| | |
|---|---|
| ID | UC Clerk generates Billing Information for Guest |
| Scope | Hotel Vacation Reservation System |
| Level | Clerk Goal |
| Stakeholders and Interests | Guest<br><br>-person that is interested in hotel services.<br><br>Clerk<br><br>-person interested in generating billing for Guest<br><br>Admin<br><br>-person assisting Clerk User in assisting Guest User if needed. |
| Precondition | Clerk is logged in.<br><br>Clerk has access to the Payment system or manual payment system. |
| Postcondition | - A final bill is generated for the Guest, detailing all charges and the total amount due.<br><br>- The bill is presented to the Guest for payment or sent electronically if applicable.<br><br>- The Guest's account is updated to reflect the payment or outstanding balance. |

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| Main Success Scenario | 1. The Clerk initiates the billing process for the Guest, anytime the Guest is paying.<br><br>2. The Clerk asks for identification from guest.<br><br>3. The system validates identification.<br><br>4. If the guest is paying for additional charges besides the first reservation. The system retrieves the Guest's reservation details, including room type, dates of stay, vacation reservations, and any additional services purchased.<br><br>5. If it is the first reservation, it will only retrieve customer information and available rooms and vacation options.<br><br>6. The system calculates the total charges for guest.<br><br>7. The system adds any charges for additional services to the bill.<br><br>8. The system calculates any applicable taxes and fees and adds them to the bill.<br><br>9. The system generates a final bill with a breakdown of all charges and the total amount due.<br><br>10. The Clerk presents the bill to the Guest for payment or sends it electronically.<br><br>11. If the Guest wants bill electronically, the system will send it via email.<br><br>12. If the Guest wants bill in person, it will be either printed or displayed directly to user.<br><br>13. The Guest reviews the bill and makes the payment.<br><br>14. The system records the payment and updates the Guest's account. |

