

Report

1. Coupling

1.1. Content Coupling

Related modules	Description	Improvement
The class Order in the package entity.order, attribute delivery of HashMap type and a public getter getDeliveryInfo() for attribute.	Might have module manages to get deliveryInfo object by call getDeliveryInfo() of Order class then changes the delivery object by calling put() of HashMap class	In that new module, the method put() of HashMap can not be call since this attribute are set to setAccess(False), if want to change the delivery object, then we have to define Order in that module to modifies.

1.2. Common Coupling

Related modules	Description	Improvement
Cart in entiry.cart	Plenty of modules that need to communicate with the class Cart like the handler of Home screen when adding items to the cart, the handler of Cart screen when showing current items in the cart, and the handler of Invoice screen when showing the items to pay	Apply singleton pattern: 1. Static block initialization → check exception before generates instance; 2. Lazy initialization → single thread; 3. Thread safe singleton → private static violate var; 4. Double check locking Singleton → double check the instance before generating.

1.3. Control Coupling

Related modules	Description	Improvement
Media, Book, CD, DVD in entity.media	They has same type of media with same method.	Make all Book, CD, and DVD extends the general class Media then they can use and changes their own methods.

1.4. Stamp Coupling

None → Avoid passing the instantiated object(s) which encapsulate the shared data to all objects/classes which need the shared data, i.e., dependency injection in Common Coupling step.

1.5. Data Coupling

Satisfy

1.6. Uncoupling

None

2. Cohesion

2.1. Coincidental cohesion

Related modules	Description	Improvement
Configs, Utils	Coincidental cohesion	Define same necessary parameters and links in same class related.

2.2. Logical cohesion

Related modules	Description	Improvement
Media, Book, CD, DVD in entity.media	Separate code in 2 methods and put in same class	Since we using extends, then we put them in different class but still can use

		the general methods of media class.
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2.3. Temporal cohesion

None

2.4. Procedural cohesion

None

2.5. Communicational cohesion

Related modules	Description	Improvement
InterbankSubsystem Controller, PaymentTransaction	work on the same input or return the same type of output data	Concat these 2 ouput values or return output value of Interbank for Payment to finally deals with it.

2.6. Sequential cohesion

None

2.7. Informational cohesion

Related modules	Description	Improvement
Media, Order	Duplicate the previous information	Extends and create after all element of media, order has been defined.

2.8. Functional cohesion

Related modules	Description	Improvement
API	The output of one method is the input to another, reuse the related functions.	Good