

1. Class “InterbankInterface”

<<interface>> InterbankInterface	
+ <<exception>> <i>payOrder(card : CreditCard, amount : int, contents : String) : PaymentTransaction</i> + <<exception>> <i>refund(card : CreditCard, amount : int, contents : String) : PaymentTransaction</i> + <<exception>> <i>getBalance(card : CreditCard) : int</i>	

Attribute

None

Operation

No	Name	Return type	Description (purpose)
1	payOrder	PaymentTransaction	Pay order, and then return the payment transaction
2	refund	PaymentTransaction	Refund, and then return the payment transaction
3	getBalance	int	Get the balance and then return it

Parameter:

- card – the credit card used for payment/refund
- amount –the amount to pay/refund
- contents – the transaction contents

Exception:

- PaymentException – if responded with a pre-defined error code
- UnrecognizedException – if responded with an unknown error code or something goes wrong

Method:

None

State

None

2. Class “PaymentController”

<<control>> PaymentController	
- card : CreditCard - interbank : InterbankInterface	
+ payOrder(amount : int, contents : String, cardNumber : String, cardHolderName : String, expirationDate : String, securityCode : String) : Map<String,String> - getExpirationDate(date : String) : String	

Attribute

No	Name	Data type	Default value	Description
1	card	CreditCard	NULL	Represent the card used for payment
2	interbank	InterbankInterface	NULL	Represent the Interbank subsystem

Operation

No	Name	Return type	Description (purpose)
1	payOrder	Map<String,String>	Pay order, and then return the result with a message

Parameter:

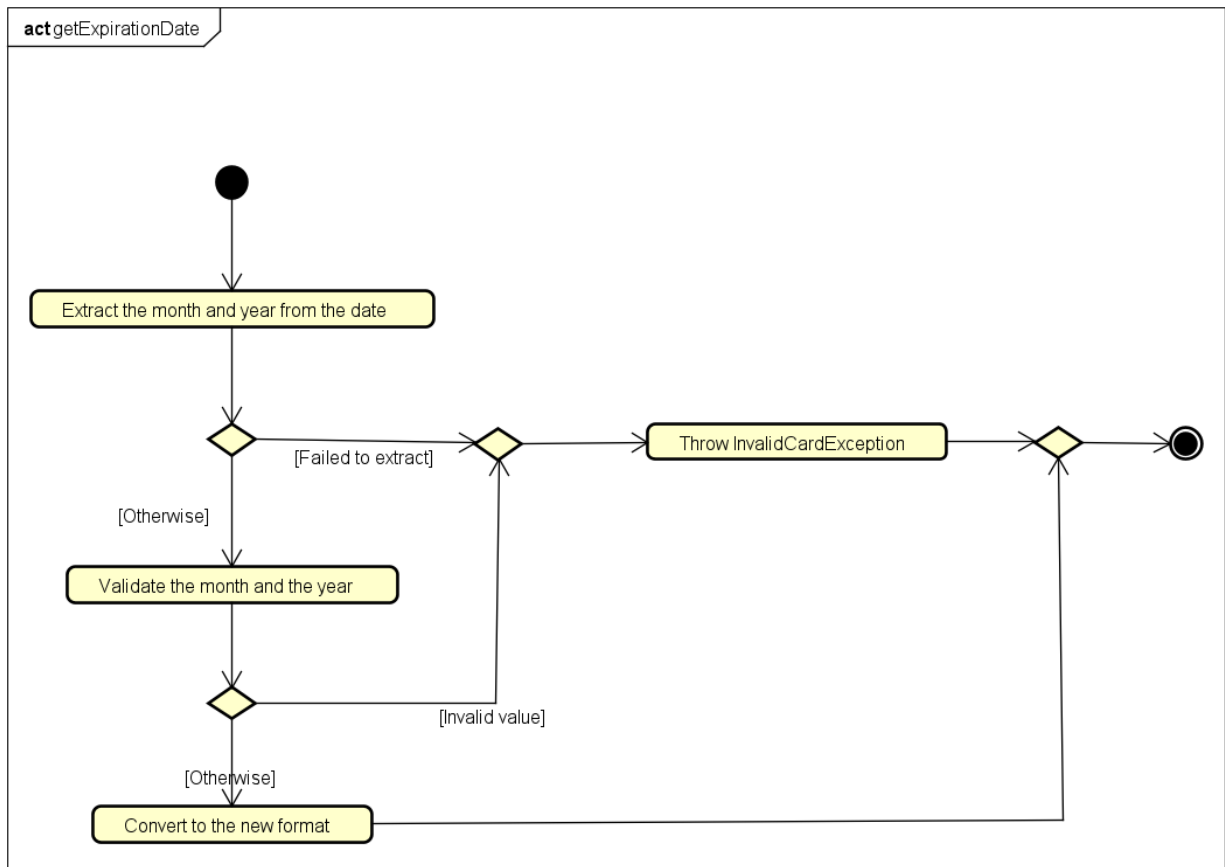
- amount – the amount to pay
- contents – the transaction contents
- cardNumber – the card number
- cardHolderName – the card holder name
- expirationDate – the expiration date in the format “mm/yy”
- securityCode – the cvv/cvc of the credit card

