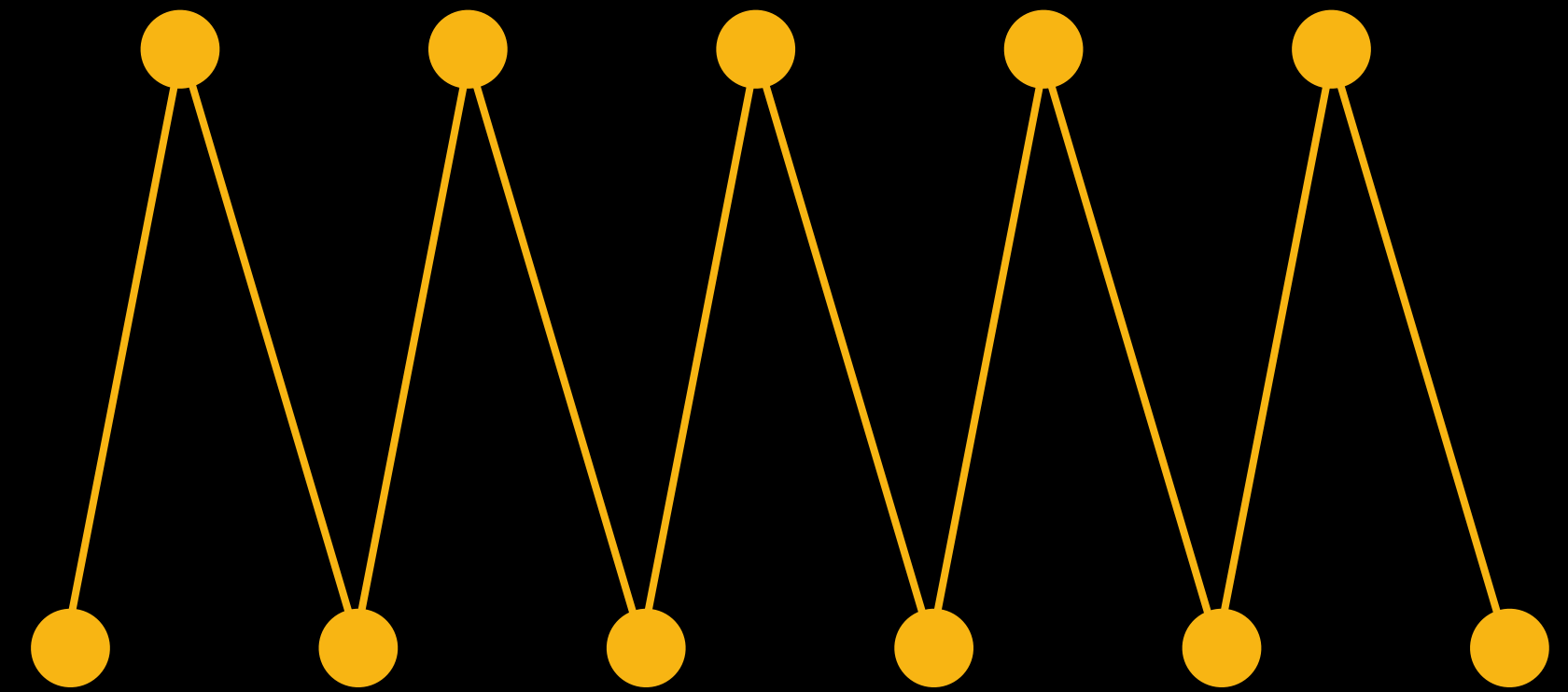
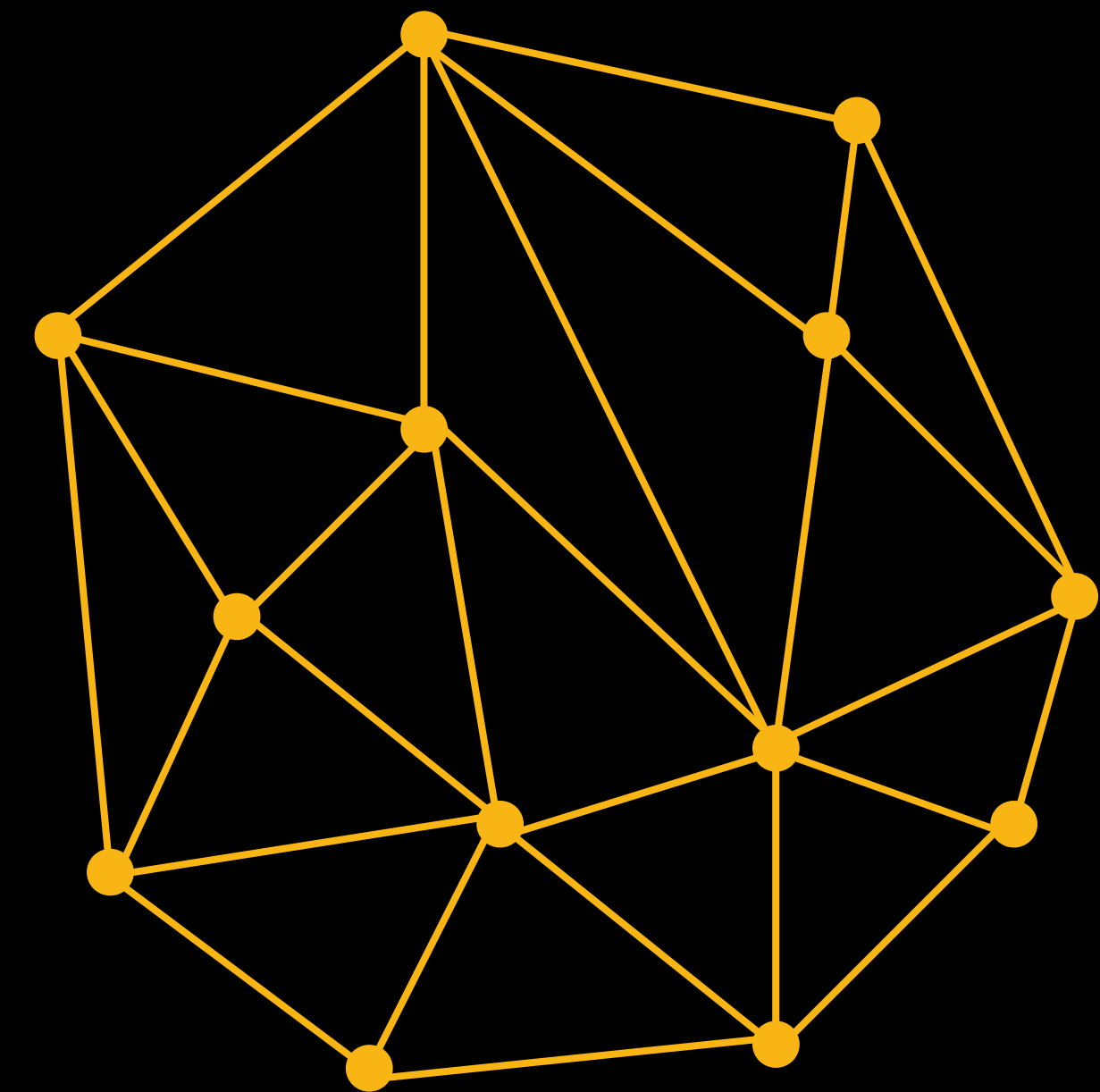


# Scaling Distributed Teams Around The Globe



Ranganathan Balashanmugam

# Scaling Distributed Teams Around The Globe By Applying Learnings From Distributed Systems



Ranganathan Balashanmugam



**G'day mate, I'm Craig**





**“Its funny”**





**It's funny..**





**Hey can you  
give the budget  
for 2020?**

**In sometime..**



**Can you be  
specific?**



- \*Continuously improve through continuous feedback.

## Improve at macro and micro levels





**Hi, I am Ranganathan  
Balashanmugam**





**Hi, I am Ranganathan  
Balashanmugam**



**Ran-ga-na-WHAT???**

**Hi, I am Ranganathan  
Balashanmugam**



**People butcher  
my name**

# 'Ranganathan Balashanmugam' makes for strong passwords

Test Your Password		Minimum Requirements
Password:	<input type="text" value="Ranganathan Balashar"/>	<ul style="list-style-type: none"><li>• Minimum 8 characters in length</li><li>• Contains 3/4 of the following items:<ul style="list-style-type: none"><li>- Uppercase Letters</li><li>- Lowercase Letters</li><li>- Numbers</li><li>- Symbols</li></ul></li></ul>
Hide:	<input type="checkbox"/>	
Score:	<b>85%</b>	
Complexity:	Very Strong	

# 'Ranganathan\$Balashanmugam' makes for strong passwords

Test Your Password		Minimum Requirements
<b>Password:</b>	<input type="text" value="Ranganathan\$Balasha"/>	<ul style="list-style-type: none"><li>• Minimum 8 characters in length</li><li>• Contains 3/4 of the following items:<ul style="list-style-type: none"><li>- Uppercase Letters</li><li>- Lowercase Letters</li><li>- Numbers</li><li>- Symbols</li></ul></li></ul>
<b>Hide:</b>	<input type="checkbox"/>	
<b>Score:</b>	<b>100%</b>	
<b>Complexity:</b>	Very Strong	

**Call me R A N G A**

Test Your Password		Minimum Requirements
<b>Password:</b>	<input type="text" value="Ranga"/>	<ul style="list-style-type: none"><li>• Minimum 8 characters in length</li><li>• Contains 3/4 of the following items:<ul style="list-style-type: none"><li>- Uppercase Letters</li><li>- Lowercase Letters</li><li>- Numbers</li><li>- Symbols</li></ul></li></ul>
<b>Hide:</b>	<input type="checkbox"/>	
<b>Score:</b>	<div style="background-color: orange; width: 18%; text-align: center; padding: 2px;"><b>18%</b></div>	
<b>Complexity:</b>	Very Weak	



