

Practical Engineering Management

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101

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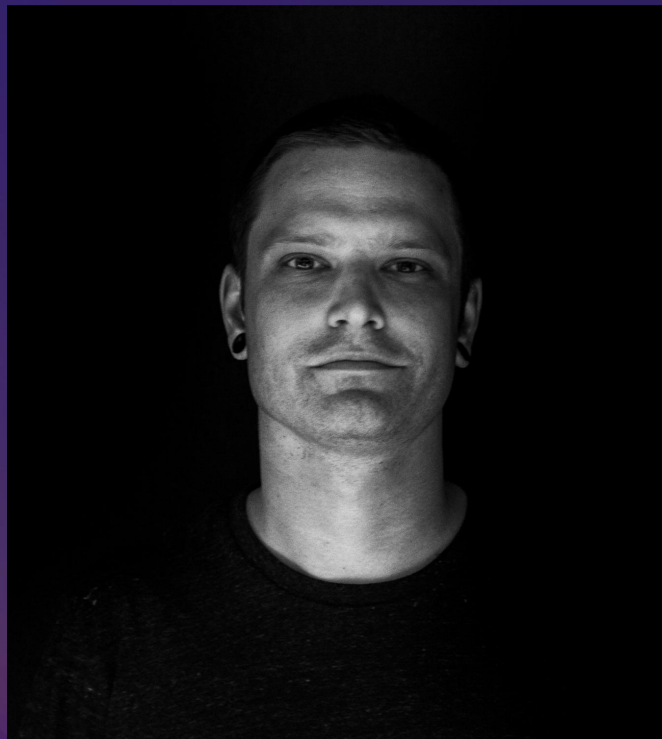


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**FRONT END
HAPPY HOUR**



Interviewing for Front-End Engineers

Prepare for the recruiter prescreen questions, from the phone screen to real cultural and technical interview questions that companies use to screen candidates.

2 hours, 53 minutes 


[Watch Course](#)



Interviewing for Front-End Engineers

Full Stack for Front-End Engineers, v3

Learn what it means to become a full-stack engineer, and get hands-on with setting up your own server to build and deploy web applications from scratch!

8 hours, 12 minutes 

[Watch Course](#)



Full Stack for Front-End Engineers

Practical Engineering Management 101

- The path to leadership
- Understanding the role
- Surviving the first 30 days

Goals of this course

- Build skills and knowledge to better understand engineering management
- Shine a light on the true on the “hidden work” of management
- Provide tools to help navigate the transition and early days
- Provide insights into common situations

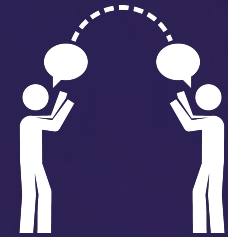
Exercise



Scenario



**Ask a
manager**



Practical **Engineering** **Management**

- Origin story
- What does “practical” mean

Prerequisites

- > 3 years experience
- willingness to learn new things

Who is this course
for?

- software engineers
- engineers managers

verb.

man·age

ma-nij

1. to control or be in charge of a business, a team, an organization, land, etc.

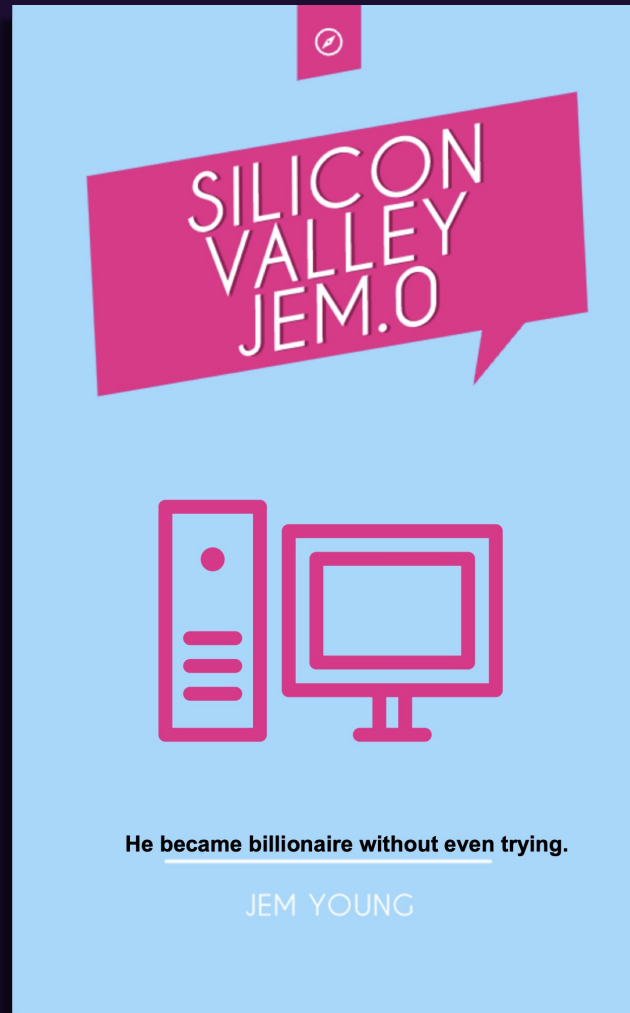
2. to succeed in doing something, especially something difficult