Exception:

- None

Method:

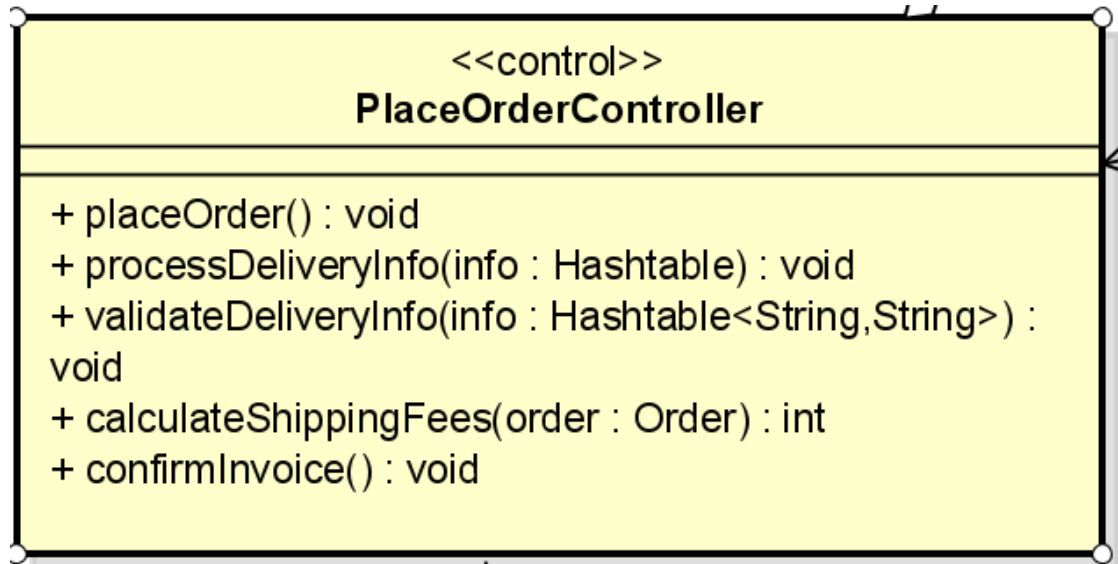
- getExpirationDate: Given the String “date” representing the expiration date in the format “mm/yy”, this method convert it into the required format “mmyy”. The algorithm is illustrated as follows.



