

# Property Management System

## Deliverable 7: Testing Document

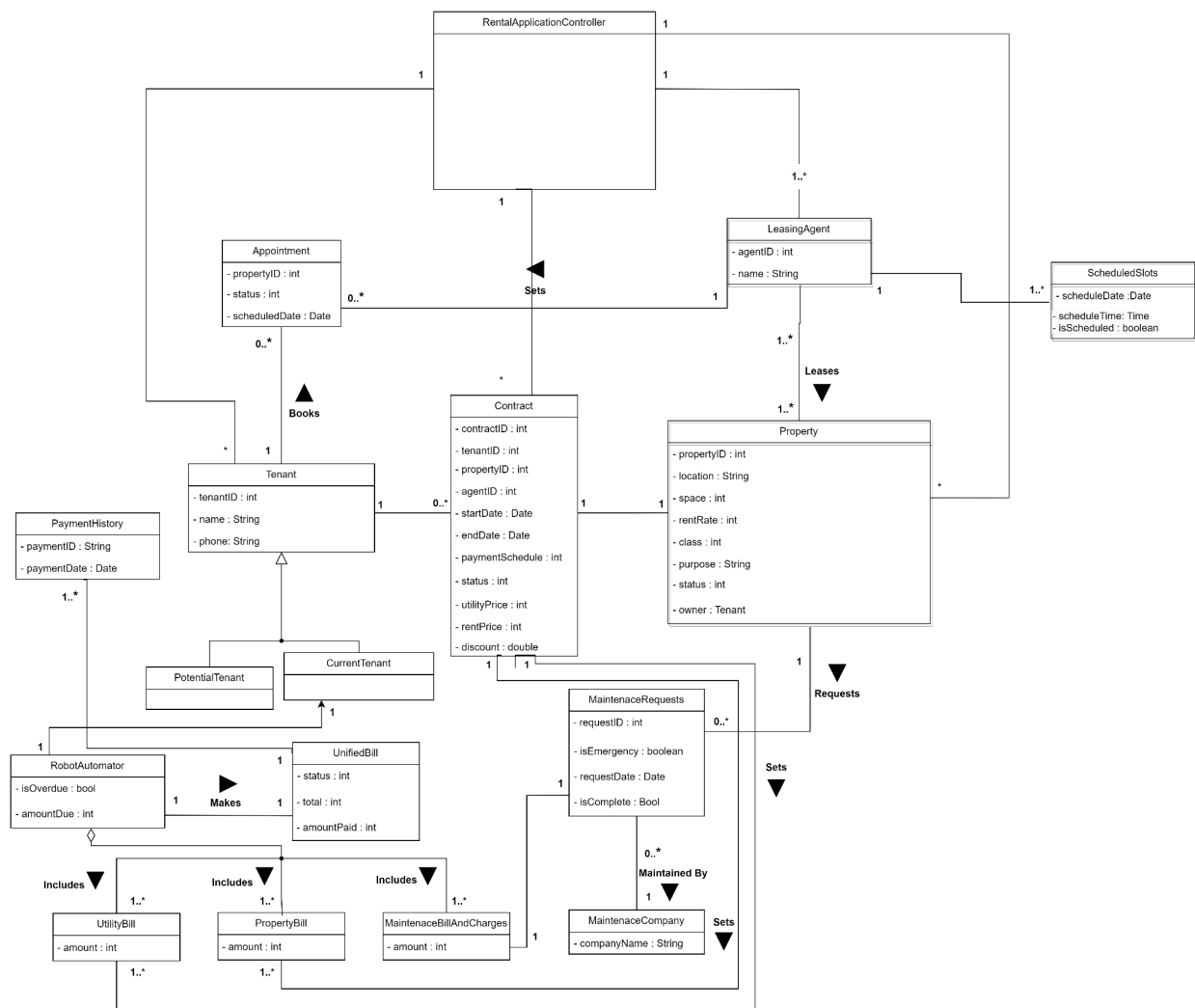
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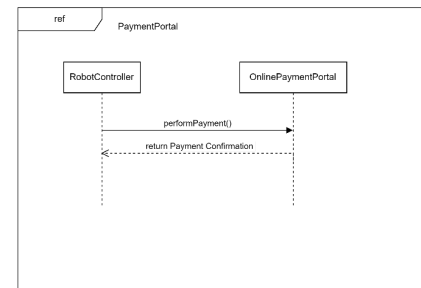
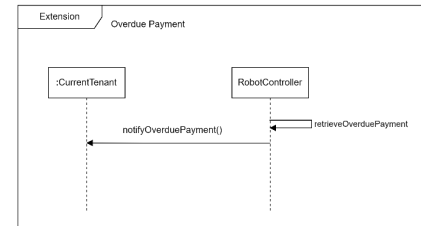
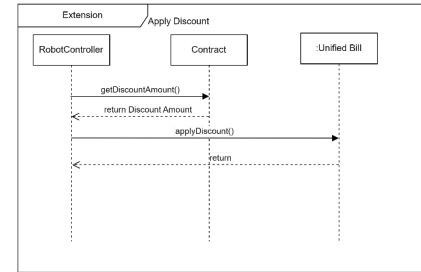
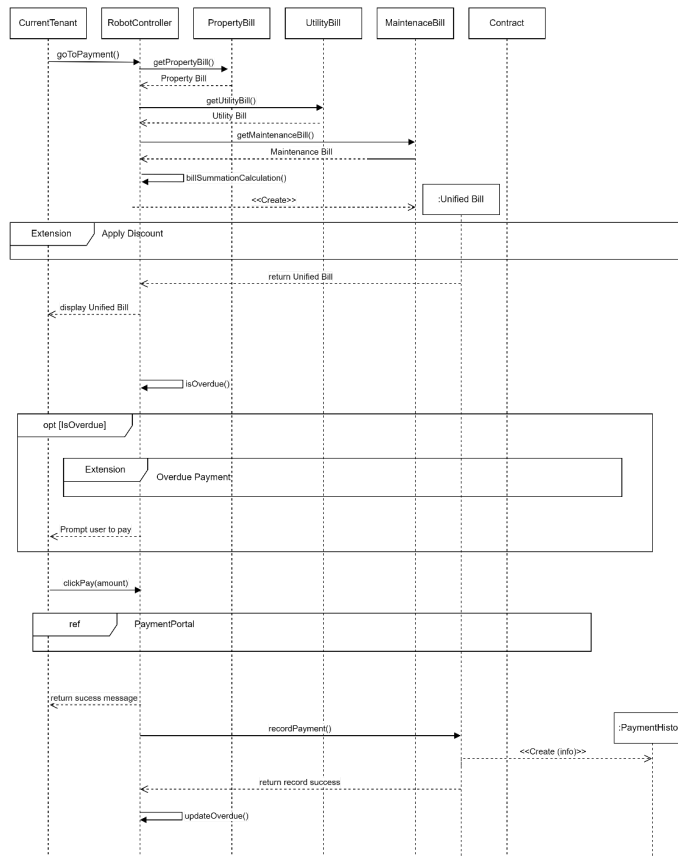
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## Updated Domain Model