# My journey so far has been interesting.

Software engineer for ~12 years

Work with remote teams for 15 years

2016

Head of India,  
Aconex

Nov 2018

Founder and CTO,  
EverestEngineering



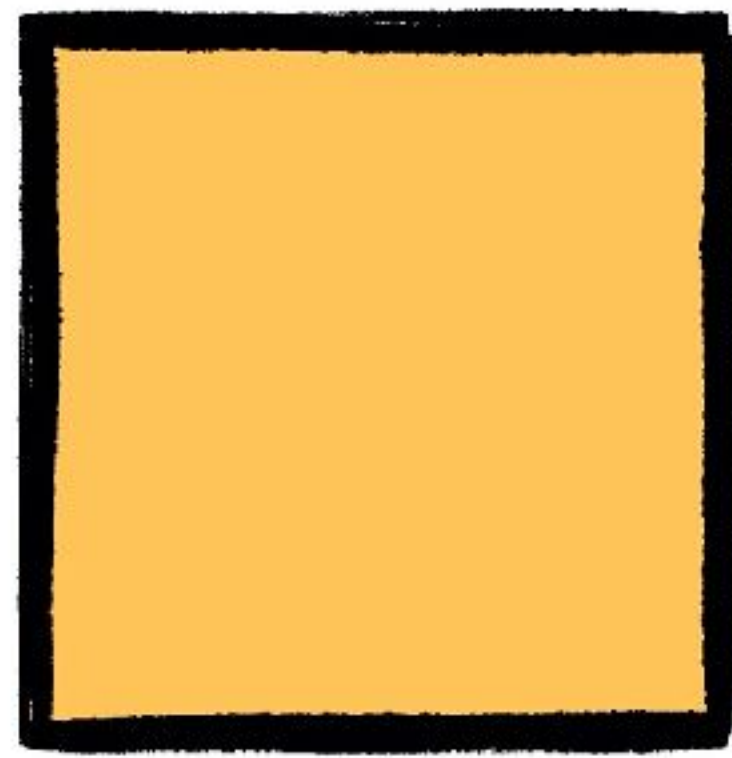
Dec 2019

Named as one of  
the top10 CTOs  
in India by CEO  
Insights Mag

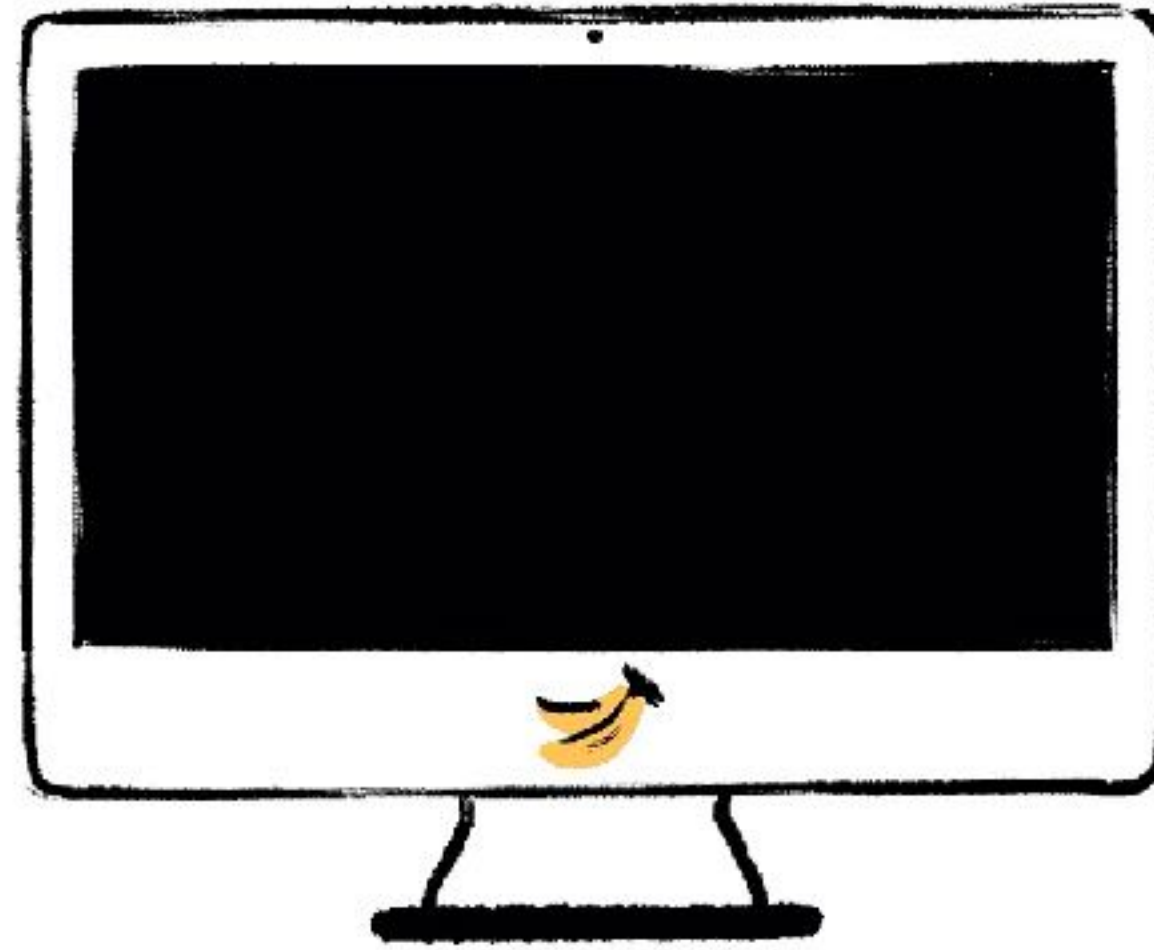
**If you could all stand up and....**

**Don't do it :)**

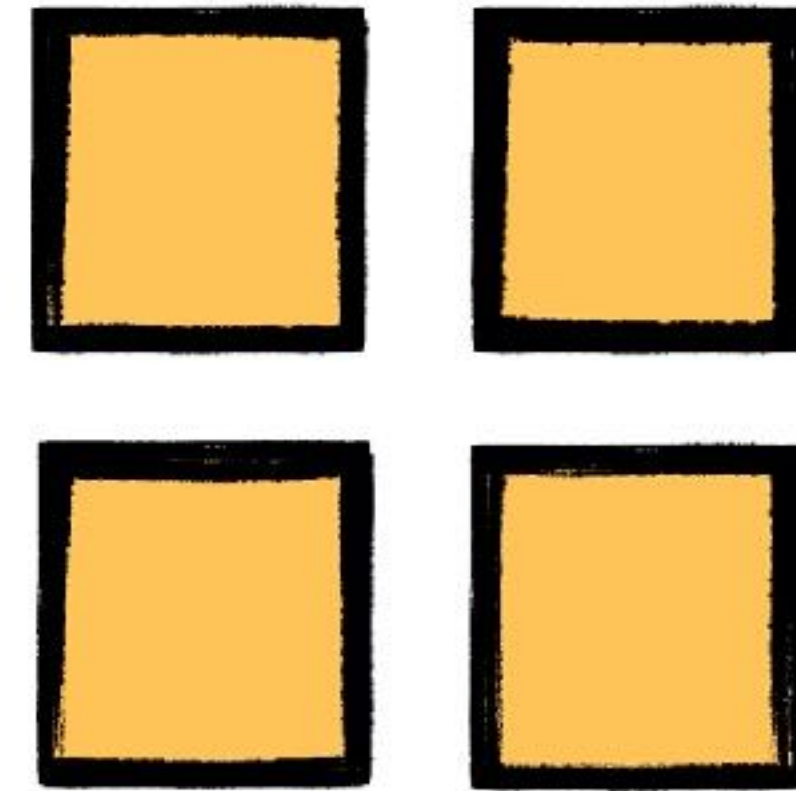
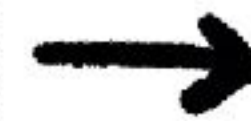




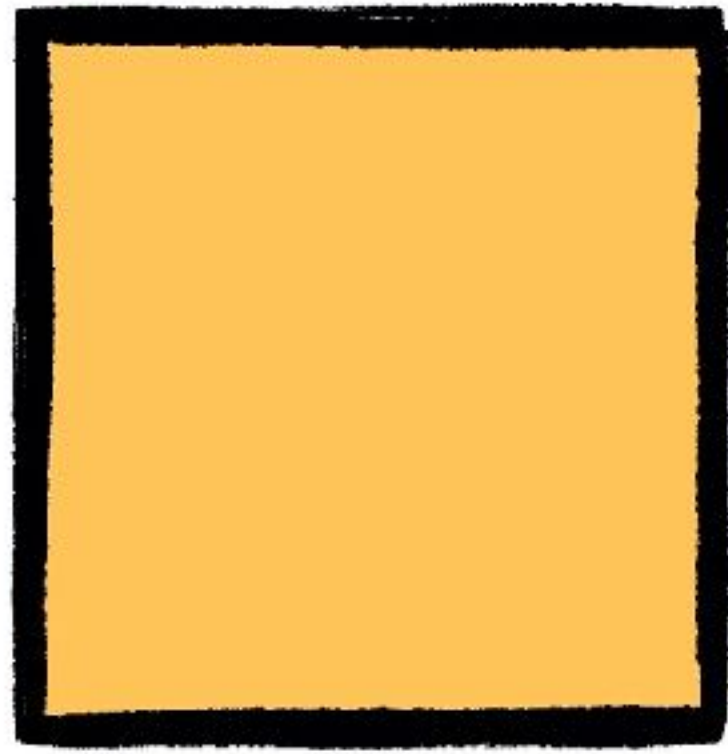
**Task**



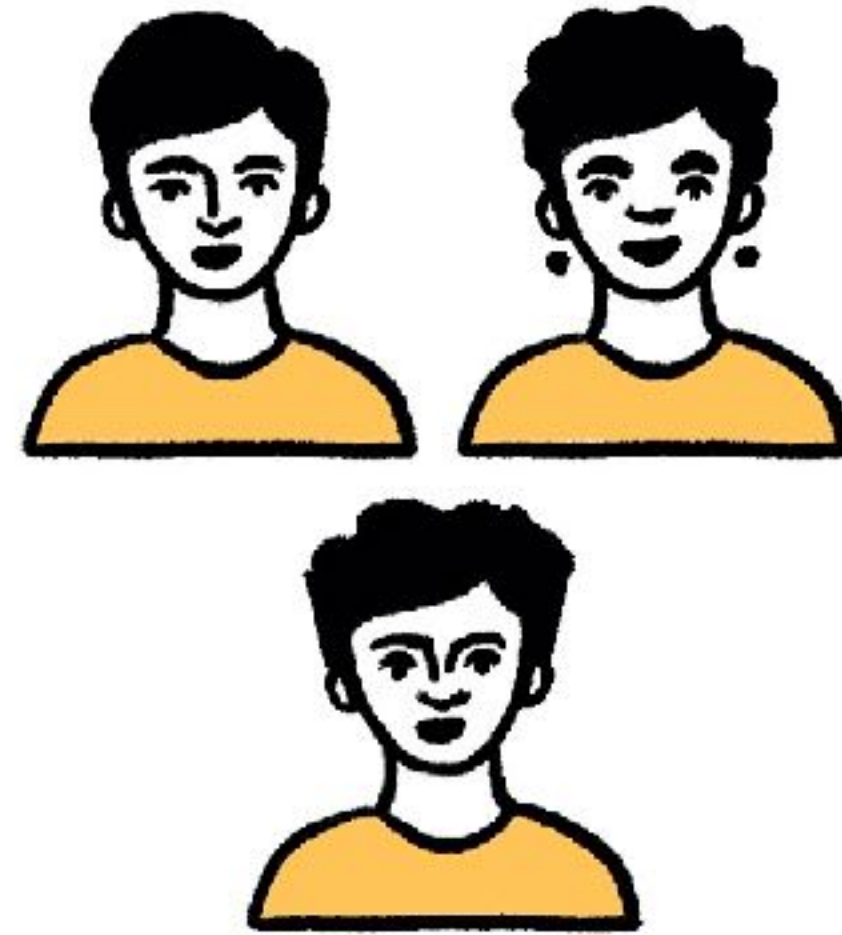
**Single  
System**



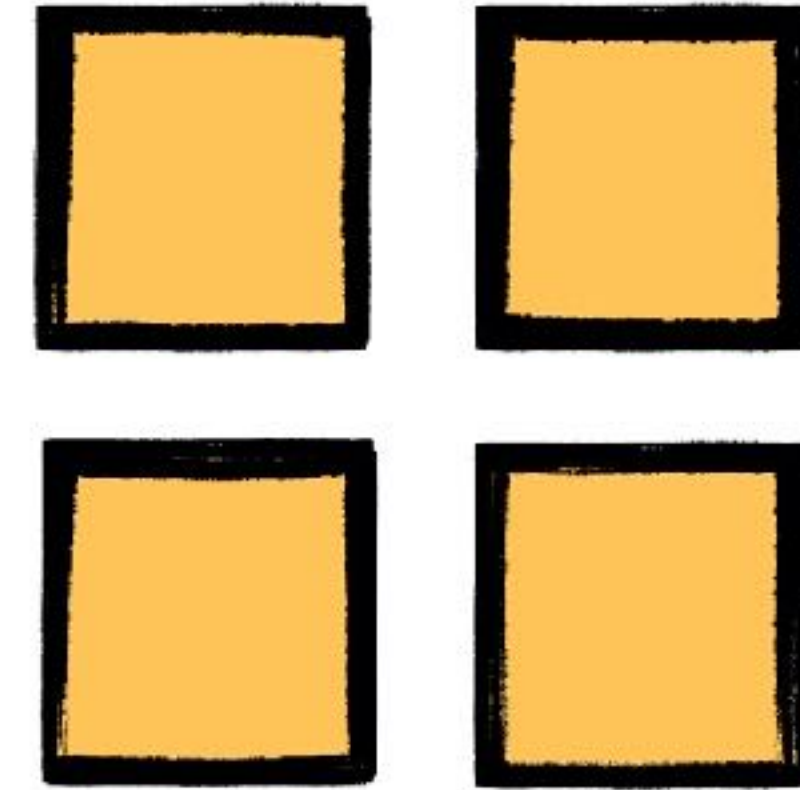
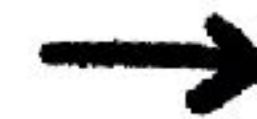
**Task  
completed**



