INFO6250 Final project

B2C Website base on J2EE technology

By Xingdi Li

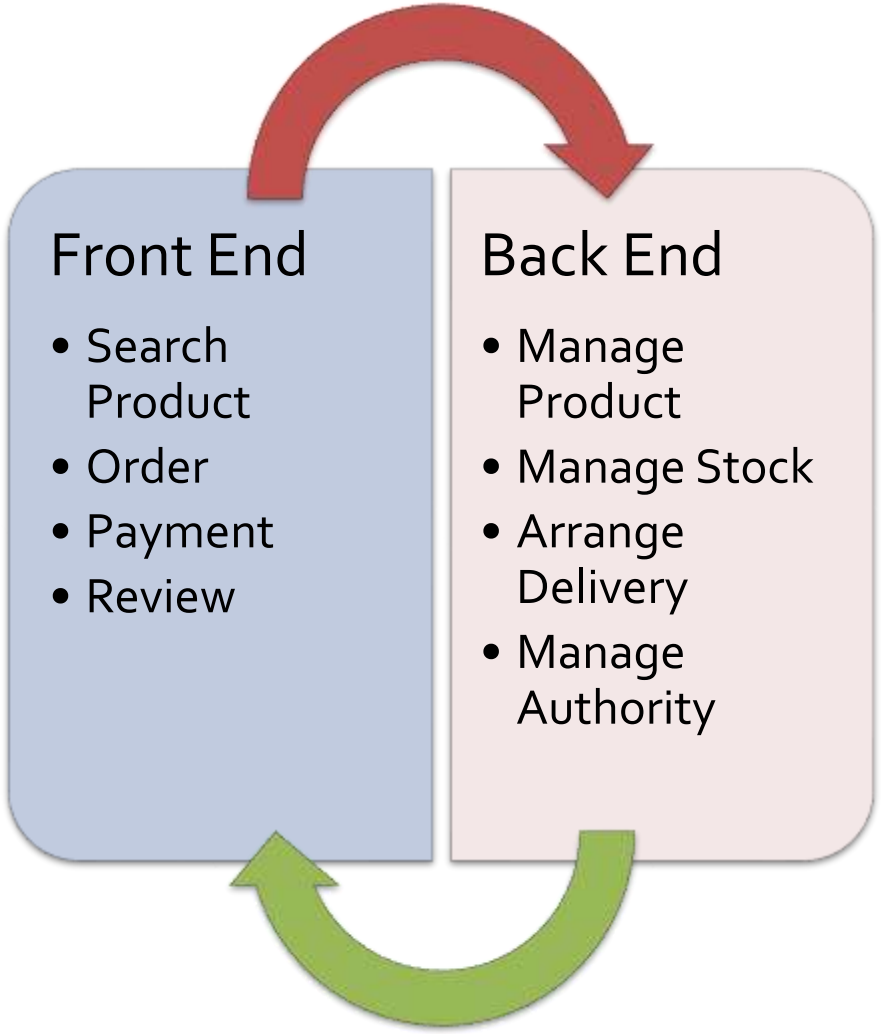
Background

- Same day delivery
- Fresh/fragile products
- Local retailers' compete
- High cost of delivery center

