III. UML INTERACTION DIAGRAM

TYPES

1. **SEQUENCE DIAGRAM**
2. **COLLABOARTION DIAGRAM**

III(a). SEQUENCE DIAGRAM

- It shows the behaviors of a system in a **sequential order**
- Dynamic modeling
- Objects are arranged in a **sequential order**

COMPONENTS / SYMBOLS

1. **Class Name / Object:** 

2. **Vertical Line:**

   - The vertical line (vertical dashed arrow) represents object's lifeline
   - The lifeline indicates the existence of objects during the communications

3. **Message: method name() / label**

Ex:

login() ← method name

submit the user name & password ←Label

NOTE:

- Message is represented by arrow symbol
- Message is used to identify the **sequence** in sequence diagram
- The message follows **Top-to-Bottom** ordering
- Each message is labeled with the message name
- The label can also include the argument and some control information

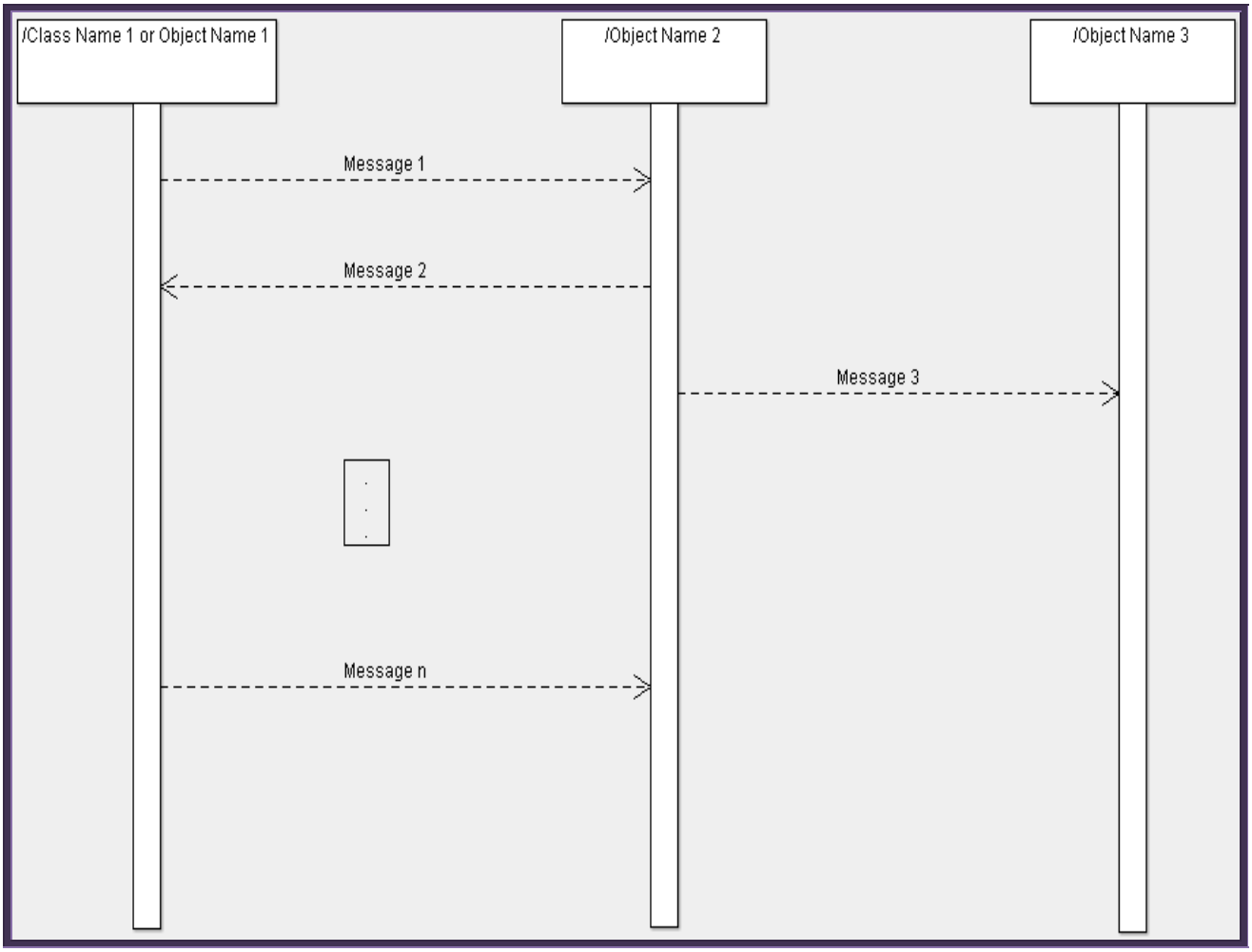
TWO DIMENSIONS

1. **Horizontal Dimension**
    - It represents the group of different objects
2. **Vertical Dimension**
    - It represents the time

Vertical Line (Vertical Dashed Line)

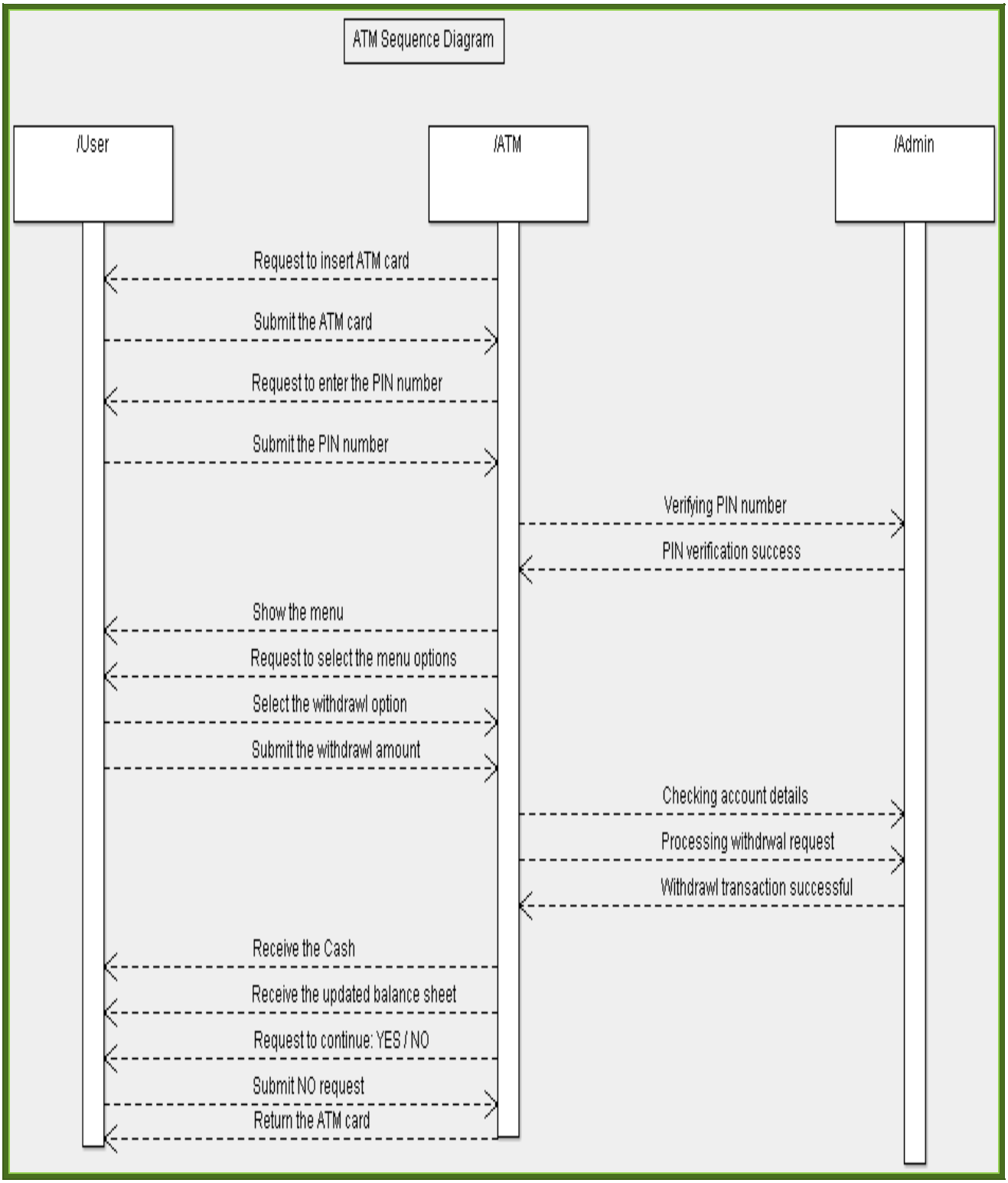
- It represents object's lifeline
- The life line indicates the existence of objects during the communications

