

Separation Of Concerns

Common concerns

- **Input/Output channels**
- **Initialization**
- **Configuration - credentials**
- **Configuration - tuning**
- **Storage**
- **Query**
- **Consistency**
- **Encryption/authn/authz**
- **Deployment**
- **Failure and recovery**

Application-specific concerns

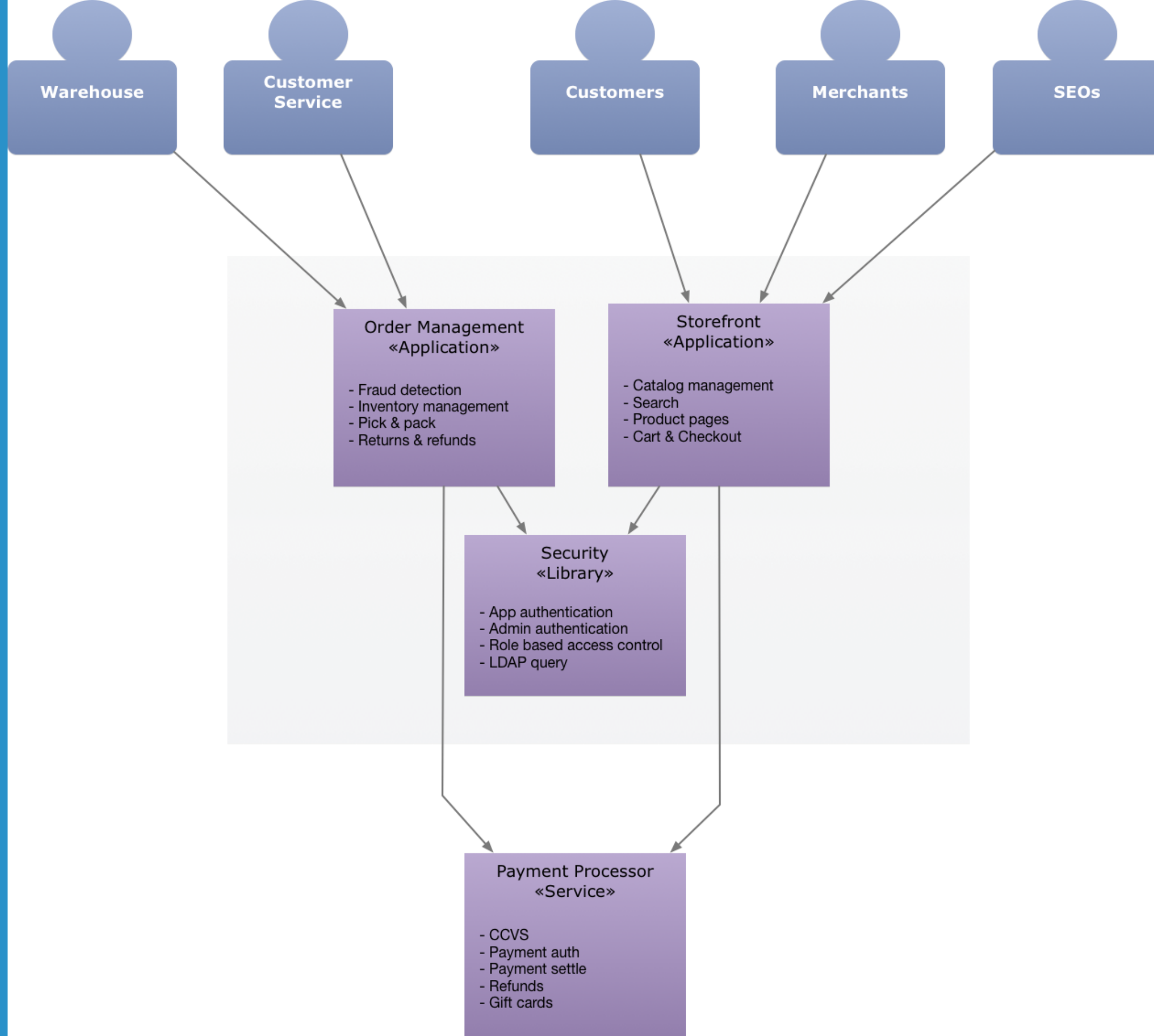
- **Bank interface**
- **Payment handling**
- **Customer service**
- **Refunds**
- **Fraud detection/mitigation**
- **etc.**