# Updated Sequence Diagram





**BlackBox Test Cases**

Test Cases	Description	Expected Outcome	Errors	Tags Covered
1	Amount: 5 Overdue: True	Accepted Payment	N/A	V1, V2, V3, V4
2	Amount: 1 Overdue: True	Accepted Payment	N/A	V1, V2, V3, V4, B1
3	Amount: 100000 Overdue: False	Accepted Payment	N/A	V1, V2, V3, V4, B2
4	Amount: -1 Overdue: True	Invalid Amount	Cannot be negative amount	X1, V4
5	Amount: 100001 Overdue: False	Invalid Amount	Cannot be amount greater than 100,000	X2, V5, D2
6	Amount: 0 Overdue: True	Invalid Amount	Amount cannot be 0	X3, V4, D1
7	Amount: 0 Overdue: Null	Invalid Amount	Overdue has an error (value is null)	X4
8	Amount: a Overdue: True	Invalid Amount	Value must be a number	X3, V4

## Whitebox Testing

### Multiple Condition Coverages (MCC):

#### Criterion:

1. Payment Amount
2. Overdue

Test Case Number	Payment Amount	Overdue	Payment Made	Error States
1	Yes	Yes	Yes	No
2	Yes	No	No	Yes
3	No	Yes	No	Yes
4	No	No	No	Yes

Please Note: When Overdue is “Yes”, that implies that it is valid, meaning it could be yes or no. If Overdue is “No”, that means that it is null for a certain reason.





