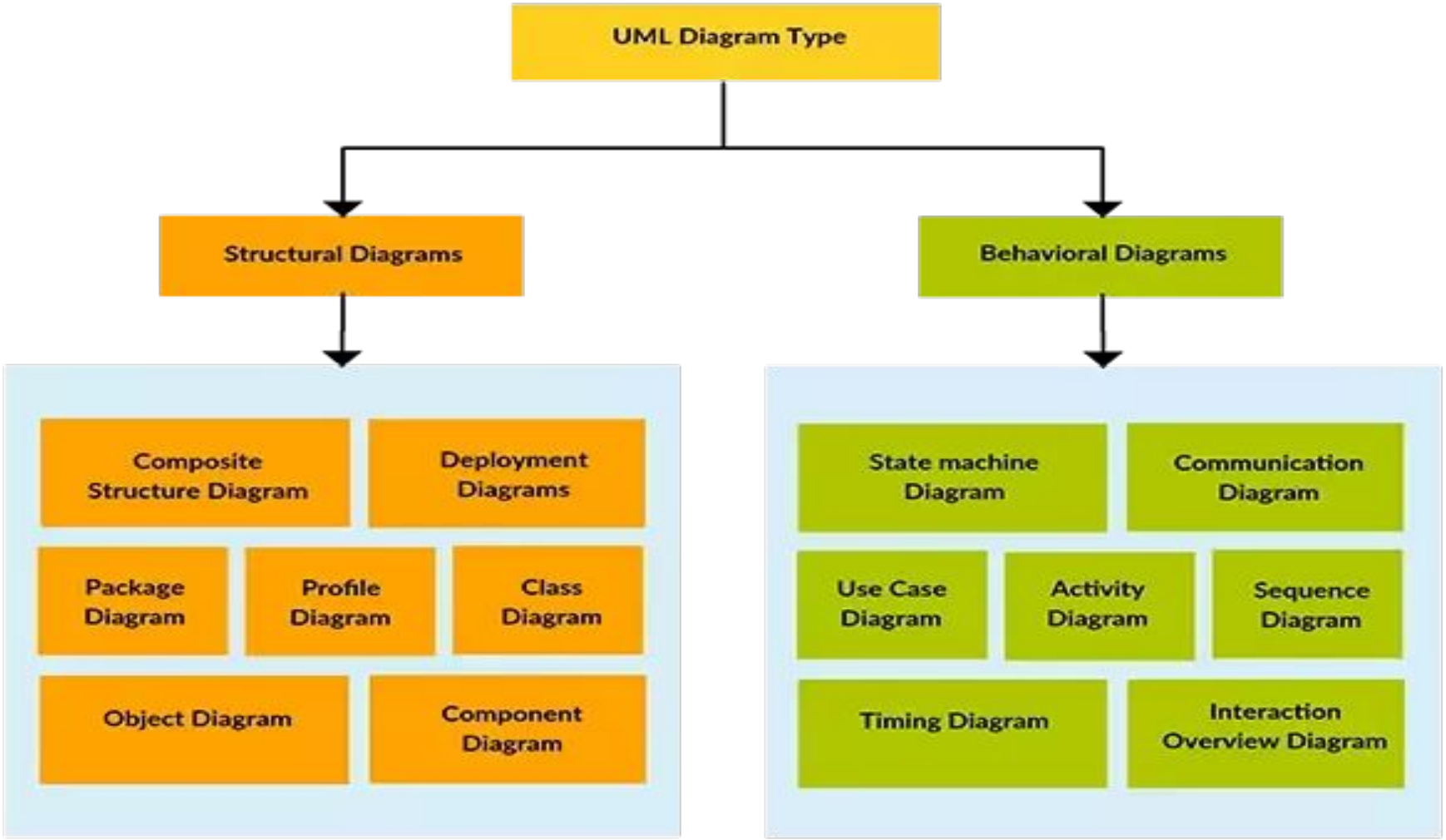
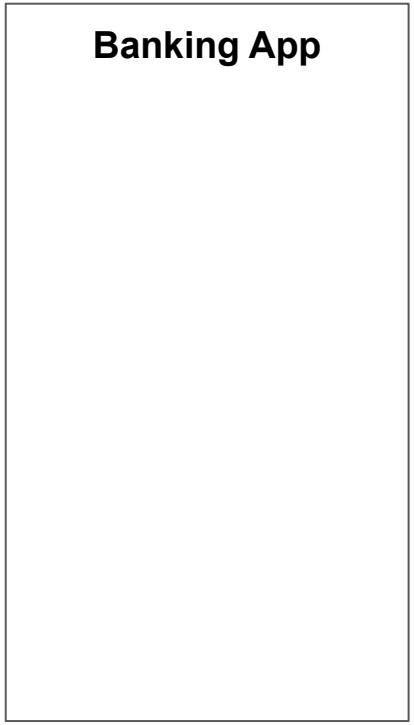
Use Case Diagram


UML Diagram Type
Structural Diagrams
Behavioral Diagrams
Composite Structure Diagram
Deployment Diagrams
Package Diagram
Profile Diagram
Class Diagram
Object Diagram
Component Diagram
State machine Diagram
Communication Diagram
Use Case Diagram
Activity Diagram
Sequence Diagram
Timing Diagram
Interaction Overview Diagram

Use Case Diagram - Component

1. ***System*** - website, s/w component, Business process, Application etc.



Use Case Diagram - Component

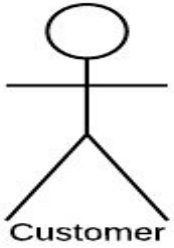
2. Actor - Person, organization, another system, an extended system.

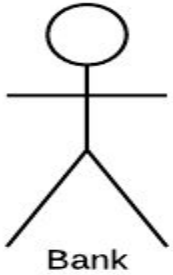
a) **Primary Actor** - Initiate the use of the system

