Discussion Phase [25%]**
  - Active reading of assigned papers & interactive annotation and discussion on Perusall (individual)
  - Response papers & active class participation (individual)
  - Presentation and moderation of topics (individual)

- **Research Proposal Phase [75%]**
  - Proposal draft and presentation (team)
  - Final proposal and presentation (team)
  - Peer review of others' proposal drafts (individual)

- **Expectations of contributions are adjusted**
  depending on study progression (bachelor or master)

Submissions

Course infos, slides, guidelines, examples, and more:
hasel.dev/**hs24-sedp**

- **Draft Proposal:**
  upload the PDF in the format «Draft_Proposal_LastName1_LastName2.pdf» to seafile before the deadline
- **Draft Presentation:**
  upload the PDF in the format «Draft_Presentation_LastName1_LastName2.pdf» to seafile before class
- **Final the Proposal:**
  upload the PDF in the format «Final_Proposal_LastName1_LastName2.pdf» to easychair before the deadline
- **Final Presentation:**
  upload PDF in the format «Final_Presentation_LastName1_LastName2.pdf» seafile before class

How to Structure the Research Proposal

Also see: Guidance – Writing Theses and Project Reports (HASEL)

Structure: Abstract

- Basically a short version of the introduction:
  - Describe the key problem/motivation that will be studied
  - Summarize existing work and the gap in related work
  - Summarize how you propose to study this research gap
- Around 250 words

Structure: Introduction

- “Establish your territory”: Motivation & research problem
  - explain the problem and show why it’s relevant
- “Establish a niche” **(main part)**
  - Discuss attempts of other researchers in that area
  - Gap: what is missing? What do we still need to understand?
- “Occupying the niche”
  - Research question (don’t just list it, embed it into your argumentation)
  - Summary of proposed research (design)

Structure: Related Work

- The related work is the main part of this research proposal

- Think of the **main themes** and larger narrative
- Don’t just enumerate papers: describe categories of the related work and present an overview of it
- Going into depth in several places by providing more details on some of the related work
- The related work section helps to **strengthen and motivate your proposed research**
  - State how your proposed research is different to the related work

Structure: Approach & Study Method

- Your proposed research to answer the research question

- How does the study design look?
  - Why is the proposed study design suitable?
  - How does the procedure look like? (often times it’s useful to briefly visualize it)
- How does the studied sample of participants look like? (inclusion/exclusion criteria)
- What kind of data do you collect and how would you analyze it?

Structure: Results

- This part is not included in the research proposal for this seminar
- Summarize qualitative and quantitative results

Structure: Discussion

- This section can be used to discuss the ideas of the proposal

- Highlights strengths and weaknesses of the evidence included in the review
- Discusses the applicability of the findings with respect to applicability and/or related work
- Demonstrates the practical implications of the research proposal
- Highlights some unanswered questions and implications for future work

Structure: Conclusion

- Summarizes the key problem and how you propose to tackle it
- …