



CS544 EA

Overview

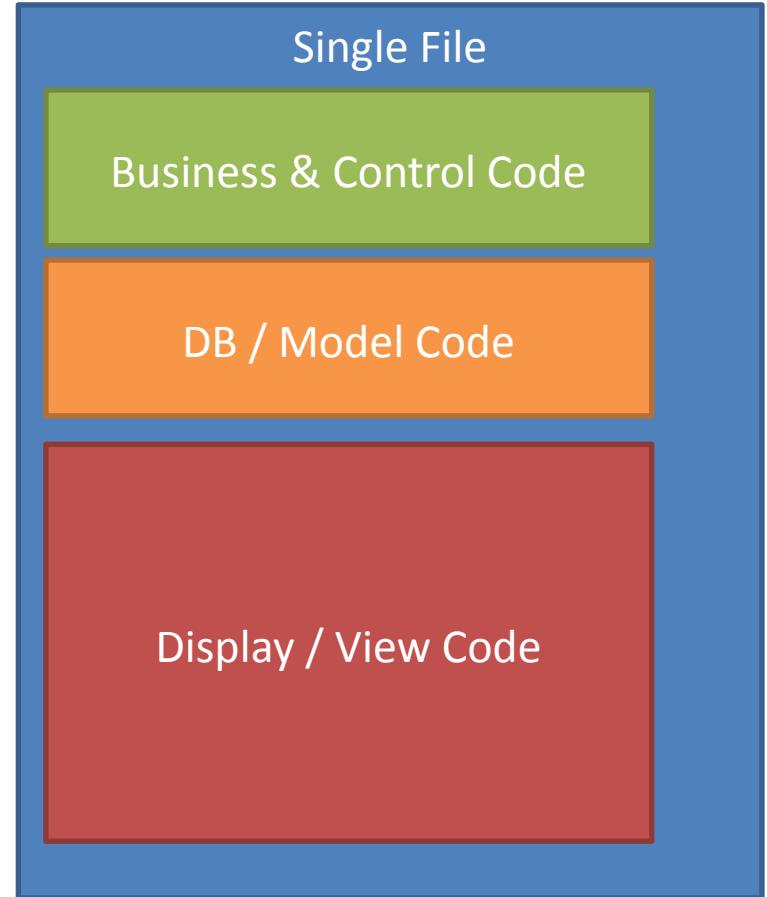
Intro: Application Architecture

Enterprise

- Enterprise == **Big Business**
 - Businesses typically need to (at least) keep track of their what they sell and who they sell it to
 - Generally business applications are a front-end to a database.
- The **complexity** comes in:
 - implementing the business rules, how things interact.
 - Scaling the application to (big business) size

