



## **MASTER OF COMPUTER APPLICATION**

**MCSL - 036 (Section-1 : Object Oriented Analysis and Design) – Lab**

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**Enrolment Number** : 187012107  
**Year / Semester** : II / I  
**Study Centre Code** : 2548  
**Study Centre** : Kongu Engineering College

**DIRECTORATE OF DISTANCE EDUCATION**  
**INDIRA GANDHI NATIONAL OPEN UNIVERSITY**

**New Delhi**

Certified that this is the bonafide record work done by  
**Mr. R. Gowtham** with Enrolment Number: **187012107** of MCA  
(Master of Computer Applications) – **III Semester** in the  
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Education, Indira Gandhi National Open University, New Delhi,  
during the Calendar year 2019 – 2020

**Date:**

Submitted for MCA Degree course Practical Examination held  
on **08.01.2020** at the center **G.R.D. College of Science,**  
**Coimbatore.**

**Date :**

**Examiners**

1. Name :  
Signature :
2. Name :  
Signature :

## **Object Oriented Analysis and Design – LAB**

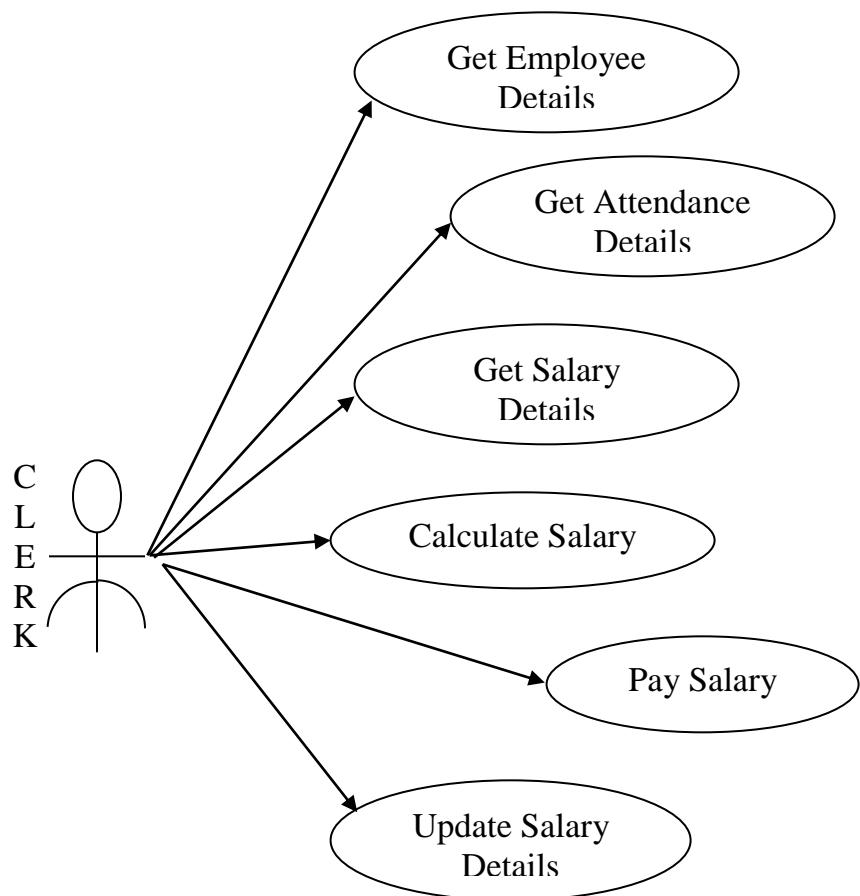
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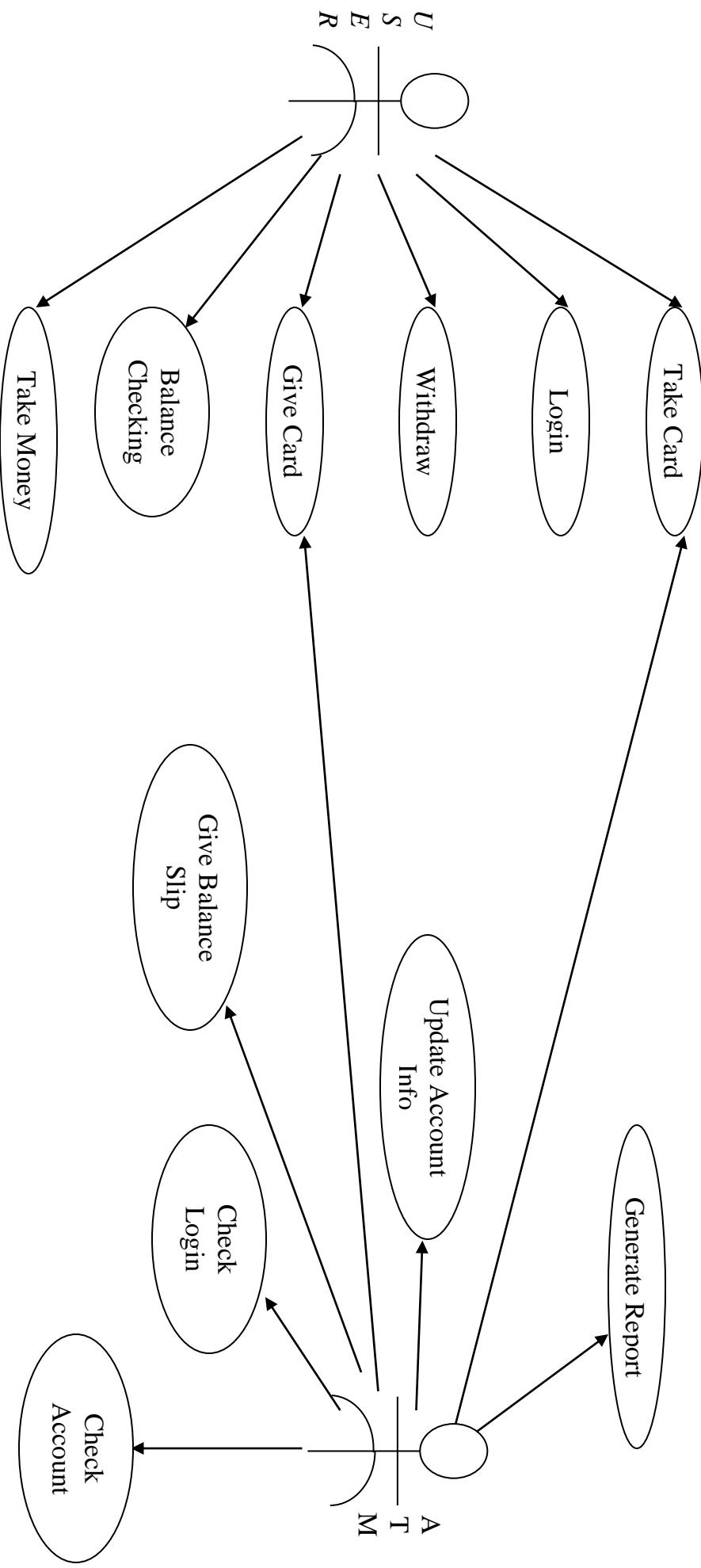
# **OBJECT ORIENTED ANALYSIS AND DESIGN - LAB**

## Sessions 1,2 & 3: Draw the Use Case Diagrams

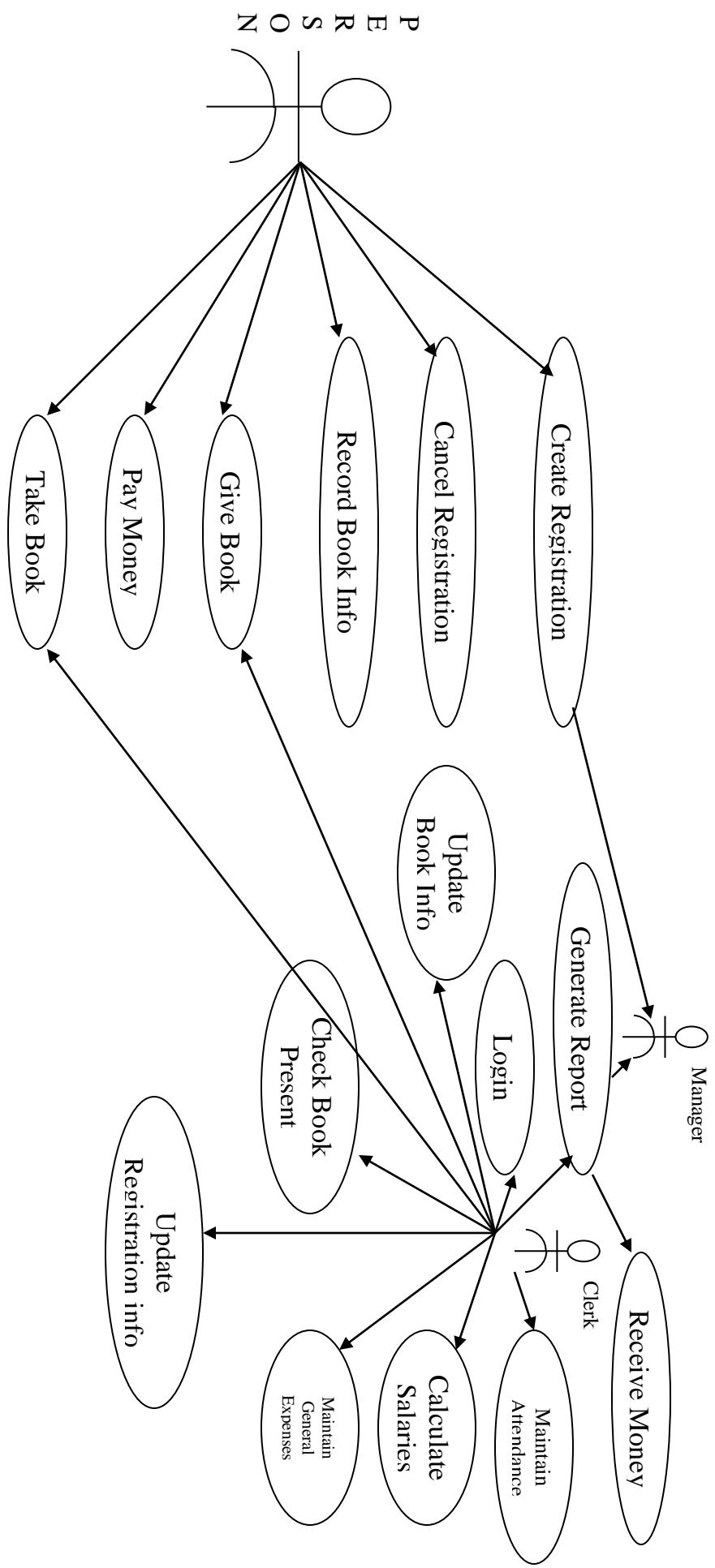
### 1. Use Case Diagram for Employee Management System



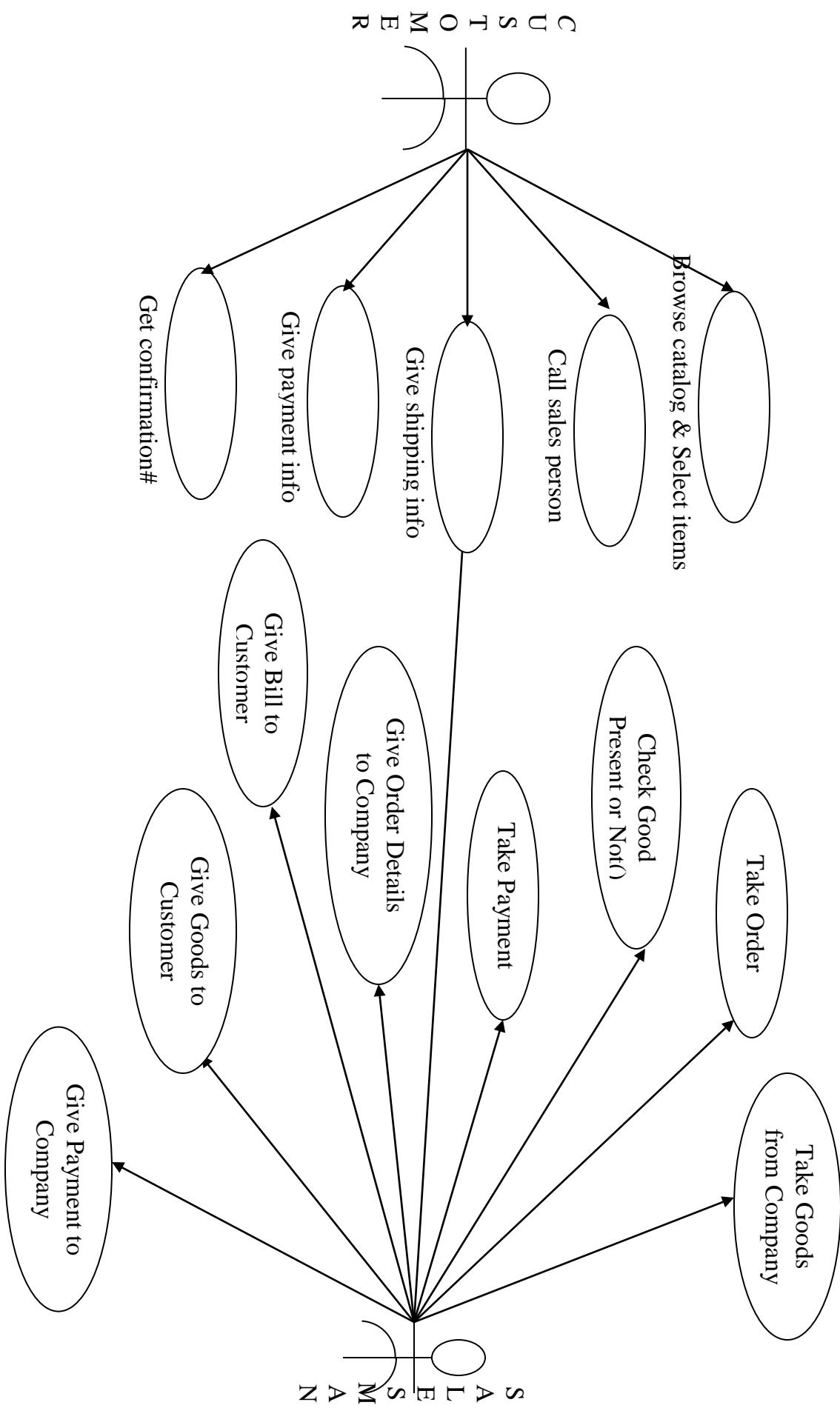
## 2. Use Case Diagram for ATM



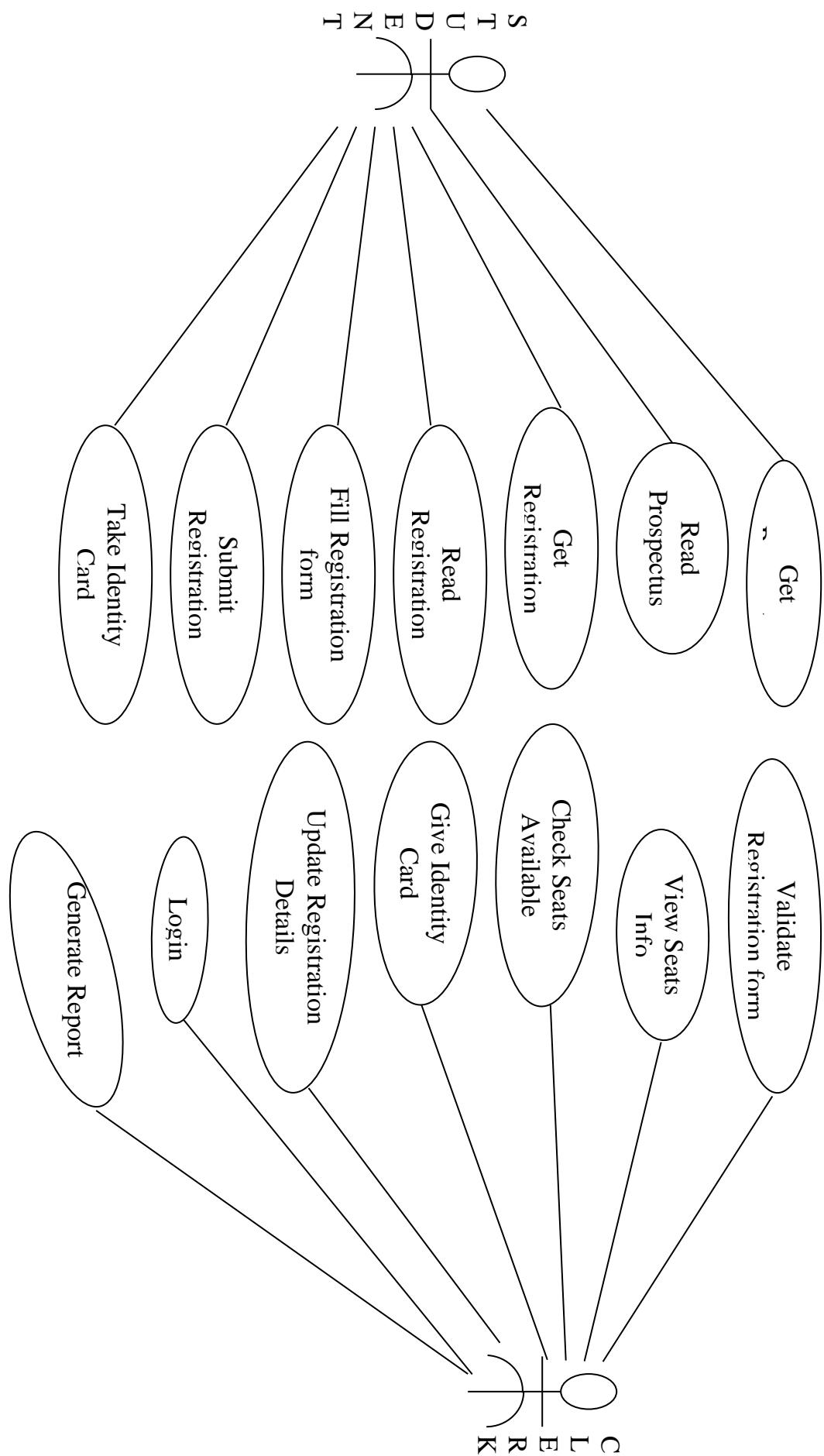
### 3. Use Case Diagram for Library Management



#### 4. Use Case Diagram for Ordering Processing



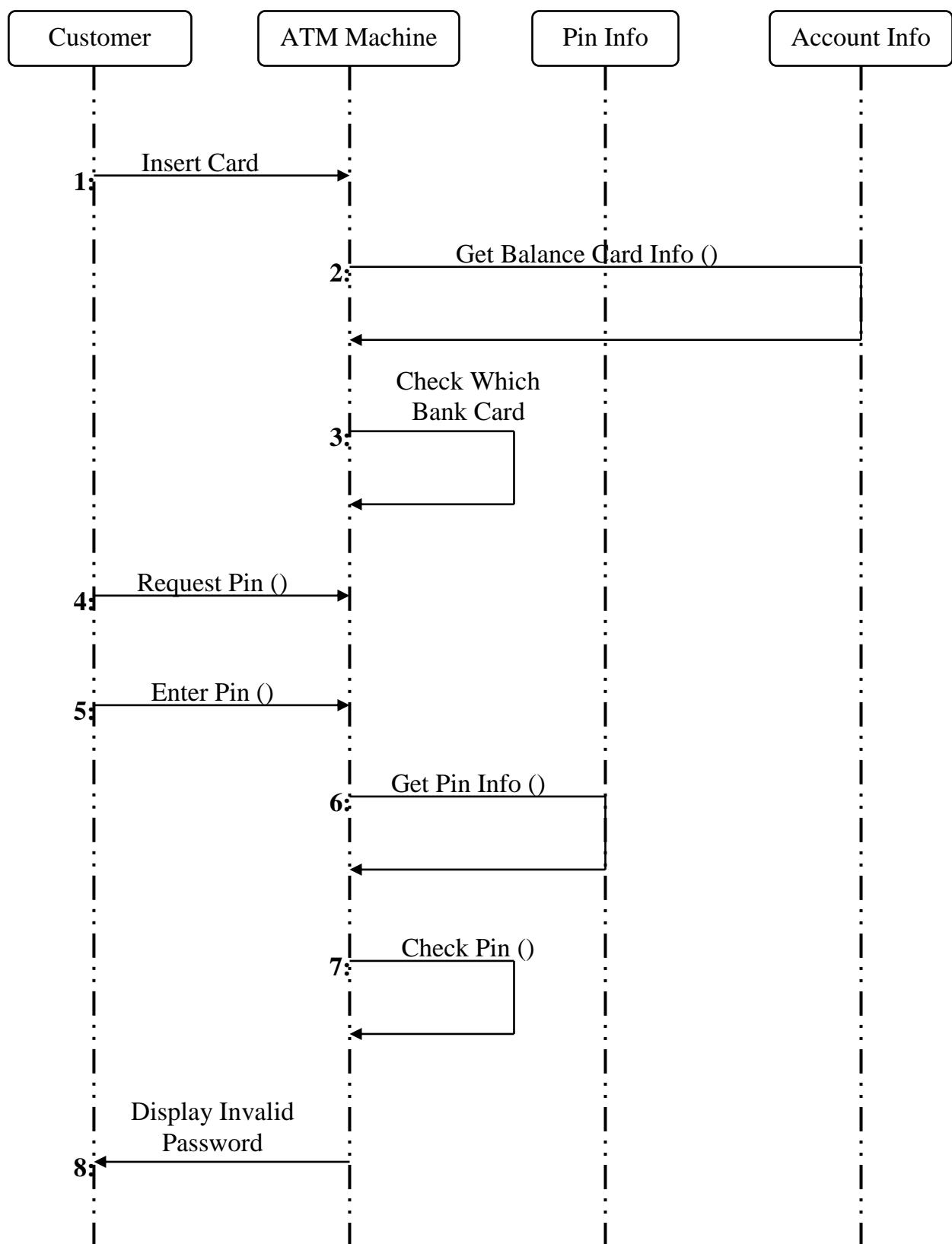
## 5. Use Case Diagram for Student Registration



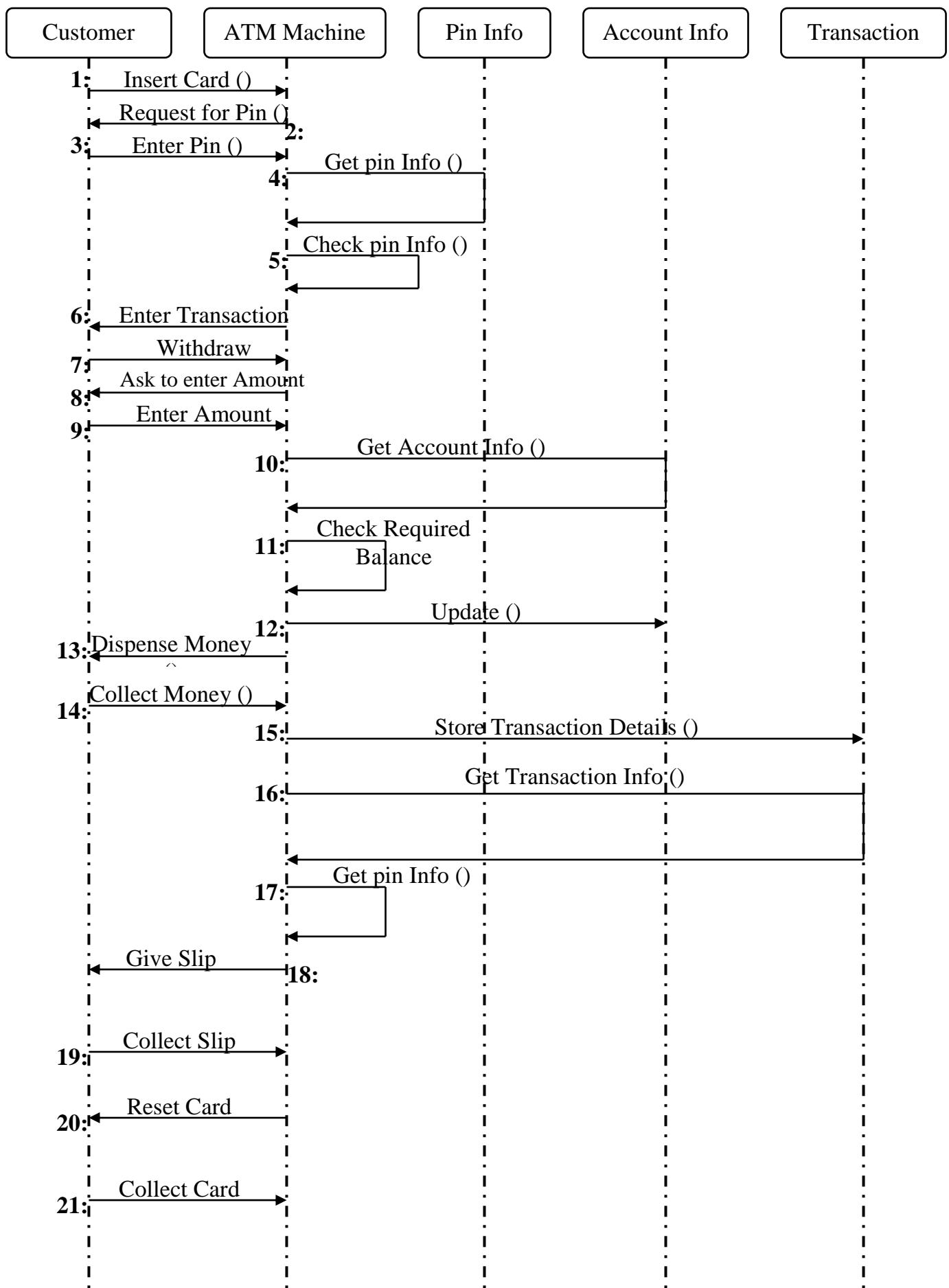
## Section 4 & 5: Draw the Sequence and Collaboration Diagrams