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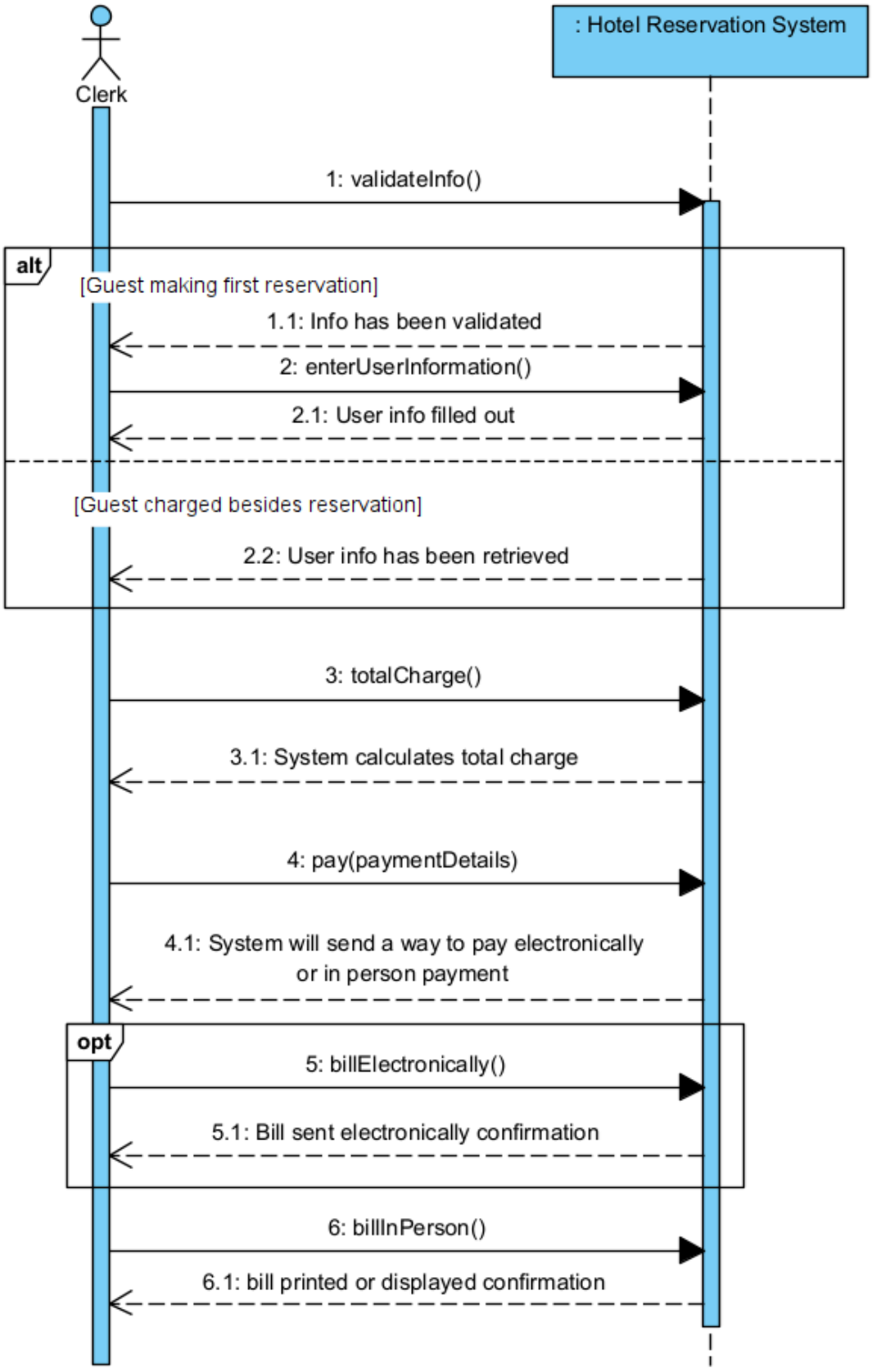
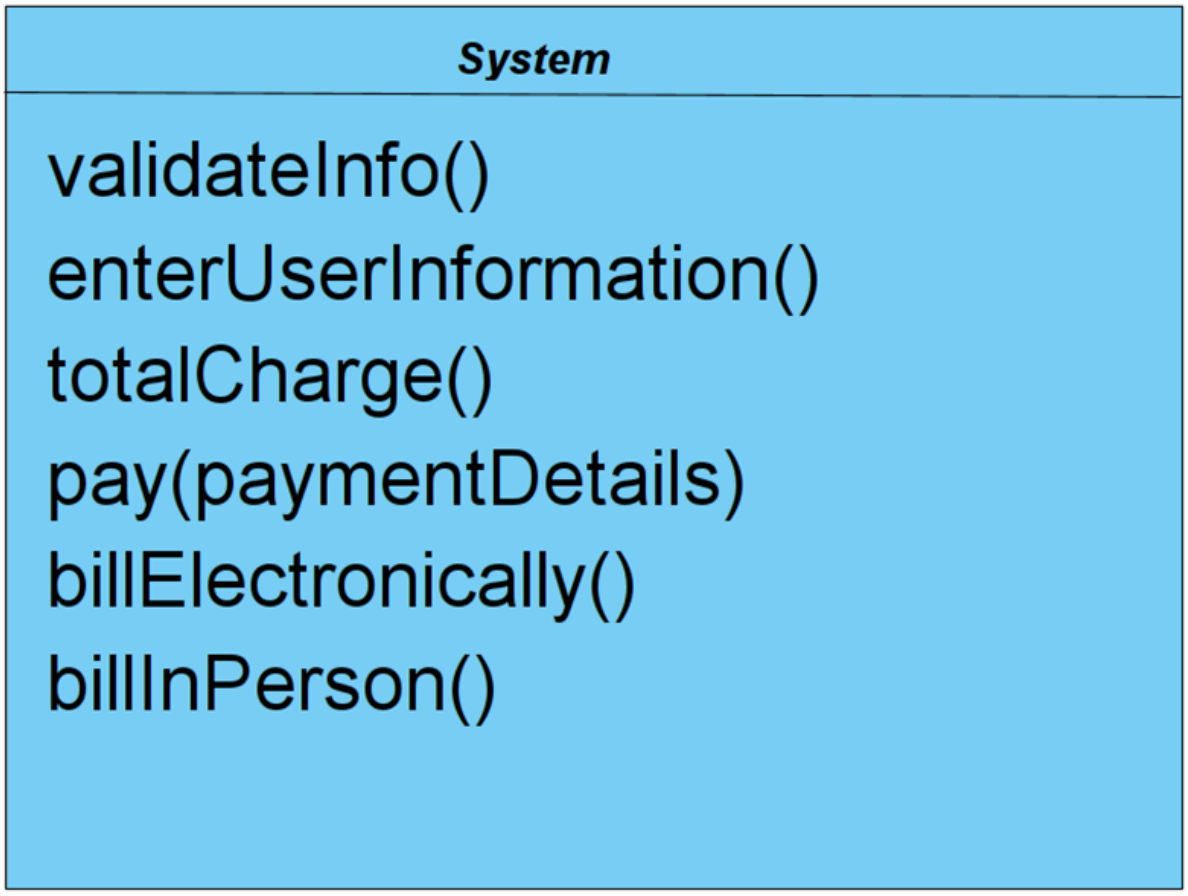
| Alternate Paths | a. System unavailability at any time:<br><br>Staff restarts the application<br><br>3.a. If the system still doesn't respond or staff cannot log in:<br><br>Staff informs the manager<br><br>Staff makes a manual reservation (if possible) and enters it into the system later<br><br>3.b. If the system cannot connect to the network<br><br>Staff informs the manager<br><br>Staff makes a manual reservation (if possible) and enters it into the system later<br><br>5.a. No rooms available:<br><br>Staff informs the customer and suggests alternative dates or room types if available<br><br>7.a. Customer cannot be identified (e.g., no ID, suspicious behavior)<br><br>Staff politely declines to make the reservation and explains the hotel's policy<br><br>11.a Customer does not agree to the hotel rules or price:<br><br>The reservation is not confirmed and is discarded.<br><br>Staff may attempt to offer alternative options or solutions if appropriate |

