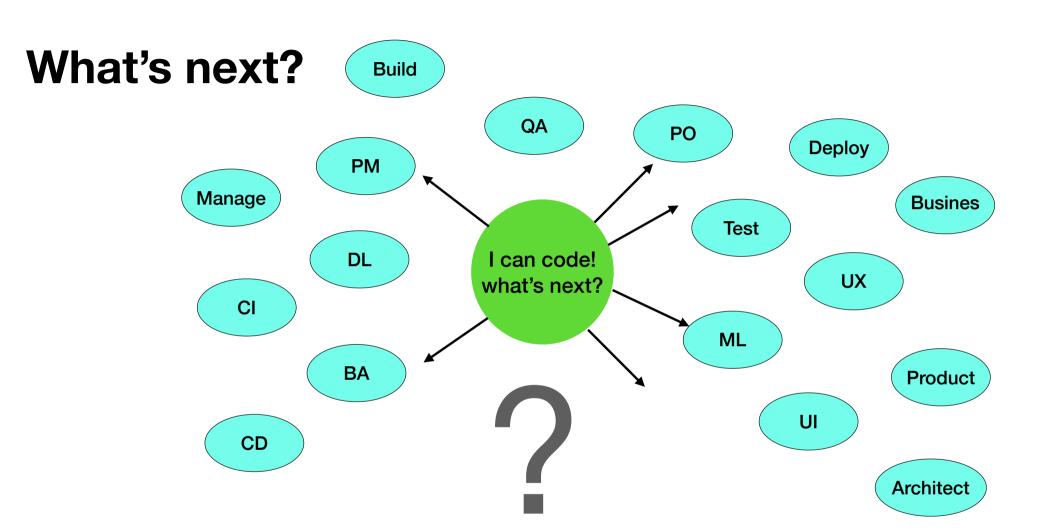
From Coding To Engineering

Alexey Rykhalskiy 11.01.2022



Product Lifecycle

Business Analysis Requirements Planning Development Delivery Marketing Product

Product Lifecycle

Business Analysis Requirements Planning Development Delivery Marketing Product

Product Lifecycle



Software Development Lifecycle

Requirements

Analysis

Criteria

Complexity Breakdown Rough Planning

Prototyping

Coding

Testing

Deployment

Software Development Lifecycle



Software Development Lifecycle



Software Engineering Lifecycle

Complexity Breakdown

- Composition
- Decomposition
- Modules
- Submodules
- Microservices

Rough **Planning**

- Sprints
- Scopes
- Responsibilities

Prototyping

- Interfaces
- Contracts
- Signatures
- API design Error handling
- Sketches
- Mocks
- Design

Coding

- Libraries
- Dependencies
- Architecture
- Design
- DesignPatterns
- Code Management
- Composition
- Stateful / Stateless

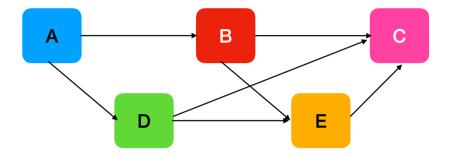
Testing

- - Load
- Availability
- Integration
- Smoke
- Regression

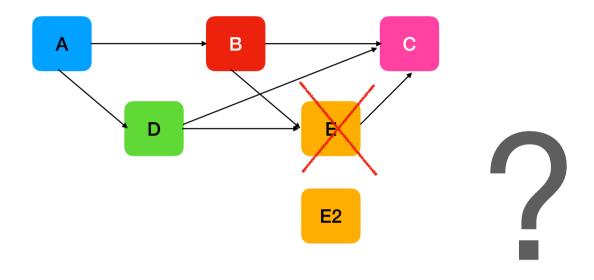
Deployment

- Cloud / premise
- Virtualization
- Containerization
- Orchestration
- Scaling
- Availability
- Rate Limiting
- Security Backup / Restore
- Rollback
- Versions Metrics
- Alerts
- Healing
- Graceful degradation