State

None

3. Class “PlaceOrderController”



Attribute

None

Operation

No	Name	Return type	Description (purpose)
1	placeOrder	void	Place a new order
2	processDeliveryInfo	void	Process the delivery information
3	validateDeliveryInfo	void	Validate the delivery information
4	calculateShippingFees	Int	Calculate the shipping fees by the formula
5	confirmInvoice	void	Confirm the information of Invoice

Parameter

- Info : the information of delivery
- order : the information of order

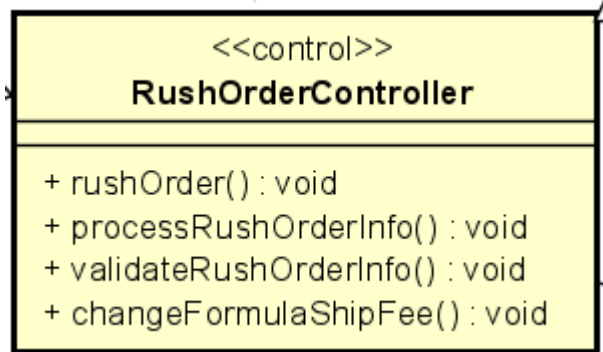
Exception

None

Method

None

4. Class “RushOrderController”



Attribute

None

Operation

No	Name	Return type	Description (purpose)
1	rushOrder	void	Place rush order , check if media and address are supported
2	processRushOrderInfo	void	Process the rush order information
3	validateRushOrderInfo	void	Validate the rush order information
4	changeFormulaShipFee	void	Change the formular of shipping fees

Parameter

None

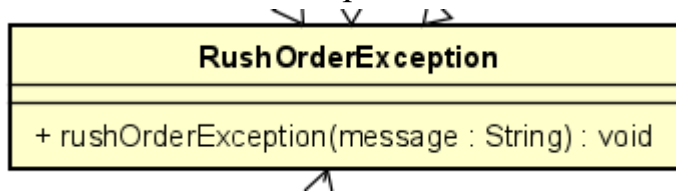
Exception

RushOrderException

Method

None

5. Class “RushOrderException”



Attribute

None

Operation

No	Name	Return type	Description (purpose)
1	rushOrderException	void	Exceptions of rush order

Parameter

- message : the different message of exception

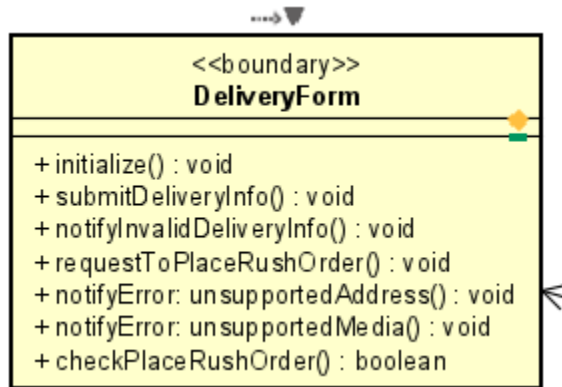
Exception

None

Method

None

6. Class “DeliveryForm”



Attribute

None

Operation

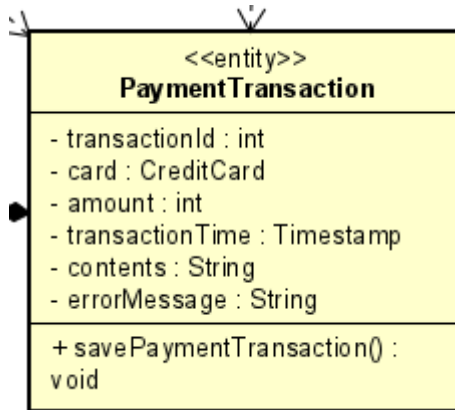
No	Name	Return type	Description (purpose)
1	initialize	void	Inititalize the delivery form
2	submitDeliveryInfo	void	Submit the delivery information
3	notifyInvalidDeliveryInfo	void	Notify that the delivery information is invalid
4	requestToPlaceRushOrder	void	Request to place rush order
5	notifyError: unsupportedAddress	void	Notify that the address is unsupported for rush order
6	notifyError: unsupportedMedia	void	Notify that the media is unsupported for rush order
7	checkPlaceRushOrder	Boolean	Check if user choose placing rush order

