How to attract children to computer science?

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Grades 1-3: Computer classes in curriculum (1 lesson a week through 3 years)

Grades 4-6: Computer classes – mostly ICT

Gimnasium: only 2 hours a week in one year

Secondary school: ICT for all students, computer classes for selected students interested in physics and mathematics

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2013
Results

- Less students interested in computer science
- Less students who can do programming
- Less students taking final exams in computer science
- Attempts to remove computer science from final exams
What we do to overcome problems

- Olympiads in informatics
- Computer classes for students
  - Regional programming course at N. Copernicus University
- Children University
- Started in school year 2010/2011
- Organized by N. Copernicus University Foundation
- Meetings every 2nd weekend
- Fee 75EUR per semester
- Classes of 30 students
  - Computer classes - 5 students
  - 2 instructors for class
- Spotkania co 2 tygodnie
Why SCRATCH?

- Easy to use
- Good programming paradigm
- Full localization
- Sharing of the results through SCRATCH web site
Curriculum – Lesson 1

- Introduction to SCRATCH
  - Movement along line
  - Change the ghost view
  - Background
  - Colour, drawing lines
  - If object touches....
  - If .... then....
More advanced features:
- Moving along circle or square
- How to draw different figures
- Move objects with keyboard
- Move object toward mouse
- Actions when object meets another object
- Input data from keyboard
- Variables
• MAZE
  - Variables
  - Game logics
  - How to finish game

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Curriculum – Lesson 4

- Game
  - 2 users
  - Gravity!
Results

- 200+ children trained
- Attractive classes
- High marks given by children
- Results of each class submitted to SCRATCH web site
  - user umk
  - over 500 projects each year

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2013
Results

- Teachers trained to teach SCRATCH
- Curriculum for grades 1-3
- Curriculum for grades 4-6
How to attract children to computational thinking?

Use SCRATCH!

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