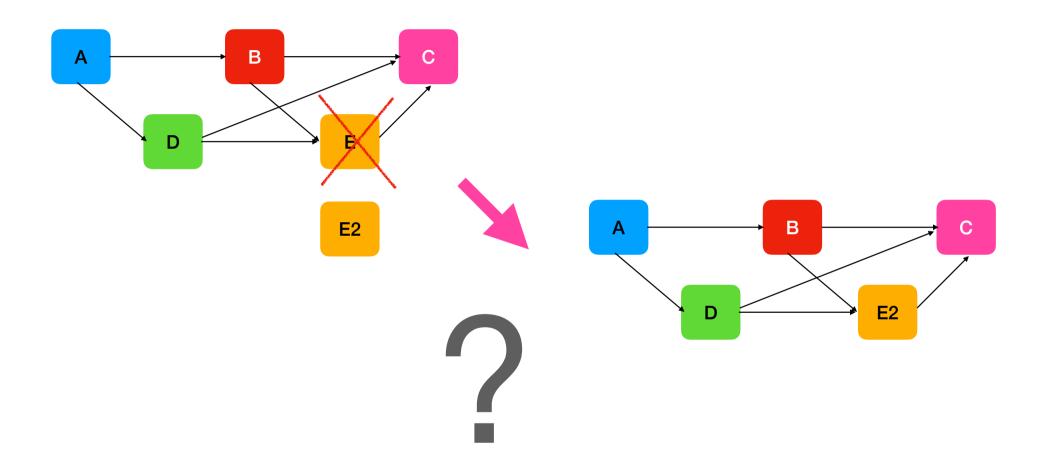
Maintainability. Composability. Testability 1



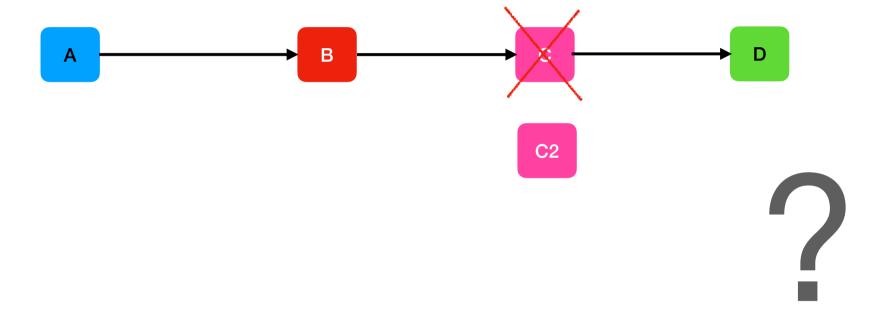
Maintainability. Composability. Testability 2



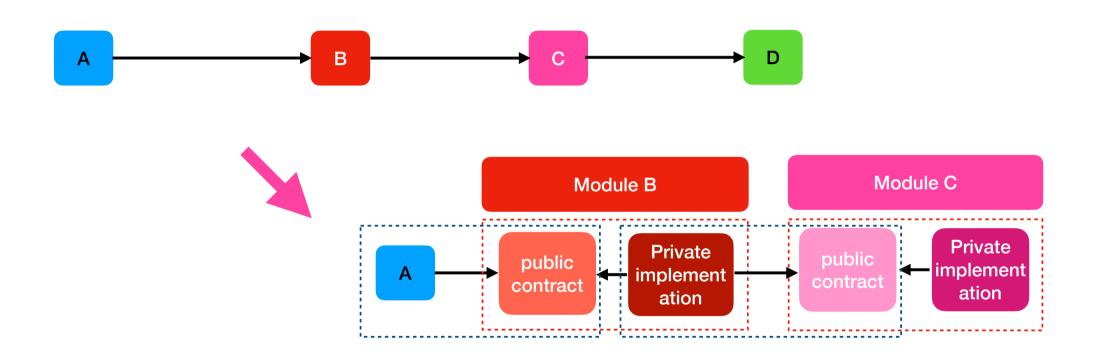
Maintainability. Composability. Testability 3



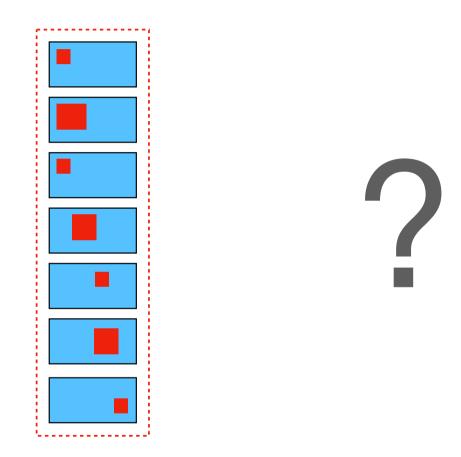
Fix The Contract!