to succeed in doing something, especially something **difficult**

Origin Story



2016



2020



2021



to succeed in doing something, especially something **difficult**

“practical”
engineering management

The business of technology



1.



2.

???

3.



what does it take to deliver a product?

- business development
- finance
- customer support
- marketing
- human resources
- IT
- technical writers
- internationalization
- legal

who does it take to make a product?

< code />



- UI engineers
- designers
- backend engineers
- QA engineers
- infrastructure engineers
- database engineers
- technical program managers
- site reliability engineers
- security engineers
- product managers
- prototypers
- engineers leaders

Engineering Management is a role change

Thinking like a manager

	People	Business
Compensation		
Hiring		
Expenses		
Project prioritization		

Takeaways

software engineering is more than code

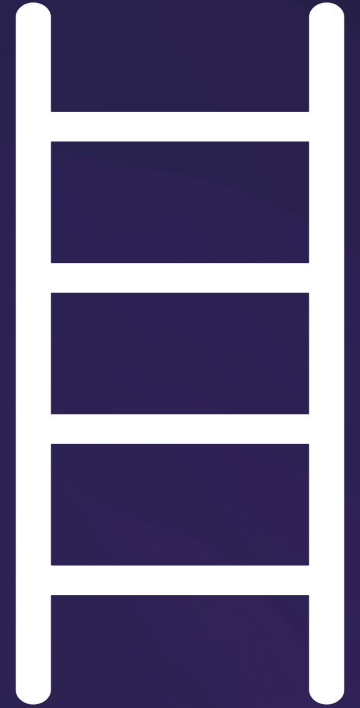
Takeaways

engineering management is a role change

Transitioning into **Management**

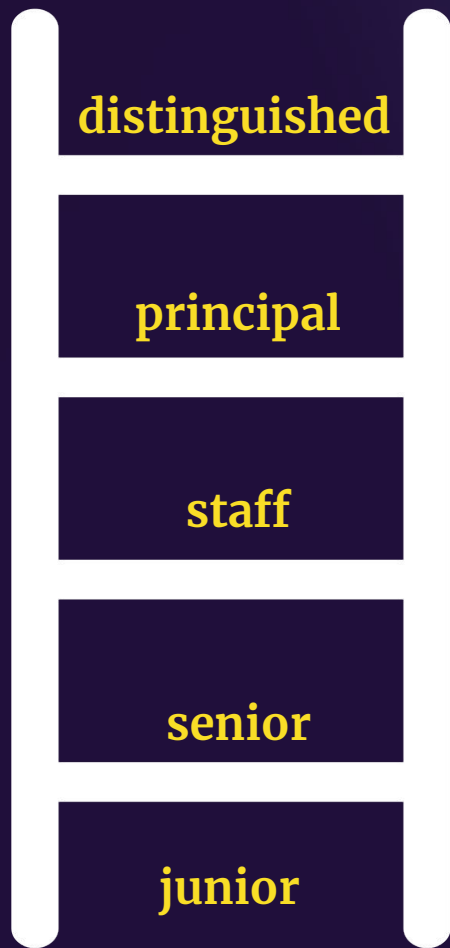
- Careers
- Motivations
- Making the move
- Interviewing

Career paths



- **~27 million** Software Engineers in the world
- **~4.4 million** Software Engineers in the US
- **~500,000** Engineering Managers





