A CTO that still codes: My tortuous path to the Staff-Plus Engineer role

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#### The New York Times Magazine, Feb 16, 2022



## the skills shortage

prevent their companies from keeping up with the pace of change

https://www.harveynasharoup.com/dlr-2022

Why aren't companies encouraging people to stay on the technical path?



Not everyone will find happiness in management

Lessons Learned as a manager that made me a beller lechnical leader

#### Be patient with people that need to explain their problem

# Make people feel the solution was their idea too

#### The sandwich approach

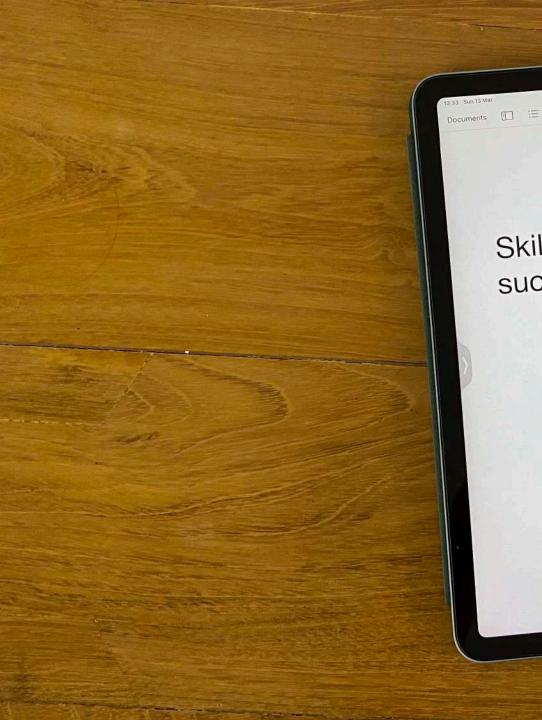
Explaining technical stuff to nontechnical people helped me to explain more effectively complex architectures to my peers

## How to know if a manager career is not for you:

1. You keep finding excuses to code 2. You try to automate everything 3. You secretly hate business meetings

# Back to the technical path





Skills needed to be a successful Staff-Plus Engineer

Notes

⇒ 52% ■→EDIT

Spoiler: it's all about interactions

#### Interdepartmental communication

#### Make the team better

Understand business needs

## Great technical skills



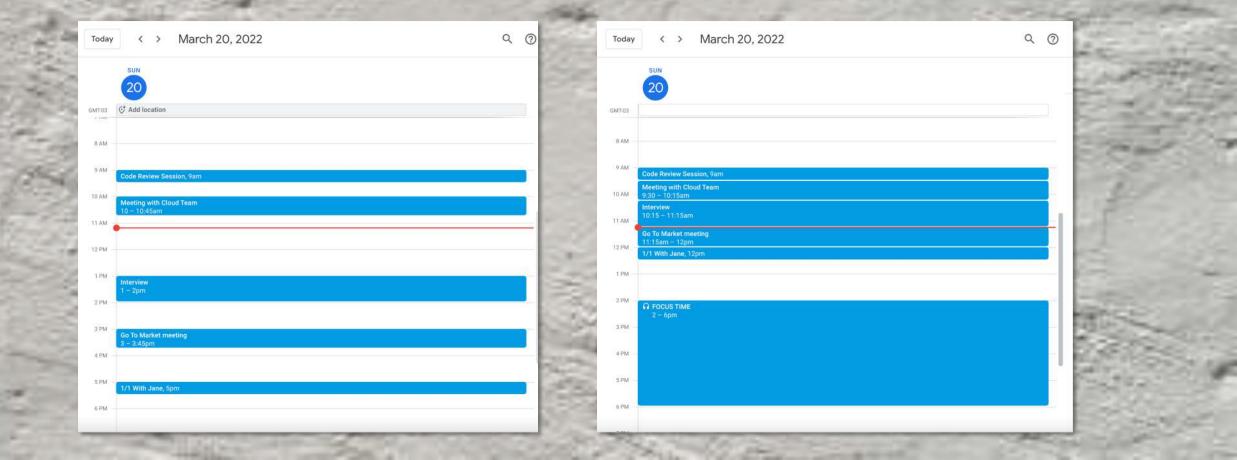
Coding solo does not generate as much impact as making the team code excellent

## Follow the process you created for the team

Where to?