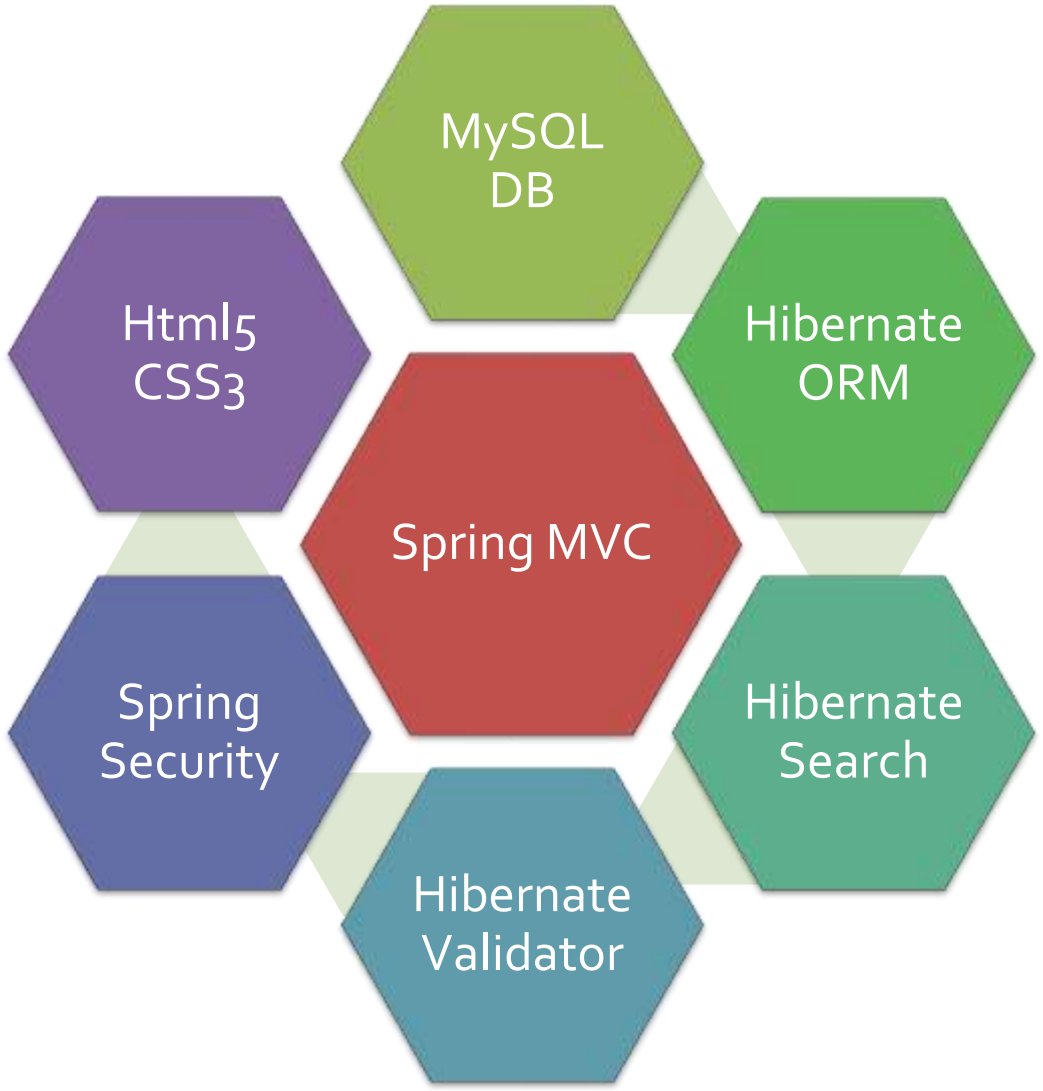
Solution

Local supplier
Amazon Next: Virtual Stock, One Store
Customer

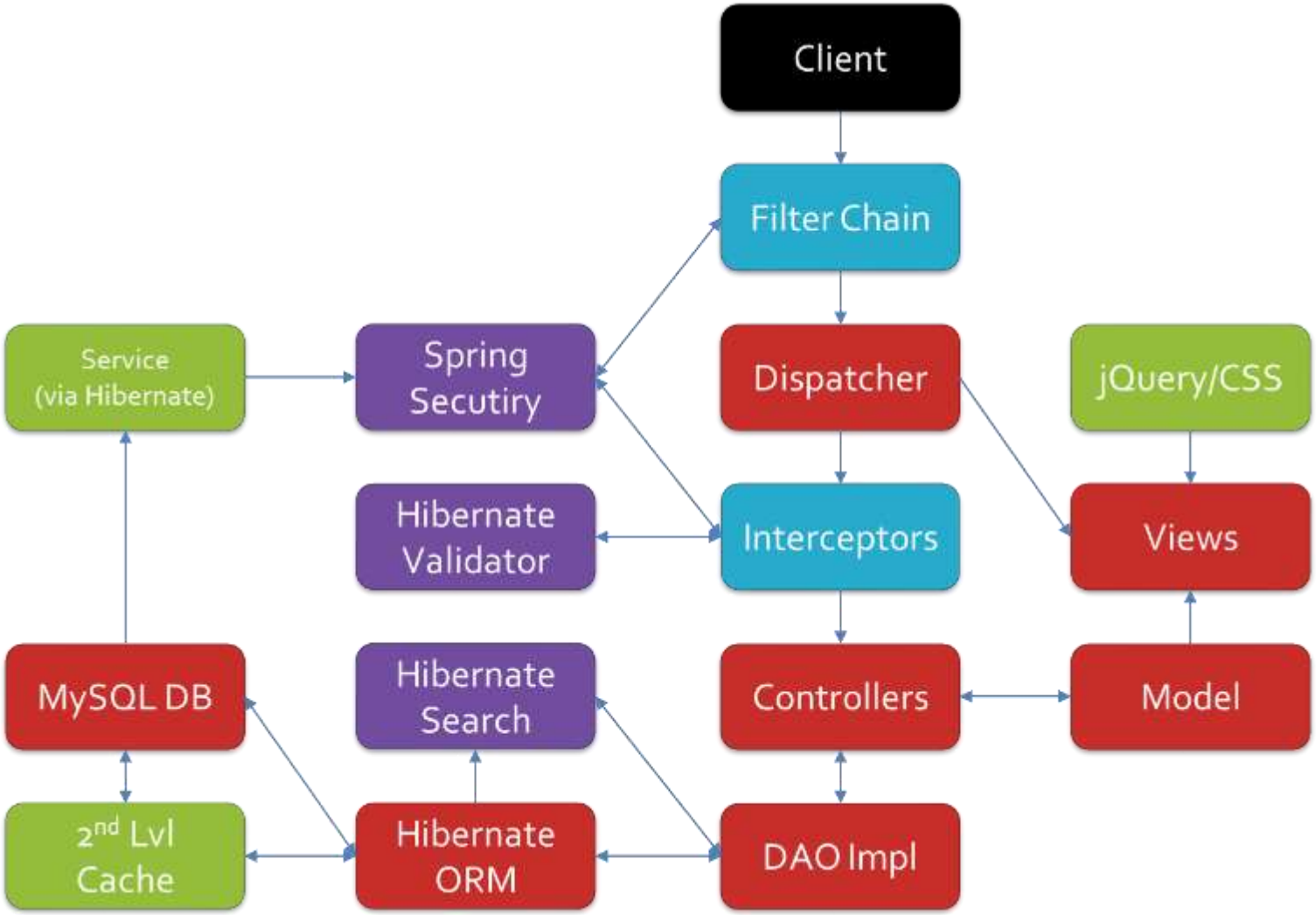
Function


Front End
• Search Product
• Order
• Payment
• Review
Back End
• Manage Product
• Manage Stock
• Arrange Delivery
• Manage Authority