Parameter

Exception

Method

7. Class “PaymentTransaction”



Attribute

No	Name	Data type	Default value	Description
1	card	CreditCard	NULL	Represent the card used for payment
2	transactionId	int	NULL	Represent the id of transaction
3	amount	int	NULL	The amount to pay
4	transactionTime	Timestamp	NULL	Time of the transaction
5	contents	String	NULL	The transaction contents
6	errorMessage	String	NULL	The error message

Operation

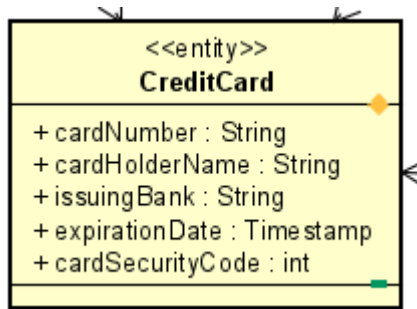
No	Name	Return type	Description (purpose)
1	savePaymentTransaction	void	Save the information of payment transaction

Parameter

Exception

Method

8. Class “CreditCard”



Attribute

No	Name	Data type	Default value	Description
1	cardNumber	String	NULL	Represent the number of card
2	cardHolderName	String	NULL	Represent the name of card holder
3	issuingBank	String	NULL	Represent name of issuing bank
4	expirationDate	Timestamp	NULL	Represent expiration date
5	cardSecurityCode	int	NULL	Represent the card security code

Operation

None

Parameter

None

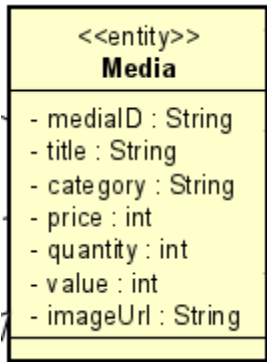
Exception

None

Method

None

9. Class “Media”



Attribute

No	Name	Data type	Default value	Description
1	mediaID	String	NULL	Represent ID of media
2	title	String	NULL	Represent title of media
3	category	String	NULL	Represent category of media
4	price	int	NULL	Represent cost of media
5	quantity	int	NULL	Represent quantity of media
6	value	int	NULL	Represent value of media
7	imageUrl	String	NULL	Represent the link url of media's image

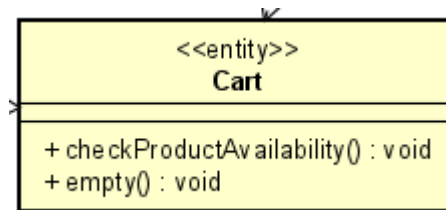
Operation

Parameter

Exception

Method

10. Class “Cart”



Attribute

Operation

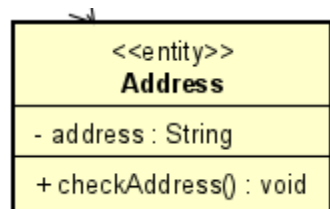
No	Name	Return type	Description (purpose)
1	checkProductAvailability	void	Check if media is availability
2	empty	void	Empty the cart after saving invoice

Parameter

Exception

Method

11. Class “Address”



Attribute

No	Name	Data type	Default value	Description
1	address	String	NULL	Represent the delivery address

Operation

No	Name	Return type	Description (purpose)
1	checkAddress	void	Check if address is supported for rush order

Parameter

Exception

Method

12.Class “DVD”

DVD
- discFormat : String - director : String - runtime : int - studio : String - subtitle : String - releasedDate : Date - discType : String

Attribute

No	Name	Data type	Default value	Description
1	discFormat	String	NULL	Represent the format of disc. eg: Bluray, HD-DVD
2	director	String		Director
3	runtime	int		Duration time
4	studio	String		Manufacturer
5	subtitle	String		Subtitle
6	releasedDate	DATE		Release date
7	discType	String		Genres, eg: comedy, action