**Task**

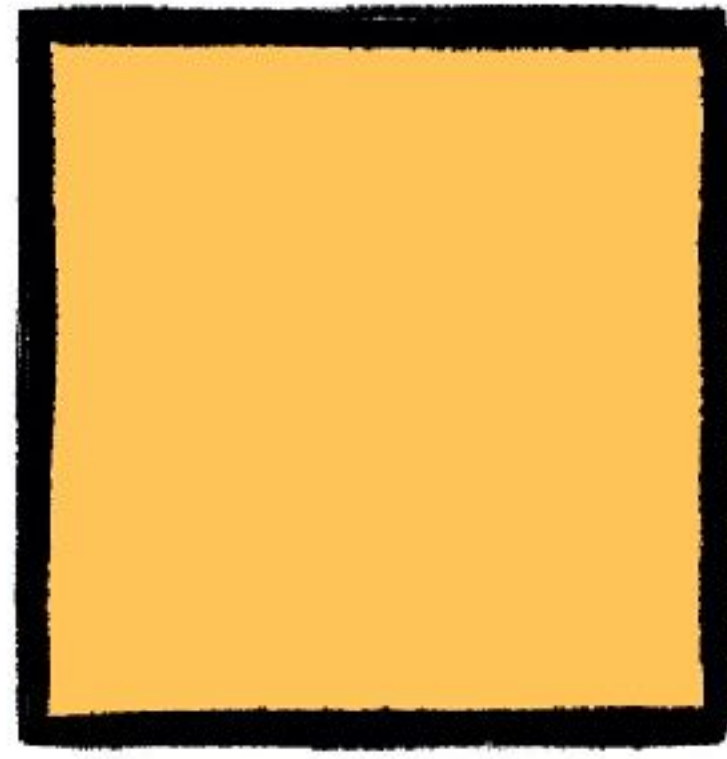


**Team**

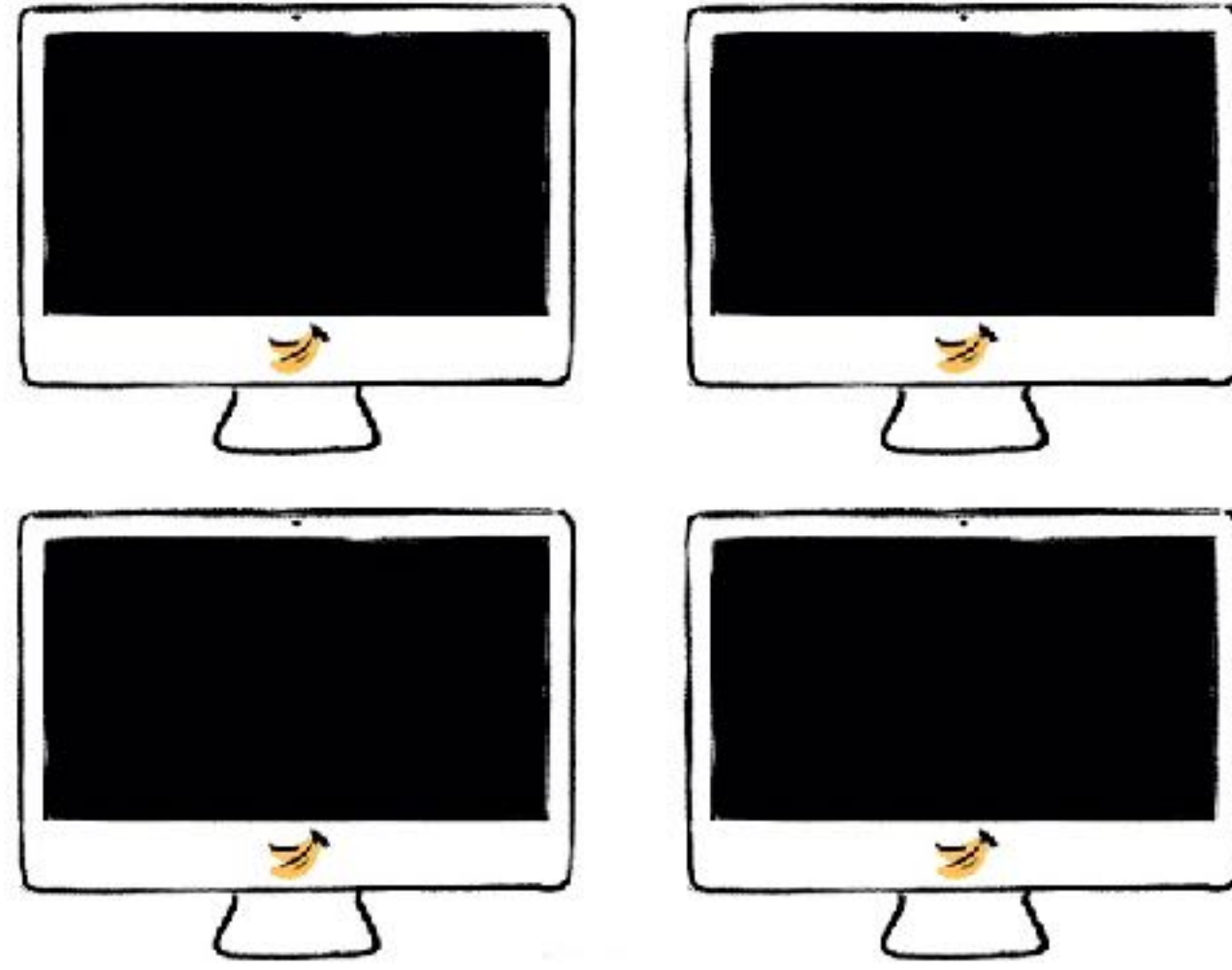


**Task  
completed**

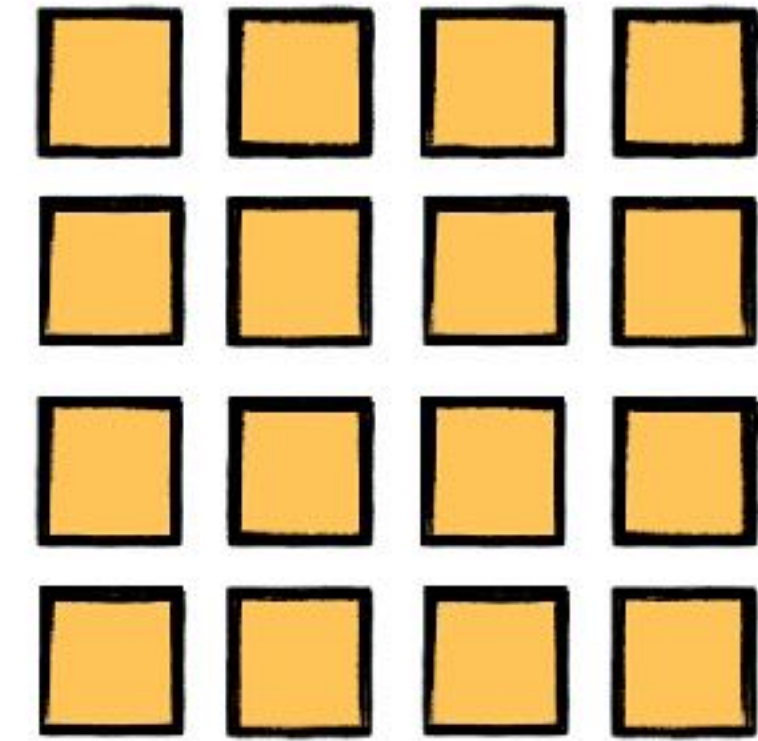
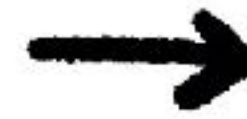




**Big Task**

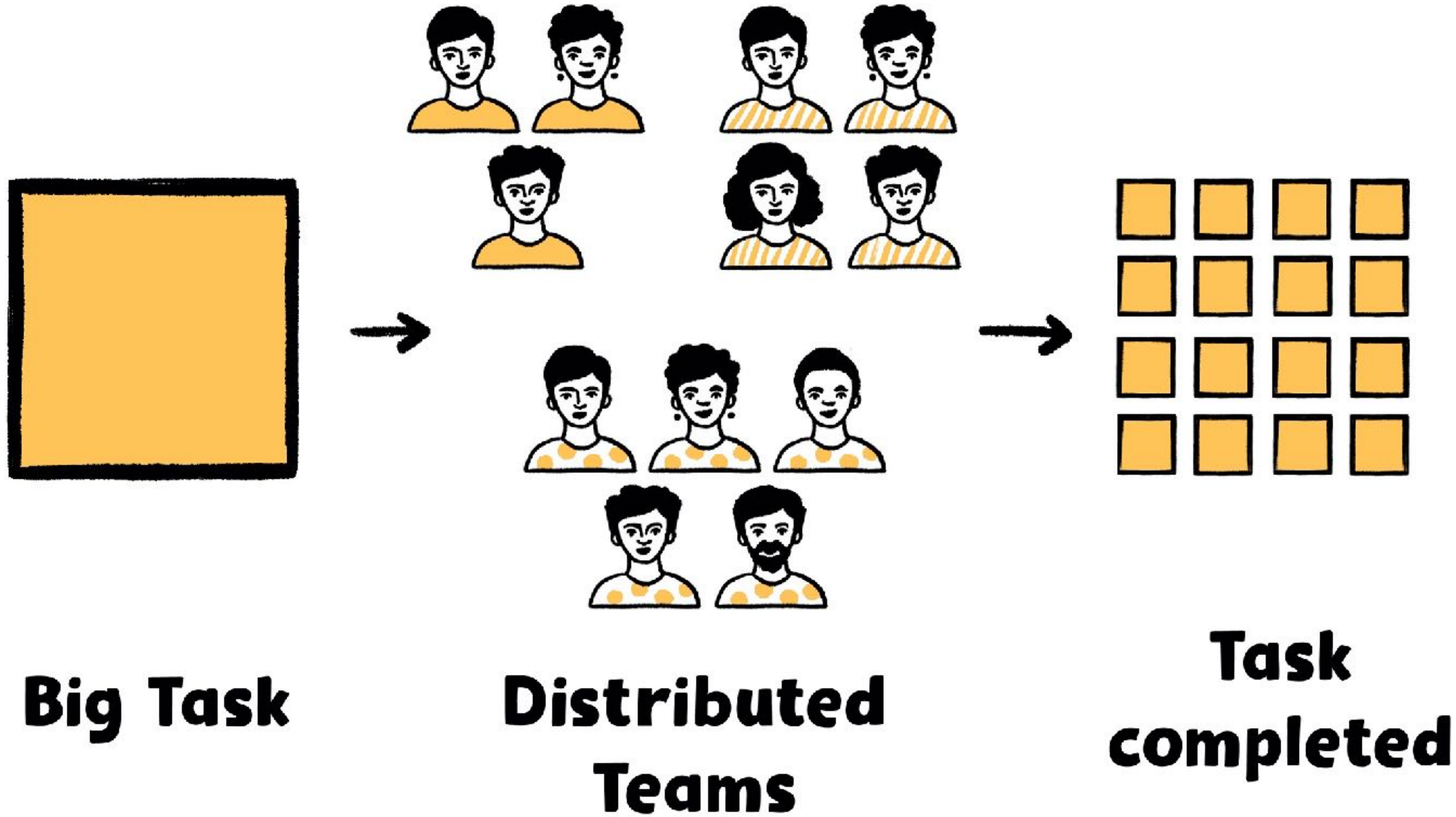


**Distributed  
Systems**



**Task  
completed**





**Big Task**

**Distributed  
Teams**

**Task  
completed**

“A distributed system is a collection of autonomous computing elements that appears to its users as a single coherent system.”

