

DOMAIN DRIVEN DESIGN

THE 30,000 FEET VIEW

@LOOSELYTYPED

O'REILLY®

Head First

Software Architecture

A Learner's Guide to Architectural Thinking

Raju Gandhi,
Mark Richards
& Neal Ford



 A Brain-Friendly Guide

O'REILLY®

Head First

Git

A Learner's Guide to Understanding Git from the Inside Out

Raju Gandhi



 A Brain-Friendly Guide

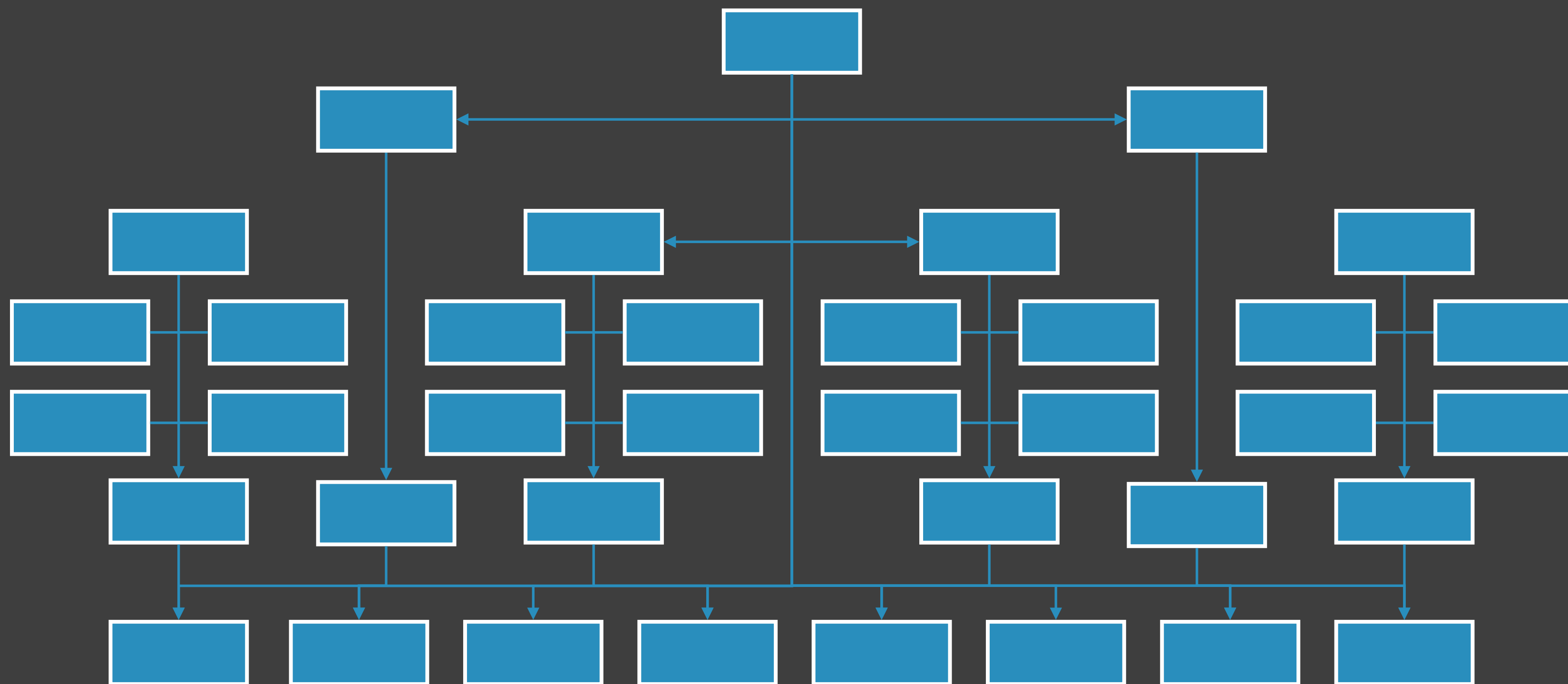
JavaScript Next

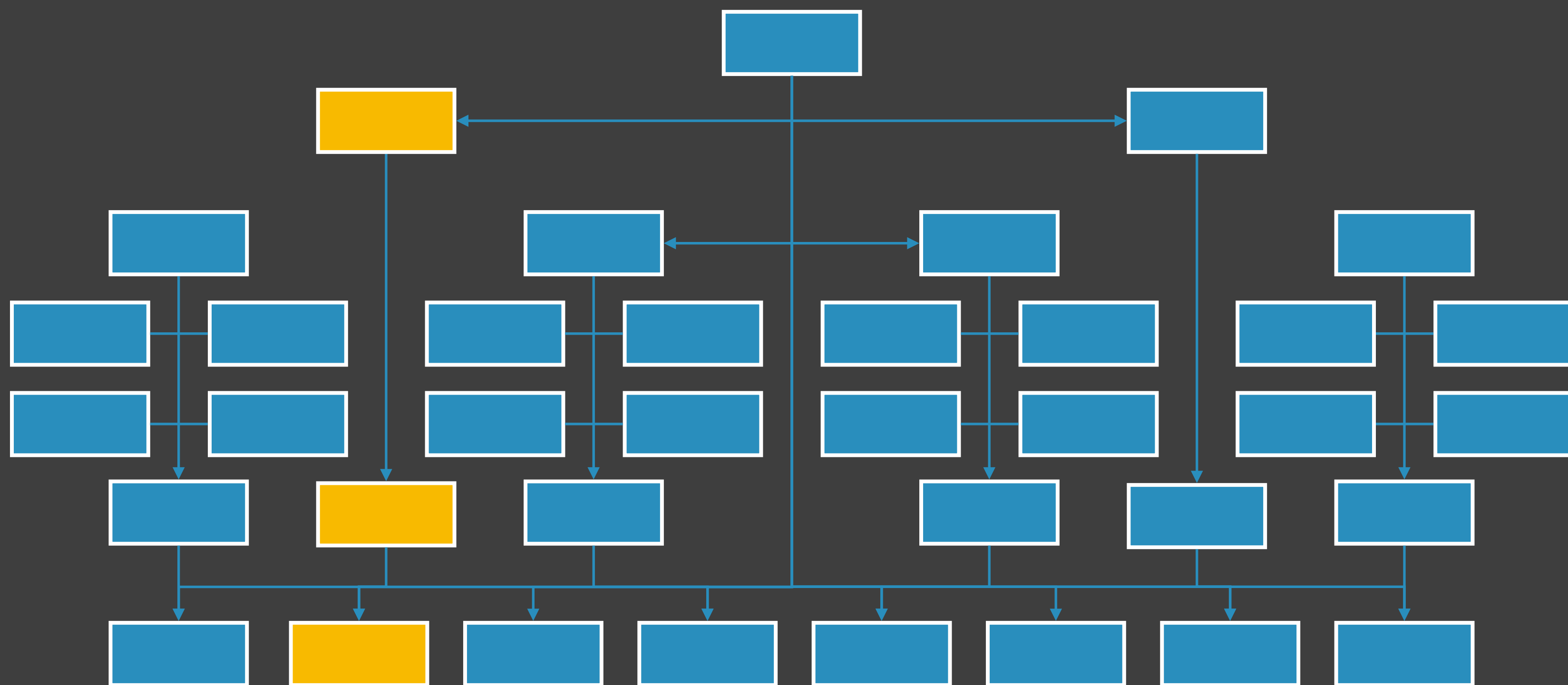
Your Complete Guide to the New Features Introduced in JavaScript, Starting with ES6, and Ending with ES9

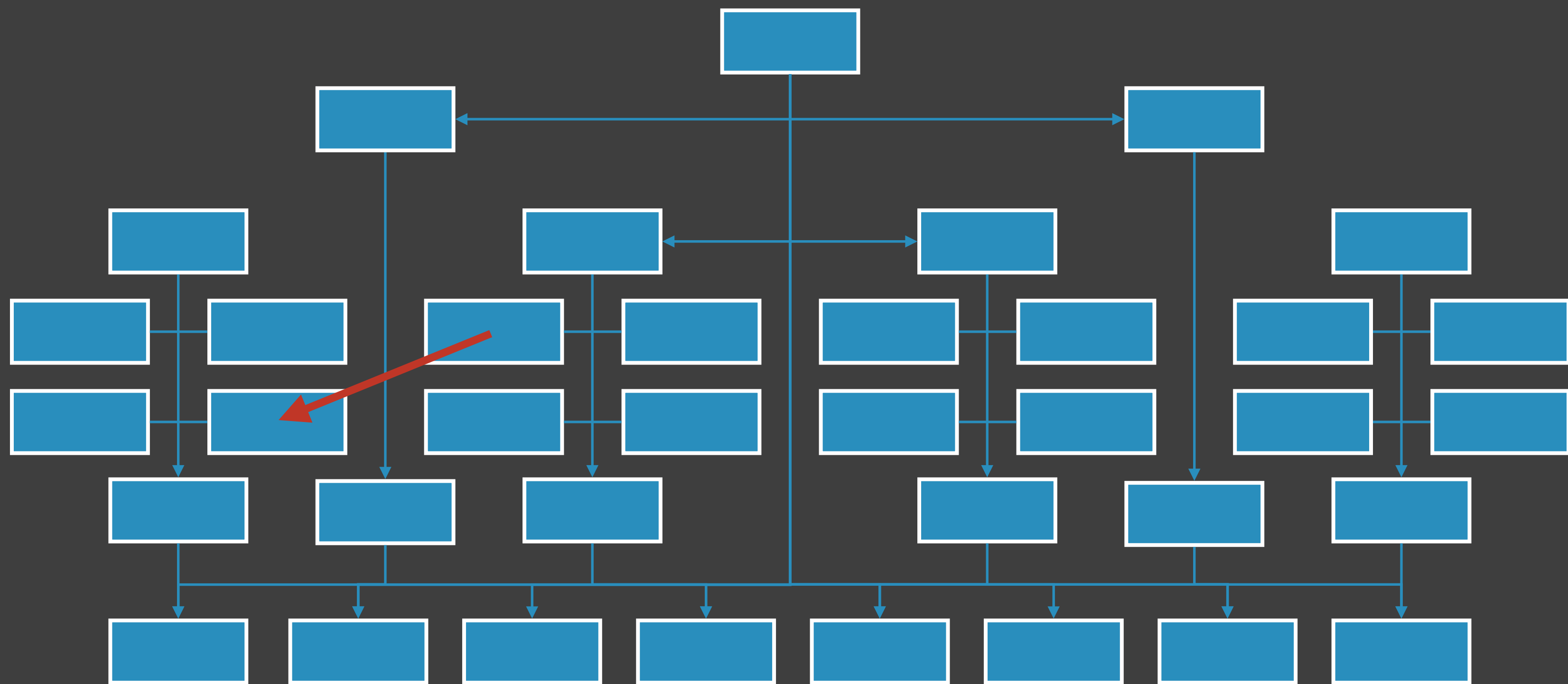
— Raju Gandhi

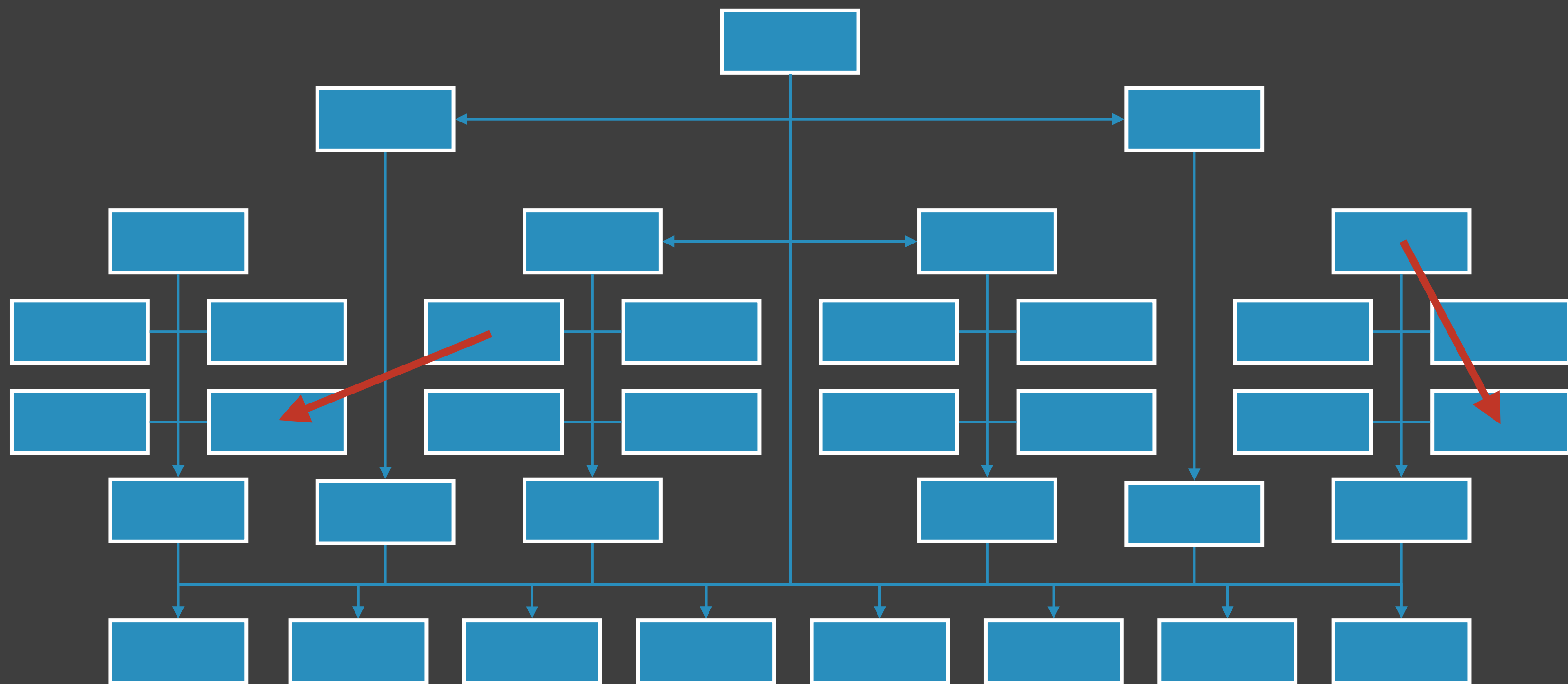

apress®

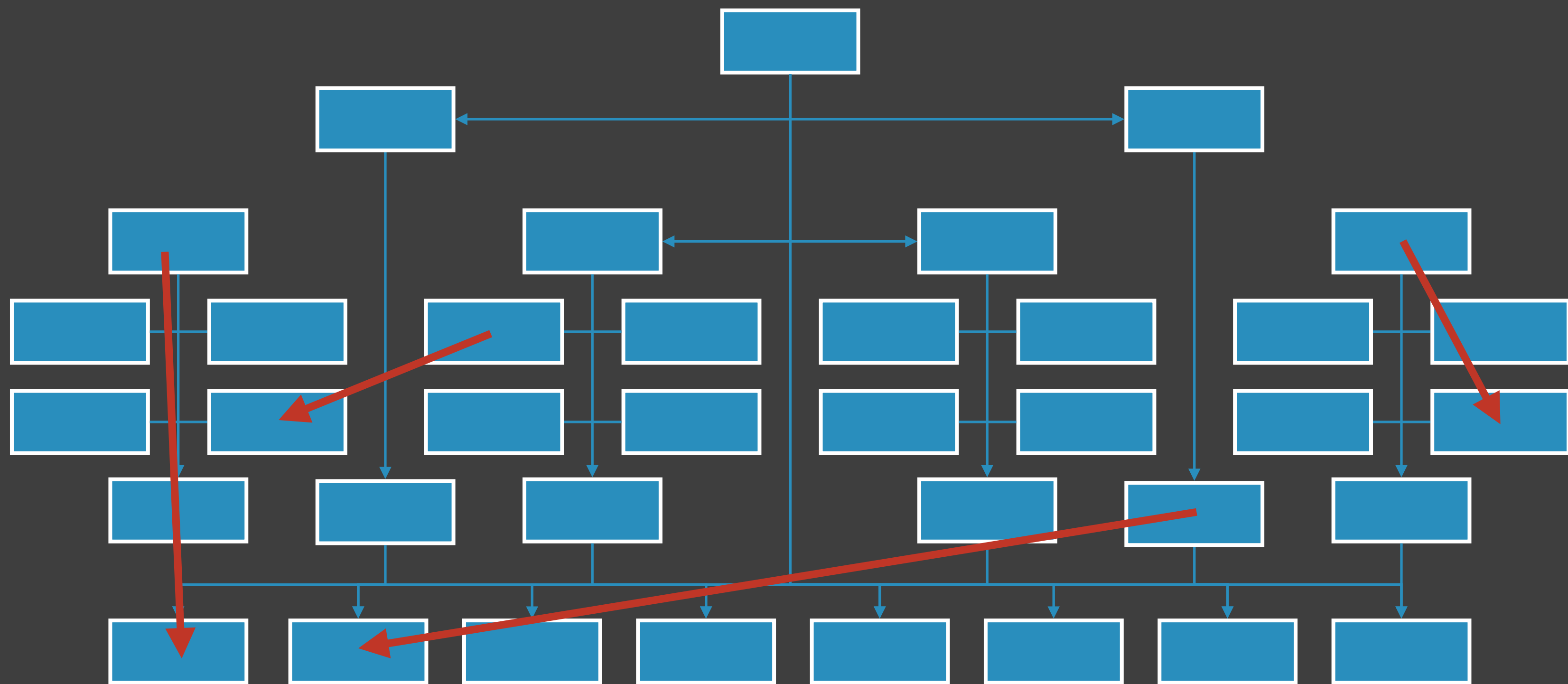
WHY DO WE CARE?



