袁楚宏 袁阳阳 张鑫龙 周小帆

CHINANanjing University

快递物流系统 耦合度量文档

目录

[1. 引言 1](#_Toc435435758)

[1.1 目的 1](#_Toc435435759)

[1.2 阅读说明 1](#_Toc435435760)

[1.3参考文献 1](#_Toc435435761)

[2. 类的耦合度量 1](#_Toc435435762)

[2.1 方法调用耦合与访问耦合 1](#_Toc435435763)

[2.2 继承耦和 8](#_Toc435435764)

1. 引言

1.1 目的

本文档为快递物流系统中的代码的度量，包括类的方法调用耦合、访问耦合和继承耦合。

1.2 阅读说明

由于代码界面层对逻辑层的调用未完全实现，故本文档中的耦合度量不包括对界面层代码的度量，并且逻辑层的方法耦合调用中的被调用方法数和总的方法数待定。

1.3参考文献

《软件工程与计算Ⅱ》

2. 类的耦合度量

2.1 方法调用耦合与访问耦合

各个类的方法调用耦合（不包括界面层代码的度量和逻辑层的被调用方法数）和访问耦合度量表格如下所示：

**accountLogic类的CBO和DAC**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **类名** | **CBO** | | **DAC** | |
| AccountLogic | 总计 |  | 2 | |
| 调用其他 | 6 | AccountDFacSer, AccountDSer,AccountVO, ResultMessage,Result | |
| 被调用 |  |
| CountLogic | 总计 |  | 14 | |
| 调用其他 | 39 | |  | | --- | | CountDFacSer | | CountDSer | | OrgPO | | WorkPO | | VanVO | | VanPO | | StockVO | | StockPO | | AccountVO | | AccountPO | | CountPO | | CountVO | | GoodVO | | GoodPO | | |
| 被调用 |  |
| BusiCircumLogic | 总计 |  | | 6 |
| 调用其他 | 19 | | StatementSheetDFacSer  BusiCircumDSer  IncomeVO  IncomePO  OrgVO  OrgPO |
| 被调用 |  | |

**checkLogic类的CBO和DAC**

|  |  |  |  |
| --- | --- | --- | --- |
| **类名** | **CBO** | | **DAC** |
| CollectRecordLogic | 总计 |  | 4 |
| 调用其他 | 8 | CollectFormDFacSer  CollectRecordDSer  IncomeVO  IncomePO |
| 被调用 |  |
| CostBeneLogic | 总计 |  | 4 |
| 调用其他 | 8 | IncomeVO  IncomePO  PaymentPO  PaymentVO |
| 被调用 |  |
| DiaryLogic | 总计 |  | 4 |
| 调用其他 | 4 | DiaryDFacSer  DiaryDSer  DiaryVO  DiaryPO |
| 被调用 |  |

**orderApproveLogic类的CBO和DAC**

|  |  |  |  |
| --- | --- | --- | --- |
| **类名** | **CBO** | | **DAC** |
| OrderApproveLogic | 总计 |  | 6 |
| 调用其他 | 16 | OrderApproveDFacSer  OrderApproveDSer  OrderVO  OrderPO  PaymentPO  PaymentVO |
| 被调用 |  |
| OrderResubmitLogic | 总计 |  | 4 |
| 调用其他 | 9 | OrderResubmitDFacSer  OrderResubmitDSer  PaymentPO  PaymentVO |
| 被调用 |  |