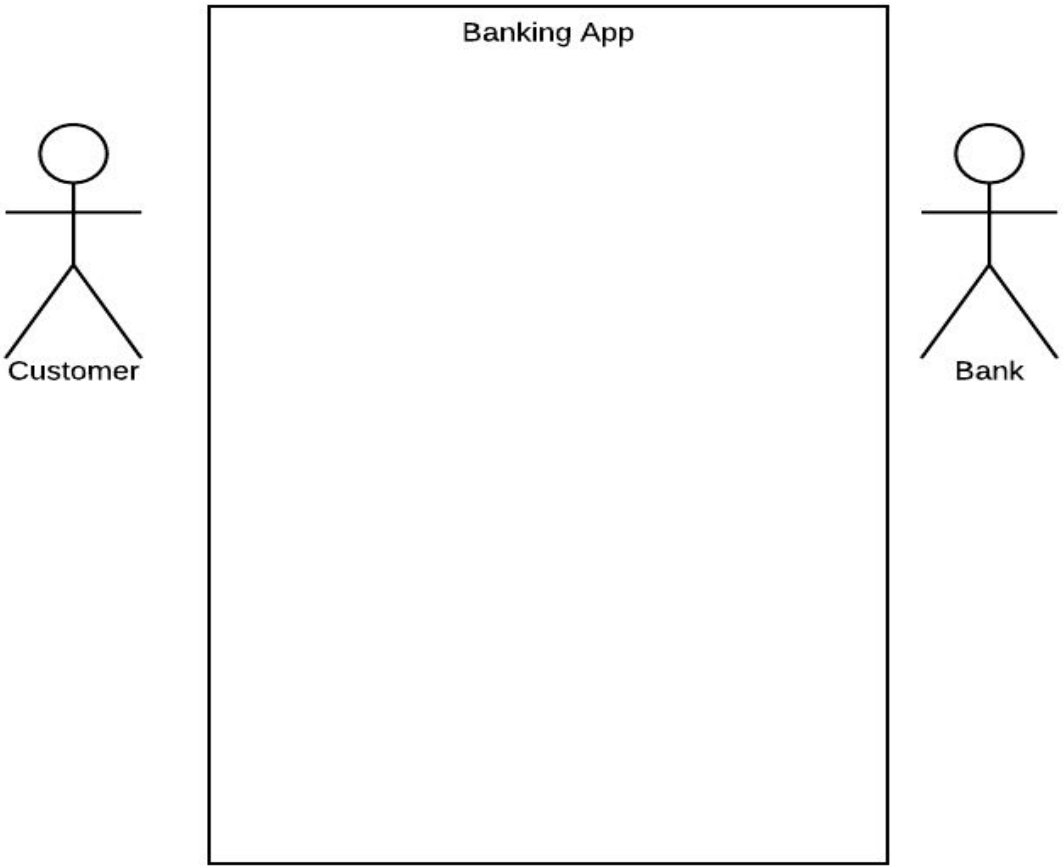
- Left of the system

b) **Secondary Actor**- Reactionary

- Right of the system

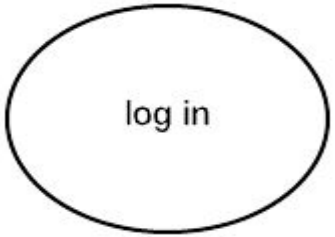





Banking App
Customer
Bank

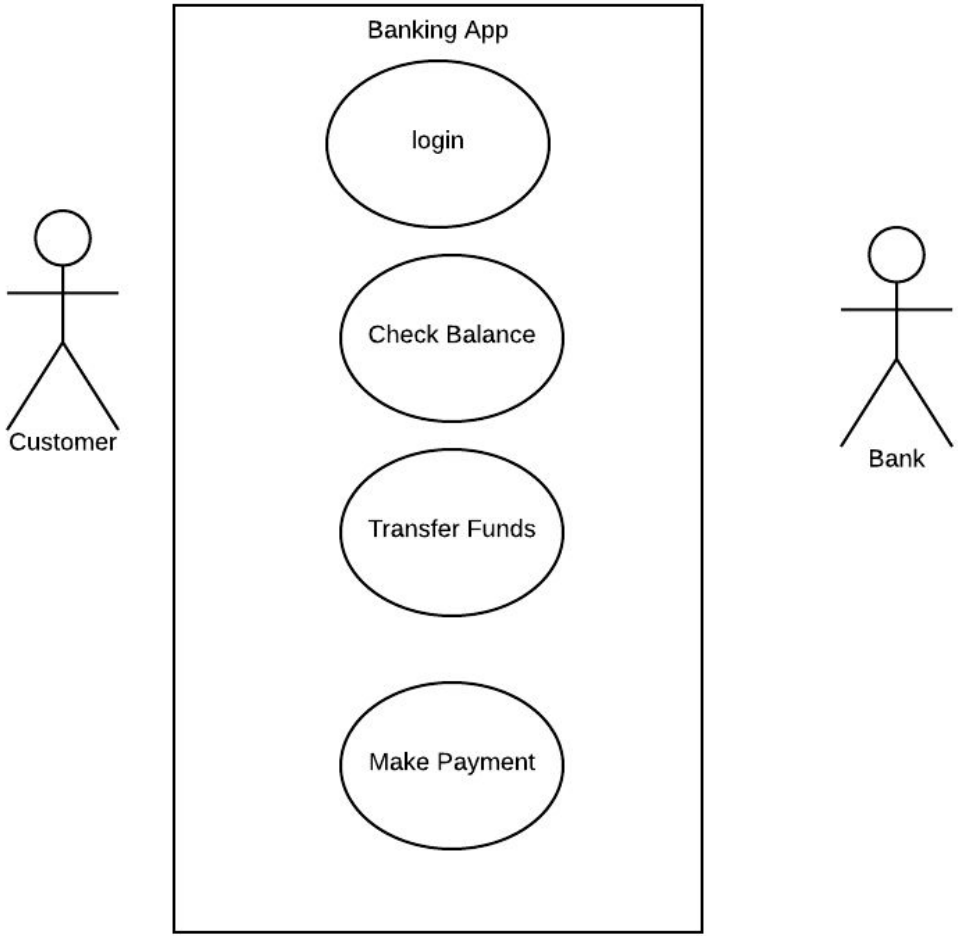
Use Case Diagram - Component

3. ***Use Case*** - an action that accomplishes some sort of task.



Example: Use Case Diagram for Banking App

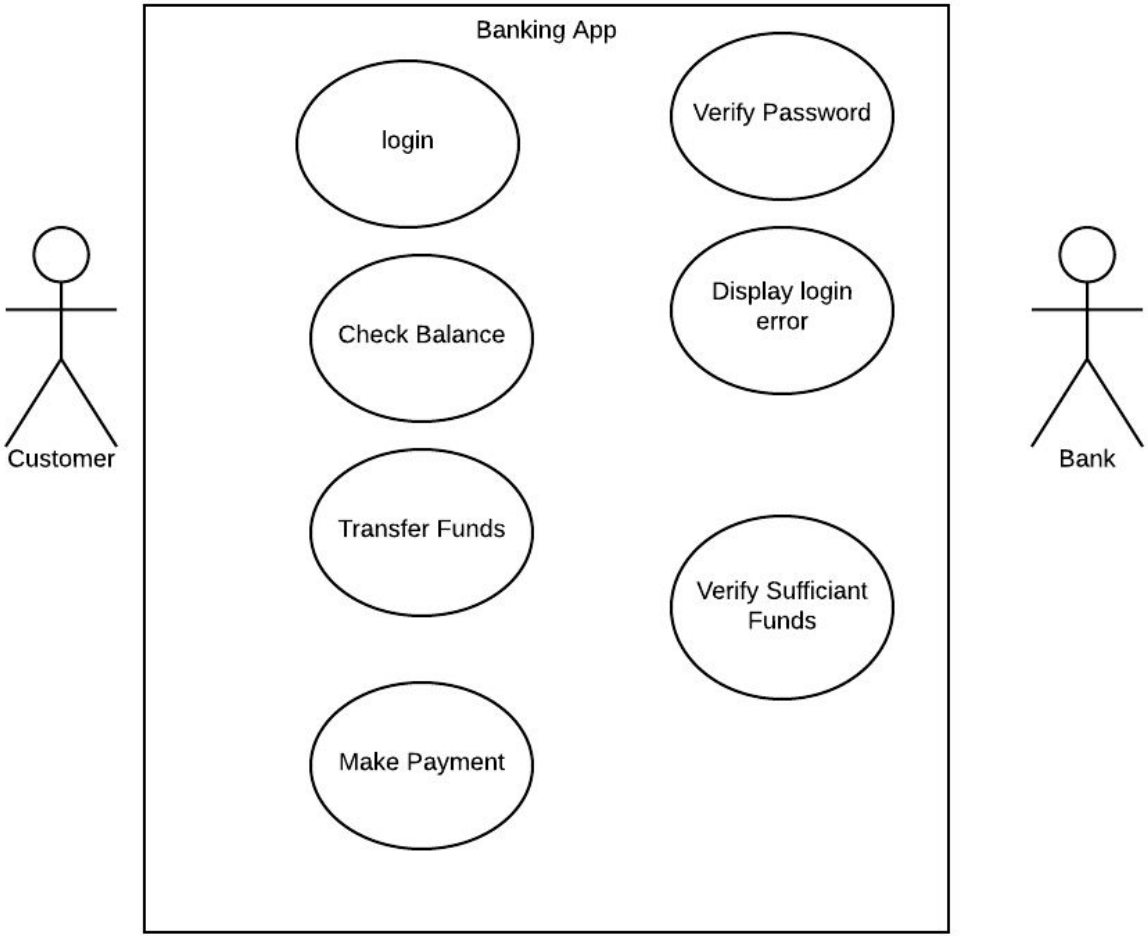
- Allow Customer to log in
- Check the Account Balance
- Transfer Fund between Accounts
- Make Payments towards bills