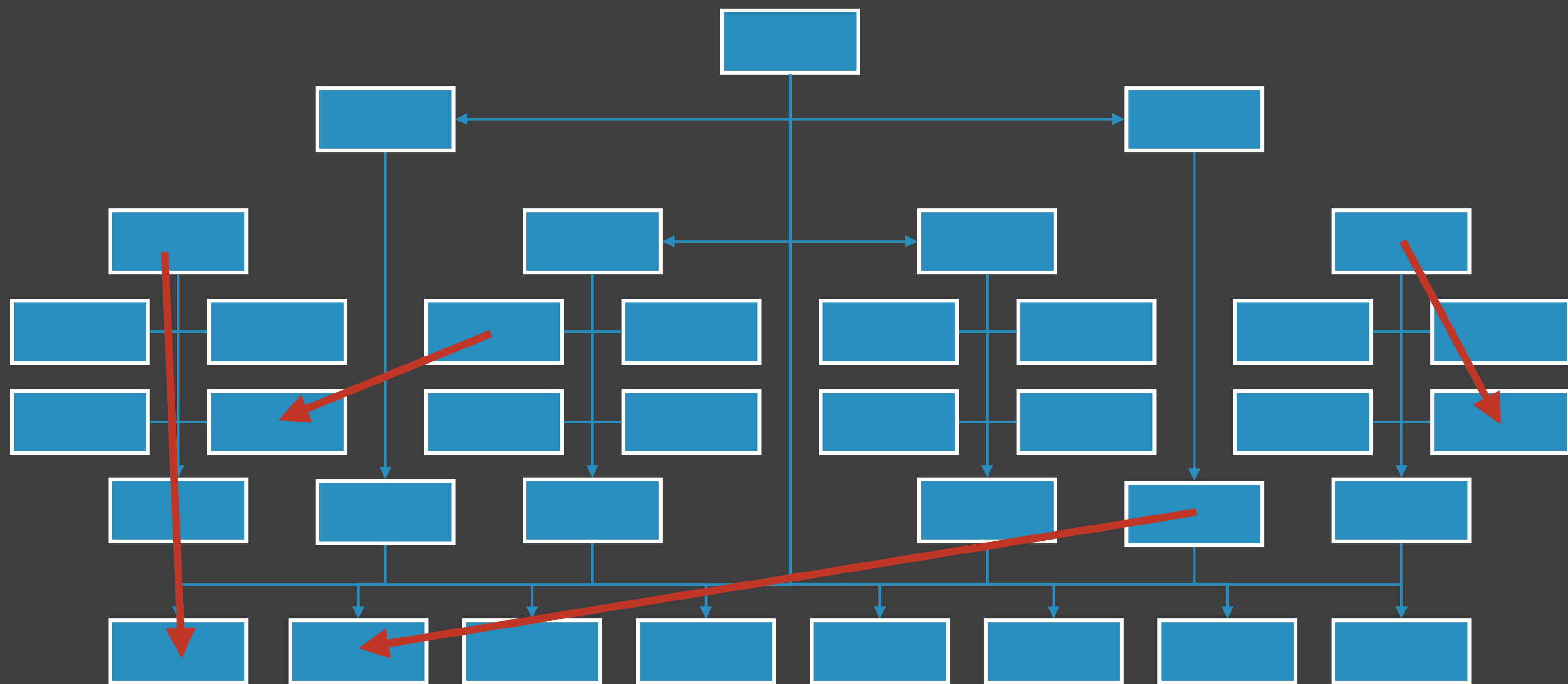


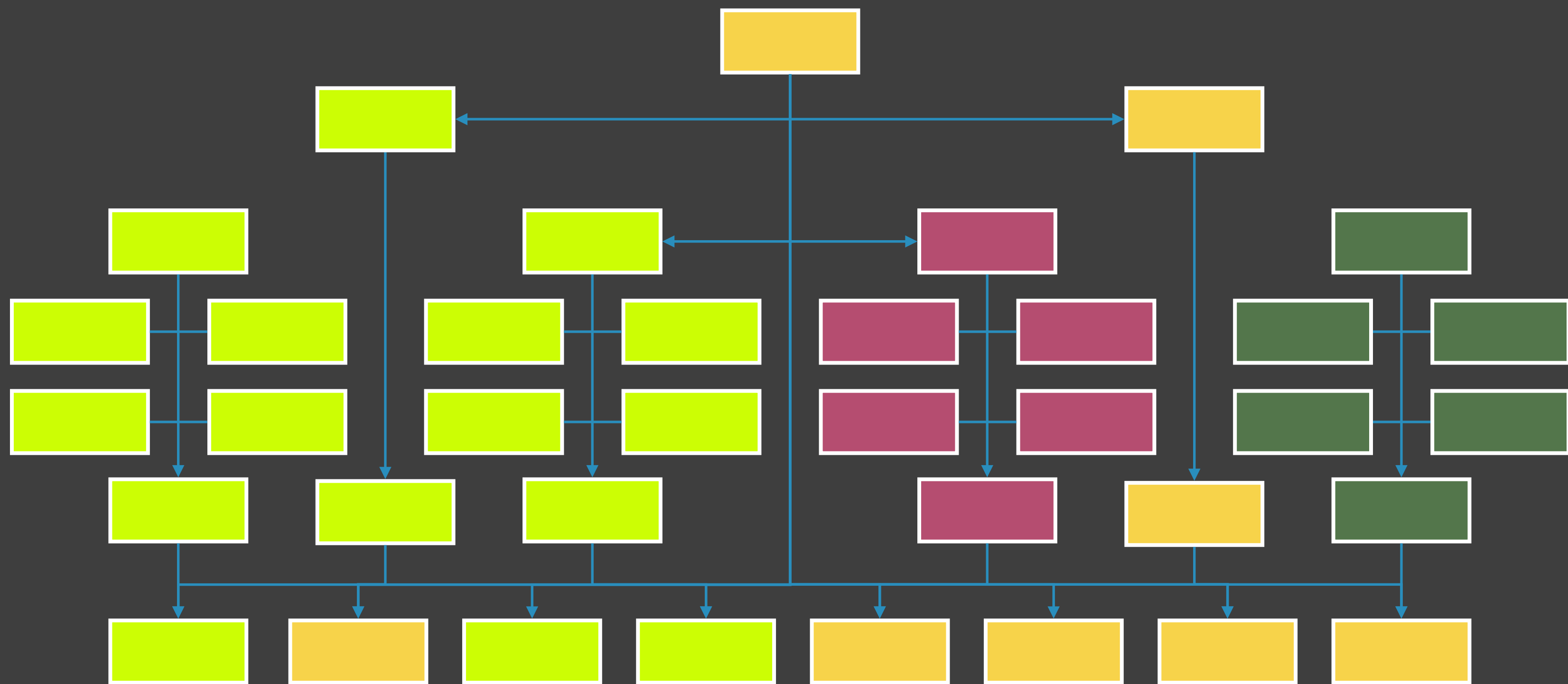


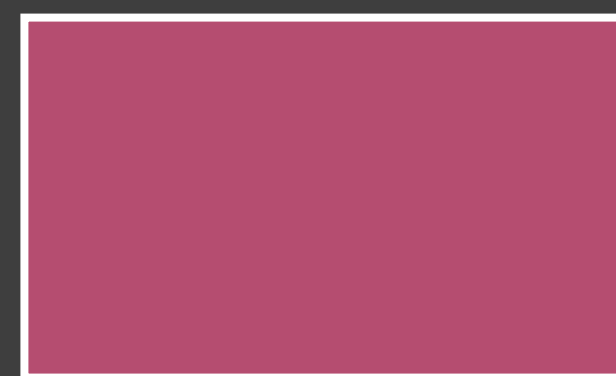


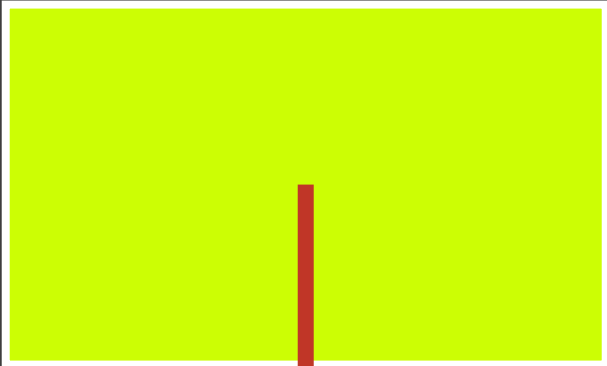


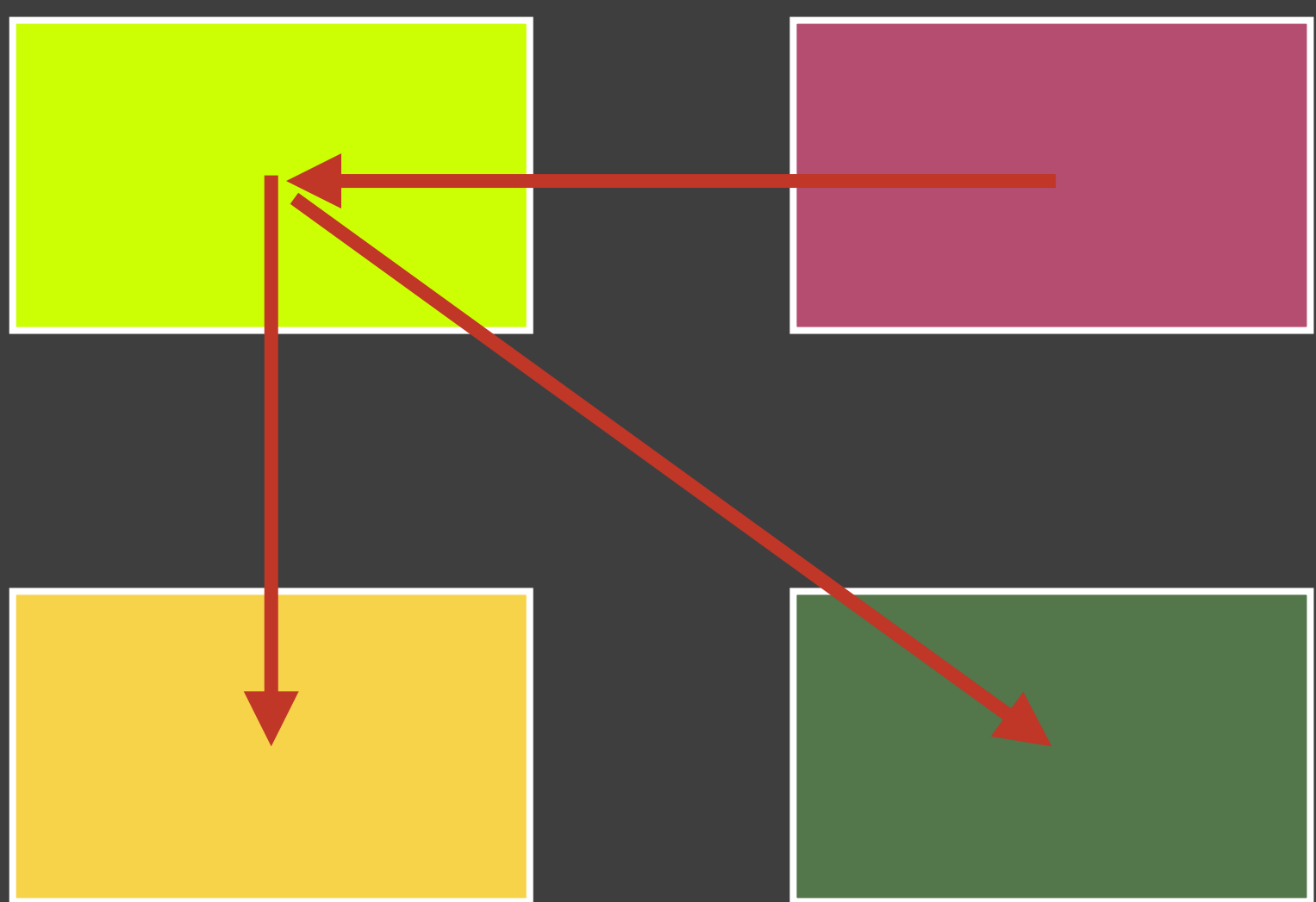














CHANGING TECHNOLOGY TRENDS

CHANGES

CLOUD-NATIVE / SERVERLESS
DEVOPS

SHIFTING DEPLOYMENT TARGETS



DDD?

DDD - PREREQUISITES

ITERATIVE PROCESS

ACCESS TO DOMAIN EXPERTS



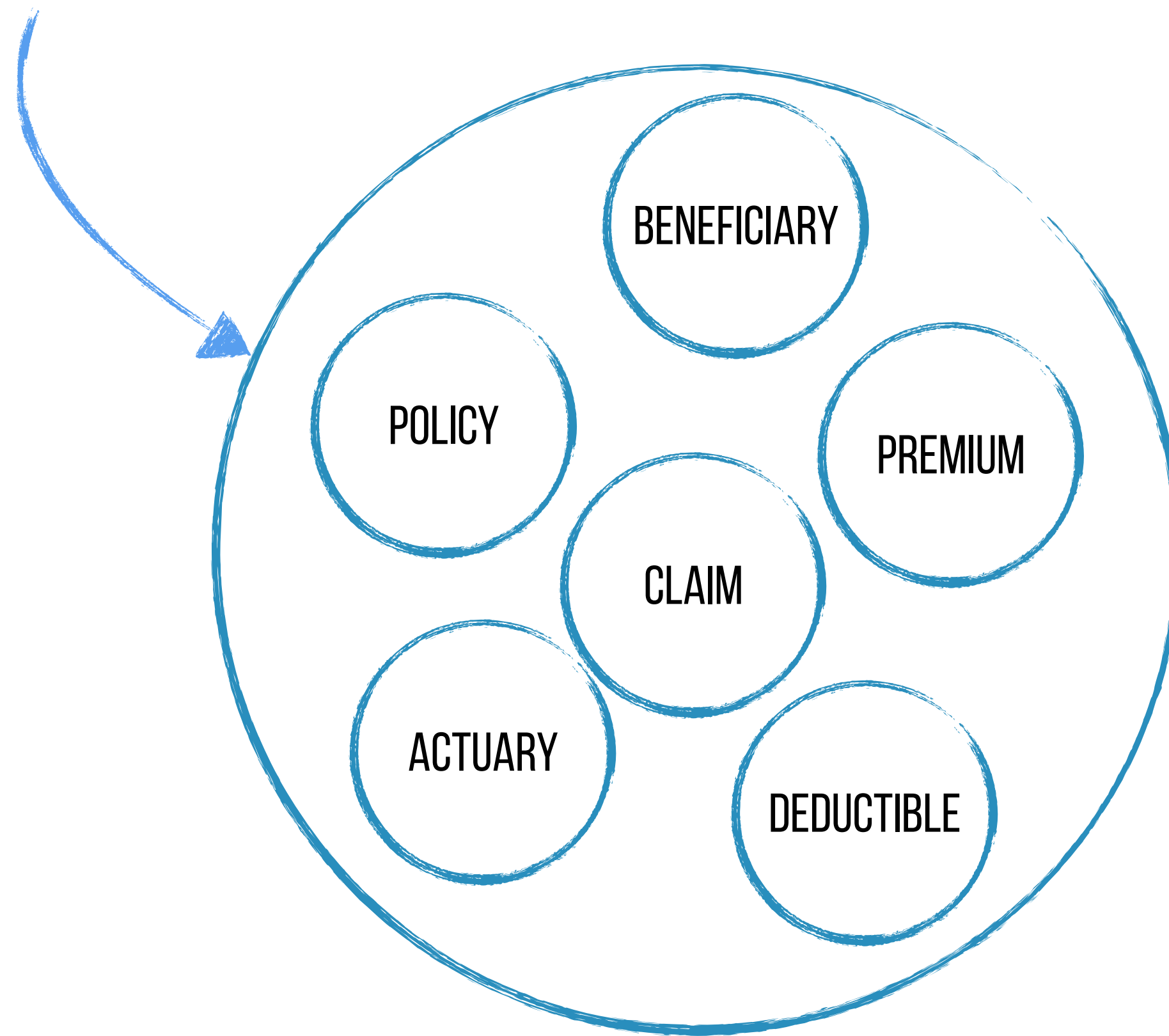
DOMAIN DRIVEN DESIGN

**DESIGN DRIVEN BY
THE DOMAIN**

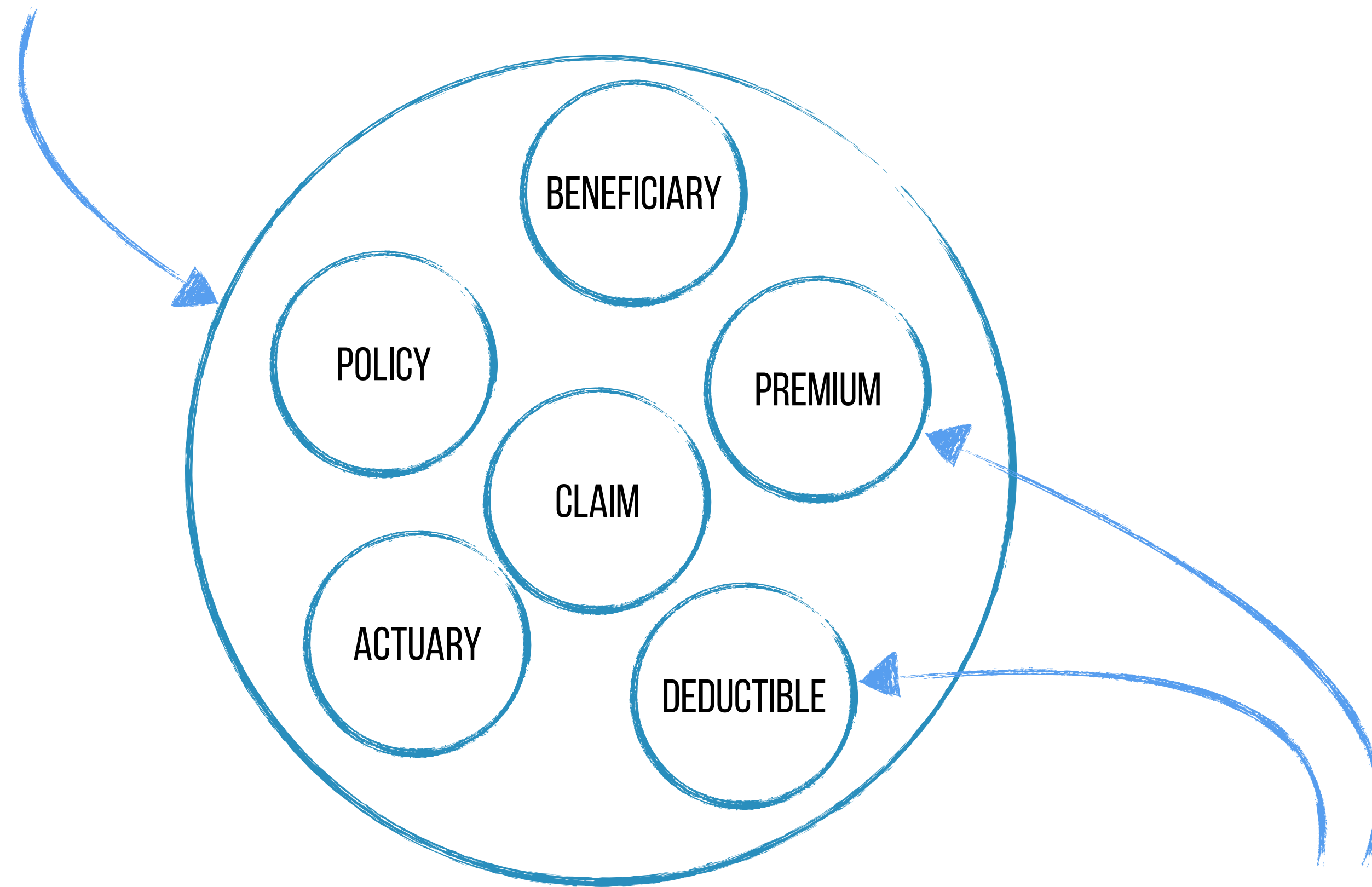
DOMAIN

"A SPHERE OF KNOWLEDGE"

DOMAIN



DOMAIN



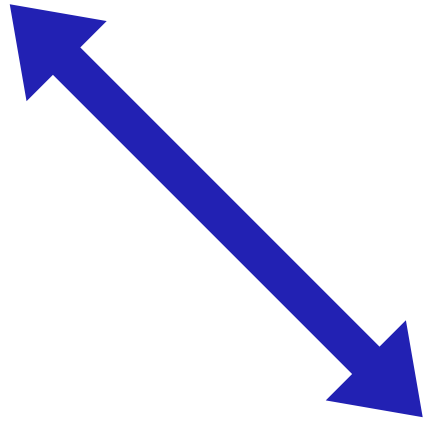
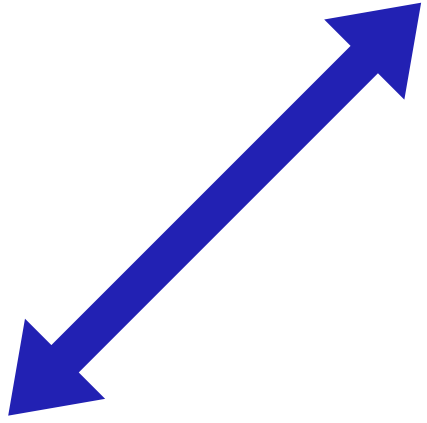
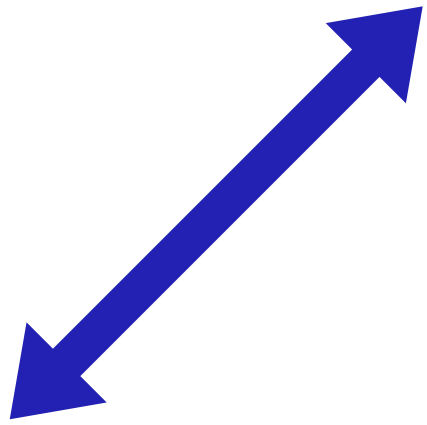
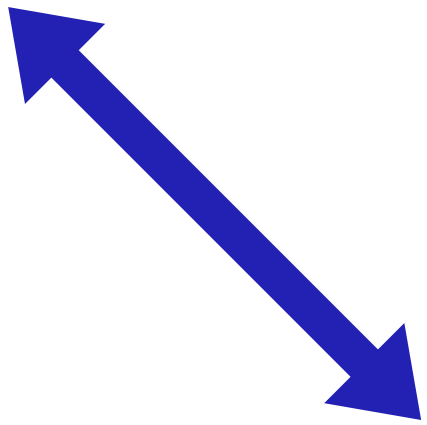
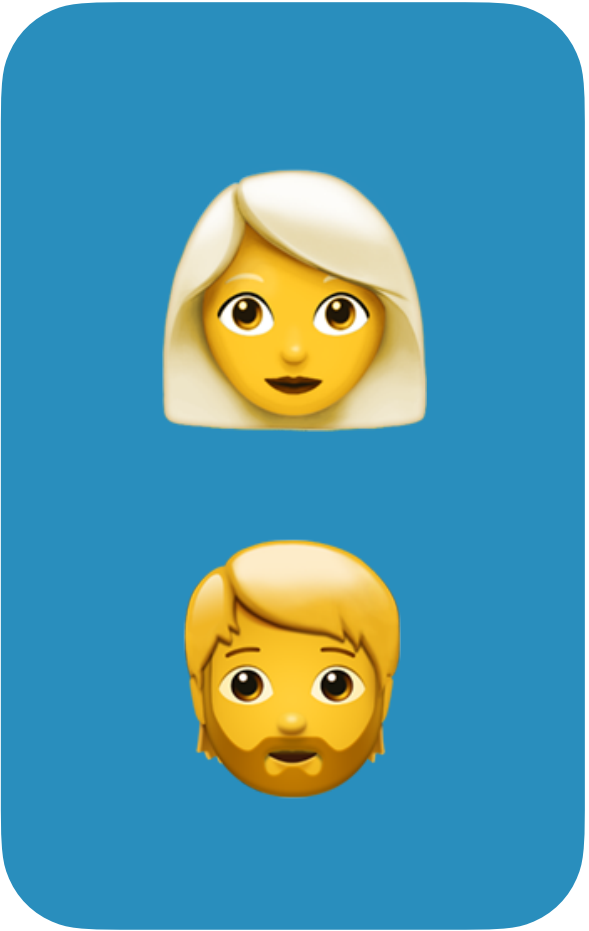
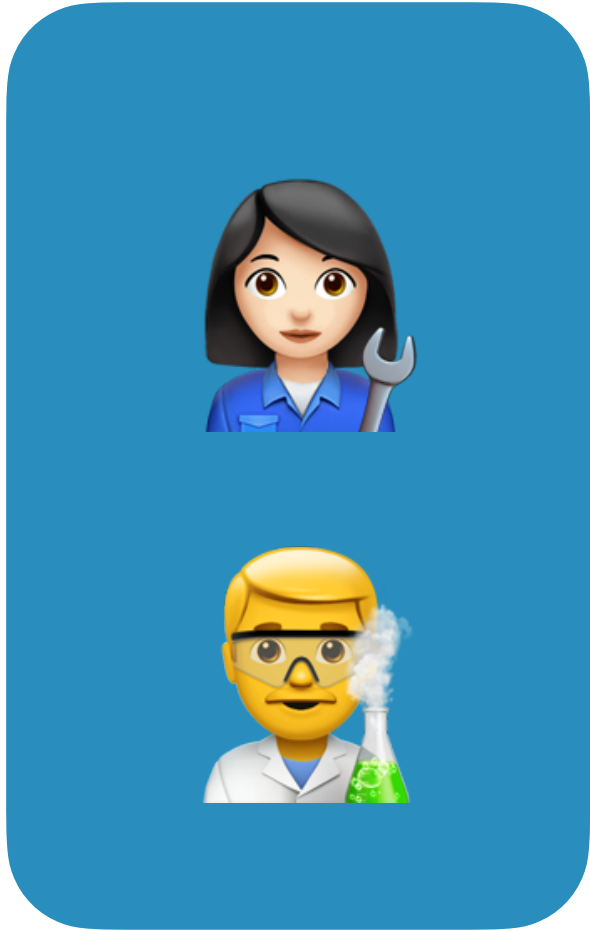
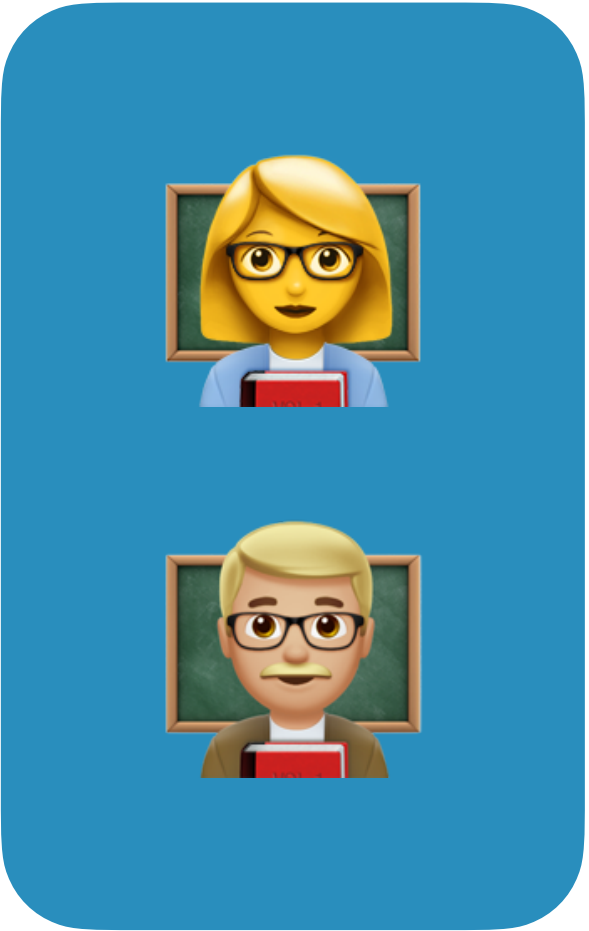
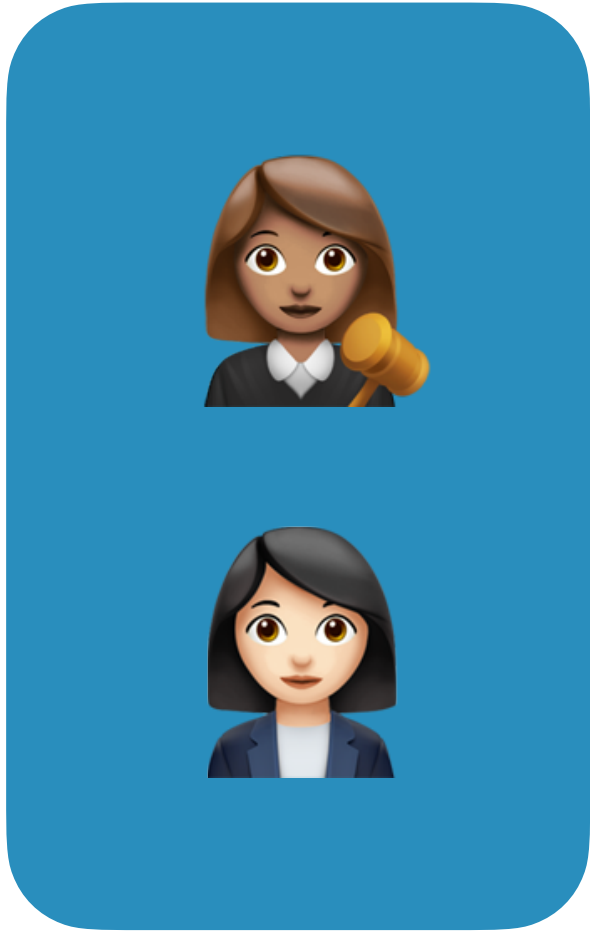
SUB-DOMAIN

TYPES OF SUB-DOMAINS

CORE

SUPPORTING

GENERIC



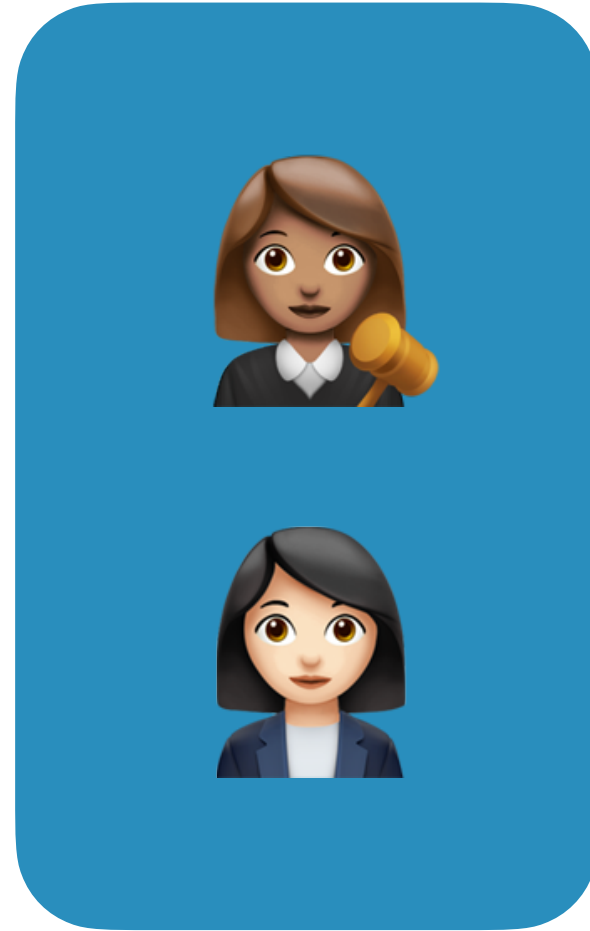
	COMPETITIVE ADVANTAGE	COMPLEXITY (S/M/L)	COMMENTS
PRICING			
MAPPING / GEO-FENCING			
RIDER EXPERIENCE			
DRIVER PREPARATION			
PAYMENTS			

	COMPETITIVE ADVANTAGE	COMPLEXITY (S/M/L)	COMMENTS
PRICING	YES		
MAPPING / GEO-FENCING	NO		
RIDER EXPERIENCE	YES		
DRIVER PREPARATION	YES		
PAYMENTS	NO		

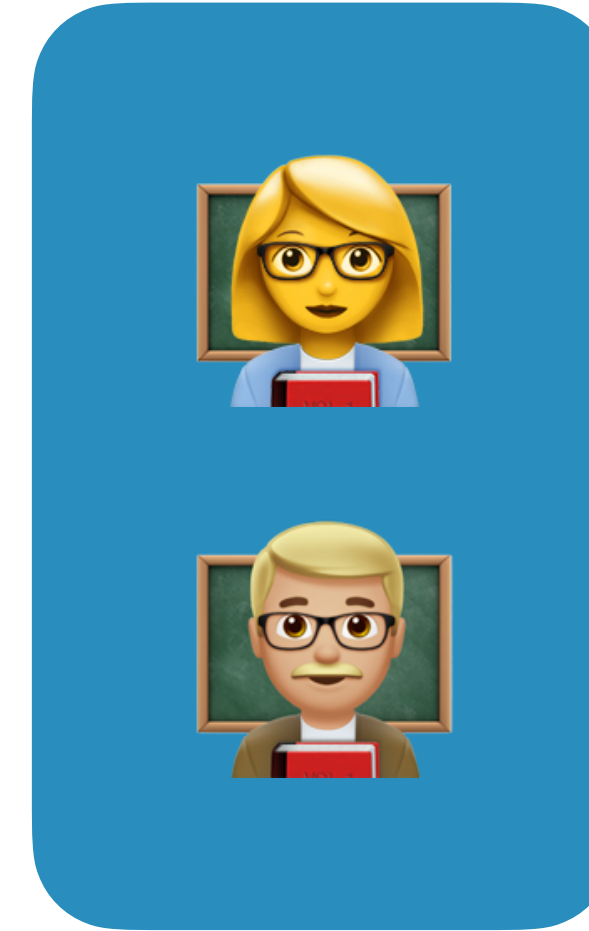
	COMPETITIVE ADVANTAGE	COMPLEXITY (S/M/L)	COMMENTS
PRICING	YES	L	
MAPPING / GEO-FENCING	NO	M	
RIDER EXPERIENCE	YES	M	
DRIVER PREPARATION	YES	M	
PAYMENTS	NO	L	

	COMPETITIVE ADVANTAGE	COMPLEXITY (S/M/L)	COMMENTS
PRICING	YES	L	DDD
MAPPING / GEO-FENCING	NO	M	BUY?
RIDER EXPERIENCE	YES	M	DDD
DRIVER PREPARATION	YES	M	DDD
PAYMENTS	NO	L	BUY?

