# Sep 16, 2022 or next week

How do you present with your team?

For the next topic?

Ask 1 more question?

eBay

Charles history

2 things

* Try to do it - a couple of times.
  + Get feedback if it works or not.
* Actual topics you can think about.

# Sep 9, 2022 How to become a subject matter expert

Takeaways:

* **try to ask 1 more question. Ask 1 more why.**
* **What is missing is not the answer, what is missing is the question.**

From last week:

* Being the go-to person
* Becoming a subject matter expert

What’s the best way to grow yourself?

How to set up the goal to be successful

Computer science industry is pretty different from other industries

* You have to keep learning, which is quite special

Law and medical school

* Still studying and have loans
* After graduating, there is no need to worry about a career.
* You will always have a better grasp of the industry domain every day.

CS major is so great

* Why didn’t they go to CS
* There’s a worry everyday, you feel worse everyday. Knowledge depreciates.
* That's why we need to always keep learning.

Why do we have such a big salary?

* Because companies took money from industries
* Amazon took money from retailers

Every year new grad will come in to kill you (the juniors or seniors)

Learning has to be everyday

* You need to make it efficient and smarter

If it's a sprint, the number of steps might not matter for the average runner.

But if its a marathon, then steps might need to be efficient.

In work environment, the best way to keep adding value to yourself

* You always try to ask 1 more question to yourself.
  + Why am I doing that?
  + How?

When someone graduates you can only check their knowledge

After 3 years, then we will check your skills and experience. Something you did.

In order to get experience, **try to ask 1 more question. Ask 1 more why.**

Try to expand your experience.

Example

In your team, you work on code day to day.

Let’s say you have 3-4 pools you manage.

* Most likely, in order for the pool to work. There are dependencies such as upstream and downstream.
* A lot of times, your pool can’t do all the work. Then you have to use downstream dependencies such as another pool or database.

If your pool reaches a downstream service, check validate internals.

If pool communicates to a downstream API with URL

* Do you know the configuration?
* Is it manual?

A pool owner has some problem communicating to a downstream URL. then it logged an error back to CAL.

Socket error - read timeout

* Talk to someone responsible for that pool
  + This is a good opportunity to learn.
  + What is really a socket?
  + What does read timeout mean?
    - Your application has already sent
    - In order for your app to talk to downstream
      * Your app must establish TCP connection (SYN-ACK-SYN) 3-way handshake
        + What exactly is the TCP connection?
        + At a given time, your app can have a lot of TCP connections
        + What makes each TCP connection unique?
        + How does the app distinguish from this connection and that connection?
        + This is now the TCP/IP protocol world.
        + **What is missing is not the answer, what is missing is the question**
        + 4 identifiers for unique combination

Source IP, destination IP, source port, destination port

* + - * Then your app sends HTTP request over that connection
      * Your app then waits for HTTP response over amount of time
      * If over the time (of the configured time), then there’s read timeout

Socket error - connection timeout

* If clients send a SYN, but not receive ACK. then it timeouts.

Socket error - SSL error

Google browser

* Enter URL
* Get different data from different destinations to load pages faster (i.e. data and images separately).
* How to distinguish is only the source port

What is in the SYN packet?

* Packet from source IP to google IP and source port is a unique source port in your machine.

Then you ask yourself, what other messages? What kind of information is sent to google.

* Secret numbers
* Options
* Desired - upper limit of packet

Take it easy. Take one easy step everyday. If your mind/body is ready, then it will be able to understand.

You can then become a TCP/IP expert without reading from cover to cover.

When you learn from work, then you can take your time. You can learn 10 different things at the same time. But the most important thing is, why did you have those questions in mind? It is because of work.

In your work, you can observe how it works. You get experience aside from knowledge. Sometimes you can break and fix it.

Happens to ebay environment

* Tcp connect, http request is in https.
* What's the http with https?
* Https has 1 extra step after 3-way handshake. You have to perform a TLS handshake (aka SSL handshake - generally the same thing). To set up the encryption part.
* How does TLS work? Part of it is Certificate Authority (CA) to work.
* Then what is CA? Why certificate? Why authority?

What can you do and problems you can solve?

Your app in order to talk to downstream is configured to talk with https.

Client to talk with source IP, destination IP, source port, destination port.

Client sent a packet -> source IP?

