商场促销系统

系统设计文档（PROPOSED VERSION）

ARVIN SI.CHUAN/邱依强

目录

1 介绍

1.1 目的

这篇文档是商场促销系统的建模设计文档，意在介绍通过使用 UML 工具对整个系统进行建模的过程，即来源于需求分析文档又衔接编码人员的一个建模过程，编码人员可以通过此文档清晰地编写实现本系统。

1.2 范围

本文档从需求分析文档开始，对需求分析中的用例图进行分类装包，对其中的参与者进行实体的识别，对其中的用例进行类的建立。

1.3 定义，缩写词

促销系统：商场促销系统

1.4 参考文献

百度百科：类图
DAO：Data Access Object

1.5 内容概览

1.5.1 身份验证模块

为满足系统身份验证的功能需要，身份验证模块需要完成用户名、口令的输入，与数据库记录进行匹配后，返回用户身份信息并交与控制层。

1.5.2 结算模块

作为收银中的重要模块，结算模块包含以下几个模块：订单创建、促销匹配、支付。

1.5.3 促销规则匹配模块

促销规则匹配需要完成促销规则的匹配，匹配过程中需要多次过滤促销规则、匹配和有效性以及冲突检查。

1.5.4 支付模块

支付模块是促销系统中结算步骤的最后一步，需要面向接口进行设计，需要实现多种支付方式的支持。

1.5.5 分级管理模块

次模块主要面向管理员，管理员应当适当拥有收银员的功能，又根据管理需要可以自定义管理功能。

1.5.6 DAO

作为数据访问对象，DAO 负责数据库的连接，数据库实体与实现实体的映射。

1.5.7 Controller

促销系统是一个 Web 类型的项目，为了解耦，方便后续维护进行了 MVC 的分层设计，Controller 在此扮演控制层角色。

1.5.8 外部系统支持

促销系统不负责顾客信息维护、雇员信息维护、商品信息维护、第三方的支付系统，但系统需要这些信息作为本系统功能实现的基础，因此需要提供外部的系统支持，包含但不仅限于：顾客信息支持系统、雇员信息支持系统、商品信息支持系统、第三方支付系统。

1.5.9 外部依赖项

项目的实现需要才用已有的成熟框架和数据库系统，这些系统需要引入外部的包，这些属于促销系统的外部依赖项。

2 系统设计表示方法

2.1 类图

类图(Class diagram)由许多（静态）说明性的模型元素（例如类、包和它们之间的关系，这些元素和它们的内容互相连接）组成。类图可以组织在（并且属于）包中，仅显示特定包中的相关内容。类图(Class diagram)是最常用的 UML 图，显示出类、接口以及它们之间的静态结构和关系；它用于描述系统的结构化设计。类图(Class diagram)最基本的元素是类或者接口。

2.2 包图

包图是在 UML 中用类似于文件夹的符号表示的模型元素的组合。系统中的每个元素都只能为一个包所有，一个包可嵌套在另一个包中。使用包图可以将相关元素归入一个系统。一个包中可包含附属包、图表或单个元素。

3 促销系统结构概要设计模型

3.1 Class Model diagram

Class diagram in package 'Class Model'

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Class Model

Version 1.0

邱依强 created on 2017/5/10. Last modified 2017/5/13

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System
+ beans
+ controller
+ dao

Classes, interfaces and logical components for the new system

Frameworks
+ implementFramework
+ inMarketFramework

Class libraries, API's and other re-usable components
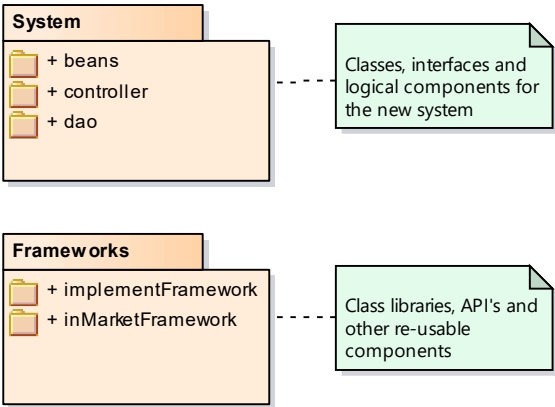
Figure 1:   Class Mode

3.2 System

Package in package 'Class Model'

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System

Version 1.0   Phase 1.0   Proposed

created on 2017/5/10. Last modified 2017/5/10

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4 促销系统详细设计模型
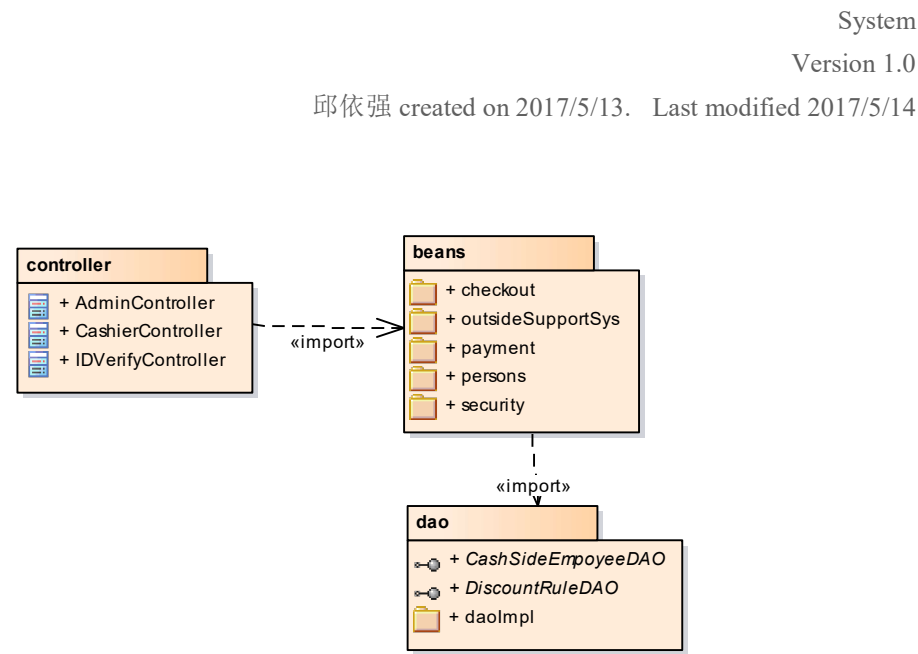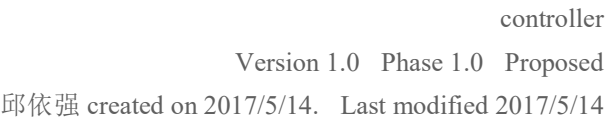
4.1 System diagram

Class diagram in package 'System'

Figure 2:　　System

4.2 controller

Package in package 'System'

4.3 dao

Package in package 'System'

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dao

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4.4 beans

Package in package 'System'

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beans

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LINKS TO OTHER PACKAGES	
🔙 PackageImport from 'beans' Package to 'dao' Package	Direction: Source -> Destination
🔙 PackageImport from 'controller' Package to 'beans' Package	Direction: Source -> Destination

4.4.1 beans diagram

Class diagram in package 'beans'

<div align="right">

beans

Version 1.0

邱依强 created on 2017/5/13．Last modified 2017/5/14
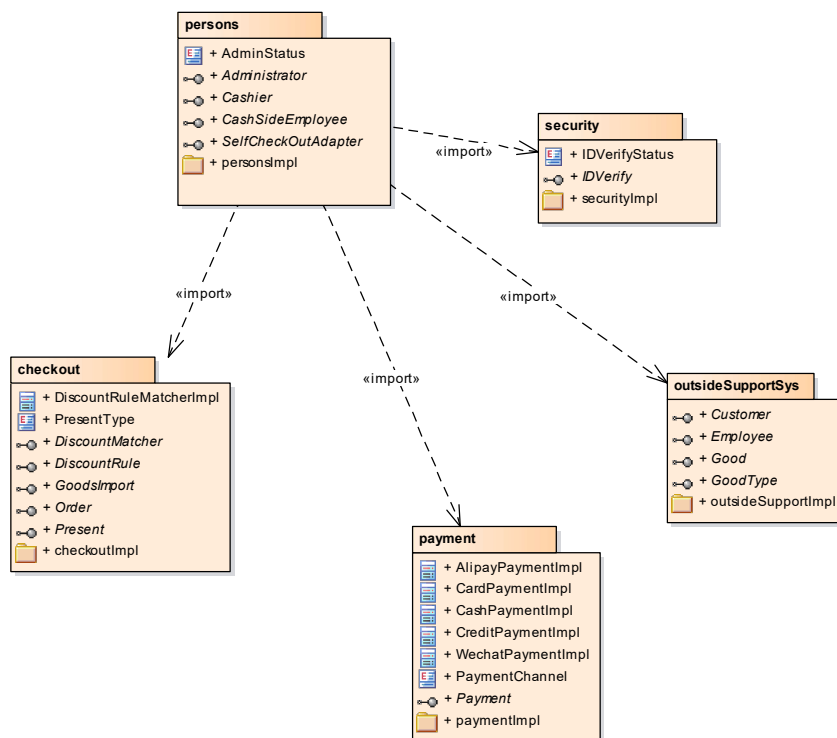
</div>