SYNTAX OF SEQUENCE DIAGRAM

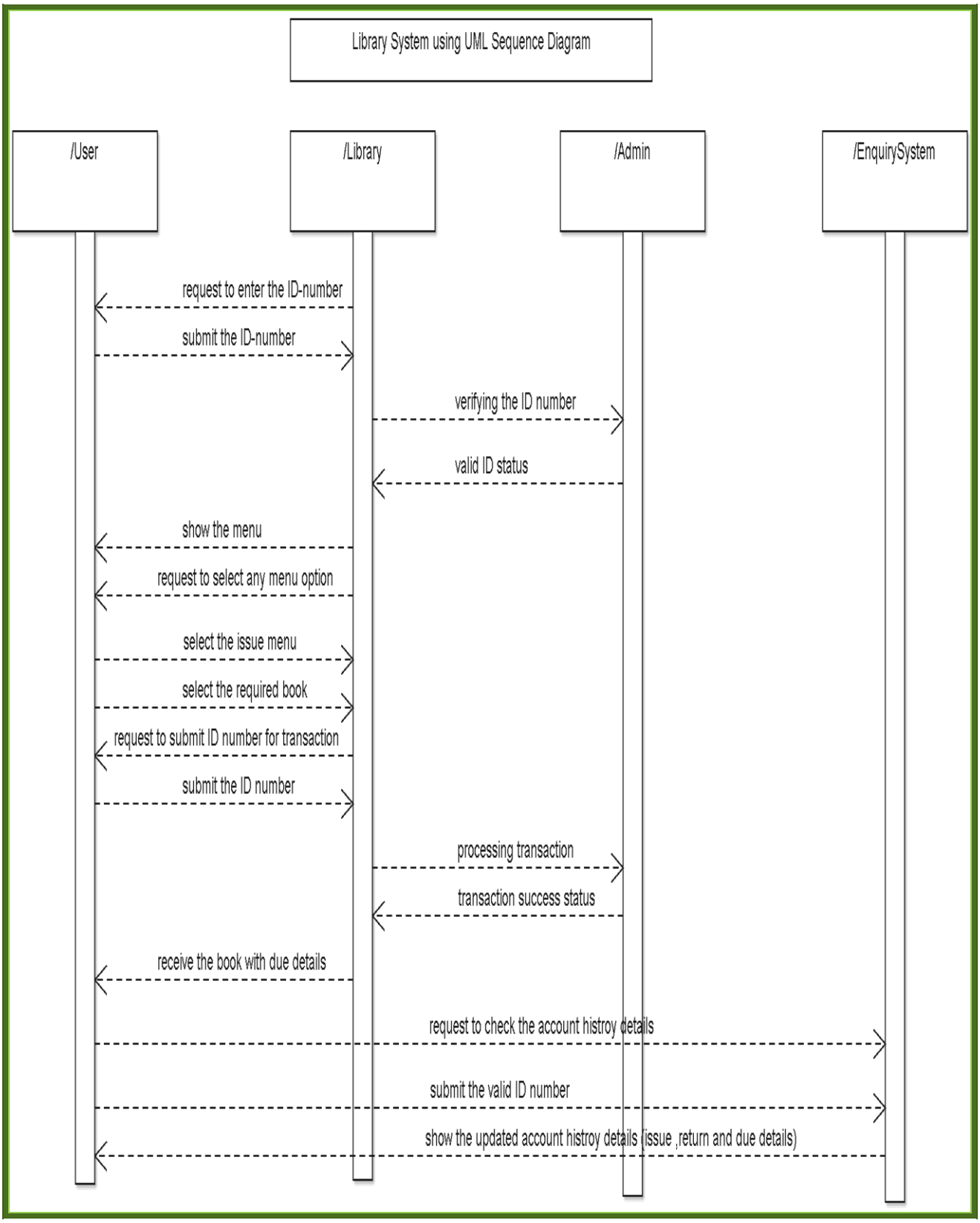


III(a). EXAMPLES OF SEQUENCE DIAGRAM

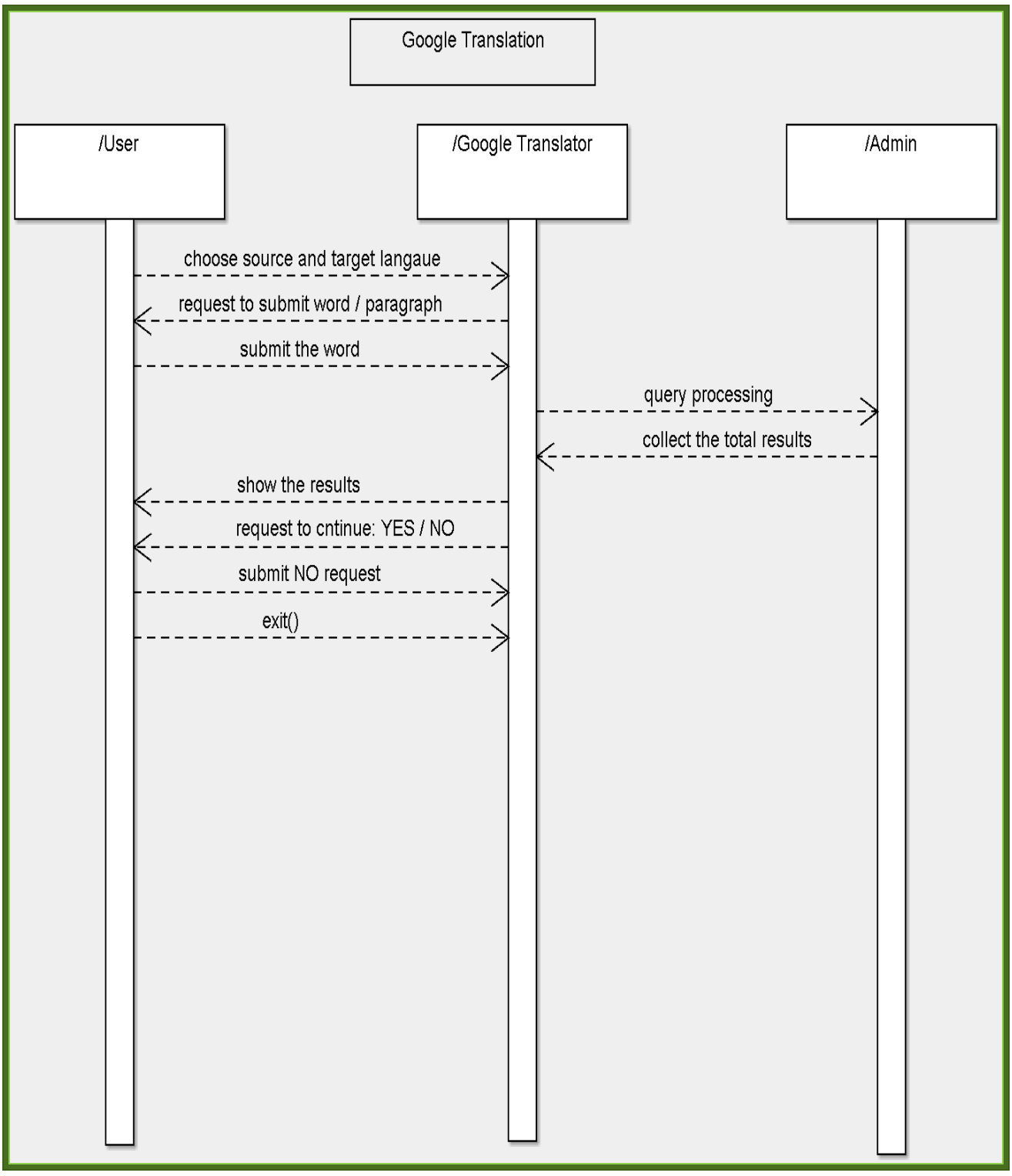
1. ATM SYSTEM



2. LIBRARY SYSTEM



3.GOOGLE TRANSLATOR:



III(b). COLLABOARTION DIAGRAM

- It is a type of UML interaction diagram
- It shows the relationships among different objects
- Here objects are **free-form**. means that, it can be placed at any position