Banking App
login
Check Balance
Transfer Funds
Make Payment
Customer
Bank

Use Case Diagram - Component

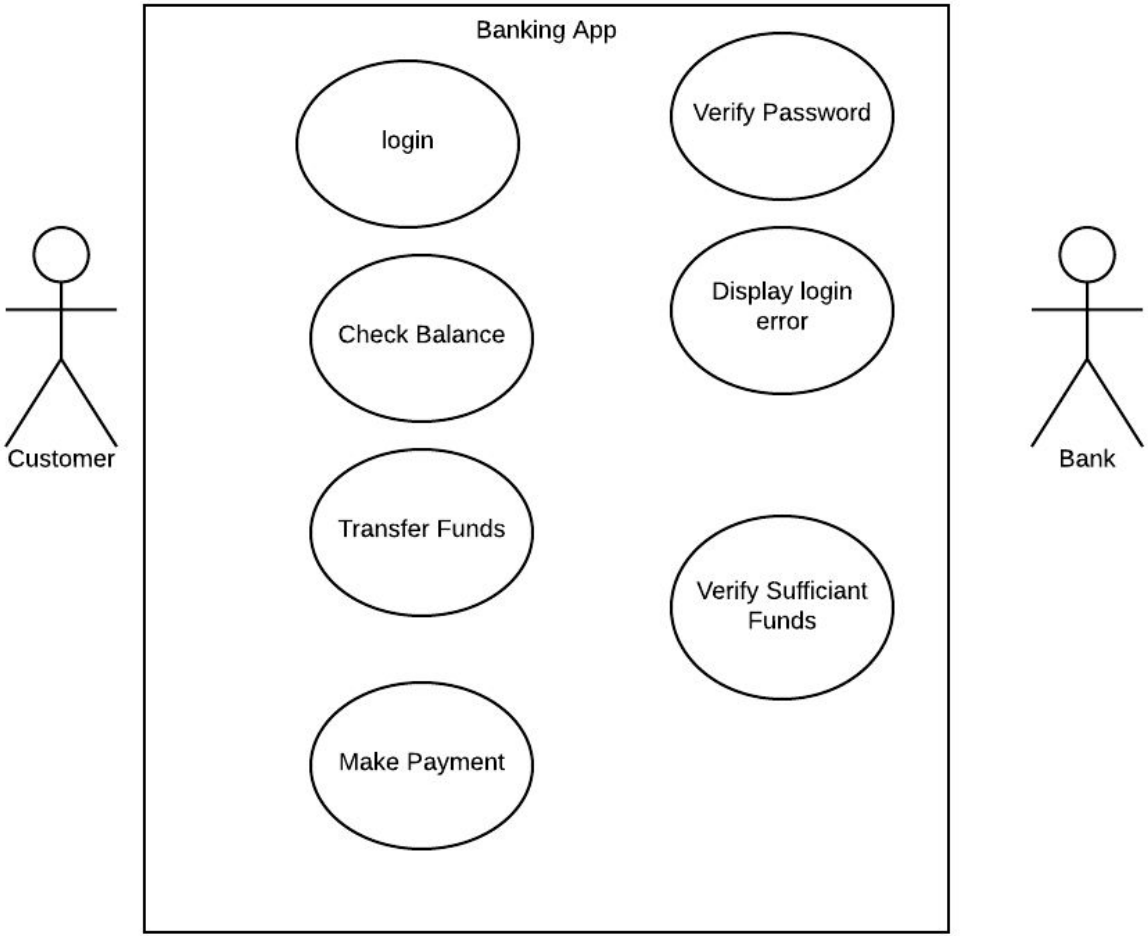
4. Relationships -

A. Association
B. Include
C. Exclude
D. Generalizations or inheritance


Banking App
login
Verify Password
Check Balance
Display login error
Transfer Funds
Verify Sufficiant Funds
Make Payment
Customer