Figure 3: beans

4.4.2 checkout

Package in package 'beans'

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checkout

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</div>

LINKS TO OTHER PACKAGES	
⬅ PackageImport from 'persons' Package　to 'checkout' Package	Direction:　　Source -> Destination

checkout diagram
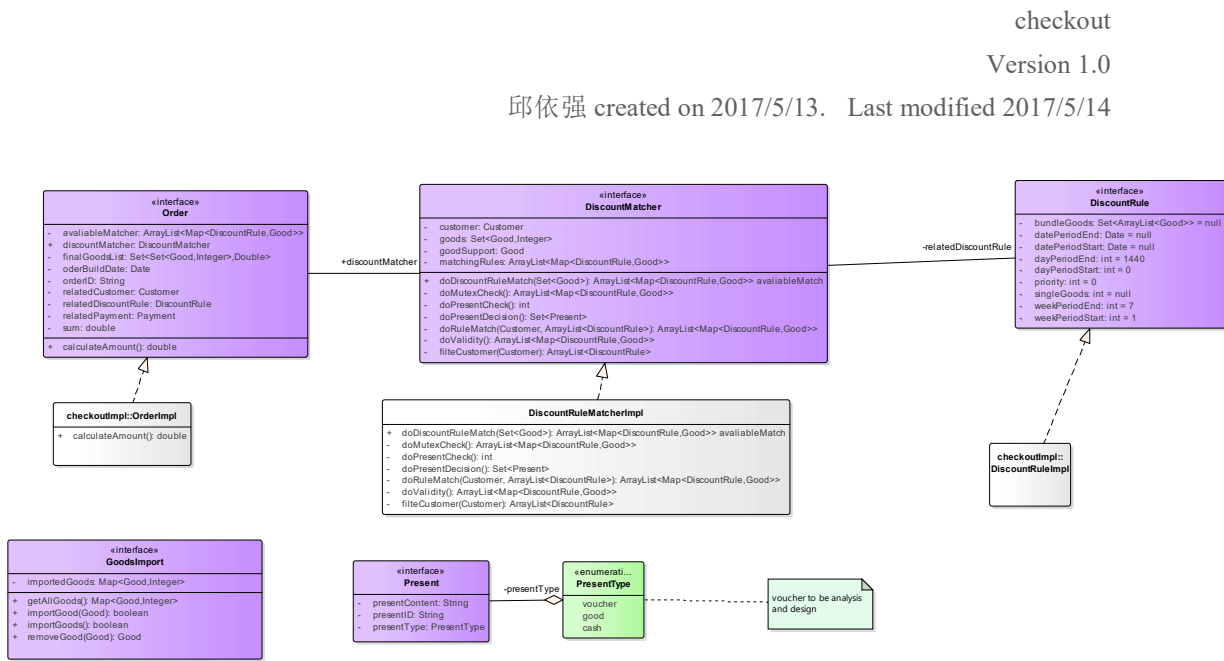
Class diagram in package 'checkout'

Figure 4:　　checkout

DiscountRuleImpl

Class in package 'checkoutImpl'

OUTGOING STRUCTURAL RELATIONSHIPS

⬅ Realization from   DiscountRuleImpl to   DiscountRule

[Direction is 'Source -> Destination'.]

OrderImpl

Class in package 'checkoutImpl'

OrderImpl

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OUTGOING STRUCTURAL RELATIONSHIPS

⬅ Realization from   OrderImpl to   Order

[Direction is 'Source -> Destination'.]

OPERATIONS

◆ calculateAmount () : double Public

Properties:

Implements = Order.calculateAmount

ImplementsGuid = {5C96C30A-06CC-4dc9-81DB-4595EBD5BA20}

[Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False.]

checkoutImpl

Package in package 'checkout'

<div align="right">

checkoutImpl

Version 1.0   Phase 1.0   Proposed

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</div>

DiscountRuleImpl

Class in package 'checkoutImpl'

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DiscountRuleImpl

Version 1.0   Phase 1.0   Proposed

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OUTGOING STRUCTURAL RELATIONSHIPS
← Realization from DiscountRuleImpl to DiscountRule [Direction is 'Source -> Destination'.]

OrderImpl

Class in package 'checkoutImpl'

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OrderImpl

Version 1.0   Phase 1.0   Proposed

邱依强 created on 2017/5/14．Last modified 2017/5/14

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OUTGOING STRUCTURAL RELATIONSHIPS
← Realization from OrderImpl to Order [Direction is 'Source -> Destination'.]

◆ calculateAmount () : double Public

Properties:

Implements = Order.calculateAmount

ImplementsGuid = {5C96C30A-06CC-4dc9-81DB-4595EBD5BA20}

[Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False.]

DiscountRuleMatcherImpl

Class in package 'checkout'

DiscountRuleMatcherImpl

Version 1.0　Phase 1.0　Proposed

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OUTGOING STRUCTURAL RELATIONSHIPS

⬅ Realization from　DiscountRuleMatcherImpl to　DiscountMatcher

[Direction is 'Source -> Destination'.]

OPERATIONS

◆ doDiscountRuleMatch (goods : Set<Good>) : ArrayList<Map<DiscountRule,Good>> avaliableMatch Public

Properties:

Implements = DiscountMatcher.doDiscountRuleMatch

ImplementsGuid = {A777974C-3722-412a-9A98-A26A98264025}

[Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False.]

◆ doMutexCheck () : ArrayList<Map<DiscountRule,Good>> Private

Properties:

OPERATIONS

Implements = DiscountMatcher.doMutexCheck

ImplementsGuid = {1A05583D-D45B-4ffa-951B-11C645D2D867}

[Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False.]

◆ doPresentCheck () : int Private

Properties:

Implements = DiscountMatcher.doPresentCheck

ImplementsGuid = {2426182F-305E-45f1-9D4D-04667F047B7B}

[Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False.]

◆ doPresentDecision () : Set<Present> Private

Properties:

Implements = DiscountMatcher.doPresentDecision

ImplementsGuid = {B848F130-95FD-41ea-A457-7BFF253A96C2}

[Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False.]

◆ doRuleMatch (customer : Customer , rules : ArrayList<DiscountRule>) :
ArrayList<Map<DiscountRule,Good>> Private

Properties:

Implements = DiscountMatcher.doRuleMatch

ImplementsGuid = {EC867030-2DCD-422d-89E1-E949777184EE}

[Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False.]

◆ doValidity () : ArrayList<Map<DiscountRule,Good>> Private

Properties:

Implements = DiscountMatcher.doValidity

ImplementsGuid = {7F32224E-D5A0-495f-839C-9AB03F45FB90}

[Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False.]

◆ filteCustomer (customer : Customer) : ArrayList<DiscountRule> Private

Properties:

Implements = DiscountMatcher.filteCustomer

ImplementsGuid = {82C1A2FE-37FA-4ad1-9938-D58EBD48A7A7}

[Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False.]

DiscountMatcher

Interface in package 'checkout'

DiscountMatcher

Version 1.0   Phase 1.0   Proposed

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INCOMING STRUCTURAL RELATIONSHIPS

➡ Realization   from   DiscountRuleMatcherImpl to   DiscountMatcher

[Direction is 'Source -> Destination'.]

ATTRIBUTES

◆ customer : Customer   Private

[Is static False. Containment is Not Specified.]

◆ goods : Set<Good,Integer>   Private

[Is static False. Containment is Not Specified.]