**orderNewLogic类的CBO和DAC**

|  |  |  |  |
| --- | --- | --- | --- |
| **类名** | **CBO** | | **DAC** |
| ArriveOrderLogic | 总计 |  | 4 |
| 调用其他 | 9 | ArriveOrderDFacSer  ArriveOrderDSer  ArriveVO  ArrivePO |
| 被调用 |  |
| CenterLoadingOrderLogic | 总计 |  | 4 |
| 调用其他 | 10 | CenterLoadingOrderDFacSer  CenterLoadingOrderDSer  CenterLoadingVO  CenterLoadingPO |
| 被调用 |  |
| ExpressOrderLogic | 总计 |  | 4 |
| 调用其他 | 8 | ExpressOrderDFacSer  ExpressOrderDSer  ExpressVO  ExpressPO |
| 被调用 |  |
| HallLoadingOrderLogic | 总计 |  | 4 |
| 调用其他 | 10 | HallLoadingOrderDFacSer  HallLoadingOrderDSer  HallLoadingVO  HallLoadingPO |
| 被调用 |  |
| IncomeOrderLogic | 总计 |  | 4 |
| 调用其他 | 9 | IncomeOrderDFacSer  IncomeOrderDSer  IncomeVO,IncomePO |
| 被调用 |  |
| PaymentOrderLogic | 总计 |  | 4 |
| 调用其他 | 9 | PaymentOrderDFacSer  PaymentOrderDSer  PaymentVO  PaymentPO |
| 被调用 |  |
| RecipientOrderLogic | 总计 |  | 5 |
| 调用其他 | 9 | RecipientOrderDFacSer  RecipientOrderDSer  ResultMessage  RecipientVO  RecipientPO |
| 被调用 |  |
| SendOrderLogic | 总计 |  | 5 |
| 调用其他 | 8 | SendOrderDFacSer  SendOrderDSer  SendVO  SendPO  ResultMessage |
| 被调用 |  |
| StockInOrderLogic | 总计 |  | 5 |
| 调用其他 | 9 | StockOutOrderDFacSer  StockOutOrderDSer  StockOutVO  StockOutPO  ResultMessage |
| 被调用 |  |
| TransitOrderLogic | 总计 |  | 5 |
| 调用其他 | 12 | TransitOrderDFacSer  TransitOrderDSer  TransitVO  TransitPO  ResultMessage |
| 被调用 |  |
| UpdateTransitInfoLogic | 总计 |  | 2 |
| 调用其他 | 3 | UpdateTransitInfoDFacSer  UpdateTransitInfoDSer |
| 被调用 |  |

**stockLogic类的CBO和DAC**

|  |  |  |  |
| --- | --- | --- | --- |
| **类名** | **CBO** | | **DAC** |
| StockCheckLogic | 总计 |  | 7 |
| 调用其他 | 16 | StockCheckDFacSer  StockCheckDSer  StockInVO  StockInPO  ResultMessage  StockOutPO  StockOutVO |
| 被调用 |  |
| StockCheckNowLogic | 总计 |  | 6 |
| 调用其他 | 16 | StockCheckNowDFacSer  StockCheckNowDSer  GoodPO  GoodVO  ResultMessage  StockVO |
| 被调用 |  |
| StockCheckWarnLogic | 总计 |  | 3 |
| 调用其他 | 3 | StockCheckWarnDFacSer  StockCheckWarnDSer  ResultMessage |
| 被调用 |  |
| StockDivideLogic | 总计 |  | 4 |
| 调用其他 | 9 | StockDivideDFacSer  StockDivideDSer  ShelfPO  ShelfVO |
| 被调用 |  |
| StockWarningLogic | 总计 |  | 3 |
| 调用其他 | 3 | StockWarningDFacSer  StockWarningDSer  ResultMessage |
| 被调用 |  |

**transitInfoLogic类的CBO和DAC**

|  |  |  |  |
| --- | --- | --- | --- |
| **类名** | **CBO** | | **DAC** |
| CourierLogic | 总计 |  | 5 |
| 调用其他 | 23 | CourierDFacSer  CourierDSer  ExpressPO  ExpressVO  ResultMessage |
| 被调用 |  |
| CustomerLogic | 总计 |  | 3 |
| 调用其他 | 2 | CustomerDFacSer  CustomerDSer  ResultMessage |
| 被调用 |  |

**userLogic类的CBO和DAC**

|  |  |  |  |
| --- | --- | --- | --- |
| **类名** | **CBO** | | **DAC** |
| LoginLogic | 总计 |  | 5 |
| 调用其他 | 5 | LoginDFacSer  LoginDSer  UserVO  ResultMessage  UserPO |
| 被调用 |  |
| UserManLogic | 总计 |  | 5 |
| 调用其他 | 11 | UserManDFacSer  UserManDSer  UserVO  UserPO  ResultMessage |
| 被调用 |  |

**utilityLogic类的CBO和DAC**

|  |  |  |  |
| --- | --- | --- | --- |
| **类名** | **CBO** | | **DAC** |
| UtilityLogic | 总计 |  | 2 |
| 调用其他 | 5 | UtilityDSer  UtilityDFacSer |
| 被调用 |  |

**workOrgManLogic类的CBO和DAC**

|  |  |  |  |
| --- | --- | --- | --- |
| **类名** | **CBO** | | **DAC** |
| OrgManLogic | 总计 |  | 7 |
| 调用其他 | 24 | OrgManDFacSer  OrgManDSer  OrgVO  OrgPO  ResultMessage  CityPO  CityVO |
| 被调用 |  |
| VanManLogic | 总计 |  | 5 |
| 调用其他 | 10 | VanManDFacSer  VanManDSer  VanVO  VanPO  ResultMessage |
| 被调用 |  |
| WorkManLogic | 总计 |  | 7 |
| 调用其他 | 26 | WorkManDFacSer  WorkManDSer  WorkVO  WorkPO  ResultMessage  OrgPO  OrgVO |
| 被调用 |  |
| DriverManLogic | 总计 |  | 5 |
| 调用其他 | 10 | DriverManDFacSer  DriverManDSer  DriverVO  DriverPO  ResultMessage |
| 被调用 |  |