### 6. a) Sequence Diagrams for ATM

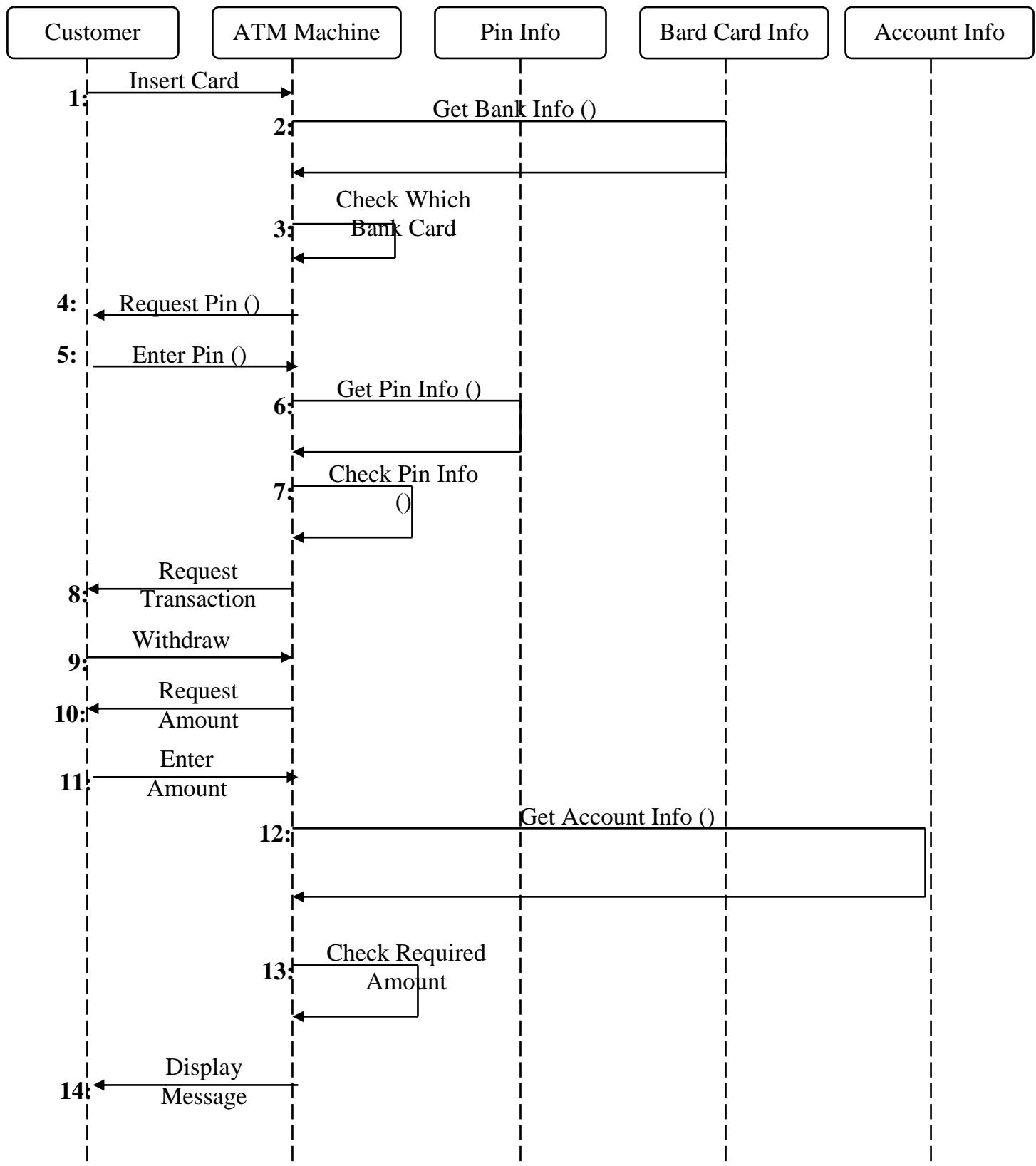
#### Sequence Diagram for Invalid PIN Code



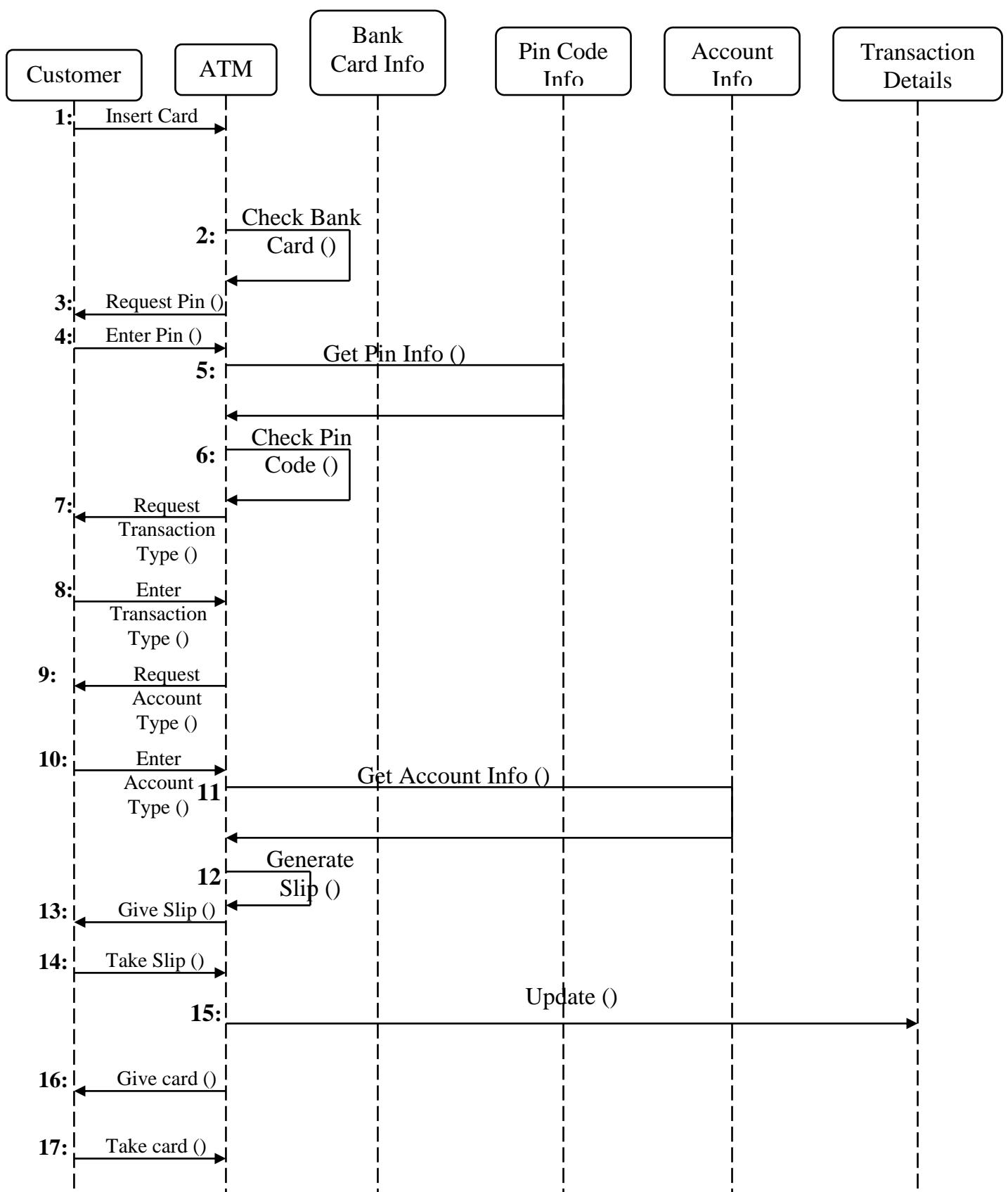
### Sequence Diagram for Withdraw



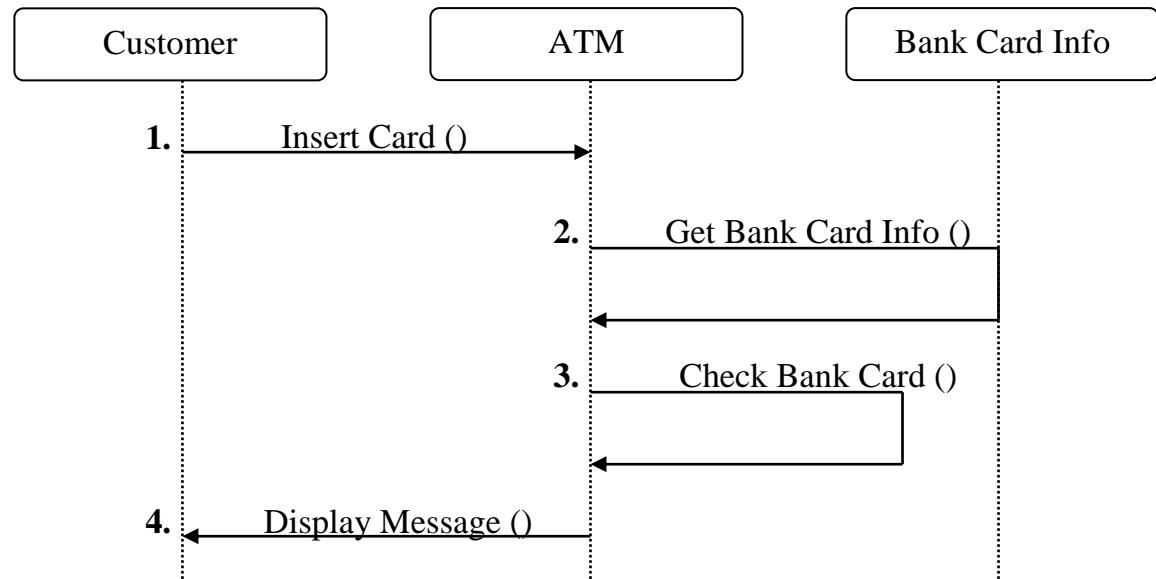
### Sequence Diagram for Invalid Amount



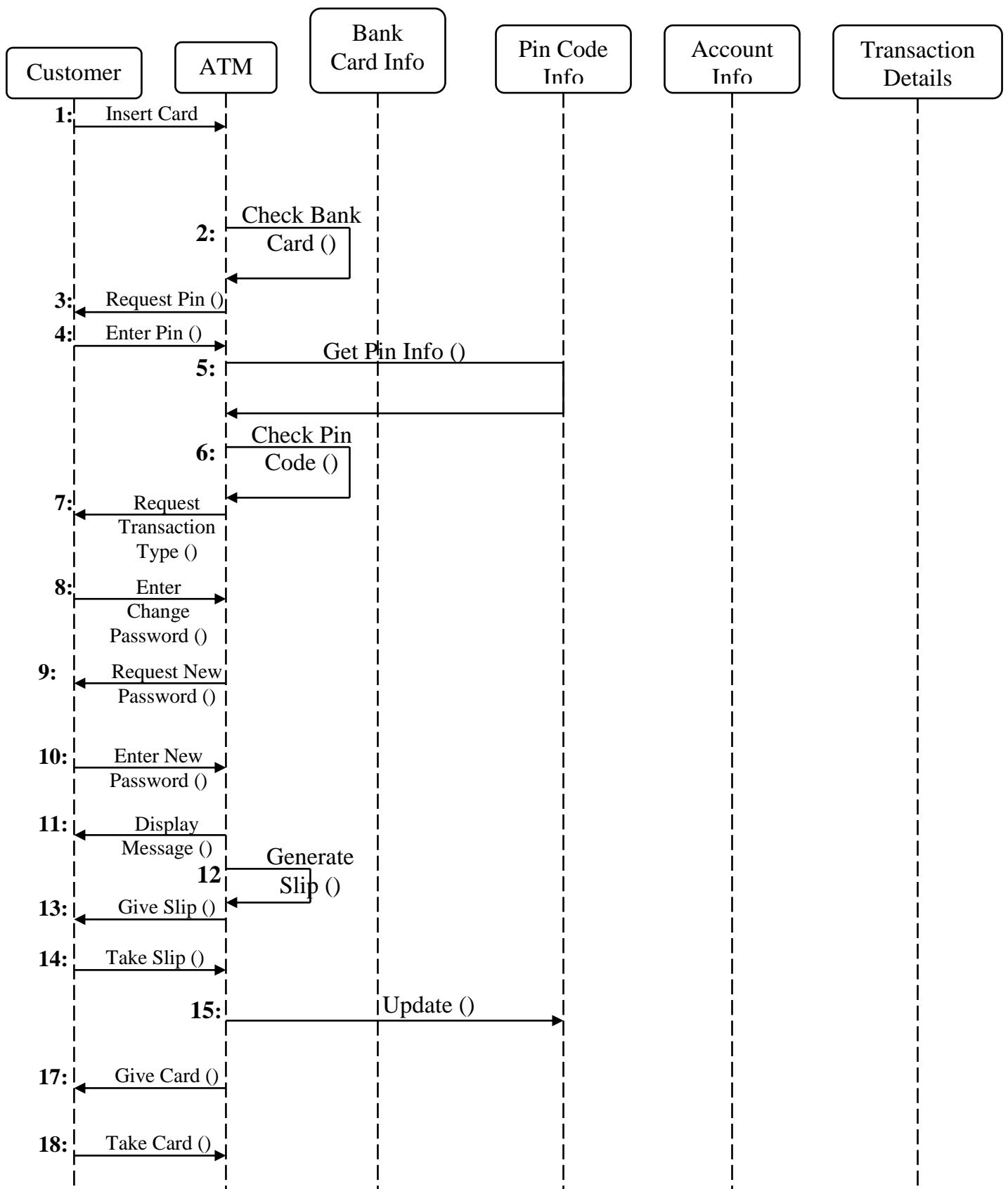
### Sequence Diagram for Balance Check



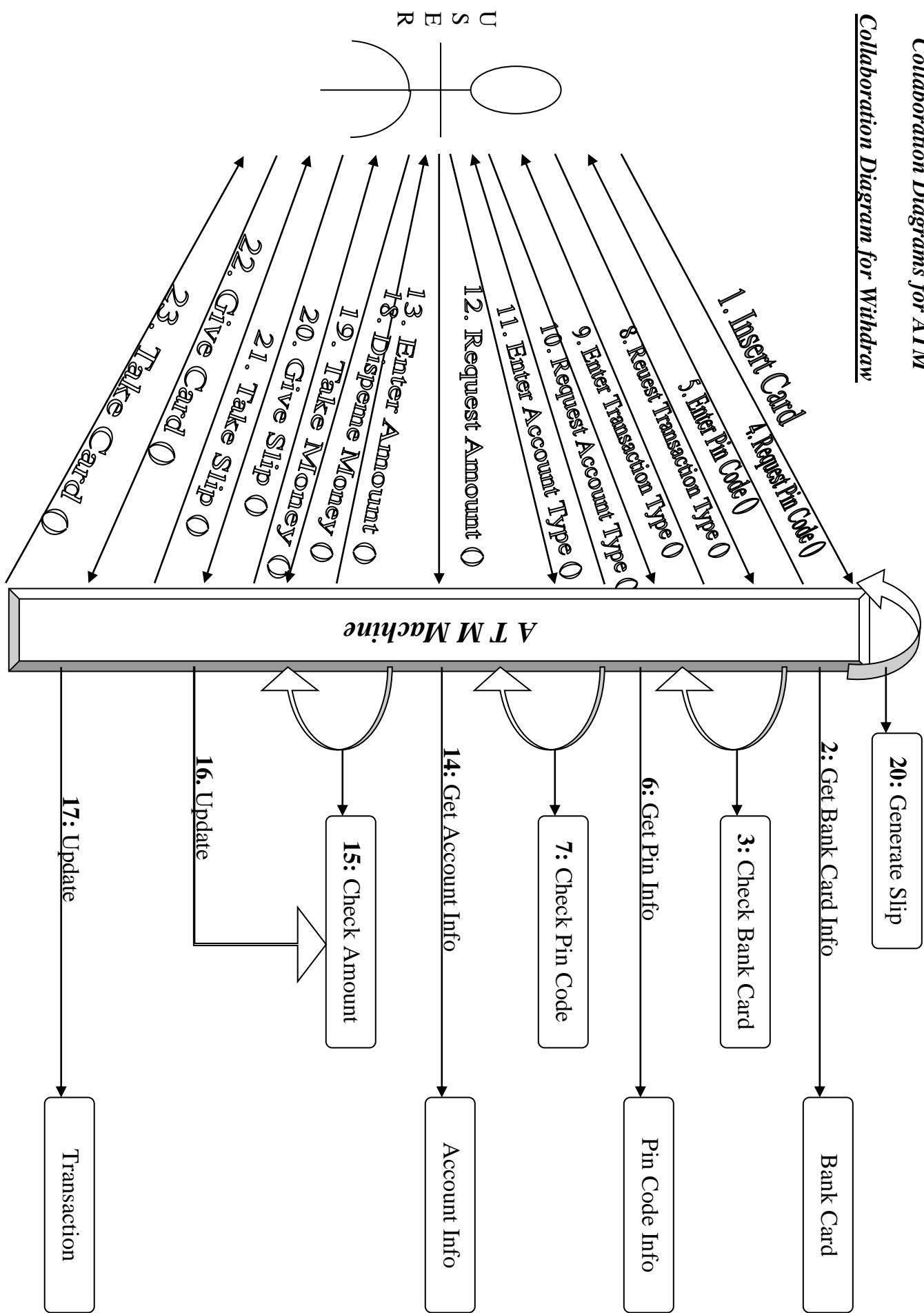
### Sequence Diagram for Invalid Bank Card



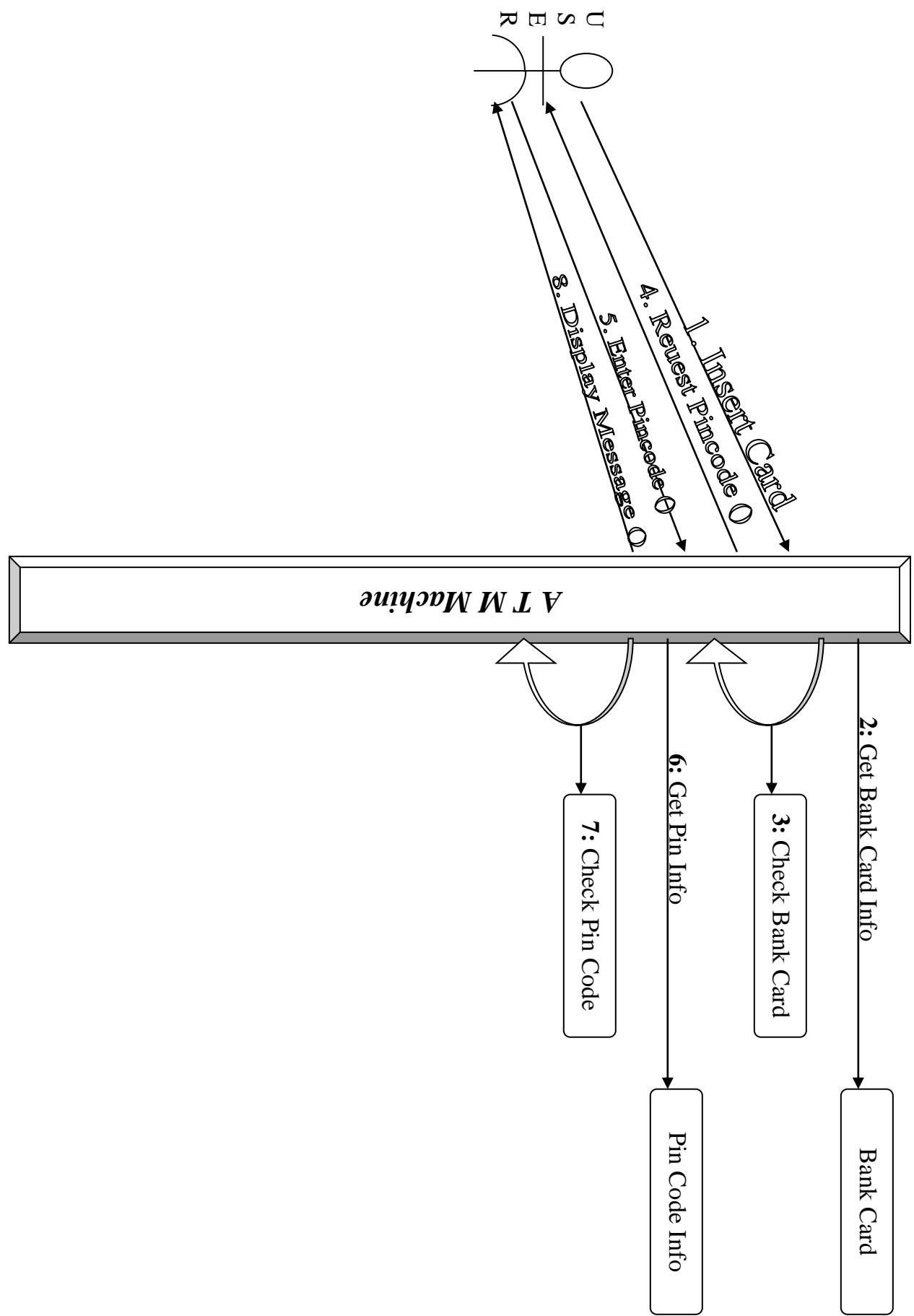
### Sequence Diagram for Changing Password