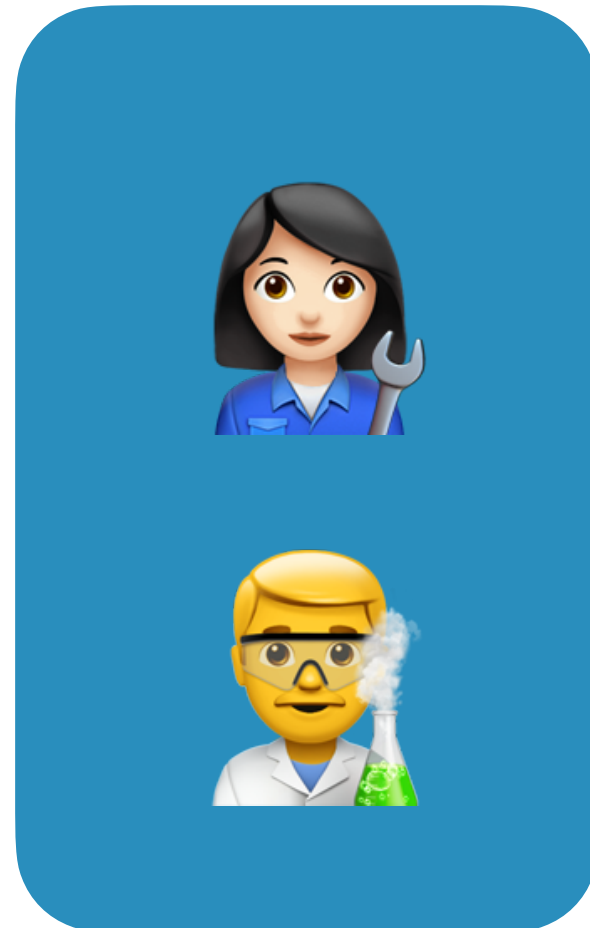
GENERIC



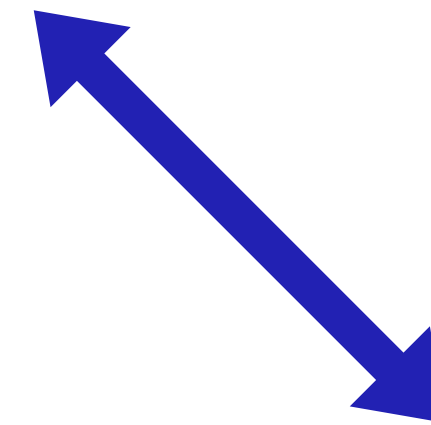
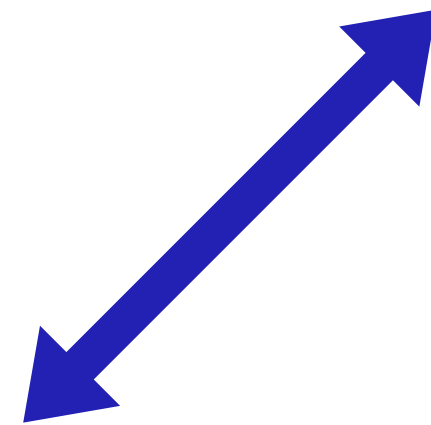
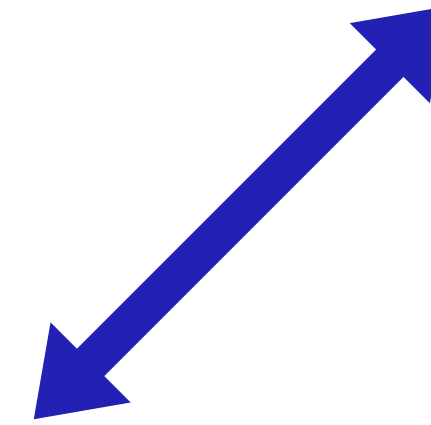
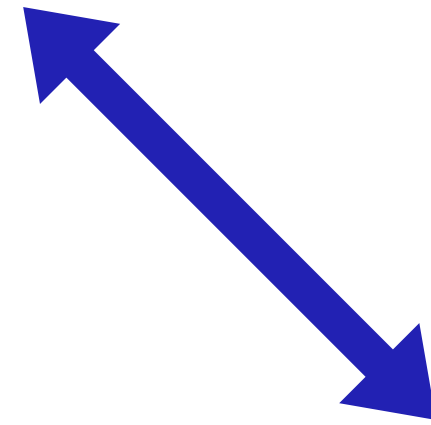
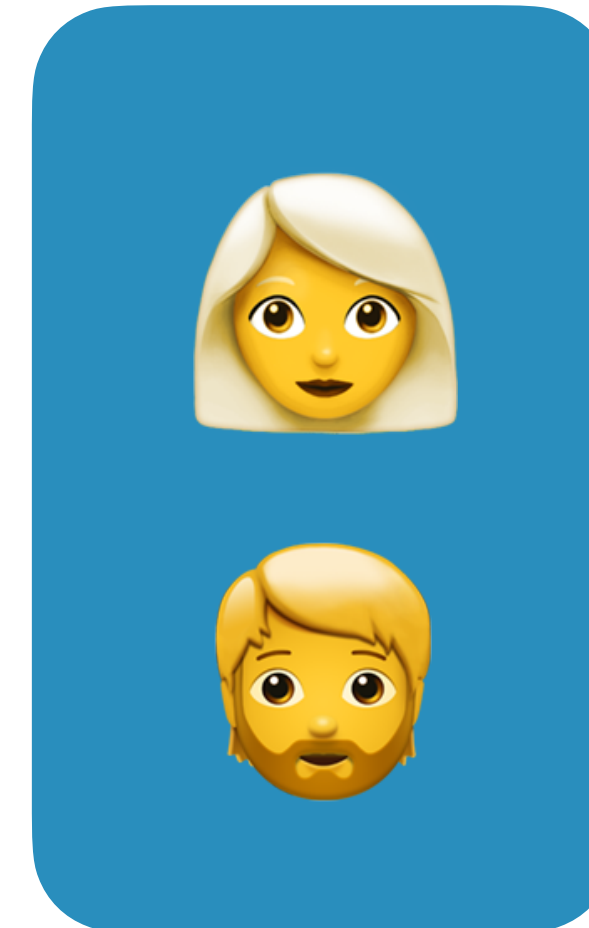
CORE

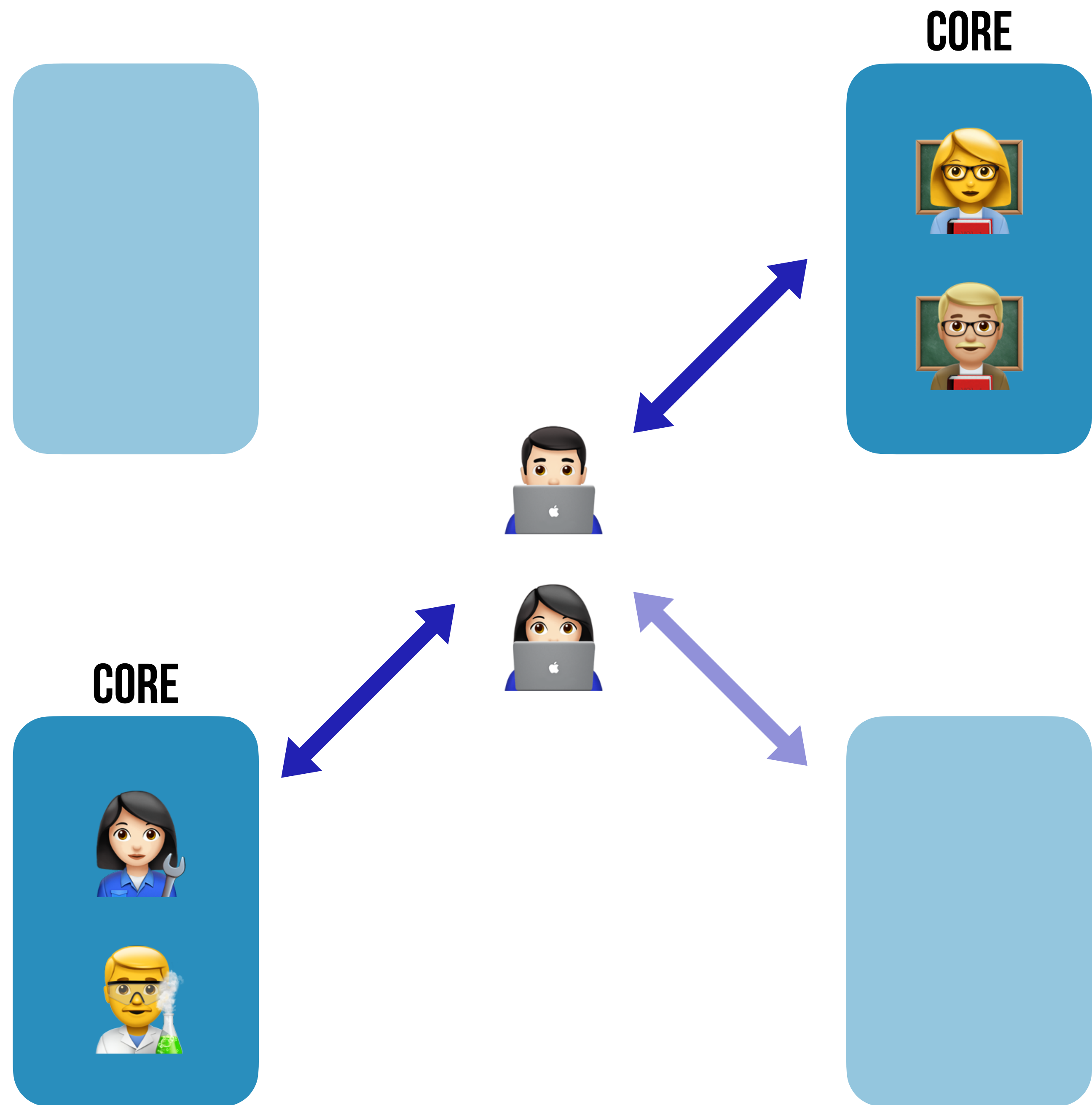


CORE

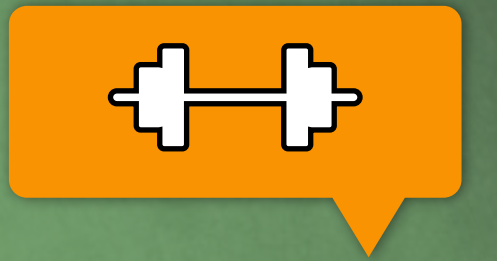


SUPPORTING





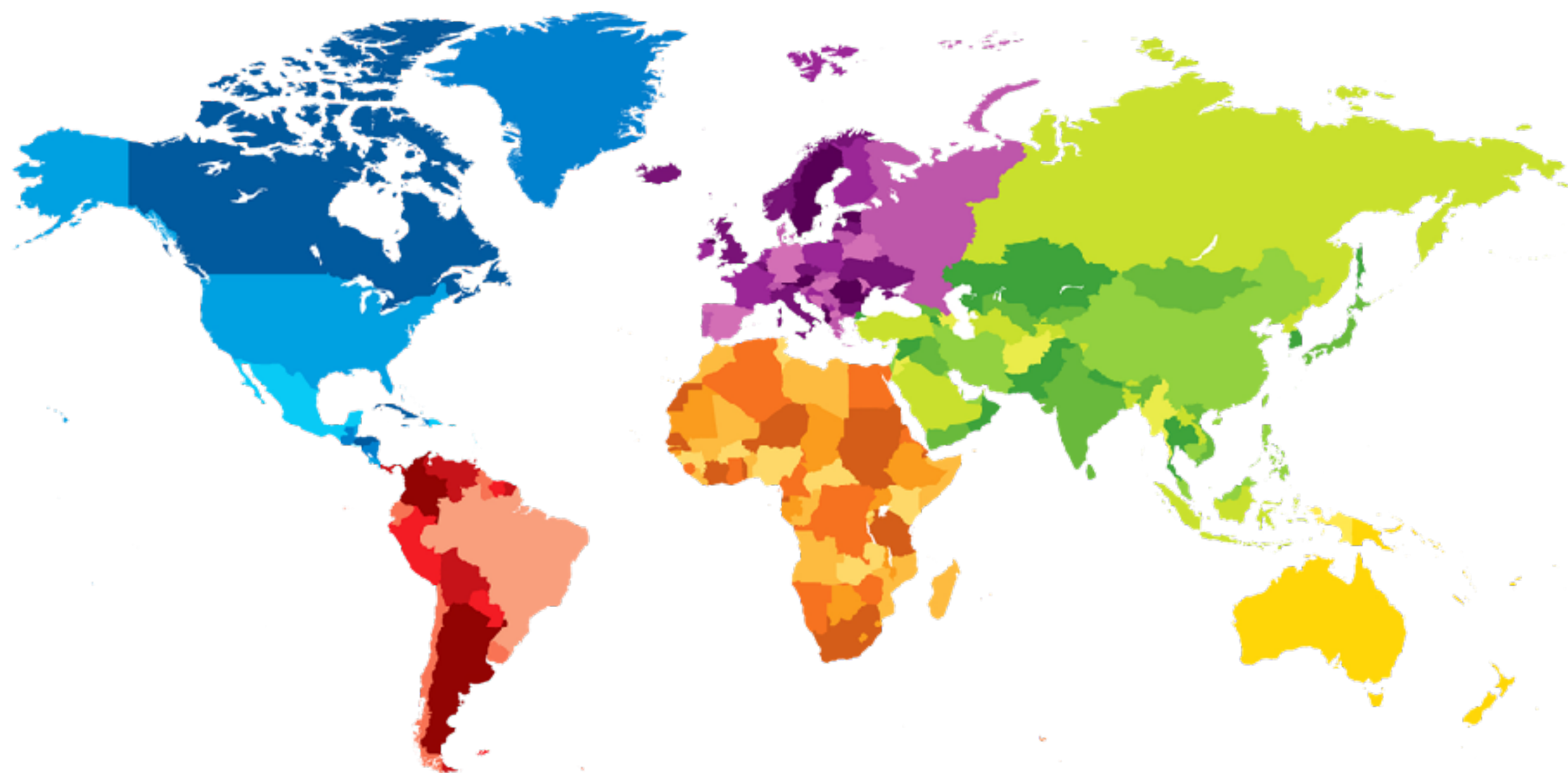
EXERCISE



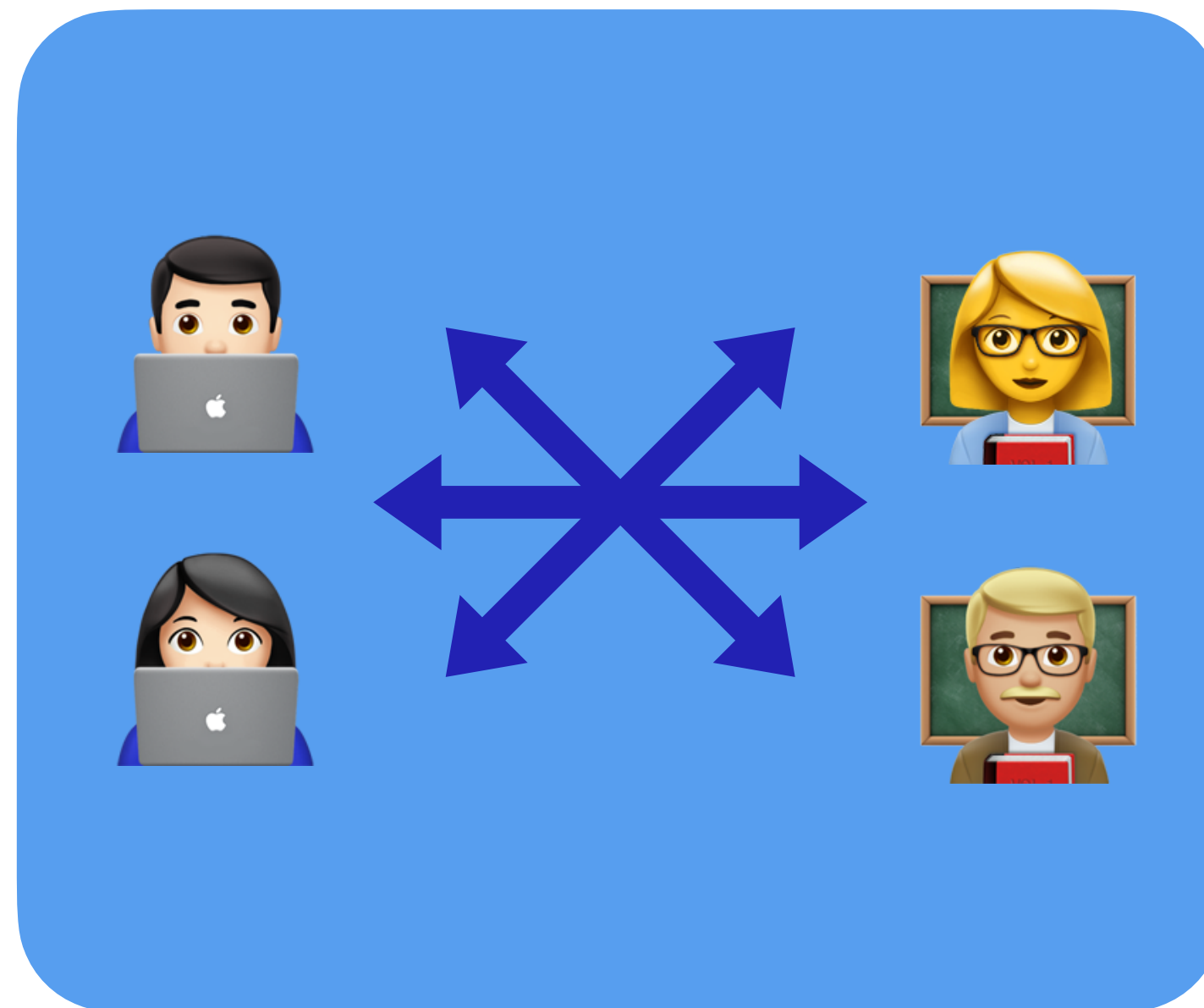
THE LIBRARY:

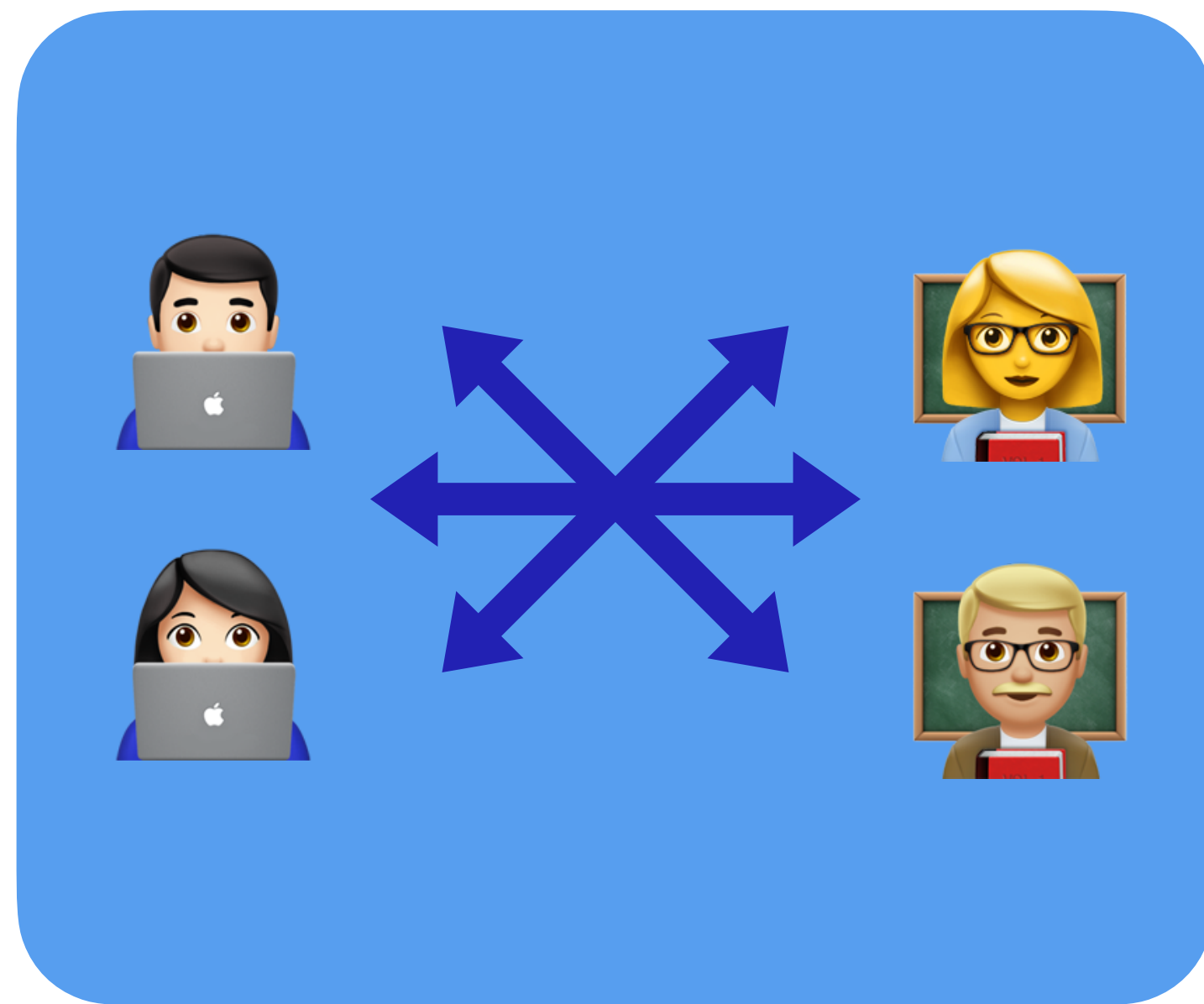
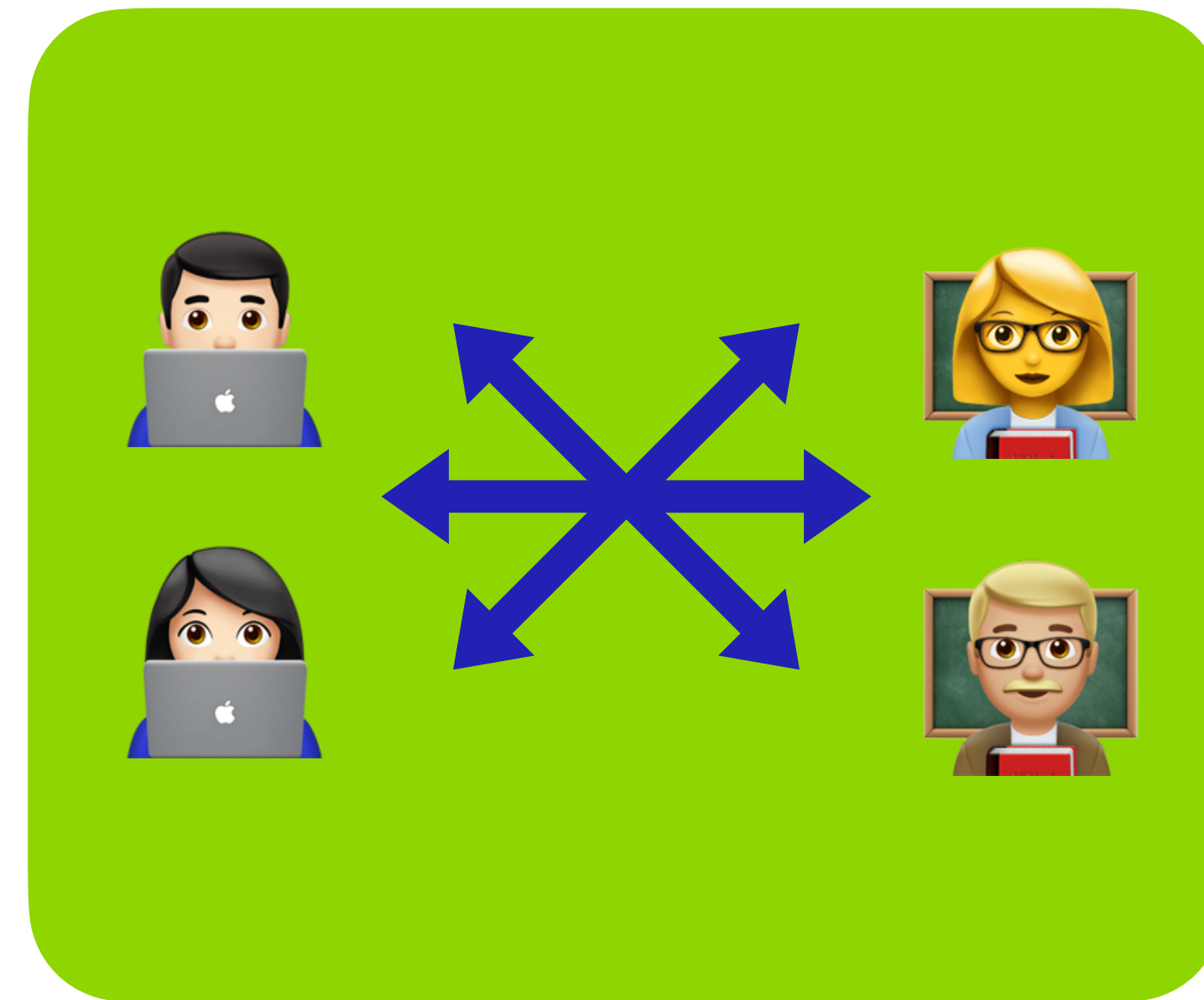
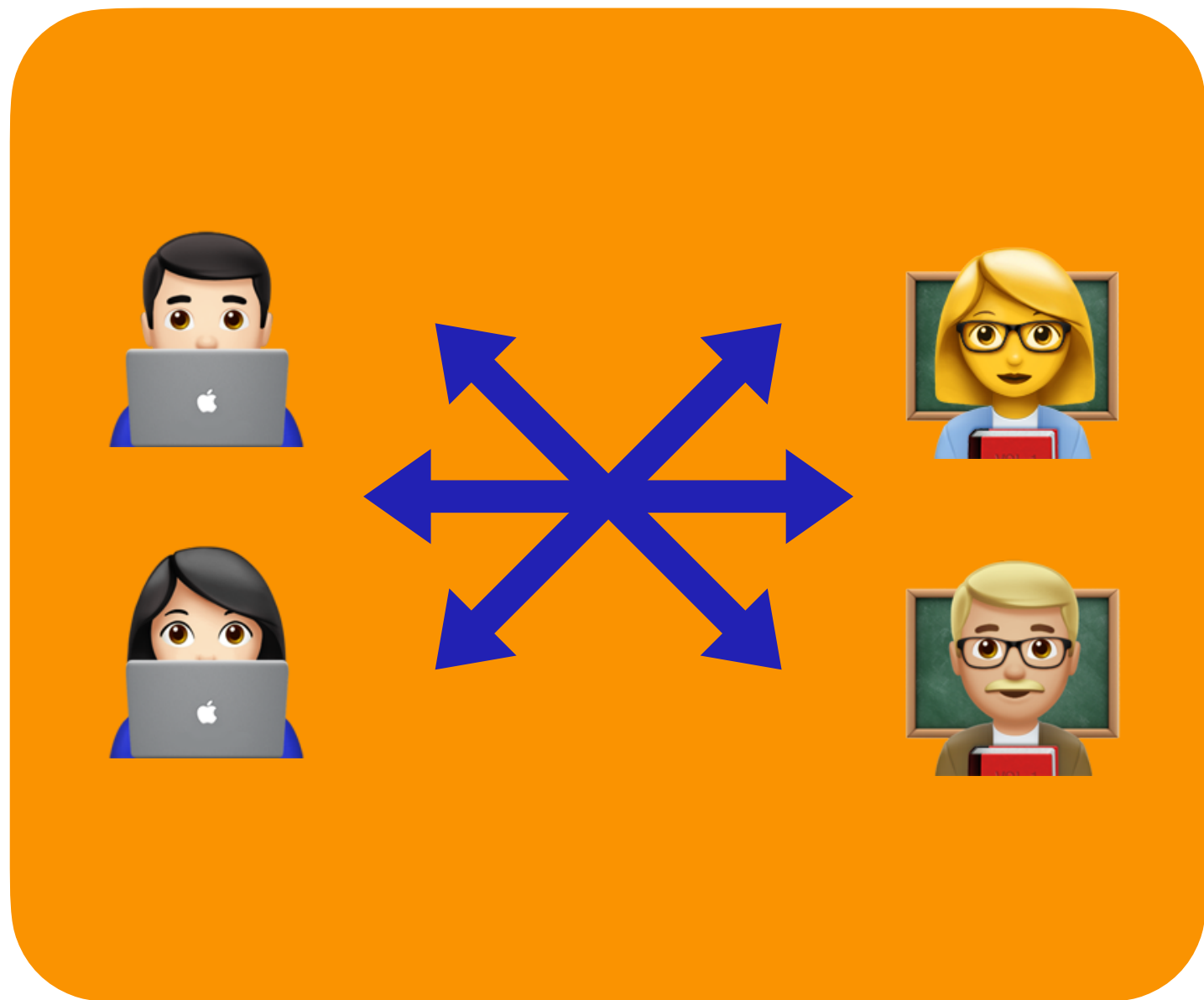
- PATRONS CAN RESERVE A BOOK THAT EXISTS IN THE CATALOG
- LIBRARIANS COLLECT BOOKS THAT HAVE BEEN RESERVED
- PATRONS ARE NOTIFIED (VIA EMAIL) THAT THEIR RESERVATIONS ARE READY
- PATRONS CAN WALK IN AND CHECKOUT A BOOK (EITHER RESERVED OR OFF-THE-SHELF)
- PATRONS CAN ONLY CHECKOUT IF THEY HAVE NO FINES ON THEIR ACCOUNT
- LIBRARIANS AID IN CHECKING IN/OUT BOOKS
- BOOKS RETURNED ARE AVAILABLE FOR RESERVING/CHECKOUT
- PUBLIC EVENTS ARE REGULARLY SCHEDULED BY THE LIBRARY AND POSTED ON THE LIBRARY'S CALENDAR

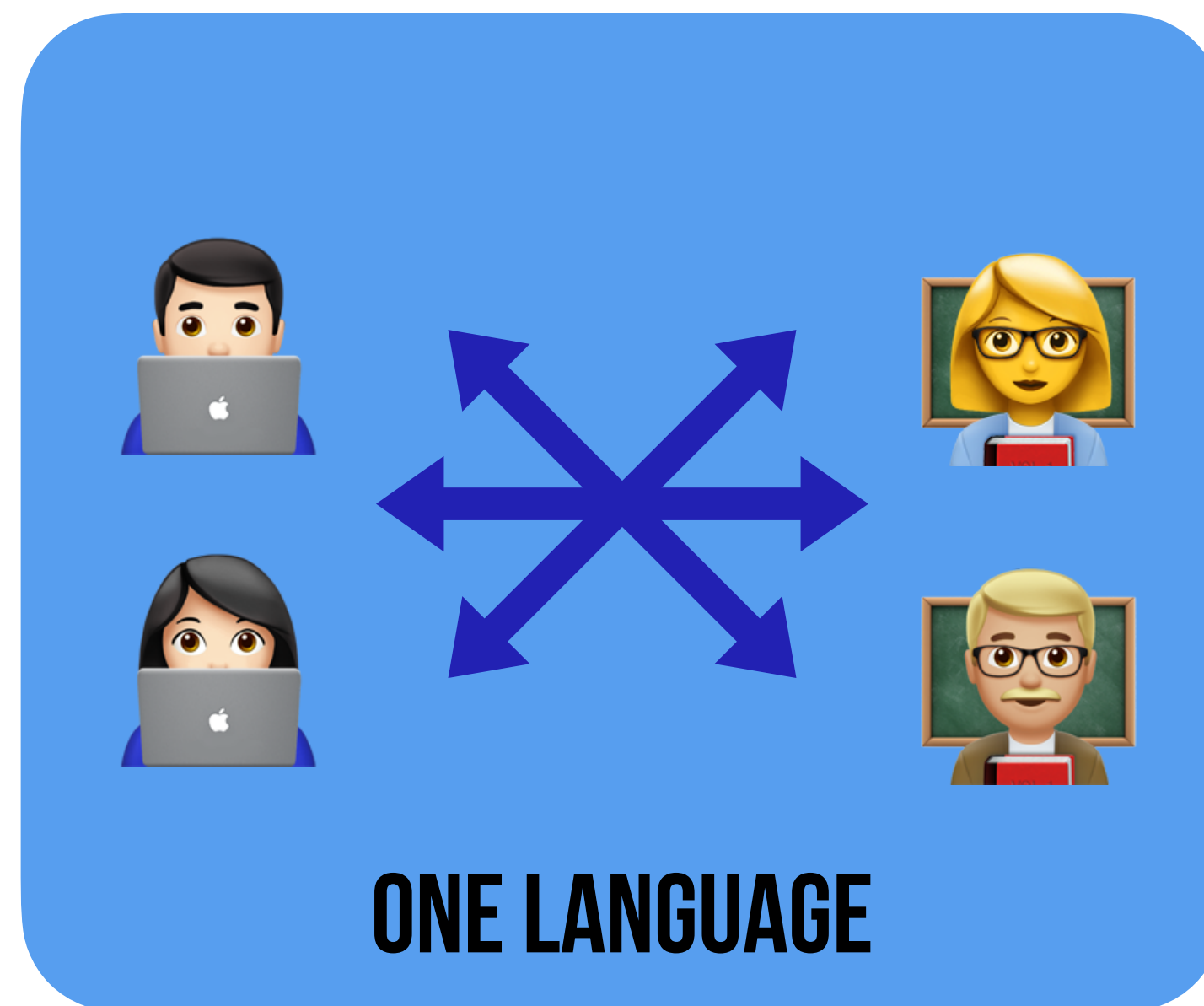
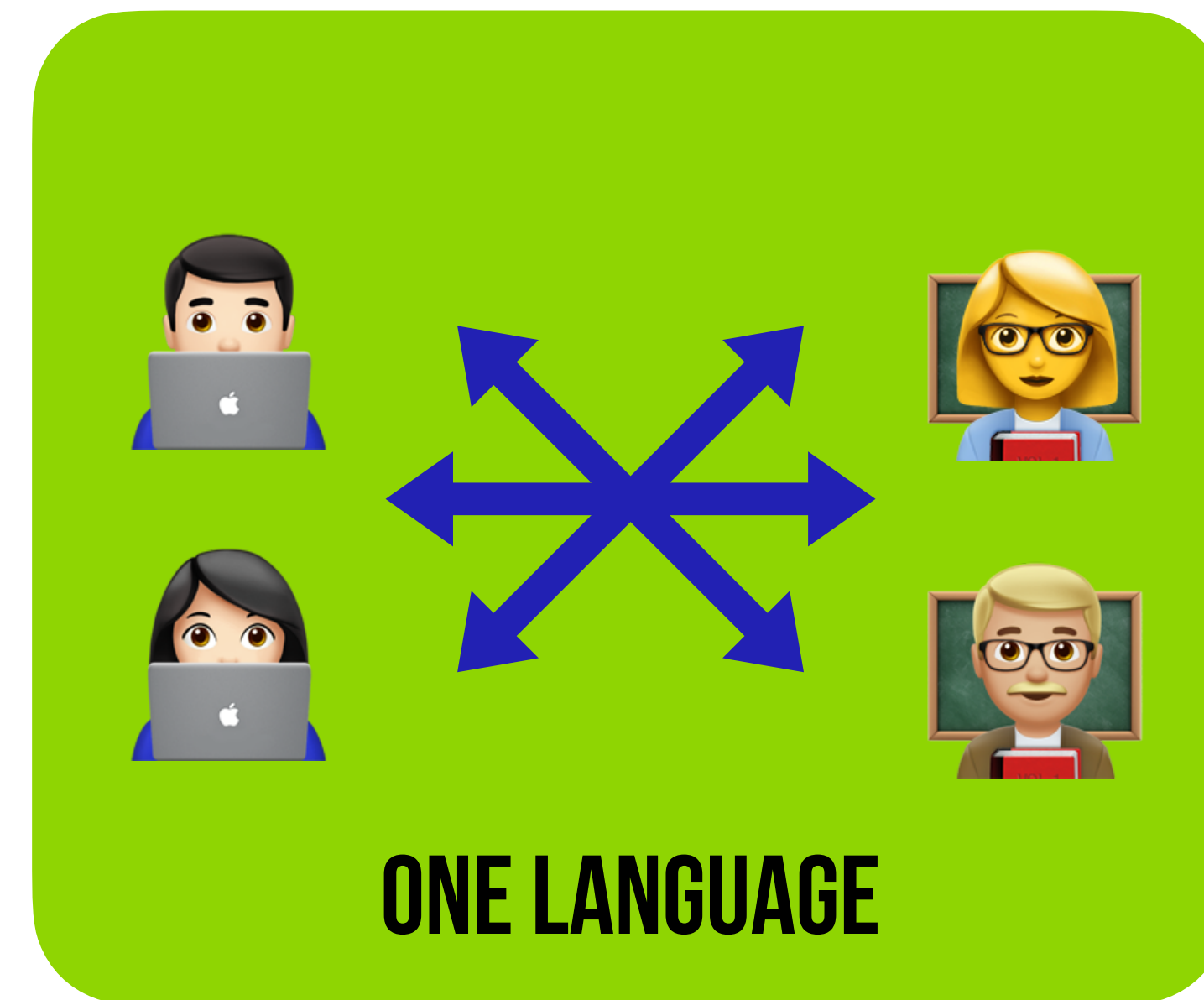
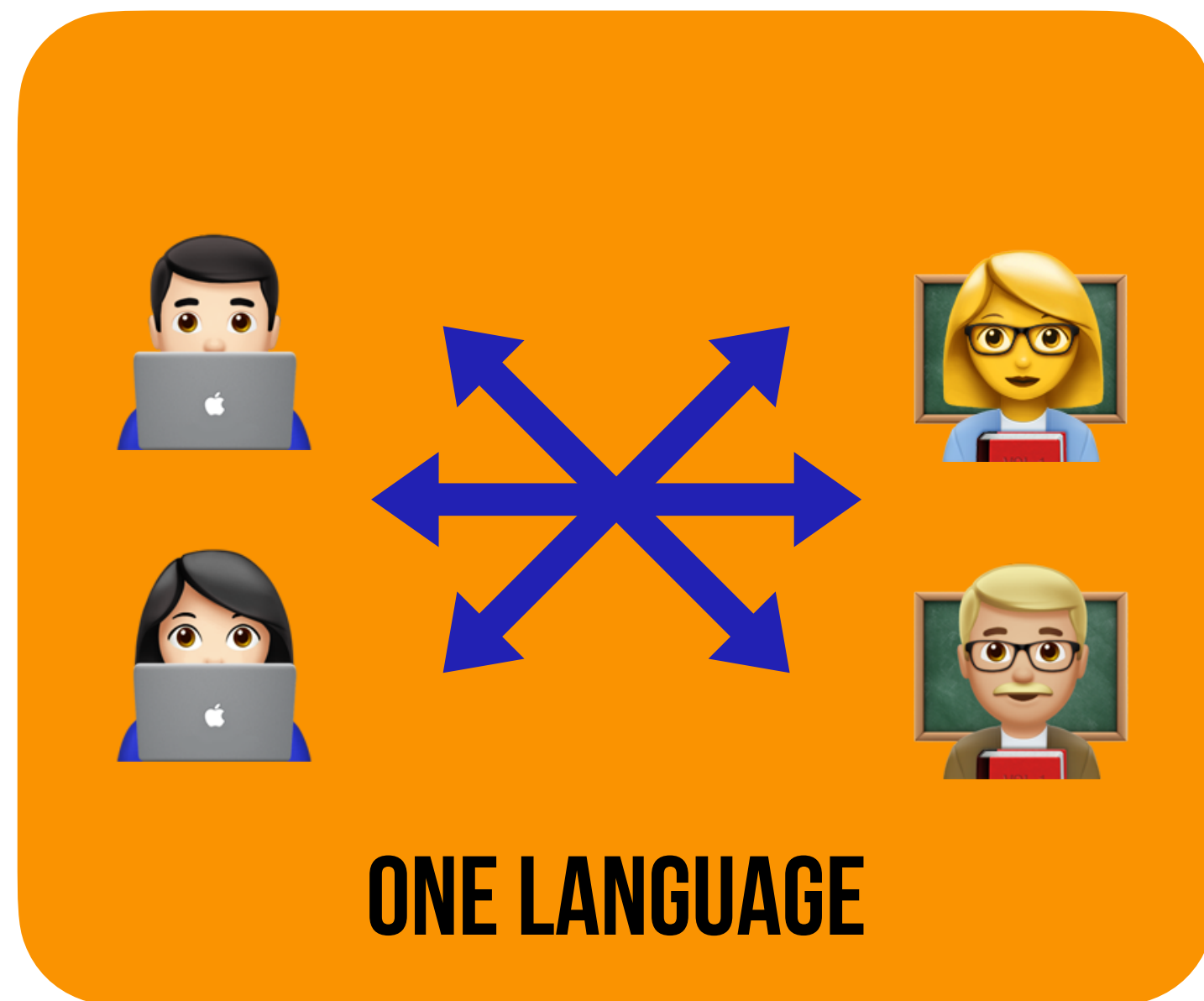


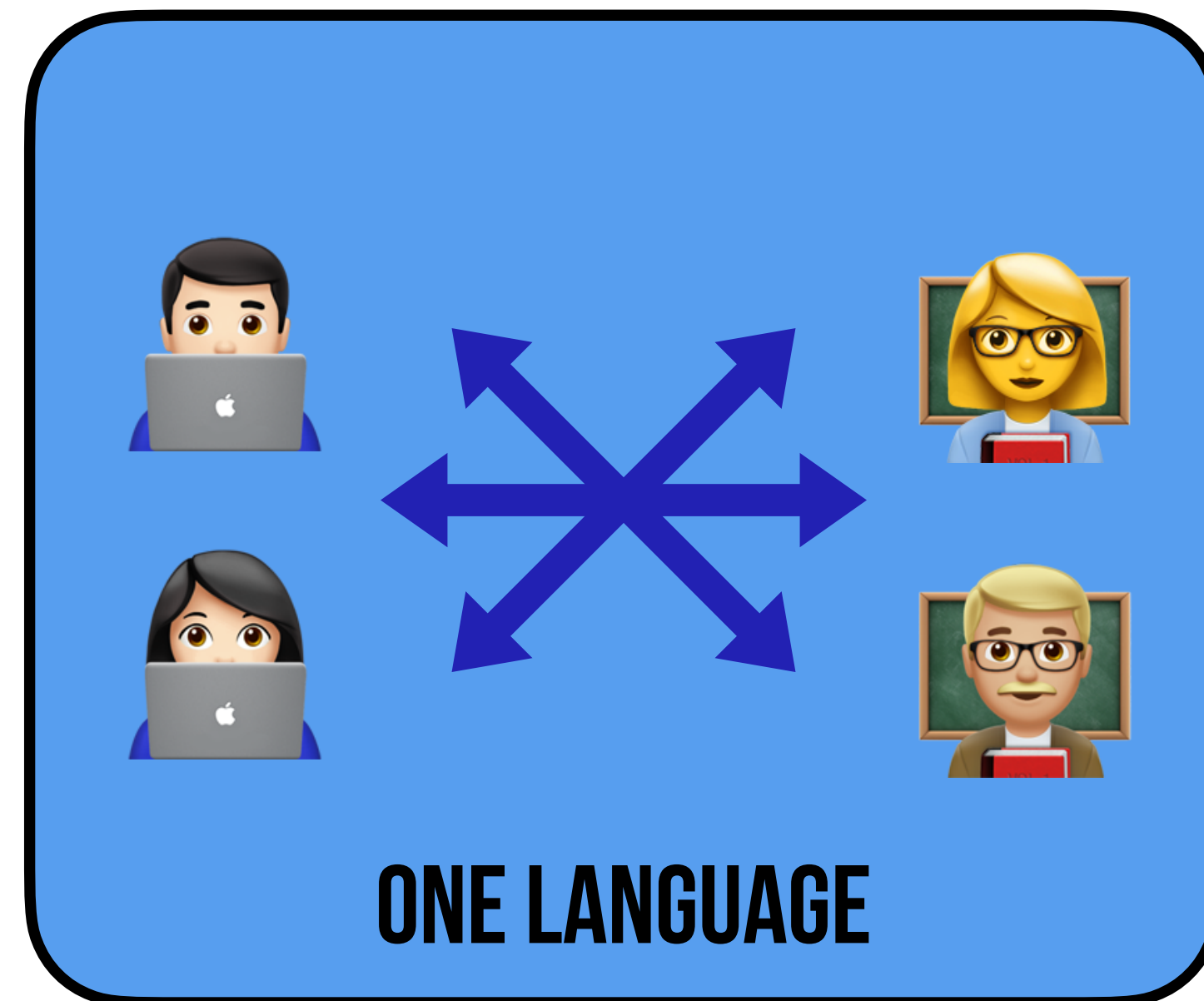
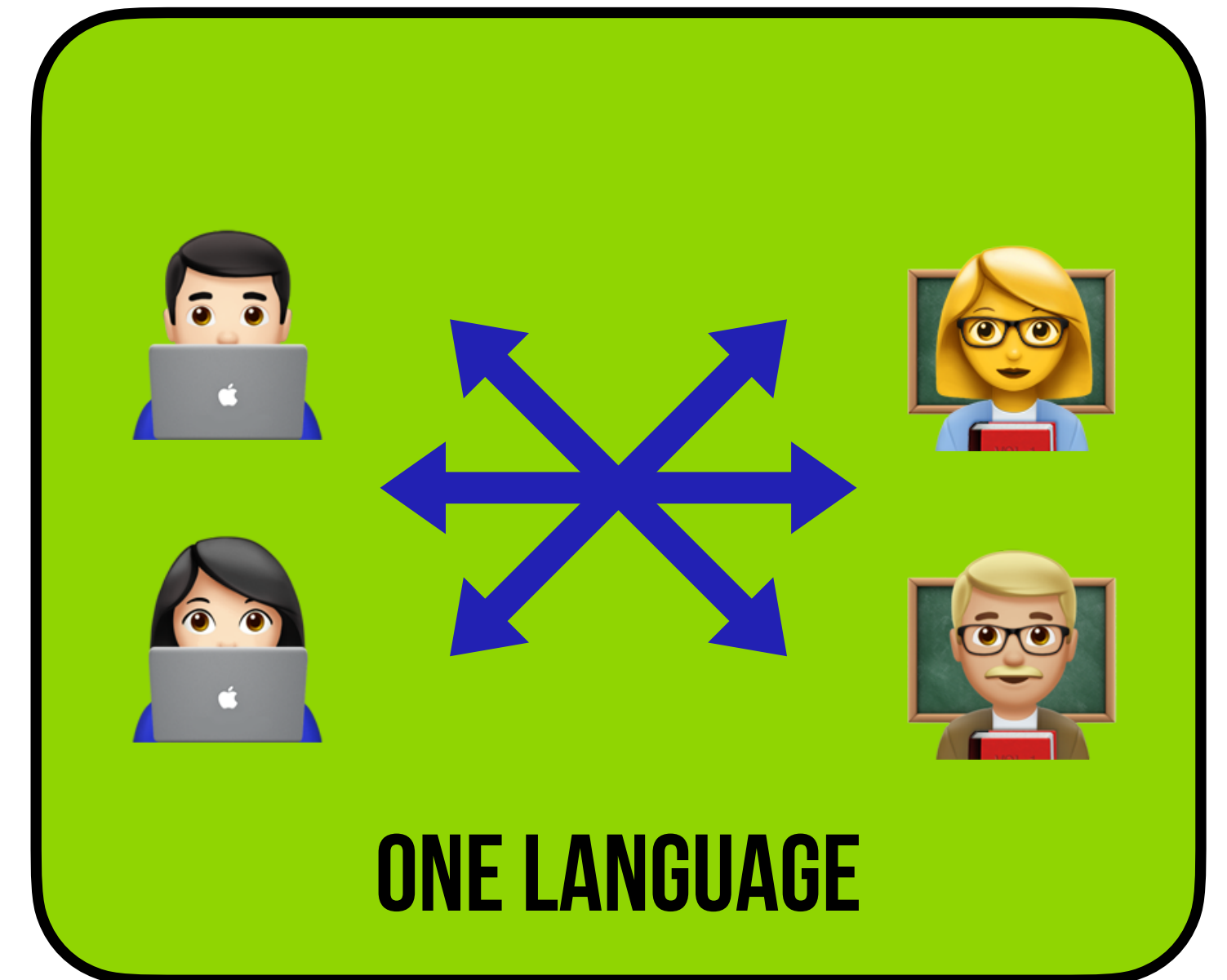
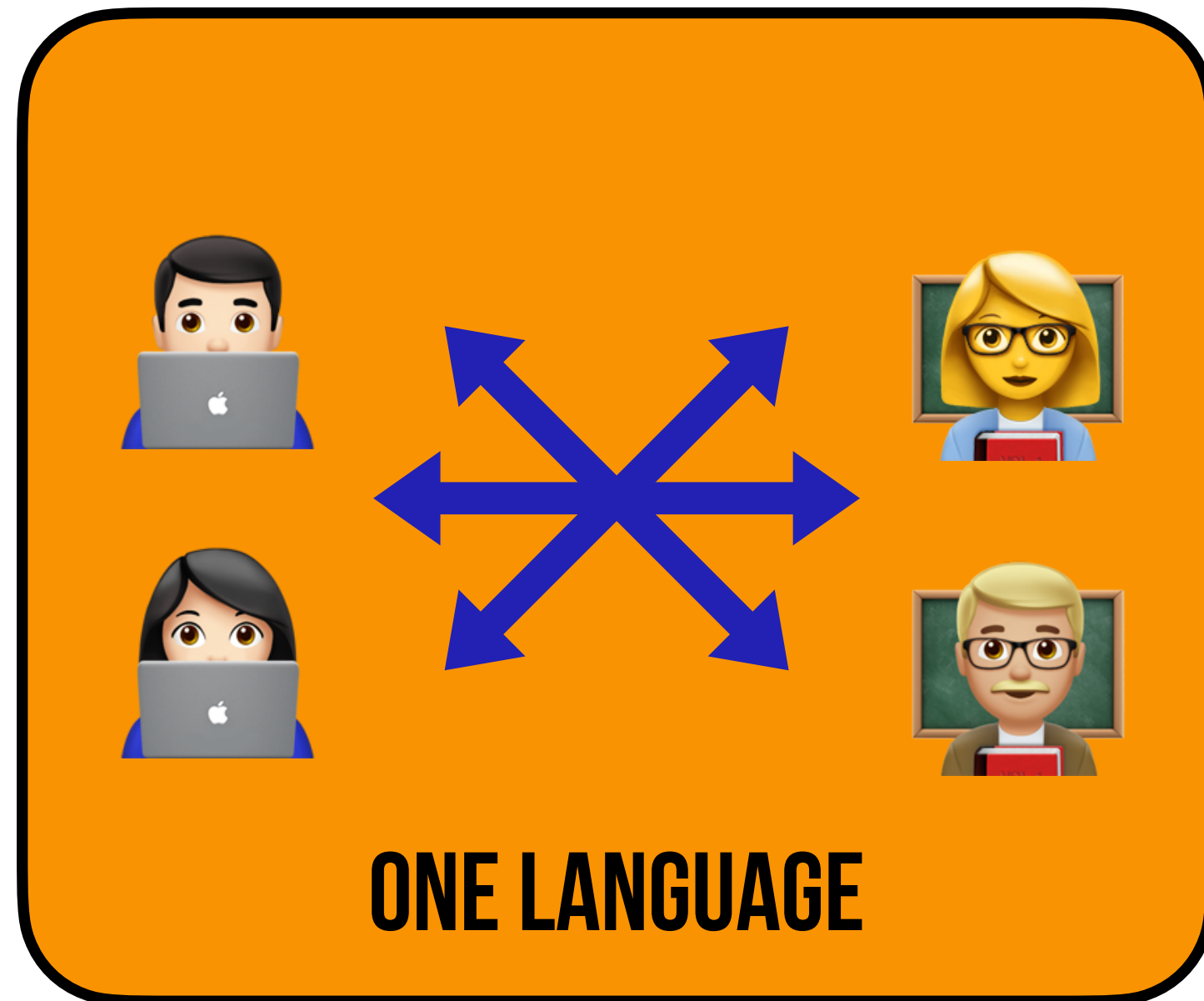