Technical



People



- individual becomes code less important
- business more important
- impact becomes broader
- “big picture” technical understanding
- fewer roles

Roles EM's play

- Coach
- Cheerleader
- Therapist
- Mentor
- Party planner
- Social butterfly
- Rubber duck
- Peacemaker
- Shot caller
- Speaker of the house
- Notetaker
- Project manager
- Salesperson

You will not be good at every role

common motivations

- Control
- Money
- Prestige
- Impact
- Growth
- Challenge

Common motivations - Control

“I’ll be in charge”

Truth

- Less control than before
- Software Engineers have more fine-grained control
- You can’t “make” anyone do anything

Common motivations - Money

“I’ll make more
money”

Truth

- Managers don’t always get paid more
- Fewer roles available
- Less job security

Common motivations - Prestige

“I’ll get more
respect”

Truth

- Respect is earned
- You’ll start at zero
- Management is role change

Common motivations - Impact

“I can make a
difference”

Truth

- Less tangible
- Takes a long time to see
- More scrutiny

Common motivations - Growth

“I like to mentor
and grow people”

Truth

- Takes time
- Outside of your control
- One of the most satisfying aspects

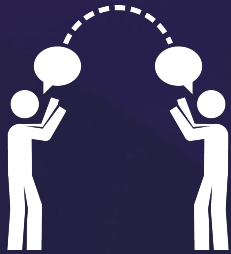
Common motivations - Challenge

“I’ll learn new
skills”

Truth

- Always learning something new
- **ALWAYS** learning something new

Ask a manager

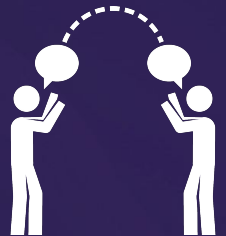


Getting into management

How did you get into management?

What were your motivations?

How has becoming a manager changed your view of technology?



The truth about engineering management

The truth about engineering management

You will become less technical

The truth about engineering management

Micromanaging is easy; trust is hard

The truth about engineering management

No one will tell you how to spend
your time

The truth about engineering management

No one will tell you what to do

The truth about engineering management

Leadership is lonely

The truth about engineering management

People are squishy

are you sure?

People leadership

The truth about engineering management

You have to be better

*“You manage things; you
lead people.”*

Grace Hopper

Takeaways

there are many paths to management

Takeaways

it's important to have the right motivations

Takeaways

engineering management is difficult

Exercise



The path to leadership

Moving into management



Paths to management

Accidental

- Rapidly growing company
- EM leaves
- Team lead -> EM

Deliberate

- Apply directly for roles
- Company growth plan
- Role transition over time

You will have to learn new skills

unconsciously competent



consciously competent



consciously incompetent



unconsciously incompetent

Critical Skills

- Communication
- People
- Business
- Technical

Critical skills - Communication



- Almost everything distills down to communication
- Written
 - email, memo, project docs, Slack/Teams
- Verbal
 - 1:1's, meetings, video calls

Critical skills - People



- Conflict resolution
- Growth
- Mentoring
- Coaching
- Team cohesion
- Hiring
- Recruiting

Critical skills - Business



- Budgeting
- Project management
- Long-term strategy

Critical skills - Technical

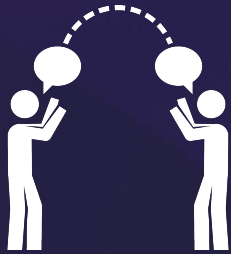


- Understanding code without writing it
- Necessary to understand team challenges and make informed decisions
- Articulate strategy and tradeoffs to partners

Building up your skills

- Talk with your manager about your goals
- Talk with other managers internal / external
- Ask your manager and managers for tips for how to move into management
- Books
- Conferences
- Observation
- Mentor
- Take on proximate roles

Ask a manager

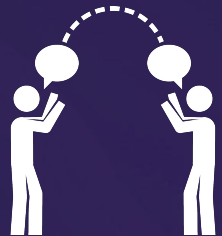


Skills

what skill do you lean on the most in your day to day?

what's favorite way of learning as manager?

what skills do you see missing the most in new managers?