◆ goodSupport : Good   Private

[Is static False. Containment is Not Specified.]

◆ matchingRules : ArrayList<Map<DiscountRule,Good>>   Private

[Is static False. Containment is Not Specified.]

ASSOCIATIONS

✏️ Association (direction: Unspecified)

Source: Public (Interface) DiscountMatcher

Target: Private
relatedDiscountRule (Interface)
DiscountRule

✏️ Association (direction: Unspecified)

Source: Public (Interface) Order

Target: Public discountMatcher
(Interface) DiscountMatcher

OPERATIONS

🔷 doDiscountRuleMatch (goods : Set\<Good>) : ArrayList\<Map\<DiscountRule,Good>> avaliableMatch
Public
[Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False.]

🔷 doMutexCheck () : ArrayList\<Map\<DiscountRule,Good>> Private
[Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False.]

🔷 doPresentCheck () : int Private
[Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False.]

🔷 doPresentDecision () : Set\<Present> Private
[Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False.]

🔷 doRuleMatch (customer : Customer , rules : ArrayList\<DiscountRule>) :
ArrayList\<Map\<DiscountRule,Good>> Private
[Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False.]

🔷 doValidity () : ArrayList\<Map\<DiscountRule,Good>> Private
[Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False.]

OPERATIONS	
◆ filteCustomer (customer : Customer) : ArrayList<DiscountRule> Private	
	[Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False.]

DiscountRule

Interface in package 'checkout'

DiscountRule

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INCOMING STRUCTURAL RELATIONSHIPS	
⇒ Realization from DiscountRuleImpl to DiscountRule	
	[Direction is 'Source -> Destination'.]

ATTRIBUTES	
◆ bundleGoods : Set<ArrayList<Good>> Private = null	
	[Is static False. Containment is Not Specified.]
◆ datePeriodEnd : Date Private = null	
	[Is static False. Containment is Not Specified.]
◆ datePeriodStart : Date Private = null	
	[Is static False. Containment is Not Specified.]
◆ dayPeriodEnd : int Private = 1440	
	[Is static False. Containment is Not Specified.]

ATTRIBUTES	第 16 页 / 共 68 页

dayPeriodStart : int   Private   = 0

start at 00:00 counted by minutes

[Is static False. Containment is Not Specified.]

priority : int   Private   = 0

[Is static False. Containment is Not Specified.]

singleGoods : int   Private   = null

[Is static False. Containment is Not Specified.]

weekPeriodEnd : int   Private   = 7

[Is static False. Containment is Not Specified.]

weekPeriodStart : int   Private   = 1

[Is static False. Containment is Not Specified.]

ASSOCIATIONS

Association (direction: Unspecified)

Source: Public (Interface)   Target: Private relatedDiscountRule (Interface)

DiscountMatcher   DiscountRule

GoodsImport

Interface in package 'checkout'

ATTRIBUTES

◆ importedGoods : Map<Good,Integer>   Private

[Is static False. Containment is Not Specified.]

OPERATIONS

◆ getAllGoods () : Map<Good,Integer> Public

[Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False.]

◆ importGood (good : Good) : boolean Public

[Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False.]

◆ importGoods () : boolean Public

[Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False.]

◆ removeGood (good : Good) : Good Public

[Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False.]

Order

Interface in package 'checkout'

Order

Version 1.0   Phase 1.0   Proposed

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INCOMING STRUCTURAL RELATIONSHIPS

➡ Realization from OrderImpl to Order

[Direction is 'Source -> Destination'.]

ATTRIBUTES

🔹 avaliableMatcher : ArrayList<Map<DiscountRule,Good>> Private

[Is static False. Containment is Not Specified.]

🔹 discountMatcher : DiscountMatcher Public

[Is static False. Containment is Not Specified.]

🔹 finalGoodsList : Set<Set<Good,Integer>,Double> Private

[Is static False. Containment is Not Specified.]

🔹 oderBuildDate : Date Private

[Is static False. Containment is Not Specified.]

🔹 orderID : String Private

[Is static False. Containment is Not Specified.]

🔹 relatedCustomer : Customer Private

[Is static False. Containment is Not Specified.]

🔹 relatedDiscountRule : DiscountRule Private

[Is static False. Containment is Not Specified.]

🔹 relatedPayment : Payment Private

[Is static False. Containment is Not Specified.]

🔹 sum : double Private

ATTRIBUTES	
	[Is static False. Containment is Not Specified.]

ASSOCIATIONS

✏ Association (direction: Unspecified)

Source: Public (Interface) Order   Target: Public discountMatcher

(Interface) DiscountMatcher

OPERATIONS

◆ calculateAmount () : double Public

[Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False.]

Present

Interface in package 'checkout'

Present

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OUTGOING STRUCTURAL RELATIONSHIPS

⬅ Aggregation from   Present to   PresentType

[Direction is 'Source -> Destination'.]

ATTRIBUTES

◆ presentContent : String   Private

[Is static False. Containment is Not Specified.]

ATTRIBUTES
◆ presentID : String   Private
[Is static False. Containment is Not Specified.]
◆ presentType : PresentType   Private
[Is static False. Containment is Not Specified.]

PresentType

Enumeration in package 'checkout'

PresentType

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INCOMING STRUCTURAL RELATIONSHIPS
⇒ Aggregation   from   Present to   PresentType
[Direction is 'Source -> Destination'.]

ATTRIBUTES
◆ voucher : int   Public
[Stereotype is «enum». Is static False. Containment is Not Specified.]
◆ good : int   Public
[Stereotype is «enum». Is static False. Containment is Not Specified.]
◆ cash : int   Public
[Stereotype is «enum». Is static False. Containment is Not Specified.]

4.4.3 outsideSupportSys

Package in package 'beans'

LINKS TO OTHER PACKAGES	
🔙 PackageImport from 'persons' Package to 'outsideSupportSys' Package	Direction: Source -> Destination

outsideSupportSys diagram

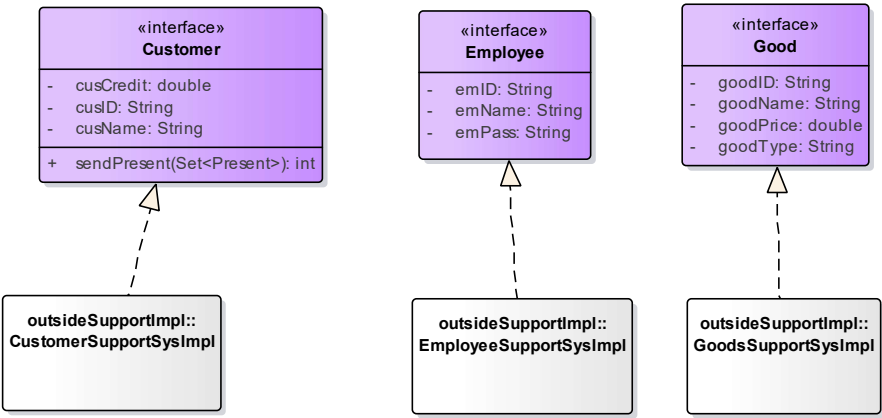Class diagram in package 'outsideSupportSys'

Figure 5:   outsideSupportSys

CustomerSupportSysImpl

Class in package 'outsideSupportImpl'

CustomerSupportSysImpl

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OUTGOING STRUCTURAL RELATIONSHIPS
⬅ Realization from CustomerSupportSysImpl to Customer [Direction is 'Source -> Destination'.]

EmployeeSupportSysImpl

Class in package 'outsideSupportImpl'

EmployeeSupportSysImpl

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OUTGOING STRUCTURAL RELATIONSHIPS
⬅ Realization from EmployeeSupportSysImpl to Employee [Direction is 'Source -> Destination'.]

GoodsSupportSysImpl

Class in package 'outsideSupportImpl'

GoodsSupportSysImpl

OUTGOING STRUCTURAL RELATIONSHIPS
⬅ Realization from　GoodsSupportSysImpl to　Good [Direction is 'Source -> Destination'.]

outsideSupportImpl

Package in package 'outsideSupportSys'

outsideSupportImpl

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CustomerSupportSysImpl

Class in package 'outsideSupportImpl'

CustomerSupportSysImpl

Version 1.0　Phase 1.0　Proposed

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OUTGOING STRUCTURAL RELATIONSHIPS
⬅ Realization from　CustomerSupportSysImpl to　Customer [Direction is 'Source -> Destination'.]