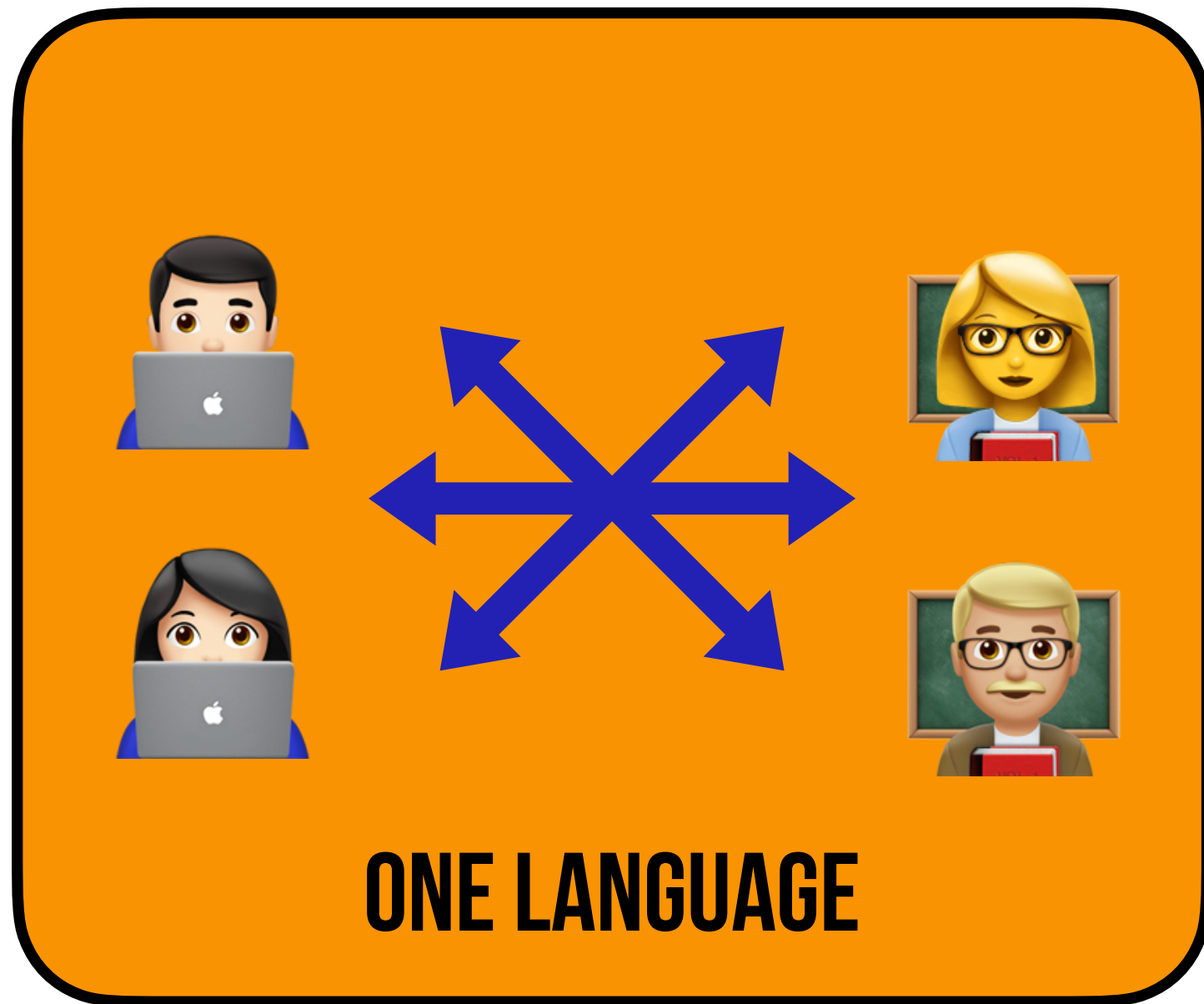
STRATEGIC PATTERNS



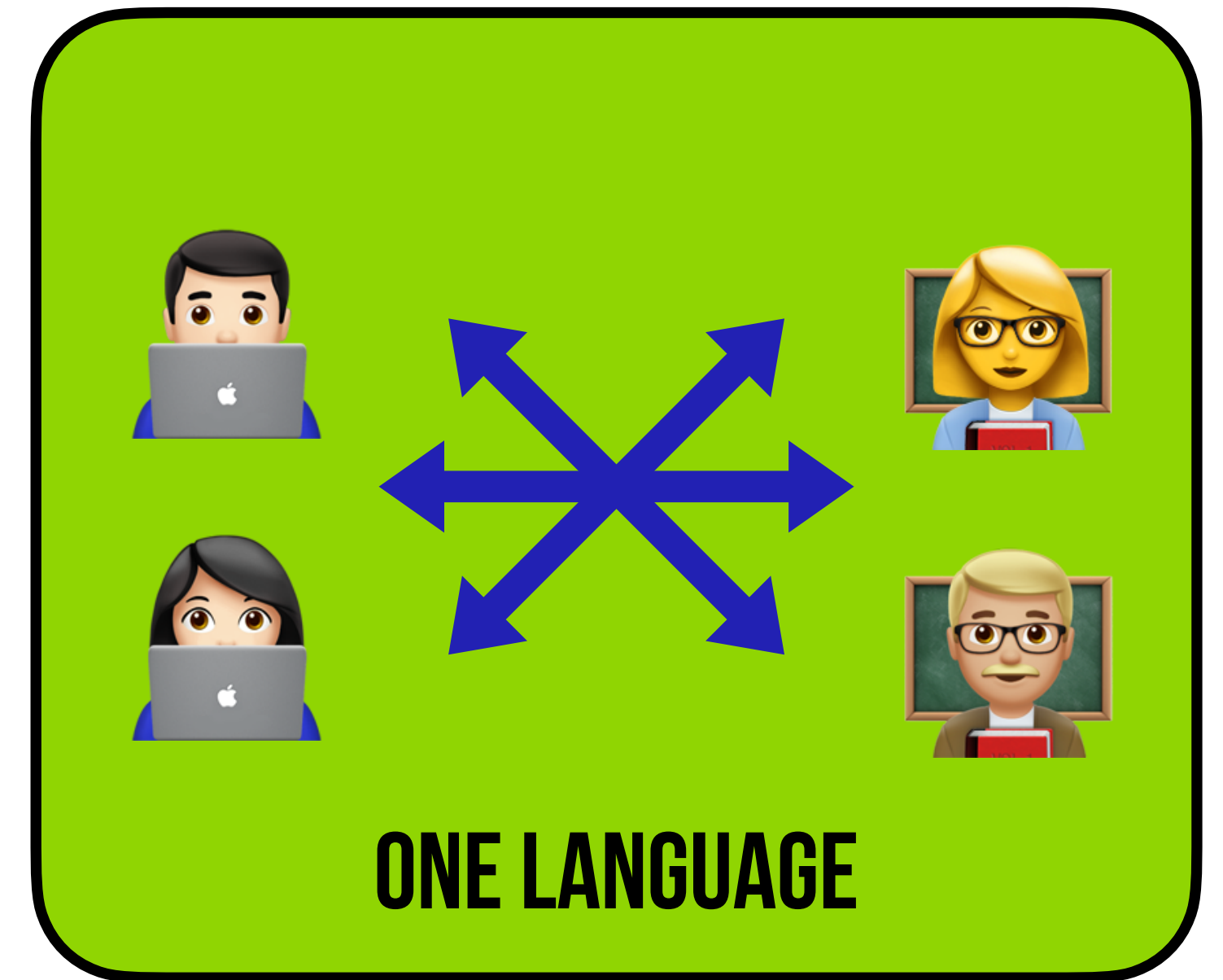




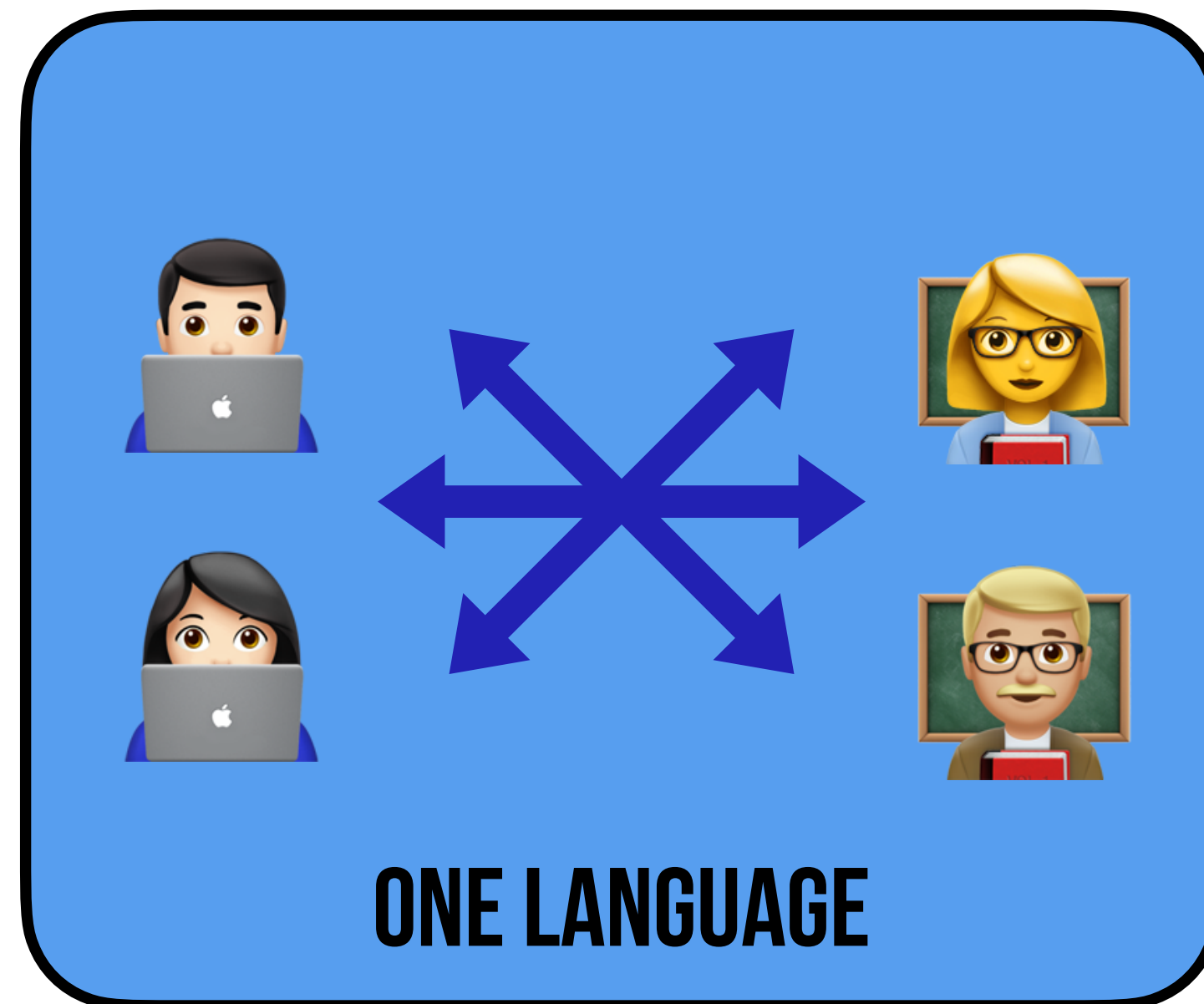




BOUNDED CONTEXT



BOUNDED CONTEXT



BOUNDED CONTEXT

**MICROSERVICES IS A LOOSELY-
COUPLED, SERVICE ORIENTED
ARCHITECTURE WITH BOUNDED
CONTEXT**

ADRIAN COCKROFT

CONTEXT IS KING

CONTEXT

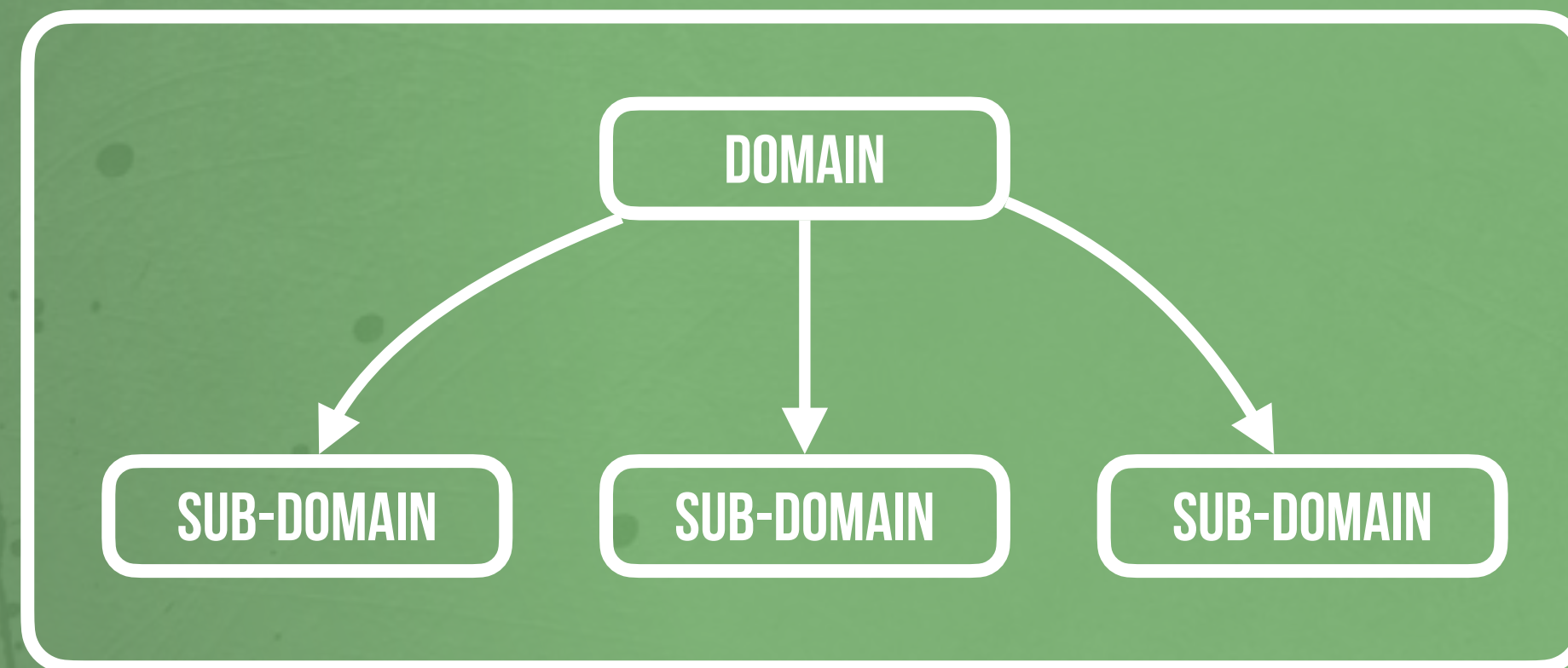
NOUN

THE CIRCUMSTANCES THAT FORM THE SETTING FOR AN EVENT, STATEMENT, OR IDEA, AND IN TERMS OF WHICH IT CAN BE FULLY UNDERSTOOD AND ASSESSED

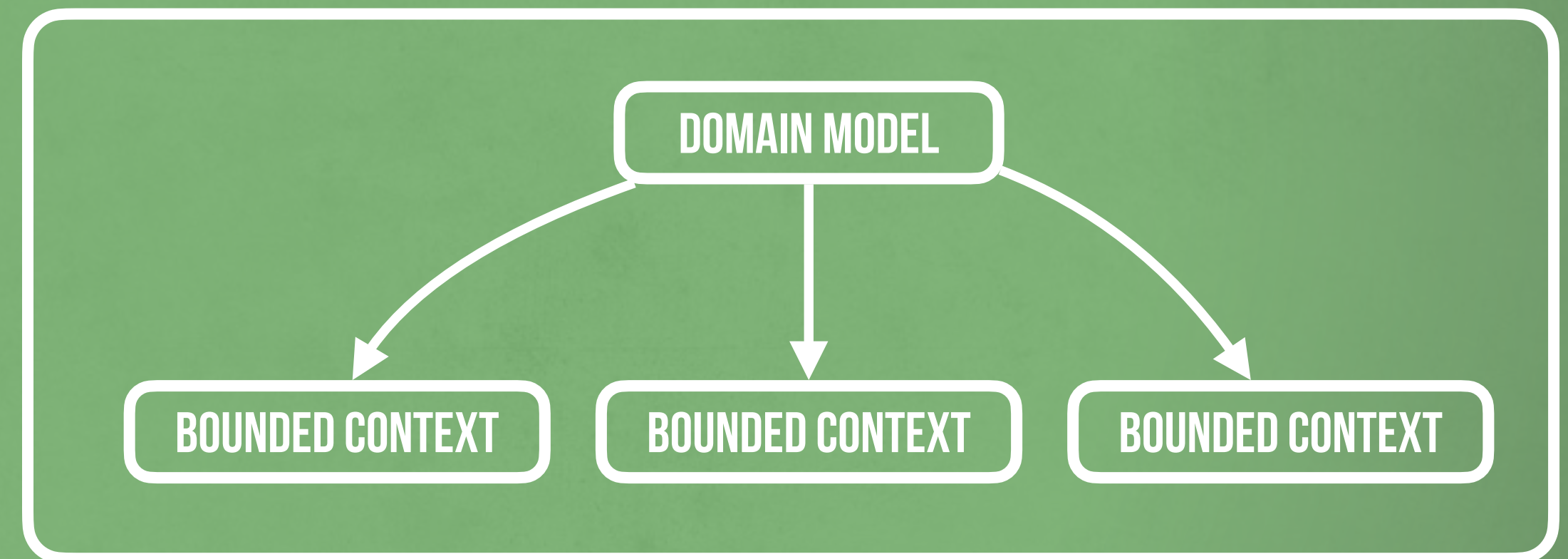
BOUNDED CONTEXT

THE DESCRIPTION OF THE CONDITIONS UNDER WHICH A MODEL APPLIES

PROBLEM SPACE



SOLUTION SPACE



```
public void evaluateApplication(Integer memberId, Integer loanId) {
    Member m = memberRepository.findById(memberId);
    Loan loan = loanRepository.findById(loanId);

    ApplicationScore score = ApplicationScore.Green;
    //property value
    if (loan.Property.Value < loan.LoanAmount) {
        score = ApplicationScore.Red;
    }

    //max age
    if (DateTime.Now.Year + loan.LoanNumberOfYears - loan.Customer.Birthdate.Year > 65) {
        score = ApplicationScore.Red;
    }

    //income vs installment
    if (loan.LoanAmount / (loan.LoanNumberOfYears * 12) >
        loan.Customer.MonthlyIncome * 0.15M) {
        score = ApplicationScore.Red;
    }

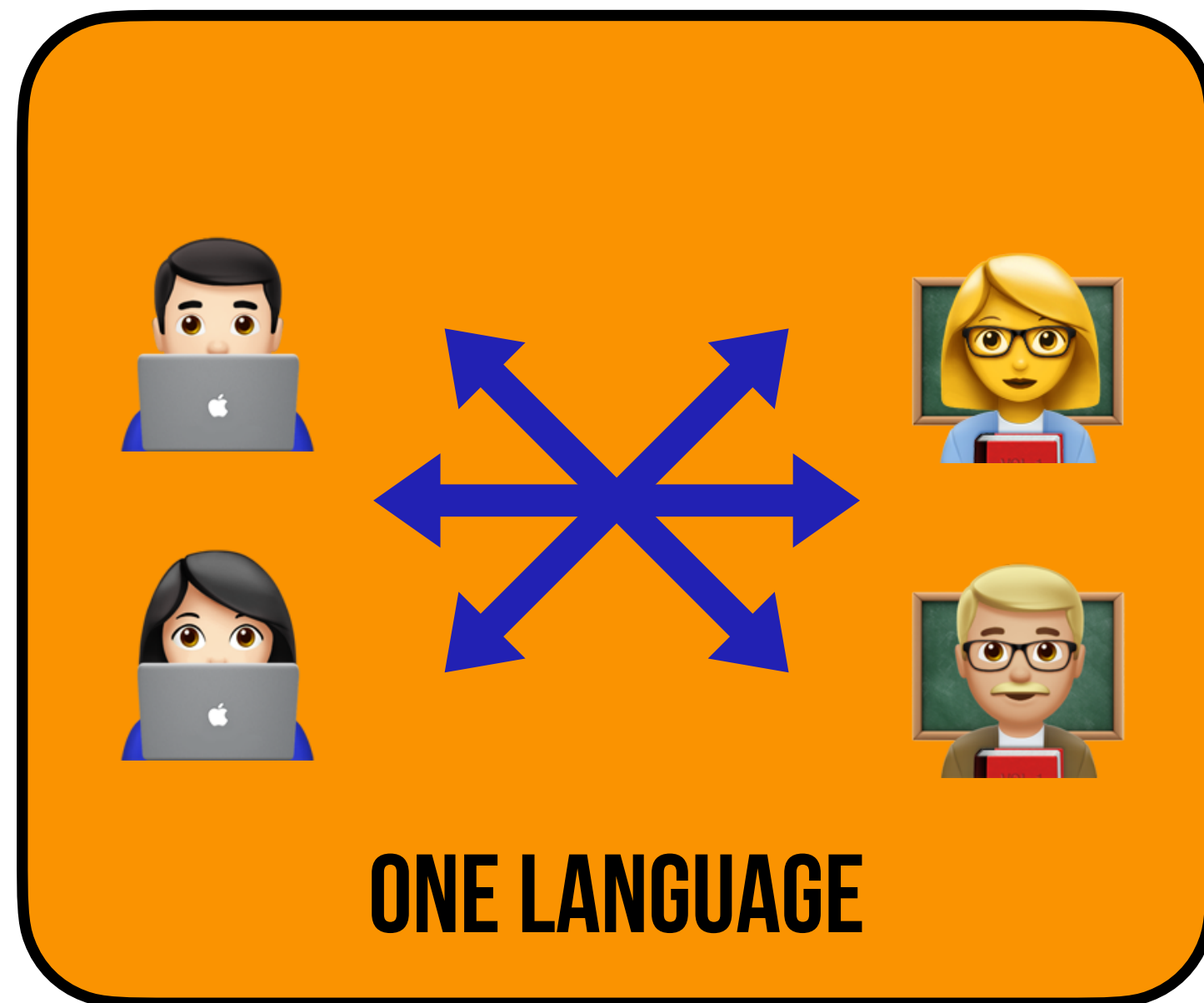
    switch(score) {
        case ApplicationScore.Green:
            m.getAssignedLoans().add(loan);
            m.acceptedLoans++;
        default:
            m.rejectedLoans++;
    }
}
```