Exercise



Assessing your skills

15 minutes

Interviewing for a manager role

Finding a role

- **Internal roles**

- familiar culture*
- familiar domain*
- work towards over time
- low availability

- **External roles**

- have to sell yourself
- tailor your resume for the role
- may have to move to smaller company

What to look for in a first role

- Similar domain / language / technology
- Healthy team size (6-10)
- Healthy org / company culture
- Manager willing to invest in you
- Keywords to avoid
 - seasoned
 - experienced
 - senior

The interview

Leadership

- Describe your management philosophy
- What does “influencing without authority” mean?

Partnerships

- How do hold your partners accountable?
- How do deliver results for your partners?

Technical

- What is your strategy for project estimations?
- How do you think about prioritization?

Scenario



Manager Interview

Question 1: Style

Describe your leadership philosophy

How do you see that playing out with your team and partners?

Question 2: Team

How do you create the best team environment?

What is your ideal team culture?

Scenario 1: Conflict

Two members of your team disagree about a technology solution. The disagreement has spilled over into team meetings and people are starting to take sides.

Describe how you would resolve this situation

Scenario 2: Performance management

You've observed over the past few months that a member of your team has been missing deadlines and the projects they have shipped have a number of issues.

What is your approach to this situation?

Takeaways

many skills are required to be a good leader

Takeaways

you can should build up skills in advance

Takeaways

take advantage of opportunities

Takeaways

the interview is a measure of your potential

The **role** of managers

- What do managers do
- Responsibilities
- Tips for success

What do managers do?

As an engineering manager at a
fast-growing startup, I spend most of my
time coding and
hiring.

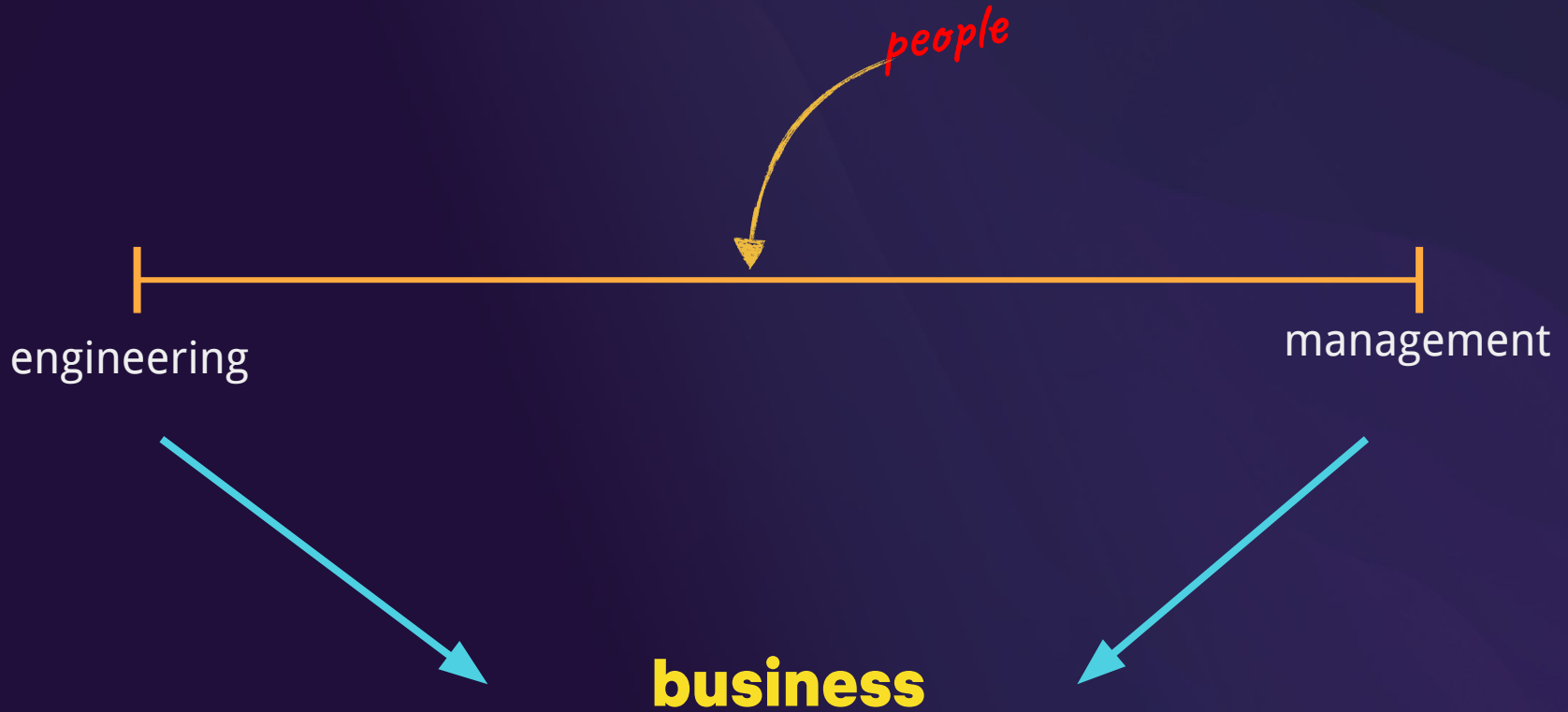
As an engineering manager at a
mid-sized company, I spend most of my
time mentoring and doing
project management.