- Distributed Systems: Principles and Paradigms  
Book by Andrew S. Tanenbaum

“A distributed ~~system~~ **team** is a collection of autonomous ~~computing elements~~ **teams** that appears to its users as a single coherent system.”

- Distributed Systems: Principles and Paradigms  
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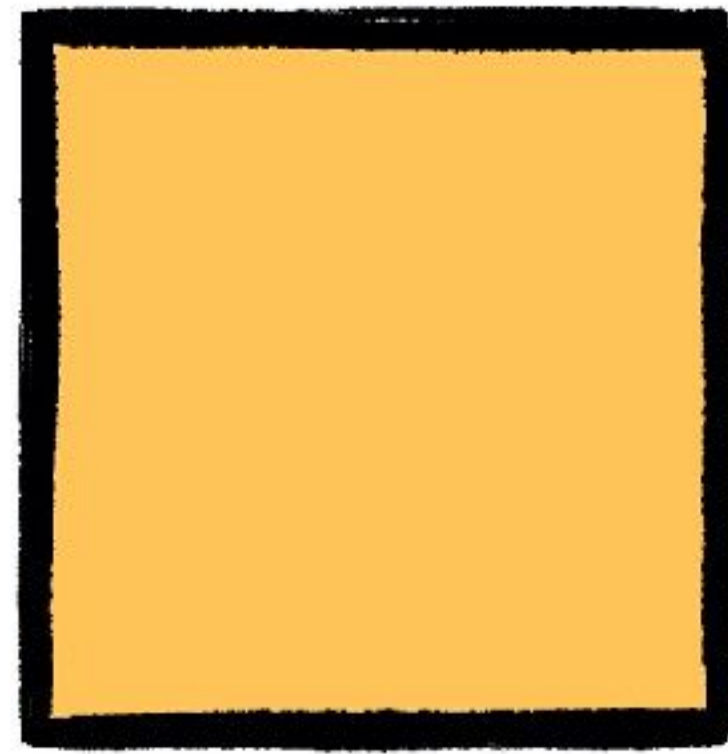
# Characteristics of distributed systems

- They operate concurrently
- They fail independently
- They do not share a global clock

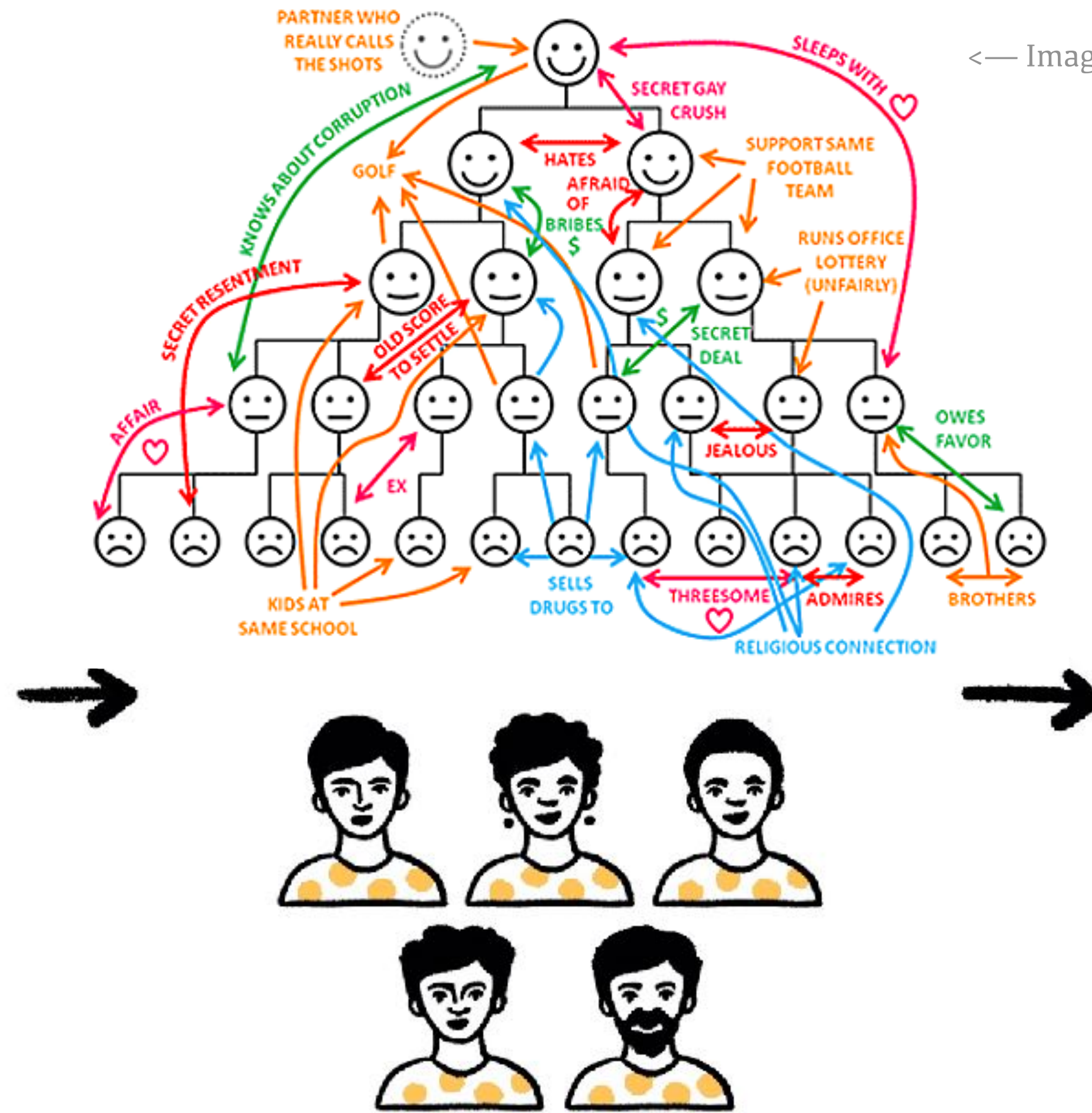
# Characteristics of distributed ~~systems~~ **teams**

- They operate concurrently
- They fail independently
- They do not share a global clock

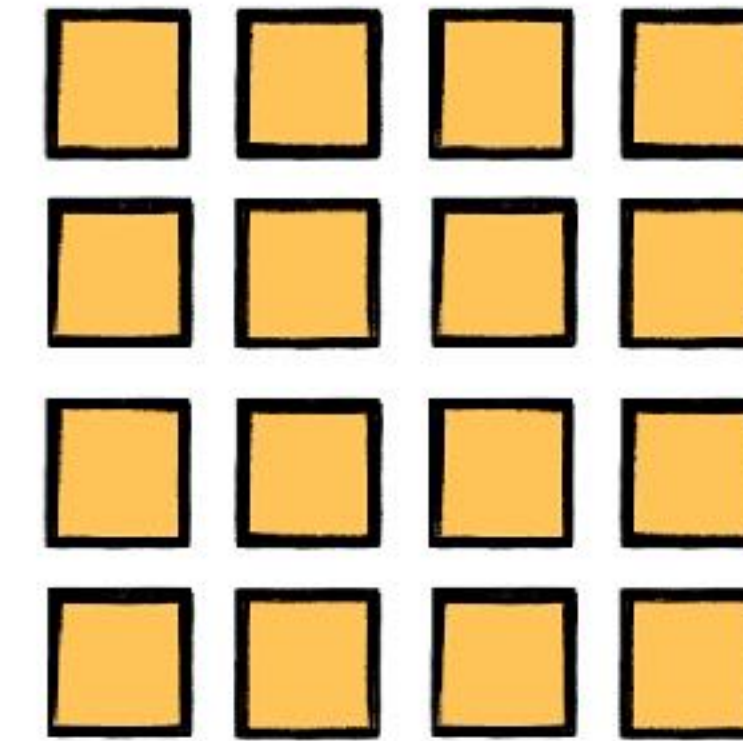




**Big Task**



**Distributed Teams**



**Task completed**



# “Fundamentals”



**Why do you want to go distributed?**

# Why do you want to go distributed?

It's cheap

Outsource dirty work

Hiring limits

Remote potential markets



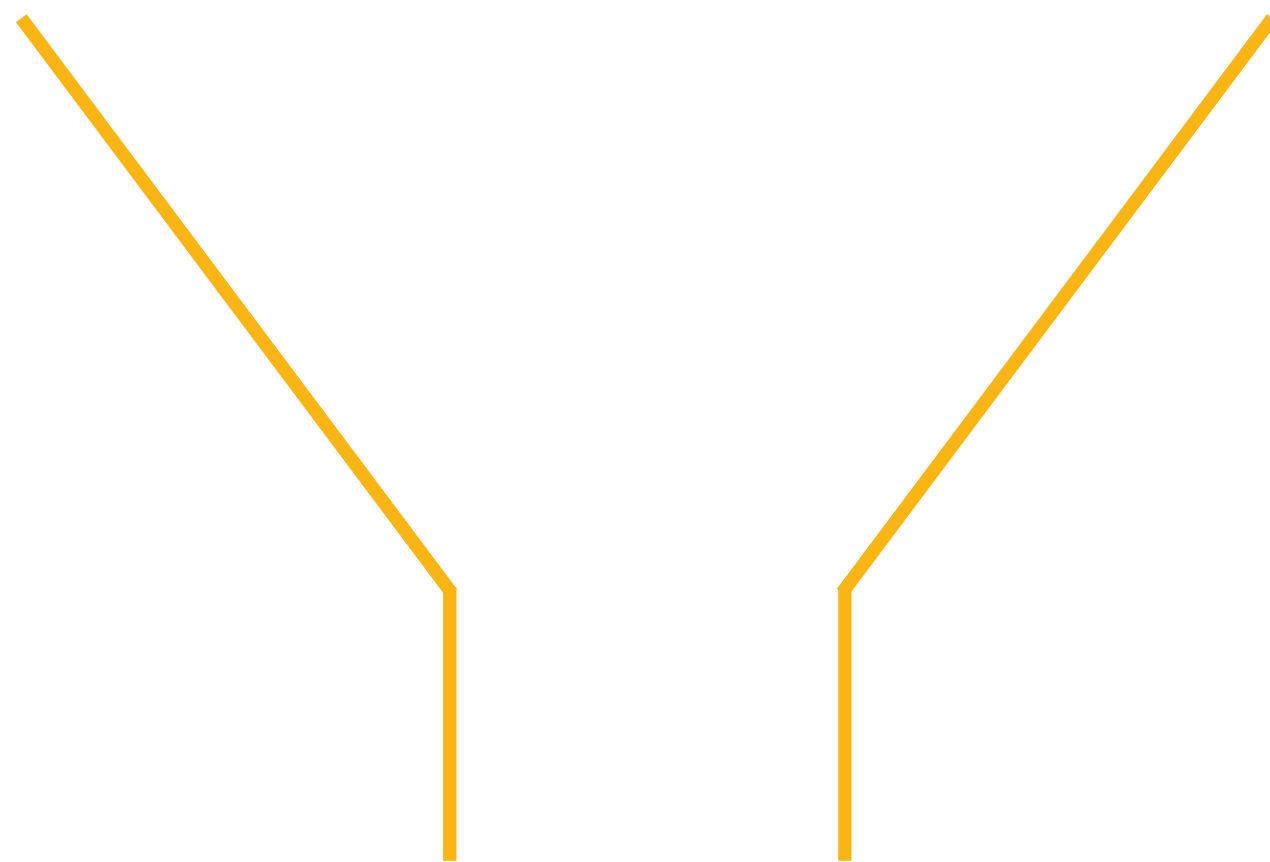
# Where to go?