Bank

Use Case Diagram - Relationships

a) Association - basic communications or interactions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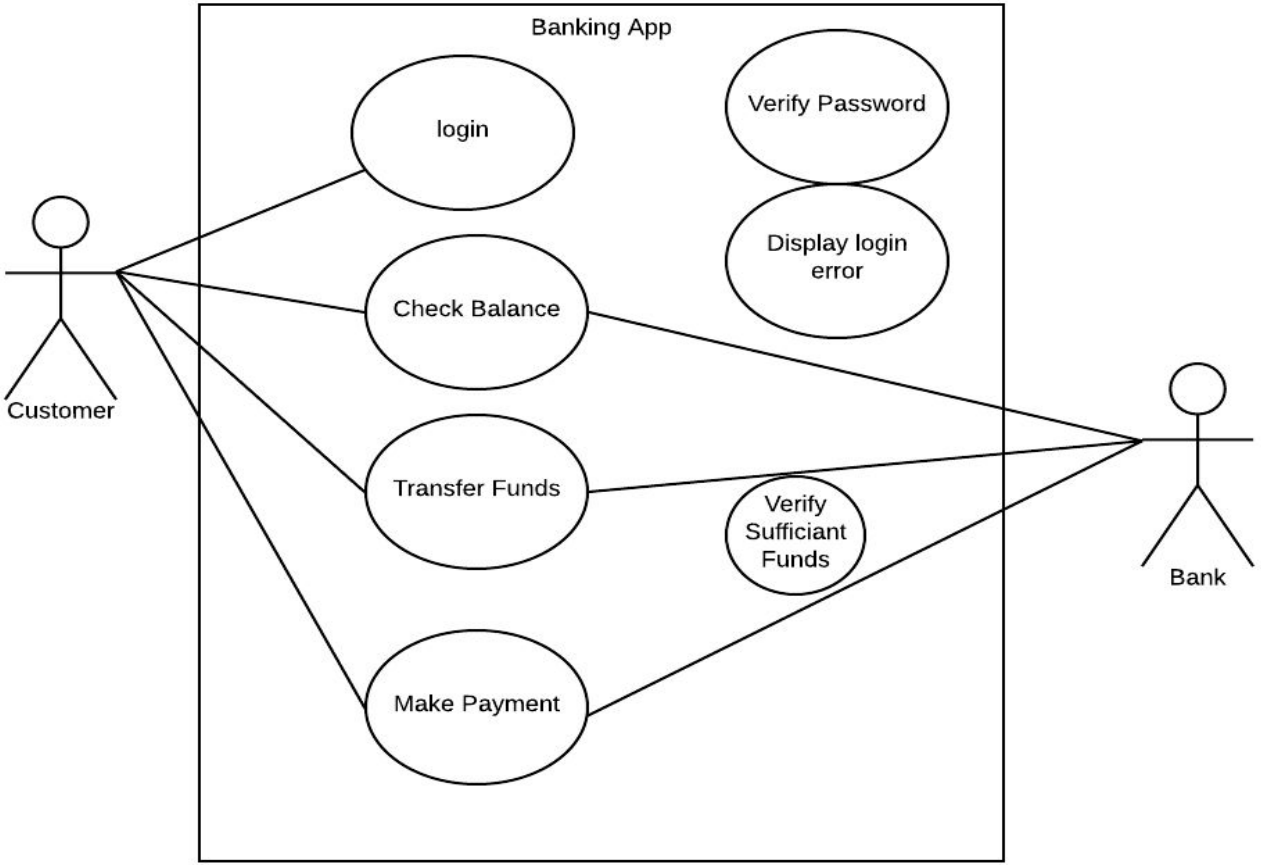
Customer
Bank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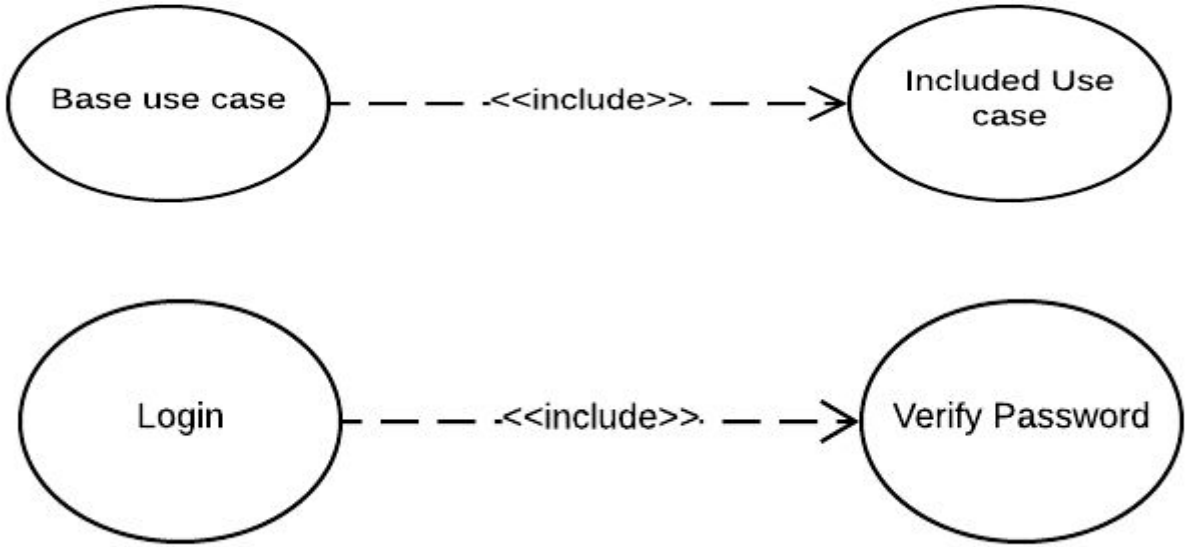
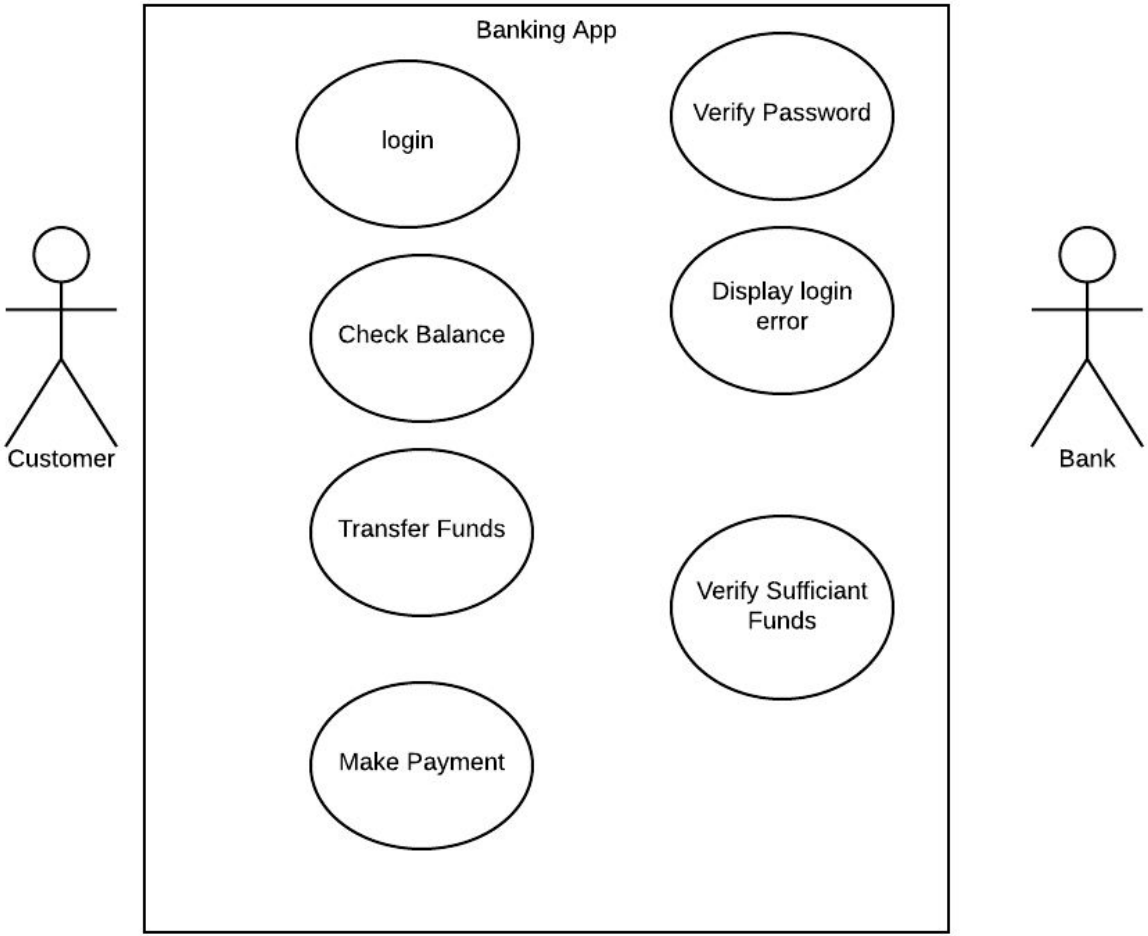
Use Case Diagram - Relationships