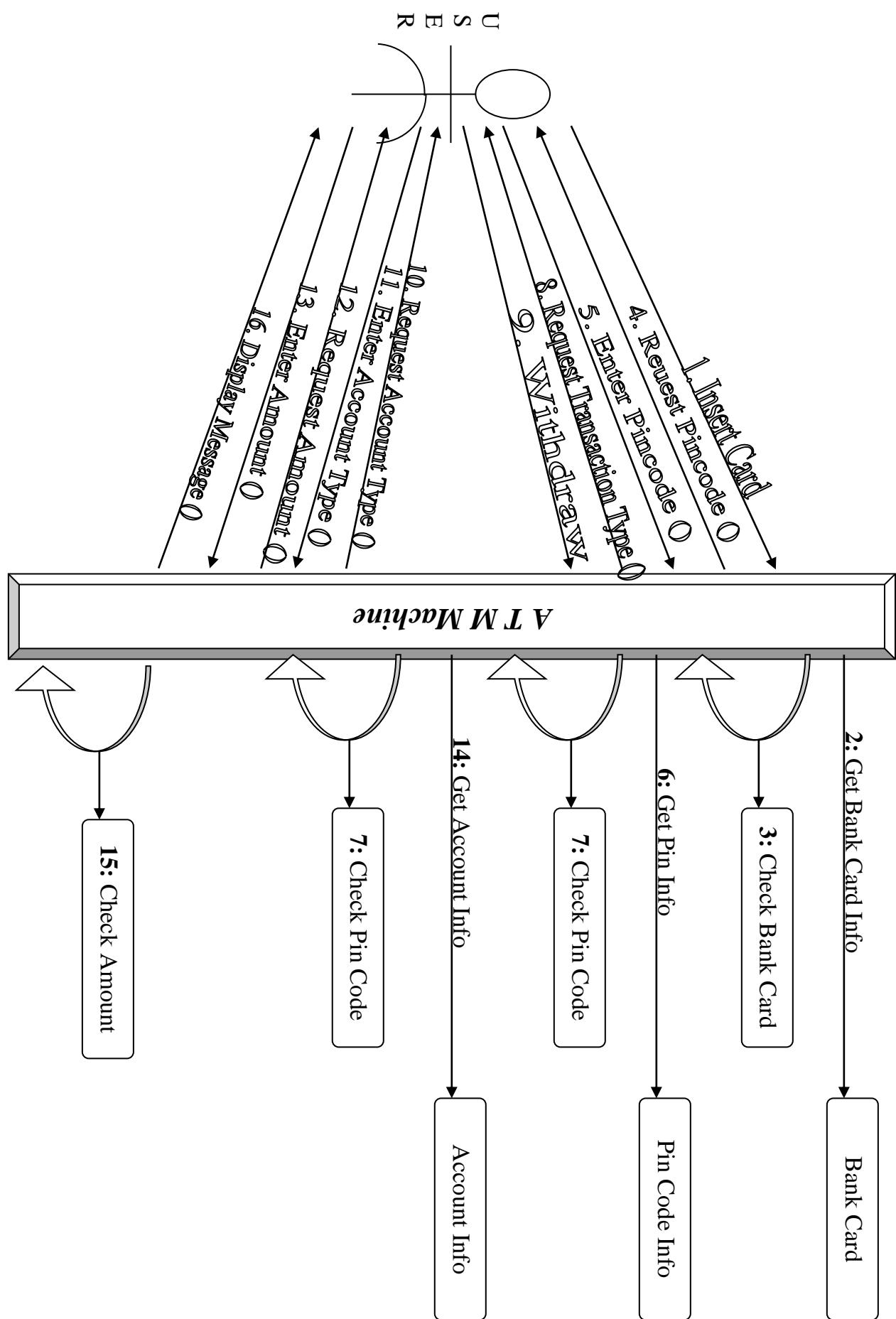
b) *Collaboration Diagrams for ATM*



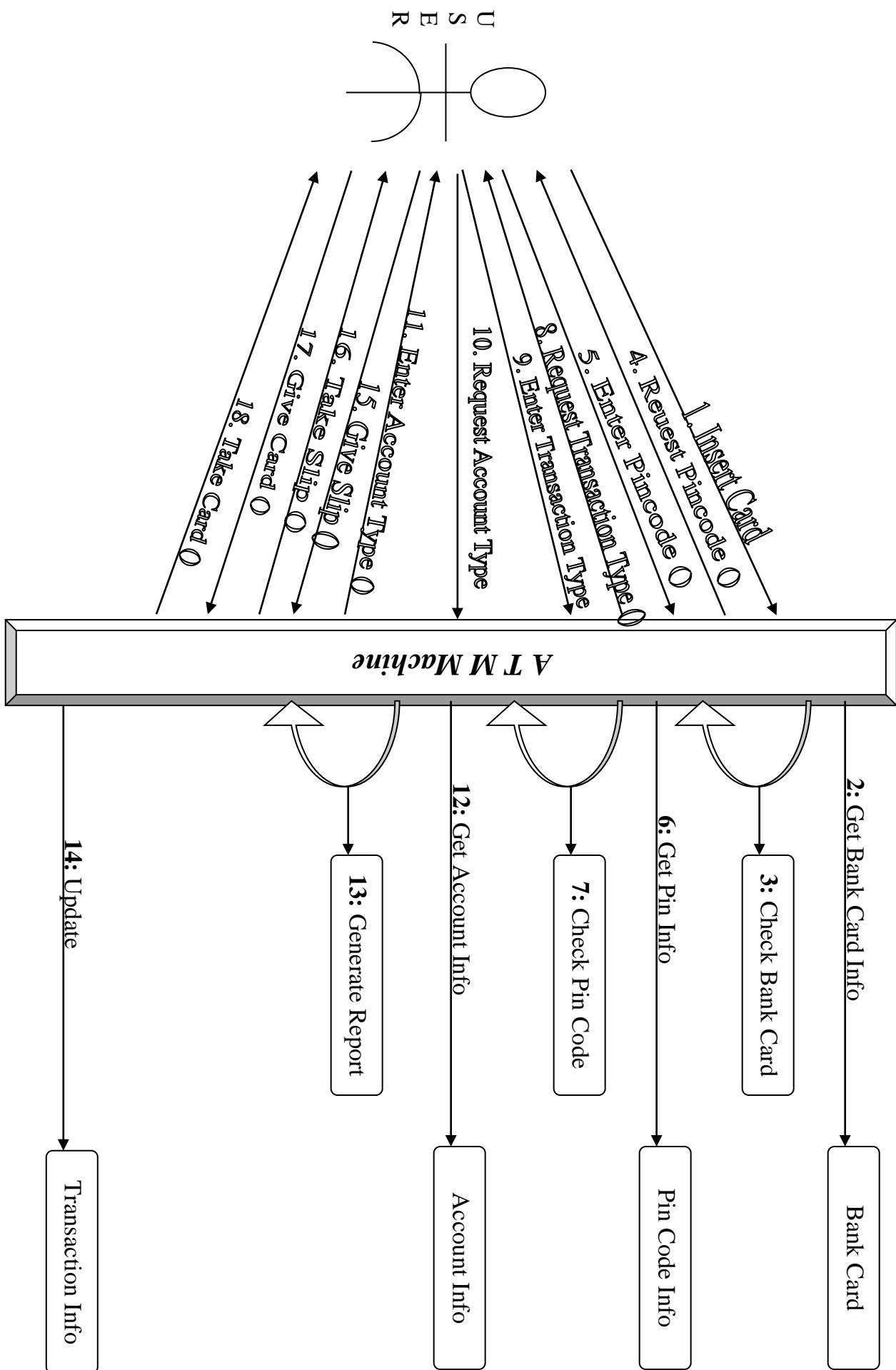
Collaboration Diagram for Invalid PIN Code



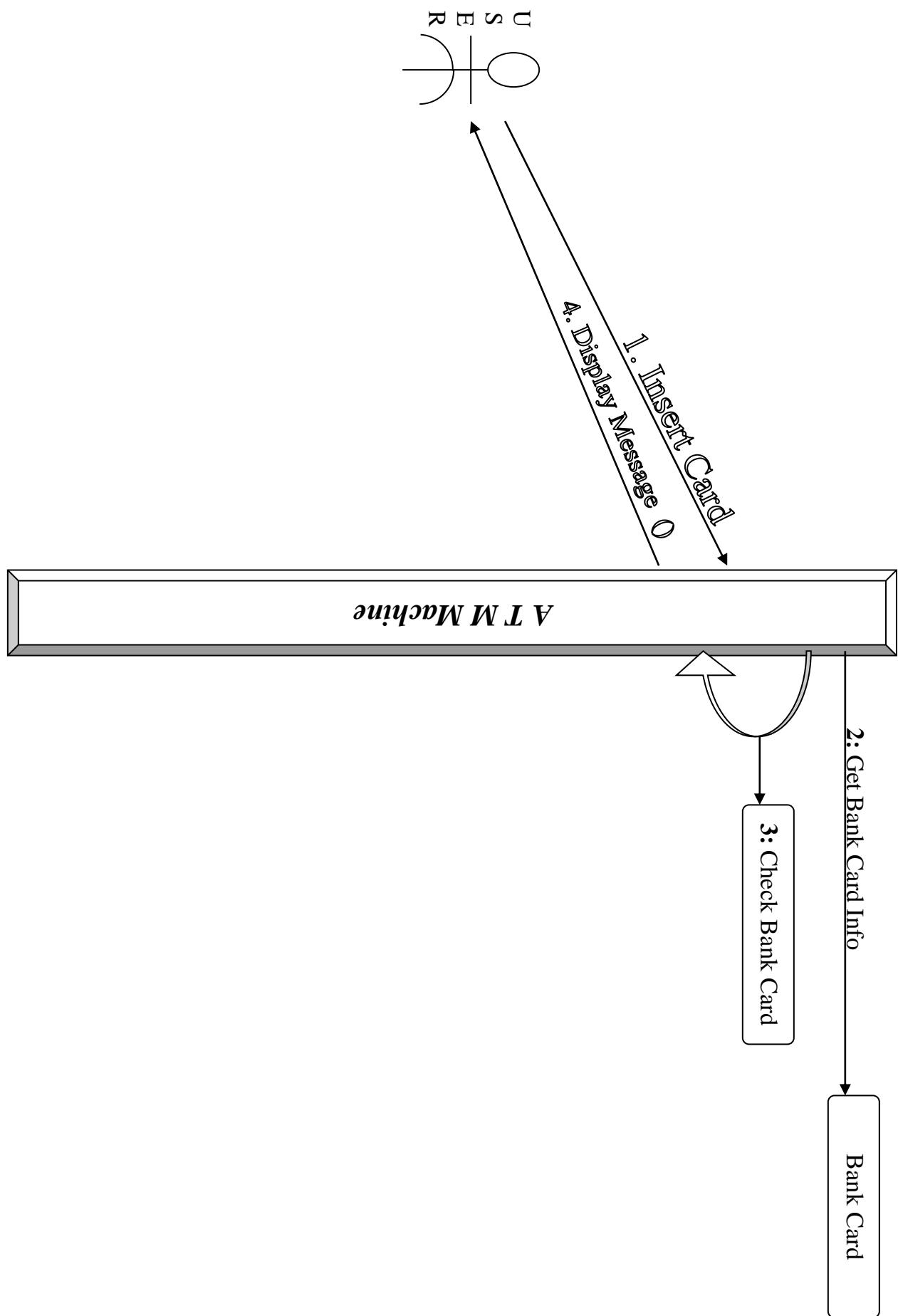
### Collaboration Diagram for Invalid Amount



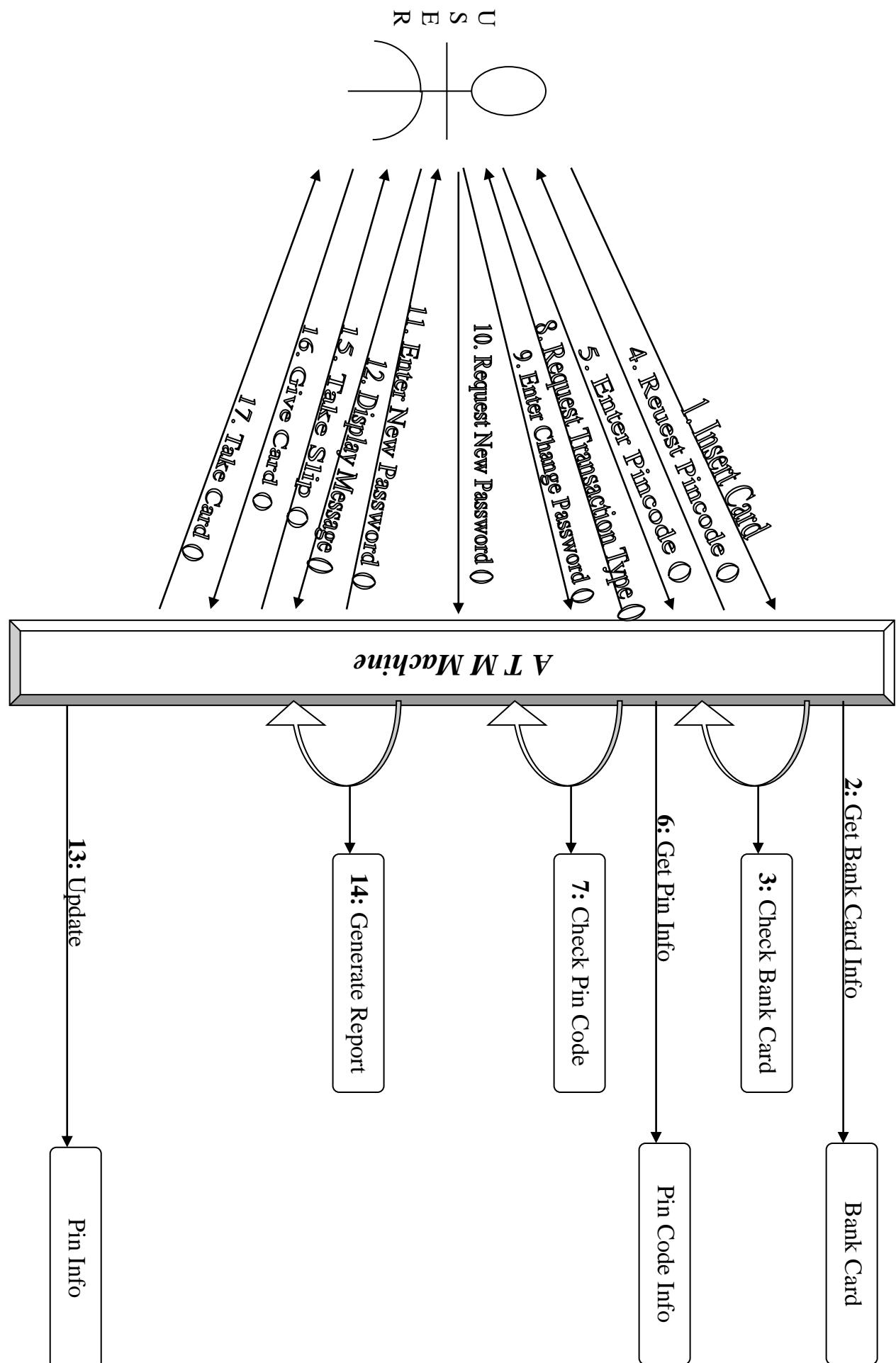
### Collaboration Diagram for Balance Check



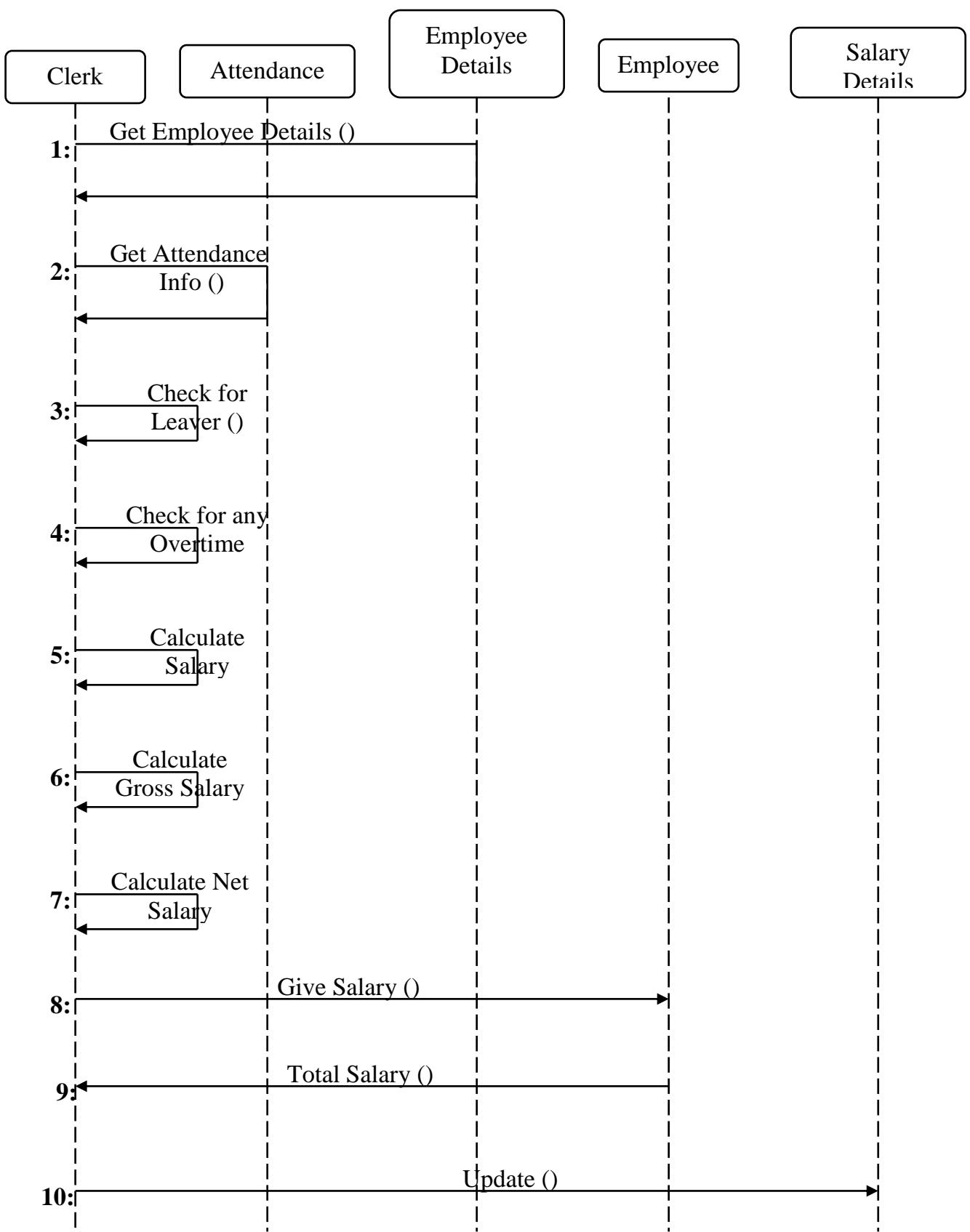
Collaboration Diagram for Invalid Bank Card



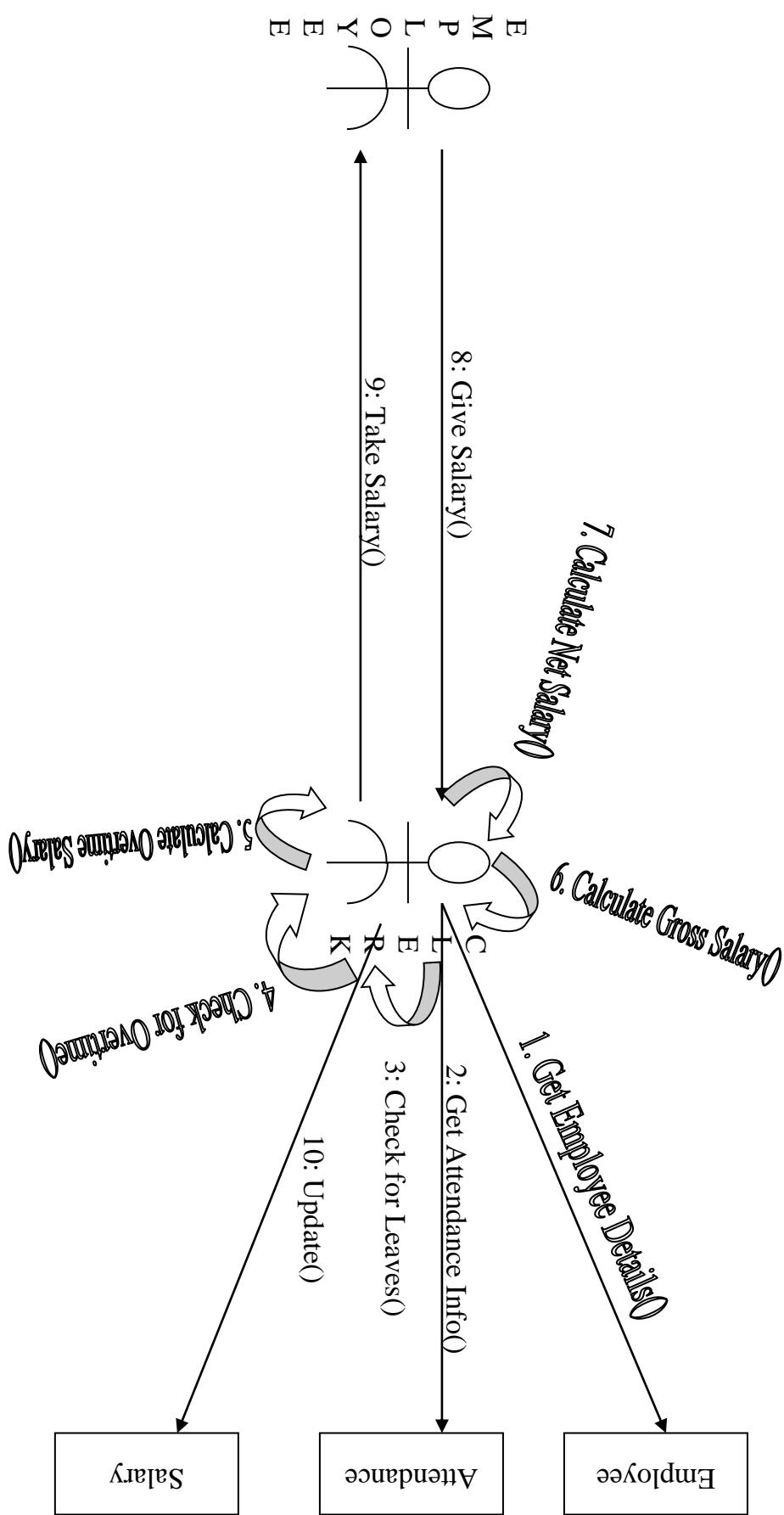
### Collaboration Diagram for Changing Password