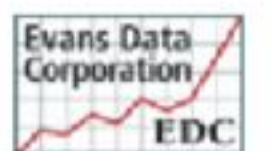
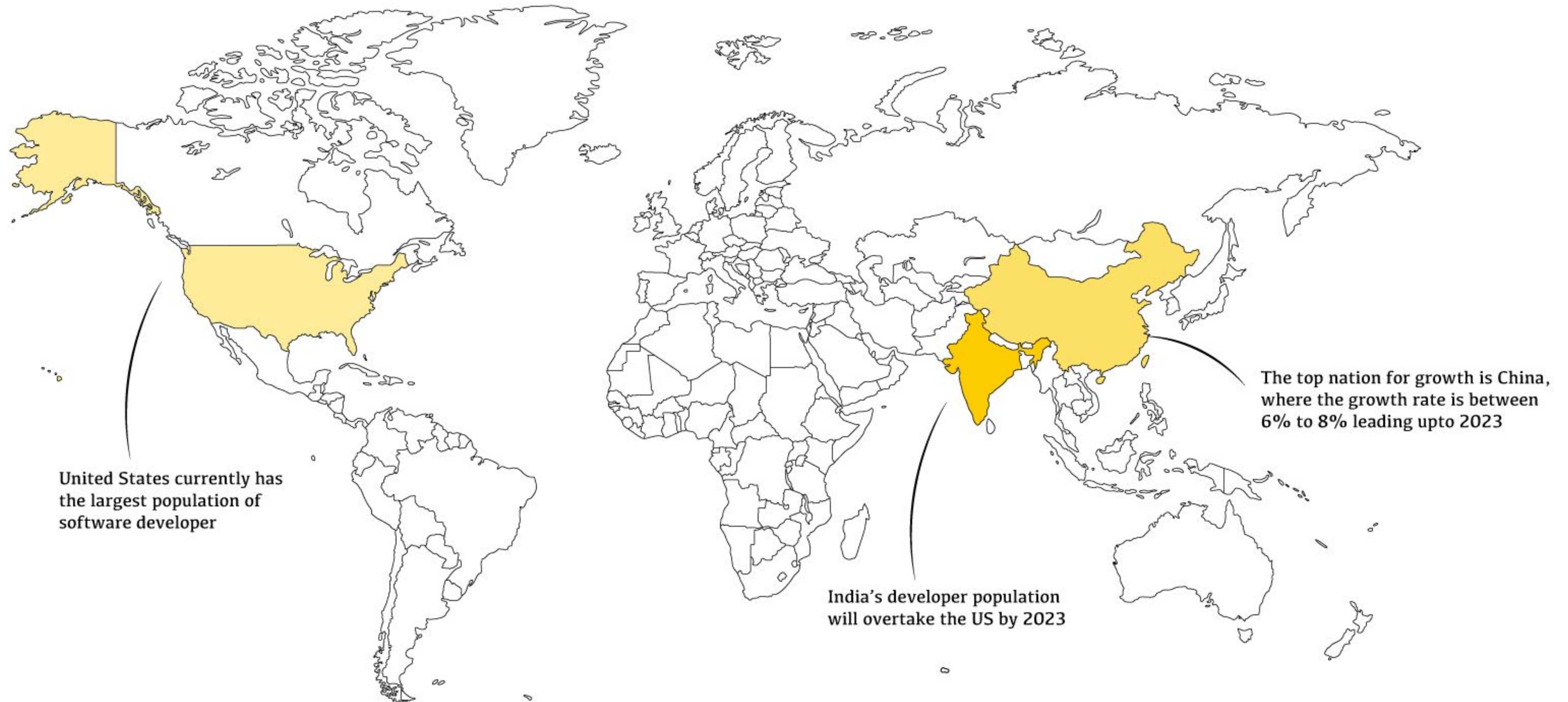
# Where do you want to go?

23 million developers



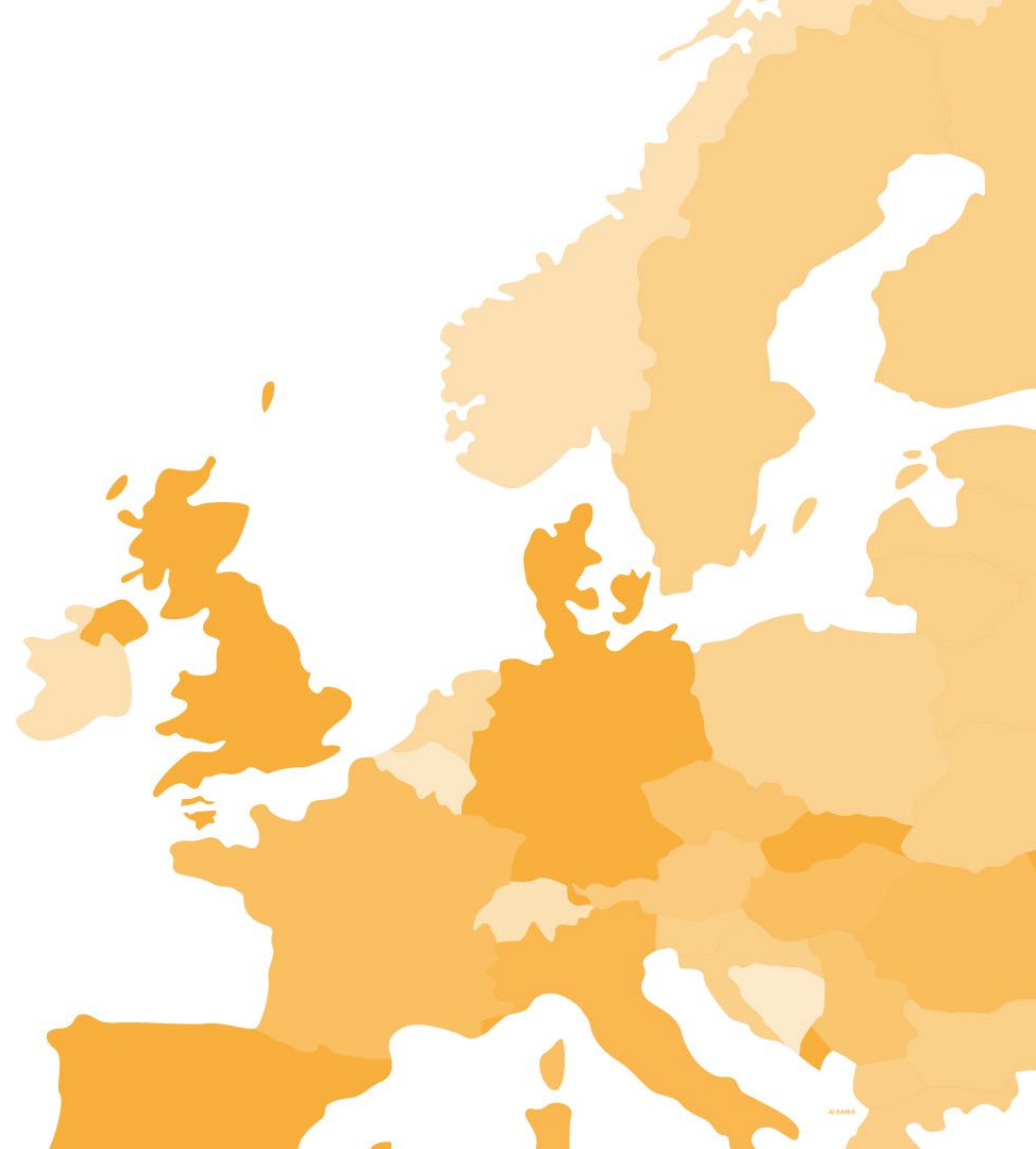
- Same city, same country, other country (limited by timezones)
- Availability of developers (competitive hiring)
- Language
- Agency vs own teams
- Cost of developers
- Trusted network for advice
- Ease of travel

# Number of software developers in the world



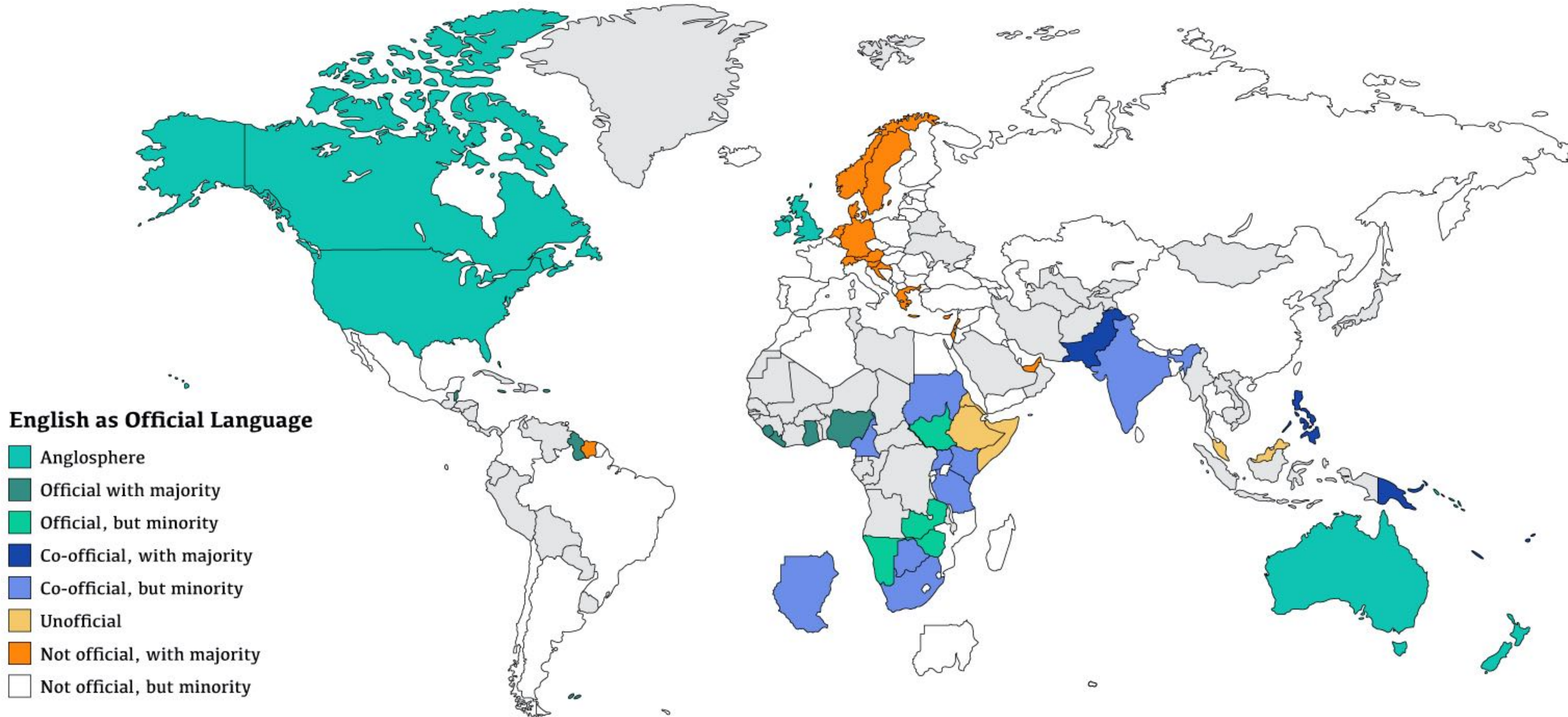


# Number of software developers in the Europe





# People who speak English



Nations in which English is an official language (de facto or de jure).  
Anglosphere countries are those where English is the main native language  
English in countries with more than 50% english speakers are here considered being a majority language.  
For the countries where English is an Unofficial, Israel is the only one with majority speakers.