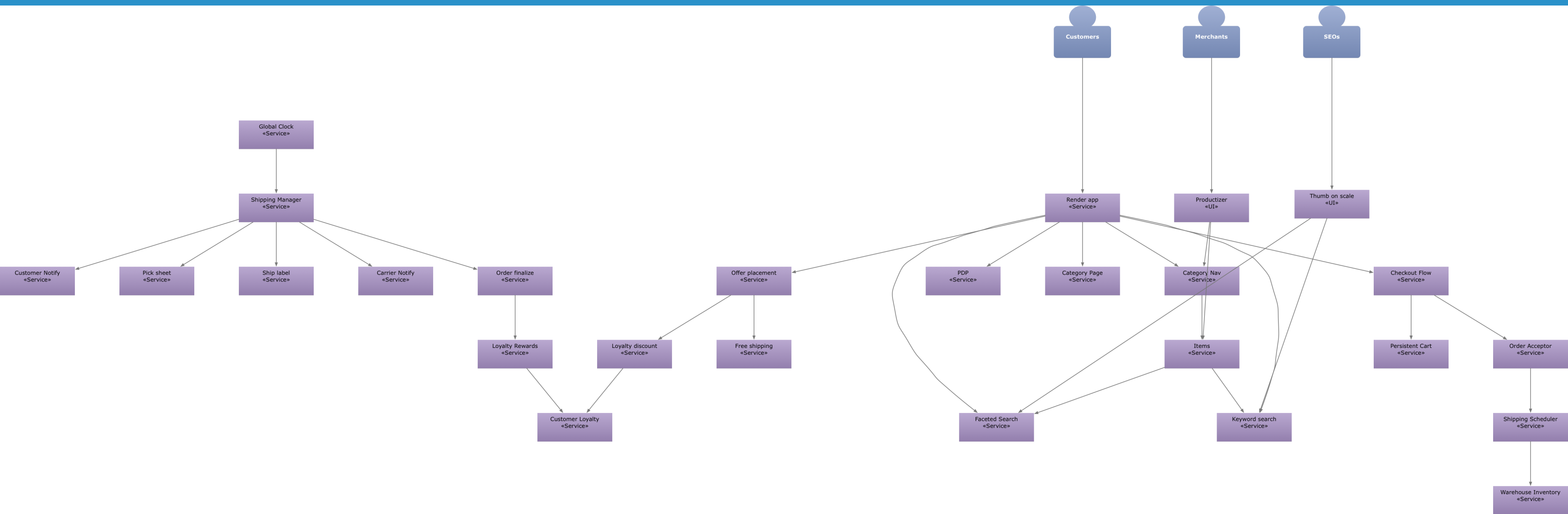
Bounded vs Cross-cutting

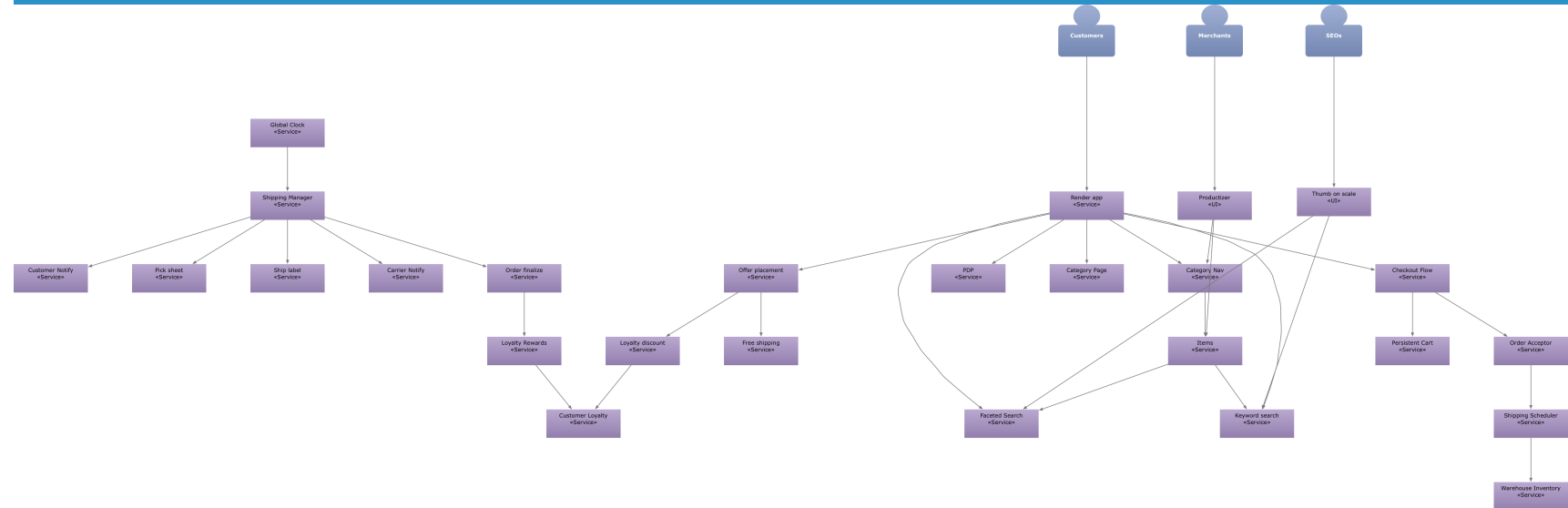