EmployeeSupportSysImpl

Class in package 'outsideSupportImpl'

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EmployeeSupportSysImpl

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OUTGOING STRUCTURAL RELATIONSHIPS
⬅ Realization from   EmployeeSupportSysImpl to   Employee [Direction is 'Source -> Destination'.]

GoodTypeImpl

Class in package 'outsideSupportImpl'

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GoodTypeImpl

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OUTGOING STRUCTURAL RELATIONSHIPS
⬅ Aggregation from   GoodTypeImpl to   GoodTypeEnum [Direction is 'Source -> Destination'.]
⬅ Realization from   GoodTypeImpl to   GoodType [Direction is 'Source -> Destination'.]

ATTRIBUTES
◆ type : enum   Public [Stereotype is «enum». Is static False. Containment is Not Specified.]

GoodsSupportSysImpl

Class in package 'outsideSupportImpl'

GoodsSupportSysImpl

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OUTGOING STRUCTURAL RELATIONSHIPS
⬅ Realization from   GoodsSupportSysImpl to   Good [Direction is 'Source -> Destination'.]

GoodTypeEnum

Enumeration in package 'outsideSupportImpl'

GoodTypeEnum

Version 1.0   Phase 1.0   Proposed

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INCOMING STRUCTURAL RELATIONSHIPS
➡ Aggregation   from   GoodTypeImpl to   GoodTypeEnum [Direction is 'Source -> Destination'.]

ATTRIBUTES
◆ dailyLife : int   Public [Stereotype is «enum». Is static False. Containment is Not Specified.]
◆ ectronics : int   Public [Stereotype is «enum». Is static False. Containment is Not Specified.]

ATTRIBUTES
◆ food : int   Public
[Stereotype is «enum». Is static False. Containment is Not Specified.]
◆ office : int   Public
[Stereotype is «enum». Is static False. Containment is Not Specified.]
◆ software : int   Public
[Stereotype is «enum». Is static False. Containment is Not Specified.]
◆ cooking : int   Public
[Stereotype is «enum». Is static False. Containment is Not Specified.]

Customer

Interface in package 'outsideSupportSys'

Customer

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INCOMING STRUCTURAL RELATIONSHIPS
⇒ Realization   from   CustomerSupportSysImpl to   Customer
[Direction is 'Source -> Destination'.]

ATTRIBUTES
◆ cusCredit : double   Private
[Is static False. Containment is Not Specified.]

ATTRIBUTES	
◆ cusID : String Private	
	[Is static False. Containment is Not Specified.]
◆ cusName : String Private	
	[Is static False. Containment is Not Specified.]

OPERATIONS
◆ sendPresent (presents : Set<Present>) : int Public
[Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False.]

Employee

Interface in package 'outsideSupportSys'

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Employee

Version 1.0   Phase 1.0   Proposed

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</div>

INCOMING STRUCTURAL RELATIONSHIPS
➡ Realization   from   EmployeeSupportSysImpl to   Employee
[Direction is 'Source -> Destination'.]

ATTRIBUTES
◆ emID : String   Private
[Is static False. Containment is Not Specified.]
◆ emName : String   Private

ATTRIBUTES	
	[Is static False. Containment is Not Specified.]
◆ emPass : String Private	
	[Is static False. Containment is Not Specified.]

Good

Interface in package 'outsideSupportSys'

<div align="right">

Good

Version 1.0   Phase 1.0   Proposed

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</div>

INCOMING STRUCTURAL RELATIONSHIPS	
⇒ Realization from GoodsSupportSysImpl to Good	
	[Direction is 'Source -> Destination'.]

ATTRIBUTES	
◆ goodID : String Private	
	[Is static False. Containment is Not Specified.]
◆ goodName : String Private	
	[Is static False. Containment is Not Specified.]
◆ goodPrice : double Private	
	[Is static False. Containment is Not Specified.]
◆ goodType : String Private	

ATTRIBUTES	
	[Is static False. Containment is Not Specified.]

GoodType

Interface in package 'outsideSupportSys'

<div align="right">

GoodType

Version 1.0   Phase 1.0   Proposed

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INCOMING STRUCTURAL RELATIONSHIPS
➡ Realization   from   GoodTypeImpl to   GoodType
[Direction is 'Source -> Destination'.]

ATTRIBUTES
◆ type : enum   Public
[Stereotype is «enum». Is static False. Containment is Not Specified.]

4.4.4 payment

Package in package 'beans'

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payment

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邱依强 created on 2017/5/13．Last modified 2017/5/13

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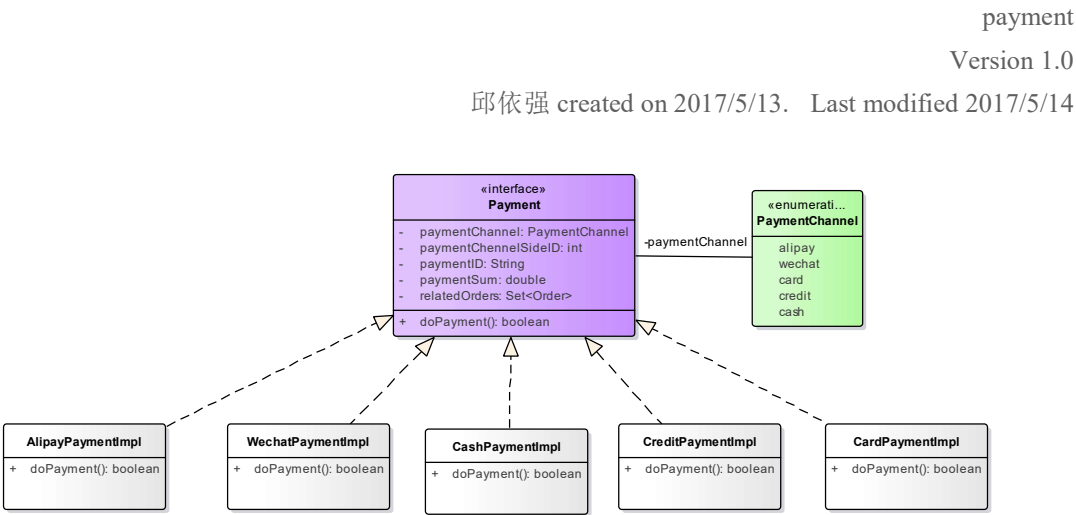| LINKS TO OTHER PACKAGES	
⬅ PackageImport from 'persons' Package to 'payment' Package	Direction: Source -> Destination

payment diagram

Class diagram in package 'payment'

<div align="right">

payment

Version 1.0

邱依强 created on 2017/5/13. Last modified 2017/5/14

</div>

Figure 6: payment

paymentImpl

Package in package 'payment'

<div align="right">

paymentImpl

Version 1.0 Phase 1.0 Proposed

邱依强 created on 2017/5/14. Last modified 2017/5/14

</div>

AlipayPaymentImpl

Class in package 'payment'

AlipayPaymentImpl

Version 1.0 Phase 1.0 Proposed

邱依强 created on 2017/5/14．Last modified 2017/5/14

OUTGOING STRUCTURAL RELATIONSHIPS
← Realization from AlipayPaymentImpl to Payment
[Direction is 'Source -> Destination'.]

OPERATIONS
◆ doPayment () : boolean Public
Properties:
Implements = Payment.doPayment
ImplementsGuid = {B95F7A79-F1B7-4bcf-9290-488C71AB95D5}
[Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False.]

CardPaymentImpl

Class in package 'payment'

CardPaymentImpl

Version 1.0 Phase 1.0 Proposed

邱依强 created on 2017/5/14．Last modified 2017/5/14

OUTGOING STRUCTURAL RELATIONSHIPS
← Realization from CardPaymentImpl to Payment
[Direction is 'Source -> Destination'.]

OPERATIONS
◆ doPayment () : boolean Public
Properties:
Implements = Payment.doPayment
ImplementsGuid = {B95F7A79-F1B7-4bcf-9290-488C71AB95D5}
[Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False.]

CashPaymentImpl

Class in package 'payment'

CashPaymentImpl

Version 1.0   Phase 1.0   Proposed

邱依强 created on 2017/5/14.   Last modified 2017/5/14

OUTGOING STRUCTURAL RELATIONSHIPS
← Realization from CashPaymentImpl to Payment
[Direction is 'Source -> Destination'.]