## Entry/Exit Criterion

<u>Entry</u>	<u>Exit</u>
User selects the “Make Payment” Button	User is taken from the Main Menu to the Payment Page
User selects “Pay” Button	User is taken from the Payment Page to the Payment Portal
User enters amount and presses “Pay” Button	Pop shows that the user has successfully filed a payment and the payment history updates
User presses “View Payment History”	A new frame shows all the previous payments done by the user
User presses “Check Overdue”	System checks the current time to see if the payment is overdue or not

## Definitions

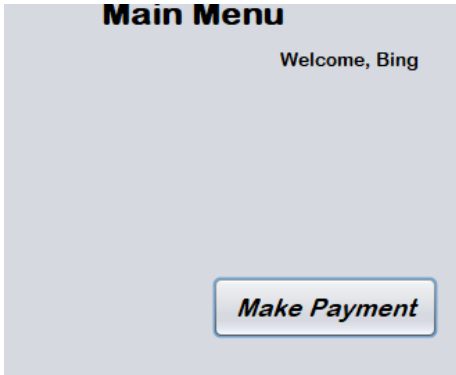
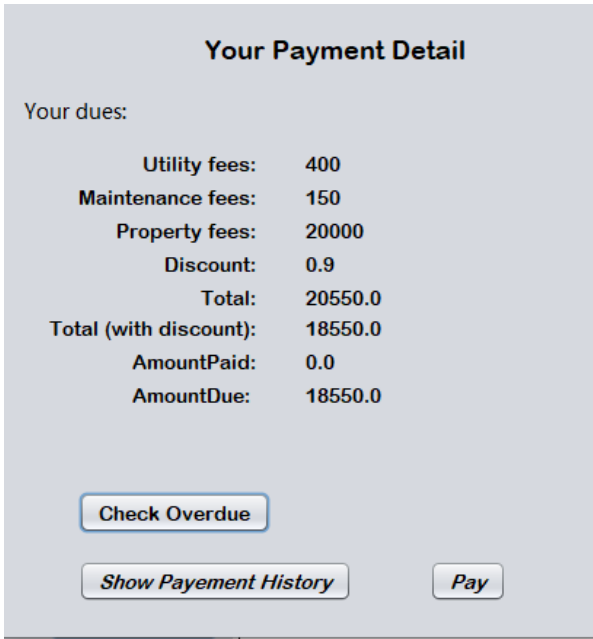
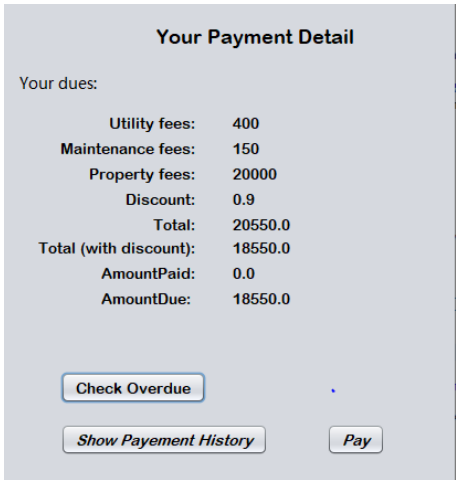
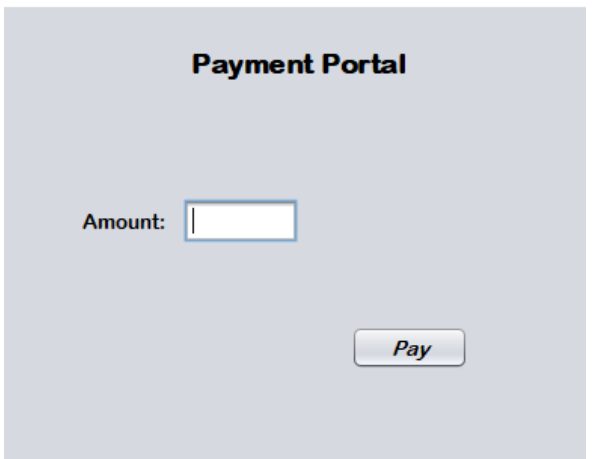
### Valid Data:

- Input for payment should be between 1 and 100,000.
- Payment History can only be viewed if payment has been previously made
- Overdue status will change to “Overdue” once the current time passes the end Date assigned.

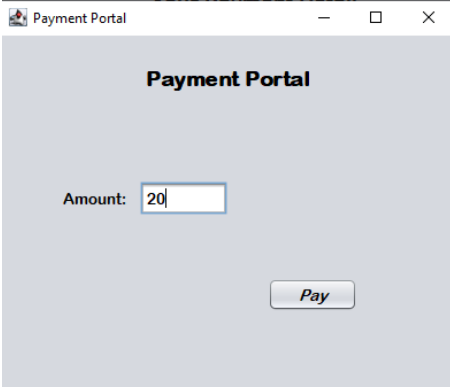
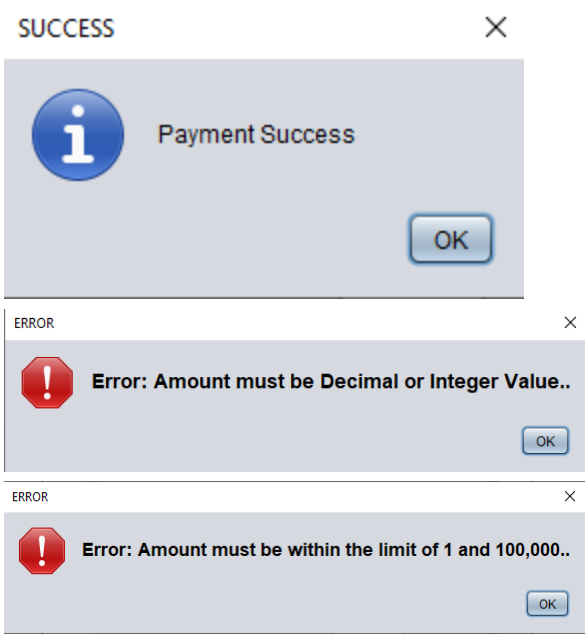
## Component/Interface Testing

<u>Components</u>	<u>Testing</u>	<u>Reason</u>
“Make Payment” JButton	Valid	Leads to Payment Frame
“Pay” JButton	Valid	Leads to Payment Portal
“Check Overdue” JButton	Valid	Displays Overdue JMessage — Display Not Overdue JMessage
“Show Payment History” JButton	Valid	Displays Payment History Page — Displays error message if empty
“Pay” Confirmation JButton	Valid	Displays confirmation message
AmountPaid Text Field	Valid	Confirmation Message — Incorrect Input

Please Note: Test Cases can be seen in Figures Below

Test Case	Component Test / Description	Testing for Expected Outcome (Interface)
“Make Payment” JButton		
“Pay” JButton		