b) Include

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Customer
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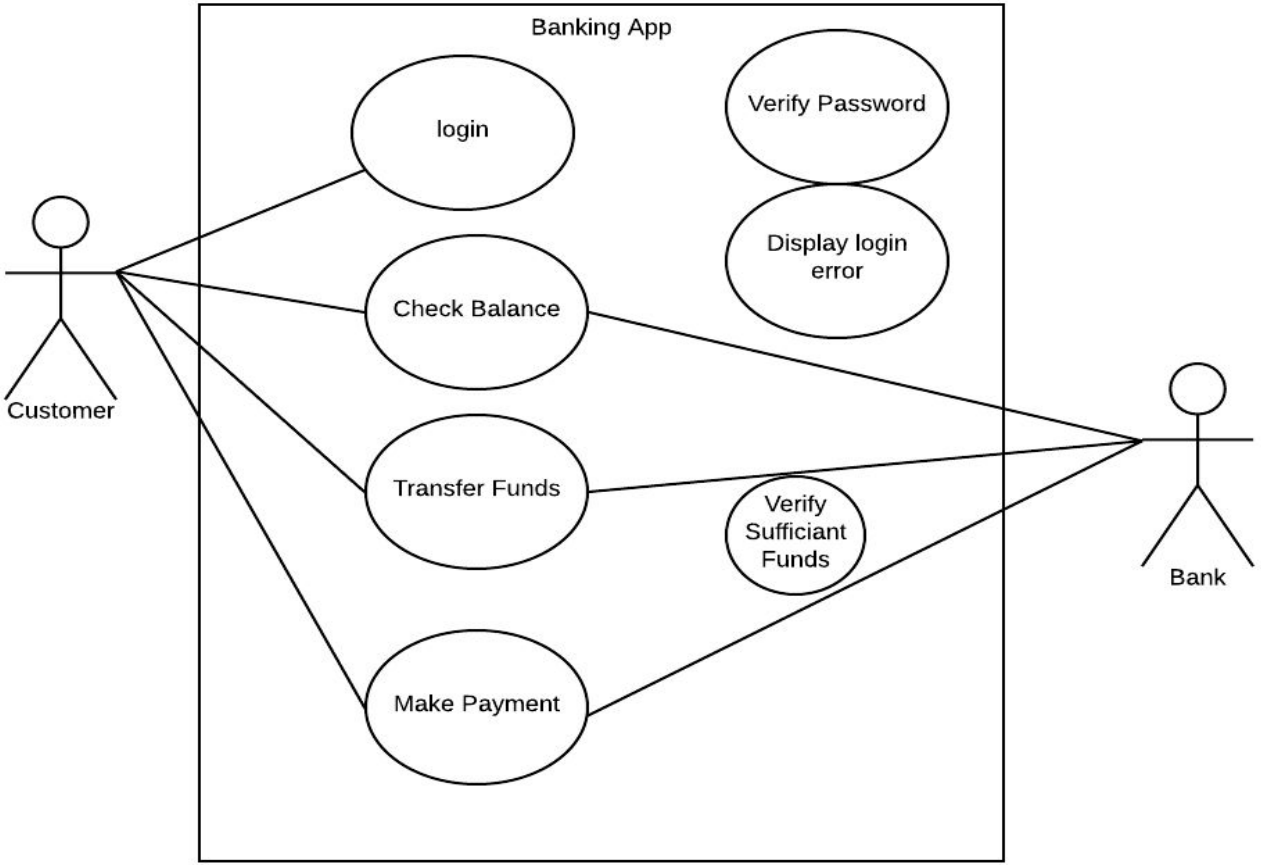
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Display login error
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Verify Sufficiant Funds
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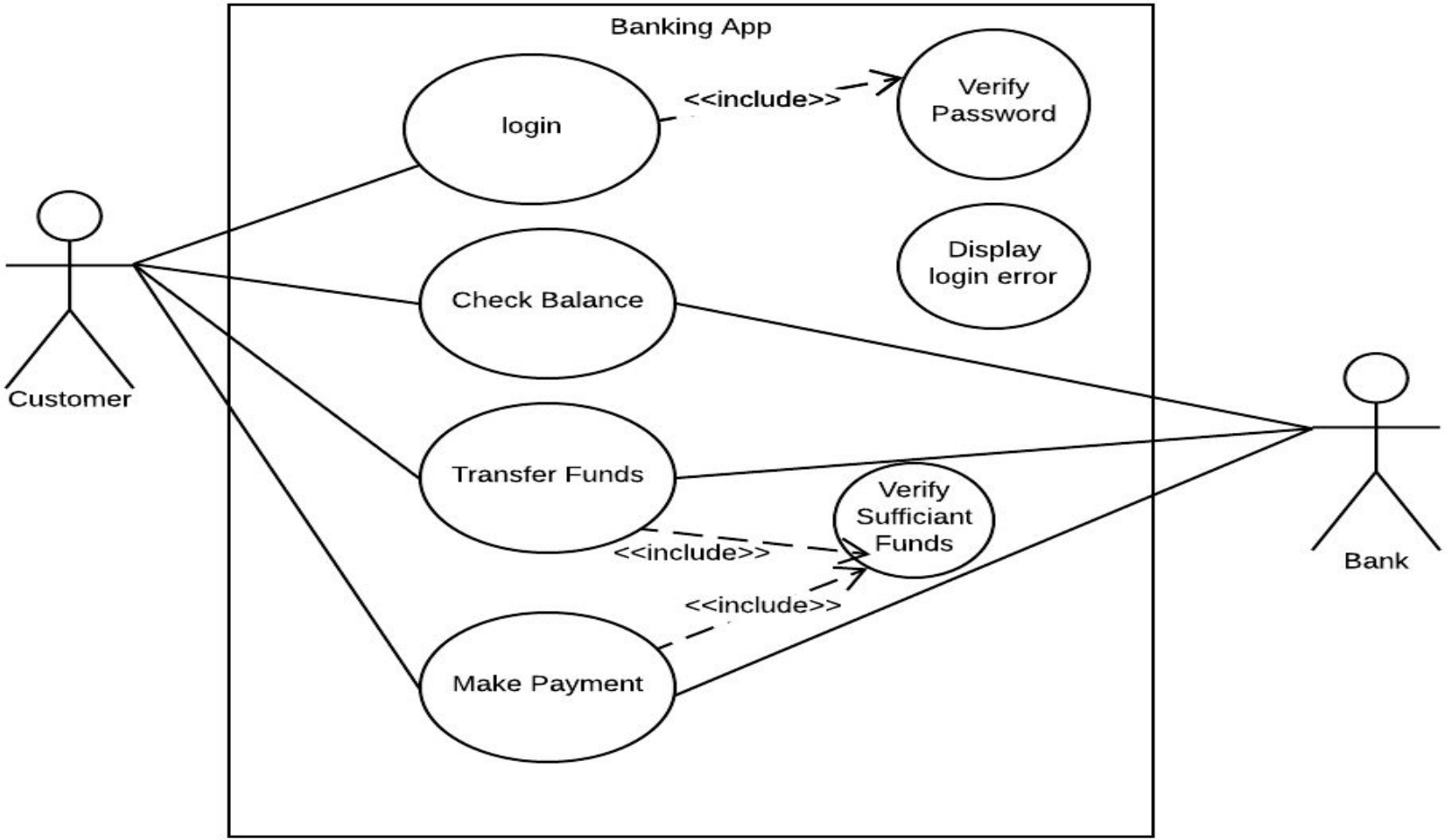
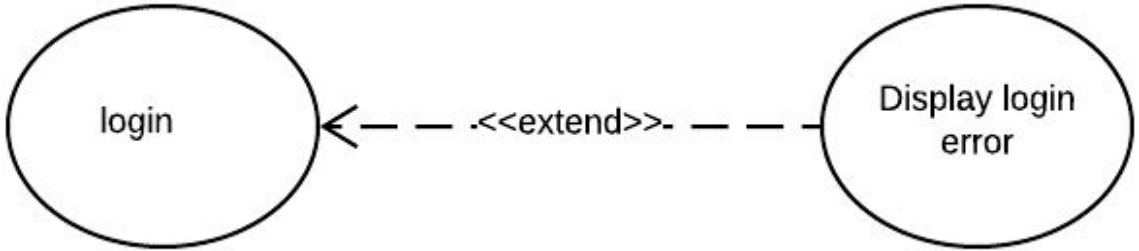
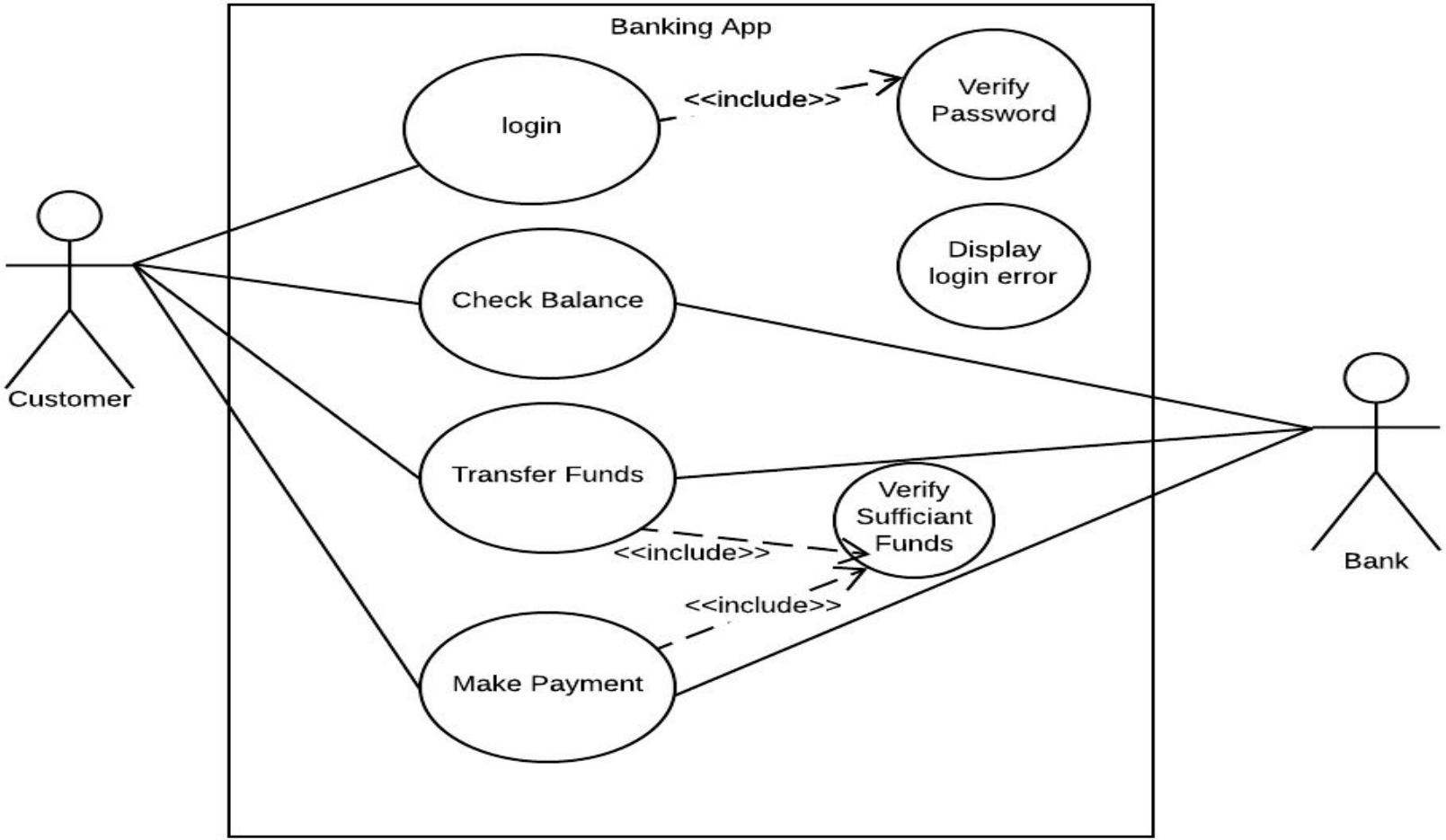

Banking App
login
<<include>>
Verify Password
Display login error
Check Balance
Transfer Funds
Verify Sufficiant Funds
<<include>>
<<include>>
Make Payment
Customer
Bank

Use Case Diagram - Relationships

c) Extend

Example:

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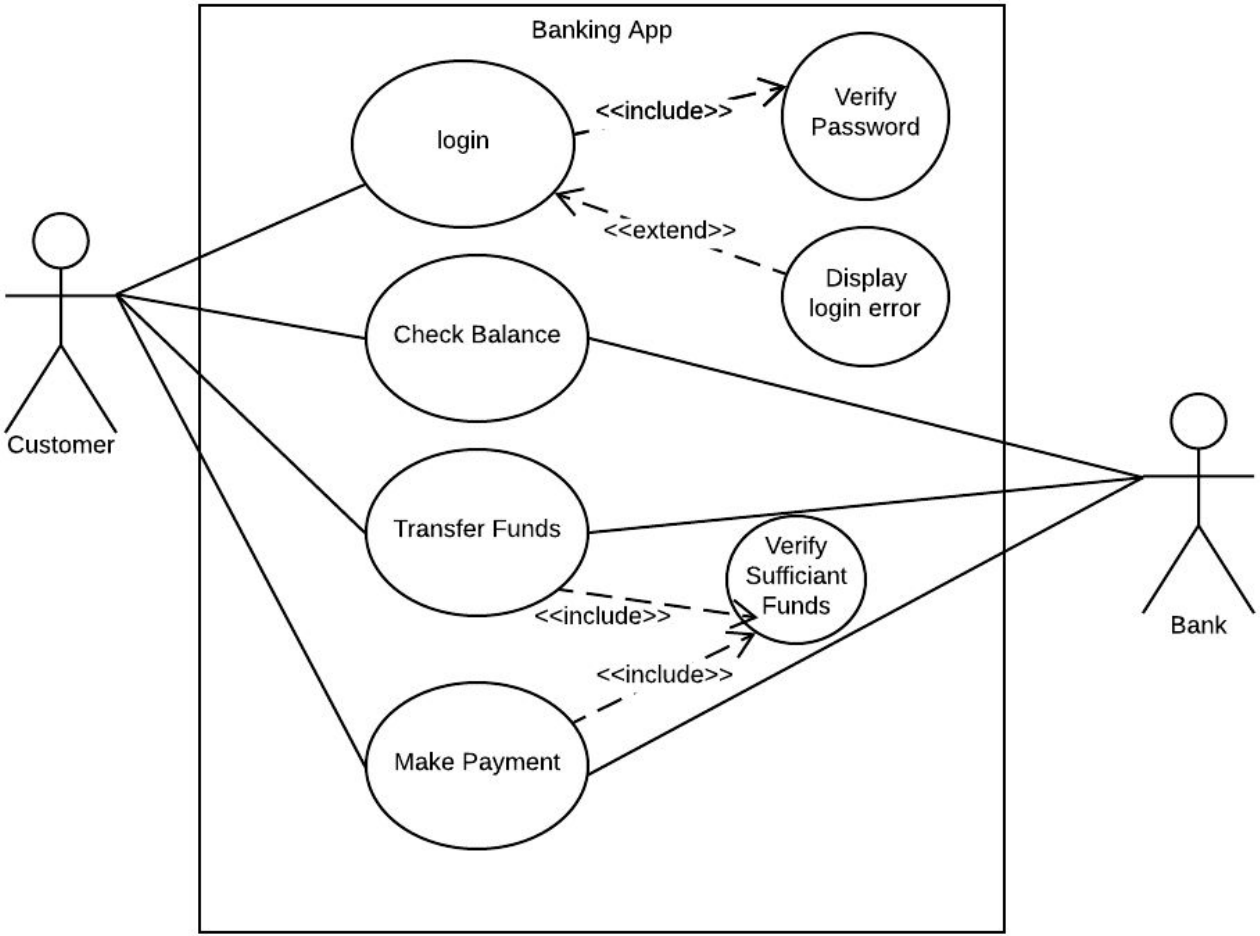
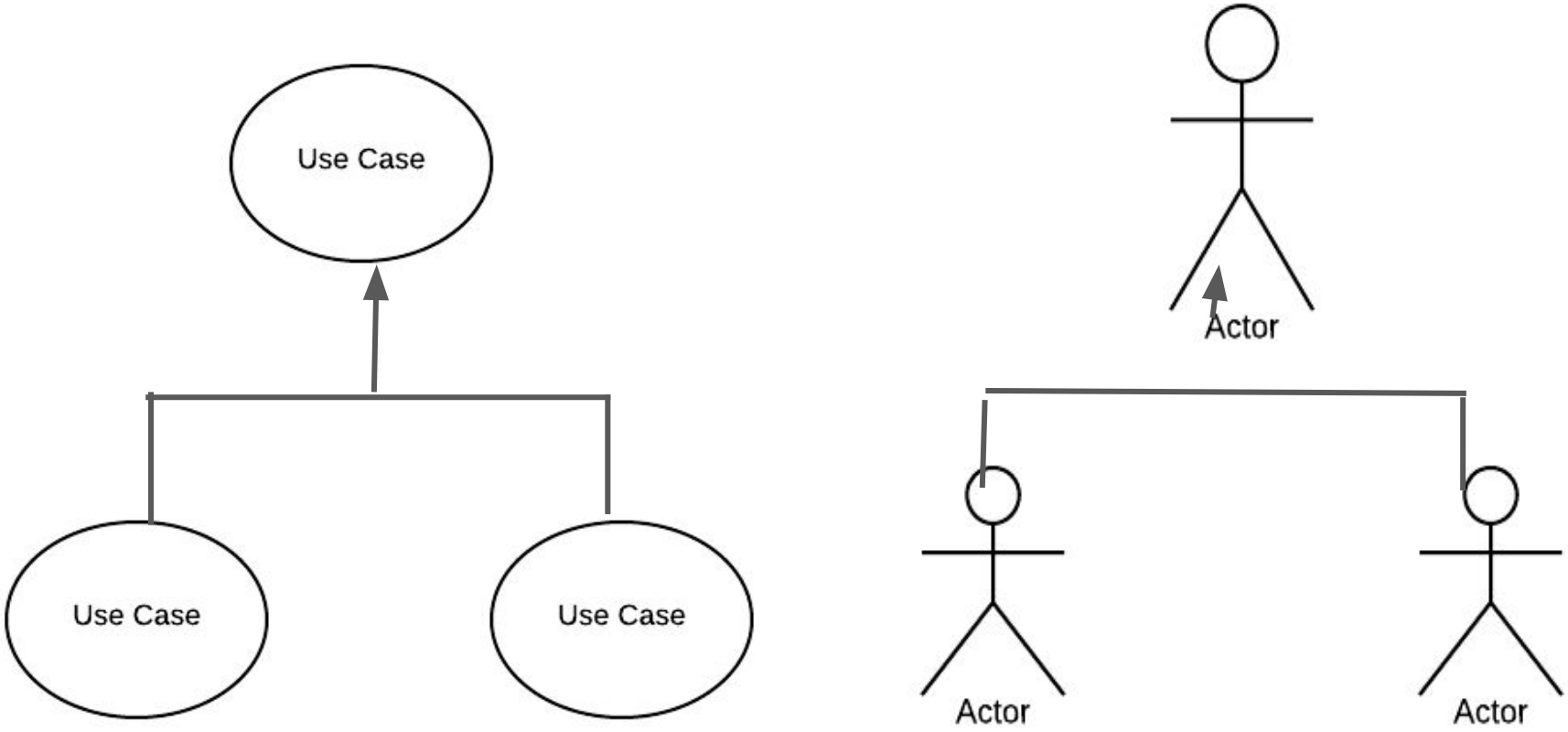
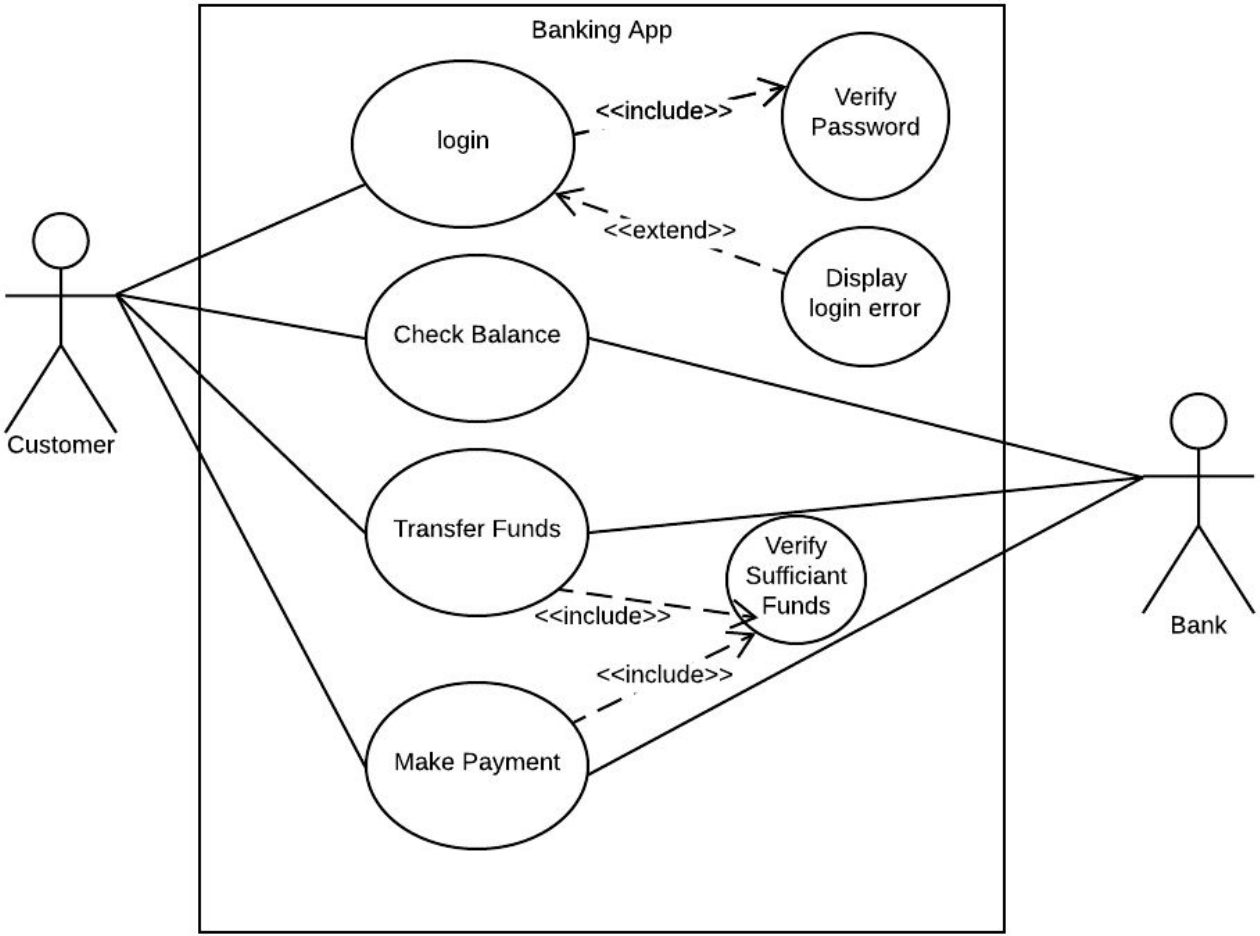
