**Software design assignments Week of 02/05**

Software methodology to be used : Reuse Oriented Software Engineering (ROSE).

**Context model**

Financial institution

Process payments

Property manager

Tenant

Rent collection system

Invoice and receive payments Processes rent

payments

Rent payment

Collects rent

Inquire payments and receive reminders about rent payments

**Interaction models**

use case

Sequence diagrams

Landlord views rent payment status and generates report

Landlord system

Logs in

Views rent payment status

Generates rent payment

Reports

Updates rent payment report

Tenant pays rent

Tenant system payment gateway

Log in

Display rent amount

Selects payment method

Enter payment details

Confirm payment

Process payment

Authorizes payment

Payment success

Update payment status

Payment receipt

|  |
| --- |
| Property |
| -id : int  -address : string  -rentAmount : float  -tenants : List<Tenants> |
| +addTenant()  +removeTenant()  +getTenants()  +getTotalRent()  +getLatePayments()  +generateInvoice() |

**Structural models : class diagrams**

|  |
| --- |
| Tenant |
| -id : int  -name : string  -phone number : string |
| +makePayment()  +getBalance()  +getPaymetHistory() |

|  |
| --- |
| Invoice |
| -id : int  -totalAmount : float  --dueDate : Date |
| +getTotalAmount()  +getDueDate() |

|  |
| --- |
| Payment |
| -id : int  -amount : float  -date : Date |
| +confirmPayment() |

Behavioral models

Tenant

Tenant enters their login credentials

Software displays the login page

Tenant accesses the software

S/w logs the tenant out

Tenant logs out

S/w displays confirmation of payment

DB returns confirmation of payment

DB processes payment and updates it

Tenant selects payment option and enters payment info

S/w displays payment information

Tenant requests to make a payment

S/w displays the property’s payment info

Tenant selects a property to view it’s payment information

S/w displays the tenant’s rental information

DB returns the tenant’s rental information

S/w verifies tenant’s credentials from DB

Landlord

Landlord enters their login credentials

Software displays the login page

Landlord accesses the software

S/w displays rental info

S/w returns rental info

S/w retrieves payment information

S/w displays the property’s payment info

Landlord selects a property to view it’s payment information

S/w displays the rental information

S/w verifies landlord’s credentials from DB

DB returns rental information

S/w generates a report of rental information for a specific date

DB returns confirmation of payment

S/w logs the tenant out

S/w displays confirmation of payment

Tenant logs out