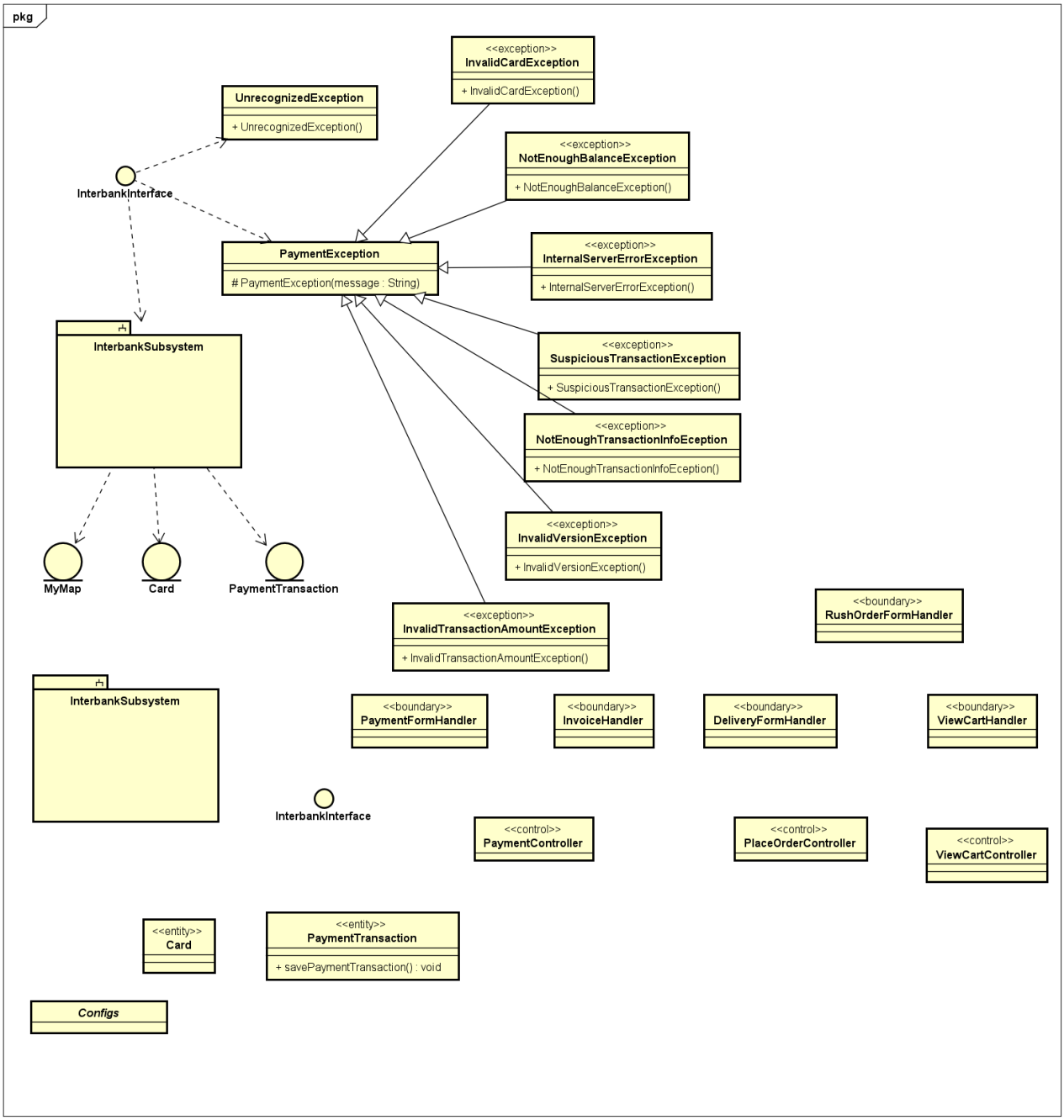
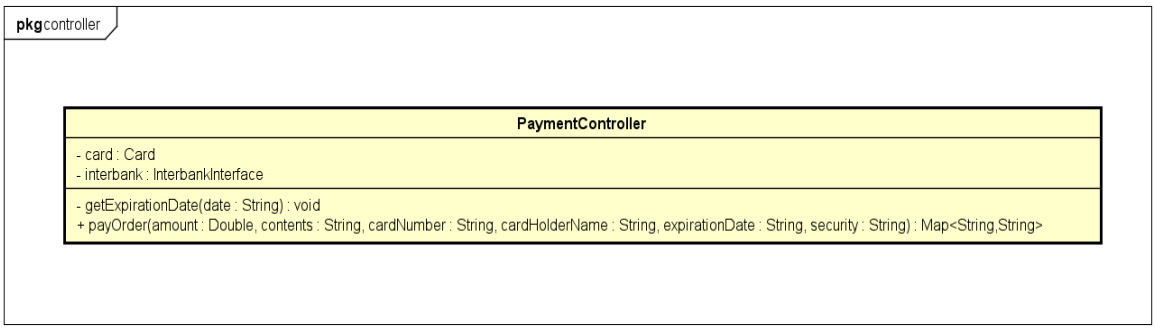
Class Design