**Us**  
**We vs ~~They~~**

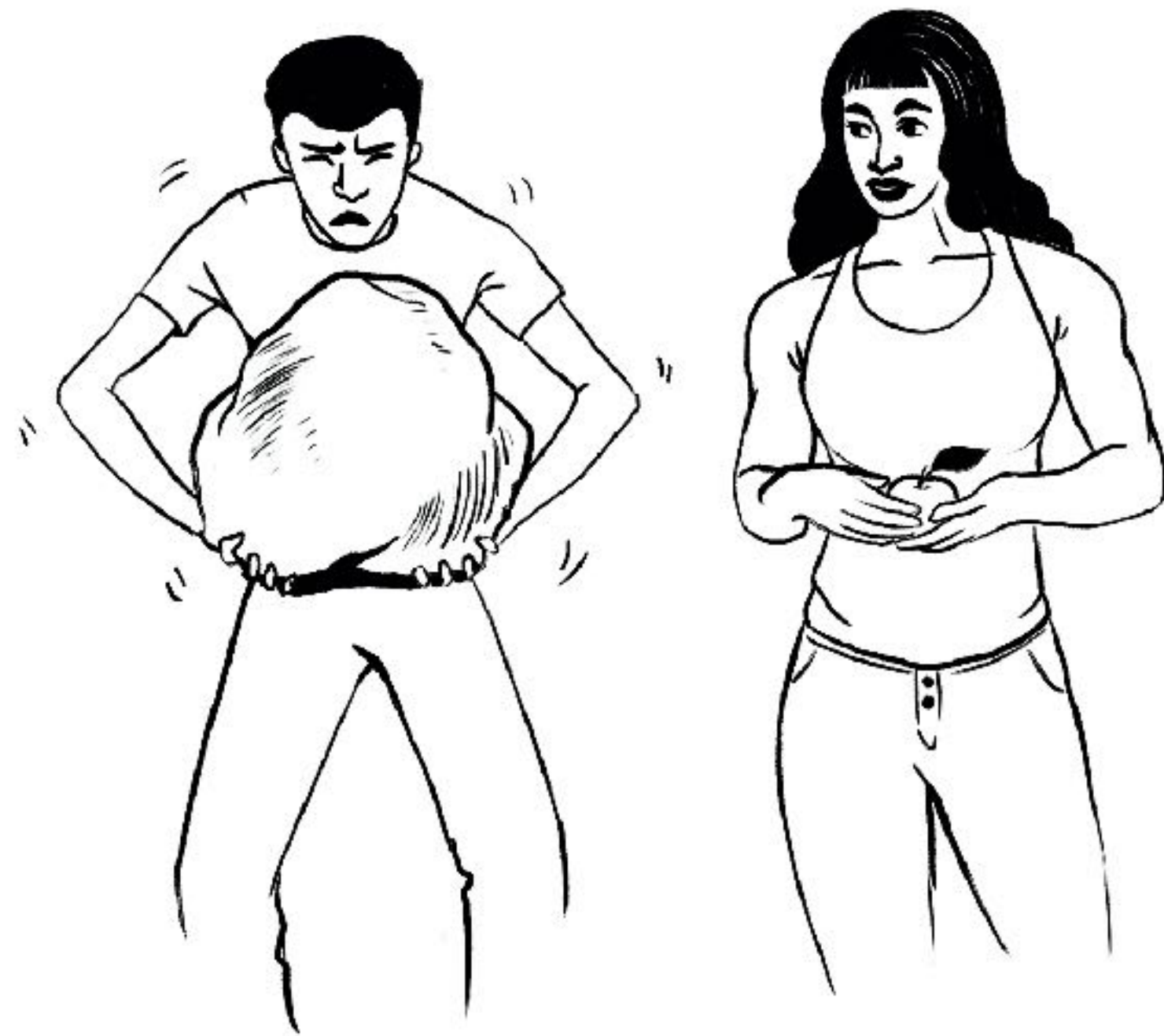


# Hiring, firing, retaining



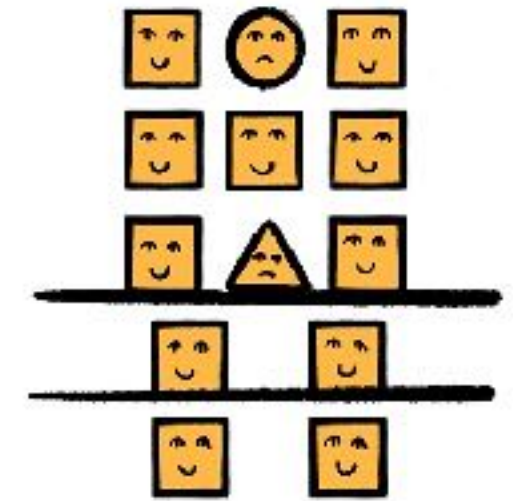
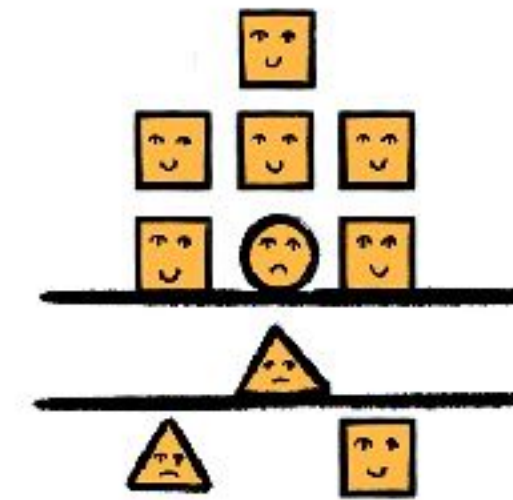
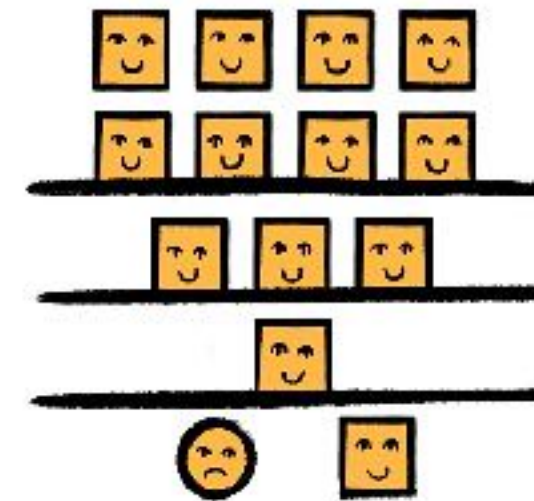
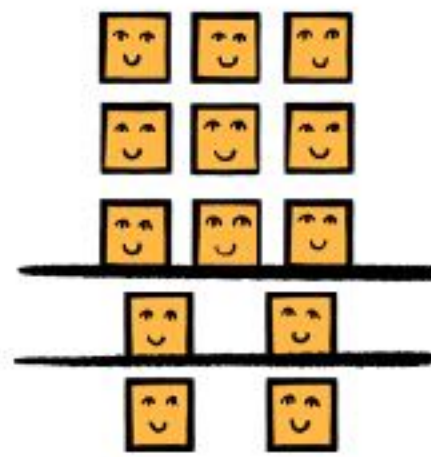
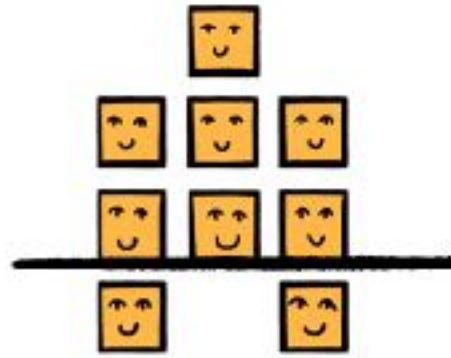
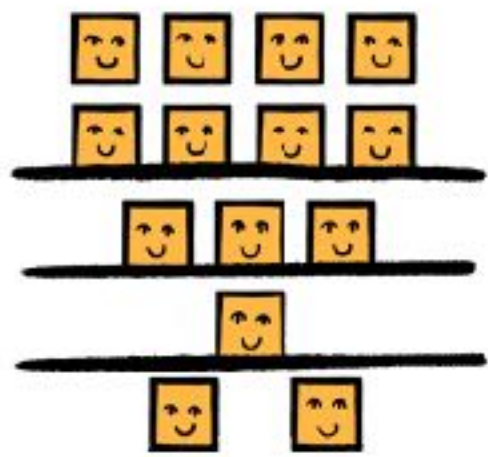
**“Don’t hire the best.”**

# Hiring, firing, retaining



**“Don’t hire the best. Hire the right fit.”**

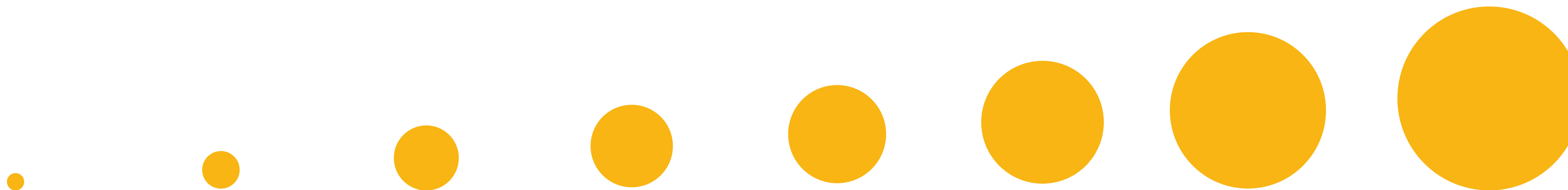
# Hiring, firing, retaining



**Hiring, firing, retaining**



**“Coach, Grow, Give Autonomy”**



# Virtual Distance

“It is a sense of psychological distance from others that affects collaboration performance”



$$\text{Virtual Distance} = \text{Physical Distance} + \text{Operational Distance} + \text{Affinity Distance}$$

“It is a sense of psychological distance from others that affects collaboration performance”

# Virtual Distance =

Physical Distance

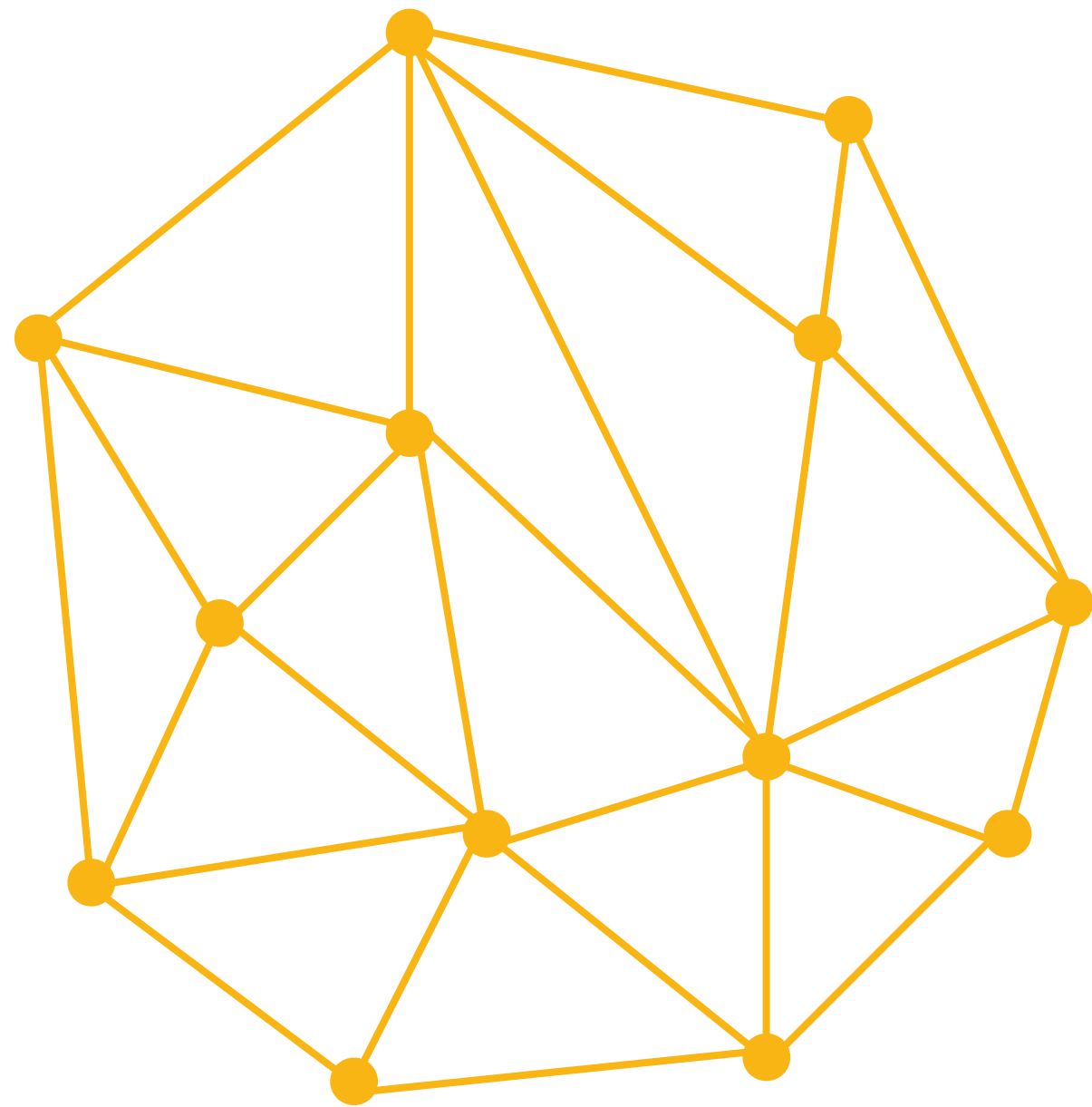
+ Operational Distance

+ Affinity Distance

Geography, time zones, and organizational affiliation.