**7 a) Sequence Diagram for Employee Management System**

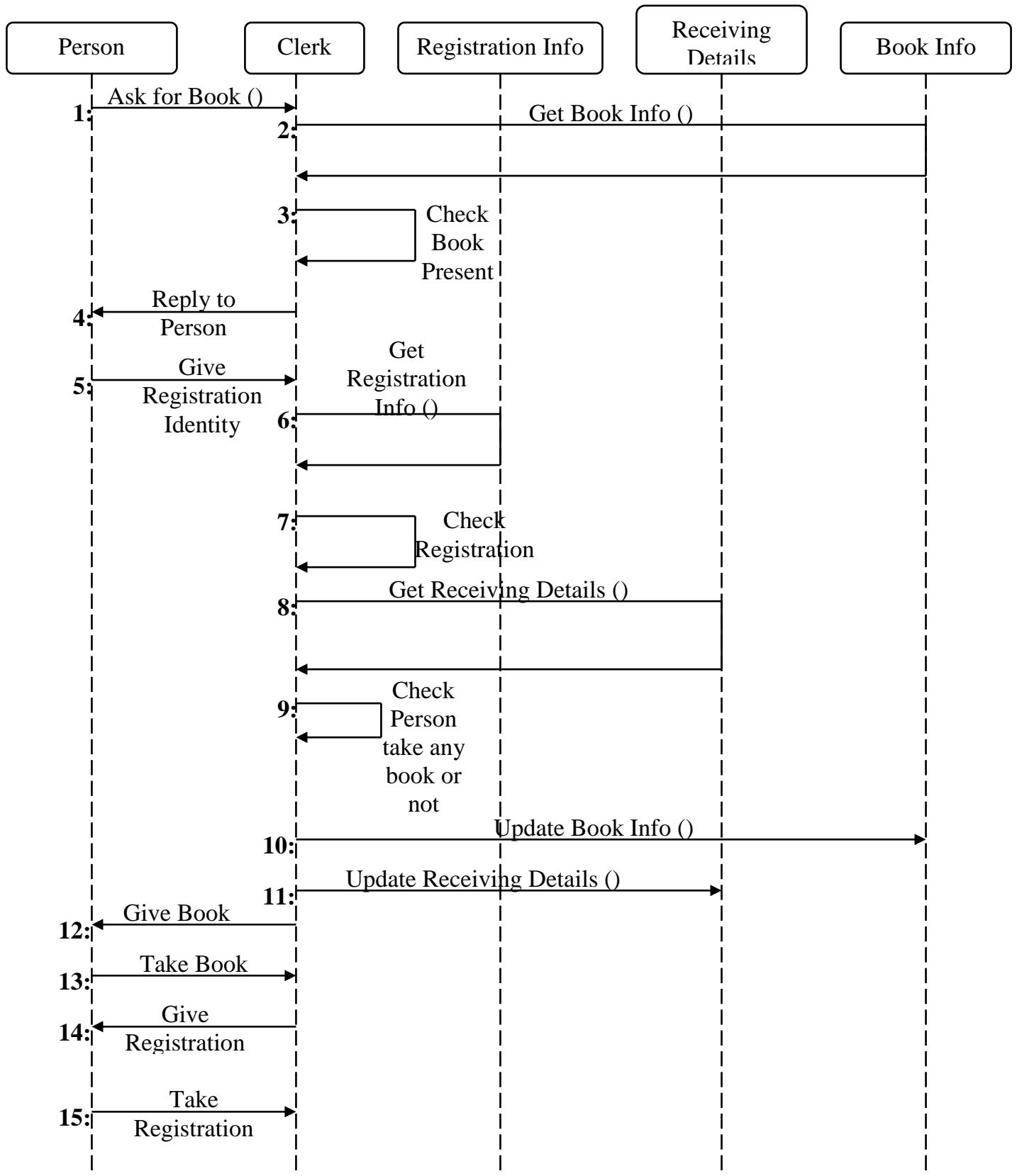


b) Collaboration Diagram for Employee Management System

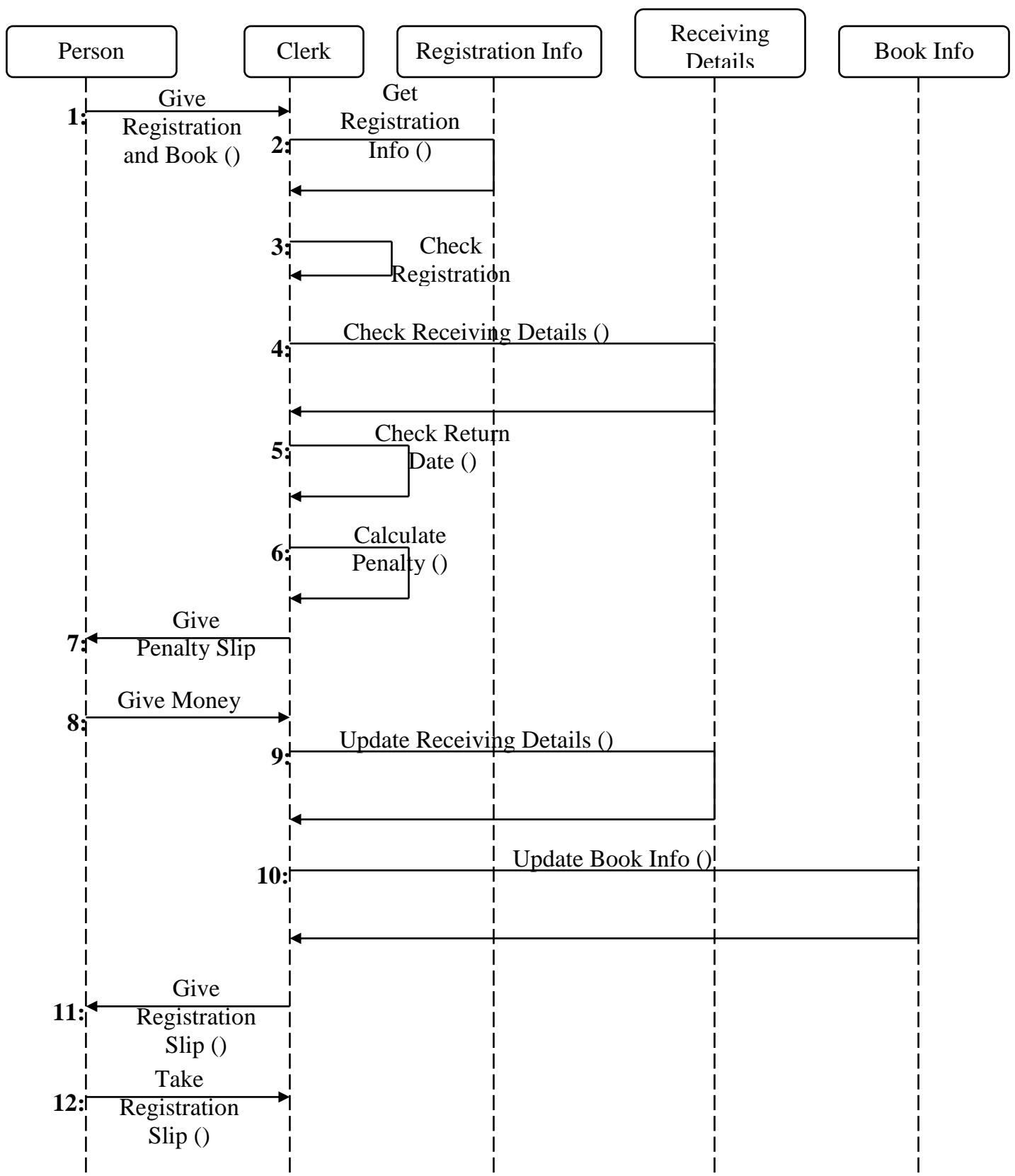


## 8 a) Sequence Diagrams for Library Management System

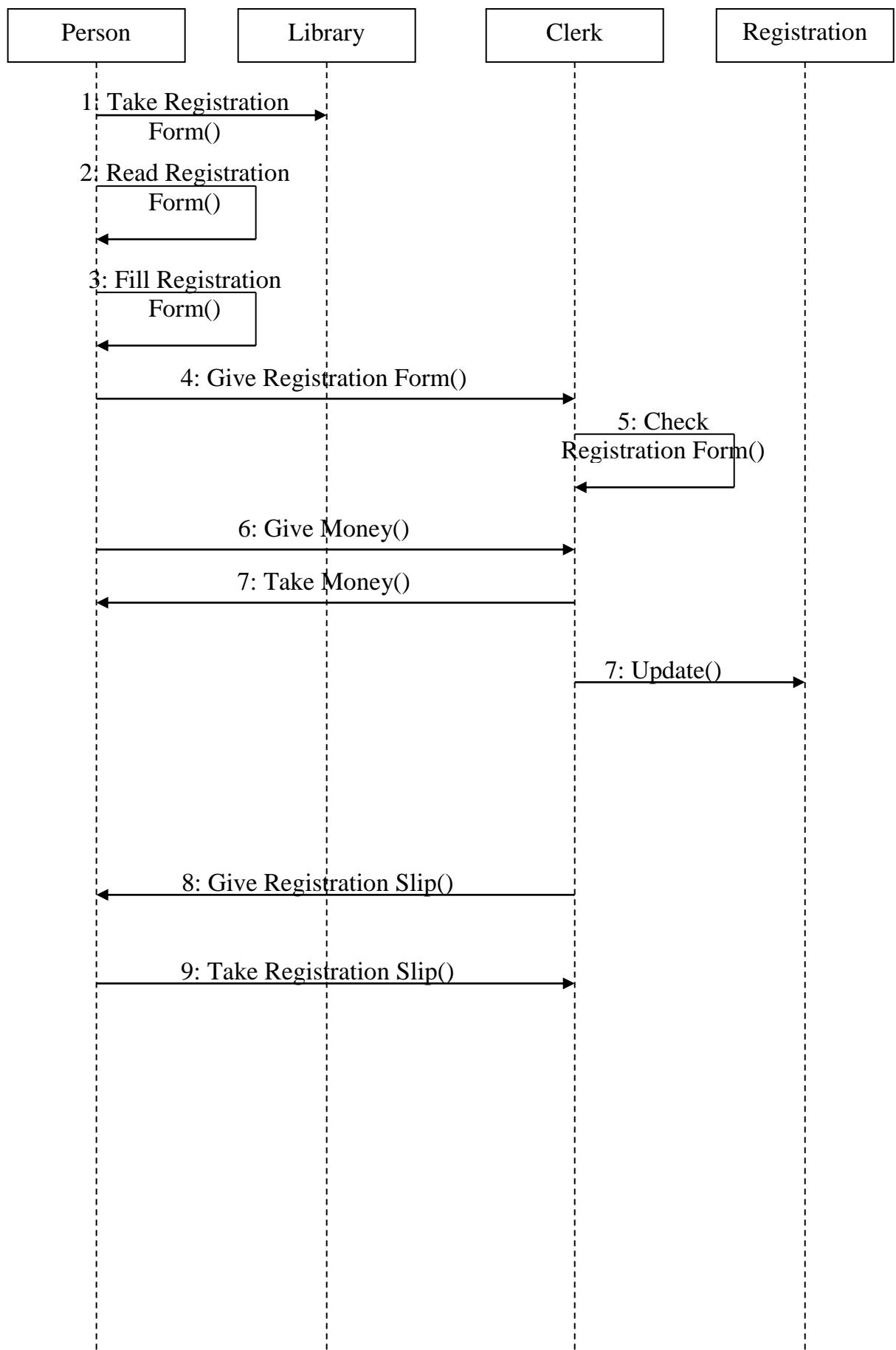
### Sequence Diagram for Taking Book



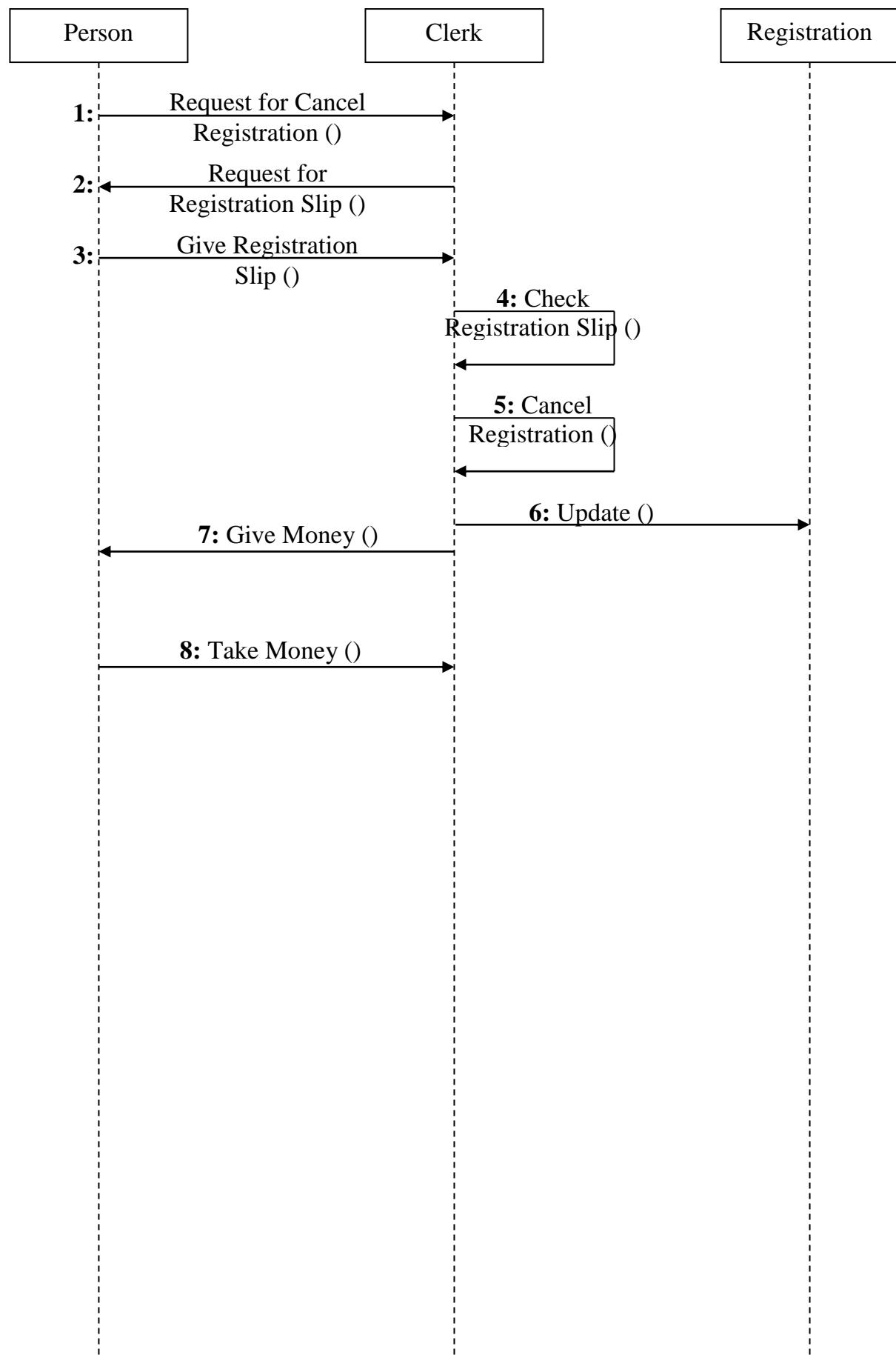
### Sequence Diagram for Giving Book



### Sequence Diagram for Create Library Registration

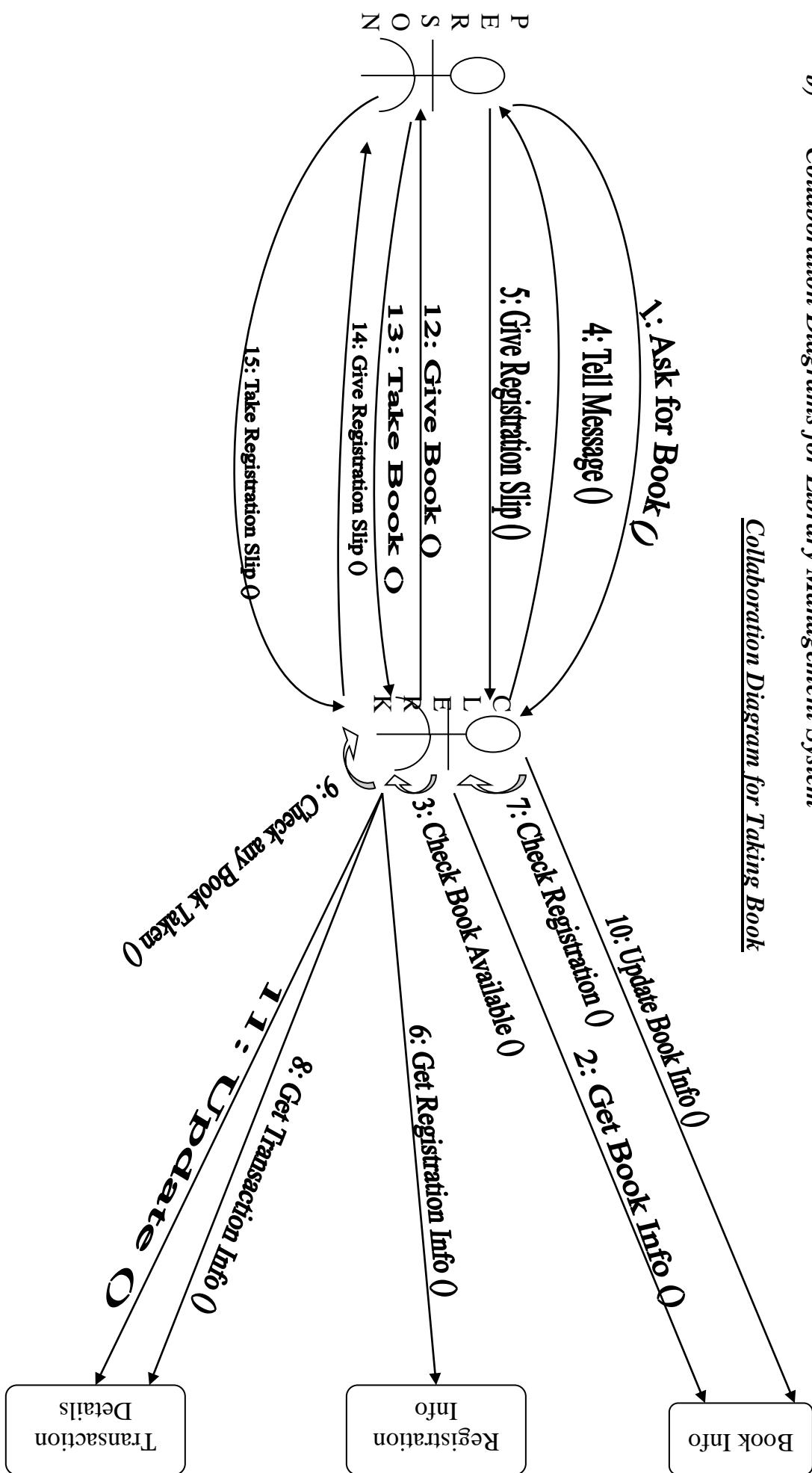


### Sequence Diagram for Cancel Library Registration

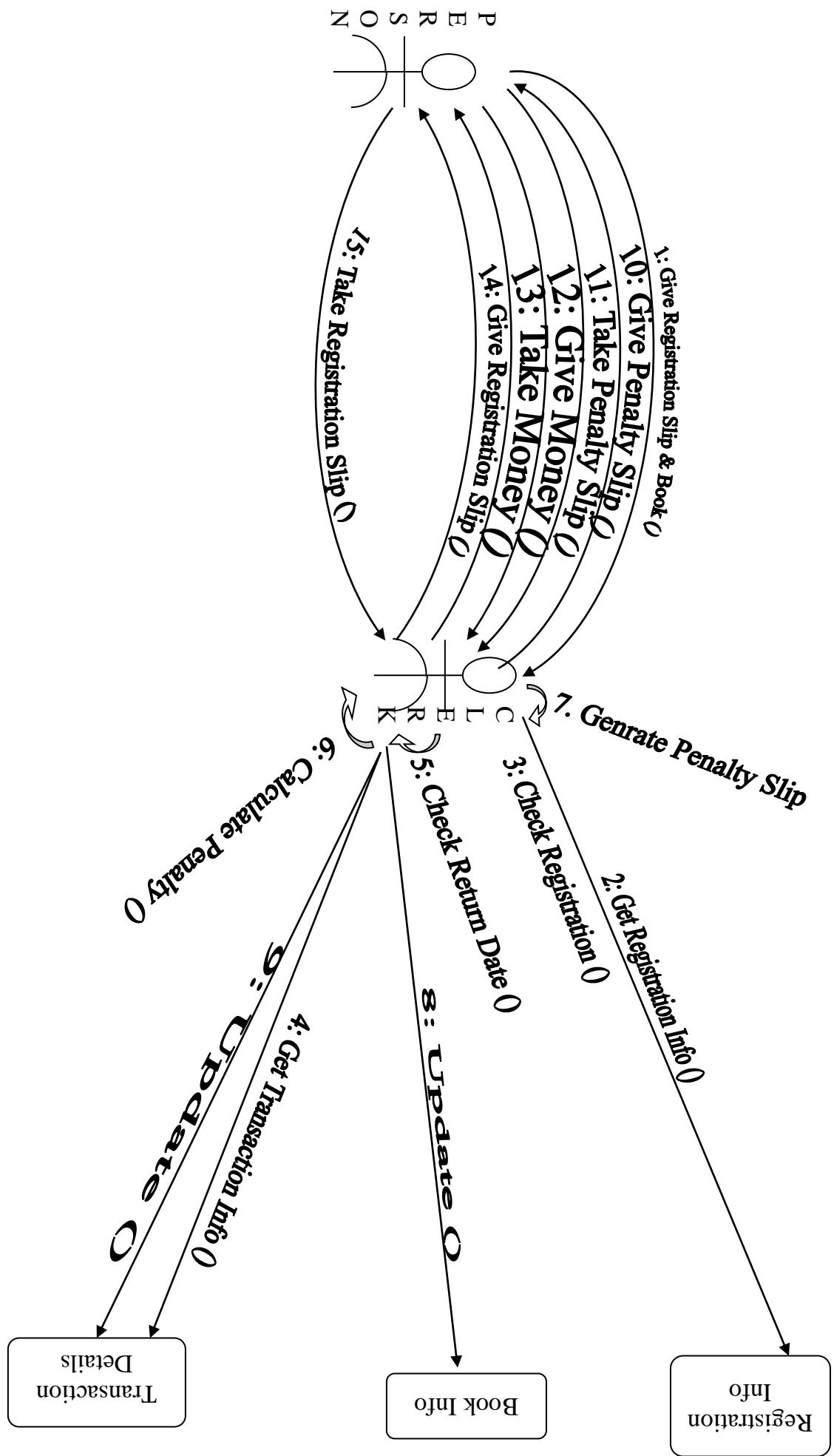


b) Collaboration Diagrams for Library Management System

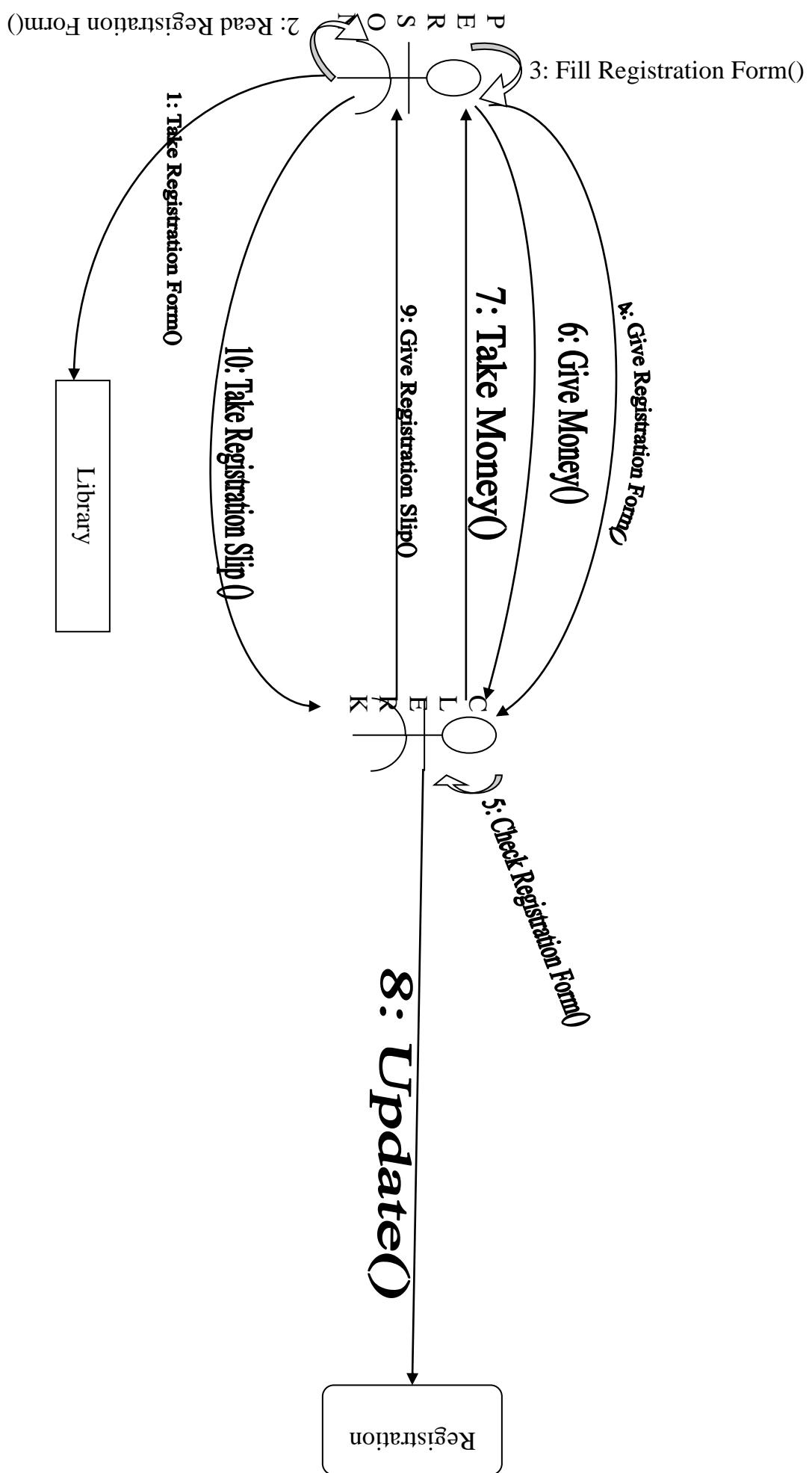
Collaboration Diagram for Taking Book



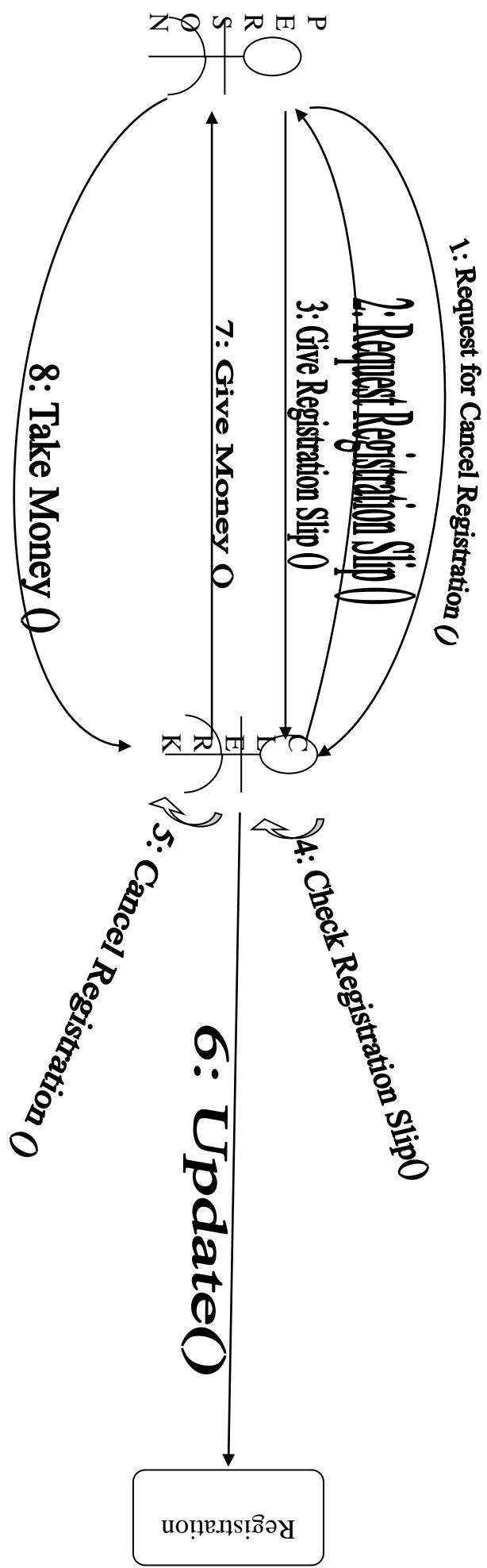
### Collaboration Diagram for Giving Book



