Advise-me
—overview—

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Automatic Diagnostics with Intermediate Steps in Mathematics Education

Co-funded by the Erasmus+ Programme of the European Union
Motivation

- Competence in mathematics is key for personal fulfillment, active citizenship, social inclusion, and employability in 21st century
- Low achievement is common concern in all EU countries
- Support targeted at individuals (and their difficulties) has significant effect
- ICT can be of help
- Digital learning environments have proven to be effective
Objective

- Develop flexible support for detailed diagnostics of mathematical competences of pupils in a number of existing environments:
  - Digital Mathematics Environment (Freudenthal Institute, UU)
  - Pepite (University Paris-Est Creteil)
  - Originally also Math-Bridge (Saarland University) Facet (Cito), but now QTI instead

- With this information:
  - Teachers can better help pupils to overcome difficulties
  - Pupils get accurate understanding of their performance and progress
  - System can adapt the environment to an individual’s level
Project approach

❖ Assess intermediate steps, not only final answers
  – Steps provide essential information
  – Corresponds to pen and paper practice

❖ Focus on ‘Numbers’ and ‘Relationships’ domains for 15-year-olds

❖ Develop general feedback and assessment services
  – Services reused by learning environments
  – Collaborative design and development, resulting in high-quality products
Partners

- Open Universiteit (The Netherlands)
- Utrecht University (The Netherlands)
  - Freudenthal Institute
  - Department of Information and Computing Sciences
- CITO: educational measurement (The Netherlands)
- Saarland University, Saarbrücken (Germany)
- Université Paris-Est-Créteil, LDAR, Paris (France)
People present today

- Project members
- External Advisory Board members
- Mathematics teachers
- Technology developers
- Researchers in mathematics education
Goal of today

- Present intermediate results from the project
- Gather feedback on approach
- Suggestions for coming evaluations
- Ideas for how to proceed after the end of the project (in relation to your work?)
- Any other observations
Advise-me related program

- 11:20 Paul Drijvers – Tasks and competencies
- 11:55 Bastiaan Heeren – Domain reasoners for analysing tasks
- 12:30 Lunch
- 13:30 Sergey Sosnovsky – Modelling mathematical competencies of students
- 14:15 Jesse Koops – Results of the first pilots
- 14:35 Bastiaan Heeren – Plans for the future
After today

- Beginning of next year: large scale evaluations
- Final meeting, presenting the results, next year, after the summer.