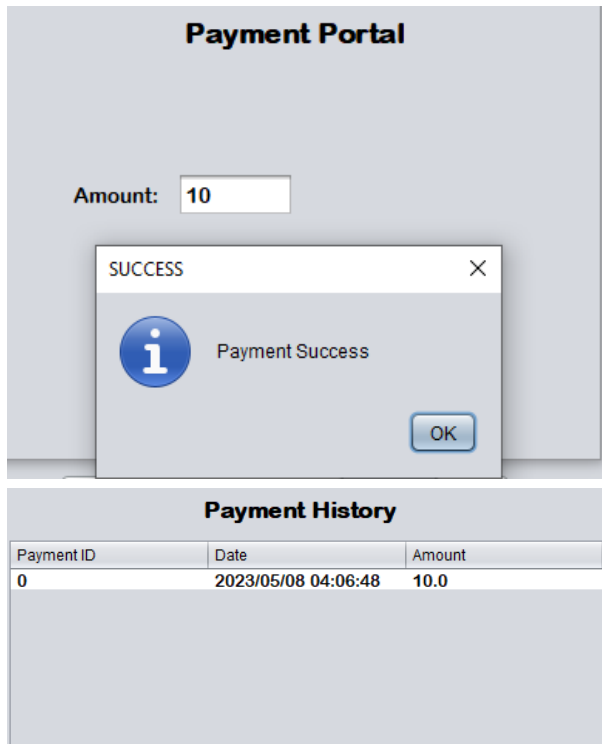
<p>“Check Overdue” JButton</p>	<div><div><div>Your Payment Detail</div><div>Your dues:</div><div><div>Utility fees: 400</div><div>Maintenance fees: 150</div><div>Property fees: 20000</div><div>Discount: 0.9</div><div>Total: 20550.0</div><div>Total (with discount): 18550.0</div><div>AmountPaid: 0.0</div><div>AmountDue: 18550.0</div></div><div><div>Check Overdue</div><div>Show Payment History</div><div>Pay</div></div></div></div>	<div><div><div>Overdue</div><div><div><div>!</div></div><div>Please pay your rent...</div><div>OK</div></div></div><div><div><div>Congrats</div><div><div><div>i</div></div><div>You have no overdue</div><div>OK</div></div></div></div></div>						
<p>“Show Payment History” JButton</p>	<div><div><div>Your Payment Detail</div><div>Your dues:</div><div><div>Utility fees: 400</div><div>Maintenance fees: 150</div><div>Property fees: 20000</div><div>Discount: 0.9</div><div>Total: 20550.0</div><div>Total (with discount): 18550.0</div><div>AmountPaid: 0.0</div><div>AmountDue: 18550.0</div></div><div><div>Check Overdue</div><div>Show Payment History</div><div>Pay</div></div></div></div>	<div><div><div>Payment History</div><div><div>Payment History</div><table><thead><tr><th>Payment ID</th><th>Date</th><th>Amount</th></tr></thead><tbody><tr><td>0</td><td>2023/05/08 02:30:35</td><td>100000.0</td></tr></tbody></table></div><div><div>ERROR</div><div><div><div>!</div></div><div>No payment history recorded, please try later...</div><div>OK</div></div></div></div></div>	Payment ID	Date	Amount	0	2023/05/08 02:30:35	100000.0
Payment ID	Date	Amount						
0	2023/05/08 02:30:35	100000.0						
<p>“Pay” Confirmation JButton</p>	<div><div><div>Payment Portal</div><div><div>Payment Portal</div><div>Amount: <input type="text" value="20"/></div><div>Pay</div></div></div></div>	<div><div><div>SUCCESS</div><div><div><div>i</div></div><div>Payment Success</div><div>OK</div></div></div></div>						

<p>AmountP aid Text Field</p>	 <p>The 'Payment Portal' window has a title bar with a close button. The main area is titled 'Payment Portal'. It contains a label 'Amount:' followed by a text input field containing the value '20'. Below the input field is a button labeled 'Pay'.</p>	 <p>This column displays three dialog boxes. The top one is a 'SUCCESS' dialog with a blue information icon and the text 'Payment Success', with an 'OK' button. The middle one is an 'ERROR' dialog with a red warning icon and the text 'Error: Amount must be Decimal or Integer Value..', with an 'OK' button. The bottom one is another 'ERROR' dialog with a red warning icon and the text 'Error: Amount must be within the limit of 1 and 100,000..', with an 'OK' button.</p>
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## Integration Testing

Communication	Relationship
Payment Confirm Button and Payment History	Once the Payment Confirm Button is pressed, then it will be recorded and saved in Payment History
Payment Confirm Button and AmountDue / AmountPaid	Once Payment Confirm Button is pressed, the AmountDue and AmountPaid will be updated
Payment Confirm Button and Overdue	Once Payment Confirm Button is pressed, Overdue status will be updated

