Test Generator System
for Adaptive Preliminary Control

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Self-control of knowledge

- Testing is a topical technology in modern education
- Preliminary self-control as a supportive tool for students
- Security is key problems in distant test
- Self-control implies motivation or they crack it and learn anyway

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Targeting audience

Teachers are responsible for examination

- Teacher creates test content and grading criteria
- Define content with certain software through set of menus and editing fields OR
- Simple text — natural form presentation
- Math formulae (for Math and CS Department)

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Adaptive component

- Two stage strategy typically used by most of experienced teachers
- Brief advanced level control
  What is ebp+8? (Computer Architecture course)
  Few number of questions which student should pass with 100%
  result
- Extended control
  (if a participant fails at advance level)
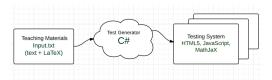
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Requirements

- Simple text presentation of the content
- Math formulae defined by LaTeX commands
- Adaptive facility
- Detailed report (by every single topic)
- Overall report

Tools

Input file:

- Input file has .txt format
- Math formulae are in LaTeX format
- Input data in a certain order (topic, advanced questions, extended questions, etc.)

Output files:

- MathJax
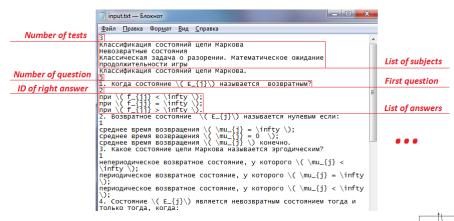- HTML5
- JavaScript

System Architecture

- The application receives an input file
- Syntactic control (Parenthesis, etc.) Using vocabulary of LaTeX commands, *Levenshtein* algorithm and regular expressions check most popular LaTeX commands
- Application translates input file into HTML pages and thus generates testing system

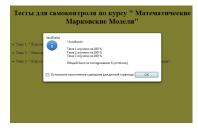The prototype GUI is implemented using C# programming language.

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Example of Input file

Screenshots

Conclusion

- Preliminary self-control with adaptive facility
- Plain text presentation, Latex formulae presentation
- HTML pages, MathJax for formulae, JavaScript for control

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