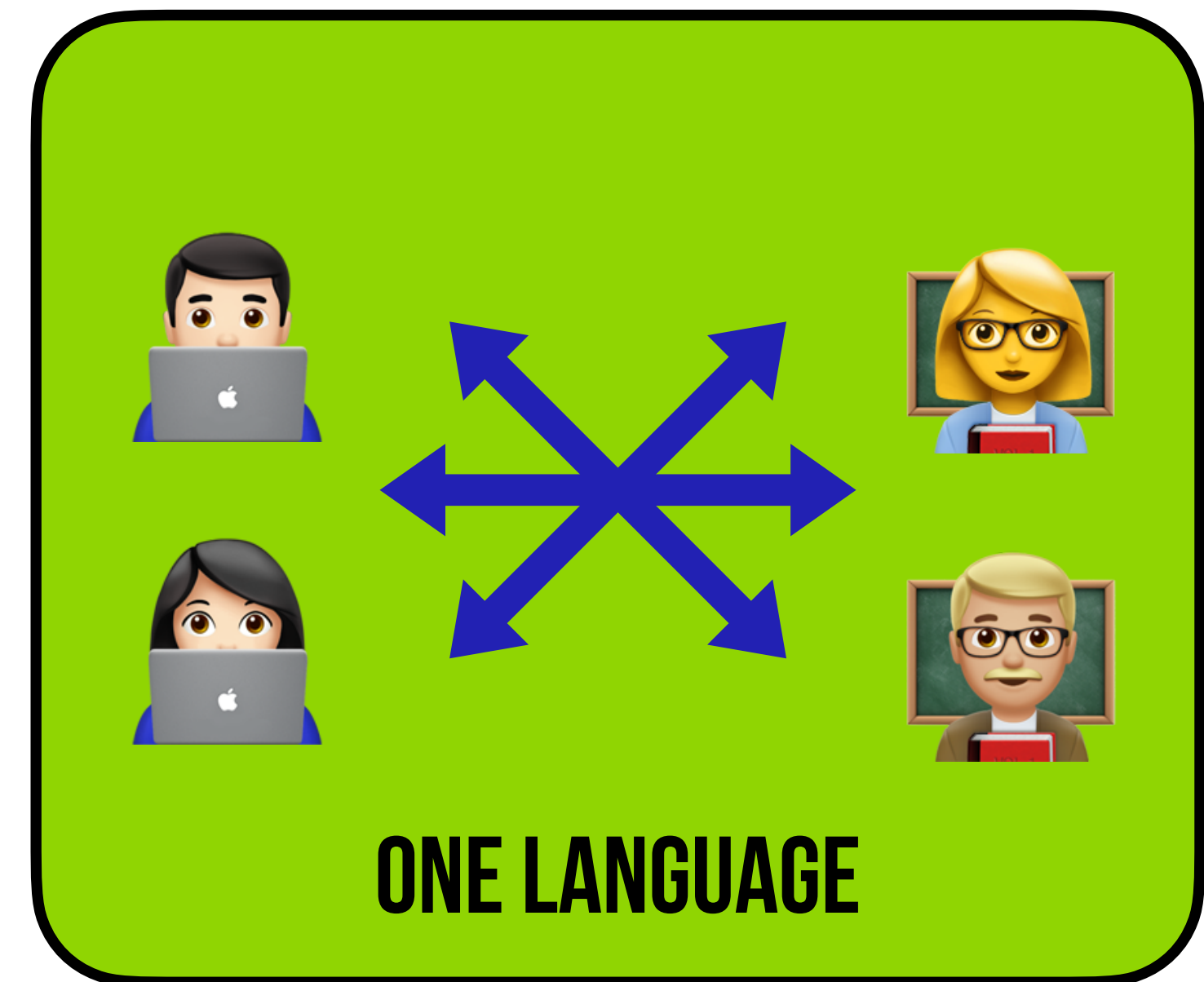
1 BOUNDED CONTEXT : 1 SUB-DOMAIN



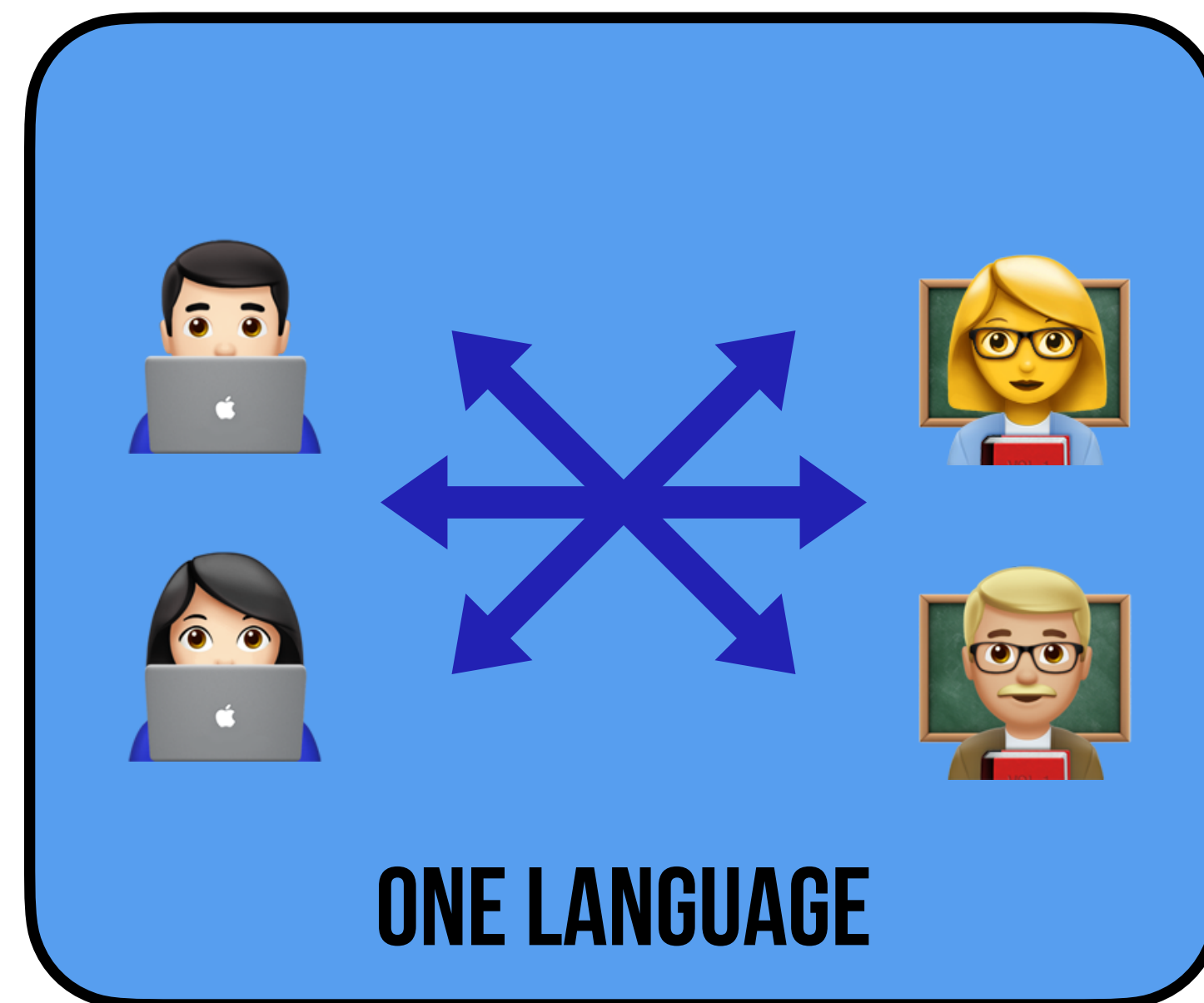
PERSISTENCE IGNORANCE



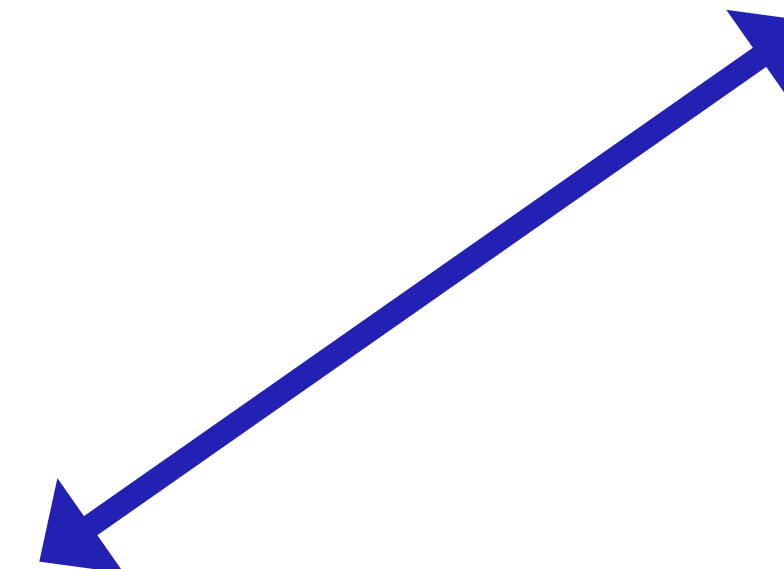
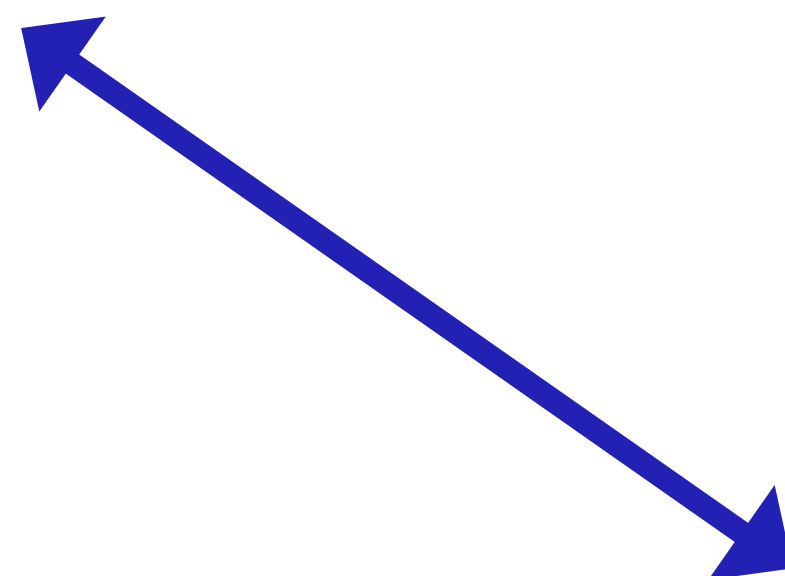
BOUNDED CONTEXT