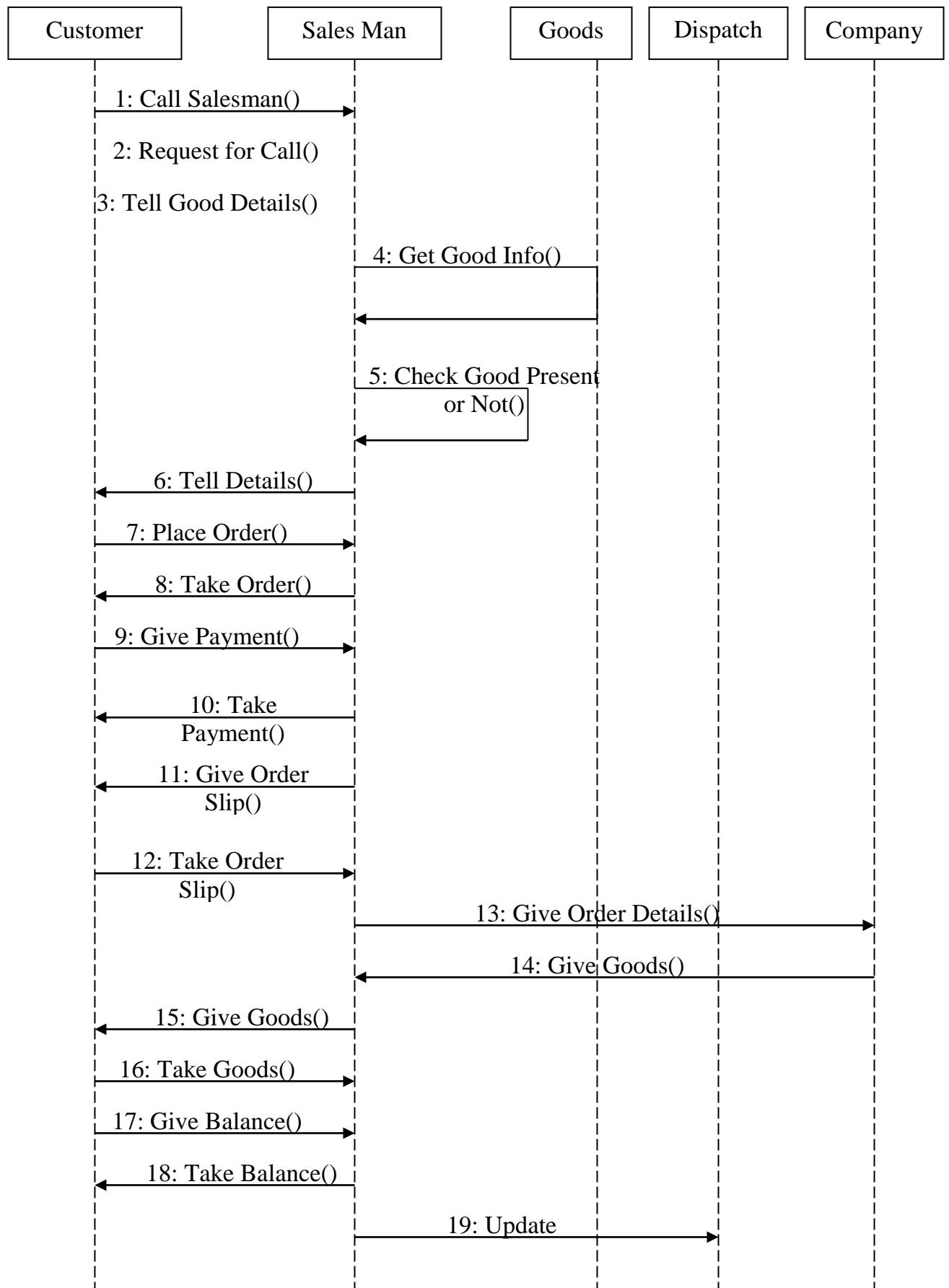
Collaboration Diagram for Create Library Registration



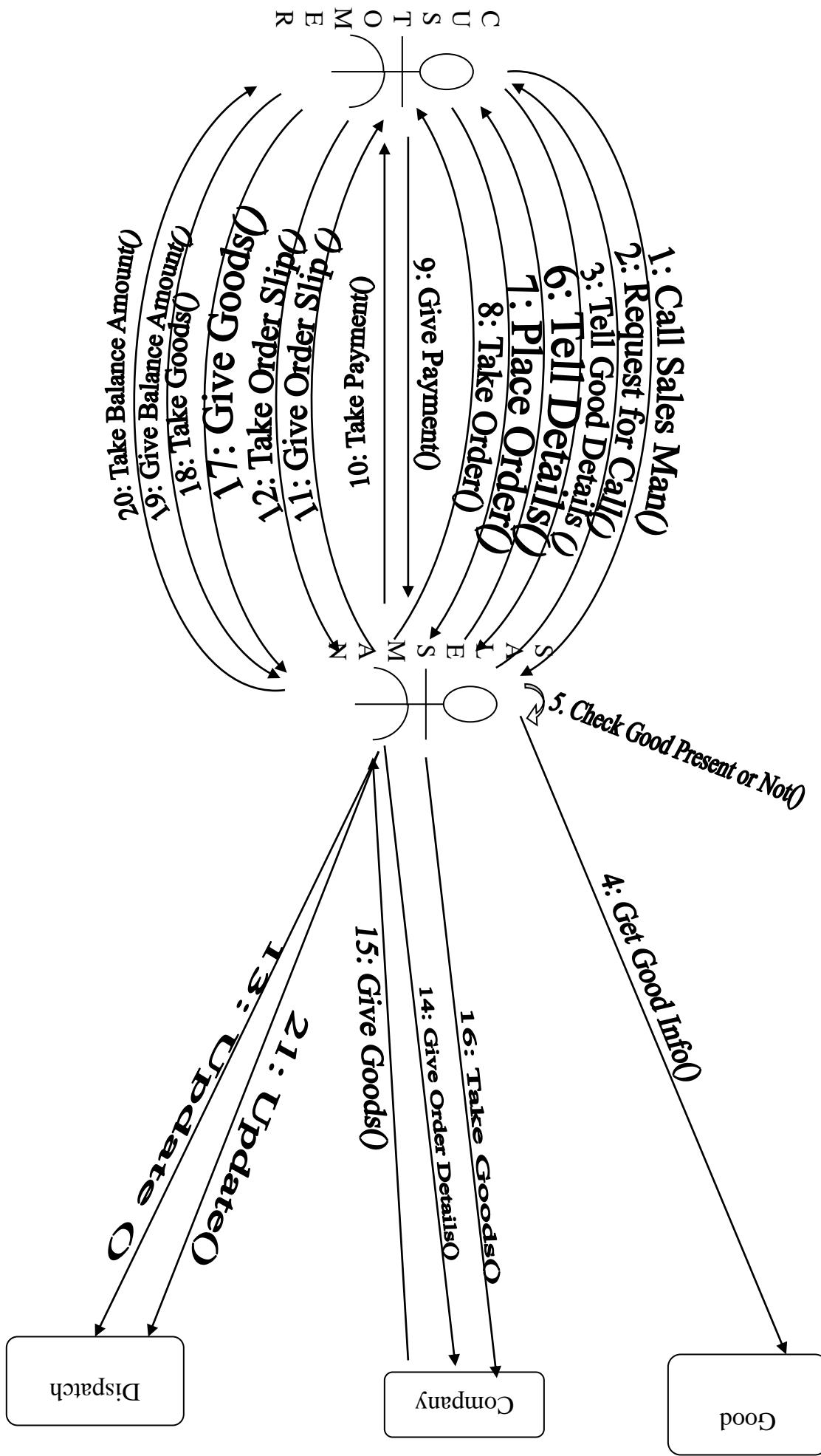
Collaboration Diagram for Cancel Library Registration



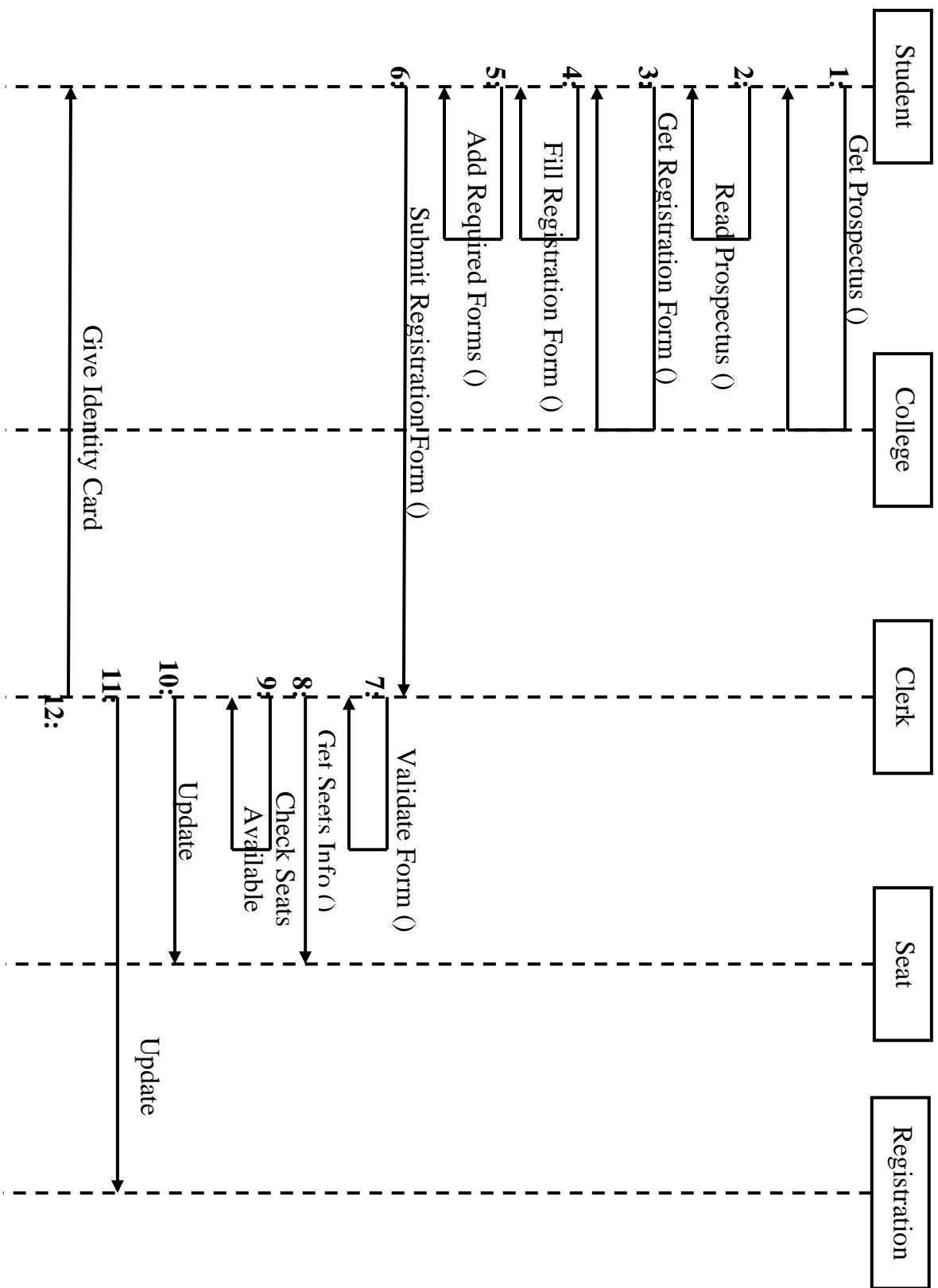
### 9 a) Sequence Diagrams for Order Processing Application



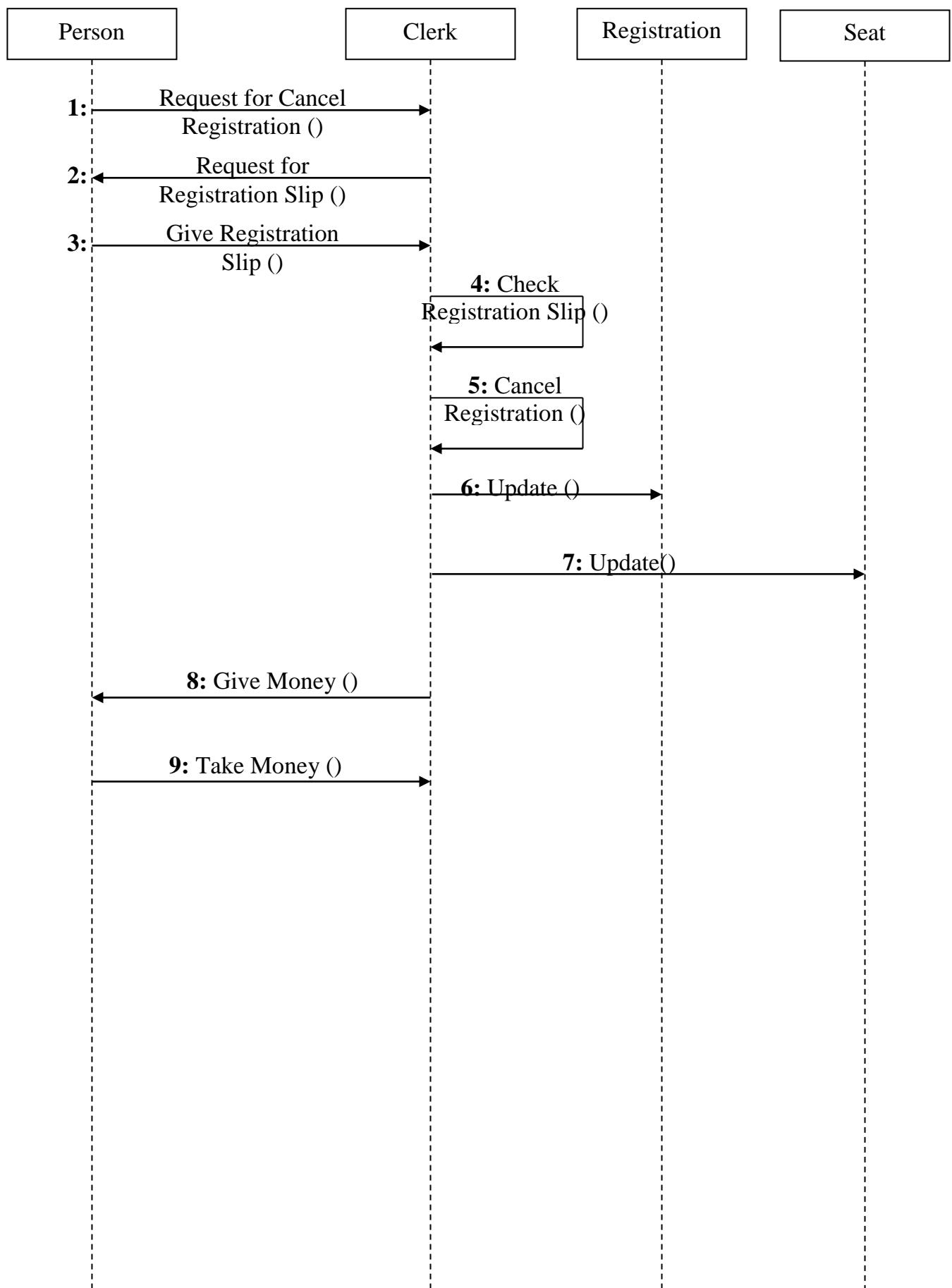
b) Collaboration Diagram for Order Processing Application



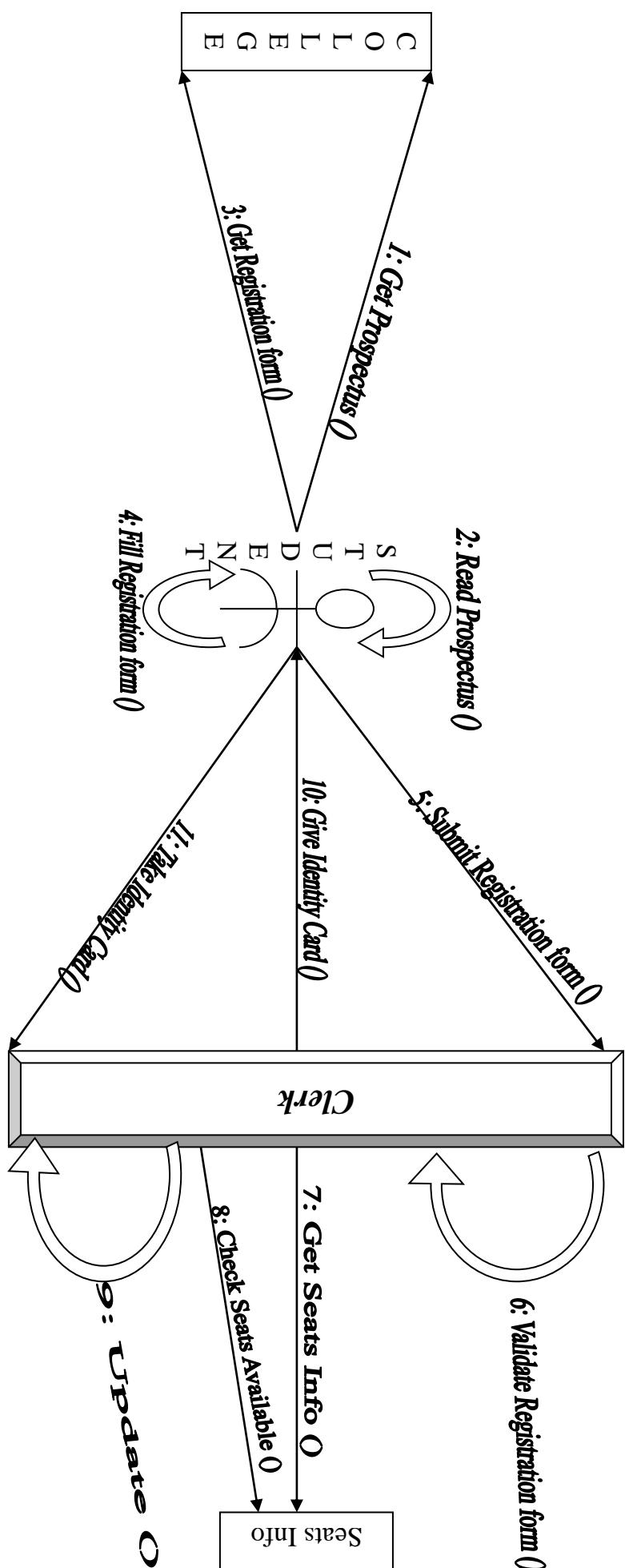
**10.a) Sequence Diagram for Student Registration Process**



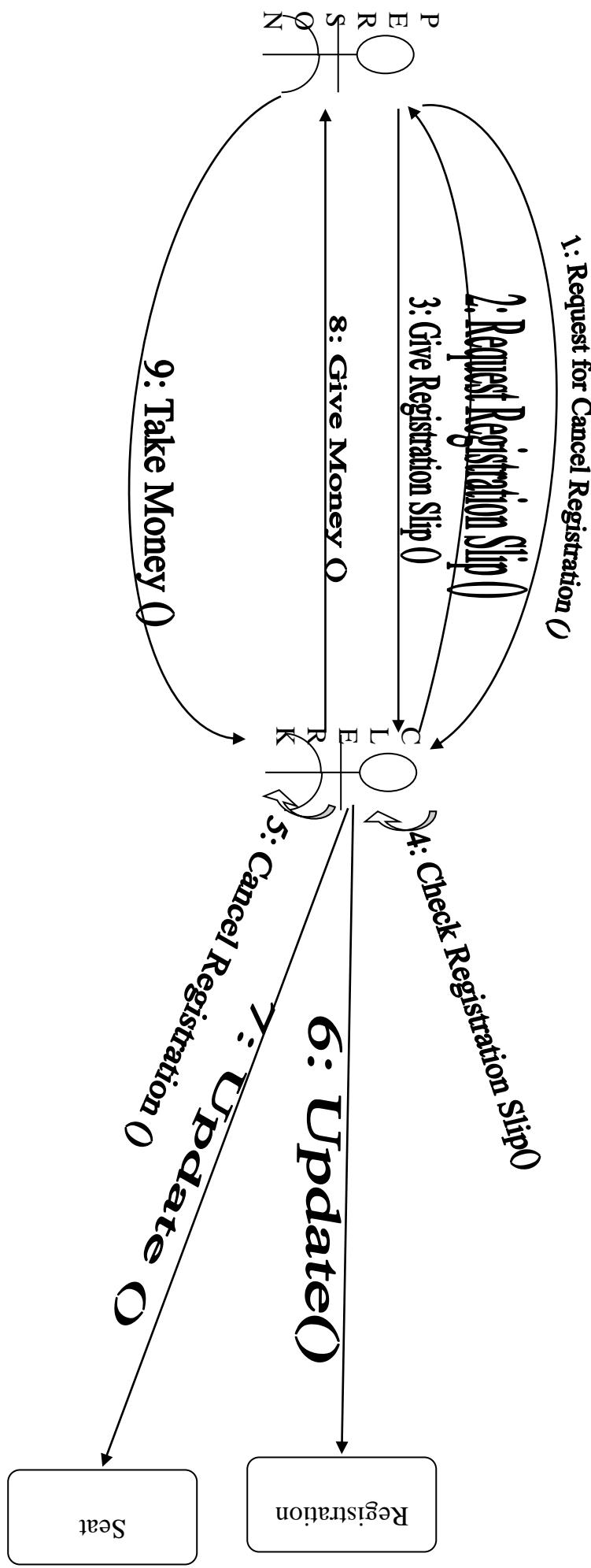
### *Sequence Diagram for Cancel Student Registration*



b) Collaboration Diagram for Student Registration Process



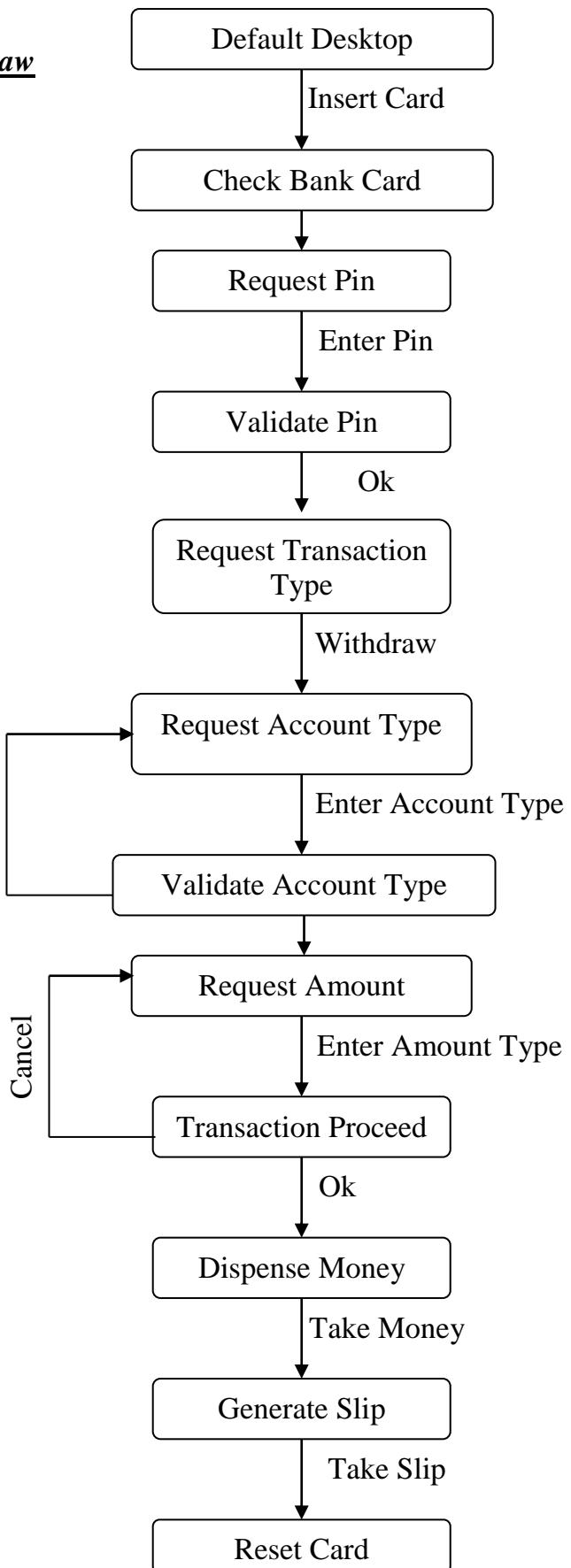
*Collaboration Diagram for Cancel Student Registration*