OPERATIONS
◆ doPayment () : boolean Public
Properties:
Implements = Payment.doPayment
ImplementsGuid = {B95F7A79-F1B7-4bcf-9290-488C71AB95D5}

OPERATIONS	
	[Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False.]

CreditPaymentImpl

Class in package 'payment'

CreditPaymentImpl

Version 1.0   Phase 1.0   Proposed

邱依强 created on 2017/5/14.   Last modified 2017/5/14

OUTGOING STRUCTURAL RELATIONSHIPS	
← Realization from CreditPaymentImpl to Payment	
	[Direction is 'Source -> Destination'.]

OPERATIONS
◆ doPayment () : boolean Public
Properties:
Implements = Payment.doPayment
ImplementsGuid = {B95F7A79-F1B7-4bcf-9290-488C71AB95D5}
[Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False.]

WechatPaymentImpl

Class in package 'payment'

WechatPaymentImpl

Version 1.0   Phase 1.0   Proposed

OUTGOING STRUCTURAL RELATIONSHIPS

⬅ Realization from WechatPaymentImpl to Payment

[Direction is 'Source -> Destination'.]

OPERATIONS

◆ doPayment () : boolean Public

Properties:

Implements = Payment.doPayment

ImplementsGuid = {B95F7A79-F1B7-4bcf-9290-488C71AB95D5}

[Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False.]

Payment

Interface in package 'payment'

Payment

Version 1.0   Phase 1.0   Proposed

邱依强 created on 2017/5/14．Last modified 2017/5/14

INCOMING STRUCTURAL RELATIONSHIPS

➡ Realization from CreditPaymentImpl to Payment

[Direction is 'Source -> Destination'.]

➡ Realization from WechatPaymentImpl to Payment

[Direction is 'Source -> Destination'.]

➡ Realization from CardPaymentImpl to Payment

[Direction is 'Source -> Destination'.]

INCOMING STRUCTURAL RELATIONSHIPS
➡ Realization   from   CashPaymentImpl to   Payment [Direction is 'Source -> Destination'.]
➡ Realization   from   AlipayPaymentImpl to   Payment [Direction is 'Source -> Destination'.]

ATTRIBUTES
◆ paymentChannel : PaymentChannel   Private [Is static False. Containment is Not Specified.]
◆ paymentChennelSideID : int   Private [Is static False. Containment is Not Specified.]
◆ paymentID : String   Private [Is static False. Containment is Not Specified.]
◆ paymentSum : double   Private [Is static False. Containment is Not Specified.]
◆ relatedOrders : Set<Order>   Private [Is static False. Containment is Not Specified.]

ASSOCIATIONS
✏ Association (direction: Unspecified) Source: Public (Interface) Payment   Target: Private paymentChannel   (Enumeration) PaymentChannel

OPERATIONS	
◆ doPayment () : boolean Public	
	[Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False.]

PaymentChannel

Enumeration in package 'payment'

<div align="right">

PaymentChannel

Version 1.0   Phase 1.0   Proposed

邱依强 created on 2017/5/14.   Last modified 2017/5/14

</div>

ATTRIBUTES	
◆ alipay : int Public	
	[Stereotype is «enum». Is static False. Containment is Not Specified.]
◆ wechat : int Public	
	[Stereotype is «enum». Is static False. Containment is Not Specified.]
◆ card : int Public	
	[Stereotype is «enum». Is static False. Containment is Not Specified.]
◆ credit : int Public	
	[Stereotype is «enum». Is static False. Containment is Not Specified.]
◆ cash : int Public	
	[Stereotype is «enum». Is static False. Containment is Not Specified.]

ASSOCIATIONS	
✏ Association (direction: Unspecified)	
Source: Public (Interface) Payment	Target: Private paymentChannel (Enumeration) PaymentChannel

4.4.5 persons

Package in package 'beans'

LINKS TO OTHER PACKAGES	
← PackageImport from 'persons' Package to 'outsideSupportSys' Package	Direction: Source -> Destination
← PackageImport from 'persons' Package to 'security' Package	Direction: Source -> Destination
← PackageImport from 'persons' Package to 'payment' Package	Direction: Source -> Destination
← PackageImport from 'persons' Package to 'checkout' Package	Direction: Source -> Destination

persons diagram

Class diagram in package 'persons'

<div align="right">

persons

Version 1.0

邱依强 created on 2017/5/13．Last modified 2017/5/14

</div>
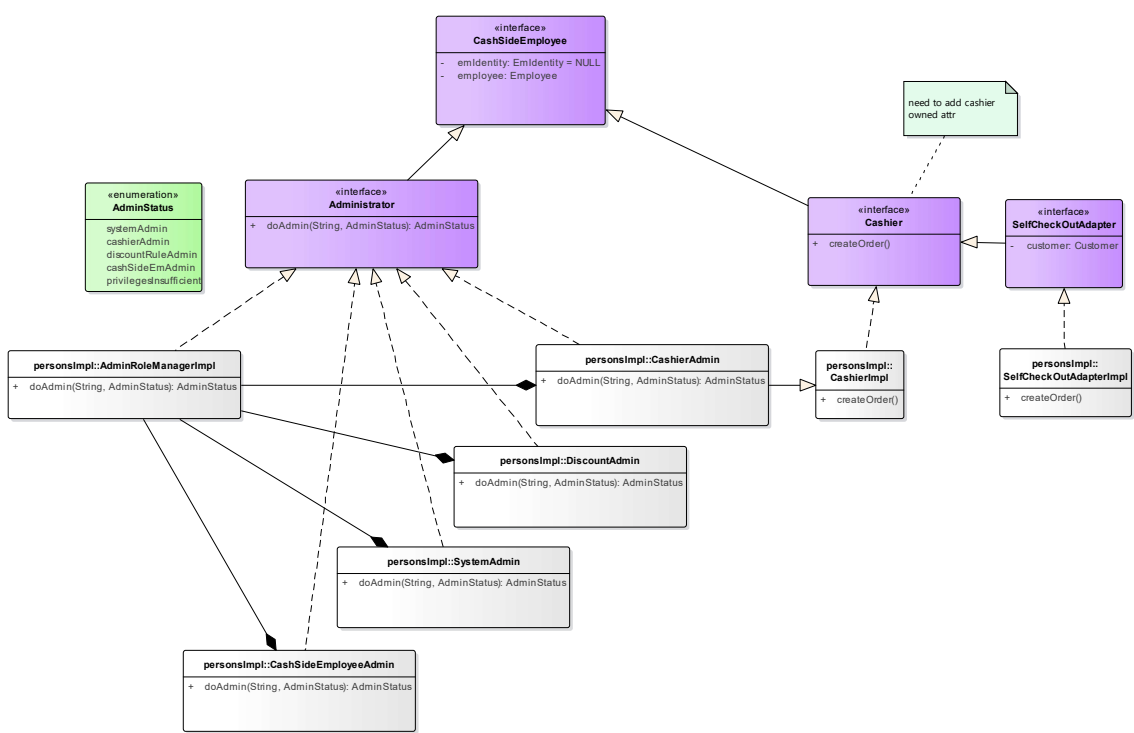
Figure 7:   persons

AdminRoleManagerImpl

Class in package 'personsImpl'

<div align="right">

AdminRoleManagerImpl

Version 1.0   Phase 1.0   Proposed

邱依强 created on 2017/5/14．Last modified 2017/5/14

</div>

OUTGOING STRUCTURAL RELATIONSHIPS
← Realization from AdminRoleManagerImpl to Administrator [Direction is 'Source -> Destination'.]
← Aggregation from AdminRoleManagerImpl to CashSideEmployeeAdmin [Direction is 'Source -> Destination'.]
← Aggregation from AdminRoleManagerImpl to DiscountAdmin [Direction is 'Source -> Destination'.]
← Aggregation from AdminRoleManagerImpl to CashierAdmin [Direction is 'Source -> Destination'.]
← Aggregation from AdminRoleManagerImpl to SystemAdmin [Direction is 'Source -> Destination'.]

OPERATIONS
◆ doAdmin (operation : String , role : AdminStatus) : AdminStatus Public Properties: Implements = Administrator.doAdmin ImplementsGuid = {BC66521D-95BC-441e-A8BE-43F3C0D16967} [Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False.]