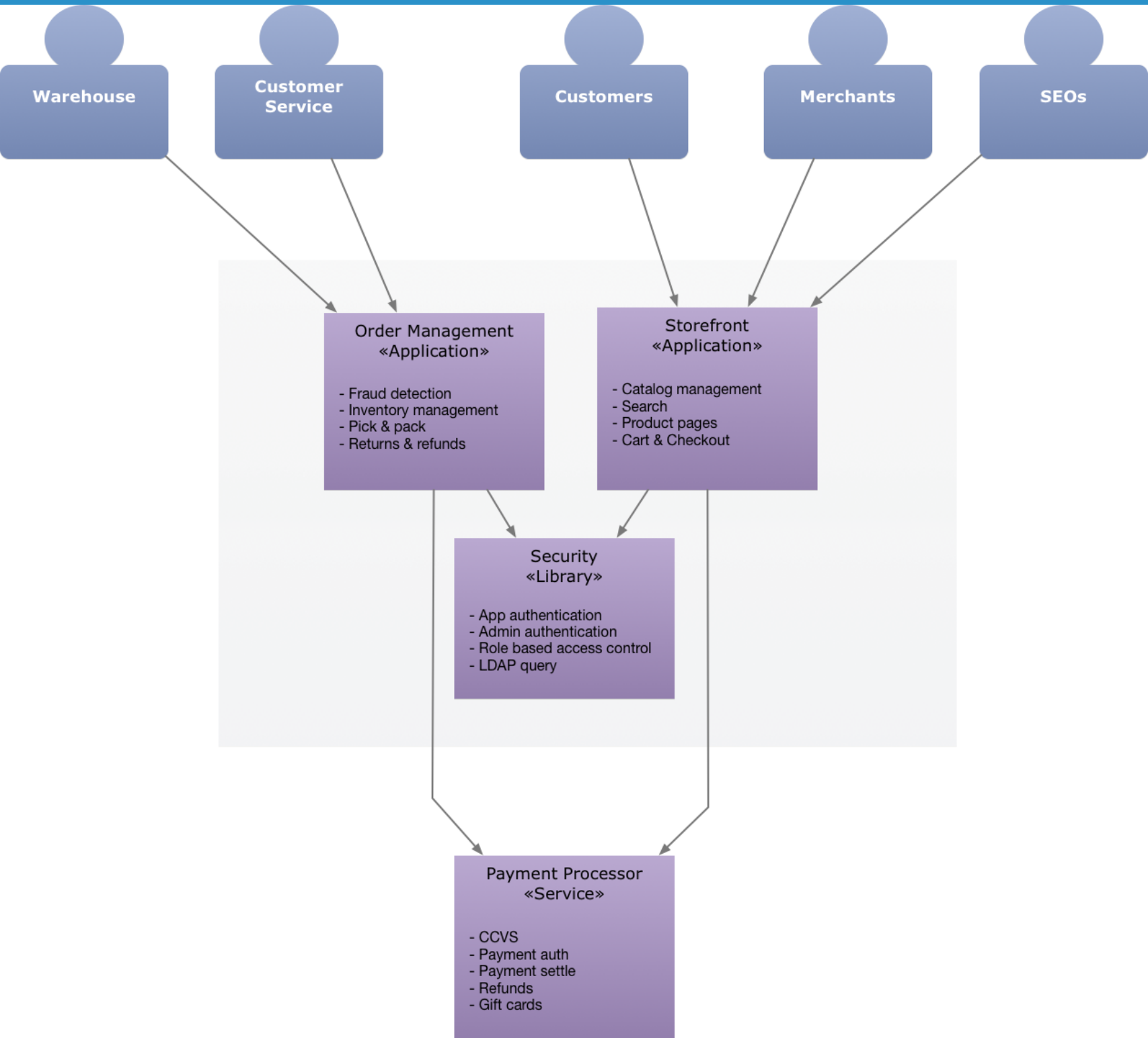
Factor one thing out and something else becomes cross-cutting.

