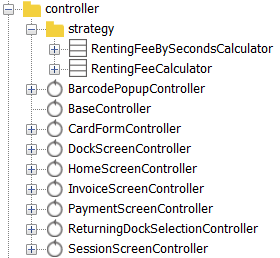
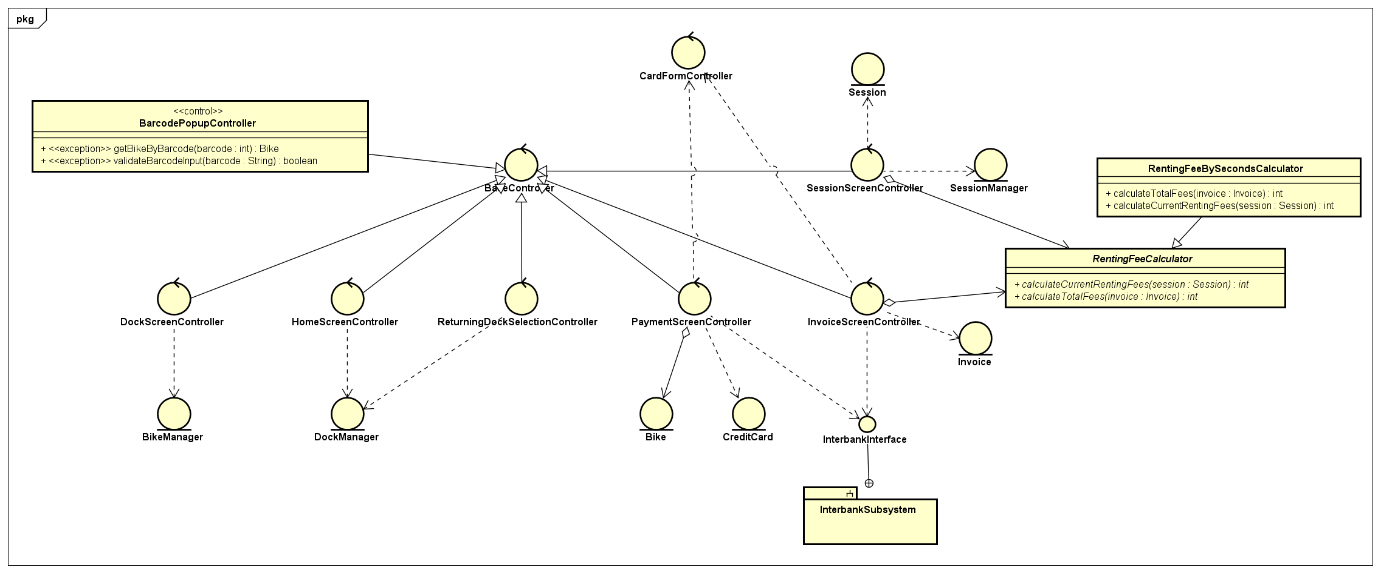
Class Design - Controller

# Create Initial Design Classes

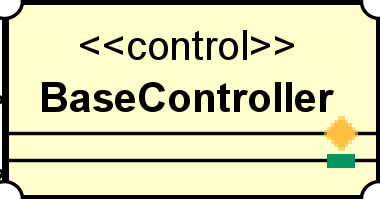


# Define Relationships Between Classes



# Class Design

## Class “BaseController”



**Attribute**

None

**Operation**

None

Parameter:

None

Exception:

None

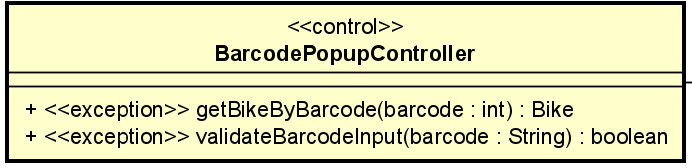
**Method**

None

**State**

None

## Class “BarcodePopupController”



**Attribute**

None

**Operation**

|  |  |  |  |
| --- | --- | --- | --- |
| # | Name | Return type | Desciption |
| 1 | getBikeByBarcode | Bike | Get bike by using barcode |
| 2 | ValidateBarcodeInput | boolean | Checks if barcode is entered or not |

Parameter:

barcode– int

Barcode - string

Exception:

BarcodeNotFoundException

NullBarcodeException

InvalidBarcodeException

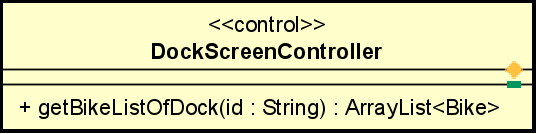
**Method**

None

**State**

None

## Class “DockScreenController”



**Attribute**

None

**Operation**

|  |  |  |  |
| --- | --- | --- | --- |
| # | Name | Return type | Desciption |
| 1 | getBikeListOfDock | ArrayList | Get bike list by using dock id |

Parameter:

Id – dock id

Exception:

None

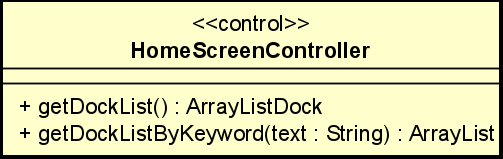
**Method**

None

**State**

None

## Class “HomeScreenController”



**Attribute**

None

**Operation**

|  |  |  |  |
| --- | --- | --- | --- |
| # | Name | Return type | Desciption |
| 1 | getDockList | ArrayList | Get dock list |
| 2 | getDockListByKeyword | ArrayList | Get dock list by keyword |

Parameter:

Text - keyword

Exception:

None

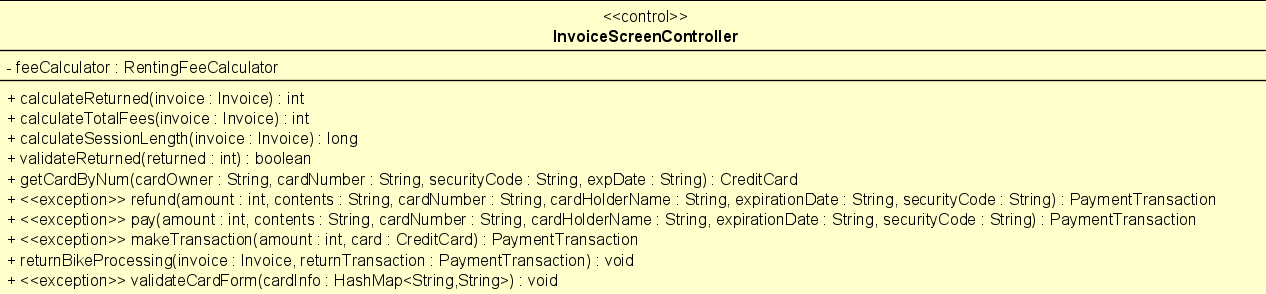
**Method**

None

**State**

None

## Class “InvoiceScreenController”



**Attribute**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| # | Name | Data type | Default value | Description |
| 1 | feeCalculator | RentingFeeCalculator | new RentingFeeBySecondsCalculator | calculate fee |

**Operation**

|  |  |  |  |
| --- | --- | --- | --- |
| # | Name | Return type | Desciption |
| 1 | calculateReturned | Int | Calculate returned after deducting renting fees |
| 2 | calculateTotalFees | Int | Calculate total fees |
| 3 | calculateSessionLength | long | Session length |
| 4 | refund | PaymentTransaction | Create return transaction |
| 5 | validateReturned | boolean | Check returned validity |
| 6 | getCardByNum | CreditCard | Get credit card info |
| 7 | refund | PaymentTransaction | Setup Return transaction |
| 8 | pay | PaymentTransaction | Setup transaction |
| 9 | makeTransaction | PaymentTransaction | Proceed transaction |
| 10 | validateCardForm | void | Check card form validity |

Parameter:

Invoice

Amount

Contents

CardNumber

CardOwner

ExpirationDate

SecurityCode

Returned

Exception:

PaymentException

NullCardNumberException

NullCardOwnerException

NullExpDateException

NullSecurityCodeException

CardExpiredException

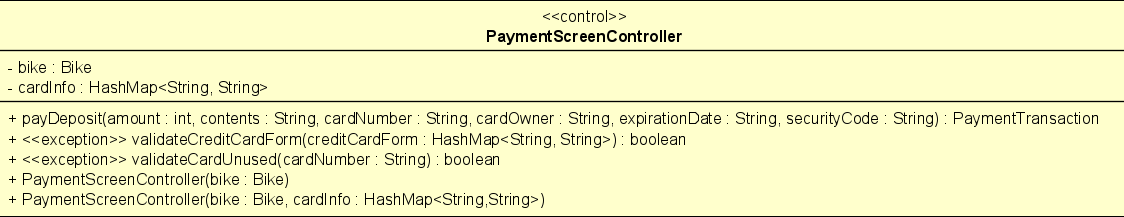
**Method**

None

**State**

None

## Class “PaymentScreenController”



**Attribute**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| # | Name | Data type | Default value | Description |
| 1 | bike | Bike | NULL | bike |
| 2 | cardInfo | HashMap<String, String> | NULL | Card info |

**Operation**

|  |  |  |  |
| --- | --- | --- | --- |
| # | Name | Return type | Desciption |
| 1 | payDeposit | PaymentTransaction | Set rent transaction |
| 2 | validateCreditCardForm | boolean | Check creditcard form |
| 3 | validateCardUnused | boolean | Check creditcard used or not |

Parameter:

Amount

Contents

CardNumber

CreditCardForm

CardInfo

Bike

Exception:

None

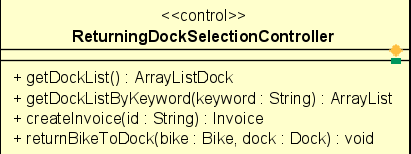
**Method**

None

**State**

None

## Class “ReturningDockSelectionController”



**Attribute**

None

**Operation**

|  |  |  |  |
| --- | --- | --- | --- |
| # | Name | Return type | Desciption |
| 1 | getDockList | ArrayList<Dock> | Get dock list |
| 2 | getDockListByKeyWord | ArrayList<Dock> | Get dock list by keyword |
| 3 | createInvoice | Invoice | Create new invoice |
| 4 | returnBikeToDock | void | Return bike to the chosen dock |

Parameter:

Keyword

Id

Bike

Dock

Exception:

None

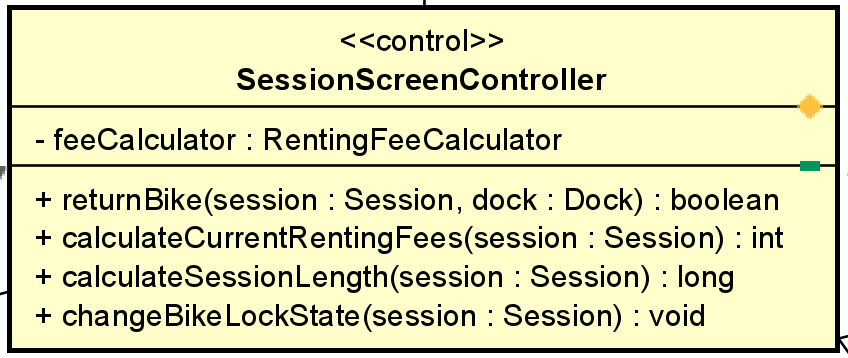
**Method**

None

**State**

None

## Class “SessionScreenController”



**Attribute**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| # | Name | Data type | Default value | Description |
| 1 | feeCalculator | RentingFeeCalculator | new RentingFeeBySecondsCalculator | calculate fee |

**Operation**

|  |  |  |  |
| --- | --- | --- | --- |
| # | Name | Return type | Desciption |
| 1 | returnBike | boolean | Check if bike is available |
| 2 | calculateCurrenRentingFees | int | Calculate current renting fees |
| 3 | calculateSessionLength | long | Calculate session length |
| 4 | changeBikeLockState | void | Change bike lock state |

Parameter:

Session

Dock

Exception:

None

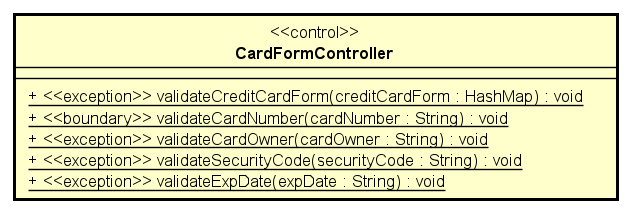
**Method**

None

**State**

None

## Class “CardFormController”



**Attribute**

None

**Operation**

|  |  |  |  |
| --- | --- | --- | --- |
| # | Name | Return type | Desciption |
| 1 | validateCreditCardForm | void | Check if card is valid |
| 2 | validateCardNumber | void | Validate card number |
| 3 | validateCardOwner | void | Validate card owner |
| 4 | validateSecurityCode | void | Validate security code |
| 5 | validateExpDate | void | Validate exp date |

Parameter:

CreditCardForm

CardNumber

CardOwner

SecurityCode

expDate

Exception:

None

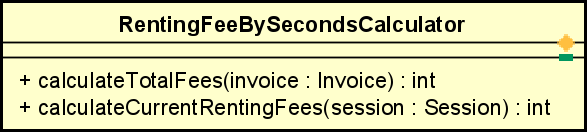
**Method**

None

**State**

None

## Class “RentingFeeBySecondsCalculator”



**Attribute**

None

**Operation**

|  |  |  |  |
| --- | --- | --- | --- |
| # | Name | Return type | Desciption |
| 1 | calculateTotalFees | int | Calculate total fees |
| 2 | calculateCurrentRentingFees | int | Calculate current renting fees |

Parameter:

Invoice

session

Exception:

None

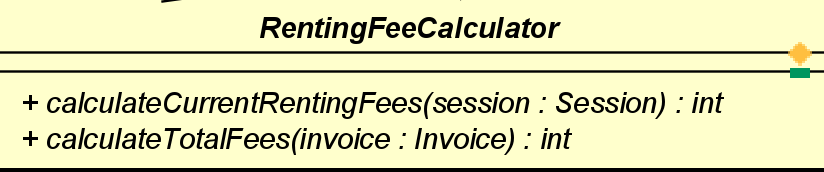
**Method**

None

**State**

None

## Class “RentingFeeCalculator”



**Attribute**

None

**Operation**

|  |  |  |  |
| --- | --- | --- | --- |
| # | Name | Return type | Desciption |
| 1 | calculateTotalFees | int | Calculate total fees |
| 2 | calculateCurrentRentingFees | int | Calculate current renting fees |

Parameter:

Invoice

session

Exception:

None

**Method**

None

**State**

None

# Class Diagram