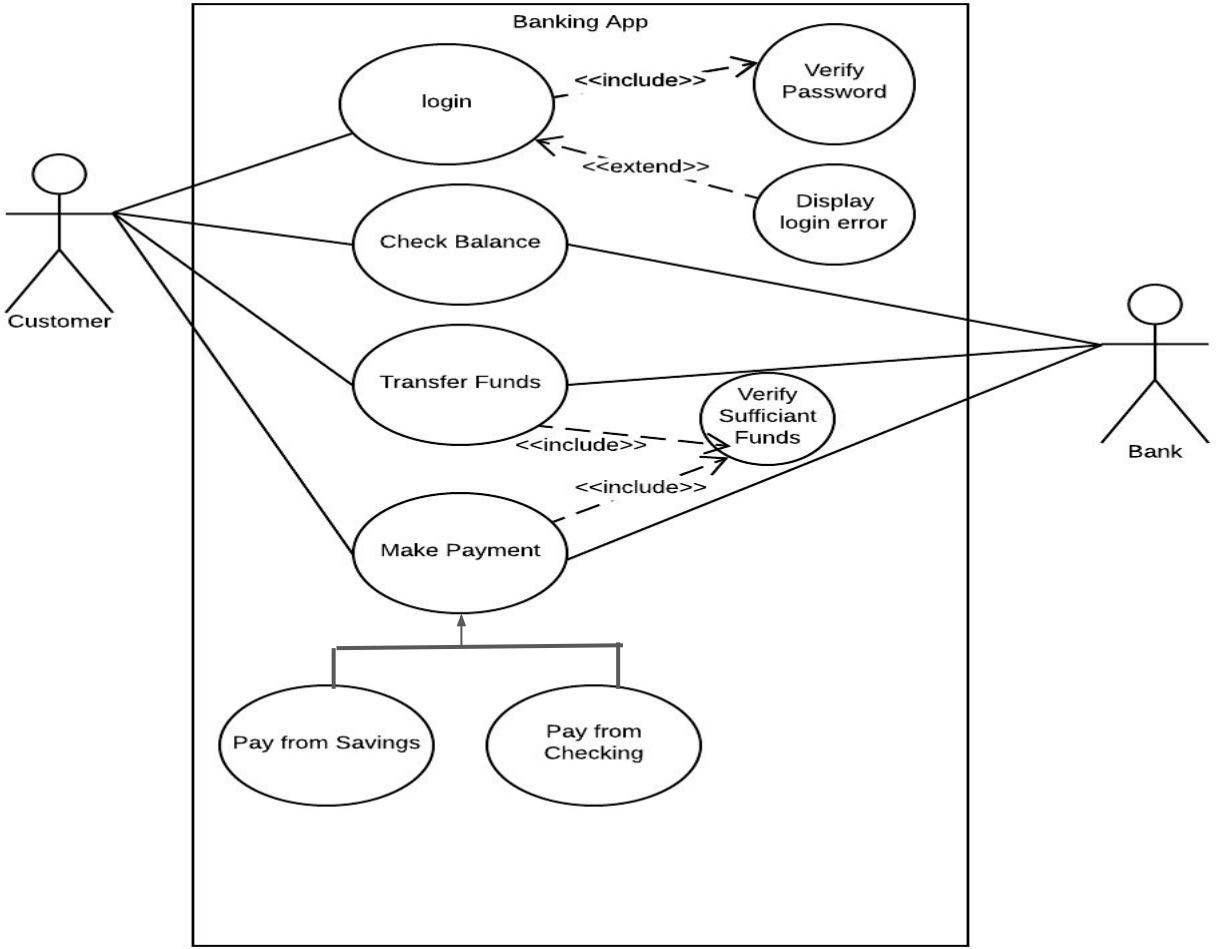
login
<<include>>
Verify Password
Display login error
Check Balance
Transfer Funds
Verify Sufficiant Funds
<<include>>
<<include>>
Make Payment
Customer
Bank