**SSD 3:**


Clerk
: Hotel Reservation System
1: validateInfo()
alt
[Guest making first reservation]
1.1: Info has been validated
2: enterUserInformation()
2.1: User info filled out
[Guest charged besides reservation]
2.2: User info has been retrieved
3: totalCharge()
3.1: System calculates total charge
4: pay(paymentDetails)
4.1: System will send a way to pay electronically
or in person payment
opt
5: billElectronically()
5.1: Bill sent electronically confirmation
6: billInPerson()
6.1: bill printed or displayed confirmation

**Operation Contract 3:**




**Contract CO1:**

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|---|---|
| **Operation** | validateInfo() |
| **Cross References** | Use cases: Clerk Generating Billing Information |
| **Pre-conditions** | Guest information (reservation details, services used) is available in the system |

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| **Post-conditions** | - An instance V is created.<br>- Guest information is verified for accuracy and completeness using V.validateInfo().<br>- Any discrepancies or missing information are flagged for correction |

**Contract CO2:**

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|---|---|
| **Operation** | enterUserInformation() |
| **Cross References** | Use cases: Clerk Generating Billing Information |
| **Pre-conditions** | Guest information is validated (from CO1) or manually entered if unavailable in the system |
| **Post-conditions** | - Guest information is accurately entered or updated in the system for billing purposes. |

**Contract CO3:**

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|---|---|
| **Operation** | totalCharge() |
| **Cross References** | Use cases: Clerk Generating Billing Information |
| **Pre-conditions** | - Guest information and service usage details are available<br>- Pricing and tax rules are defined in the system |
| **Post-conditions** | - An instance |

**Contract CO4:**

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|---|---|
| **Operation** | Pay(paymentDetails) |
| **Cross References** | Use cases: Clerk Generating Billing Information |
| **Pre-conditions** | - Total charges are calculated (from CO3)<br>- Guest provides valid payment details |
| **Post-conditions** | - Payment is processed successfully<br>- Guest's account is updated to reflect the payment |

**Contract CO5:**

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|---|---|
| **Operation** | billElectronically() |
| **Cross References** | Use cases: Clerk Generating Billing Information |
| **Pre-conditions** | - Final bill is generated with all charges and total amount due<br>- Guest has opted for electronic billing or it is the default method |
| **Post-conditions** | - Bill is sent to the Guest's email address<br>- System records the electronic bill transmission |

