Conduction of Exams: Analogous vs. Digital

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Conduction of Exams: Analogous vs. Digital

Statement of the Problem

- Digital Examinations and Analogous Examinations differ in substantial aspects
  - Formalities
  - Preparation
  - Conduction
  - Grading

- Security concerns for Digital Examinations exist
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Structure of Exams

• Three phases
  − Preparation
  − Conduction
  − Grading

• These phases…
  − … are valid for all types of exams
  − … differ more or less from each other for Digital and Analogous Examinations
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Structure of Exams - Preparation

• Only small differences

• Exam sheets for Analogous Examinations are mostly prepared on the computer nowadays (but do not have to be printed)
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Structure of Exams - Conduction

• Digital Examinations improve …
  – … timing (same {start, end, operating time})
  – … the handling of technicalities (attendance list, visiting the toilet)
  – … the ways of posing and answering questions during the exam
  – … the (not) handling of sheets of paper (no additional sheets needed, no sheets can get lost)
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Structure of Exams - Grading

• In Digital Examinations, students’ results are available digitally
  – Readability improves a lot!
  – Digital tools can be used for the correction, e.g. a debugger for programming assessment
  – Answers can be corrected (semi-)automatically
  – No switch between paper for correction and computer for tracking grades, therefore less prone to errors
Security Threats

• Threats are the same for Digital and Analogous Examinations
  – Access to unauthorized information
  – Communication with other students

• Digital Examinations offer more opportunities to cheat, but …
  – … these opportunities require a lot of effort to exploit
  – … the traditional opportunities are a lot easier to exploit
  – … offer more opportunities to detect cheating in the same manner
Summary

• Security threats exist in similar forms for both, Digital and Analogous Examinations

• Digital Examinations are, from our point of view, at least as secure as Analogous Examinations

• The advantages of Digital Examinations outweigh the disadvantages
Thanks for your attention!

Are there any questions or comments?