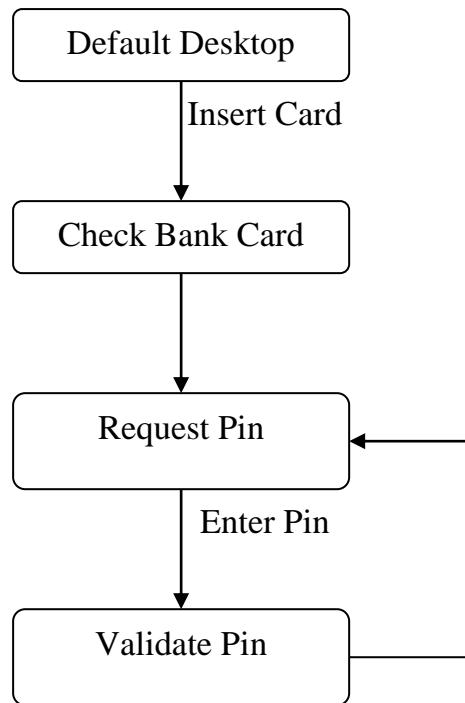
## Section 6,7 & 8: Draw the State Transition and Class Diagrams

### 11 a) State Transition Diagrams for ATM

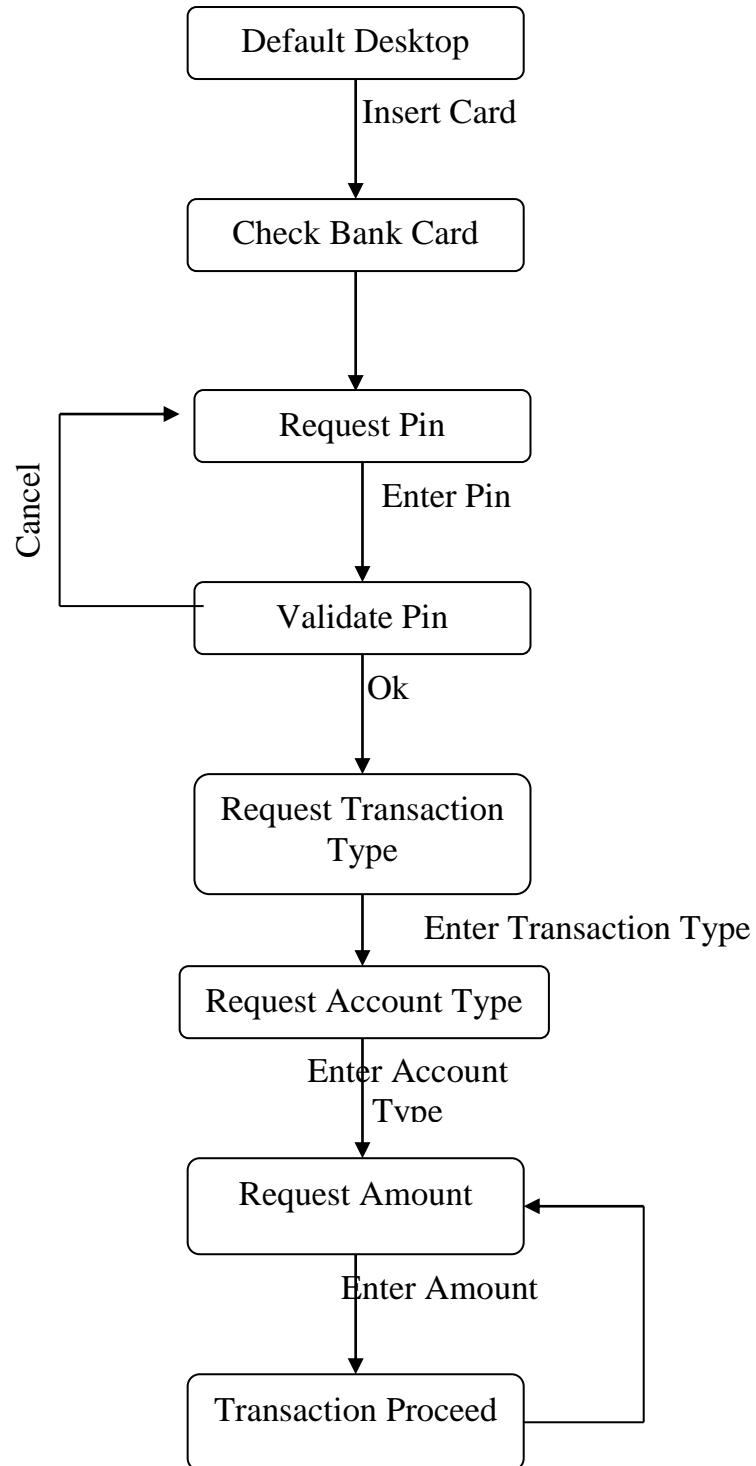
State Transition Diagram for Withdraw



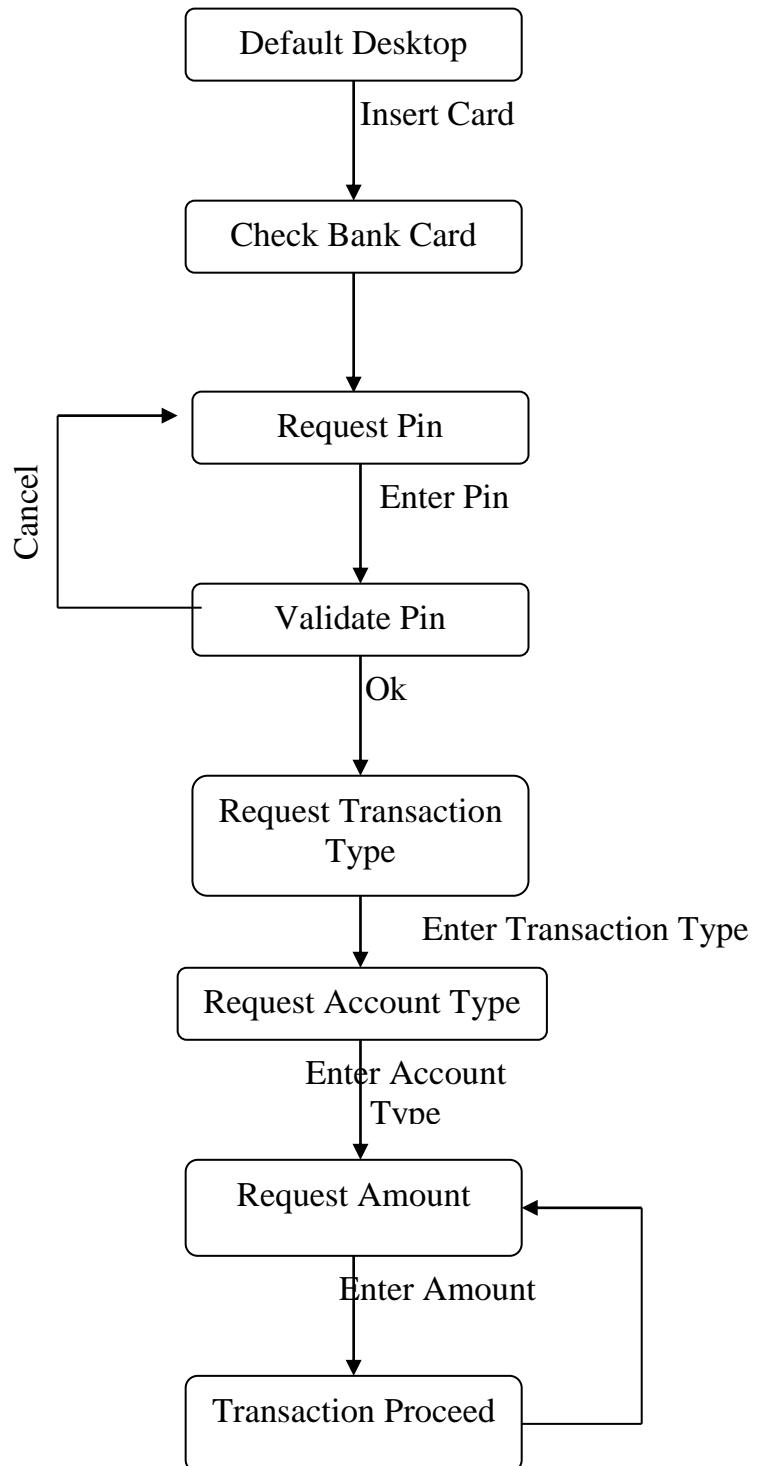
**State Transition Diagram for Invalid Pin**



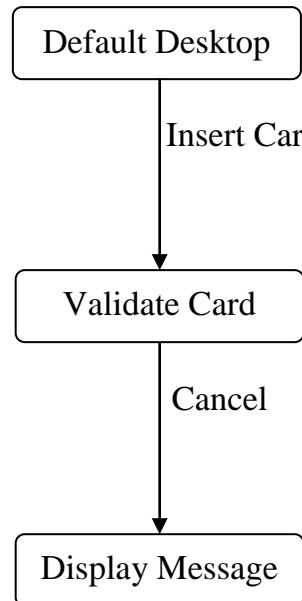
### State Transition Diagram for Invalid Amount



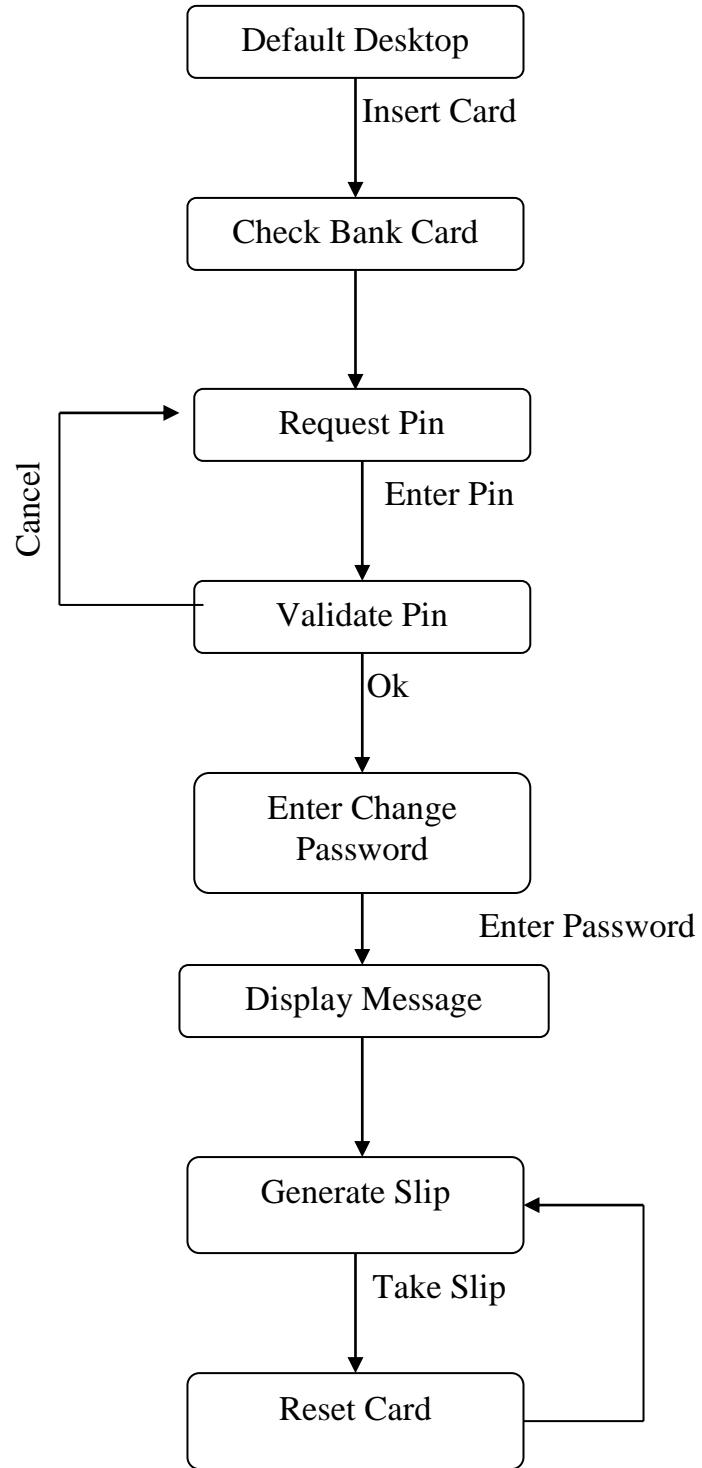
### State Transition Diagram for Check Balance



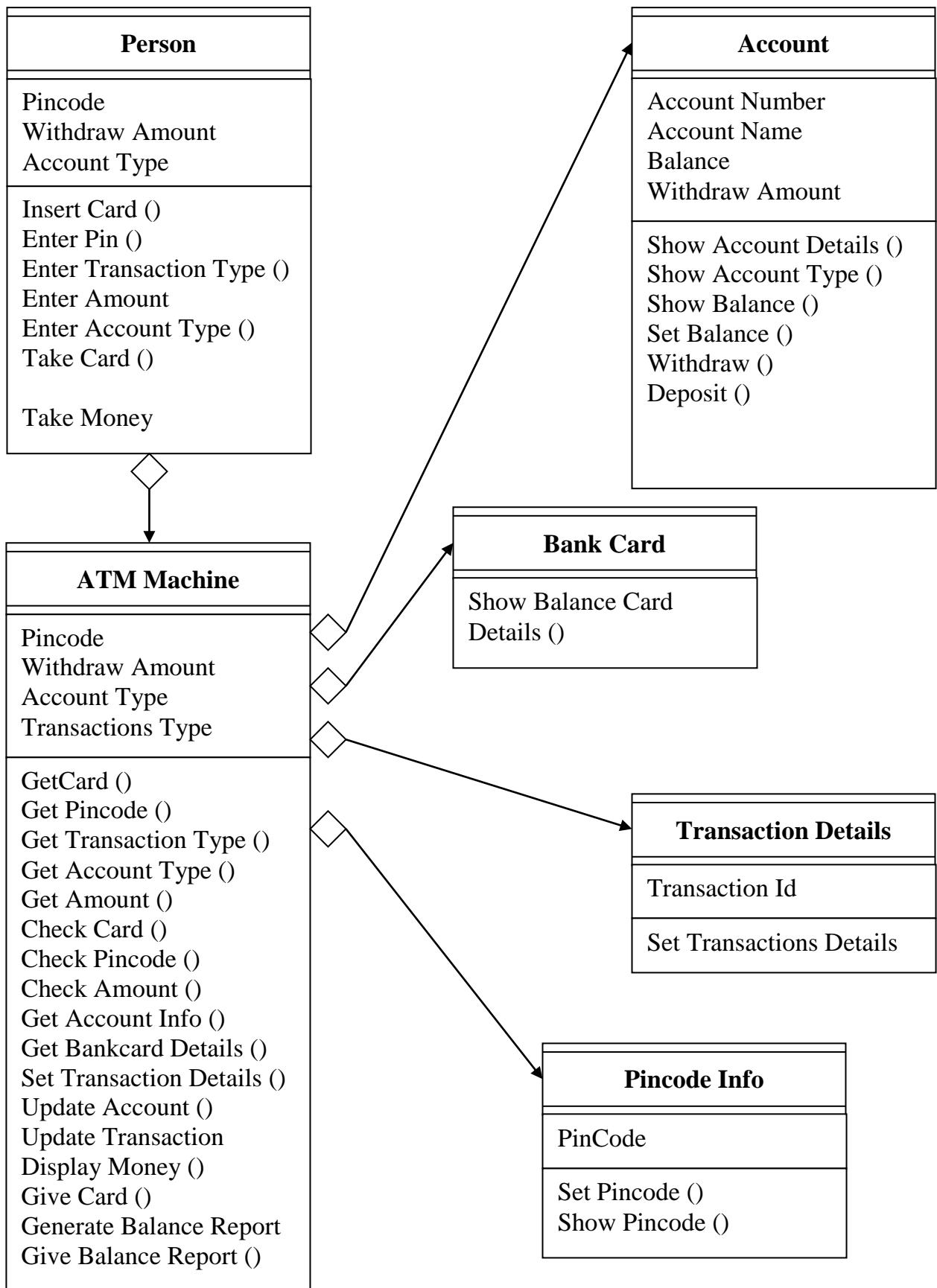
**State Transition Diagram for Invalid Bank Card**



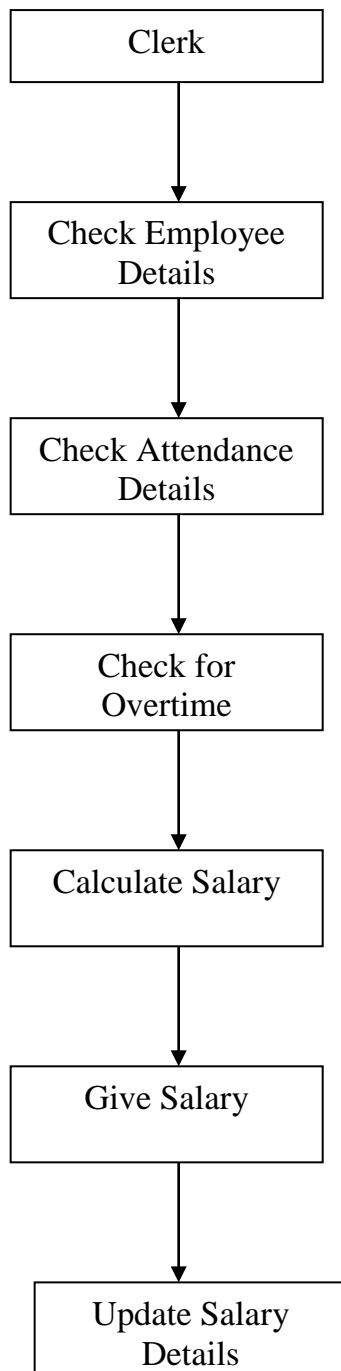
### State Transition Diagram for Changing Password



