



Programming in School Computer Club (Scratch) & (Python)

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Introduction (why?)

- ICT lessons are not compulsory in a school curriculum
 - Students are interested in computers and programming
- Lack of teachers, who are capable of teaching programming
- Not many materials in Estonian
- Praxis – in need of software developers
- Growth of Institute of Computer Science.

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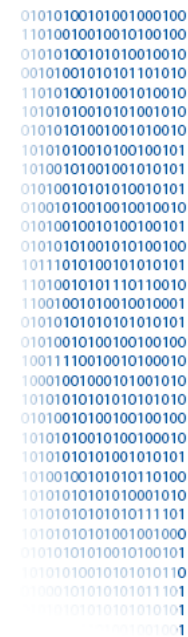
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- Project
- Learning materials
- Teacher training
- Schol visits
- Research
- What's next?



Project (1/2)

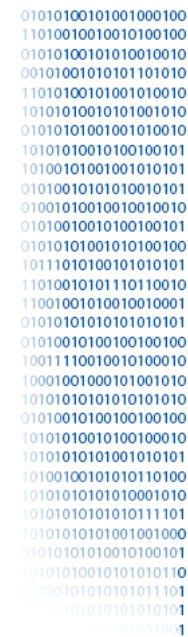
- Project ProgeTiiger (programming tiger)
 - The Information Technology Foundation for Education (ITFE)
 - University of Tartu, Institute of Computer Science
-
- Goals:
 - Creating webpage www.progetiiger.ee
 - Creating learning materials about programming in languages SCRATCH and PYTHON for students and teachers
 - Conduct a teacher training
 - Conduct school visits.



Project (2/2)

Some principles we are following

- Free of charge:
 - Software
 - Learning materials
 - Teacher training
- For everyone:
 - Free software
 - Does not depend on OS
 - Public learning materials, which can be used and modified by everyone.



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Learning Materials (1/3)

- SCRATCH:
 - Visual programming
 - For key stages 2 – 3 (10 – 15 years old)
 - Materials for students and teachers
 - Capacity: 18 lessons
 - Example: <http://progetiiger.ee/content/13-m%C3%A4ngude-n%C3%A4ited>
- PYTHON:
 - Syntax-based
 - For key stage 4
 - Materials for students and teachers
 - Capacity: 36 lessons
 - Example: <http://progetiiger.ee/content/pythoni-materjalid>



Learning Materials (3/3)

- Can be used in a regular ICT lesson
- Testing learning materials at schools
- Help of students
- Videomaterials.

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Teacher Training

Information

- 50 teachers
 - SCRATCH – 30 teachers
 - PYTHON – 20 teachers
- Free teacher training, accommodation, transportation.
- **Visiting IT companies**
- Course was full in about 24 hours

Teacher training

- I session (18-19 October 2013)
- E-learning in Moodle environment (8 weeks)
- II session (10-11 January 2014).



School Visits

- Compulsory
 - 2 school visits in 2013
 - 4 school visits in 2014
- What? Where? Who? When?

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Research

- Kristin Liba's master's thesis.
 - Questionnaire about the teacher motivation before the first teacher training session
- ...

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What's next?

- Second session in January
 - Developing learning materials
- New teacher training courses
- Visiting schools
- Outputs – events, competitions, ...
- Translating materials
- Continue with research.

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