* Use DNS
* How is DNS resolving name to IP address? Maybe recursive.

Client

* Cache first
* Then host file: etc/host you can map IP statically, which we normally do not do.
* Then DNS server in etc/resolve

You can change the order. I.e. cache -> DNS server -> host file

DNS is amazing, you can use that to resolve almost any name.

* Assume that the client machine is configured to have an IP as the DNS server.
* You can ask any (domain) name in the world, the DNS server knows it. DNS knows it all.
* How come a single DNS server knows all those names?

How many DNS servers? Your neighbor uses a different DNS server. How does DNS know the new domain? It is a distributed thing.

Mindset to ask 1 more question.

If you keep doing that for 3 years or 5 years, you can see a lot of good keywords in your resume.

What I know

How many things I know

If I gather everything together, it's a small circle. Expand this knowledge circle. Usually the question is right next to your area of knowledge. It is not a question over there or far away.

Bad example for now:

In history, Russia. History indicates, the leader of the empire wants more land. Assuming you are the king of the country. How do you expand? You look at the country, you ask which piece of land you should take next? You can get Ukraine because it is nearer. Might not be UK, might not be connected to territory. Kinda the same thing as knowledge.

If you want to conquer more knowledge, then conquer the nearest to it.

Knowledge is a low-hanging fruit. if you are in school, generally how it works. Is good enough.

In work, do I know something in the past that I can observe in work?

School can only help to a certain point. On how it should work. You can observe in work (real world) how it really works.

Expand based on where you are.

When the area is big enough you are ready to move on to the next stage.

Might take a few years to make you feel comfortable in a certain area.

Don’t make it hard. Make it a little.

# Sep 2, 2022 How to be a leader

Leadership

Ads-qe

Presented what I do and what our team do

Ops SRE were split on specific business vertical i.e. business, selling

TDO

Site Engineering Center (SEC) or operations

Beside it with war room

Breakout room. Pagerduty.

Monitors how many checkouts per second. This helps the health status of the payments team.

Monitor sign in, pageviews, logins.

France and Germany sign in per second dropped a lot. Other countries were fine.

The TDO immediately paged a whole lot of people. Sign in team, cdn team, etc.

They spent 3 or 4 hours trying to figure out what's going on.

Then they ask Charles to solve the problem. Solved it in 1 minute. He googled the two countries. They had a soccer game. XD its a mini world cup from their point of view.

45 minute window drop and sign in increase in 10 minute window (which is the half-time) then drop again.

Question for the ads-qe/sre team.

Overall status of business - this is great.

If other teams had something like this, it would be good.

SEC TDO are also doing a great job

But they have a way to measure or present their success.

Ebay's annual availability number is before 99.96%, only 4 hours of downtime. Now it is 99.98%, and can only be down upto 2 hours.

Mean time to discover MTTD usefully when more people use it.

Mean time to repair MTTR but it depends on the issue.

Charles saw quite a few of these monitoring dashboards. Internal or 3rd party.

Success of the dashboard. Only a few of them stay for a long time. Some with lack of maintenance, then discontinued.

Essential for a good dashboard

* Quality of the data. The accuracy of data. Do you try to understand what the data represents?
  + How about when the platform changes? Or the data source changes?
  + If data is not solid, data is not useful.
  + If people don’t trust the data, they won’t trust the result.
  + Data is the foundation of building the dashboard.
* Advantage - business point of view. We know the advertising business. What metrics to look at.
  + SRE for example, can build charts on ads related pools but doesn’t have enough knowledge for ads.
  + For our team, it adds unique value
* The challenge: to pay more attention
  + How do you showcase? No good answer for this.
  + SRE - overall has simple measure. Overall availability of the site.
  + Ads SRE - money saved.

Back to individual growth:

As an individual, the team you are working in is important. If you are involved in maintenance or sun setting business, it is difficult for you to grow. If you are involved in a rising business, then growth is faster.

Keep getting ways to promote and recognition.

What to add value to the team.

Think about ebay as a big stage (like a theater with actors). But there are only a couple of good spots. Try to move your team to the spotlight. Team good gets more opportunity, then individual gets more opportunity.

Promoting the team is the best and easiest way to promote yourself.

Create opportunities for one another.

Lebron, Diego maradona vs individual greats

Each team should have to have a go-to person. Being that go-to person. It is a recognition.