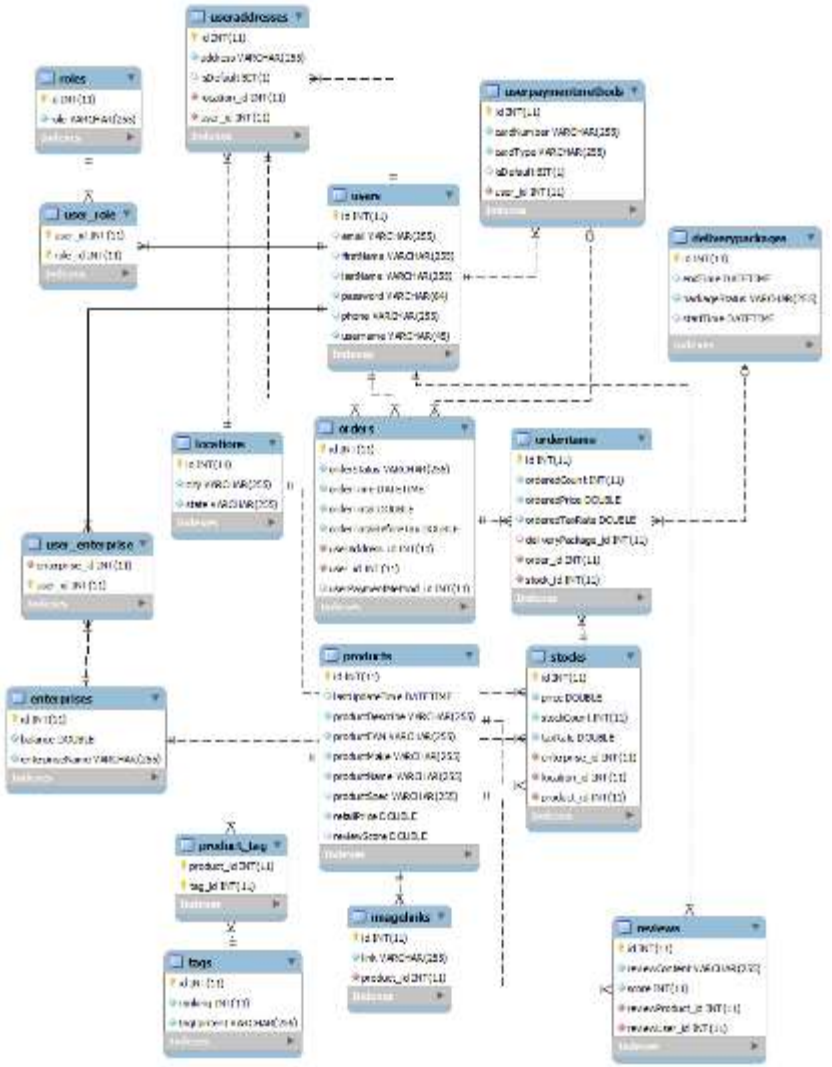
Implement


MySQL
DB
Html5
CSS3
Hibernate
ORM
Spring MVC
Spring
Security
Hibernate
Search
Hibernate
Validator

