Class Design

1. Create Initial Design Classes

```
Return
  common
    exception
    type
      Map
      String
      Timestamp
  controller
    bike
      BikeScreenController
      DockScreenController
    rent
    return
      InvoiceScreenController
      SessionScreenController
    BarcodeController
    HomeScreenController
    SplashScreenController
  interbank
    exception
    InterbankSubsystem
    InterbankInterface
  model
    bike
    dock
    invoice
    payment

  model
    bike
    dock
    invoice
    payment
    rent
    session
      Session
  view
    bike
      BikeScreenHandler
      DockScreenHandler
    rent
      PaymentConfirmationHandler
      PaymentScreenHandler
    return
      InvoiceScreenHandler
      SessionScreenHandler
    HomeScreenHandler
    SplashScreenHandler
  Class Diagram
  Class Diagram - Bike
  Class Diagram - Rent
  Class Diagram - Return
  Unify Class Diagram
```
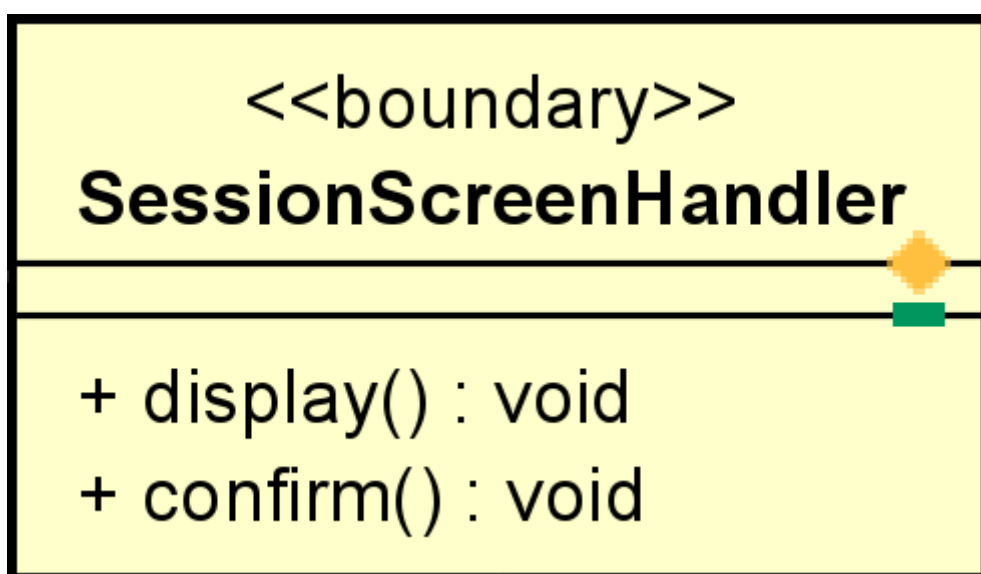
2. Define Relationships Between Classes
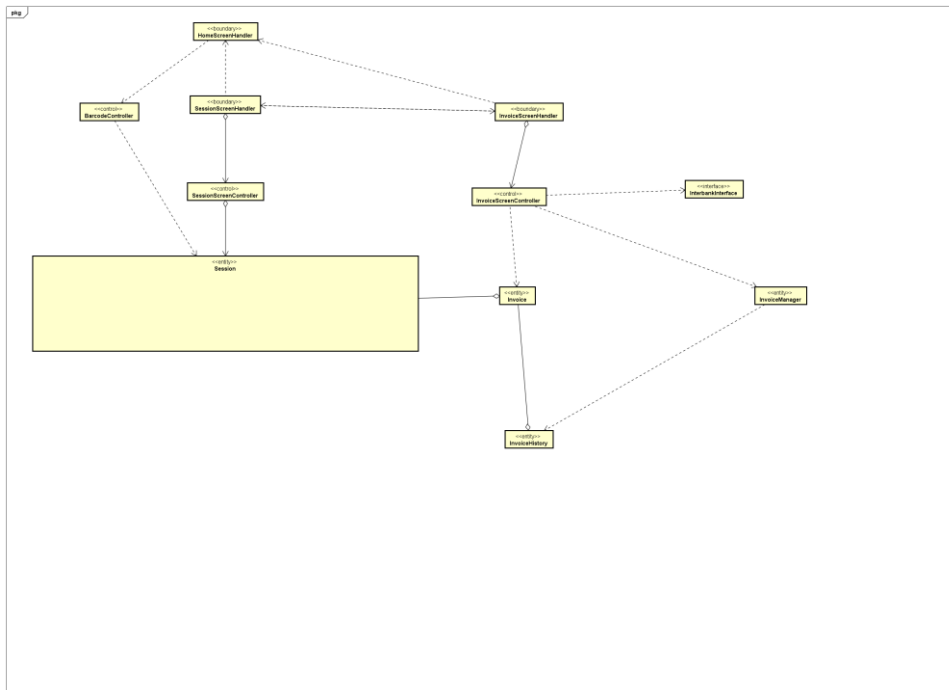
3. Class Design