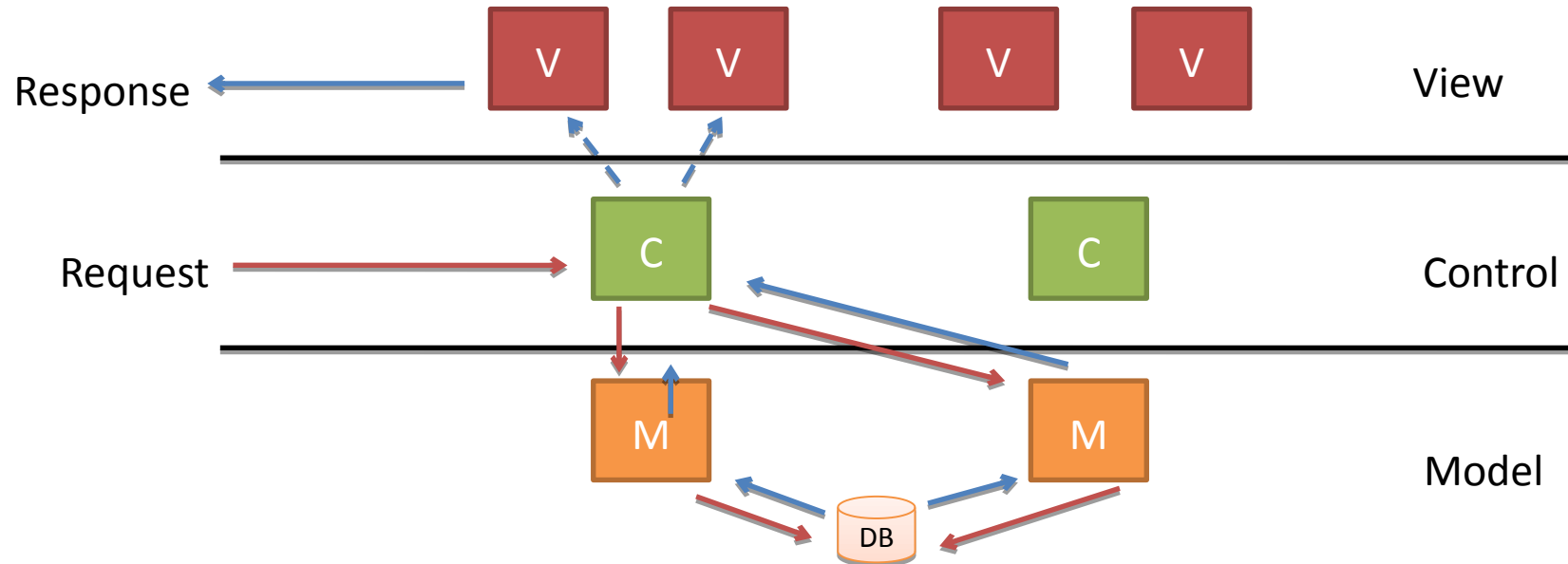
Applications

- As a business grows, a small application becomes a big application.
 - **Small applications** are okay with **Model 1**
 - Not so maintainable