Banking App
login
Verify Password
<<include>>
<<extend>>
Display login error
Check Balance
Transfer Funds
Verify Sufficiant Funds
<<include>>
<<include>>
Make Payment
Customer
Bank

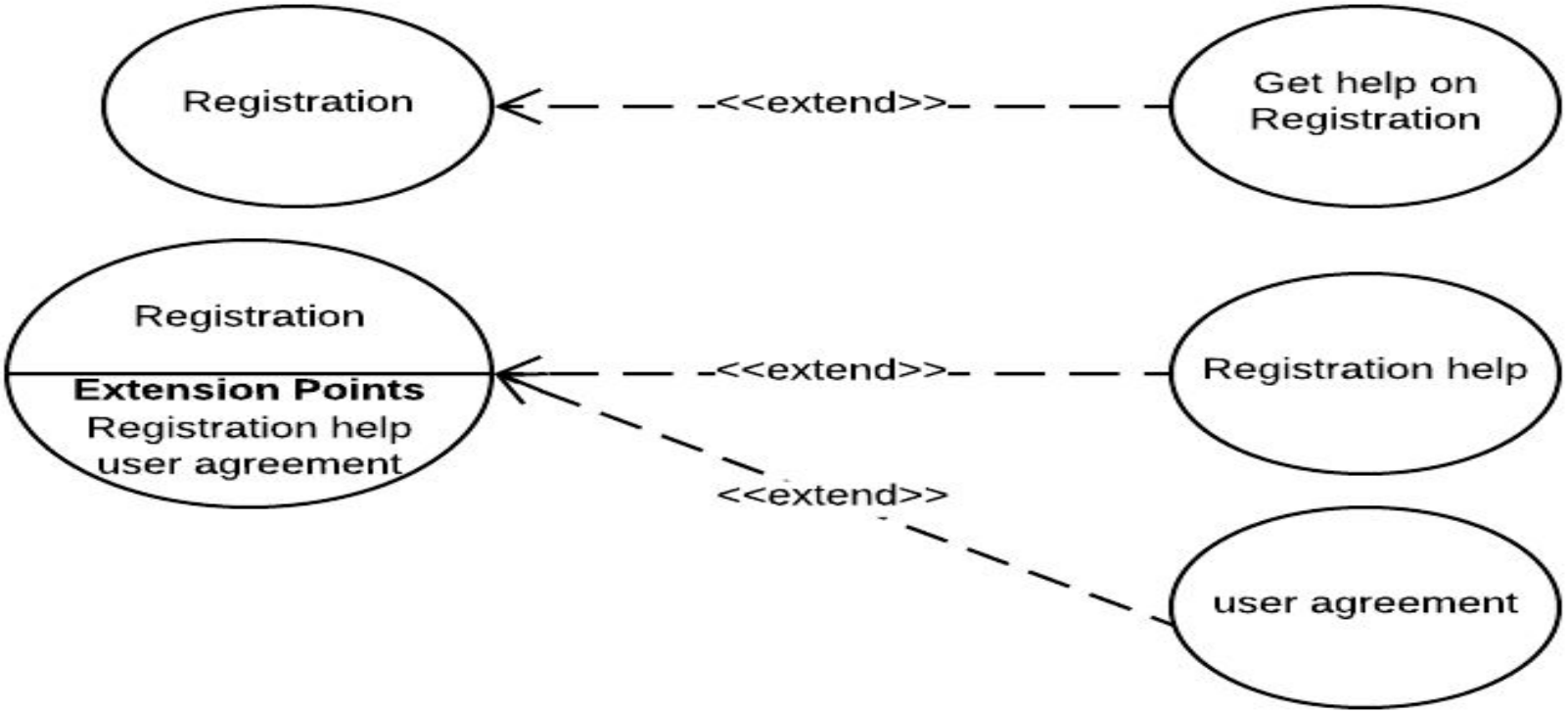
Use Case Diagram - Relationships

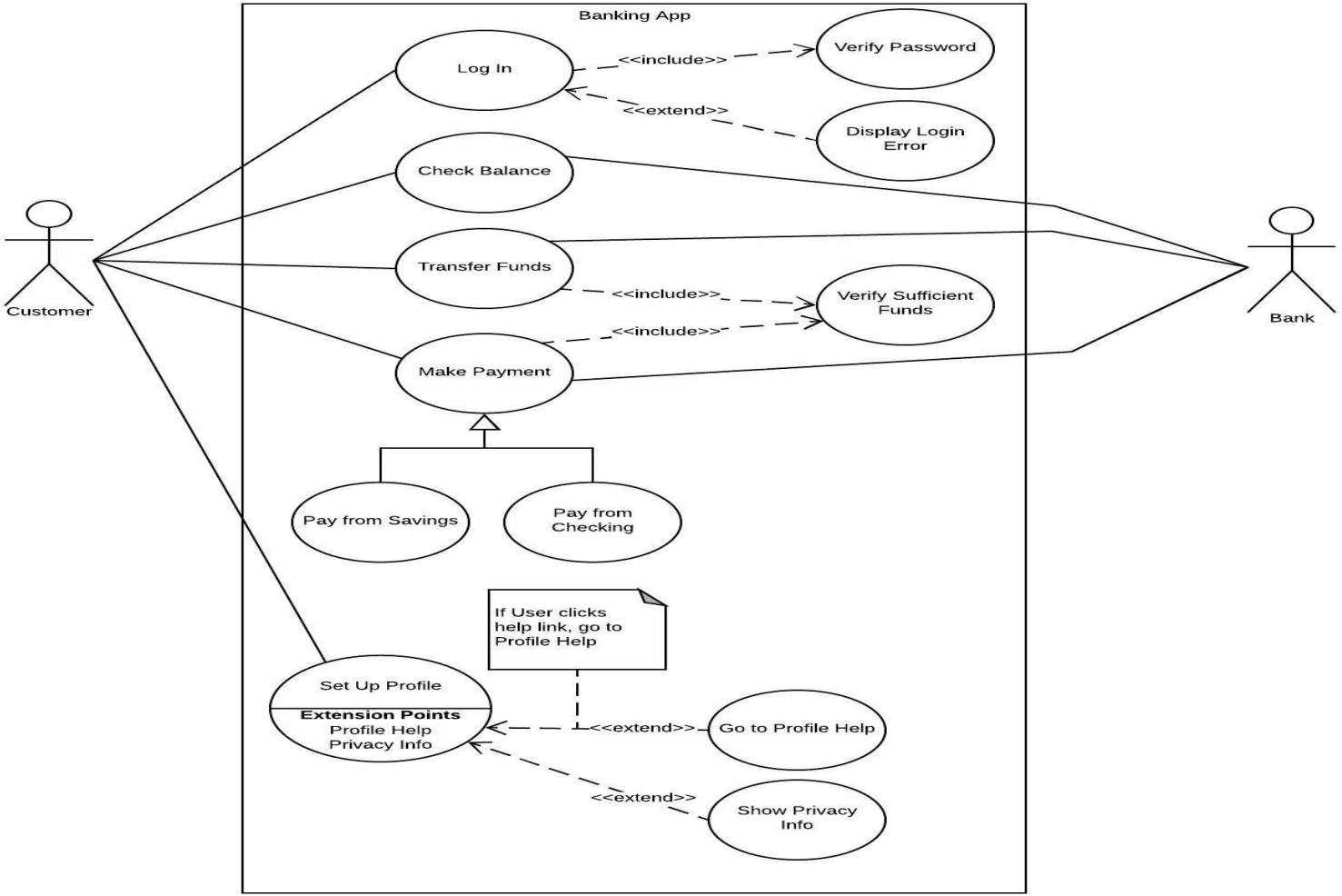



Banking App
login
Verify Password
<<include>>
<<extend>>
Display login error
Check Balance
Transfer Funds
Verify Sufficiant Funds
<<include>>
<<include>>
Make Payment
Customer
Bank


Banking App
login
<<include>>
Verify Password
<<extend>>
Display login error
Check Balance
Customer
Transfer Funds
Verify Sufficiant Funds
<<include>>
<<include>>
Make Payment
Bank
Pay from Savings
Pay from Checking

Use Case Diagram - Extension points

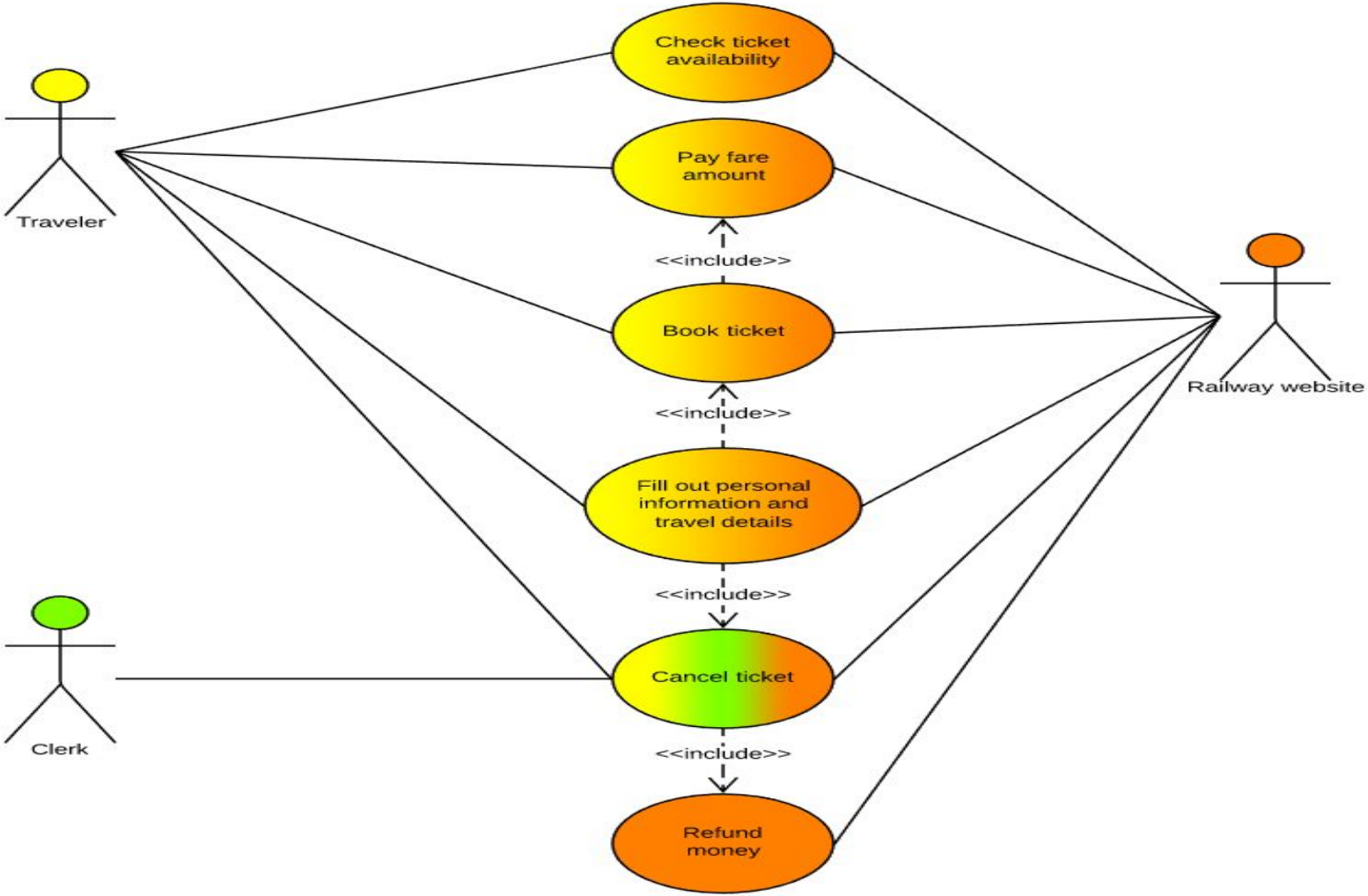



Banking App
Log In
Verify Password
<<include>>
<<extend>>
Display Login Error
Check Balance
Transfer Funds
<<include>>
Verify Sufficient Funds
<<include>>
Make Payment
Customer
Bank
Pay from Savings
Pay from Checking
If User clicks help link, go to Profile Help
Set Up Profile
Extension Points
Profile Help
Privacy Info
<<extend>>
Go to Profile Help
<<extend>>
Show Privacy Info

UML- case study

Railway Reservation System is a system used for booking tickets over internet. Any Customer can book tickets for different trains. Customer can book a ticket only if the tickets are available. If the tickets are available customer books the tickets upon make the payment and by initially filling details in a form.

For cancellation of ticket the customer has to go at reservation office with the fill-up during the ticket booking and ask the clerk to cancel the ticket than the refund is transferred to customer account.


Check ticket availability
Pay fare amount
Book ticket
Fill out personal information and travel details
Cancel ticket
Refund money
<<include>>
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<<include>>
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Traveler
Clerk
Railway website