BOUNDED CONTEXT

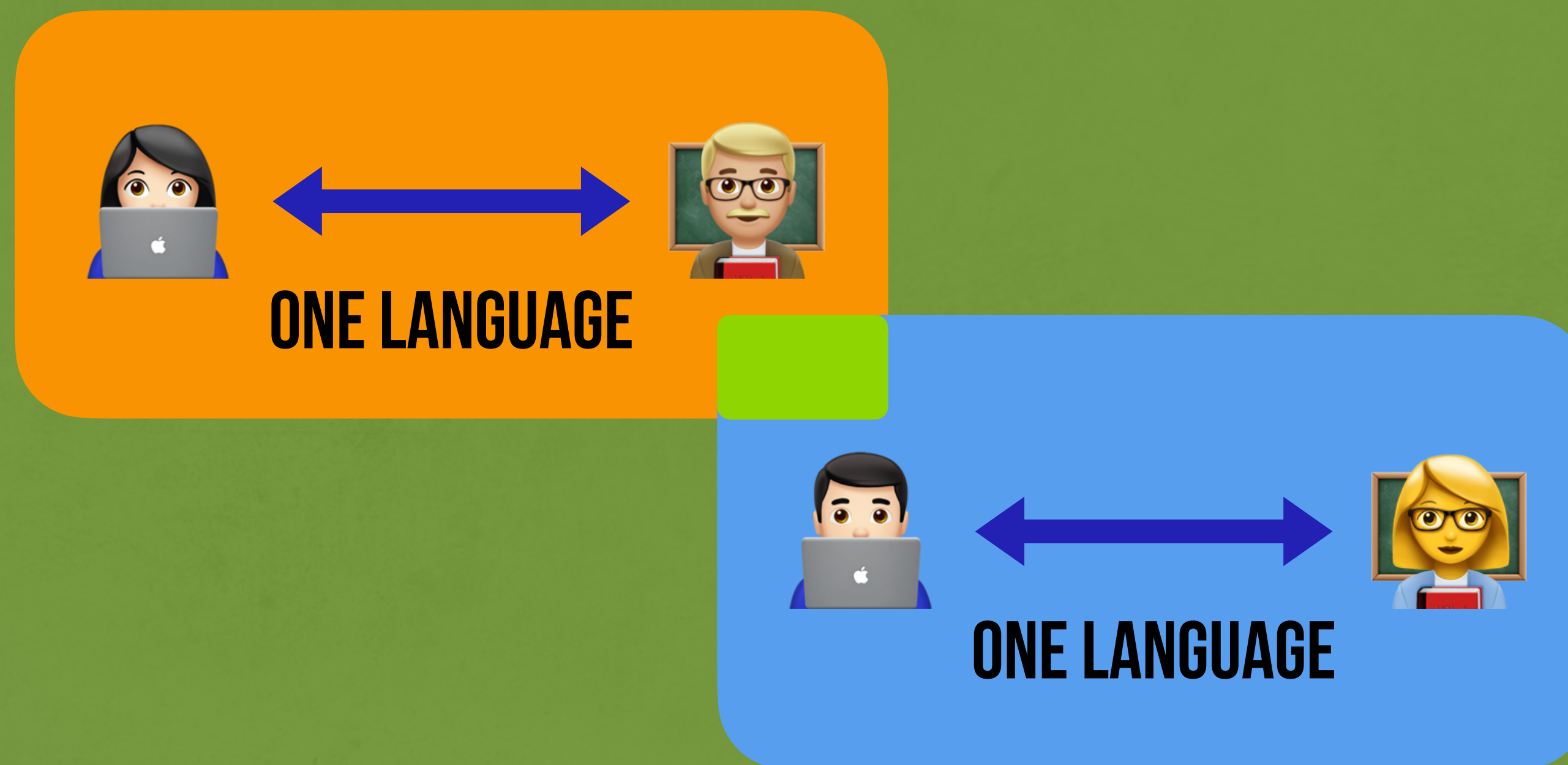


BOUNDED CONTEXT



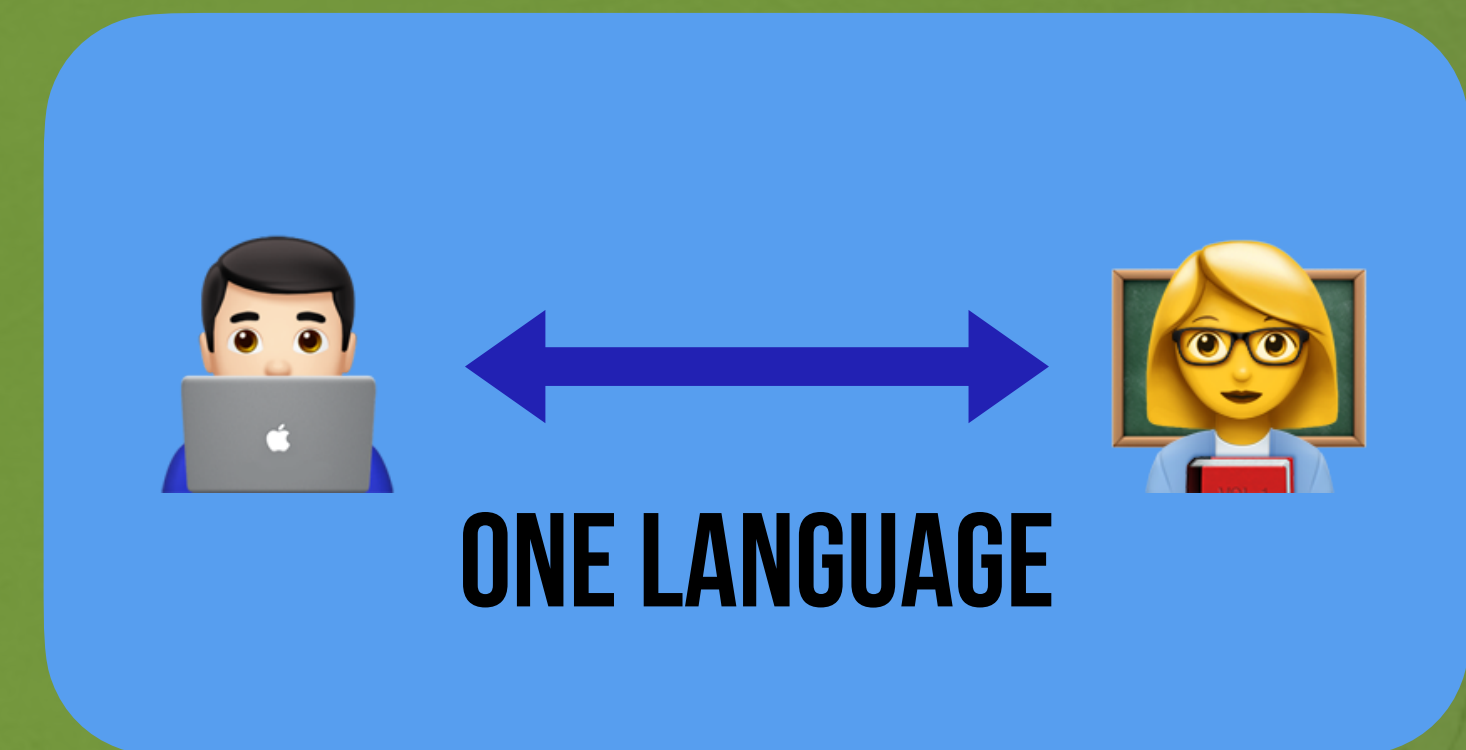
CONTEXT MAPPING

SHARED KERNEL



CONTEXT MAPPING

PARTNERSHIP



CONTEXT MAPPING

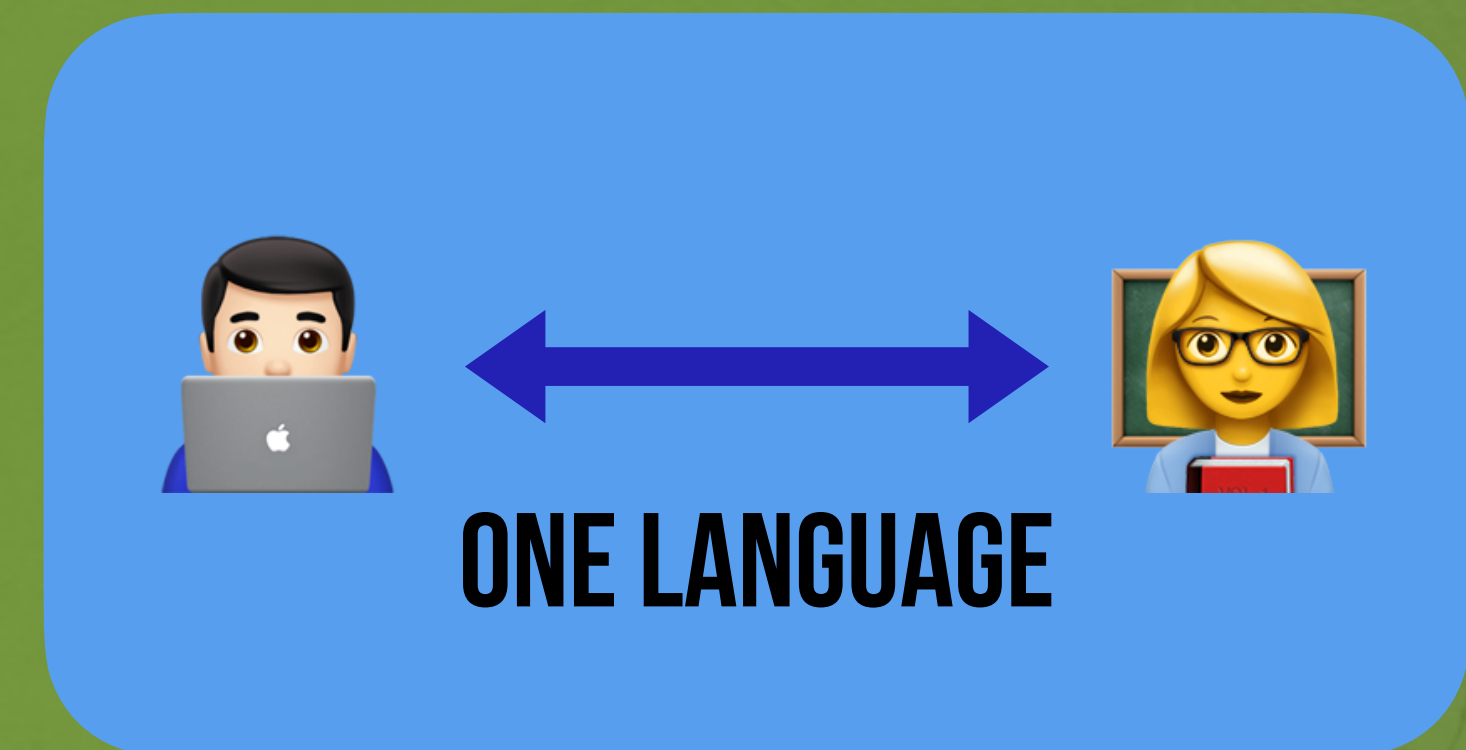
CUSTOMER-SUPPLIER



U



D



CONTEXT MAPPING

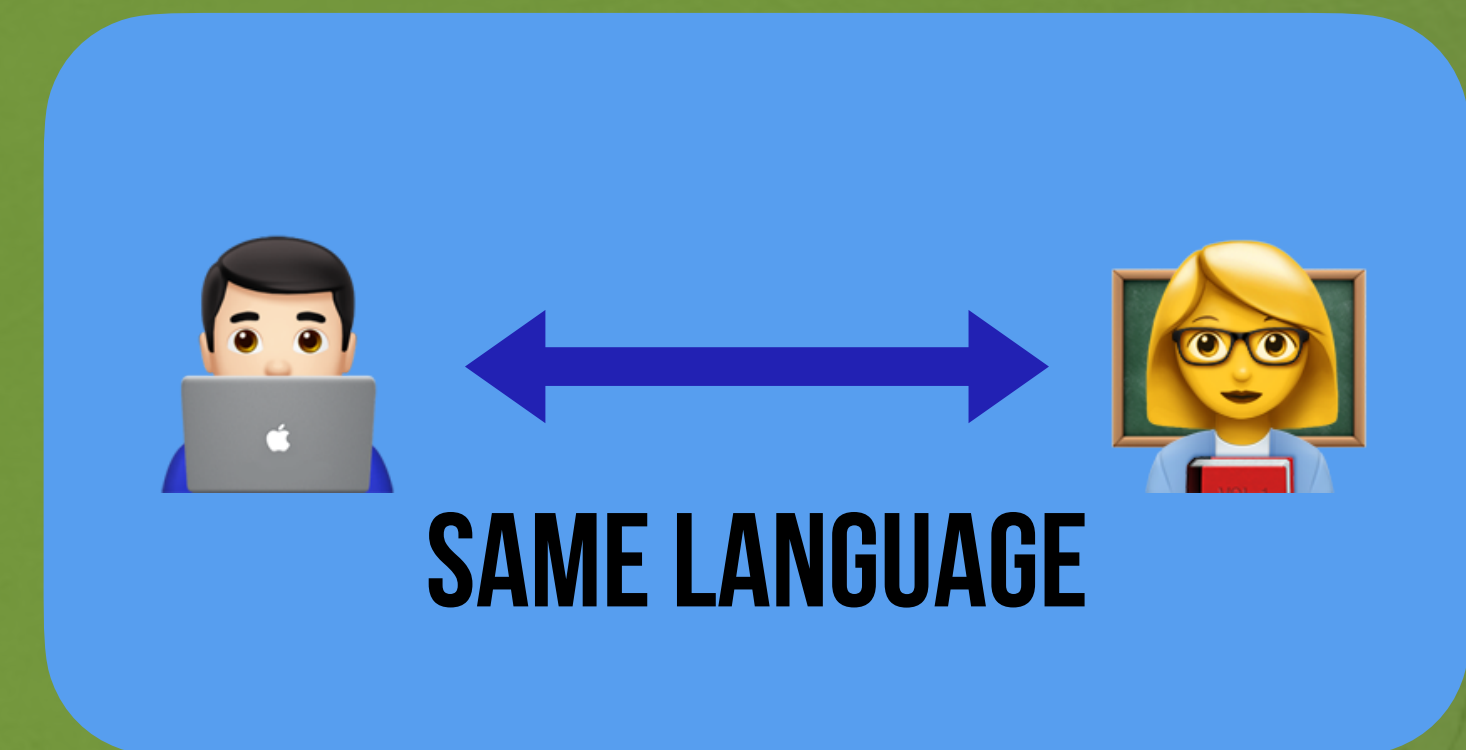
CONFORMIST



U

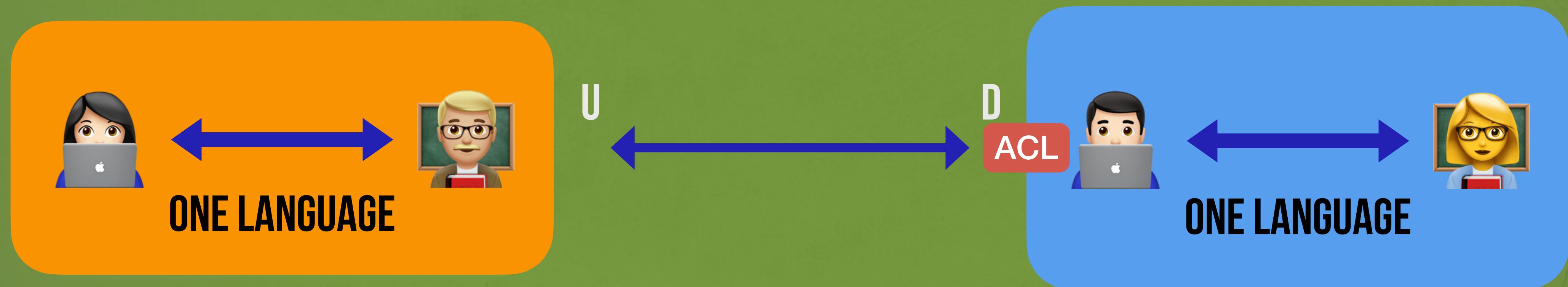


D



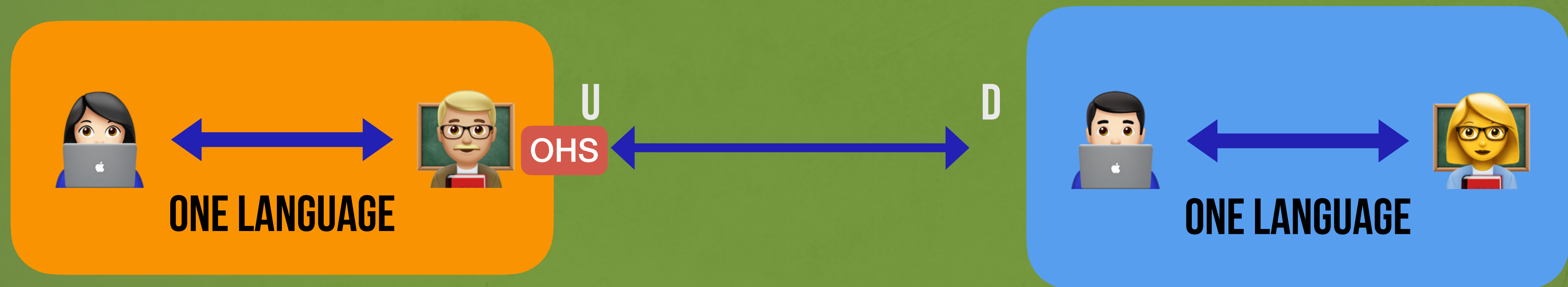
CONTEXT MAPPING

ANTI-CORRUPTION LAYER



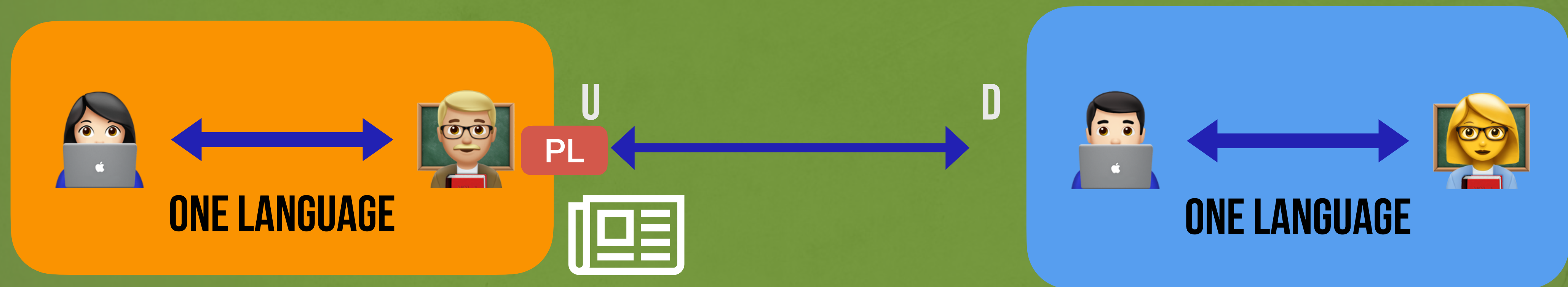
CONTEXT MAPPING

OPEN HOST SERVICE



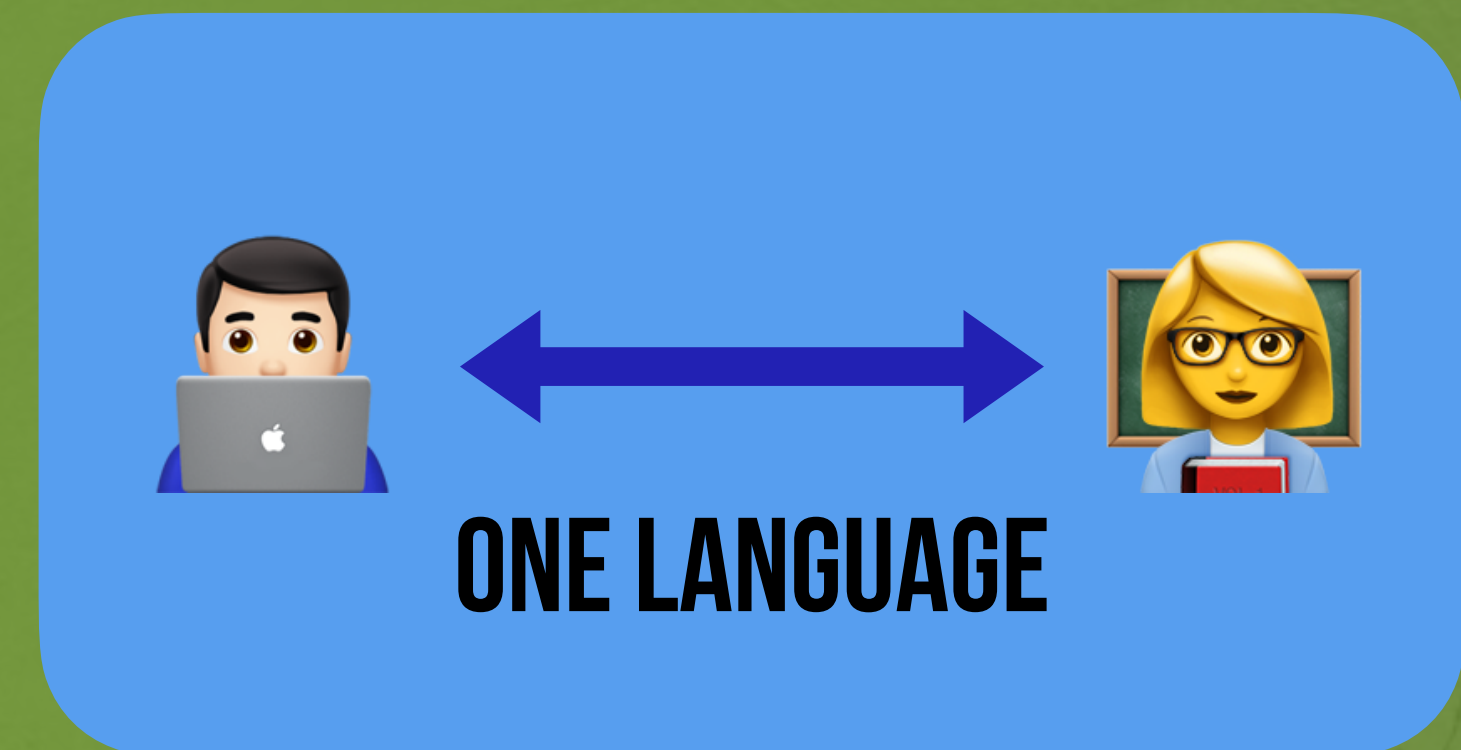
CONTEXT MAPPING

PUBLISHED LANGUAGE



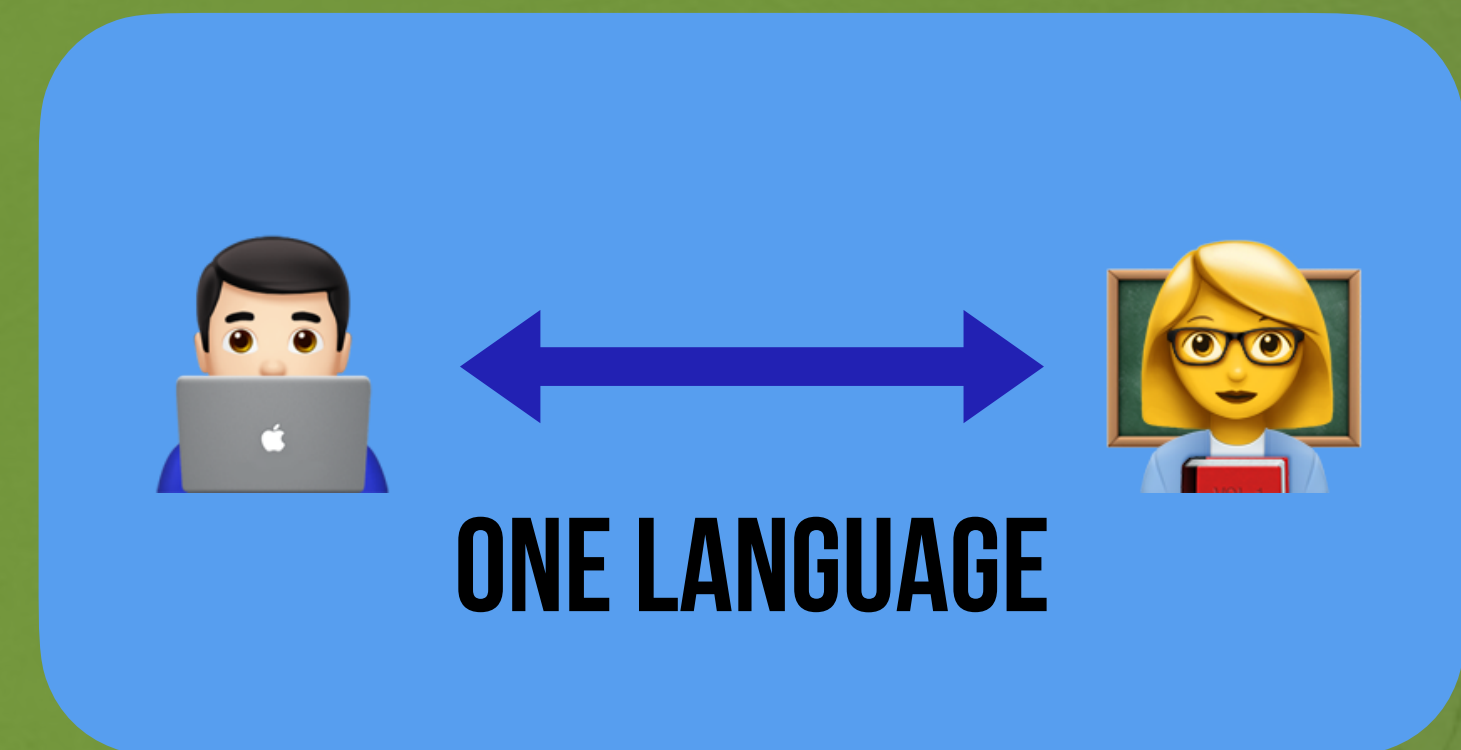
CONTEXT MAPPING

SEPARATE WAYS



CONTEXT MAPPING

BALL OF MUD



CONTEXT MAPPING

HAS

COSTS

FLEXIBILITY

MAINTENANCE

ORGANIZATIONAL

SKILLSET



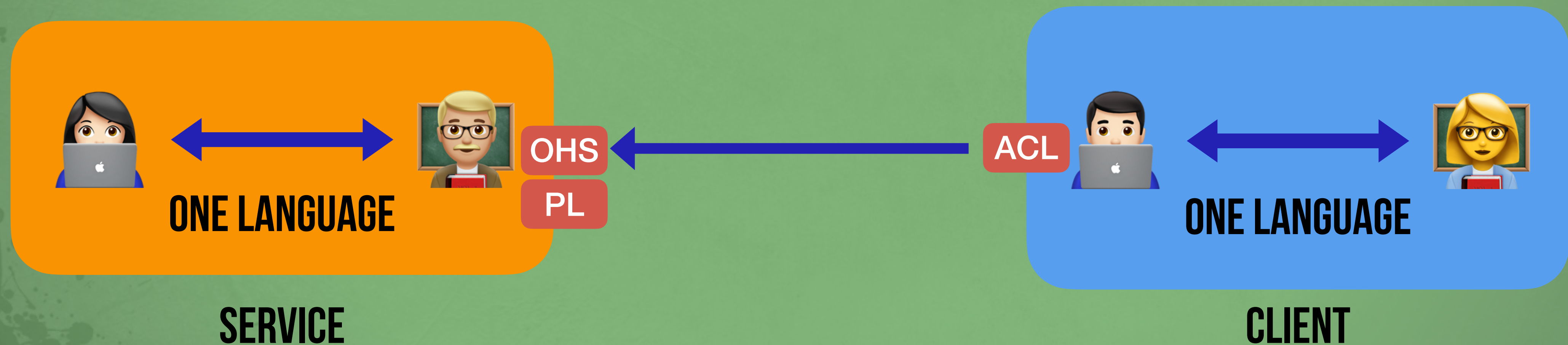
CONTEXT MAPPING

EXPOSES THE

LANDSCAPE

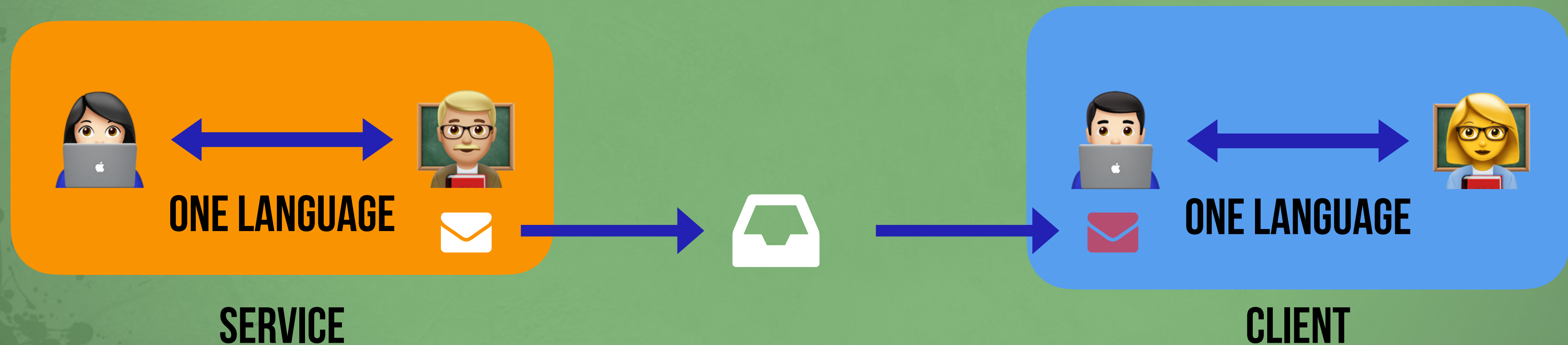
CONTEXT MAPPING

USING REST



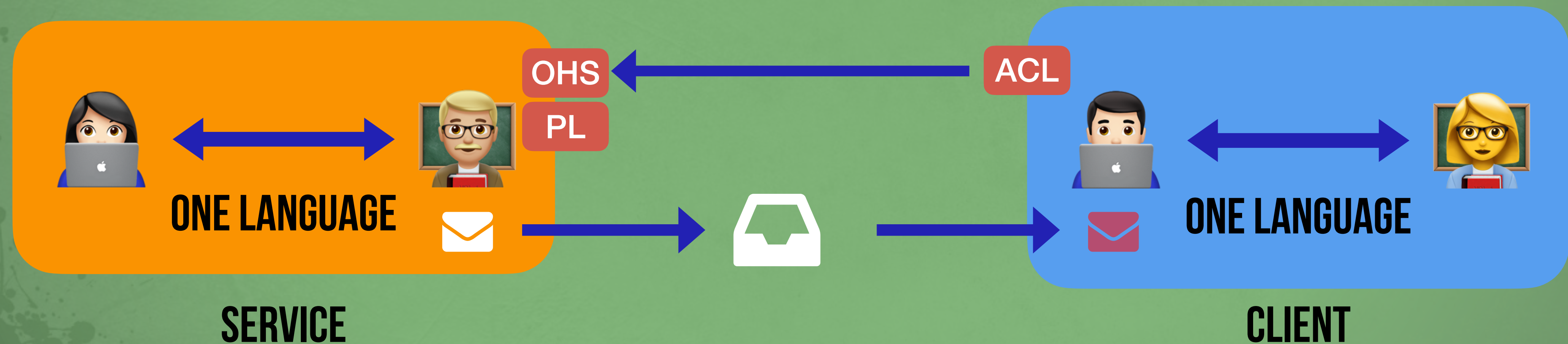
CONTEXT MAPPING

USING MESSAGING



CONTEXT MAPPING

USING MESSAGING



MODELING TECHNIQUES

EVENT STORMING

INTRODUCING EVENTSTORMING

BY ALBERTO BRANDOLINI

EVENT STORMING

Alberto Brandolini



DOMAIN
EVENT

DOMAIN
EVENT

DOMAIN
EVENT

DOMAIN
EVENT

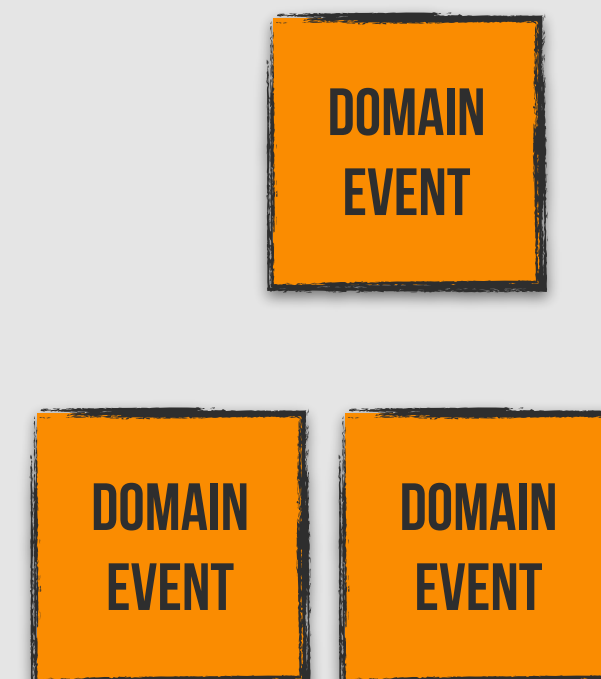
DOMAIN
EVENT

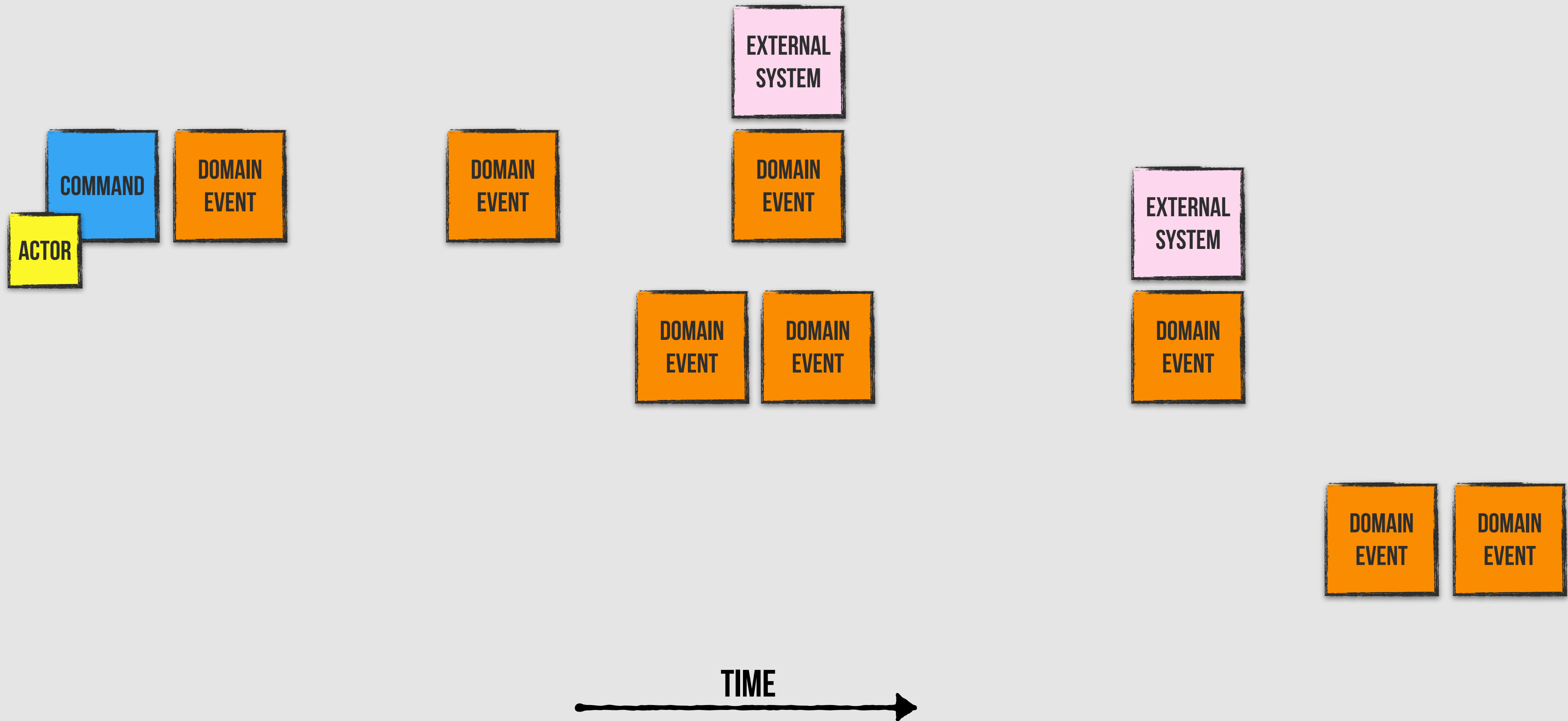
DOMAIN
EVENT

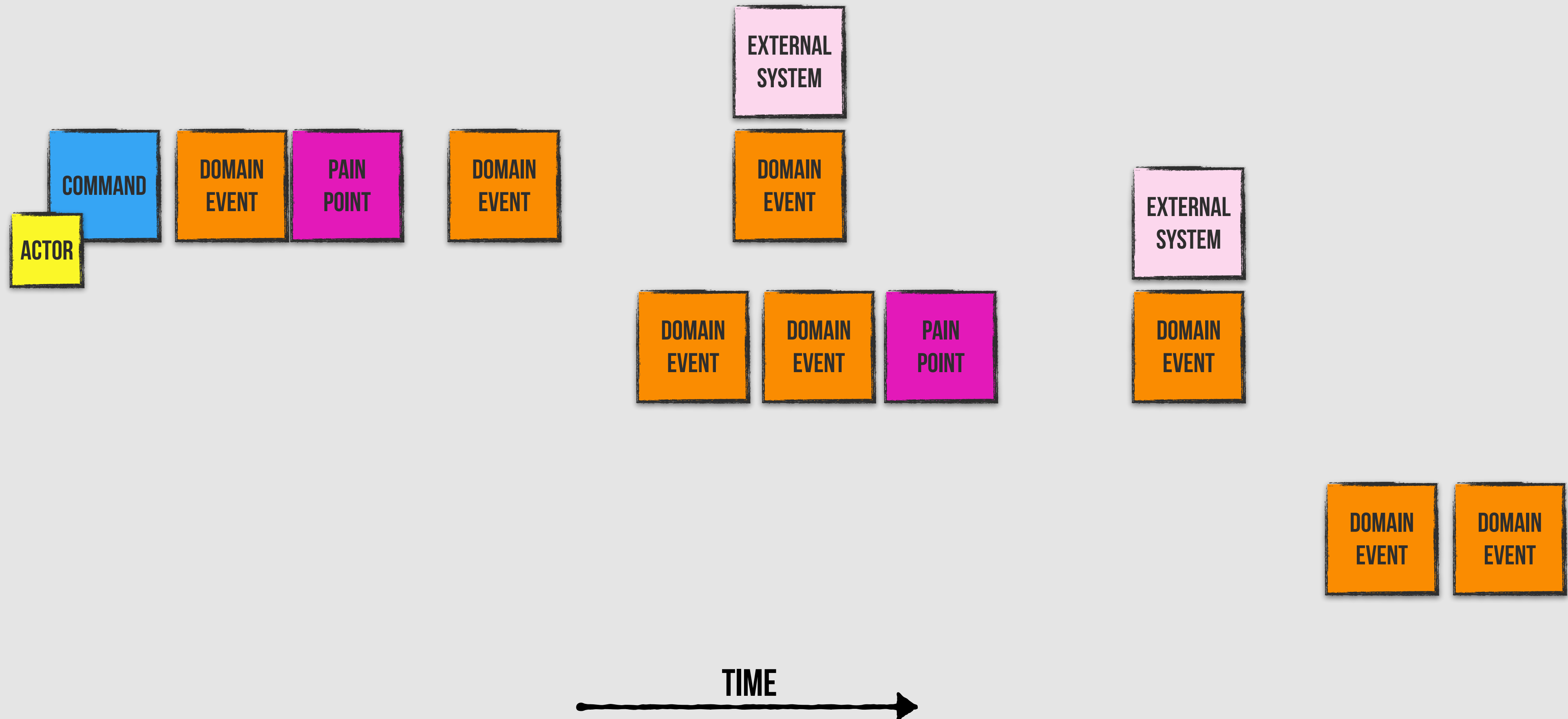
DOMAIN
EVENT

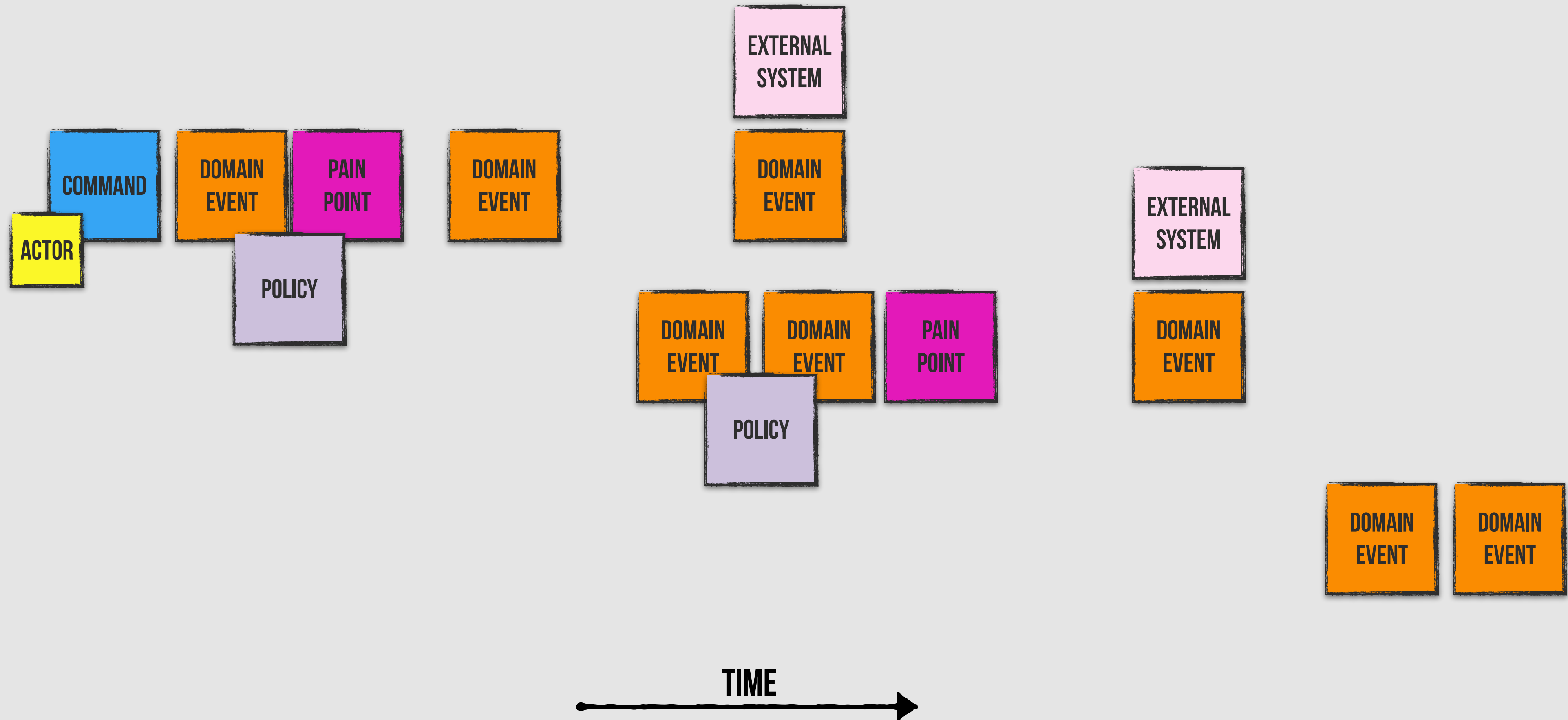
DOMAIN
EVENT

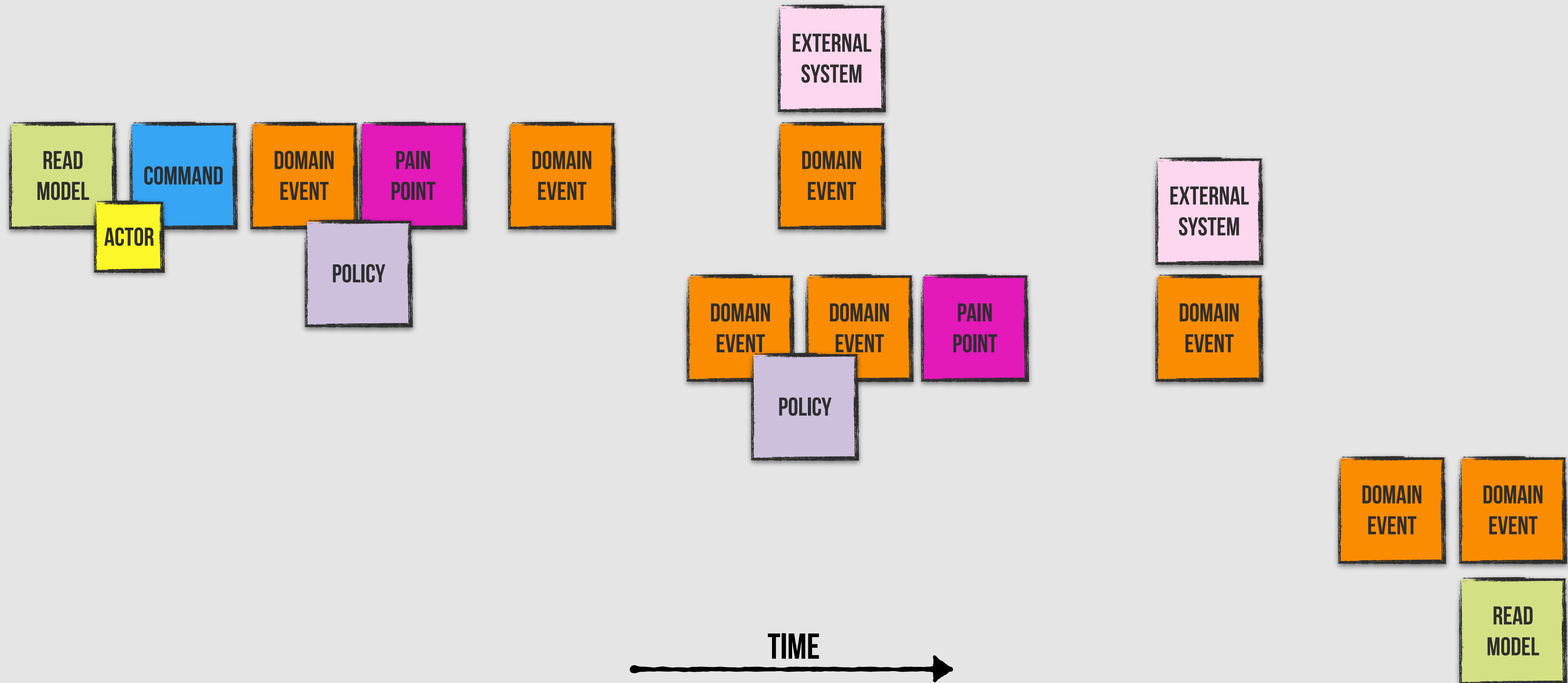
TIME

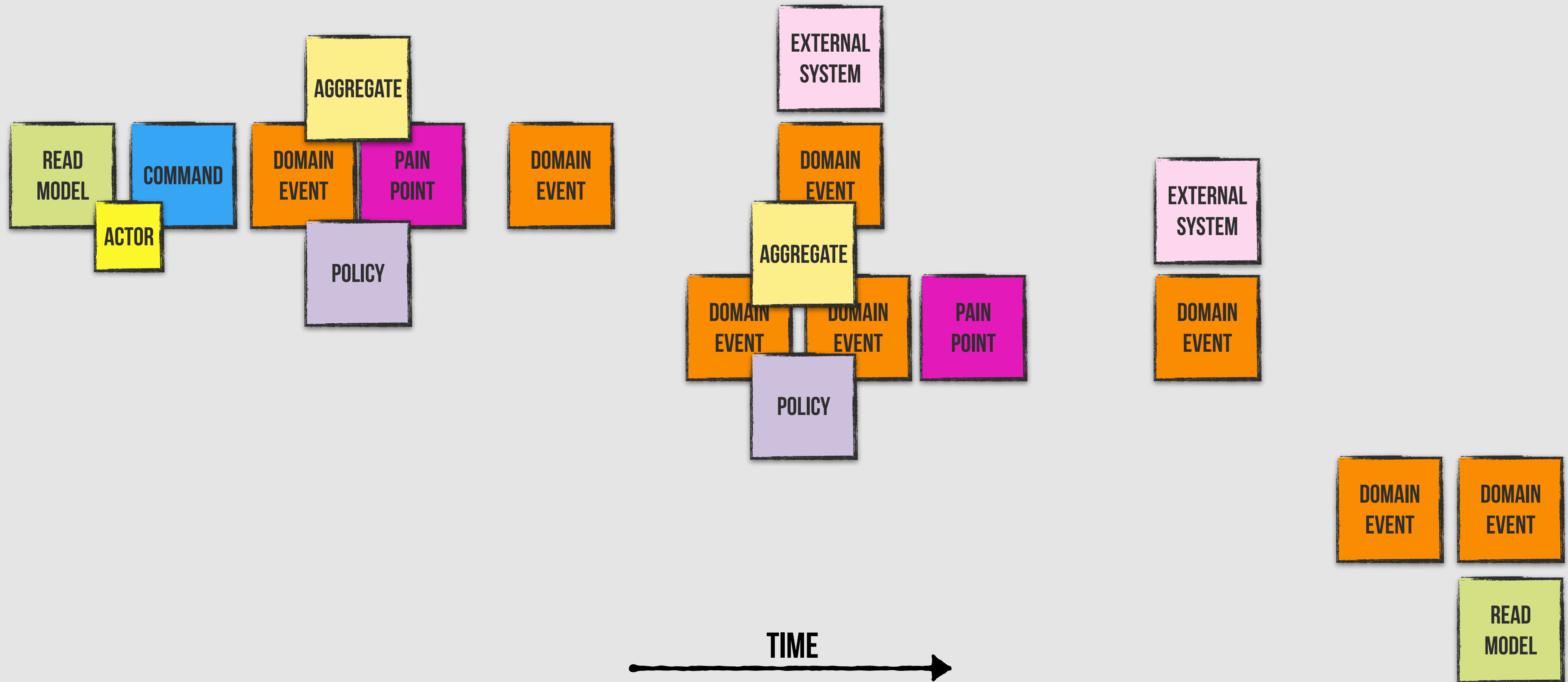


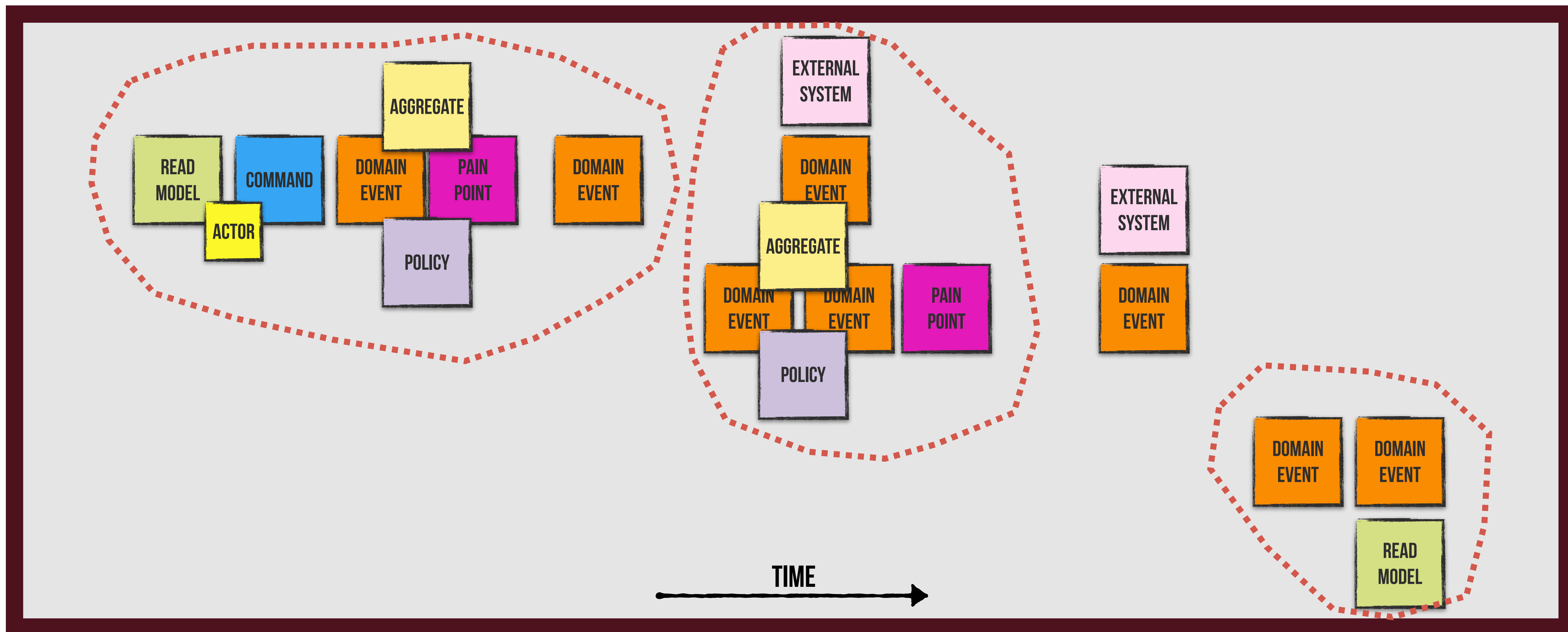


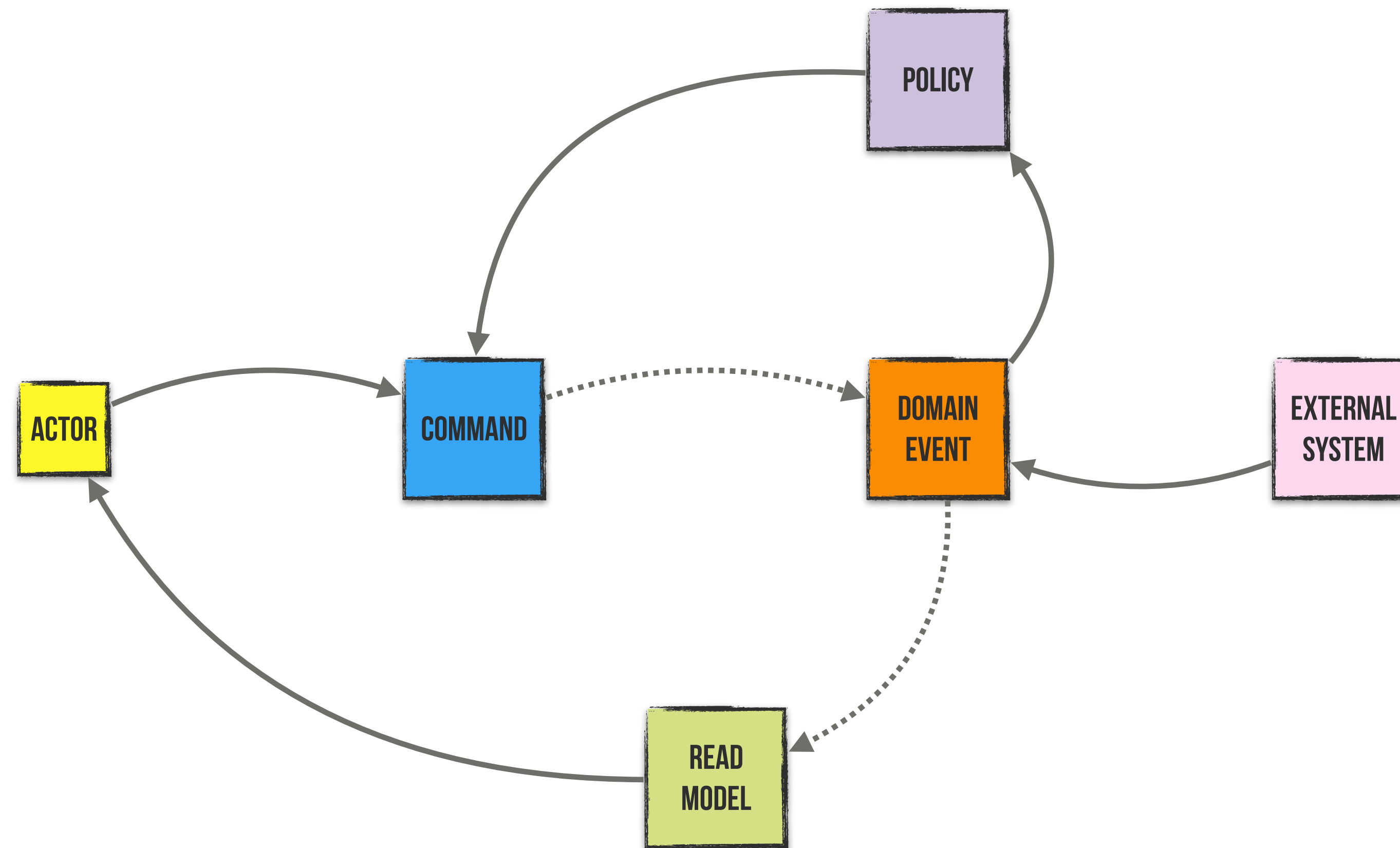




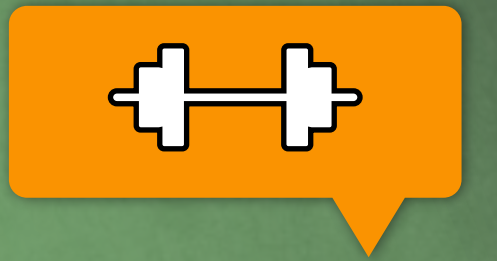








EXERCISE



THE LIBRARY:

- PATRONS CAN PLACE RESERVE A BOOK THAT EXISTS IN THE CATALOG