Go-to for the subject. Doesn’t have to be a big subject. Can be small and be a subject matter expert. Try to keep growing that area of expertise. People can’t ignore you now.

Subject matter. Being a subject matter expert. You have to be in a good team. If the team is not recognized, or no one cares about what the team is doing. Then no one cares if you are doing good in that team.

Learn and do the work where I have visibility. I can learn, try, and see. And fully understand.

Don’t ask random questions, ask questions you have control over.

Experience is not how many years of work. Experience is you must purposely build something.

# Aug 26, 2022 How to learn

Publishing tech by ebay

Ebay doesn’t share tech that much

It has to go through in writing, technical writing.

Then to legal

Then public communication

Then investor relationship

Will take 2-3 months

Turned down by CTO

100 years ago in US history - congress

Congress - to make laws

Gov’t execute the laws

When we write the law, it shouldn’t affect the constitution.

They have a committee (spring court) now to review first

Publicly - you might not find ebay tech.

Internally - hard to find info

Many years ago, ebay one of the senior vps. Invested on hiring new tech writers.

They didn’t read the tech writers' documentation.

The Internet sector is the fastest growing sector.

Onboarding is not good.

Learning on growing

Concern from comparison

In my mind, in the past, you learn and you are satisfied.

Now, learning is now. Is harder.

Learning - what you learn, and how you learn.

How to learn.

Major reason to feel this concern.

20 years on something. You will become an expert.

After 20 years, we are good at learning in the school environment.

School - homework.

School - gives FEEDBACK. All sources of feedback.

Before work is tightly engaged.

Game. learn how to play the game. You get immediate feedback.

Endure. Learn how to learn from work.

Like how, why on learning from work.

Learning from work.

Difference of learning between school and work.

Need feedback.

Feedback format changes in work.

Manager is responsible for giving feedback.

Manager will only give feedback in two extremes. You did really well or you did really bad.

Need clear feedback.

School feedback - doesn’t care about your feelings

Work feedback - care about your feelings

Co-workers are less likely to give you feedback.

Why do teammates not give feedback? It’s because they are your peers/professionals.

Team is doing well means you are doing well.

Like NBA teams.

How to handle competition? Professionally.

Because of professional work. It makes things complicated.

How do players answer in the media when asked for another player not doing good?

They are public figures.

Once you are at work. You shouldn’t expect the same format of feedback in school.

But feedback is important. How do I get feedback?

But you’d never feel that feedback is necessary.

But there is feedback. You just need to be sensitive to it.

Email. Do you check it?

Different managers approach differently.

You made my day card.

Recognize people but not too often to make it valuable.

Feedback -> re-engage

Feedback from things you build.

Train yourself to become sensitive.

2 Job description with the same requirements.

But the difference is years of experience.

X years of experience JD will ask them:

How? Why? What can go wrong? To do stuff.

How to fix it?

Enterprise work experience.

School - this is how it should work.

Reality - nothing works as expected. Anything can go wrong. No best answer.

Internet protocols. Something missing in RPC.

Each http. Has header and a body.

Is there a size limit on the header?

There’s a lot of gray area.

There’s a lot of ways RPC protocol can go wrong.

That’s what people find valuable when things can go wrong.

If there’s anything a new way for http (or other tech) can go wrong, then that's also valuable.

Two sides of the coin. Book is how to do things, the other side is work, what can go wrong.

Perl vs Python

Movie - school

3D movie - work

Tiny progress is progress.

What to learn

What next

What to pay more attention

How to find the right information

In a working environment. It's hard to get pure feedback.

How do you present yourself and be a leader on the team?  
Should I be the leader in a certain area?

# Aug 19, 2022 Introductions

Charles Li

1st half mainland china

After grad in startup

Came to US

Spent time in NY as engineer

Big IT team in finance industries

Bankers

Don’t like culture relocated to bay area

18 years

Ops Org

Availability, reliability, security

Tools -> PD

Reason: for doing mentorship.

Certain moments. If i received some advice, my life would’ve been a lot easier.

Lady he met

Charles, its hard, it is a nice country. Try to make it home.

Larger pond. Bigger fish.

Specific or generic

Ebay

Interested senior dev / architect

Is it ok to work software manager

Flexible

3 months

Maintain relationship until December

Goal: How to use charles

Agenda: losing my passion