1. Define relationships between classes



2. Class design

2.1. Class “PaymentController”



- **Attribute**

#	Name	Data type	Default value	Description
1	card	Card	NULL	Represent the card used for payment
2	interbank	InterbankInterface	NULL	Represent the interbank subsystem

- **Operation**

#	Name	Return type	Description
1	payOrder	Map<String,String>	Pay order and return the result with a message

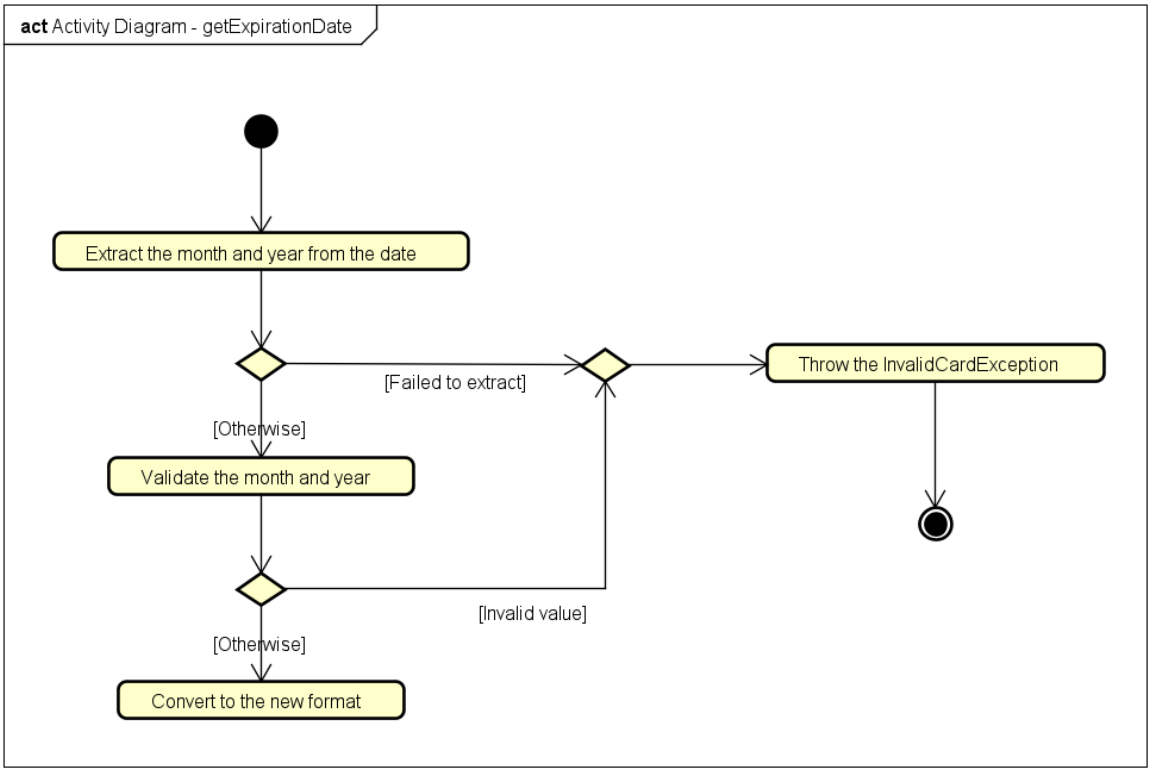
Parameter:

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

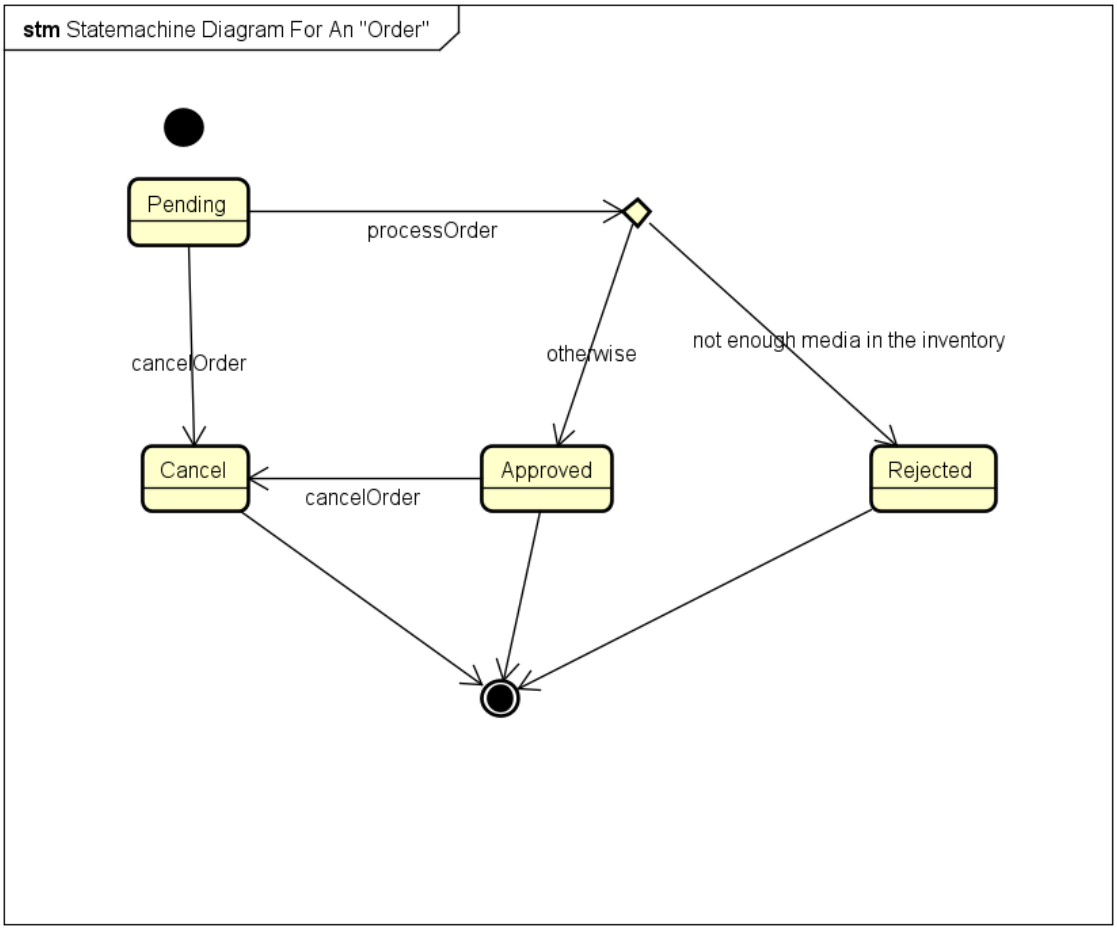
Exception:

- None

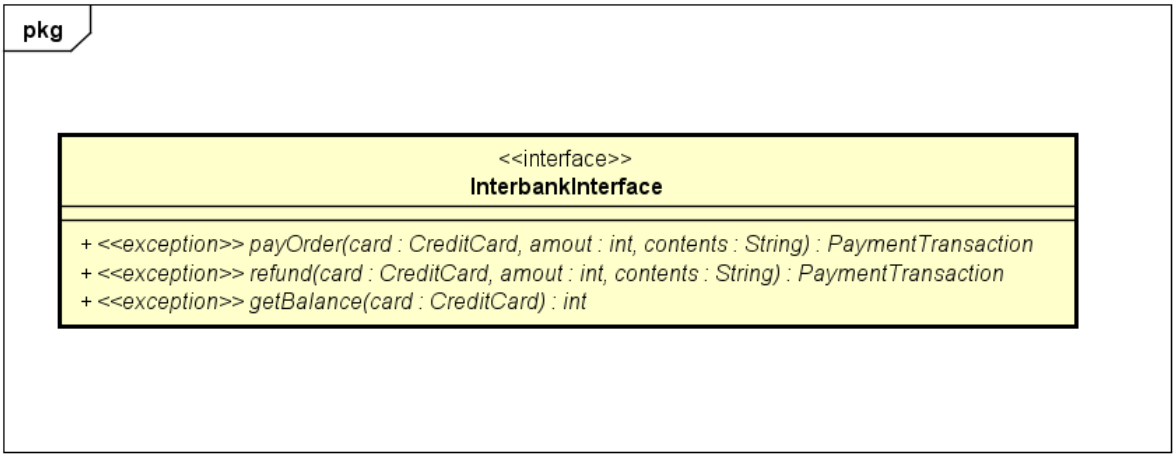
- **Method**
  - getExpirationDate: Given the String “date” representing the expiration date in the format “mm/yy”, this method converts it into the required format “mm//yy”. The algorithm is illustrated as follows:



- **State**



2.2. Class “InterbankInterface”



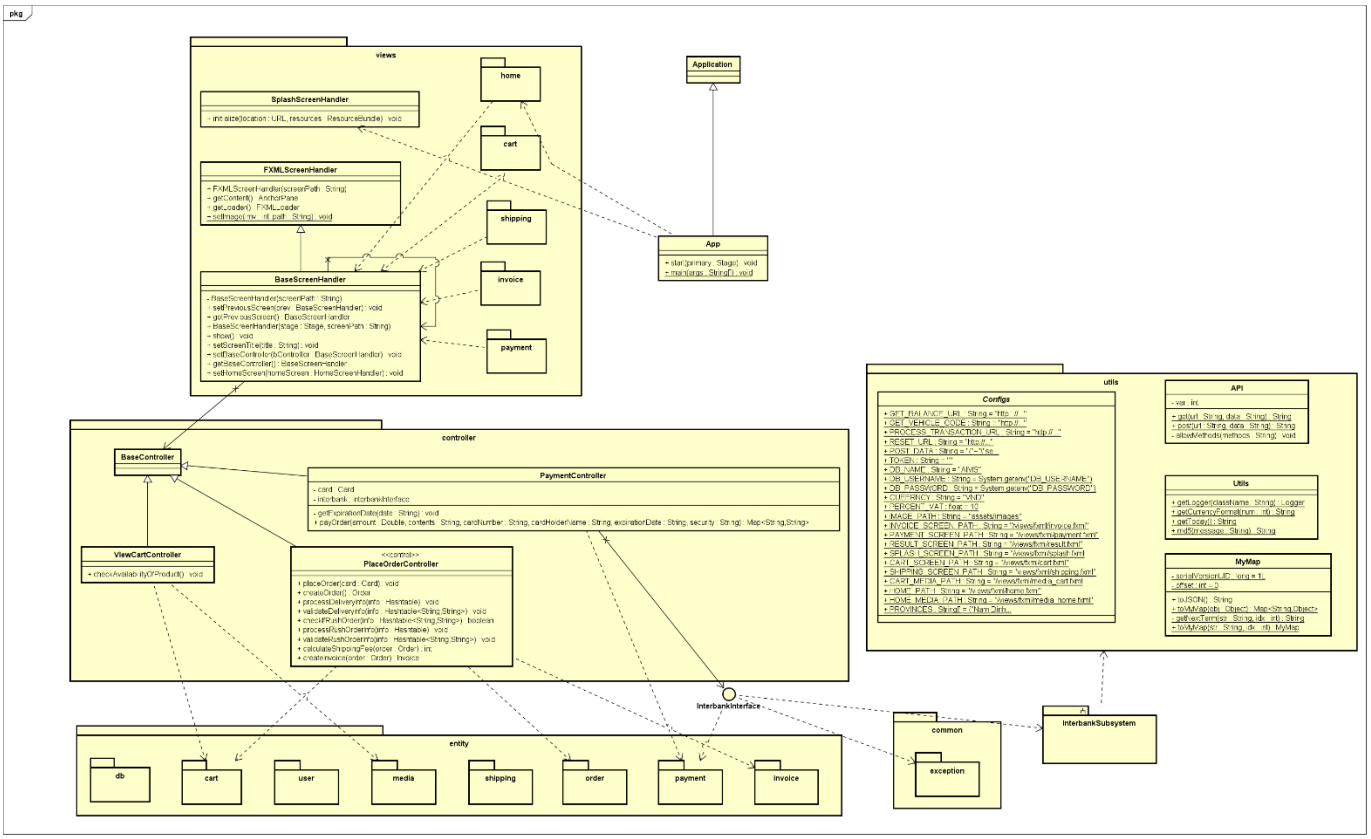
- **Attribute**
  None
- **Operation**

#	Name	Return type	Description
1	payOrder	Map<String,String>	Pay order and return the result with a message
2	refund	PaymentTransaction	Refund and then return the payment transaction
3	getBalance	int	Get the balance of the credit card and return the balance