**AccountData类的CBO和DAC**

|  |  |  |  |
| --- | --- | --- | --- |
| **类名** | **CBO** | | **DAC** |
| AccountData | 总计 | 8 | 1 |
| 调用其他 | 4 | MysqlImpl |
| 被调用 | 4 |
| CountData | 总计 | 4 | 7 |
| 调用其他  被调用 | 2  2 | CityPO,OrgPO,WorkPO,VanPO,  StockPO,GoodPO,AccountPO |

**checkData类的CBO和DAC**

|  |  |  |  |
| --- | --- | --- | --- |
| **类名** | **CBO** | | **DAC** |
| BusiCircumData | 总计 | 2 | 2 |
| 调用其他 | 1 | UtilityDSer, IncomePO |
| 被调用 | 1 |
| CollectRecordData | 总计 | 2 | 2 |
| 调用其他 | 1 | UtilityDSer, MysqlImpl |
| 被调用 | 1 |
| CostBeneData | 总计 | 1 | 1 |
| 调用其他 | 0 | MysqlImpl |
| 被调用 | 1 |
| DiaryData | 总计 | 2 | 2 |
| 调用其他 | 0 | MysqlImpl, DiaryPO |
| 被调用 | 2 |

**cityData类的CBO和DAC**

|  |  |  |
| --- | --- | --- |
| **类名** | **CBO** | **DAC** |

|  |  |  |  |
| --- | --- | --- | --- |
| CityData | 总计 | 12 | 2 |
| 调用其他 | 4 | MysqlImpl, CityPO |
| 被调用 | 8 |
| ConstantData | 总计 | 3 | 0 |
| 调用其他 | 1 |  |
| 被调用 | 2 |

**databaseUtility类的CBO和DAC**

|  |  |  |
| --- | --- | --- |
| **类名** | **CBO** | **DAC** |

|  |  |  |  |
| --- | --- | --- | --- |
| MysqlConnector | 总计 |  | 1 |
| 调用其他 | 3 | Connection |
| 被调用 |  |
| MysqlImpl | 总计 |  | 2 |
| 调用其他 | 4 | MysqlConnector, Statement |
| 被调用 |  |

**dataFactory类的CBO和DAC**

|  |  |  |
| --- | --- | --- |
| **类名** | **CBO** | **DAC** |

|  |  |  |  |
| --- | --- | --- | --- |
| DataFactory | 总计 | 35 | 0 |
| 调用其他 | 0 |  |
| 被调用 | 35 |

**orderApproveData类的CBO和DAC**

|  |  |  |
| --- | --- | --- |
| **类名** | **CBO** | **DAC** |

|  |  |  |  |
| --- | --- | --- | --- |
| OrderApproveData | 总计 | 3 | 3 |
| 调用其他 | 0 | MysqlImpl,OrderPO,PaymentPO |
| 被调用 | 3 |
| OrderResubmitData | 总计 | 1 | 2 |
| 调用其他 | 0 | MysqlImpl, PaymentPO |
| 被调用 | 1 |

**orderNewData类的CBO和DAC**

|  |  |  |
| --- | --- | --- |
| **类名** | **CBO** | **DAC** |

|  |  |  |  |
| --- | --- | --- | --- |
| ArriveOrderData | 总计 | 3 | 1 |
| 调用其他 | 1 | MysqlImpl, |
| 被调用 | 2 |
| CenterLoadingData | 总计 | 3 | 1 |
| 调用其他 | 1 | MysqlImpl |
| 被调用 | 2 |
| ExpressOrderData | 总计 | 2 | 1 |
| 调用其他 | 1 | MysqlImpl |
| 被调用 | 1 |
| HallLoadingData | 总计 | 4 | 1 |
| 调用其他 | 1 | MysqlImpl |
| 被调用 | 3 |
| IncomeOrderData | 总计 | 3 | 1 |
| 调用其他 | 1 | MysqlImpl |
| 被调用 | 2 |
| PaymentOrderData | 总计 | 2 | 1 |
| 调用其他 | 1 | MysqlImpl |
| 被调用 | 1 |
| RecipientOrderData | 总计 | 2 | 1 |
| 调用其他 | 1 | MysqlImpl |
| 被调用 | 1 |
| SendOrderData | 总计 | 2 | 1 |
| 调用其他 | 1 | MysqlImpl |
| 被调用 | 1 |
| StockInOrderData | 总计 | 2 | 1 |
| 调用其他 | 1 | MysqlImpl |
| 被调用 | 1 |
| StockOutData | 总计 | 2 | 1 |
| 调用其他 | 1 | MysqlImpl |
| 被调用 | 1 |
| TransitOrderData | 总计 | 2 | 1 |
| 调用其他 | 1 | MysqlImpl, |
| 被调用 | 1 |
| UpdateTransitInfoData | 总计 | 3 | 1 |
| 调用其他 | 1 | MysqlImpl, |
| 被调用 | 2 |

