Master Thesis Submission Process and Supervising

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Master Thesis Submission Process

Step	Dates for January Defence	Dates for May Defence
Submission of Problem Statement and Research Design Document	First half of June	First half of December
Submission to Reviewer	First half of December	Third week of April
Final Submission	First week of January	Second week of May
OIS Declaration	First week of January	Third week of May
Thesis Defence	The second week of January	Last week of May

The main information source for the process:
https://courses.cs.ttu.ee/pages/Thesis

Problem Statement and Research Design Document

- Statement of the research problem
- Goals and outcomes
- Limitations and key assumptions
- Research methods
- Novelty
- Literature Review
- Up to 10 pages

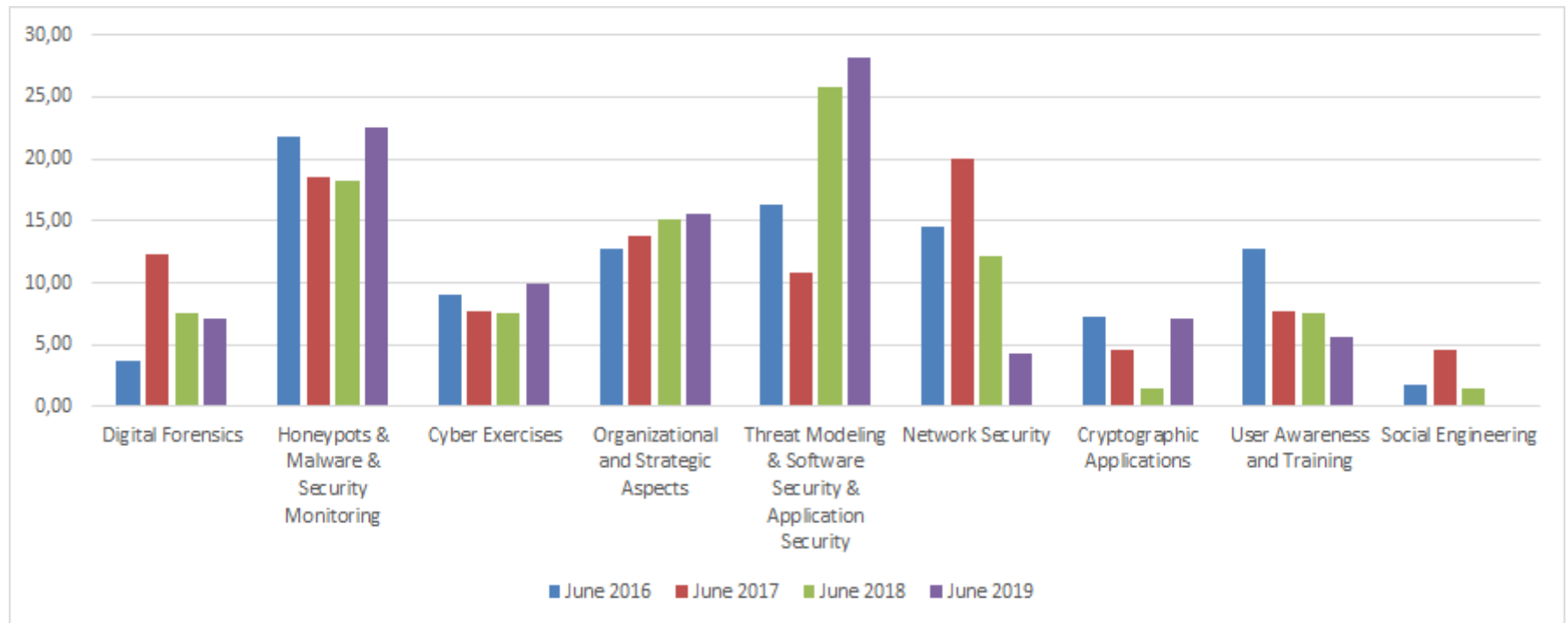# Problem Statement and Research Design Document (2)

- Feedback from a reviewer

- Registration purpose

- Not only problem statement

- Initiates matching of student with supervisor

- No need to resubmit after receiving the review

- The problem and the design may change

  (support of the supervisor is required)

Formal Requirements for a Supervisor

- OIS approval
- Providing comments and suggest a grade
  - Written support letter for the defence
  - Attending the defence and give comment verbally

Cyber Security Topics in Previous Years
(Based on the Problem Statement and Research Design Documents)

Main Problems in the Theses

- Academic contribution
- Literature review
  - The difference between background information and literature review
  - References to academic publications
- Validation
  - Validation problem in tool-centric theses
- The language problems

Motivation

- Thesis study is considerably long-term work
- Motivation loss
  - The workload of jobs
  - Losing track in the thesis
  - Personal problems
- In my view, motivating the student is supervisor's responsibility
- Listening is essential!
- Making the student feel progressing
  - Creating the thesis draft at the beginning of the study and adding text progressively

Guidance vs Independence

- I do not have clear view about the balance ☺

- Each student is different!

- Ideally, it is better if the student comes up with alternatives for
  - Clarifying the problem statement
  - Identification of the research methods
  - Identification of the research gap

  However, most students need help at least in one aspect

- If the student get stuck, giving net tasks or more help could be better

Initial Communication between Supervisor and Student

- Giving an answer (positive or negative) in a reasonable time to the ones seeking topic
  - Request of CV
  - Request of solid idea about, at least, a topic
- Understanding the capabilities of the student
- Having a topic list to share with students
- Explaining pros and cons of the topic selections

Agreement between the Supervisor and Student

- The main topic and the problem

- Expectations of both parties

- From supervisor's perspectives
  - Agreement on communication type and period
  - Quality expectation
  - Being ready for further publication studies
  - Communication of the problem that student may have
    - For example, postponing the defence

Communication during the Study

- More guidance is required before research design
- Request of a study plan at the beginning of the study
  - Milestones
  - Solid deliverables (preferably in each two-week periods)
  - Update of the plan
- At some critical points, request of a written text
  - Requesting written research problems
  - Requesting the interim results as a text
- Taking short notes about the progress of the student

Thesis Writing and Defence

- Paying attention to writing quality
- Motivating the student to write progressively
- If needed, persuading the student to get help from others for proofreading
- Checking the defence presentation
- Demo presentation before the defence

Co-supervising

- Co-supervising is necessary esp. for interdisciplinary topics
- Co-supervising could be complementary
  - Academic or subject-oriented support
- Chance to get familiar with other researchers
- Learning from the practices of other supervisors
- Agreement with the co-supervisor
  - The topic and the problem
  - Communication methods and period
  - Expectations from the thesis

Recommendations for Supervisor's Development

- Devoting some energy to the improvement of supervising process itself
- Sharing experiences with other supervisors
  - A sharing platform is needed
  - Co-supervising
- Extending the knowledge about research methods
- Getting more familiar with the relevant literature about the thesis topic
- Being sure that the student takes the feedback of the reviewer into consideration

Other Issues

- Teaming approach

  (giving related topics to a group of students)

- Alignment of the topics with Supervisor's research objectives

- International program

- Students learn more from the other students