CashierAdmin

Class in package 'personsImpl'

OUTGOING STRUCTURAL RELATIONSHIPS
← Generalization from CashierAdmin to CashierImpl [Direction is 'Source -> Destination'.]
← Realization from CashierAdmin to Administrator [Direction is 'Source -> Destination'.]

INCOMING STRUCTURAL RELATIONSHIPS
→ Aggregation from AdminRoleManagerImpl to CashierAdmin [Direction is 'Source -> Destination'.]

OPERATIONS

◆ doAdmin (operation : String , role : AdminStatus) : AdminStatus Public
 	
Properties:
   Implements = Administrator.doAdmin
   ImplementsGuid = {BC66521D-95BC-441e-A8BE-43F3C0D16967}
     [Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False.]

CashierImpl

Class in package 'personsImpl'

CashierImpl

Version 1.0　Phase 1.0　Proposed

邱依强 created on 2017/5/13．Last modified 2017/5/14

⬅ Realization from CashierImpl to Cashier

[Direction is 'Source -> Destination'.]

➡ Generalization from CashierAdmin to CashierImpl

[Direction is 'Source -> Destination'.]

OPERATIONS

🔶 createOrder () : Public

Properties:

Implements = Cashier.createOrder

ImplementsGuid = {D6CE29D6-7258-4f2c-9674-38CF121CB105}

[Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False.]

CashSideEmployeeAdmin

Class in package 'personsImpl'

CashSideEmployeeAdmin

Version 1.0   Phase 1.0   Proposed

邱依强 created on 2017/5/13．Last modified 2017/5/14

OUTGOING STRUCTURAL RELATIONSHIPS

⬅ Realization from CashSideEmployeeAdmin to Administrator

[Direction is 'Source -> Destination'.]

INCOMING STRUCTURAL RELATIONSHIPS

➡ Aggregation   from   AdminRoleManagerImpl to   CashSideEmployeeAdmin

[Direction is 'Source -> Destination'.]

OPERATIONS

◆ doAdmin (operation : String , role : AdminStatus) : AdminStatus Public

Properties:

Implements = Administrator.doAdmin

ImplementsGuid = {BC66521D-95BC-441e-A8BE-43F3C0D16967}

[Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False.]

DiscountAdmin

Class in package 'personsImpl'

DiscountAdmin

Version 1.0   Phase 1.0   Proposed

邱依强 created on 2017/5/13．Last modified 2017/5/14

OUTGOING STRUCTURAL RELATIONSHIPS

⬅ Realization from   DiscountAdmin to   Administrator

[Direction is 'Source -> Destination'.]

INCOMING STRUCTURAL RELATIONSHIPS

➡ Aggregation   from   AdminRoleManagerImpl to   DiscountAdmin

[Direction is 'Source -> Destination'.]

◆ doAdmin (operation : String , role : AdminStatus) : AdminStatus Public

Properties:

Implements = Administrator.doAdmin

ImplementsGuid = {BC66521D-95BC-441e-A8BE-43F3C0D16967}

[Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False.]

SelfCheckOutAdapterImpl

Class in package 'personsImpl'

SelfCheckOutAdapterImpl

Version 1.0   Phase 1.0   Proposed

邱依强 created on 2017/5/13．Last modified 2017/5/14

OUTGOING STRUCTURAL RELATIONSHIPS

⬅ Realization from   SelfCheckOutAdapterImpl to   SelfCheckOutAdapter

[Direction is 'Source -> Destination'.]

OPERATIONS

◆ createOrder () :   Public

Properties:

Implements = Cashier.createOrder

ImplementsGuid = {D6CE29D6-7258-4f2c-9674-38CF121CB105}

[Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False.]

SystemAdmin

Class in package 'personsImpl'

OUTGOING STRUCTURAL RELATIONSHIPS

⬅ Realization from   SystemAdmin to   Administrator

[Direction is 'Source -> Destination'.]

INCOMING STRUCTURAL RELATIONSHIPS

➡ Aggregation   from   AdminRoleManagerImpl to   SystemAdmin

[Direction is 'Source -> Destination'.]

OPERATIONS

◆ doAdmin (operation : String , role : AdminStatus) : AdminStatus Public

Properties:

Implements = Administrator.doAdmin

ImplementsGuid = {BC66521D-95BC-441e-A8BE-43F3C0D16967}

[Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False.]

personsImpl

Package in package 'persons'

AdminRoleManagerImpl

Class in package 'personsImpl'

AdminRoleManagerImpl

Version 1.0　Phase 1.0　Proposed

邱依强 created on 2017/5/14．Last modified 2017/5/14

OUTGOING STRUCTURAL RELATIONSHIPS
⬅ Realization from　AdminRoleManagerImpl to　Administrator   [Direction is 'Source -> Destination'.]
⬅ Aggregation from　AdminRoleManagerImpl to　CashSideEmployeeAdmin   [Direction is 'Source -> Destination'.]
⬅ Aggregation from　AdminRoleManagerImpl to　DiscountAdmin   [Direction is 'Source -> Destination'.]
⬅ Aggregation from　AdminRoleManagerImpl to　CashierAdmin   [Direction is 'Source -> Destination'.]
⬅ Aggregation from　AdminRoleManagerImpl to　SystemAdmin   [Direction is 'Source -> Destination'.]

OPERATIONS
◆　doAdmin (operation : String , role : AdminStatus) : AdminStatus Public   Properties:

OPERATIONS

Implements = Administrator.doAdmin

ImplementsGuid = {BC66521D-95BC-441e-A8BE-43F3C0D16967}

[Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False.]

CashSideEmployeeAdmin

Class in package 'personsImpl'

CashSideEmployeeAdmin

Version 1.0   Phase 1.0   Proposed

邱依强 created on 2017/5/13．Last modified 2017/5/14

OUTGOING STRUCTURAL RELATIONSHIPS

⬅ Realization from   CashSideEmployeeAdmin to   Administrator

[Direction is 'Source -> Destination'.]

INCOMING STRUCTURAL RELATIONSHIPS

➡ Aggregation   from   AdminRoleManagerImpl to   CashSideEmployeeAdmin

[Direction is 'Source -> Destination'.]

OPERATIONS

◆ doAdmin (operation : String , role : AdminStatus) : AdminStatus Public

Properties:

Implements = Administrator.doAdmin

ImplementsGuid = {BC66521D-95BC-441e-A8BE-43F3C0D16967}

[Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False.]

CashierAdmin

Class in package 'personsImpl'

CashierAdmin

Version 1.0　Phase 1.0　Proposed

邱依强 created on 2017/5/13.　Last modified 2017/5/14

Extends CashierImpl

OUTGOING STRUCTURAL RELATIONSHIPS
⬅ Generalization from　CashierAdmin to　CashierImpl [Direction is 'Source -> Destination'.]
⬅ Realization from　CashierAdmin to　Administrator [Direction is 'Source -> Destination'.]

INCOMING STRUCTURAL RELATIONSHIPS
➡ Aggregation　from　AdminRoleManagerImpl to　CashierAdmin [Direction is 'Source -> Destination'.]

OPERATIONS
🔶 doAdmin (operation : String , role : AdminStatus) : AdminStatus Public Properties: 　Implements = Administrator.doAdmin 　ImplementsGuid = {BC66521D-95BC-441e-A8BE-43F3C0D16967} 　　[Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False.]

CashierImpl

Class in package 'personsImpl'

OUTGOING STRUCTURAL RELATIONSHIPS

← Realization from　CashierImpl to　Cashier

[Direction is 'Source -> Destination'.]

INCOMING STRUCTURAL RELATIONSHIPS

→ Generalization　from　CashierAdmin to　CashierImpl

[Direction is 'Source -> Destination'.]

OPERATIONS

◆ createOrder () :　Public

Properties:

Implements = Cashier.createOrder

ImplementsGuid = {D6CE29D6-7258-4f2c-9674-38CF121CB105}

[Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False.]

DiscountAdmin

Class in package 'personsImpl'

OUTGOING STRUCTURAL RELATIONSHIPS

⬅ Realization from DiscountAdmin to Administrator

[Direction is 'Source -> Destination'.]

INCOMING STRUCTURAL RELATIONSHIPS

➡ Aggregation from AdminRoleManagerImpl to DiscountAdmin

[Direction is 'Source -> Destination'.]