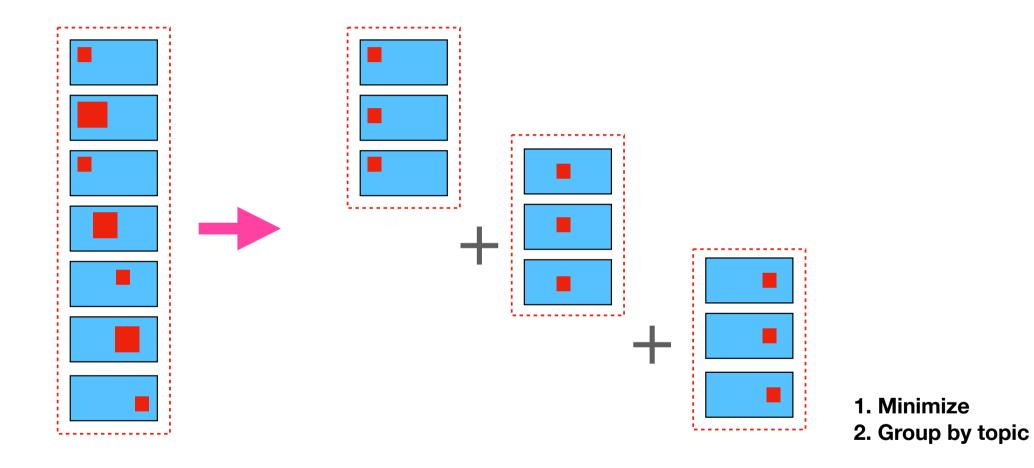
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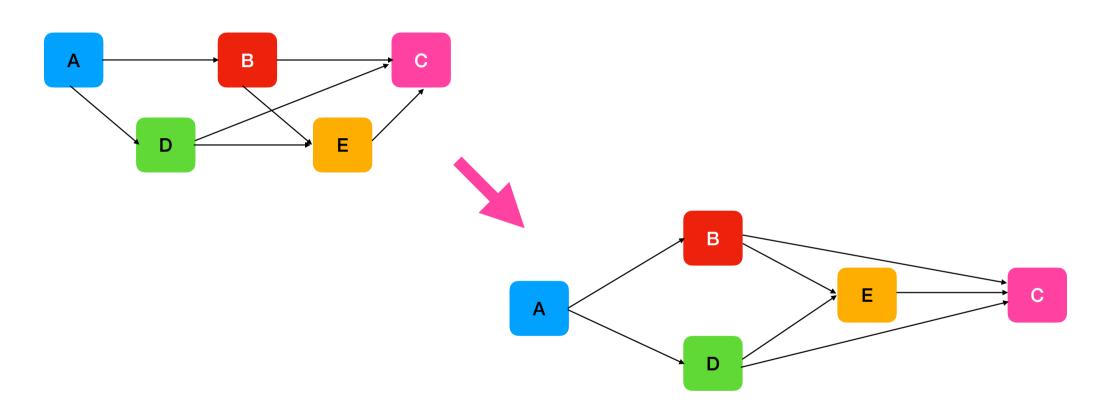
Scope of Changes



Scope of Changes



Straighten Line!



Functional Criteria

Application must:

- Hold account details
- Hold many accounts for one customer
- Reflect the replenish, transfer, withdraw, ... operations
- Generate reports: day / month / quarter / year
- ...

Functional Criteria

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- Reflect the
- Payment
- replenish,
- Transfer,
- withdraw,
- ... operations
- Generate reports: day / month / quarter / year
- ...

Non-Functional Criteria

Application must:

- Respond in no more 200ms per click
- Being able to handle 10 .. 10000000 users in 1min
- Being able to run on hardware
- Being able to scale up / DOWN during peaks
- Fault Tolerance
- Graceful Degradation
- ..

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Can be specified by business

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- ...

Can't be specified by business

Must be specified by engineer

Automate Everything!

CI/CD