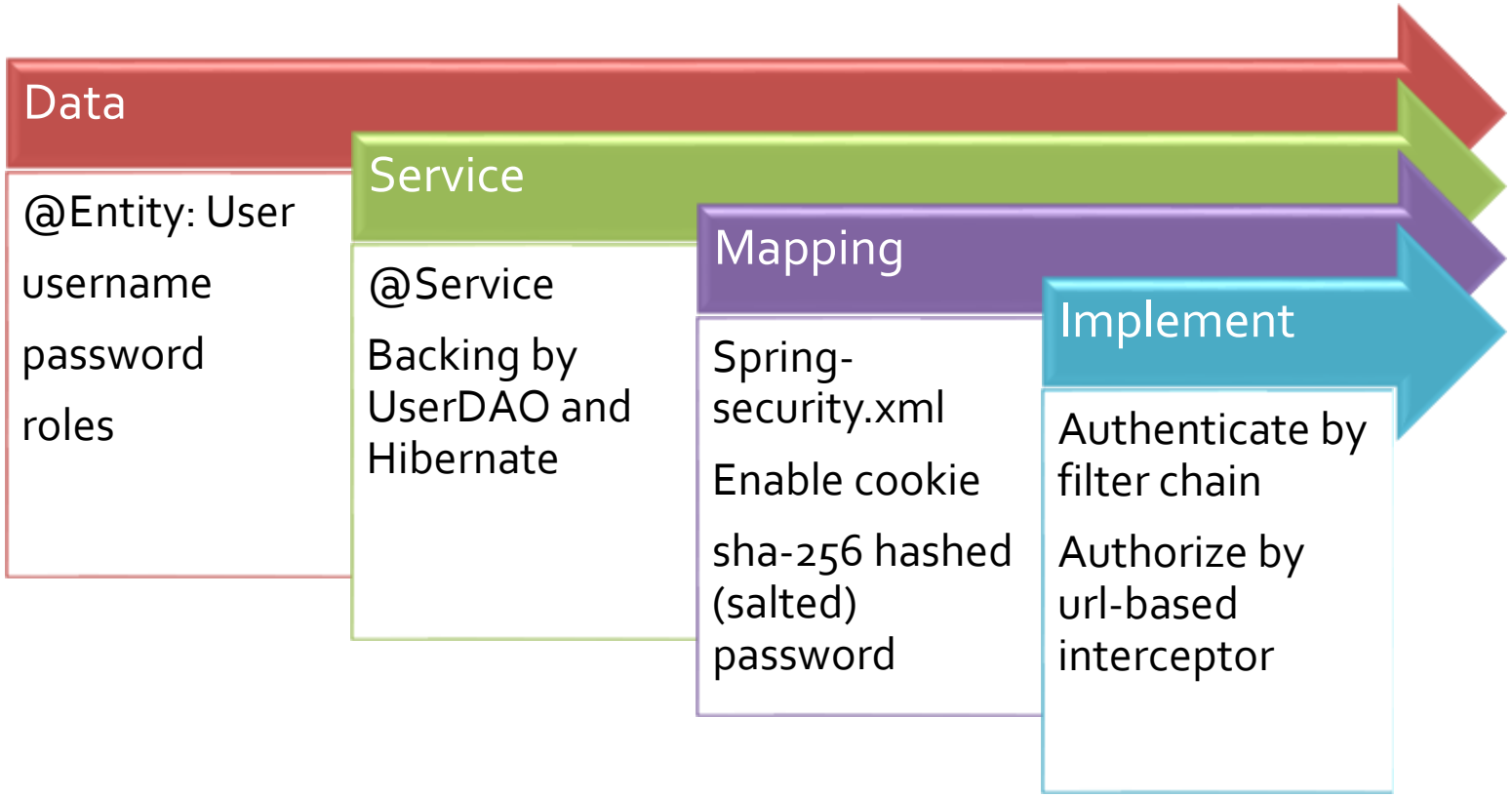
Structure


Client
Filter Chain
Service (via Hibernate)
Spring Secutiry
Dispatcher
jQuery/CSS
Hibernate Validator
Interceptors
Views
MySQL DB
Hibernate Search
Controllers
Model
2nd Lvl Cache
Hibernate ORM
DAO Impl

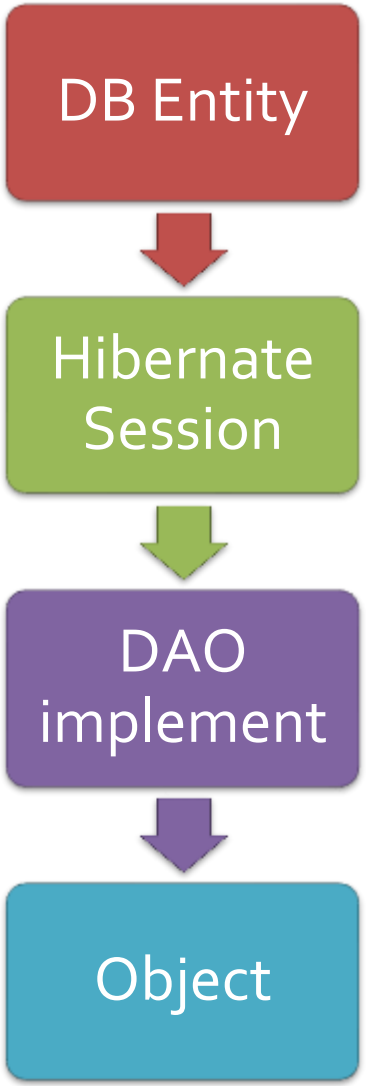
E-R Model


useraddresses
roles
user_role
users
orders
locations
user_enterprise
enterprises
products
stocks
product_tag
tags
imagelinks
reviews

Authenticate and Authorize



Data Access



- Enabled EhCache as 2nd level cache
- Strategy: *NONSTRICT_READ_WRITE*;
- Cache frequently used entity (e.g. User, Product)
- Some Fetch type on cached entity is set to *EAGER* (e.g. User.userAddreses, Product.stocks)