3.1. Class "SessionScreenHandler"

Attribute

None

Operation

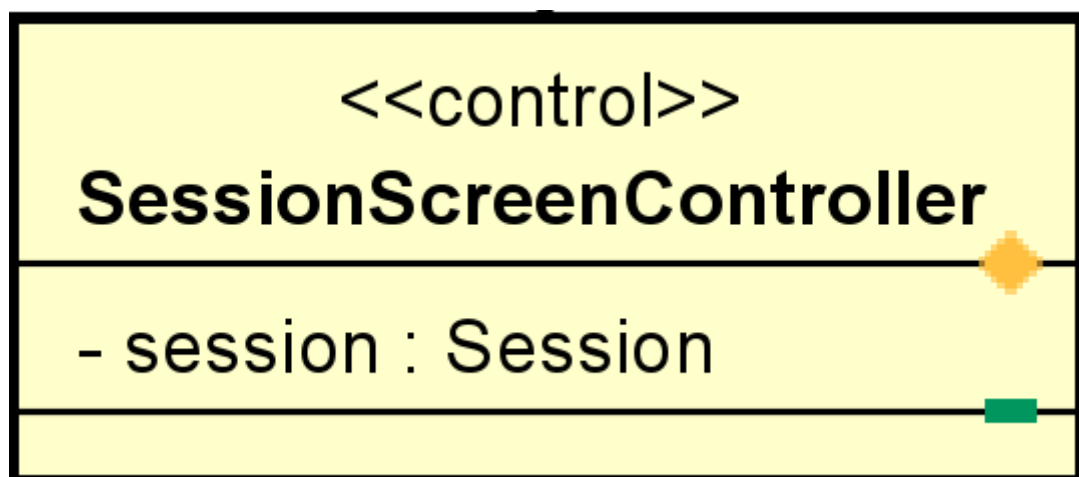| #	Name	Return type	Desciption
1	display	void	Display renting session
2	confirm	void	Handler for user to move to invoice screen

Parameter:

　　　None

Exception:

　　　None

Method

　　　None

State

　　　None

3.2. Class "SessionScreenController"

Attribute

#	Name	Data type	Default value	Description
1	session	Session	NULL	Renting Session

Operation

    None

Parameter:

    None

Exception:

    None

Method

    None

State

    None

3.3. Class "Session"
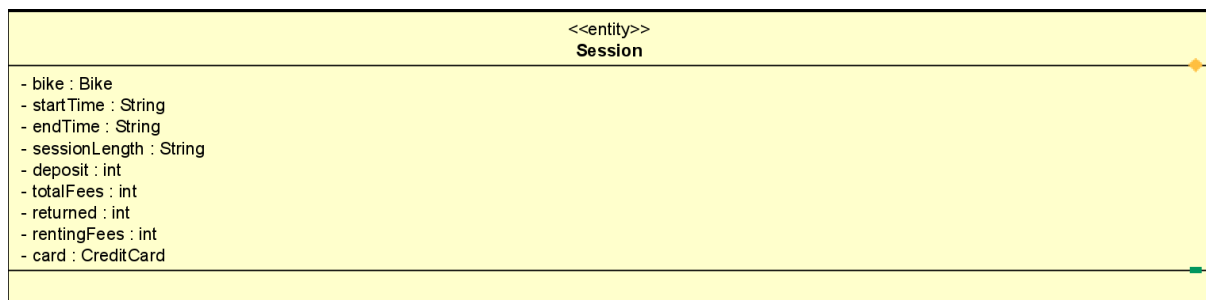
Attribute

#	Name	Data type	Default value	Description
1	bike	Bike	NULL	Bike info
2	startTime	String	NULL	Renting start time
3	endTime	String	NULL	Renting end time
4	sessionLength	String	NULL	Renting length time
5	totalFees	int	0	total price
6	deposit	int	0	deposit
7	returned	Int	0	Returned money
8	rentingFees	int	0	Renting Fee
9	card	CreditCard	NULL	Credit card info

Operation

      none

Parameter:

      none

Exception:

      None

Method

      None

State

      None

3.4. Class "InvoiceScreenHandler"
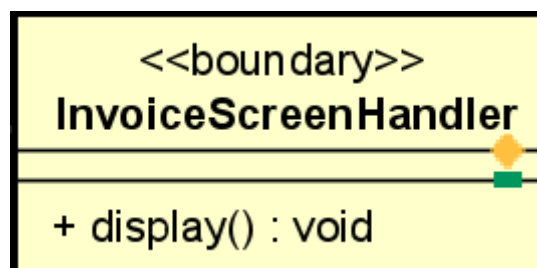
Attribute

      None

Operation

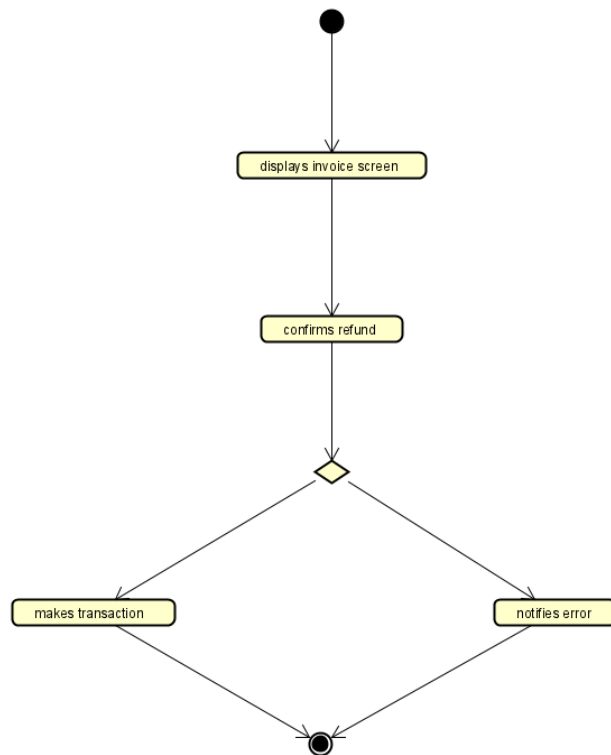| #	Name	Return type	Desciption
1	display	void	Display invoice

Parameter:

      None

Exception:

      InternalServerErrorException

Method

      None

State

3.5. Class "InvoiceScreenController"
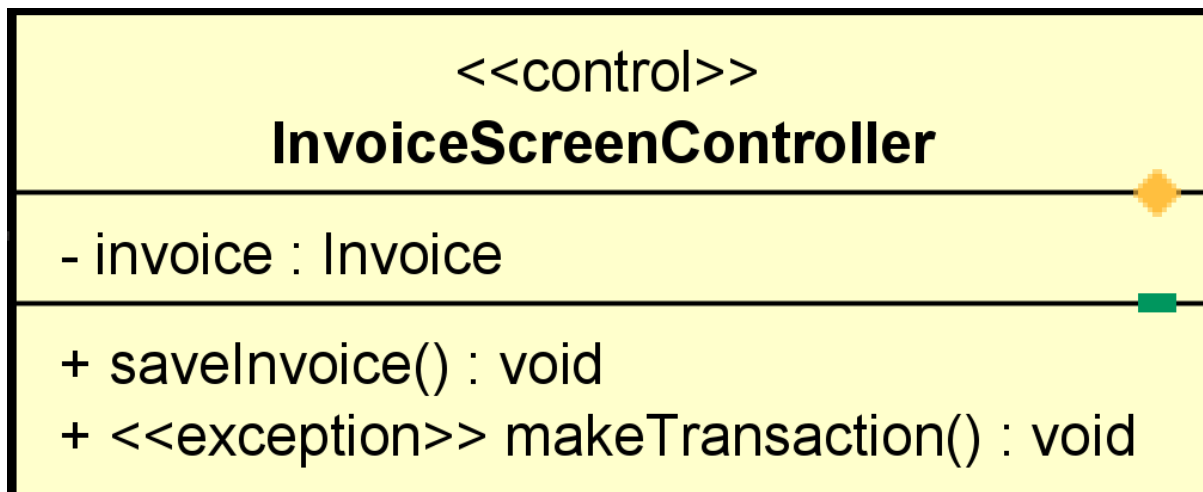
Attribute

#	Name	Data type	Default value	Description
1	invoice	Invoice	NULL	Invoice info

Operation

#	Name	Return type	Desciption

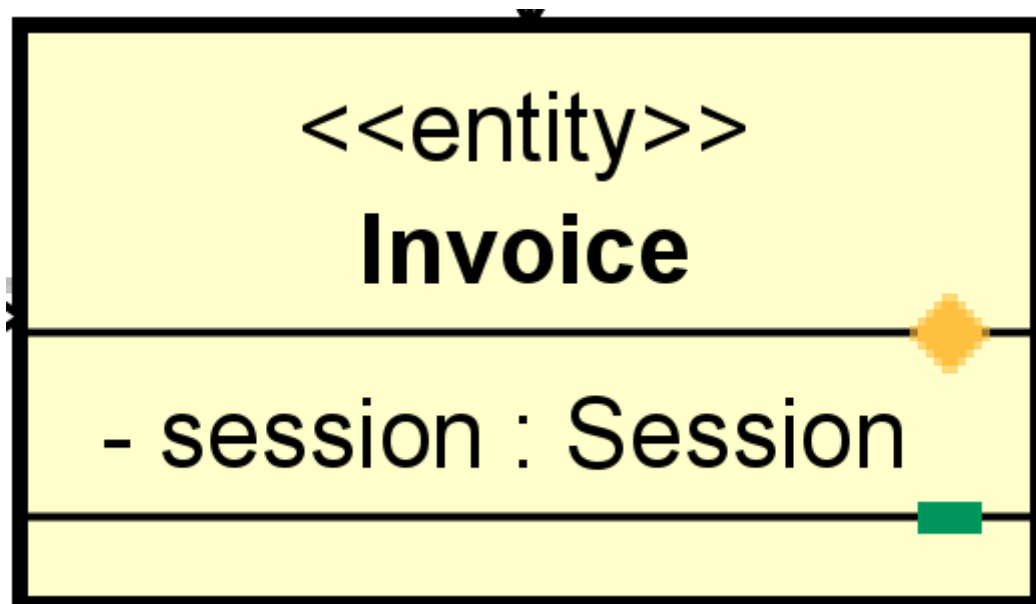| 1 | saveInvoice | void | Save invoice history |
| 2 | makeTransaction | void | Make transaction |

Parameter:

None

Exception:

None

Method

None

State

None

3.6. Class "Invoice"

Attribute

#	Name	Data type	Default value	Description
1	session	Session	NULL	Invoice info

Operation

None

Parameter:

None

Exception:

None

Method

   None

State

   None

3.7. Class "InvoiceManager"
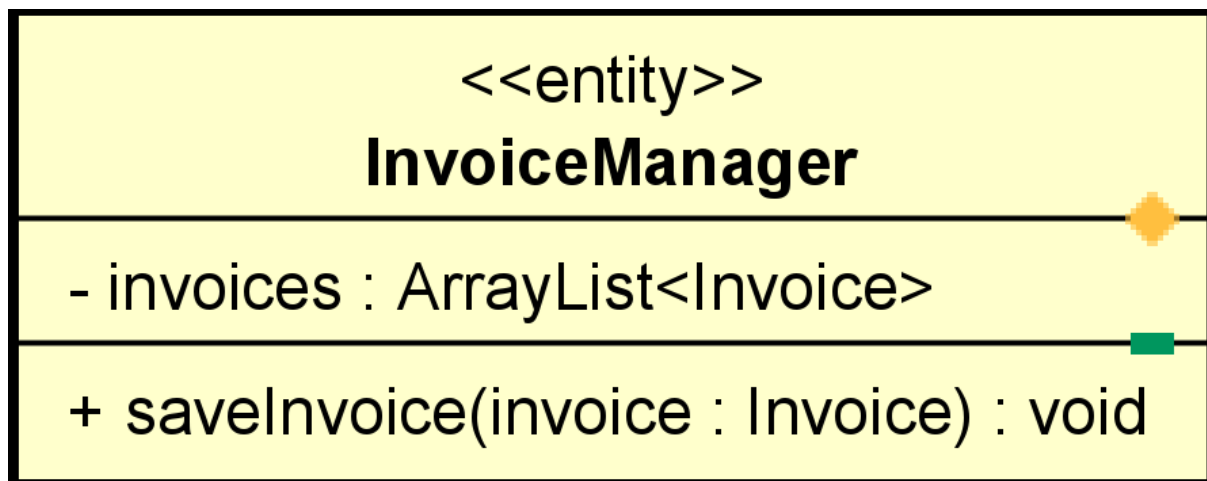
Attribute

#	Name	Data type	Default value	Description
1	invoices	ArrayList	Empty array	List invoices

Operation

#	Name	Return type	Desciption
1	saveInvoice	void	Save invoice history

Parameter:

   None

Exception:

   None

Method

   None

State

   None

4. Class Diagram