Example: Ecommerce System

- Show products
- Search & browse
- Add to cart
- Offer promotions
- Checkout
- Verify credit card
- Fulfill
- Accept returns
- Settle payment
- Issue refunds





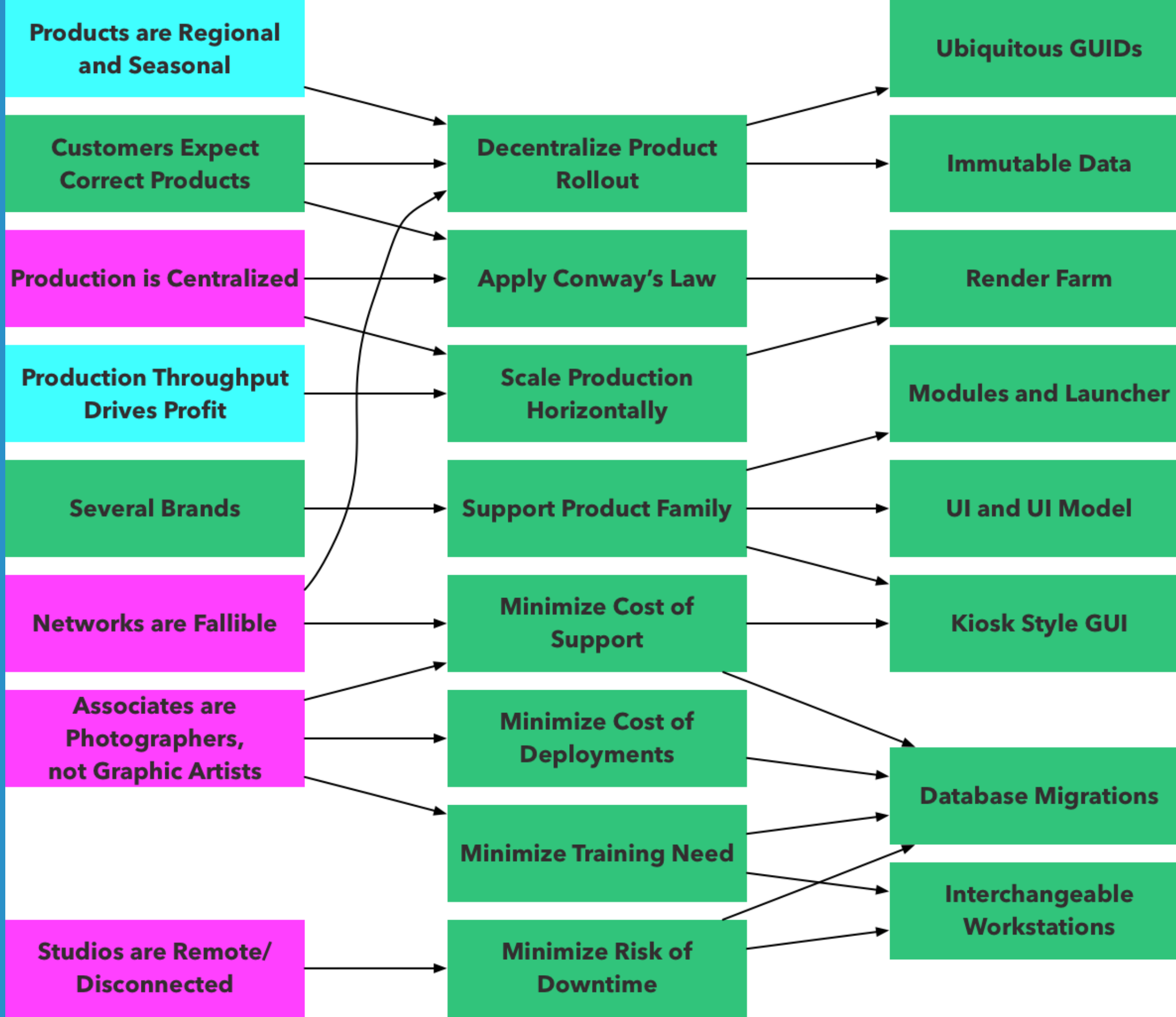


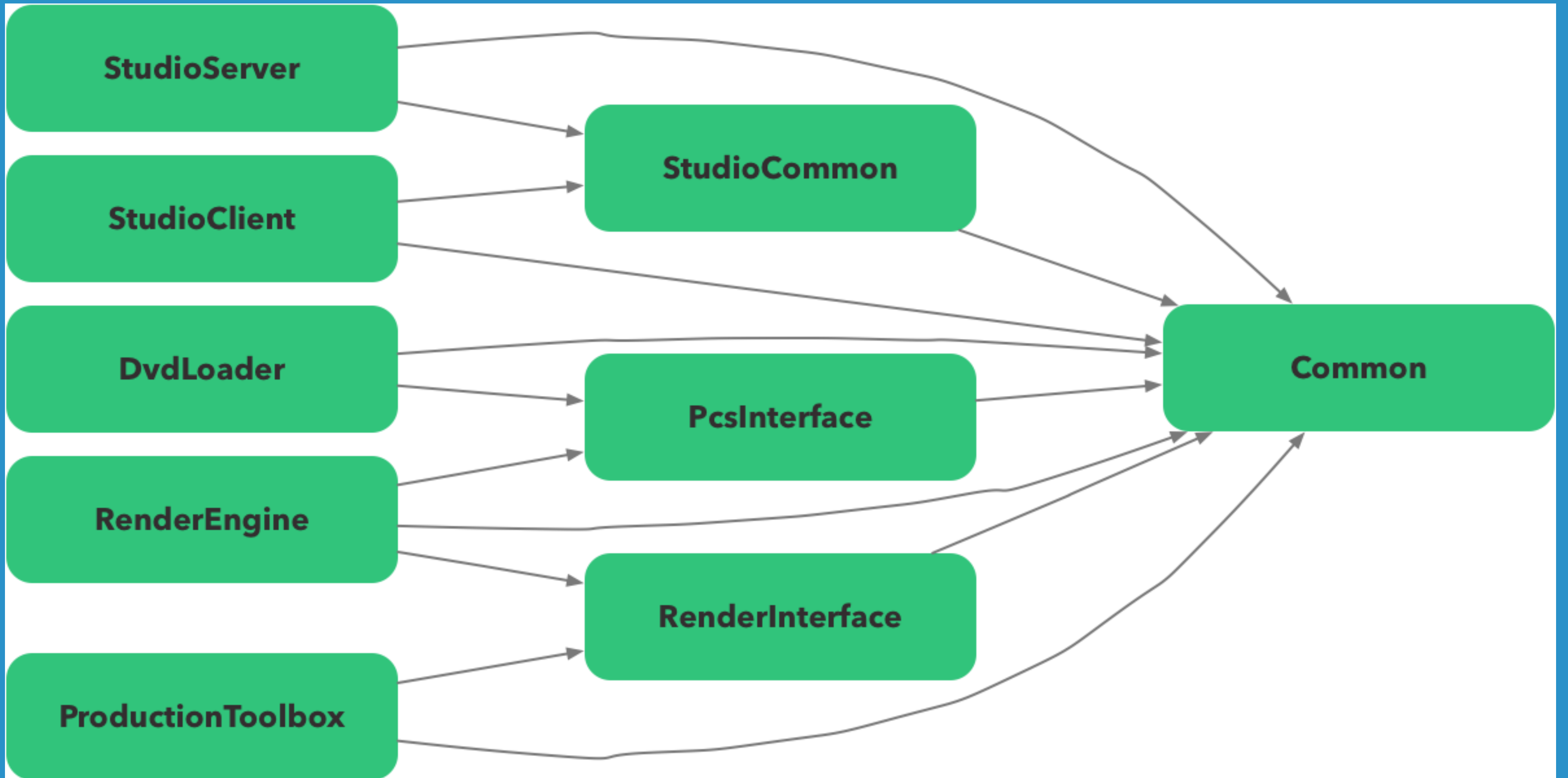
Parsimony

VS

Coupling

Real World Example - Creation Center





The architecture
evolved
within our vision

- 1. Initial concept of layers**
- 2. Property-binding architecture**
- 3. Studio server vs Studio client**
- 4. Use Spring for modules**
- 5. Launcher for classpath**
- 6. Database migrations (custom engine)**
- 7. Installed and build setup.exe from CI**
- 8. Production interface, render farm, toolbox**
- 9. Product creation GUI**

Successful Separation of Concerns

- **UI Model vs. UI**
 - Led to multiple "skins" for studio tools
 - Reused in production toolbox, product creation GUI
 - Automated screenshots for training manuals
- **Render engine**
 - Same render engine on screen and for print.
 - Reused for all school photos
- **DVD object**
 - Used for layout, packing, burning, and reading

- **Product description**
 - **Erased difference between template and instance**
 - **Same form for product creation, templates to studios, and orders to production**
- **No need to sync products in production vs studios**
 - **Write-once, immutable products**
 - **No prior knowledge of product needed to print**
- **Local image repository format**
 - **Caching as a decorator**
 - **Changed directory hierarchy without hurting clients.**

Somewhat Successful Separation of Concerns

- **Orders too tied to DVDs**
- **OTA updates to studios difficult**

Unsuccessful Separation of Concerns

- **Trickle feed of orders from studios impossible**
- **Web UI impossible**

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