  Parameter:
  - card: the credit card used
  - amount: the amount to pay/refund
  - contents: the transaction contents

  Exception:
  - PaymentExeption: if responded with a pre-defined error code
  - UnrecognizedException: if responded with an unknown error code or something goes wrong
- **Method**
  None
- **State**
  None

3. Class diagram


pkg
views
home
cart
shipping
invoice
payment
SplashScreenHandler
- init.size(location : URL, resources : ResourceBundle) : void
FXMLScreenHandler
- FXMLScreenHandler(screenPath : String)
- getContent() : AnchorPane
- getLoader() : FXMLLoader
- setImage(.mv, .rl_path : String) : void
BaseScreenHandler
- BaseScreenHandler(screenPath : String)
- setPreviousScreen(prev : BaseScreenHandler) : void
- getPreviousScreen() : BaseScreenHandler
- baseScreenHandler(stage : Stage, screenPath : String)
- show() : void
- setScreenTitle(title : String) : void
- setBaseController(bController : BaseScreenHandler) : void
- getBaseController() : BaseScreenHandler
- setHomeScreen(homeScreen : HomeScreenHandler) : void
Application
App
+ start(primary : Stage) : void
+ main(args : String[]) : void
controller
BaseController
PaymentController
- card : Card
- interbank : interbankInterface
- getExpirationDate(date : String) : void
+ payOrder(amount : Double, contents : String, cardNumber : String, cardHolderName : String, expirationDate : String, security : String) : Map<String,String>
ViewCartController
+ checkAvailabilityOfProduct() : void
<<control>>
PlaceOrderController
+ placeOrder(card : Card) : void
+ createOrder() : Order
+ processDeliveryInfo(info : Hashtable) : void
+ validateDeliveryInfo(info : Hashtable<String,String>) : void
+ checkRushOrder(info : Hashtable<String,String>) : boolean
+ processRushOrderInfo(info : Hashtable) : void
+ validateRushOrderInfo(info : Hashtable<String,String>) : void
+ calculateShippingFee(order : Order) : int
+ createInvoice(order : Order) : Invoice
utils
Configs
+ GET_BALANCE_URL : String = "http://..."
+ GET_VERSION_CODE : String = "http://..."
+ PROCESS_TRANSACTION_URL : String = "http://..."
+ RESET_URL : String = "http://..."
+ POST_DATA : String = "v="+"Yes"
+ TOKEN : String = ""
+ DB_NAME : String = "AIMS"
+ DB_USERNAME : String = System.getenv("DB_USERNAME")
+ DB_PASSWORD : String = System.getenv("DB_PASSWORD")
+ CURRENCY : String = "VND"
+ TEXCEN_VAT : float = 10
+ IMAGE_PATH : String = "/assets/images"
+ INVOICE_SCREEN_PATH : String = "/views/fxml/invoice.fxml"
+ PAYMENT_SCREEN_PATH : String = "/views/fxml/payment.fxml"
+ RESULT_SCREEN_PATH : String = "/views/fxml/result.fxml"
+ SPLASH_SCREEN_PATH : String = "/views/fxml/splash.fxml"
+ CART_SCREEN_PATH : String = "/views/fxml/cart.fxml"
+ SHIPPING_SCREEN_PATH : String = "/views/fxml/shipping.fxml"
+ CART_MEDIA_PATH : String = "/views/fxml/media_cart.fxml"
+ HOME_PATH : String = "/views/fxml/home.fxml"
+ HOME_MEDIA_PATH : String = "/views/fxml/media_home.fxml"
+ PROVINCES : String[] = {"Ham Binh...
API
- var : int
+ get(url : String, data : String) : String
+ post(url : String, data : String) : String
- allowMethods(methods : String) : void
Utils
+ getLogger(className : String) : Logger
+ getCurrencyFormat(num : int) : String
+ get(): String
+ md5(message : String) : String
MyMap
+ serialVersionUID : long = 1L
- offset : int = 3
+ toJSON() : String
+ toMap(obj : Object) : Map<String,Object>
- getFreeTerm(str : String, idx : int) : String
+ toMyMap(str : String, dv : int) : MyMap
InterbankInterface
InterbankSubsystem
common
exception
entity
db
cart
user
media
shipping
order
payment
invoice