Please Note: Test Cases can be seen in Figures Below


Communication Test Case	Testing for Expected Outcome (Interface)
Payment Confirm Button and Payment History	 <p>The screenshot shows the 'Payment Portal' interface. At the top, there's a title 'Payment Portal'. Below it, there's a label 'Amount:' followed by a text input field containing the value '10'. A modal dialog box is open in the center, titled 'SUCCESS' with a close button (X). Inside the dialog, there's a blue information icon (i) and the text 'Payment Success'. At the bottom right of the dialog is an 'OK' button. Below the dialog, there's a section titled 'Payment History' which contains a table with three columns: 'Payment ID', 'Date', and 'Amount'. The table has one row of data: '0', '2023/05/08 04:06:48', and '10.0'.</p>

Payment Confirm Button and AmountDue / AmountPaid

**Payment Portal**

Amount:

SUCCESS

 Payment Success

OK


Maintenance fees:	150
Property fees:	20000
Discount:	0.9
Total:	20550.0
Total (with discount):	18550.0
AmountPaid:	10.0
AmountDue:	18540.0

Payment Confirm Button and Overdue

**Payment Portal**


Amount:

SUCCESS

 Payment Success

OK

Congrats

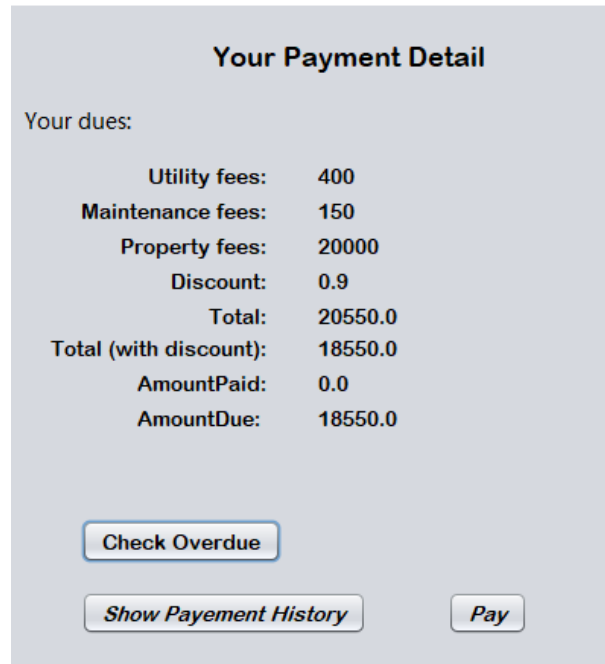
 You have no overdue

OK

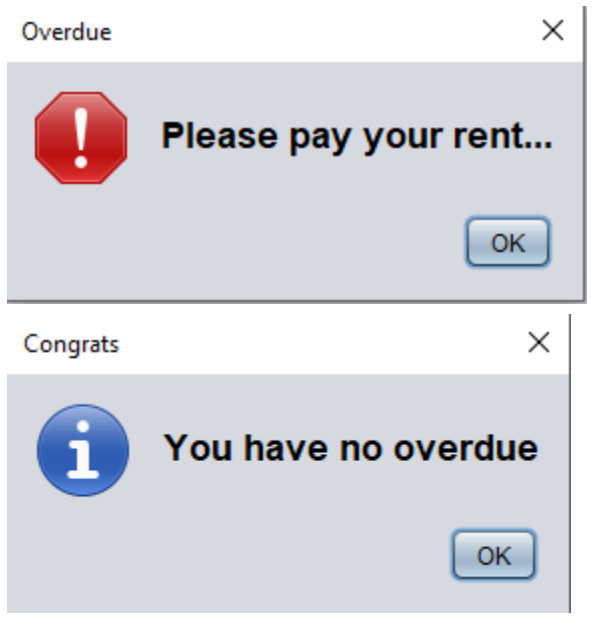
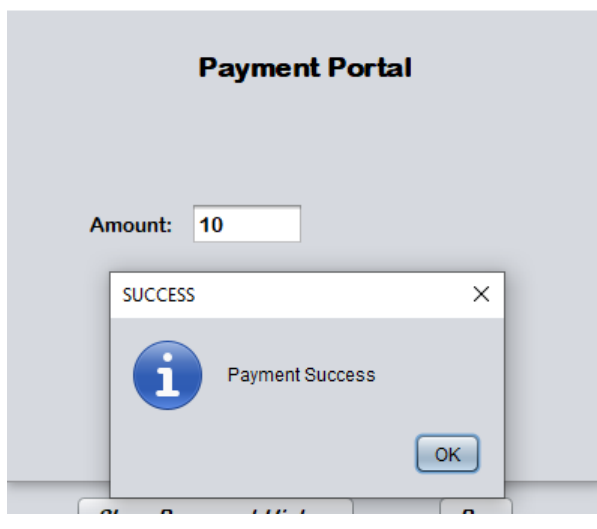
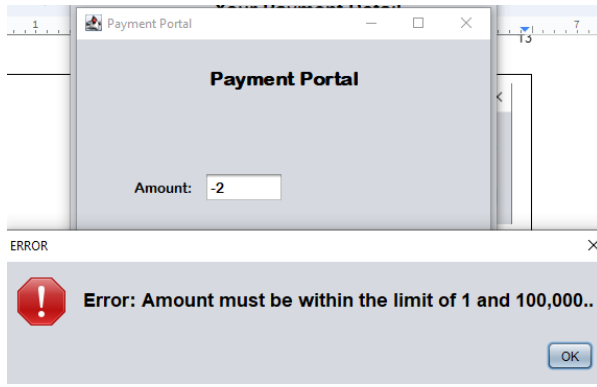
## System Testing

Case	Functional / Non-Functional
Viewing Unified Bill	Functional
Viewing Overdue Status on Payment	Functional
Making Payment	Functional
Preventing out of bounds payment	Non-Functional

Please Note: Test Cases can be seen in Figures Below

Test Case	Testing for Expected Outcome (Interface)																