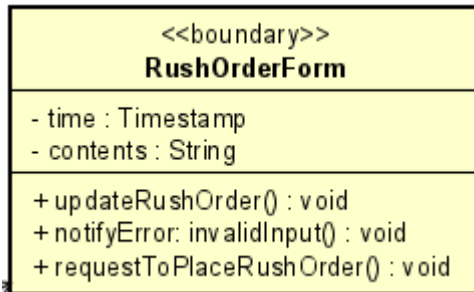
Operation

Parameter

Exception

Method

13.Class “RushOrderForm”



Attribute

No	Name	Data type	Default value	Description
1	time	Timestamp	NULL	Represent expected delivery time interval
2	contents	String	NULL	Represent note of customer

Operation

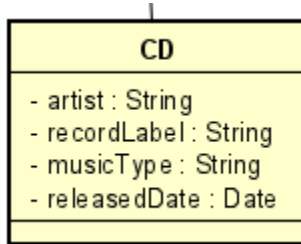
No	Name	Return type	Description (purpose)
1	updateRushOrder	void	Update the information of rush order
2	notifyError:invalidInput	void	Notify that the input is invalid
3	requestToPlaceRushOrder	void	Request to place rush order

Parameter

Exception

Method

14. Class “CD”



Attribute

No	Name	Data type	Default value	Description
1	artist	String	NULL	Artist's name
2	recordLabel	String	NULL	Record Label
3	musicType	String	NULL	Music genres (K-pop, US-UK..)
4	releasedDate	Date	NULL	Release date

Operation

Parameter

Exception

Method

15.Class “Book”

Book
<ul style="list-style-type: none">- author : String- coverType : String- publisher : String- publishDate : Date- numOfPages : int- language : String- bookType : String

Attribute

No	Name	Data type	Default value	Description
1	author	String	NULL	Author
2	coverType	String	NULL	Cover type
3	publisher	String	NULL	Publisher
4	publishDate	Date	NULL	Date of publishing
5	numOfPage	int	NULL	Number of page
6	language	String	NULL	Language
7	bookType	String	NULL	Genres (comics, picture book ...)

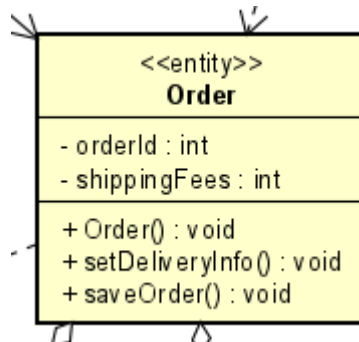
Operation

Parameter

Exception

Method

16. Class “Order”



Attribute

No	Name	Data type	Default value	Description
1	orderId	int	NULL	Represent Order Id
2	shippingFees	int	NULL	Represent shipping fees

Operation

No	Name	Return type	Description (purpose)
1	Order	void	create a order
2	setDeliveryInfo	void	set delivery information
3	saveOrder	void	save the information of order

Parameter

Exception

Method

17. Class “DeliveryFormHandler”



Attribute

Operation

No	Name	Return type	Description (purpose)
1	saveDeliveryInfor	void	Save Delivery Infor

Parameter

- delivery : DeliveryForm

Exception

Method

18. Class “NoSupportMediaException”



Attribute

Operation

No	Name	Return type	Description (purpose)
1	NoSupportMediaException	void	Notify that media is unsupported for rush order

Parameter

Exception

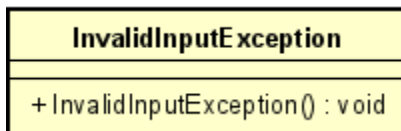
Method

19. Class “NoSupportAddressException”



Attribute**Operation**

No	Name	Return type	Description (purpose)
1	NoSupportAddressException	void	Notify that address is unsupported for rush order

Parameter**Exception****Method****20. Class “InvalidInputException”****Attribute****Operation**

No	Name	Return type	Description (purpose)
1	InvalidInputException	void	Notify that input is invalid

Parameter**Exception****Method**