Data Integrity

Mapping Constrain

e.g. *(nullable = false, unique= true)*

- Ensure foreign key constrain
- Manage by hibernate ORM

Validator

e.g. @Length (min=6,max=64) @Email

- Validate user input
- Manage by hibernate validator

Parameterized query

e.g. HQL (para = :para)

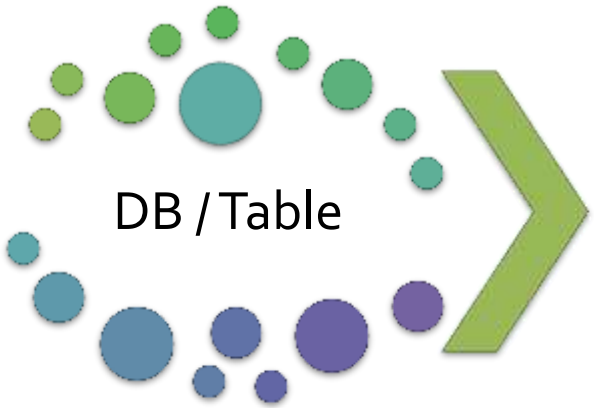
- Prevent Injection
- Manage by hibernate ORM

Client End Check

e.g. <input … require= “require”>

- Ensure data-binding result
- Manage by HTML page

Data retrieval



- Entity may be represent by multiple tables
- Mapped by relations
- In 3rd normal form

DAO

- Implemented by hibernate session
- Support full CRUD
- Using different method

- POJO
- Ready to be add to view

Data retrieval

Direct retrieval

- e.g. get(T, id)

Through criteria

- e.g. createCriteria(…).addOrder(…)