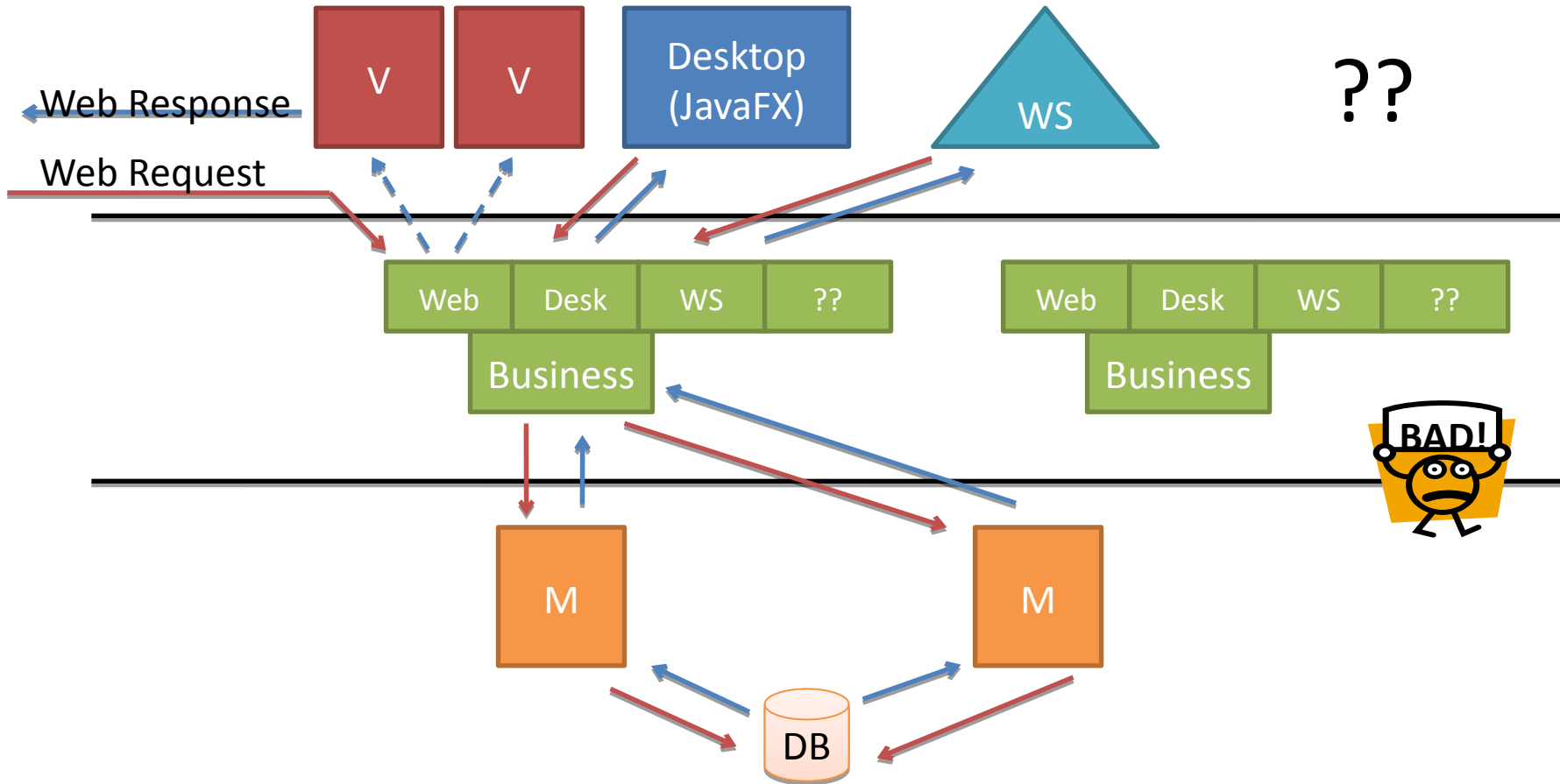


Growing Application

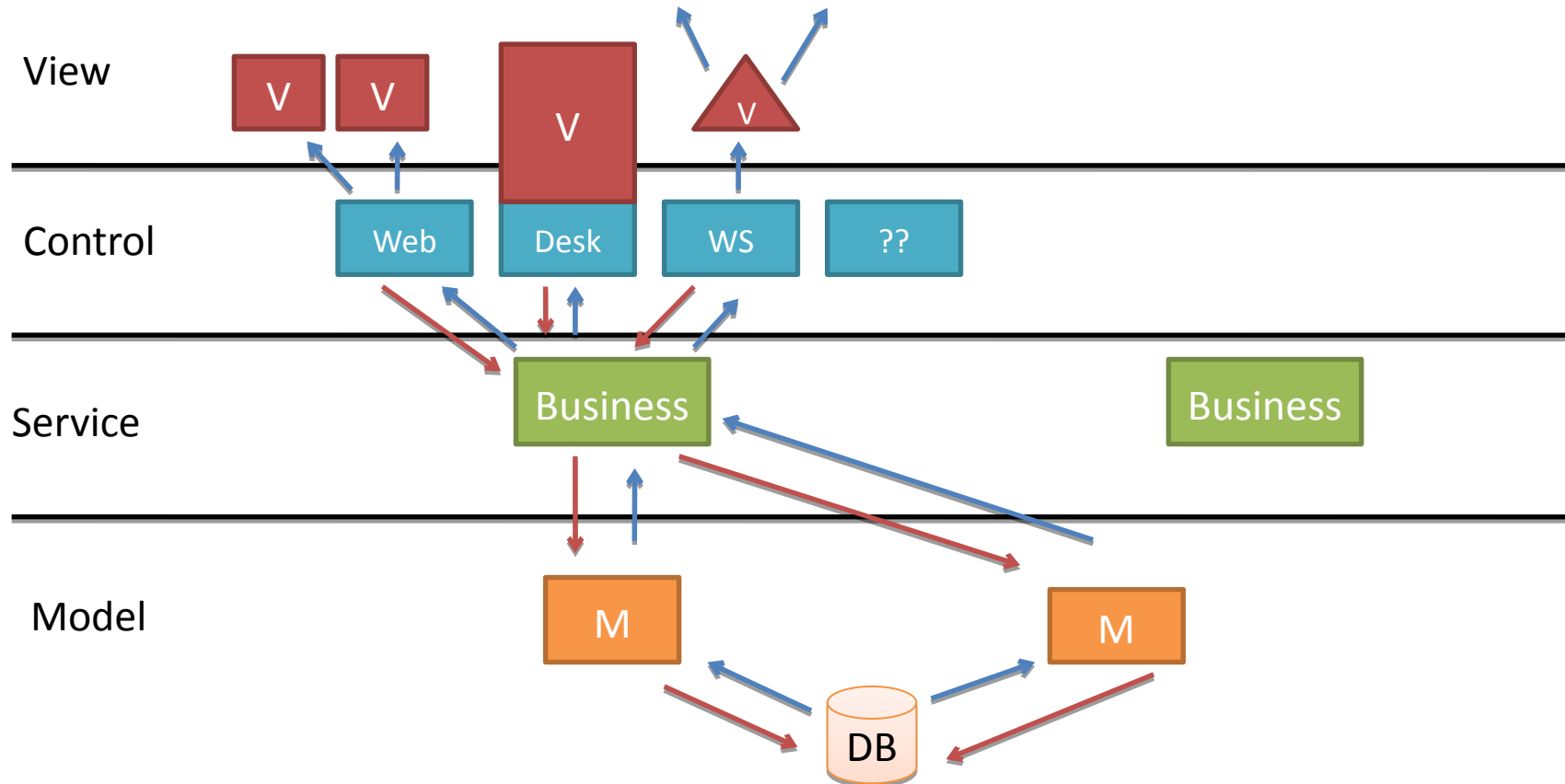
- For better **maintainability** split it into tiers
 - First 3 Tiers ~ Model / View / Control