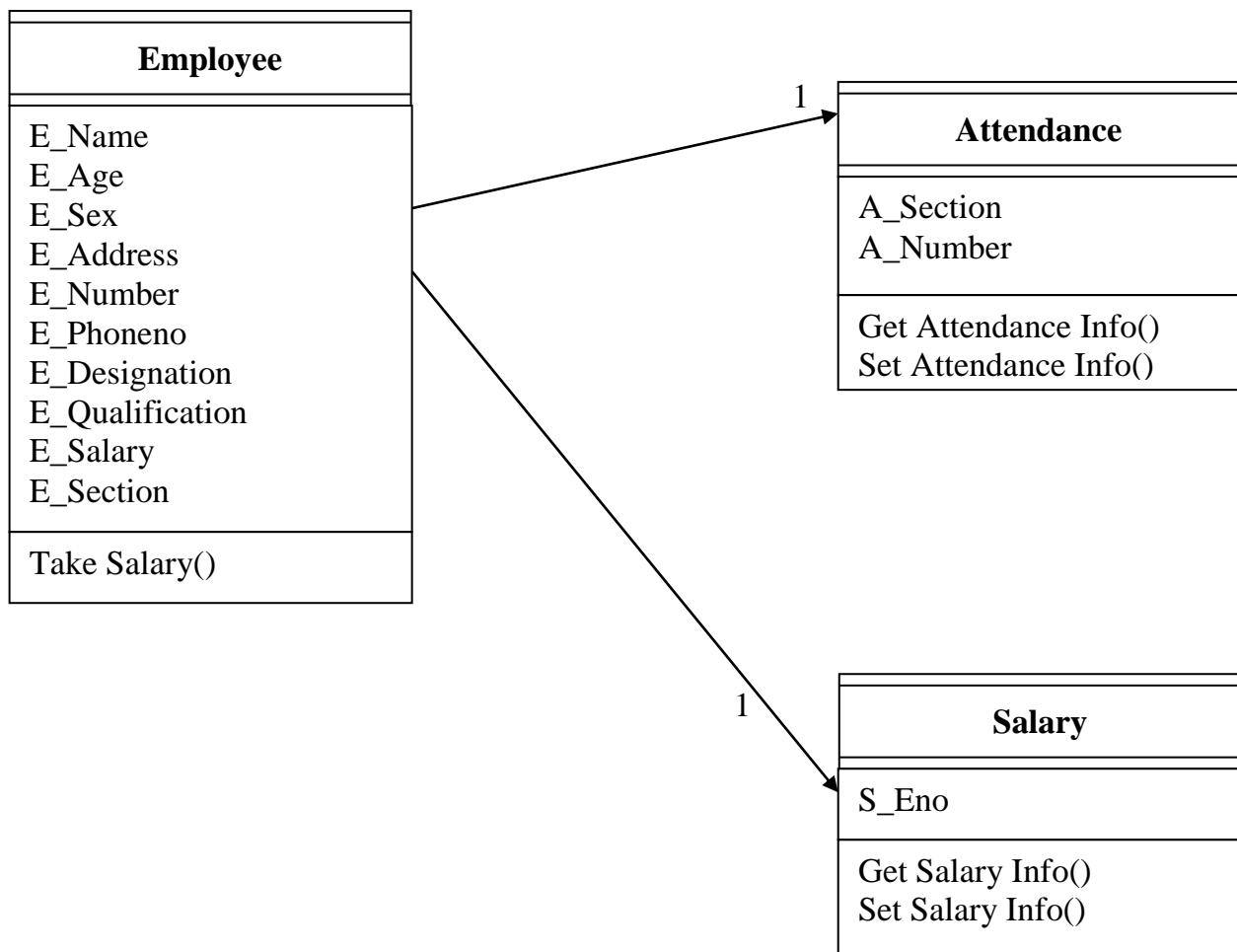
b) Class Diagram for ATM



**12 a) State Transition Diagram for Employee Management System**

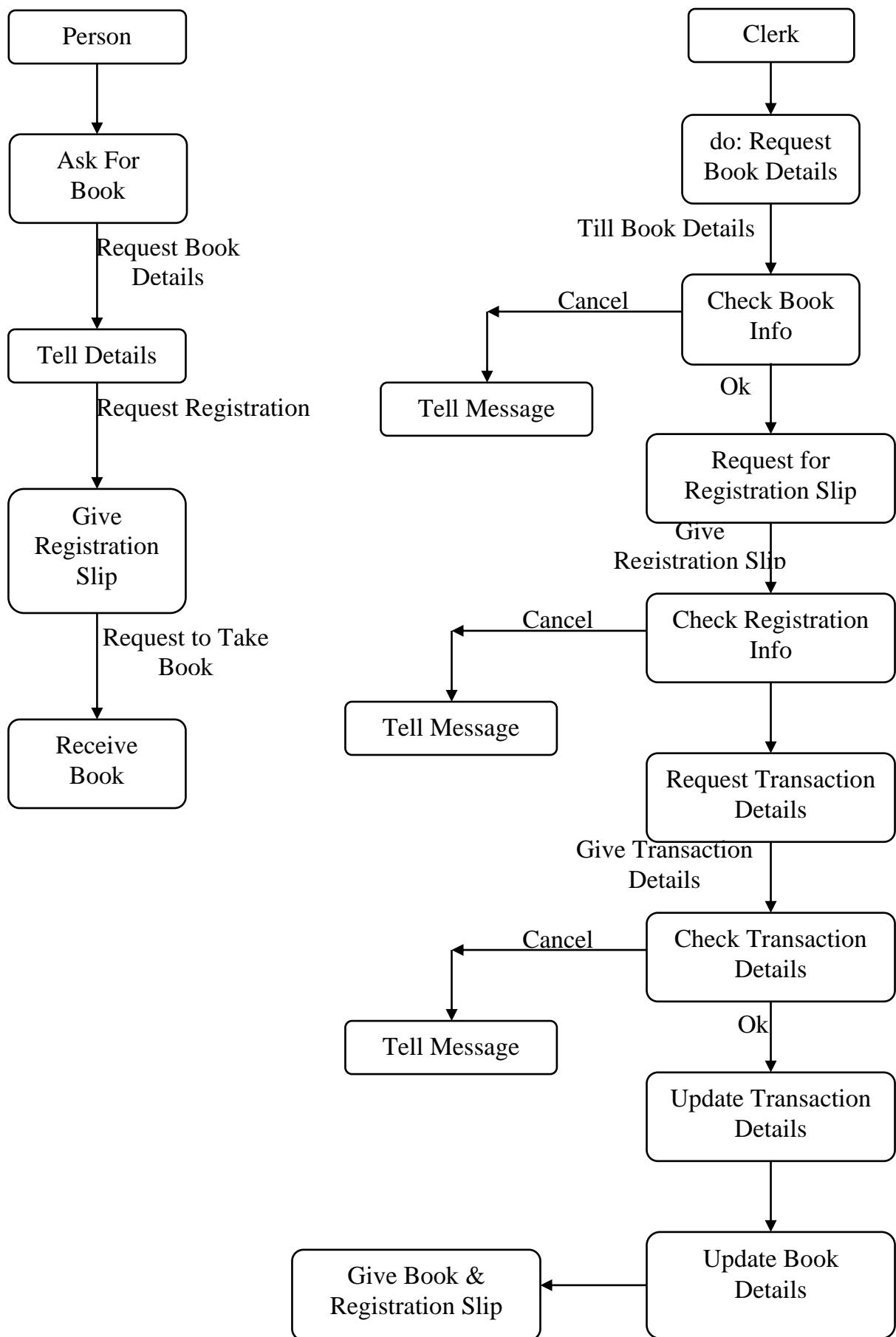


*b) Class Diagram for Employee Management System*

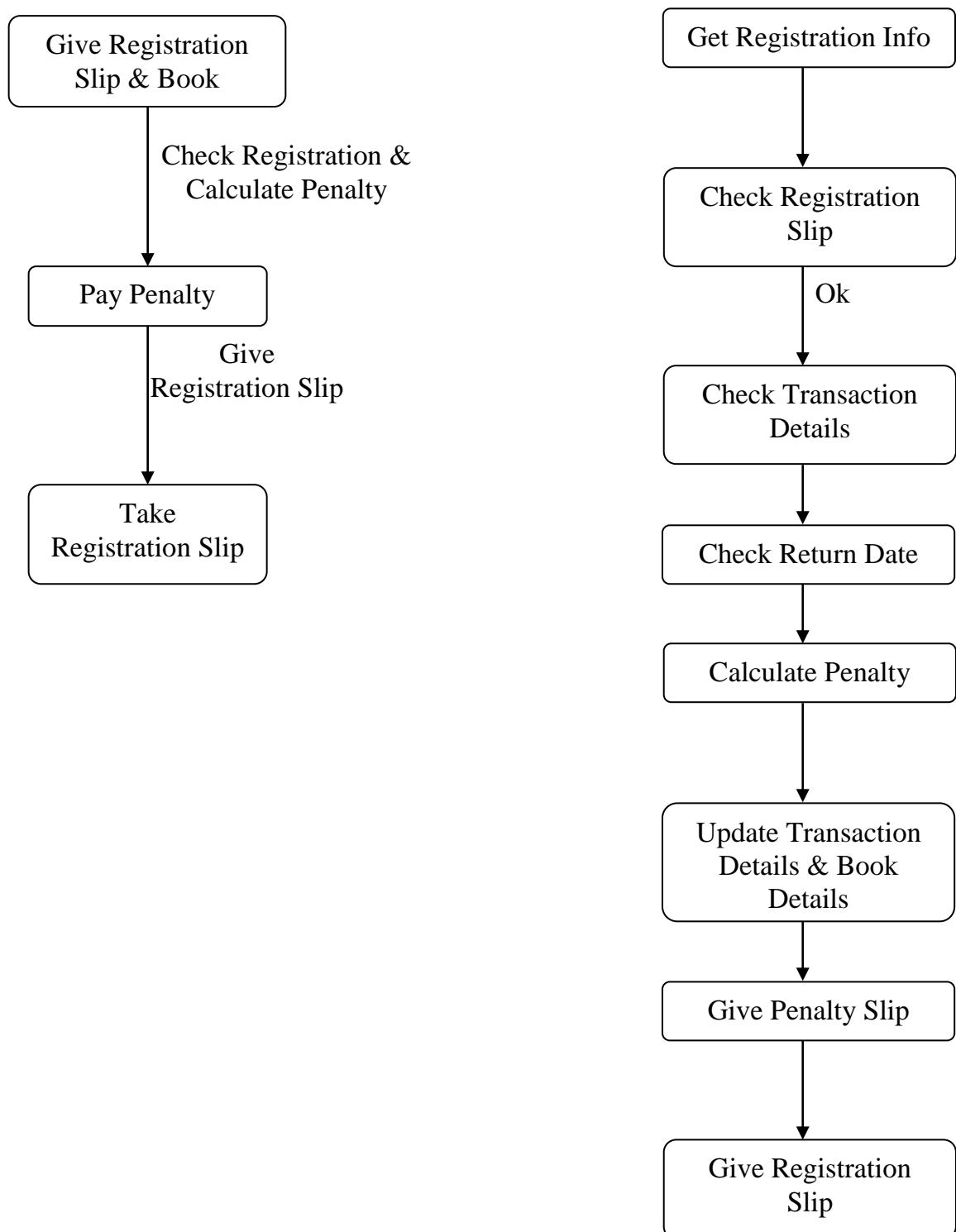


**13. a) State Transition Diagram for Library Management System**

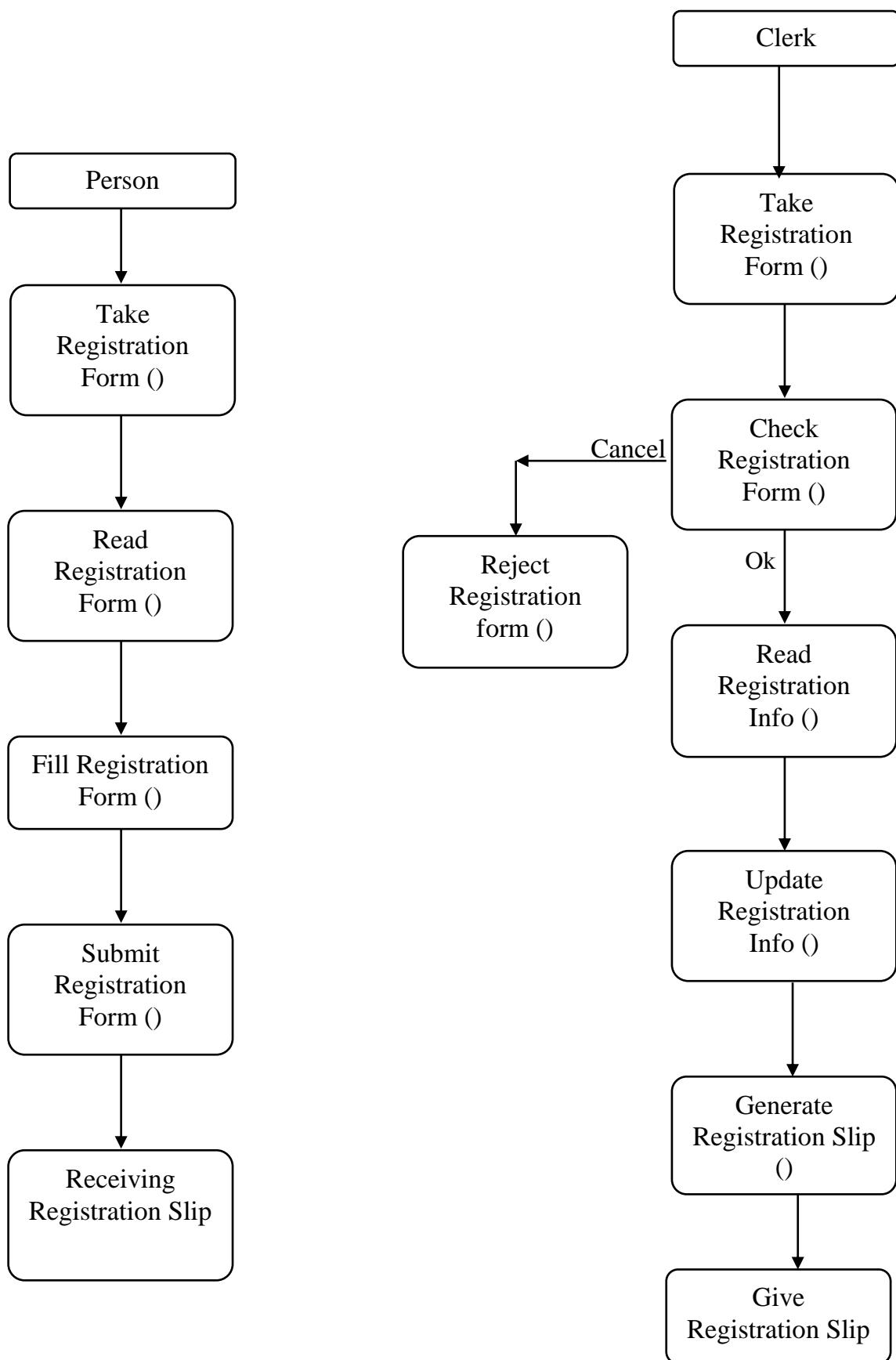
**State Transition Diagram for Taking Book From Library**



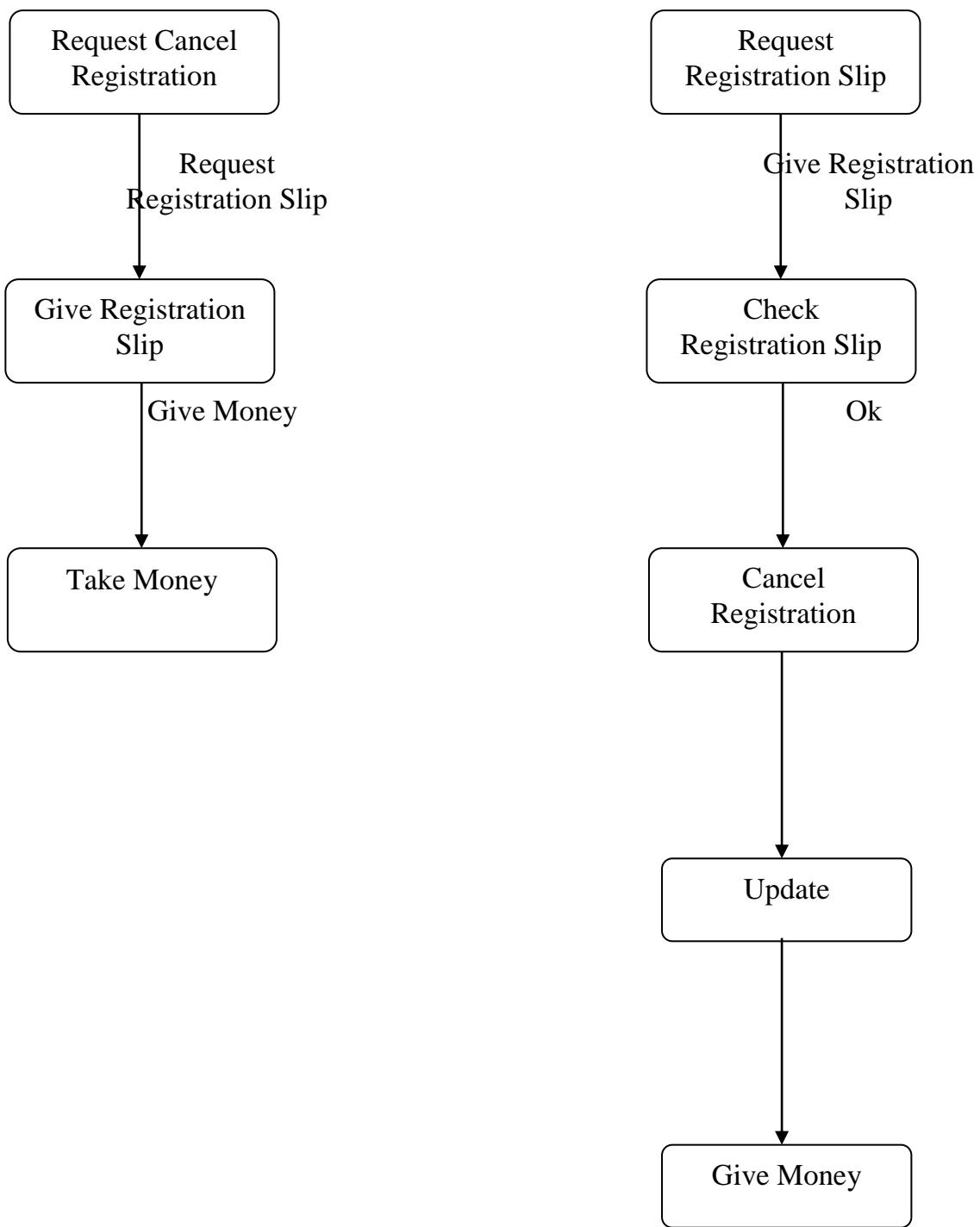
### State Transition Diagram for Giving Book



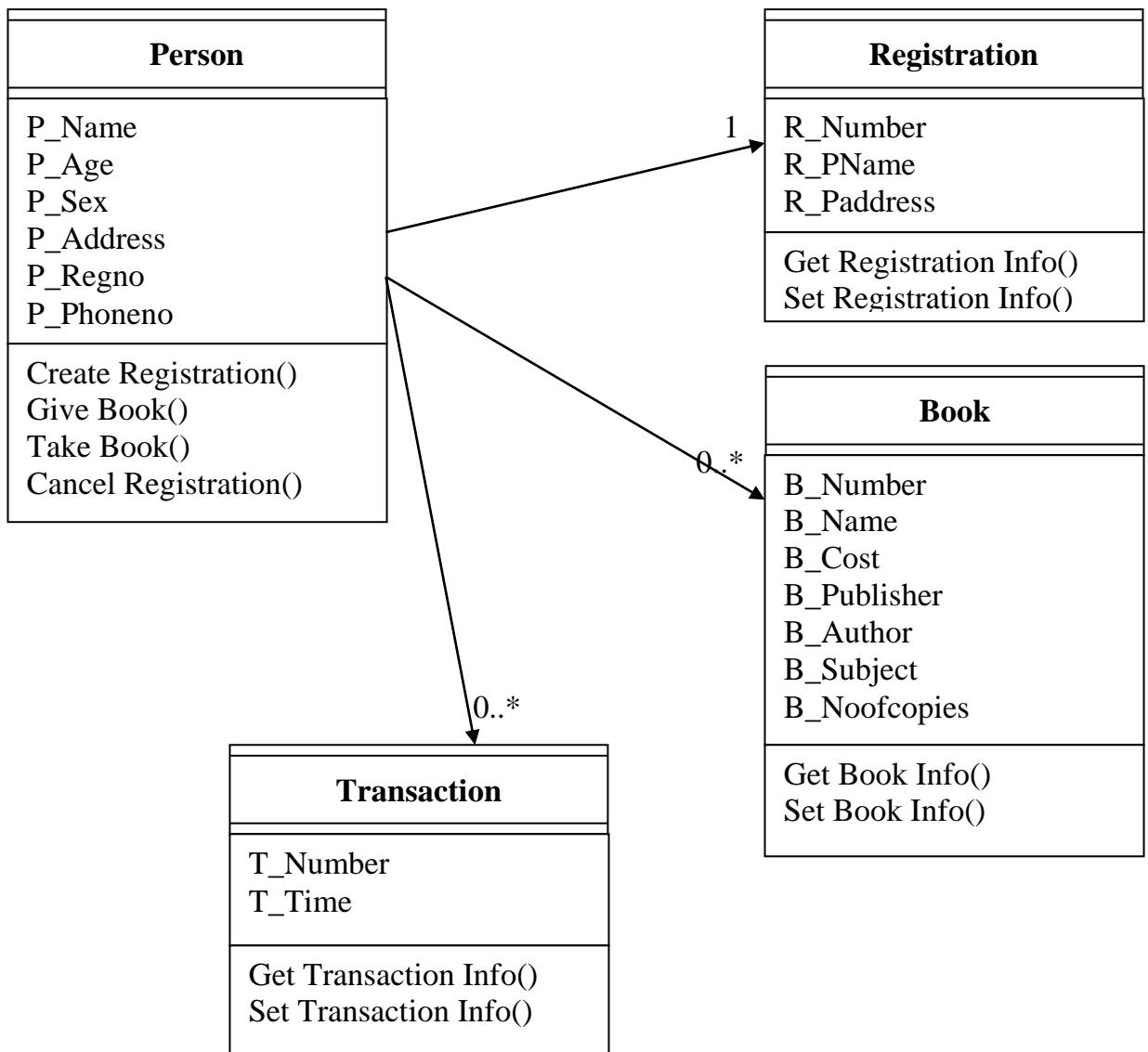
### State Transition Diagram for Create Library Registration



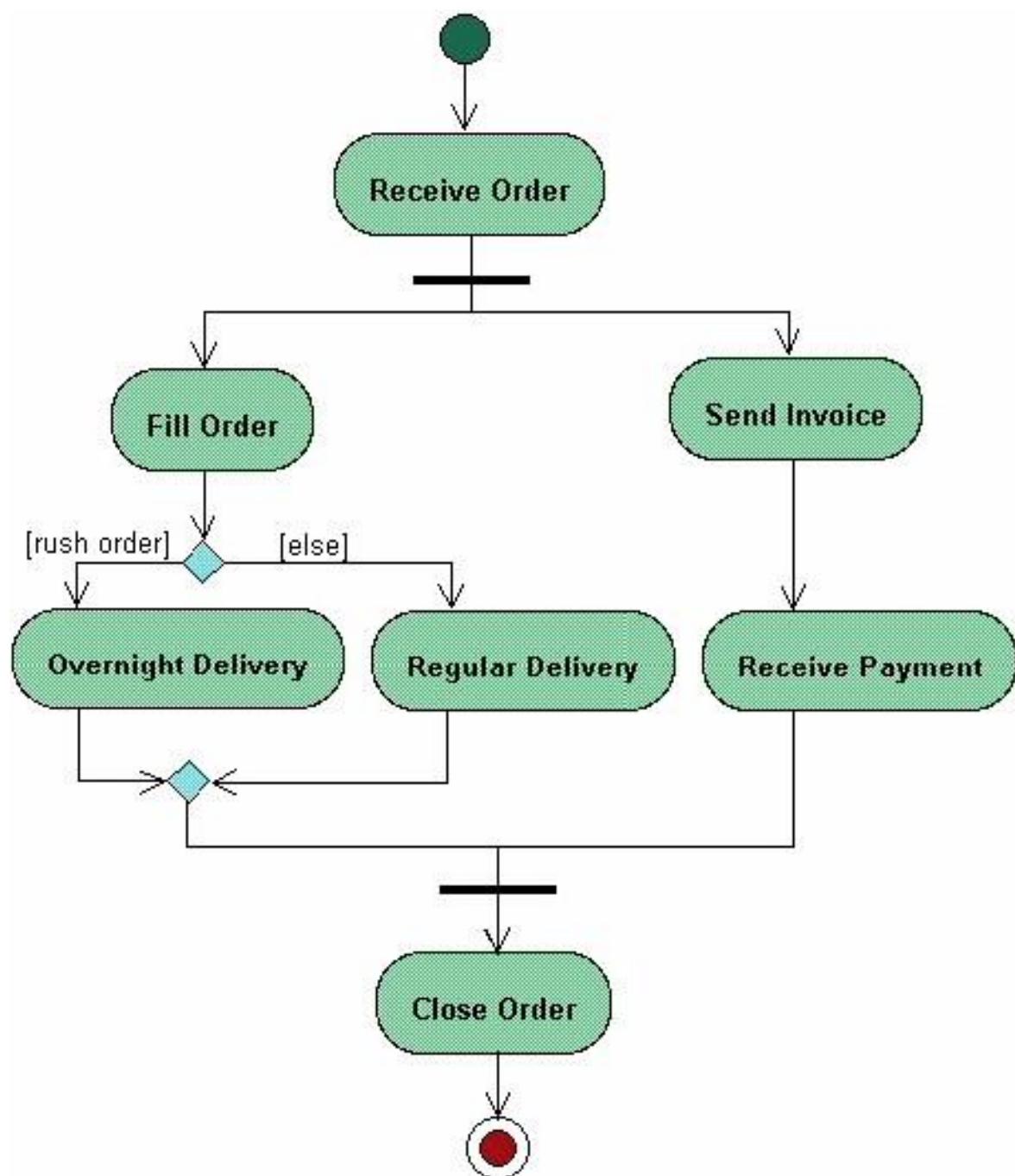
### State Transition Diagram for Cancel Library Registration



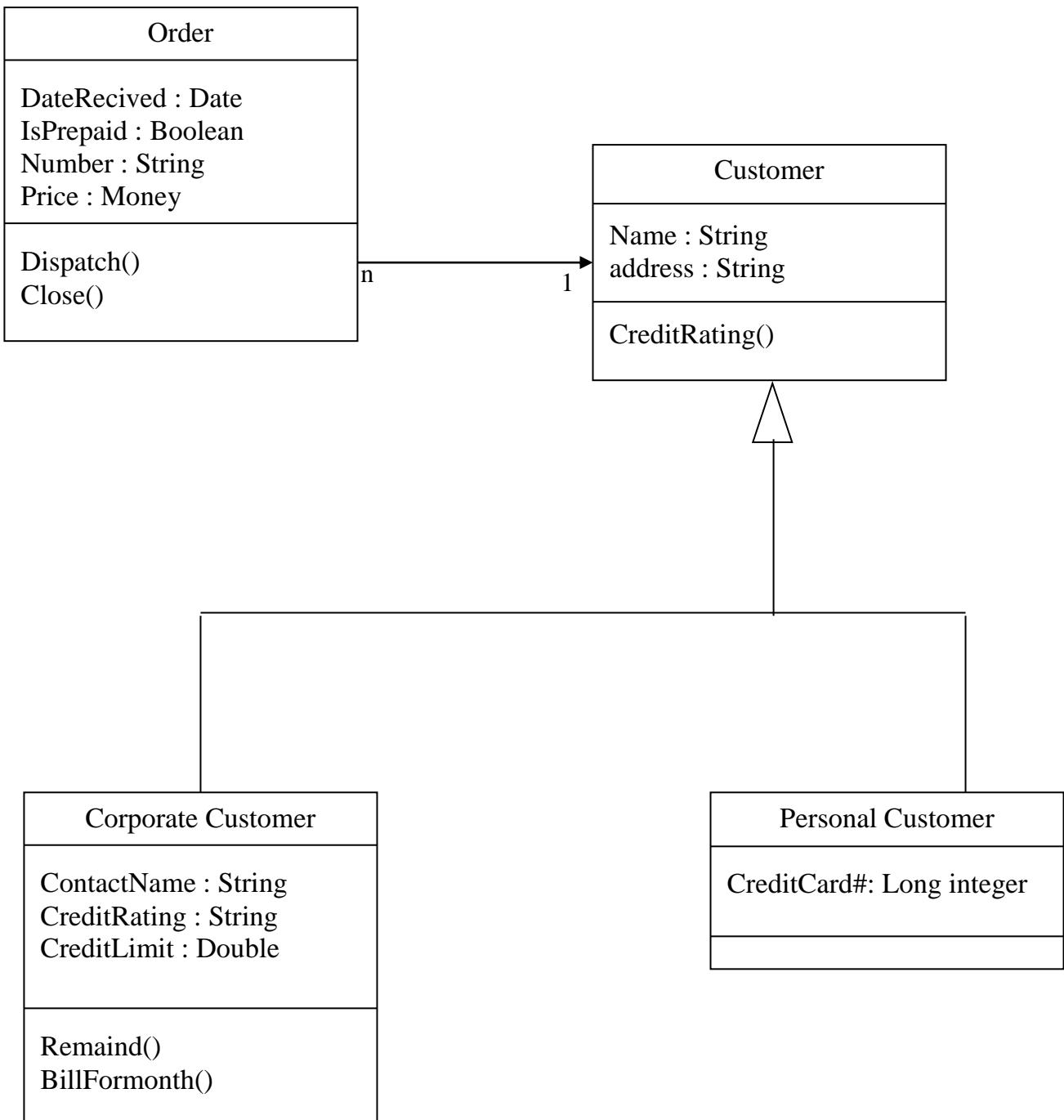
**b) Class Diagrams for Library Management Application**



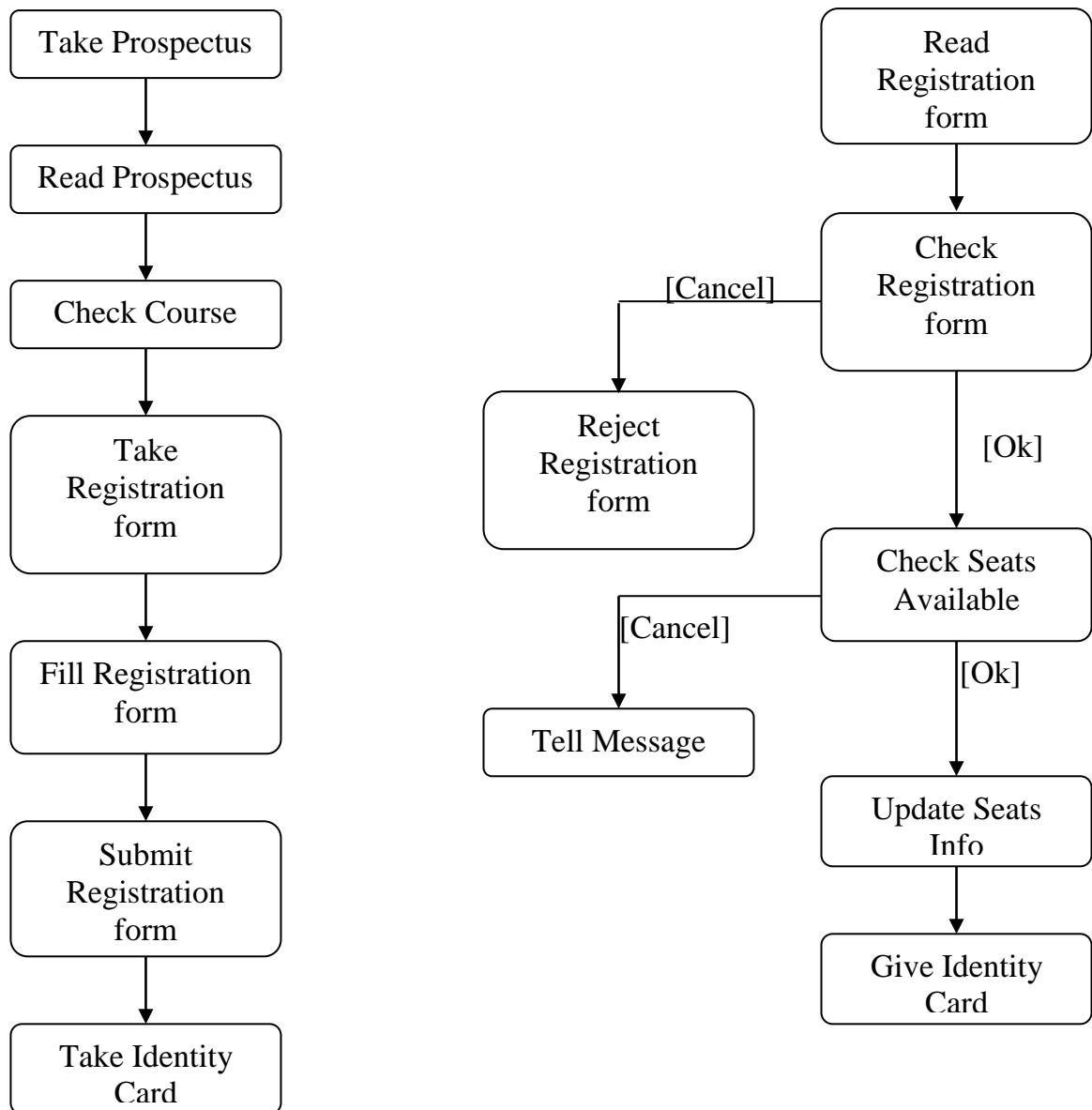
14 a) State Transition Diagram for Order Processing Application.