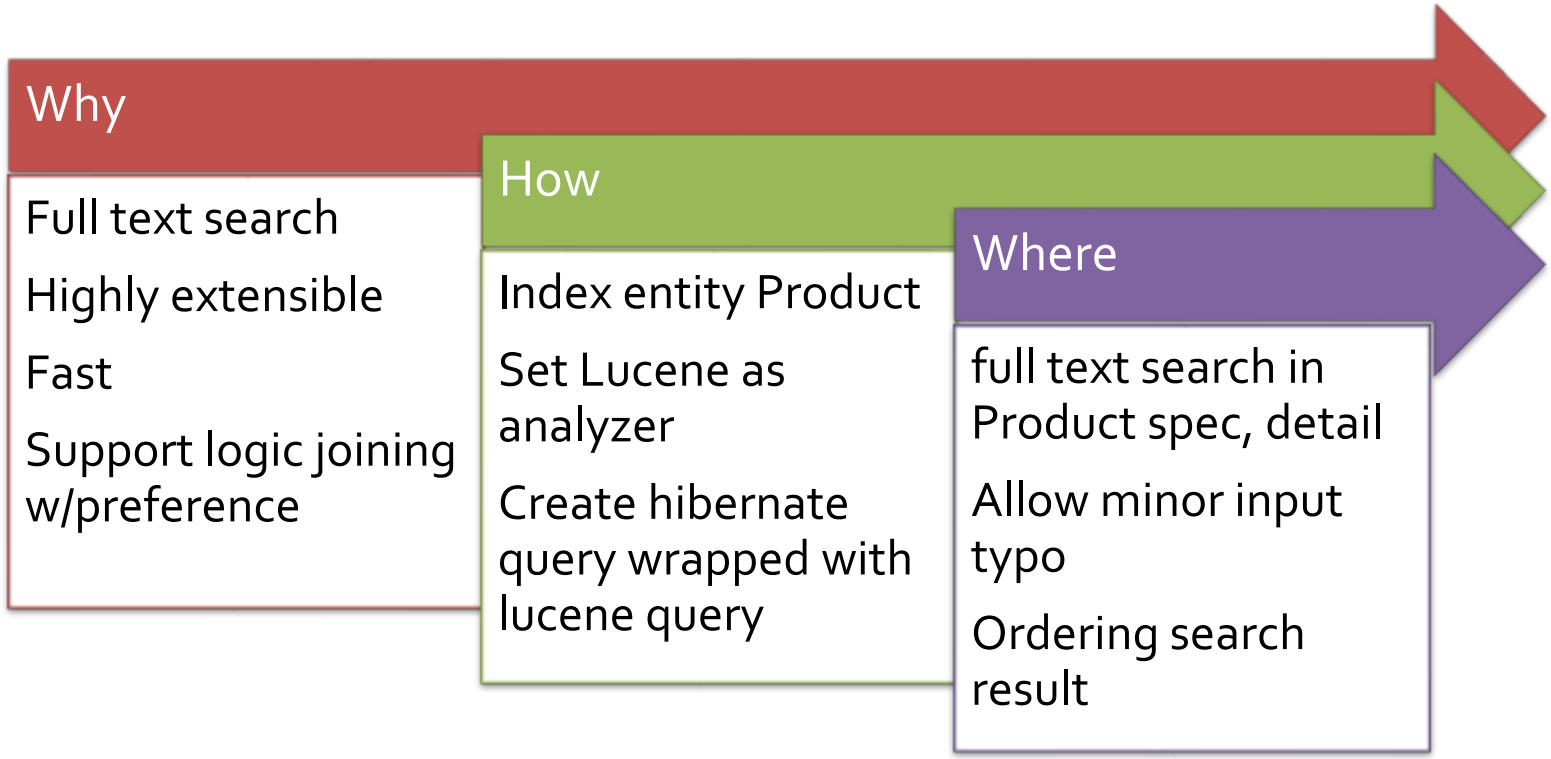
HQL

- Some complex query on join tables

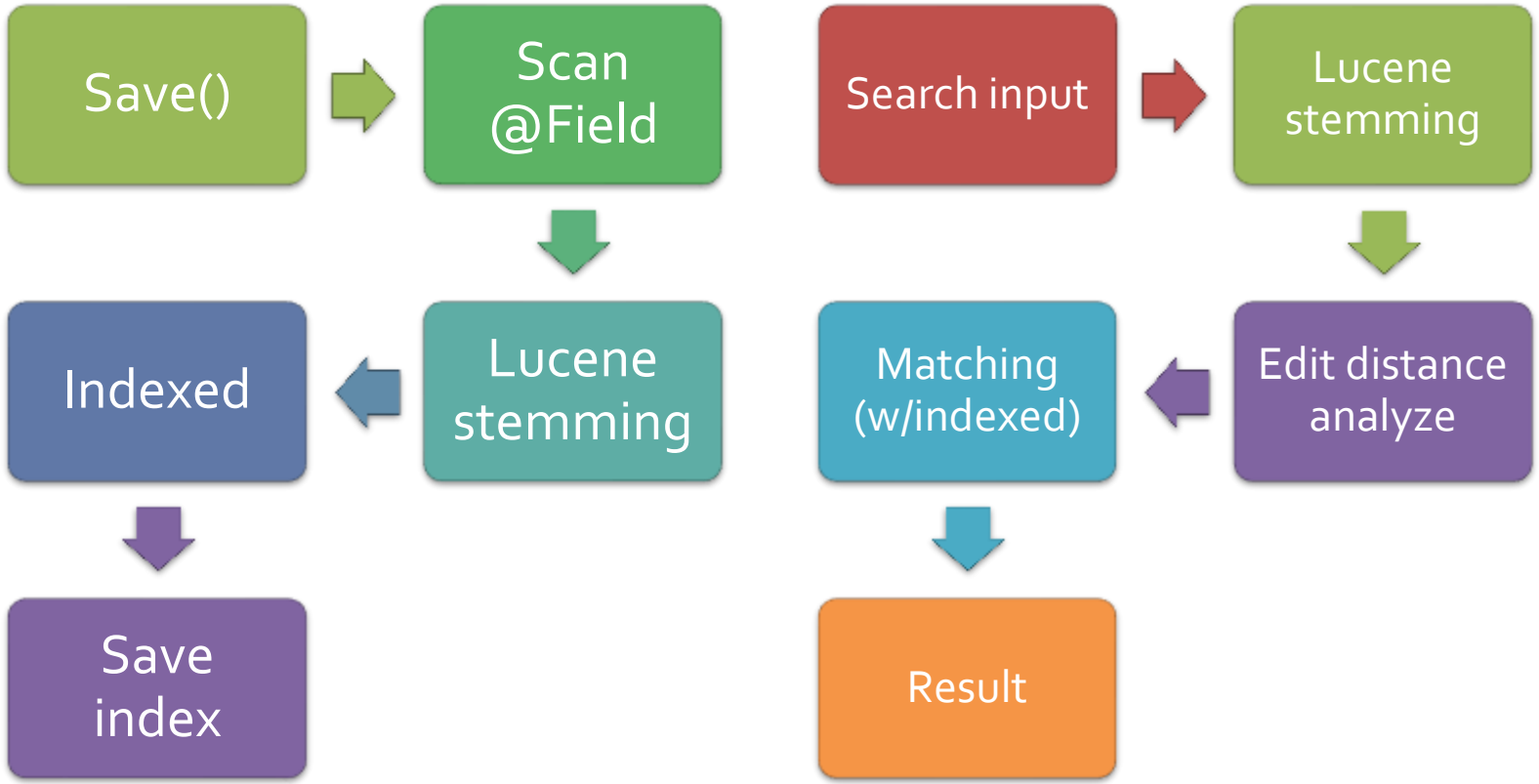
Hibernate Search

- continue

Data retrieval

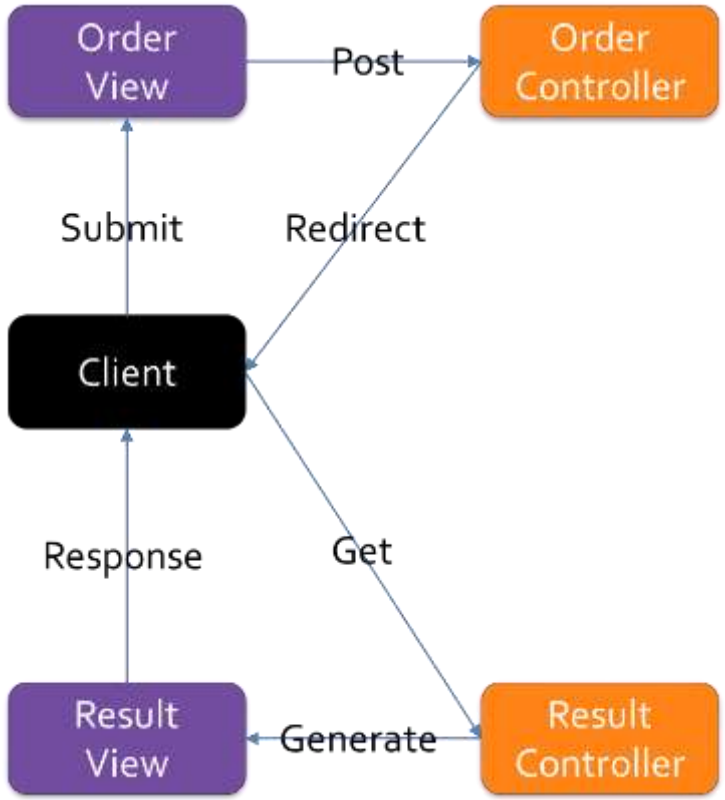


Data retrieval



Page Navigation

- As RESTful as possible
  - Prevent complicated navigation using jQuery elements
  - As stateless as possible
  - Passing parameter instead of store everything in session
  - PRG model to prevent double submission



Interface presentation

Bootstrap: CSS

- Navigation bar with role specified function (via spring security tag <sec>)
- Page grid system
- Visual theme

Bootstrap: jQuery

- Modal
- Carousel
- Dropdown

Html5

- New form control

Thank you!

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