**Contract CO6:**

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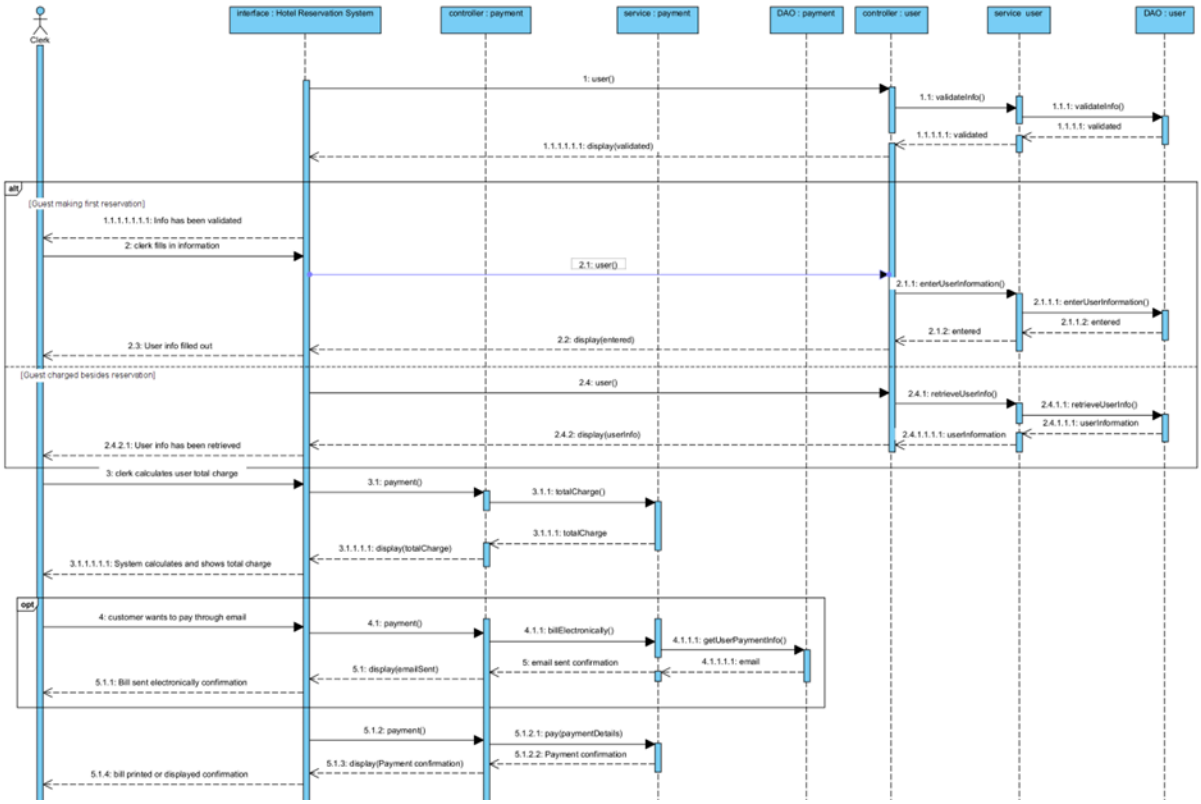
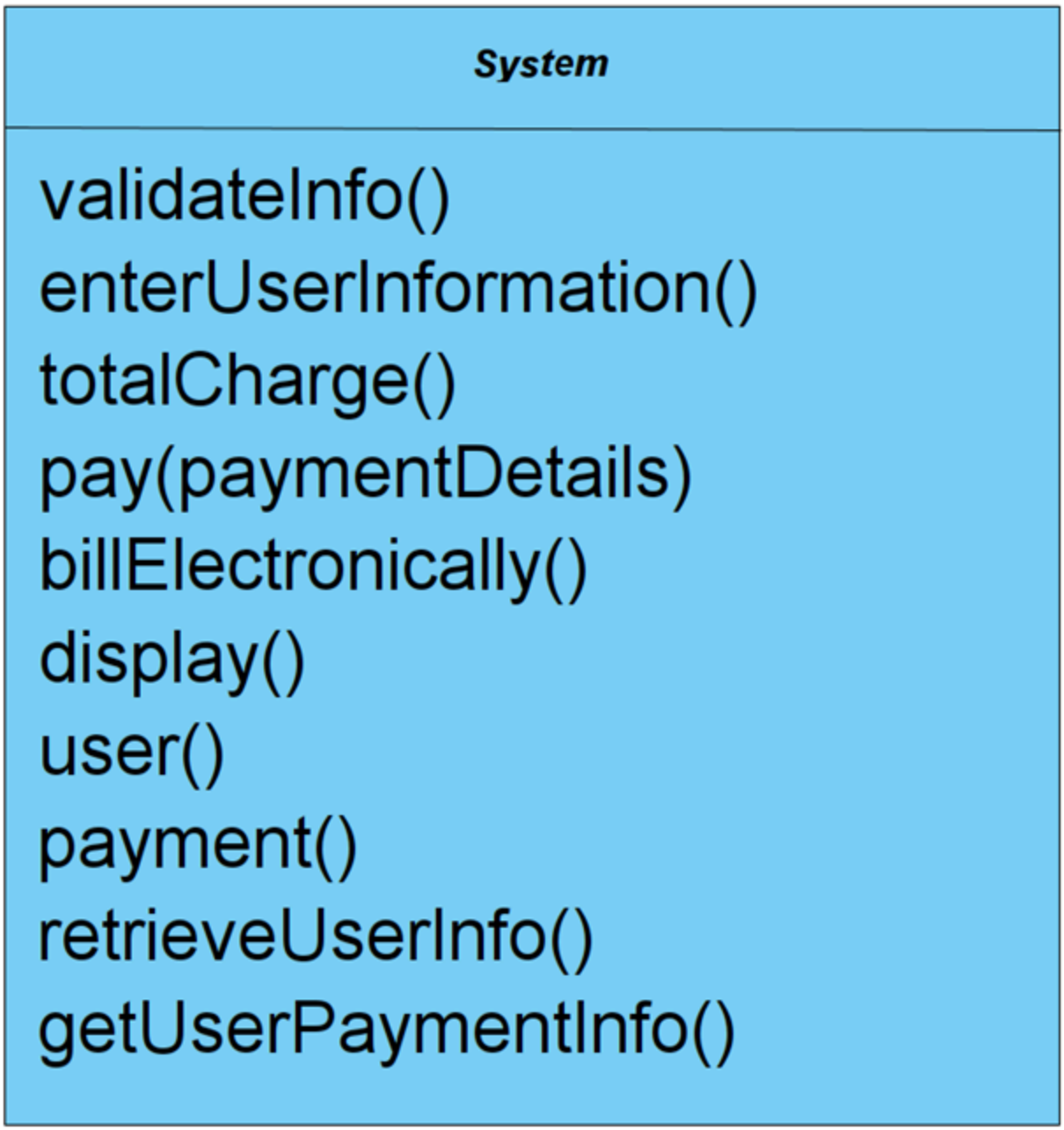
|---|---|
| **Operation** | billInPerson() |