Viewing Unified Bill	 <p><b>Your Payment Detail</b></p> <p>Your dues:</p> <table> <tr> <td>Utility fees:</td> <td>400</td> </tr> <tr> <td>Maintenance fees:</td> <td>150</td> </tr> <tr> <td>Property fees:</td> <td>20000</td> </tr> <tr> <td>Discount:</td> <td>0.9</td> </tr> <tr> <td>Total:</td> <td>20550.0</td> </tr> <tr> <td>Total (with discount):</td> <td>18550.0</td> </tr> <tr> <td>AmountPaid:</td> <td>0.0</td> </tr> <tr> <td>AmountDue:</td> <td>18550.0</td> </tr> </table> <p>Check Overdue</p> <p>Show Payment History Pay</p>	Utility fees:	400	Maintenance fees:	150	Property fees:	20000	Discount:	0.9	Total:	20550.0	Total (with discount):	18550.0	AmountPaid:	0.0	AmountDue:	18550.0
Utility fees:	400																
Maintenance fees:	150																
Property fees:	20000																
Discount:	0.9																
Total:	20550.0																
Total (with discount):	18550.0																
AmountPaid:	0.0																
AmountDue:	18550.0																



<p>Viewing Overdue Status on Payment</p>	 <p>The 'Overdue' dialog box features a red octagonal warning icon with a white exclamation mark and the text 'Please pay your rent...' with an 'OK' button. The 'Congrats' dialog box features a blue circular information icon with a white 'i' and the text 'You have no overdue' with an 'OK' button.</p>
<p>Making Payment</p>	 <p>The 'Payment Portal' dialog box shows an 'Amount' field with the value '10'. A smaller 'SUCCESS' dialog box is overlaid, displaying a blue circular information icon with a white 'i' and the text 'Payment Success' with an 'OK' button.</p>
<p>Preventing out of bounds payment</p>	 <p>The 'Payment Portal' dialog box shows an 'Amount' field with the value '-2'. An 'ERROR' dialog box is overlaid, featuring a red octagonal warning icon with a white exclamation mark and the text 'Error: Amount must be within the limit of 1 and 100,000..' with an 'OK' button.</p>