As an engineering manager at a
FAANG company, I spend most of my
time chilling and
eating free food.

- size of team
- experience
- scope
- relation to the business
- size of the company
- role of the team

What are EM's responsible for?

What are EM's responsible for?



engineering manager responsibilities

- Management
- Engineering
- People

engineering manager responsibilities

Management

- Hiring
- Terminations
- Compensation
- Leave of absences
- Vendor management
- Purchasing
- Expenses
- Filing tickets

engineering manager responsibilities

Engineering

- Charter
- Communications
- Long-term strategy
- Work prioritization
- Context setting
- Partner and stakeholder management
- Project management

engineering manager responsibilities

People

- Recruiting
- Team development
- Performance coaching
- Team health
- Conflict management
- Onboarding

Business

day to day

talk to people

week to week

email/slack/docs
admin tasks

quarter to quarter

OKR's and other objectives

year to year

long-term strategy and vision

People

day to day

talk to people

week to week

ensure team is unblocked

quarter to quarter

exam team processes
growth

year to year

hiring



A Venn diagram with two overlapping circles outlined in yellow. The left circle is labeled 'engineering' and the right circle is labeled 'management'. The overlapping area in the center is labeled 'people' in a light blue, italicized font. The background is a dark purple with abstract, lighter purple wavy shapes.

engineering

people

management

**Your role is to manage the team in the
context of the business**



How do EM's spend their time?





MEETINGS

Meeting types

- 1:1's
- Project meetings
- Planning/strategy
- All-hands
- Team meetings
- Social events
- Retrospectives
- Staff meetings

Purpose of meetings

- Planning
- Brainstorming
- Alignment / making a decision
- Morale / culture
- Sharing information
- Receiving information

Exercise



Meetings

15 minutes

Section recap

- What do EM's do: it depends but people are at the center
- Take advantage of every meeting
- Managing your time is a critical

Surviving **engineering** **management**

- Your first 30 days
- Mistakes to avoid
- Managing up

Your first 30 days



what's different

Perspective

- Staff meetings aren't as full of secrets as you thought they'd be
- You know how much everyone on your team makes
- Your calendar is all meetings

what's different

Team

- Your manager is higher up
- You're responsible for running a lot of meetings now
- Your “first team” are other managers

What should you be doing?

- LISTEN
- be curious
- running meetings
 - 1:1's
 - team meeting
 - team standup
- meeting partners
- examining processes
- might have to hire

Exercise



Understanding your new
position

10 minutes

Exercise



meetings templates

Mistakes to avoid



Mistakes to avoid

Micromanaging

Mistakes to avoid

Overpromising

Mistakes to avoid

Trying to stay **too** close

Mistakes to avoid

Overthinking decisions and second guessing

Mistakes to avoid

Not letting go

Mistakes to avoid

Putting too much pressure on yourself

Managing up

- What are their expectations?
- What is important to them right now?
- What information do they care about?
- What can they help with?



1:1's
staff meetings

Takeaways

Don't try to do much in the beginning

Course Takeaways

software engineering is more than code

engineering management is a role change

Course Takeaways

there are many paths to management

it's important to have the right motivations

engineering management is difficult

Course Takeaways

many skills are required to be a good leader

you ~~can~~ should build up skills in advance

take advantage of opportunities

the interview is a measure of your potential

to succeed in doing something, especially something **difficult**

JOY

did I do that?



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