- LIBRARIANS COLLECT BOOKS THAT HAVE BEEN RESERVED
- PATRONS ARE NOTIFIED (VIA EMAIL) THAT THEIR RESERVATIONS ARE READY
- PATRONS CAN WALK IN AND CHECKOUT A BOOK (EITHER RESERVED OR OFF-THE-SHELF)
- PATRONS CAN ONLY CHECKOUT IF THEY HAVE NO FINES ON THEIR ACCOUNT
- LIBRARIANS AID IN CHECKING IN/OUT BOOKS
- BOOKS RETURNED ARE AVAILABLE FOR RESERVING/CHECKOUT
- PUBLIC EVENTS ARE REGULARLY SCHEDULED BY THE LIBRARY AND POSTED ON THE LIBRARY'S CALENDAR

BEHAVIOR DRIVEN DEVELOPMENT

BEHAVIOR DRIVEN DEVELOPMENT

ANTI-REQUIREMENTS

THANKS TO @ADAMRALPH

VALUE STREAM MAPPING

USEFUL PATTERNS

COLLABORATE

EXPERIMENT

**ESTABLISH
CONTEXT
BOUNDARIES**

**DOMAIN DRIVE DESIGN IS
EXPENSIVE**

**FOCUS ON
COMPETITIVE
ADVANTAGE**

WHY BOTHER?

SUSTAINABLE SOFTWARE

AVOID THE BIG BALL OF MUD

IMPROVE TESTABILITY

"FINDING THE SEAMS"

CHANGE EXISTING BUSINESS PROCESSES

AVOID OVER SIMPLIFYING

DOMAIN  **TECHNOLOGY**



RESOURCES

DOMAIN-DRIVEN DESIGN

IMPLEMENTING DOMAIN-DRIVEN DESIGN

PATTERNS, PRINCIPLES, AND PRACTICES OF DOMAIN-DRIVEN DESIGN

DOMAIN-DRIVEN DESIGN DISTILLED

DOMAIN-DRIVEN DESIGN REFERENCE

DOMAIN-DRIVE DESIGN QUICKLY

CREDITS

THEME - THANKS TO PHIL HAWKSWORTH

[HTTPS://UNSPLASH.COM/PHOTOS/HRDVSYPFFAS](https://unsplash.com/photos/HRDVSYPFFAS)

[HTTP://CLIPART-LIBRARY.COM/CLIPART/700301.HTM](http://clipart-library.com/clipart/700301.htm)

[HTTP://PNGIMG.COM/UPLOADS/WORLD_MAP/WORLD_MAP_PNG3.PNG](http://pngimg.com/uploads/world_map/world_map_png3.png)

[HTTPS://PIXABAY.COM/ILLUSTRATIONS/SPHERE-SPHERE-OF-MUD-MUD-BACKGROUND-2536105/](https://pixabay.com/illustrations/sphere-sphere-of-mud-mud-background-2536105/)

[HTTPS://PIXABAY.COM/PHOTOS/INDOORS-ARCHITECTURE-BUSINESS-EMPTY-3341001/](https://pixabay.com/photos/indoors-architecture-business-empty-3341001/)

THANKS

@LOOSELYTYPED
RAJU GANDHI