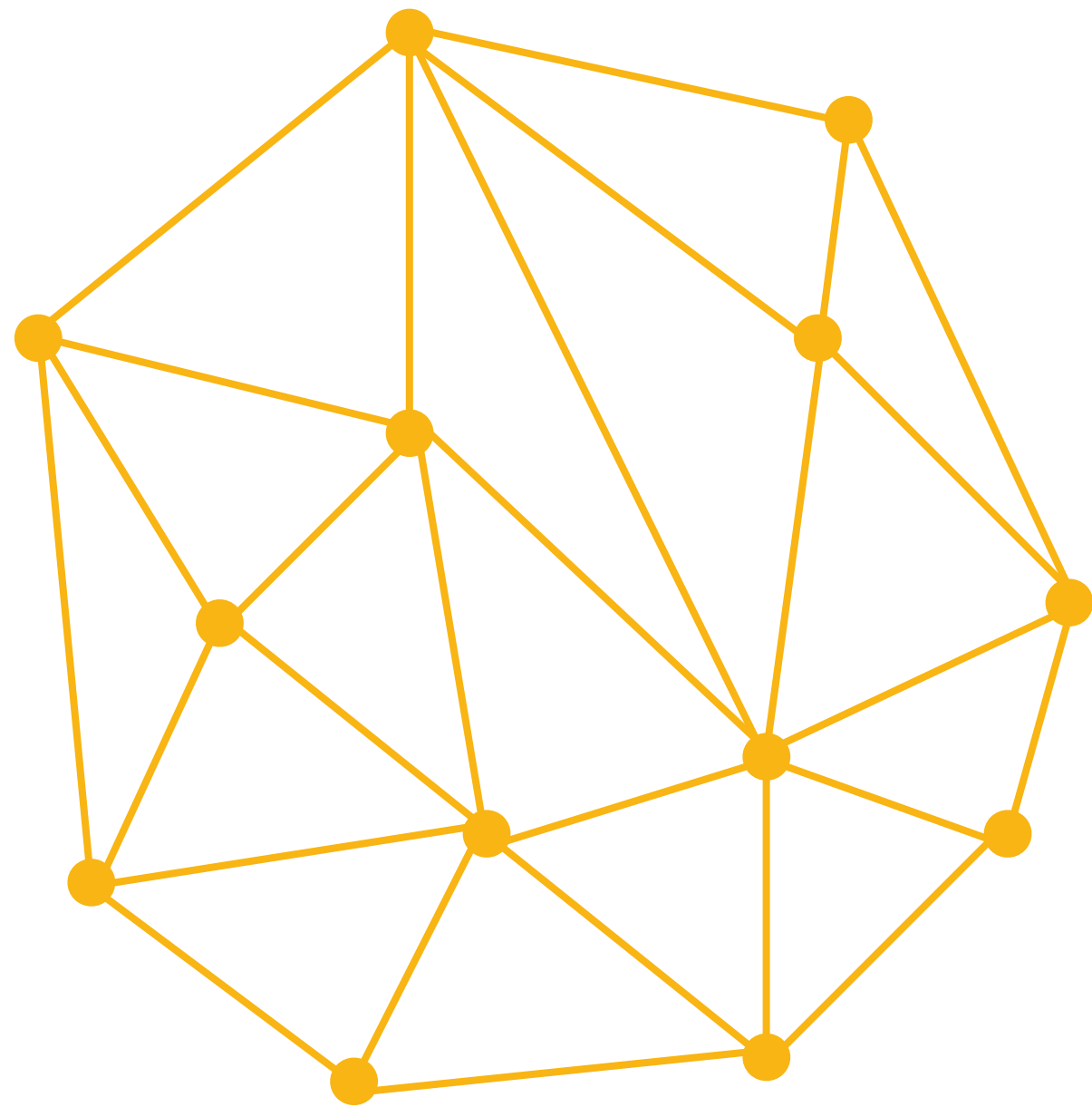


$$\text{Virtual Distance} = \text{Physical Distance} + \text{Operational Distance} + \text{Affinity Distance}$$



The “noise” in the system.

$$\text{Virtual Distance} = \text{Physical Distance} + \text{Operational Distance} + \text{Affinity Distance}$$



The barriers to form deep, meaningful relationships.

**How might we reduce this virtual distance?**





## **7 key takeaways for scaling distributed teams**

- **Communication is the foundation.**
- **Model your framework - roles, responsibilities, decision making.**
- **Choose right tools - software and hardware.**
- **Plan for collaboration and concentration time.**
- **Local first.**
- **Find the local leader.**
- **Promote open online chit-chats.**



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- **\*Continuously improve through continuous feedback.**

# Communication is the foundation

I fell asleep in class today as I was awfully bored I laid my head upon my desk and fell asleep and snored

I was placed in your Bureau, at various in Meteorology were, by a people of the United States, supposed to in imaginings of a wild enthusiast I have reason however to think it has been wrought in men's minds at times. Certain it is, that the gratified in my first Report to you,

we find several of them the Diabetic mellitus, Dr. ... either disabled him of annual labor, in fact, can we recommend the work on the 3<sup>d</sup> class ... R. ...

Dear La Breuille for you & yours with much pleasure at your ... Your respectful ... Via Vite long at ... man to please ...

Handwriting images source: [https://upload.wikimedia.org/wikipedia/commons/0/01/PSM\\_V34\\_D861\\_Espy\\_letter.png](https://upload.wikimedia.org/wikipedia/commons/0/01/PSM_V34_D861_Espy_letter.png), <https://surgeryattiffanys.files.wordpress.com/2014/04/doctors-handwriting.jpg>, <https://www.quora.com/Why-do-doctors-write-prescriptions-in-an-illegible-manner>, <https://www.bankslane-jun.stockport.sch.uk/assets/Uploads/Handwriting-Policy-and-Guidelines4.pdf>



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we find several of that the Diabetic mellitus, Dr. ... either disabled him of annual labor, in fact, can we recommend the work on the 3<sup>d</sup> class ... R. ...

Dear La Breuille for you of yours was ... please at your ... Your respectful ... Via Vota busy at ... more to please ...

My current thoughts. This talk is boring and I feel like sleeping. I feel full after the lunch. The conference has good lunch. Do I have any notifications on slack? If I am reading this, I am smiling.

Handwriting images source: [https://upload.wikimedia.org/wikipedia/commons/0/01/PSM\\_V34\\_D861\\_Espy\\_letter.png](https://upload.wikimedia.org/wikipedia/commons/0/01/PSM_V34_D861_Espy_letter.png), <https://surgeryattiffanys.files.wordpress.com/2014/04/doctors-handwriting.jpg>, <https://www.quora.com/Why-do-doctors-write-prescriptions-in-an-illegible-manner>, <https://www.bankslane-jun.stockport.sch.uk/assets/Uploads/Handwriting-Policy-and-Guidelines4.pdf>



# Communication is the foundation



Hi Syamala! How are you? Good to meet you face to face



Hi Siram??

Am I looking as awkward as I am feeling now ;)



We will meet later..



Hi Siram...

● **Communication is the foundation**





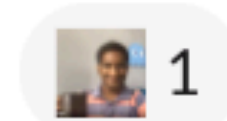
# ● Communication is the foundation



**Ringo Thomas** 11:00 AM

How happy is this man 😄

image.png ▾



# Communication is the foundation

**Faizuddin Mohammed** 8:56 PM  
EOD Update:

**XD-466 Fixed the infinite loop issue when a date was used to render with Handlebars in a reference filter**  
The problem was that the handlebars rendered to milliseconds. The reference component would then try to get the references with a HTTP request. A prop changes because of this thereby triggering the handlebars render for the date with new milliseconds and then again filters and loop continued. Fixed by maintaining the filter in the state and only refreshing when the form data changes. This is merged to master. 🚀

**XD-565 Tabbed Components**  
RA3 tabbed components migrated to not depend on the location or routes. Both `tabbedForm` and `tabbedShowLayout` changed. This is in CR assigned to [@Cheyne Wallace](#)

**XD-648 NameGeneratorInput**  
Paired with [@Hemanth S R](#) to fix a recursive issue. This is in CR assigned to [@Jo Estephan](#)

**XD-581 DataProvider upgrades**  
[@Hemanth S R](#) and I paired up to fix `referenceInputs` but ended up finding that the old version of the data provider was causing a bunch of issues (including reference input never showing up). It took quite sometime to figure this one out but the fix did not take long. A simple wrapper around the old data provider did the trick. And as a consequence, basic reference inputs work pretty well now. We fixed all the broken tests because of this upgrade as well. This is in CR assigned to [@Jo Estephan](#) as well.

**XD-590 CardActions to TopToolbar changes**  
Picked this one up but did not get much time to complete this. I'll work on this tomorrow. Me and [@Hemanth S R](#) will also pair up to fix the dependent Reference Inputs.

**KrishnaMurthy** 9:09 PM  
EOD Updates of 24 DEC

Things Done Today

- Completed Login service migration using `Go-Kit`
- Added Go-Kit in-built logger to Login-service
- Replaced REST Web framework `Gin` with `Gomille Max` after taking some feedback from `Go-kit Slack community`. Even though Gorilla is slow in performance, it built on top of the standard net/http Go lib.

Things In-Progress

- Modifying File System service implementation with `Go-Kit` lib.

Learned:

- Bit more in-depth understanding on `Go Interfaces`.
- One new best practice coding style while declaring variables.

Tomorrow's Goals

- Should able to complete File system service using Go-Kit micro-service lib.
- Start understanding and implementation for APIGateway using Go-IGT.

Final-Git-Repo: <https://github.com/krishnaeverestengineering/filebox-micro>

krishnaeverestengineering/filebox-micro  
Language: Go Last updated: 4 hours ago  
krishnaeverestengineering/filebox-micro | Today at 12:16 PM | Added by GitHub

**Srinivas** 7:14 PM  
EOD update of 2 DEC  
Done:

=====

**1) Story: Persist data in TRUST/SMSF flow & Issues in TRUST/SMSF flow:** (<https://trello.com/c/eFqTAYNV/708-bug-on-projections-screen>)

- Merged the PR to master and properly tested in both clover demo and collinhouse demo. Once tested properly deployed in both clover prod and collinhouse prod.

**2) Story: Bug on Projections Screen** (<https://trello.com/c/BEyyaZQ/688-persist-data-in-trust-smst-flow-issues-in-trust-smst-flow>)

- Merged the PR to master and properly tested in both clover demo and collinhouse demo. Once tested properly deployed in both clover prod and collinhouse prod.