OPERATIONS

🔶 doAdmin (operation : String , role : AdminStatus) : AdminStatus Public

Properties:

Implements = Administrator.doAdmin

ImplementsGuid = {BC66521D-95BC-441e-A8BE-43F3C0D16967}

[Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False.]

SelfCheckOutAdapterImpl

Class in package 'personsImpl'

SelfCheckOutAdapterImpl

Version 1.0 Phase 1.0 Proposed

邱依强 created on 2017/5/13. Last modified 2017/5/14

OUTGOING STRUCTURAL RELATIONSHIPS

⬅ Realization from SelfCheckOutAdapterImpl to SelfCheckOutAdapter

[Direction is 'Source -> Destination'.]

OPERATIONS

OPERATIONS	
◆ createOrder () : Public	
Properties:	
Implements = Cashier.createOrder	
ImplementsGuid = {D6CE29D6-7258-4f2c-9674-38CF121CB105}	
[Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False.]	

SystemAdmin

Class in package 'personsImpl'

<div align="right">

SystemAdmin

Version 1.0   Phase 1.0   Proposed

邱依强 created on 2017/5/13．Last modified 2017/5/14

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OUTGOING STRUCTURAL RELATIONSHIPS	
⬅ Realization from SystemAdmin to Administrator	
	[Direction is 'Source -> Destination'.]

INCOMING STRUCTURAL RELATIONSHIPS	
➡ Aggregation from AdminRoleManagerImpl to SystemAdmin	
	[Direction is 'Source -> Destination'.]

OPERATIONS	
◆ doAdmin (operation : String , role : AdminStatus) : AdminStatus Public	
Properties:	
Implements = Administrator.doAdmin	
ImplementsGuid = {BC66521D-95BC-441e-A8BE-43F3C0D16967}	
[Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False.]	

Administrator

Interface in package 'persons'

OUTGOING STRUCTURAL RELATIONSHIPS
⬅ Generalization from   Administrator to   CashSideEmployee
[Direction is 'Source -> Destination'.]

INCOMING STRUCTURAL RELATIONSHIPS
➡ Realization   from   SystemAdmin to   Administrator
[Direction is 'Source -> Destination'.]
➡ Realization   from   AdminRoleManagerImpl to   Administrator
[Direction is 'Source -> Destination'.]
➡ Realization   from   CashSideEmployeeAdmin to   Administrator
[Direction is 'Source -> Destination'.]
➡ Realization   from   DiscountAdmin to   Administrator
[Direction is 'Source -> Destination'.]
➡ Realization   from   CashierAdmin to   Administrator
[Direction is 'Source -> Destination'.]

◆ doAdmin (operation : String , role : AdminStatus) : AdminStatus Public

[Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False.]

CashSideEmployee

Interface in package 'persons'

CashSideEmployee

Version 1.0   Phase 1.0   Proposed

邱依强 created on 2017/5/13. Last modified 2017/5/13

INCOMING STRUCTURAL RELATIONSHIPS

➡ Generalization   from   Administrator to   CashSideEmployee

[Direction is 'Source -> Destination'.]

➡ Generalization   from   Cashier to   CashSideEmployee

[Direction is 'Source -> Destination'.]

ATTRIBUTES

◆ emIdentity : EmIdentity   Private   = NULL
Alias: 员工身份

[Is static False. Containment is Not Specified.]

◆ employee : Employee   Private

[Is static False. Containment is Not Specified.]

Cashier

Interface in package 'persons'

Cashier

Version 1.0 Phase 1.0 Proposed

邱依强 created on 2017/5/13. Last modified 2017/5/13

Extends CashSideEmployee

OUTGOING STRUCTURAL RELATIONSHIPS

⬅ Generalization from Cashier to CashSideEmployee

[Direction is 'Source -> Destination'.]

INCOMING STRUCTURAL RELATIONSHIPS

➡ Realization from CashierImpl to Cashier

[Direction is 'Source -> Destination'.]

➡ Generalization from SelfCheckOutAdapter to Cashier

[Direction is 'Source -> Destination'.]

OPERATIONS

◆ createOrder () : Public

[Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False.]

SelfCheckOutAdapter

Interface in package 'persons'

SelfCheckOutAdapter

Version 1.0 Phase 1.0 Proposed

OUTGOING STRUCTURAL RELATIONSHIPS

⬅ Generalization from SelfCheckOutAdapter to Cashier

[Direction is 'Source -> Destination'.]

INCOMING STRUCTURAL RELATIONSHIPS

➡ Realization from SelfCheckOutAdapterImpl to SelfCheckOutAdapter

[Direction is 'Source -> Destination'.]

ATTRIBUTES

◆ customer : Customer Private

[Is static False. Containment is Not Specified.]

AdminStatus

Enumeration in package 'persons'

ATTRIBUTES

◆ systemAdmin : int Public

[Stereotype is «enum». Is static False. Containment is Not Specified.]

◆ cashierAdmin : int Public

[Stereotype is «enum». Is static False. Containment is Not Specified.]

ATTRIBUTES	
🔹 discountRuleAdmin : int Public	
	[Stereotype is «enum». Is static False. Containment is Not Specified.]
🔹 cashSideEmAdmin : int Public	
	[Stereotype is «enum». Is static False. Containment is Not Specified.]
🔹 privilegesInsufficient : int Public	
	[Stereotype is «enum». Is static False. Containment is Not Specified.]

4.4.6 security

Package in package 'beans'

<div align="right">

security

Version 1.0   Phase 1.0   Proposed

邱依强 created on 2017/5/13．Last modified 2017/5/13

</div>

LINKS TO OTHER PACKAGES	
🔙 PackageImport from 'persons' Package to 'security' Package	Direction: Source -> Destination

security diagram

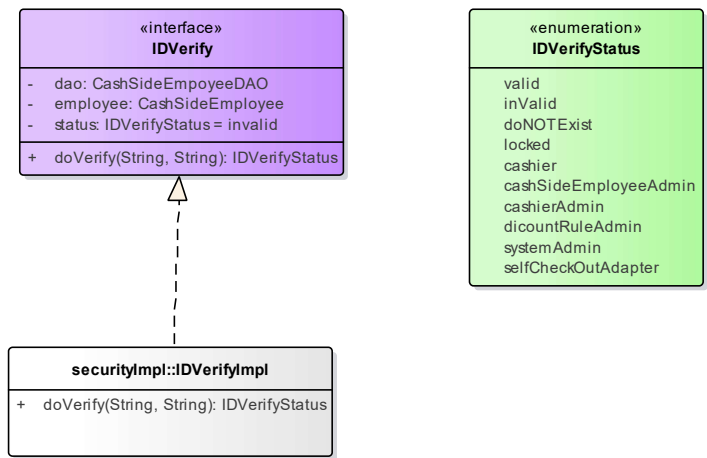Class diagram in package 'security'

<div align="right">

security

</div>

Figure 8:　　security

IDVerifyImpl

Class in package 'securityImpl'

OUTGOING STRUCTURAL RELATIONSHIPS
⬅ Realization from　IDVerifyImpl to　IDVerify [Direction is 'Source -> Destination'.]

OPERATIONS
◆ doVerify (userName : String , passWord : String) : IDVerifyStatus Public 　Alias:　进行验证 Properties: 　Implements = IDVerify.doVerify 　ImplementsGuid = {CA788DB7-F91A-4fd3-912E-C4342BF6C83C}

OPERATIONS
[Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False.]

securityImpl

Package in package 'security'

securityImpl

Version 1.0 Phase 1.0 Proposed

邱依强 created on 2017/5/14. Last modified 2017/5/14

IDVerifyImpl

Class in package 'securityImpl'

IDVerifyImpl

Version 1.0 Phase 1.0 Proposed

邱依强 created on 2017/5/14. Last modified 2017/5/14

OUTGOING STRUCTURAL RELATIONSHIPS
⬅ Realization from IDVerifyImpl to IDVerify
[Direction is 'Source -> Destination'.]

OPERATIONS
◆ doVerify (userName : String , passWord : String) : IDVerifyStatus Public
Alias: 进行验证
Properties:

OPERATIONS

Implements = IDVerify.doVerify

ImplementsGuid = {CA788DB7-F91A-4fd3-912E-C4342BF6C83C}

[Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False.]