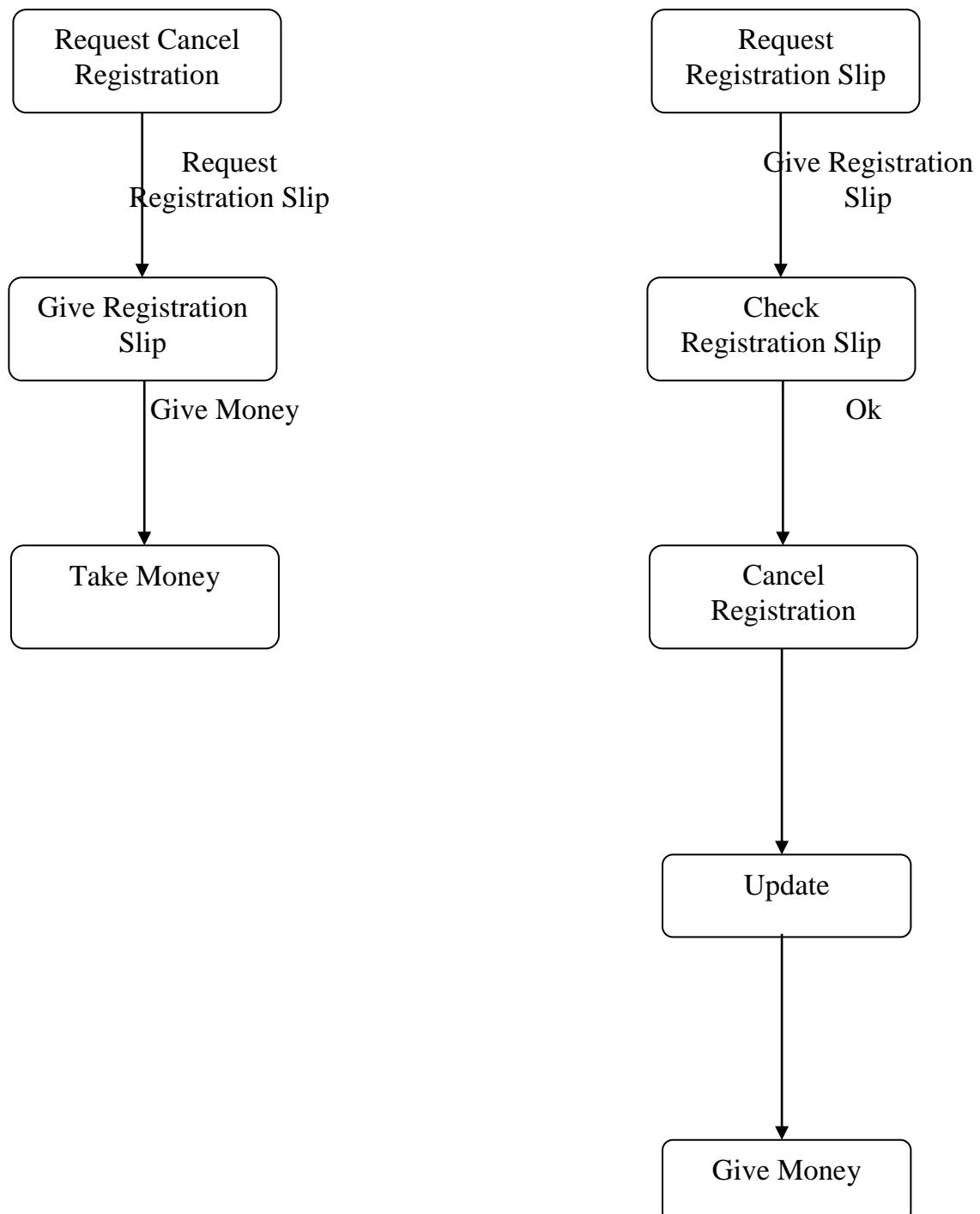
**b) Class Diagram For Order Processing**



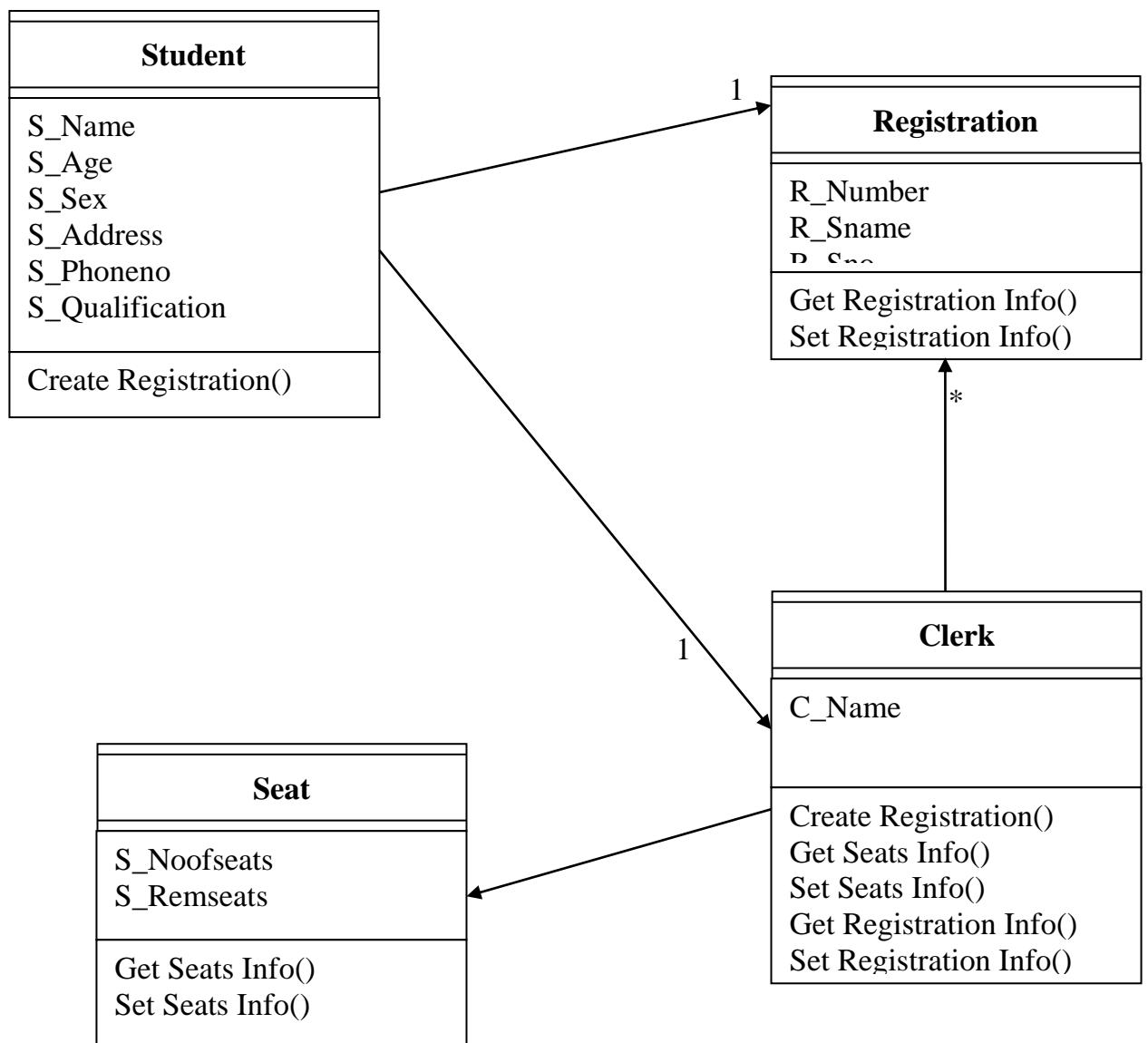
**15. a) State Transition Diagram for Student Registration Process**



***State Transition Diagram for Cancel Student Registration***

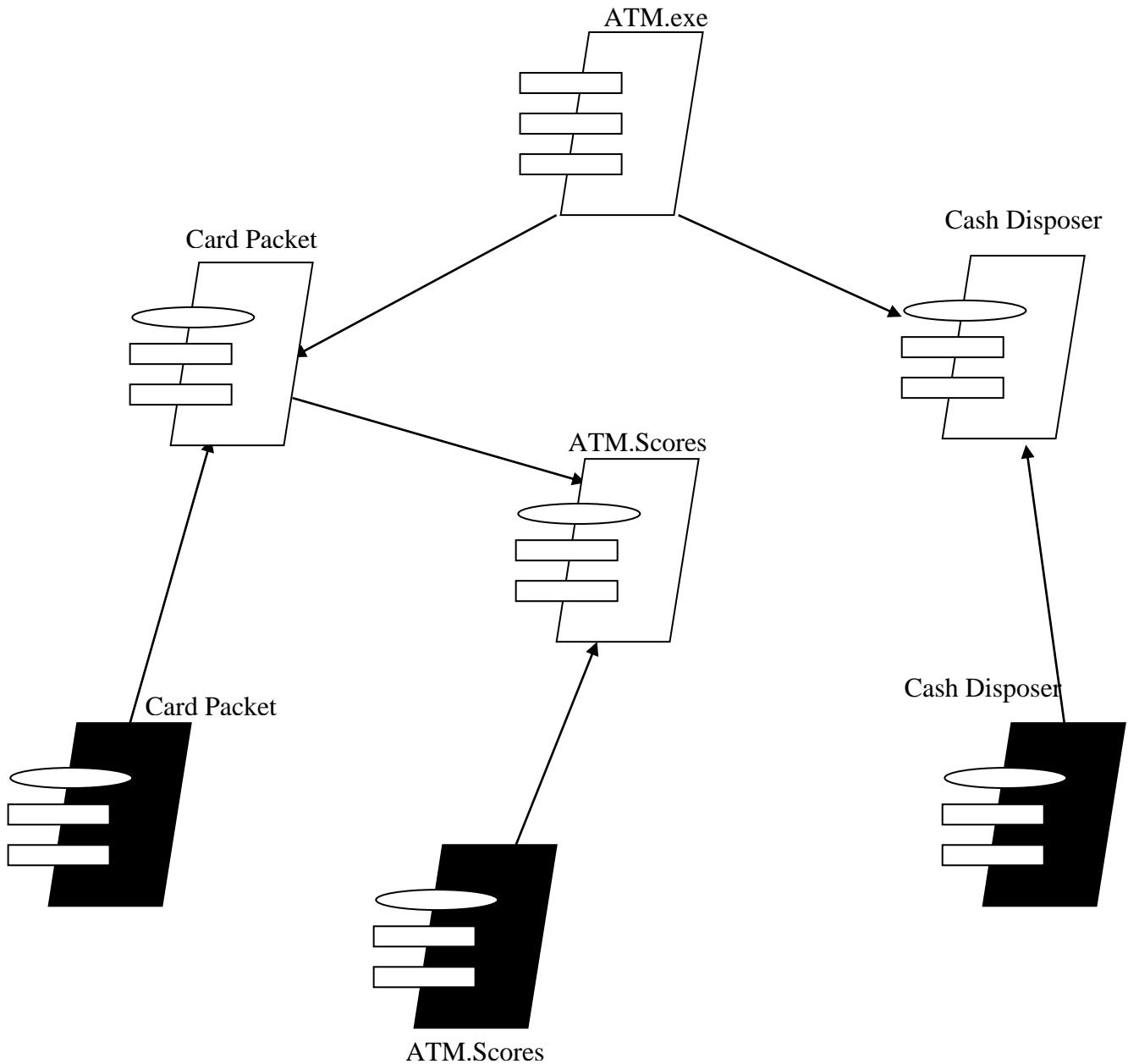


**b) Class Diagram For Student Registration Process**

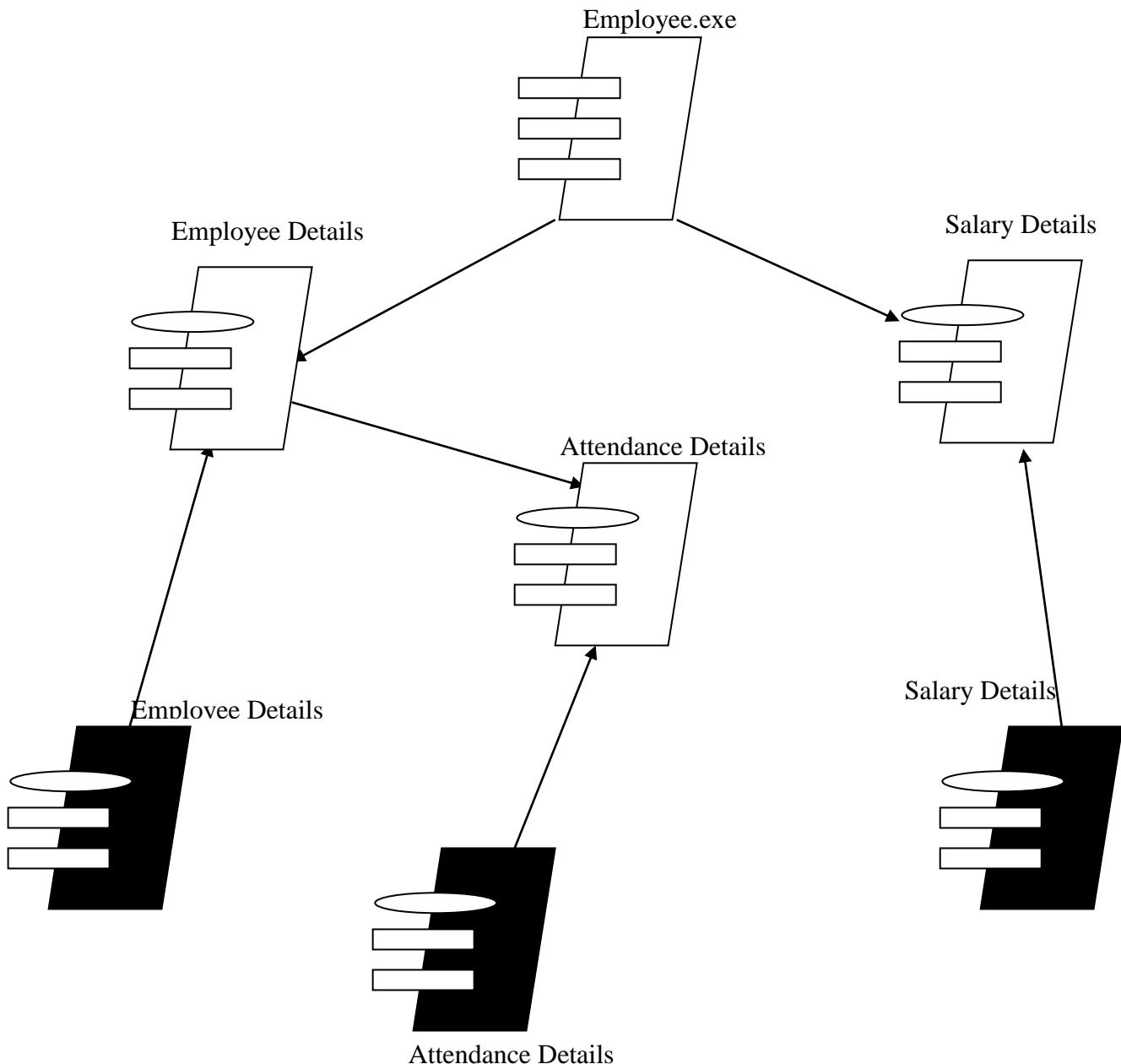


## Section 9 & 10: Draw the Component Deployment Models

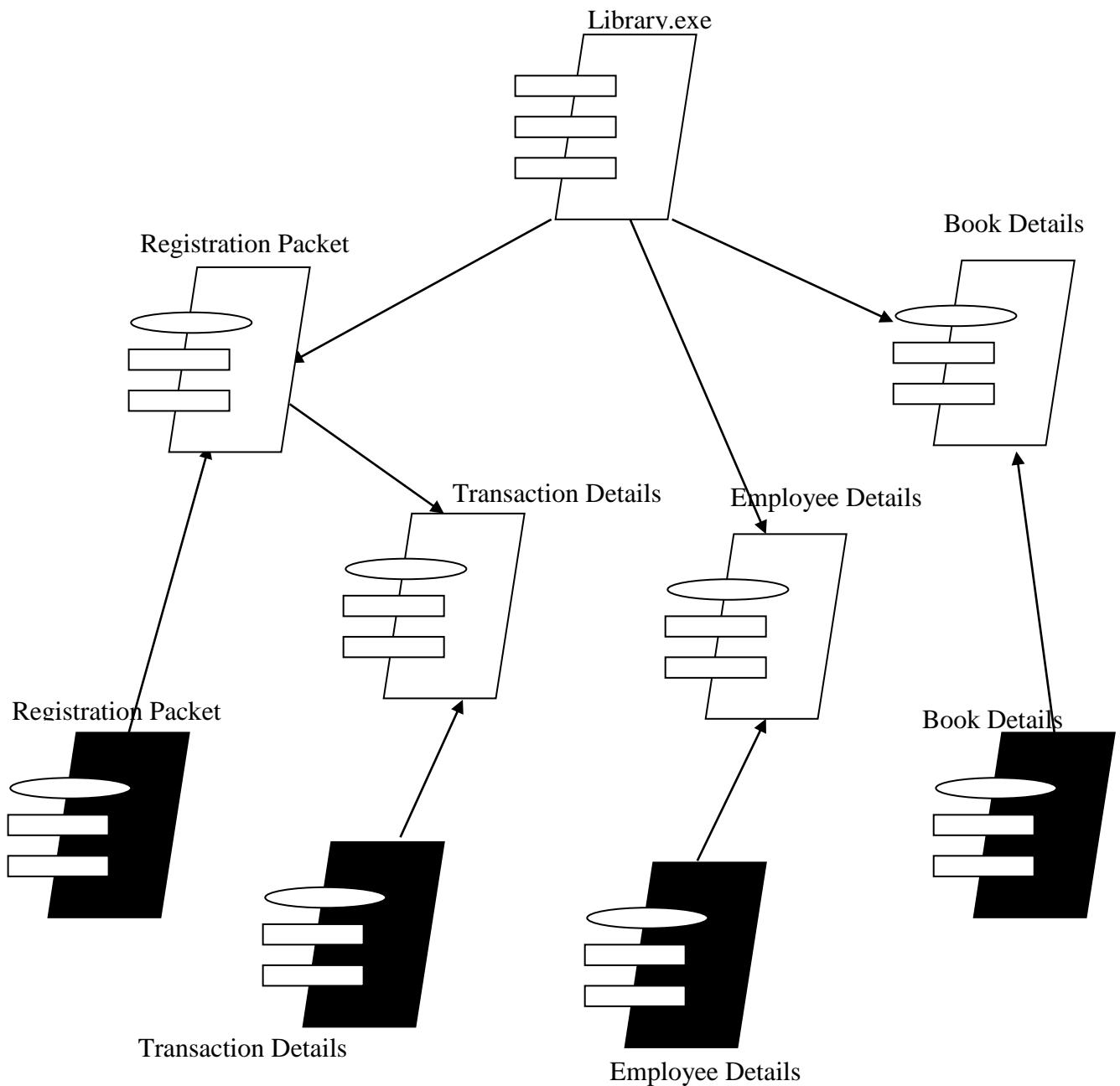
### 16. Component Diagram for ATM



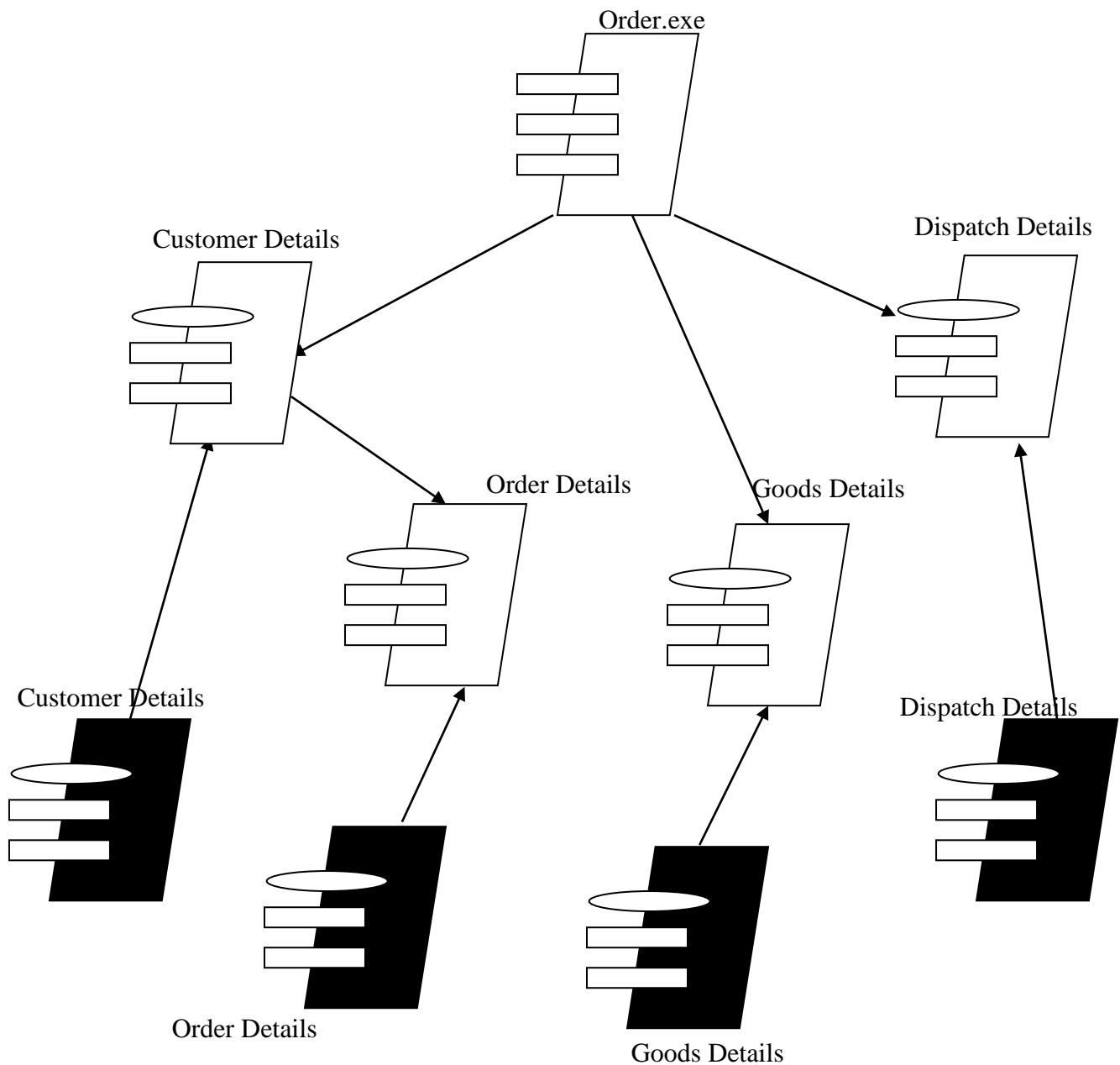
## 17. Component Diagram for Employee Management System



### 18. Component Diagram for Library Management System



## 19. Component Diagram for Order Processing Application



## 20. Component Diagram for Student Registration Process

