Guess the Code

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Keywords: teaching practice, computational thinking, application, programming

Abstract:

Guess the Code is a classroom project and a method of teaching computational thinking, programming and using application. While we learn basic knowledge of how to use application, we try to guess the data structure, the algorithms of that application. We test the program, we discuss about the application as we were the programmer or the developer.

Contents and practical implementation (exhibition, discussion, …):

On the workshop we imitate a lesson. Participants get some problem and they try to solve it. In the second half of the workshop we discuss the programming aspects of the problems.

Some example of problems:

- Can you write 2^2 into a spreadsheet's cell? What there are in these cells?

	A	B	C
1	a^2	2^2	$2\ m^2$

- If you copy a text with links to a spreadsheet, the links are saved. How can you extract the links?

	A	B	C	D	E	F
1	Video Clips Working Group: HST2009					
2						
3	Title	Topic	Rating	Comment	Classroom use	Content covered
4	"A passion for precision"			Video would not play.		
5	"Can Antimatter be stolen?"- with Rolf Landua	Antimatter	excellent/excellent	short and to the point	Modern Physics	Antimatter(0-00:56)
	"Do we make antimatter at	Antimatter	excellent/excellent	short and to the point	Modern Physics	Antimatter and accelerator

- How does the MATCH() function find the searched value?

| F4 | | | =HOL.VAN($A$2;$C$3:$C$11;E4) |

	A	B	C	D	E	F
1	lookup value		lookup array			
2	5			=MATCH(A2;C3:C11;match_type)		
3		1.	6		match type	result
4		2.	4		1	6
5		3.	5		0	3
6		4.	3		-1	1
7		5.	4			
8		6.	4			
9		7.	7			
10		8.	9			
11		9.	3			

Example4

KÉSZ 100%

(Timetable: Hétfő 2016. 09. 19. / Kedd 2016. 09. 20., with entries from 07:00 onwards including 07:30 - 08:15 Inf_8a1H_Szl: informatika szakkör, 08:30 - 09:15 8.a2-inf-Szl: informatika, 09:30 - 10:15 7.b2-inf-Szl: informatika, 10:30 - 11:15 12.a1-inf-Szl: informatika, 11:30 - 12:30 foglalkozások, tanítási órák előkészítése, 12:35 - 13:20 13.e2-inf-Szl: informatika, and for Kedd: 08:30 - 12:30 foglalkozások, tanítási órák előkészítése, 12:35 - 13:20 7.b1-inf-Szl: informatika)

- How are my working hours counted?

  … And when does the Coffe break start? Is there a 20 minutes presentation on the ISSEP conference?

Title	Hall	Start		End
[SSEP Workshop TBA]	56	15:45	-	16:35
[SSEP Workshop TBA]	58	15:45	-	16:35
An Exploratory Investigation of Change in Students' Subjective Perception of Informatics	56	14:45	-	15:00
And Now What Do We Do with Our School/children?	56	14:20	-	14:45
Bringing CS Innovations to the Classroom Using the Model of Educational Reconstruction	56	15:00	-	15:15
Closing Session / Fare-Well Coffee	58	15:15	-	15:45
Drosa and Kinás: Modeling the Retention of Flow for Hour of Code Style Tutorials	58	13:30	-	13:55
From Scratch to Patch: Easing the Blocks-Text Transition	58	14:20	-	14:45
How to Attract the Girls: Gender-specific Performance and Motivation in the Bebras Challenge	56	13:30	-	13:55
Sharing as a Means for Reflection: Seeing Differences, Understanding Affordances of Peers' Programming Solutions	58	13:55	-	14:20
Students' Success in the Bebras Challenge in Lithuania: Focus on a Long-term Participation	56	13:55	-	14:20
Teaching Abstract Thinking in Introduction to Computer Science for 7th Grades	58	14:45	-	15:10

- What kind of classes and groups are there in a school?

11:00 de.	11 b	11 c	11:00 de.	11 e	11a2	11b2	11c2	11d2	1.10E+03
12:00 de.	12 b	12 c	12:00 de.	12 e	12a2	12b2	12c2	12d2	1.20E+03
13 a	13 b	13 c	13 d	13 e	13a2	13b2	13c2	13d2	1.30E+03

- To be or not to be?

  What is the difference between the calculated money and the amount in the pocket.

G2			fx	=SZUM(C2:C16)	
	F	G	H	I	
1		part time	full time		
2	SUM:	19,52	8,89	=SZUM(C2:C16)	
3	Pocket:	19,52	8,89		
4	Difference:	3,19744E-14	3,19744E-14	=G2-G3	
5	Equal:	IGAZ	HAMIS	=G2=G3	
6					

Example1 …   KÉSZ   100%

Resources:

Every participant need a PC or laptop and an office application on it. Participants' own tools could be used too. Different softwares give more experience. We need network to spread and collect solutions. A projector could be useful too.

Short Biographies

Ms. Zsuzsanna Szalayné Tahy has been a teacher for 28 years and a PhD student for 3 years. She teaches programming and using office applications. Her students are successful in problem-solving, they are on the top of IT competitions. Her research topic is how to make programming and computational thinking learnable for everyone.

More: http://sztzs.szigbp.hu/sztzseng.html