| | |
|---|---|
| **Cross References** | Use cases: Clerk Generating Billing Information |
| **Pre-conditions** | - Final bill is generated with all charges and the total amount due<br>- Guest is present at the hotel or prefers in-person billing |
| **Post-conditions** | - Printed bill is presented to the Guest<br>- Payment is collected (if applicable) and recorded in the system |

**Updated Sequence Diagram Implementing Grasp 3 (Zoom in 200% to View):**


Clerk
interface : Hotel Reservation System
controller : payment
service : payment
DAO : payment
controller : user
service :user
DAO : user
1: user()
1.1: validateInfo()
1.1.1: validateInfo()
1.1.1.1: validated
1.1.1.1.1: validated
1.1.1.1.1.1: display(validated)
alt
[Guest making first reservation]
1.1.1.1.1.1.1: Info has been validated
2: clerk fills in information
2.1: user()
2.1.1: enterUserInformation()
2.1.1.1: enterUserInformation()
2.1.1.2: entered
2.1.2: entered
2.2: display(entered)
2.3: User info filled out
[Guest charged besides reservation]
2.4: user()
2.4.1: retrieveUserInfo()
2.4.1.1: retrieveUserInfo()
2.4.1.1.1: userInformation
2.4.1.1.1.1: userInformation
2.4.2: display(userInfo)
2.4.2.1: User info has been retrieved
3: clerk calculates user total charge
3.1: payment()
3.1.1: totalCharge()
3.1.1.1: totalCharge
3.1.1.1.1: display(totalCharge)
3.1.1.1.1.1: System calculates and shows total charge
opt
4: customer wants to pay through email
4.1: payment()
4.1.1: billElectronically()
4.1.1.1: getUserPaymentInfo()
4.1.1.1.1: email
5: email sent confirmation
5.1: display(emailSent)
5.1.1: Bill sent electronically confirmation
5.1.2: payment()
5.1.2.1: pay(paymentDetails)
5.1.2.2: Payment confirmation
5.1.3: display(Payment confirmation)
5.1.4: bill printed or displayed confirmation


System
validateInfo()
enterUserInformation()
totalCharge()
pay(paymentDetails)
billElectronically()
display()
user()
payment()
retrieveUserInfo()
getUserPaymentInfo()