- Here the sequence is identified by using **numbering scheme with message**
- The collaboartion diagram follows either simple numbering or decimal numbering system

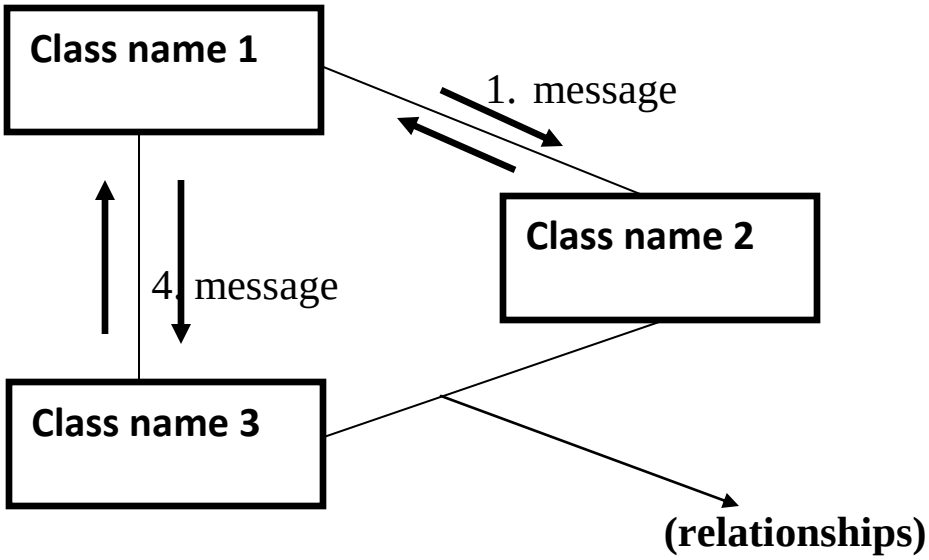
Main Features

- It shows the structural relationship among the objects
- It does not show the time
- Objects are arranged in a graph / network format / any other

DIFFERENCE BETWEEN SEQUENCE AND COLLABOARTION

S.N	SEQUENCE DIAGRAM	COLLABOARTION
1.	It does not show the relationship among the objects	It shows the relationship among the objects
2.	Here sequence is identified by using **message**	Here sequence is identified using **numbering scheme**
3.	Here objects are arranged in **sequential order**	Here objects are arranged in **graph / network / any other format**