**3) Story: 708 Bug on Projections Screen** (<https://trello.com/c/eFqTAYNV/708-bug-on-projections-screen>)

- Add primary applicant details and Add Individual Trustee Details pages**  
-> Fixed bug: On unchecking "Postal address same as home address" is pre-populating with the Home address mentioned above.  
This is happening for both Autocomplete and the manual option of entering the address.  
-> Fixed bug: On selecting the "Employment status" as "Not employed", "Retired" and "Student" then "Occupation" should not be mandatory.
- Upload document page:**  
-> Fixed bug: No filetype restriction. The file types we want to allow are PDF, JPG, JPEG and PNG.
- Review page**  
-> Fixed bug: UI breaks if the string entered in the text box is very long.  
-> Fixed bug: Section heading should follow one pattern.

Doing:  
Clover is in this channel

**Prasanna** 10:22 PM  
EOD Update:

Done ✓

- Finished SSO Login UI and API integration along with error handling on UI. Attached a video of demo.
- Fixed the bug that was blocking display of login error messages on UI.
- Fixed `submit button gets disabled on every wrong login attempt` bug. More details mentioned below.
- Created AWS SSO application manually (Since Terraform is not supporting AWS SSO service) for `dev` environment.

Pending ⚠

- Need to create AWS SSO applications for other two environments (demo, prod) after [@ajjagwanth](#) fixes the issue of storing service provider secrets using `Secret Manager` instead of env variables.

Bugs Found 🐛

- Every time, user clicks on login button with wrong or no credentials entered, the login button gets disabled. User has to reload the page in order to enter the correct details and perform the login.


Blockers 🚫

- None

Edited

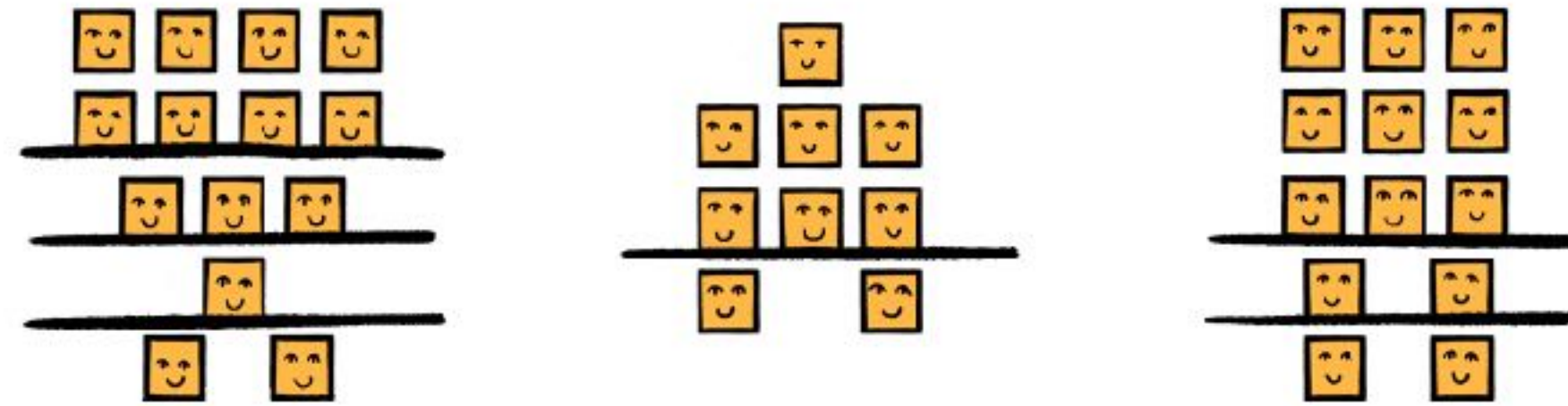
QuickTime Movie

Screen Recording 2019-12-03 at 9.52.12 PM.mov  
31 MB QuickTime Movie





● ● **Model your framework - roles, responsibilities, decision making.** ● ● ●



● ● ● **Choose right tools - hardware and software** ● ● ● ●

**Activity time**

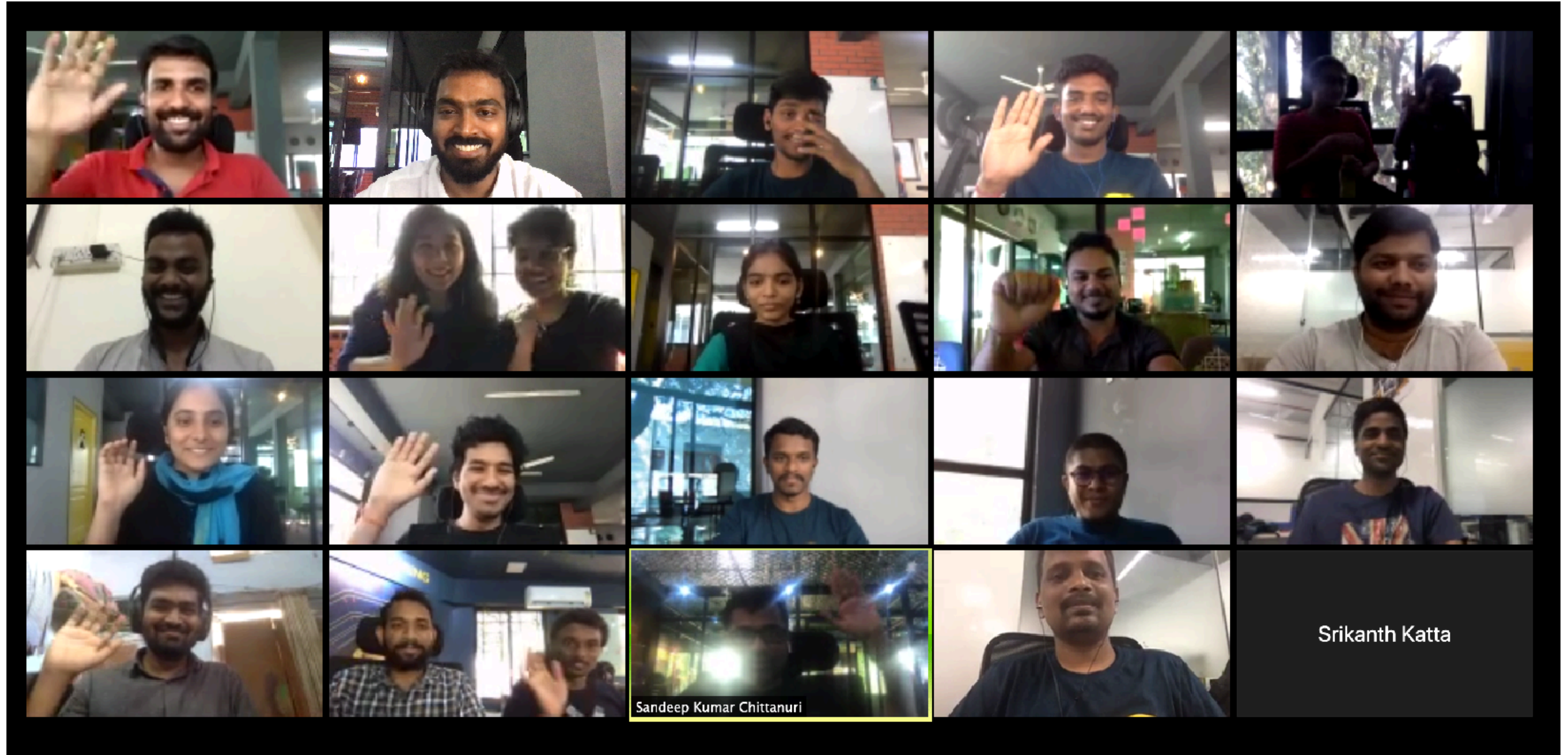


● ● ● **Choose right tools - hardware and software** ● ● ● ●



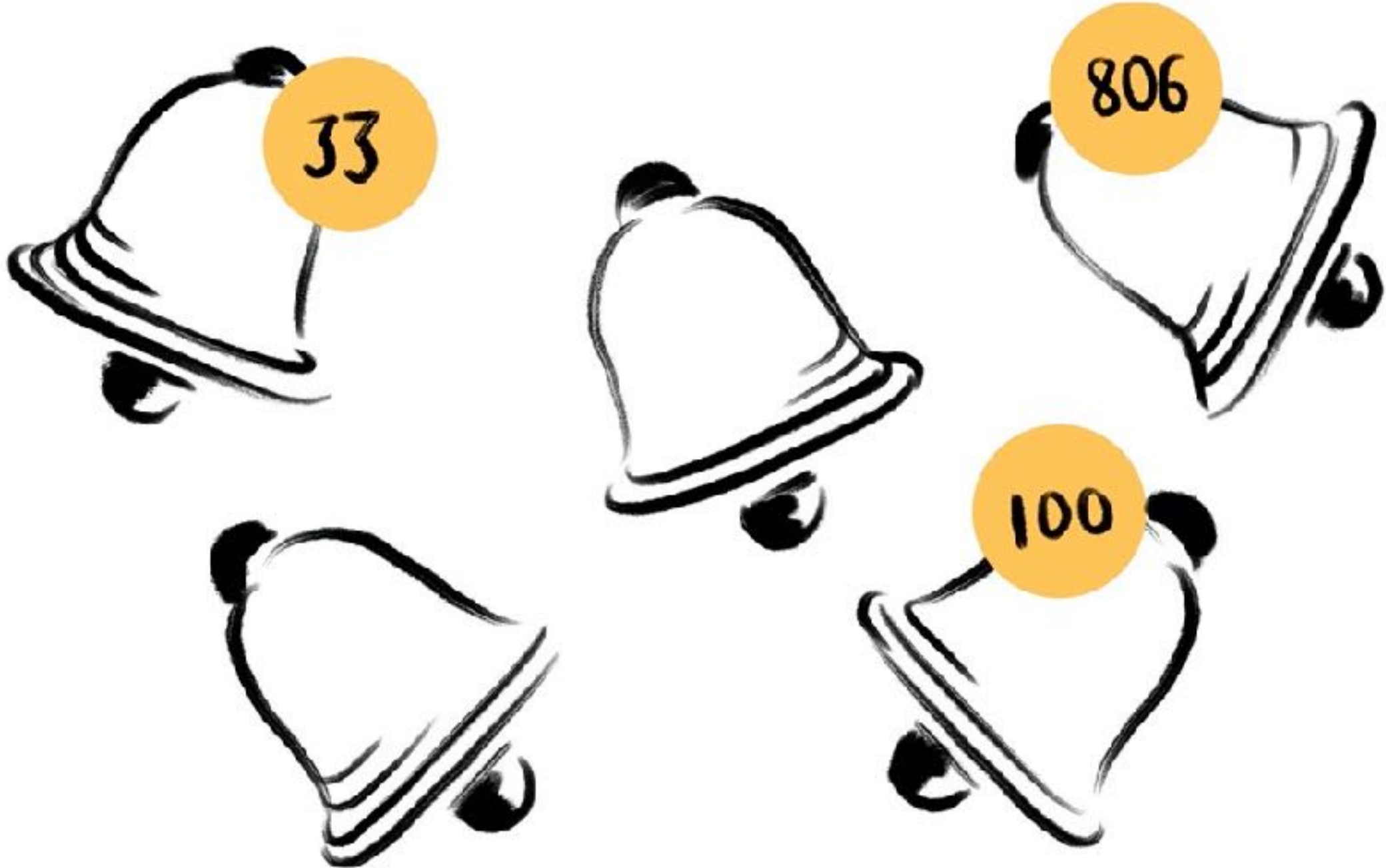


# Choose right tools - hardware and software





● ● ● ● **Plan for collaboration and concentration time** ● ● ●



## Local first





Find the local leader







## Promote open online chit-chats







## Promote open online chit-chats



- \*Continuously improve through continuous feedback.

## Improve at macro and micro levels





# Summary

- **Understand why?**
- **Set We vs Us.**
- **Where do you want to go?**
- **Hiring, firing, retention**
- **Virtual distance = physical + operational + affinity distance.**
- **How do we reduce virtual distance?**





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[https://medium.com/@ran\\_than](https://medium.com/@ran_than)  
[https://twitter.com/ran\\_than](https://twitter.com/ran_than)  
<https://in.linkedin.com/in/ranganathanb>

**Questions?**



**“It depends” is his  
standard answer**