“If they build it...They will code”

Lessons from a high school code club

@rony_sheer
The classroom
The problem.

Computer Dependency

Code Literacy
1 in 4 schools teach computer programming

71% of all new jobs in STEM are in computing

8% of STEM graduates are in Computer Science
● Not enough developers
● Higher dependency on others to solve one’s problems
Why more demand?
Why less supply?
Starting MS-DOS...
Ease of use + abundance = Cultural problem solving degeneration
Education system’s solution:

Code... Code... Code...
Code=Science
Code=Better income
Code=Programming
Code=Creativity
We can change that... perhaps.
Who is this guy?

- I’m a teacher
- I’m part of a SimplifEd (we let teachers focus on teaching)
- We are a Python/Django shop

www.simplifiedlms.com
A school that is not a school. A class that is not a class.
The challenge

27 students = 3 start-ups => learn software development
The challenge

27 students = 3 start-ups => learn software development

Yeah, right
Teach making
Not coding
Python is perfect for this
Python is not often used
class HelloWorldApp {
    public static void main(String[] args) {
        System.out.println("Hello World!");
    }
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print(‘Get down to business’)
console.log('Get down to business');
console.log(this);
● Whitespace helps teach control flow
● You can build meaningful software within a lesson
import time
import webbrowser

thirty_minutes = 60 * 30

total_breaks = 3

break_count = 0

while (break_count < total_breaks):
    time.sleep(thirty_minutes)
    webbrowser.open("https://www.youtube.com/...")
    break_count = break_count + 1
import ...

thirty_minutes = 60 * 30

total_breaks = 3

break_count = 0

while ...
import ...

thirty_minutes = ...

while (break_count < total_breaks):
    time.sleep(thirty_minutes)
    webbrowser.open("https://www.youtube.com/...")
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Sugar Free

break_count = break_count + 1
We like things that we have built
Flipped classroom
Let students teach
Is this a classroom?
The three pillars of motivation

● Autonomy
● Mastery
● Purpose
scope reasonably
“Programmers are irrational and emotional people”

Douglas Crockford
Agile-like system = magic
Teach effective googling
Acknowledge work
Basic version control
Inspiration

Django Girls

Scratch

Python Community
Come code with us, or go code with other students

@rony_sheer