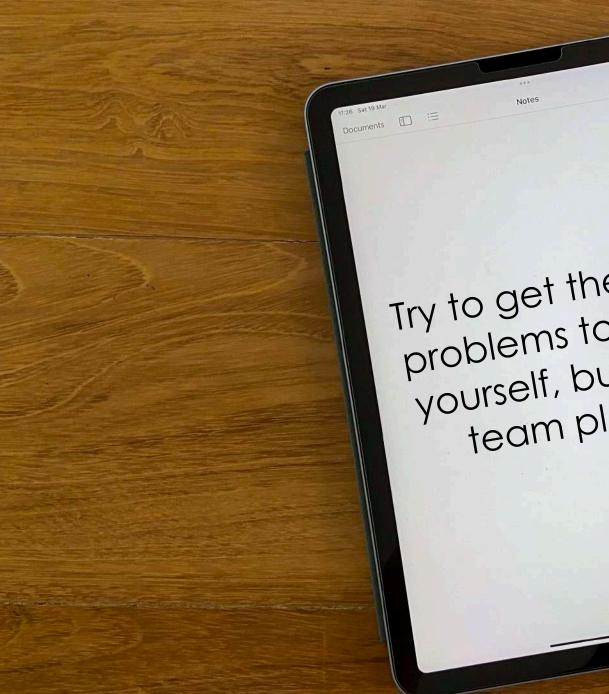
WHIT

### Block your calendar for focus time



Be sincere and direct, but be gentle

Deal with the Leader Loneliness: try to have a pair to talk about frustrations, problems and achievements



Try to get the hard problems to code yourself, but be a team player

. EDIT

# Be predictable and reduce the team stress

I need to talk to you. Can we talk Monday 9am?

(+)

•••



I need to talk to you about that bug you found. I had an idea. Can we talk Monday 9am?

(----)



Experience and time will teach you how to deal with difficult situations Creating a Staff-Plus Engineerfriendly company

ve time and money processr data with a traditional Java tion or even with simpler uch as <u>grep</u> or <u>Awk</u>.

#### t Big Data Processing doop

cided to use Hadoop for g your data set, you will void performance bottleyour data increases. There configuration tunings you to a Hadoop cluster, and lways add more nodes if cation is not processing as fast as you need it to. keep in mind that nothing bigger impact on your oplication's performance ng your own code faster. plementing a big data application, your code y be executed millions of times during each prole. Consider, for examu have to process a 10 John and lime in FOO

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fastest Java data structures for your problem, use cache when possible, avoid unnecessary object instantiations, use efficient String manipulation methods, and use your Java programming skills to produce the fastest code you can.

Besides producing efficient code, it is important to be aware of how Hadoop works so you will avaid common pitfalls. Let's start w common beginner's mistake reusing Writable objects.

common pitfalls. Let's start w common beginner's mistake reusing Writable objects. The code shown in Listing very simple MapReduce exar It receives lines from a web-a log file and counts how many times a particular internet dom was accessed. Note that in this example, we are instantiating a ne object org.apache.hadoop.io.Te every time we want to write

value pair to the mapper g

Doing this allocates mark

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Text, IntWritable> {

private static final IntWritable one = new IntWritable(1

public void map(LongWritable key, Text value, Context context) throws IOException, InterruptedException {

try {
 String line = value.toString();
 String[] parts = line.split(" ");
 String domain = new URL(parts[2]).getHost();
 context.write(new Text(domain), one);
} catch (MalformedURLException e) {

plic static class Reduce extends Reducer<Text, IntWritable, Text, IntWritable

public void reduce(Text key, Iterable<IntWritable> values, Context context) throws IOException, InterruptedException { nt count = 0; pr (IntWritable value : values) { count = count + value.get();

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Incentivise people to stay in the technical path, providing adequate compensation and status



#### Provide leadership and communication training



Understand what really matters to technical professionals and value that Code quality

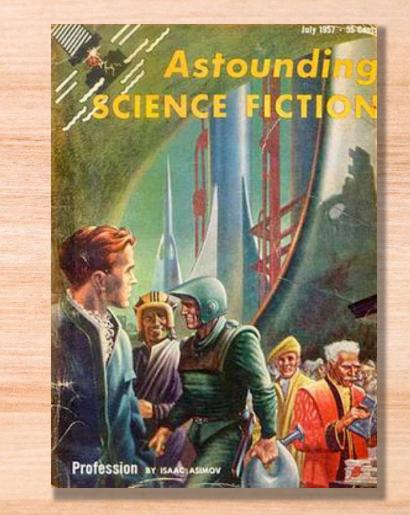
#### Conferences

Creativity

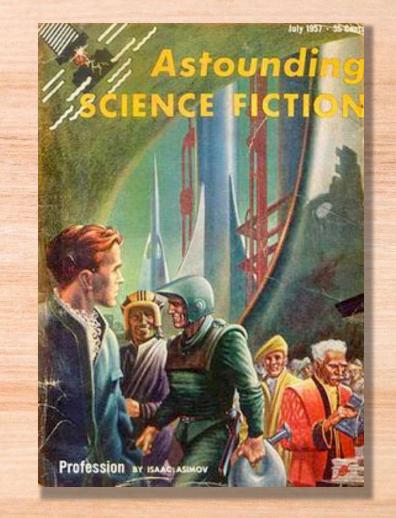


Let people know your company values technical careers

- We are living the biggest skills shortage in history
- We have huge technical challenges ahead
- We can't afford to lose our most experienced engineers



The future of our industry depends on how we find and foster our technical leadership



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