**stockData类的CBO和DAC**

|  |  |  |
| --- | --- | --- |
| **类名** | **CBO** | **DAC** |

|  |  |  |  |
| --- | --- | --- | --- |
| StockCheckData | 总计 | 2 | 3 |
| 调用其他 | 0 | MysqlImpl,StockInPO,StockOutPO |
| 被调用 | 2 |
| StockCheckNowData | 总计 | 1 | 2 |
| 调用其他 | 0 | StockPO, MysqlImpl |
| 被调用 | 2 |
| StockCheckWarnData | 总计 | 2 | 1 |
| 调用其他 | 0 | StockPO |
| 被调用 | 2 |
| StockDivideData | 总计 | 8 | 1 |
| 调用其他 | 4 | MysqlImpl, |
| 被调用 | 4 |
| StockWarningData | 总计 | 2 | 0 |
| 调用其他 | 0 |  |
| 被调用 | 2 |

**transitInfoData类的CBO和DAC**

|  |  |  |
| --- | --- | --- |
| **类名** | **CBO** | **DAC** |

|  |  |  |  |
| --- | --- | --- | --- |
| CourierData | 总计 | 1 | 1 |
| 调用其他 | 0 | MysqlImpl, ExpressPO |
| 被调用 | 1 |
| CustomerData | 总计 | 1 |  |
| 调用其他 | 0 | MysqlImpl |
| 被调用 | 1 |

**userData类的CBO和DAC**

|  |  |  |
| --- | --- | --- |
| **类名** | **CBO** | **DAC** |

|  |  |  |  |
| --- | --- | --- | --- |
| LoginData | 总计 | 1 | 2 |
| 调用其他 | 0 | MysqlImpl, UserPO |
| 被调用 | 1 |
| UserManData | 总计 | 8 | 2 |
| 调用其他 | 4 | MysqlImpl, UserPO |
| 被调用 | 4 |

**utilityData类的CBO和DAC**

|  |  |  |
| --- | --- | --- |
| **类名** | **CBO** | **DAC** |

|  |  |  |  |
| --- | --- | --- | --- |
| UtilityData | 总计 | 7 | 2 |
| 调用其他 | 0 | MysqlImpl, OrgPO, |
| 被调用 | 7 |

**workOrgManData类的CBO和DAC**

|  |  |  |
| --- | --- | --- |
| **类名** | **CBO** | **DAC** |

|  |  |  |  |
| --- | --- | --- | --- |
| DriverManData | 总计 | 8 | 1 |
| 调用其他 | 4 | MysqlImpl |
| 被调用 | 4 |
| OrgManData | 总计 | 8 | 2 |
| 调用其他 | 4 | MysqlImpl, OrgPO |
| 被调用 | 4 |
| VanManData | 总计 | 8 | 2 |
| 调用其他 | 4 | VanPO, MysqlImpl |
| 被调用 | 4 |
| WorkManData | 总计 | 8 | 2 |
| 调用其他 | 4 | WorkPO, MysqlImpl |
| 被调用 | 4 |

备注：

VO与PO类中无对其他类的方法调用，而自身的方法均被其他类调用，这里不再一一列出。

2.2 继承耦和

本快递物流系统的代码中仅有UserPanel及其相关子类设计继承耦合，具体数据如下表所示。

**UserPanel相关的NOC和DIT**

|  |  |  |
| --- | --- | --- |
| **类名** | **NOC** | **DIT** |
| UserPanel | 8 | 0 |
| AdministerPanel | 0 | 1 |
| BusinessHallPanel | 0 | 1 |
| CourierPanel | 0 | 1 |
| Financepanel | 0 | 1 |
| FinanceSuperPanel | 0 | 1 |
| ManagerPanel | 0 | 1 |
| StockManagerPanel | 0 | 1 |
| TransitCenterPanel | 0 | 1 |