Problem with 3 Tiers



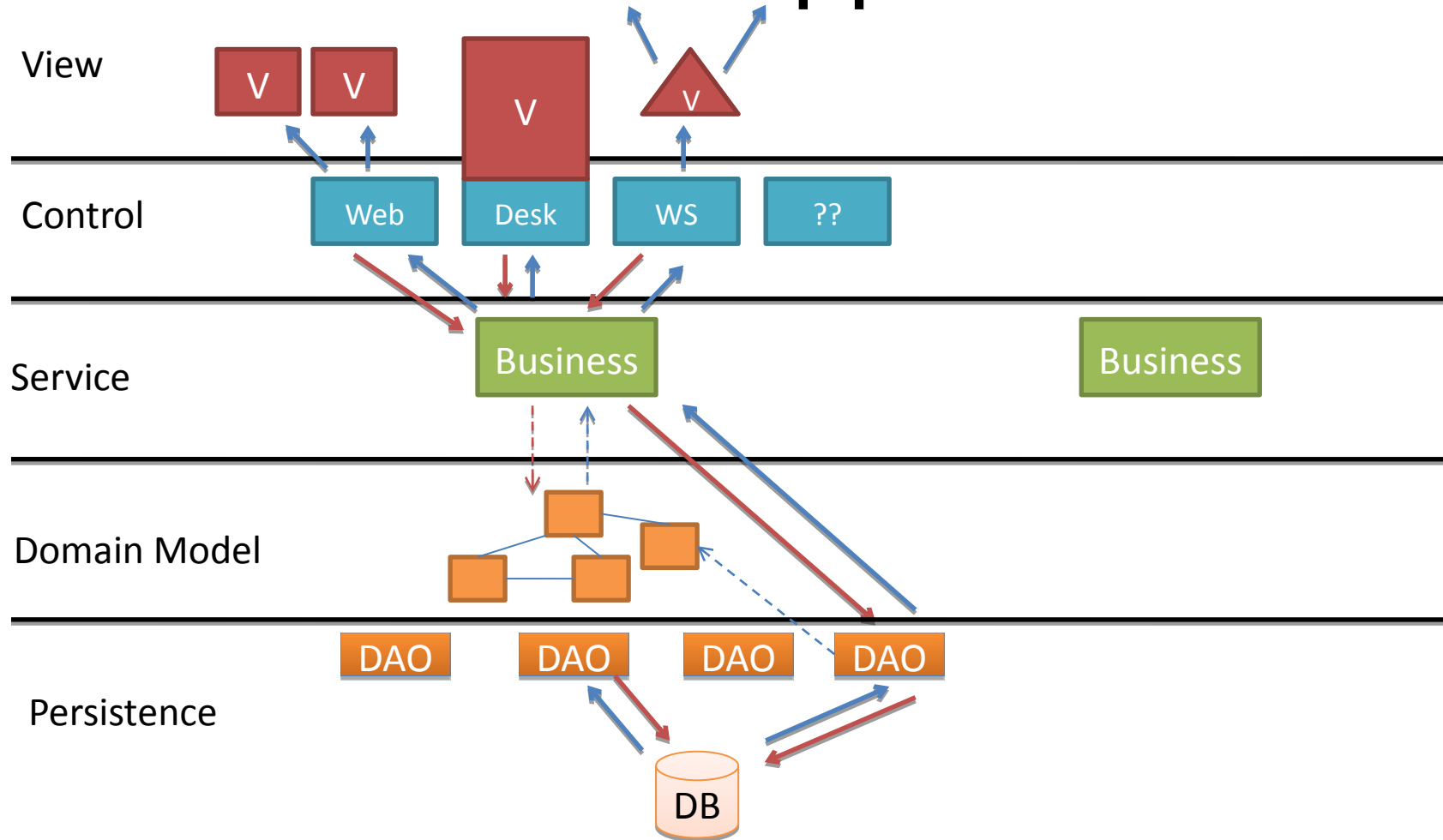
Service Layer



Another Problem

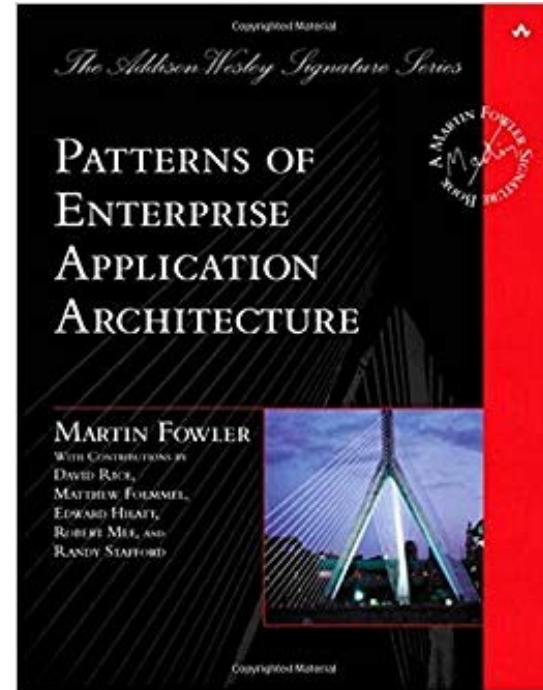
- The **Model layer** presents another problem
 - It often has **2 different concerns**:
 - An Object Oriented data object (a domain model)
 - Code to persist it into a relational DB

N-Tier Application



Enterprise Patterns

- Martin Fowler, 2002
 - Domain Model,
 - Service Layer,
 - Repository (aka DAO)
- These are some of the many **patterns** from this book that we will use in this course



Summary

- As applications grow we become more and more aware of different elements (layers) that grow independently.
- Separation of concerns is key so that each part can grow to their own full potential.
- As we know, it is the nature of life to grow – we just need to have the awareness to see how and what is changing to support the different parts / layers as they develop.