IDVerify

Interface in package 'security'

IDVerify

Version 1.0   Phase 1.0   Proposed

邱依强 created on 2017/5/13. Last modified 2017/5/13

INCOMING STRUCTURAL RELATIONSHIPS

➡ Realization   from   IDVerifyImpl to   IDVerify

[Direction is 'Source -> Destination'.]

ATTRIBUTES

◆ dao : CashSideEmpoyeeDAO   Private

[Is static False. Containment is Not Specified.]

◆ employee : CashSideEmployee   Private

[Is static False. Containment is Not Specified.]

◆ status : IDVerifyStatus   Private   = invalid

[Is static False. Containment is Not Specified.]

OPERATIONS

◆ doVerify (userName : String , passWord : String) : IDVerifyStatus Public

OPERATIONS	
Alias: 进行验证	
	[Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False.]

IDVerifyStatus

Enumeration in package 'security'

ATTRIBUTES	
◆ valid : int Public	
Alias: 有效	
	[Stereotype is «enum». Is static False. Containment is Not Specified.]
◆ inValid : int Public	
Alias: 无效	
	[Stereotype is «enum». Is static False. Containment is Not Specified.]
◆ doNOTExist : int Public	
Alias: 不存在	
	[Stereotype is «enum». Is static False. Containment is Not Specified.]
◆ locked : int Public	
Alias: 已锁定	
	[Stereotype is «enum». Is static False. Containment is Not Specified.]
◆ cashier : int Public	
	[Stereotype is «enum». Is static False. Containment is Not Specified.]

ATTRIBUTES	第 60 页 / 共 68 页

◆ cashSideEmployeeAdmin : int   Public

[Stereotype is «enum». Is static False. Containment is Not Specified.]

◆ cashierAdmin : int   Public

[Stereotype is «enum». Is static False. Containment is Not Specified.]

◆ dicountRuleAdmin : int   Public

[Stereotype is «enum». Is static False. Containment is Not Specified.]

◆ systemAdmin : int   Public

[Stereotype is «enum». Is static False. Containment is Not Specified.]

◆ selfCheckOutAdapter : int   Public

[Stereotype is «enum». Is static False. Containment is Not Specified.]

4.5 controller

Package in package 'System'

<div align="right">

controller

Version 1.0   Phase 1.0   Proposed

邱依强 created on 2017/5/14．Last modified 2017/5/14

</div>

LINKS TO OTHER PACKAGES	
⬅ PackageImport from 'controller' Package to 'beans' Package	Direction: Source -> Destination

4.5.1 controller diagram

Class diagram in package 'controller'

<div align="right">

controller

Version 1.0

邱依强 created on 2017/5/14．Last modified 2017/5/14
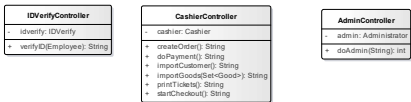
</div>

Figure 9:   controller

4.5.2 AdminController

Class in package 'controller'

AdminController

Version 1.0   Phase 1.0   Proposed

邱依强 created on 2017/5/14.   Last modified 2017/5/14

ATTRIBUTES
🔷 admin : Administrator   Private
[Is static False. Containment is Not Specified.]

OPERATIONS
🔶 doAdmin (operation : String) : int Public
[Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False.]

4.5.3 CashierController

Class in package 'controller'

CashierController

Version 1.0   Phase 1.0   Proposed

邱依强 created on 2017/5/14.   Last modified 2017/5/14

ATTRIBUTES
🔷 cashier : Cashier   Private
[Is static False. Containment is Not Specified.]

OPERATIONS
🔶 createOrder () : String Public
[Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False.]

OPERATIONS
🔶 doPayment () : String Public
[Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False.]
🔶 importCustomer () : String Public
[Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False.]
🔶 importGoods (goods : Set<Good>) : String Public
[Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False.]
🔶 printTickets () : String Public
[Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False.]
🔶 startCheckout () : String Public
[Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False.]

4.5.4 IDVerifyController

Class in package 'controller'

IDVerifyController

Version 1.0   Phase 1.0   Proposed

邱依强 created on 2017/5/14.   Last modified 2017/5/14

ATTRIBUTES
🔷 idverify : IDVerify   Private
[Is static False. Containment is Not Specified.]

OPERATIONS

OPERATIONS
◆ verifyID (employee : Employee) : String Public
[Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False.]

4.6 dao

Package in package 'System'

<div align="right">

dao

Version 1.0　Phase 1.0　Proposed

邱依强 created on 2017/5/13．Last modified 2017/5/13

</div>

LINKS TO OTHER PACKAGES	
⬅ PackageImport from 'beans' Package　to 'dao' Package	Direction:　Source -> Destination

4.6.1 dao diagram

Class diagram in package 'dao'

<div align="right">

dao

Version 1.0

邱依强 created on 2017/5/14．Last modified 2017/5/14

</div>

Figure 10:　dao

4.6.2 daoImpl

Package in package 'dao'

daoImpl

Version 1.0   Phase 1.0   Proposed

邱依强 created on 2017/5/14． Last modified 2017/5/14

4.6.3 CashSideEmpoyeeDAO

Interface in package 'dao'

CashSideEmpoyeeDAO

Version 1.0   Phase 1.0   Proposed

邱依强 created on 2017/5/14． Last modified 2017/5/14

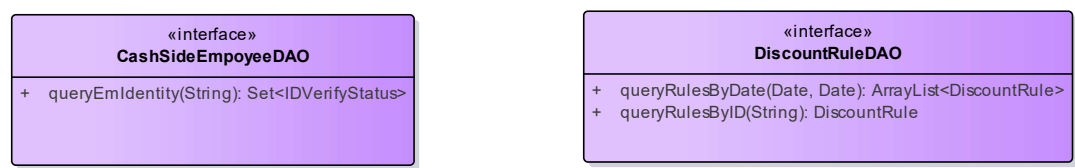| OPERATIONS |
| --- |
| ◆ queryEmIdentity (emID : String) : Set<IDVerifyStatus> Public
　　　　　[Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False.] |

4.6.4 DiscountRuleDAO

Interface in package 'dao'

DiscountRuleDAO

Version 1.0   Phase 1.0   Proposed

邱依强 created on 2017/5/14． Last modified 2017/5/15

OPERATIONS
◆ queryRulesByDate (startDate : Date , endDate : Date) : ArrayList<DiscountRule> Public

OPERATIONS
[Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False.]
queryRulesByID (ID : String) : DiscountRule Public [Is static False. Is abstract False. Is return array False. Is query False. Is synchronized False.]

5 外部依赖模型

5.1 Frameworks

Package in package 'Class Model'

<div align="right">

Frameworks

Version 1.0   Phase 1.0   Proposed

created on 2017/5/10.   Last modified 2017/5/10

</div>

5.1.1 Frameworks diagram

Class diagram in package 'Frameworks'

<div align="right">

Frameworks

Version 1.0

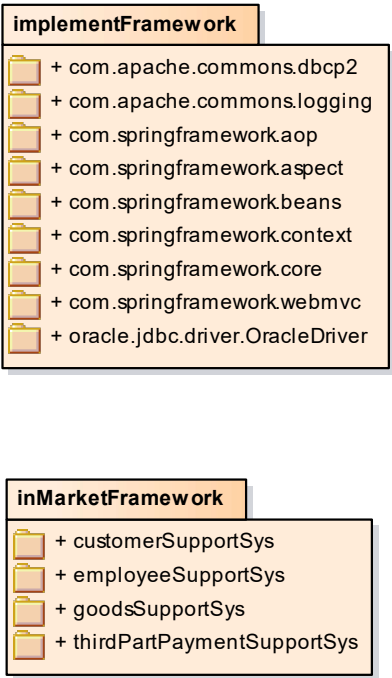邱依强 created on 2017/5/15. Last modified 2017/5/15

</div>

implementFramework
- + com.apache.commons.dbcp2
- + com.apache.commons.logging
- + com.springframework.aop
- + com.springframework.aspect
- + com.springframework.beans
- + com.springframework.context
- + com.springframework.core
- + com.springframework.webmvc
- + oracle.jdbc.driver.OracleDriver

inMarketFramework
- + customerSupportSys
- + employeeSupportSys
- + goodsSupportSys
- + thirdPartPaymentSupportSys

<div align="center">

Figure 11:   Frameworks

</div>