SYNTAX



COMPONENTS / SYMBOLS

1. **Class Name / Object:** 

2. **Association:**

3. **Message: method name() / label**

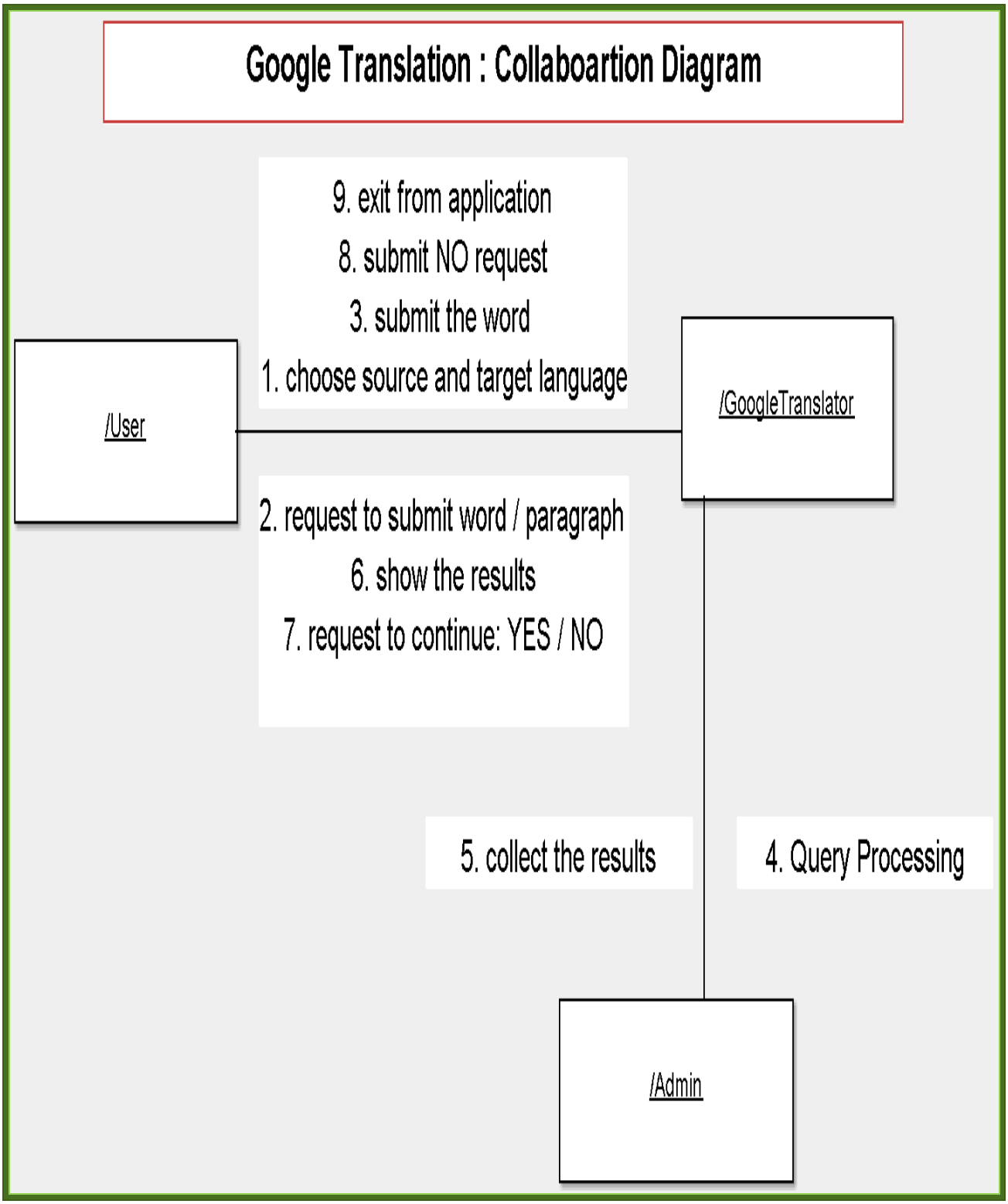
Ex:

login() ← method name

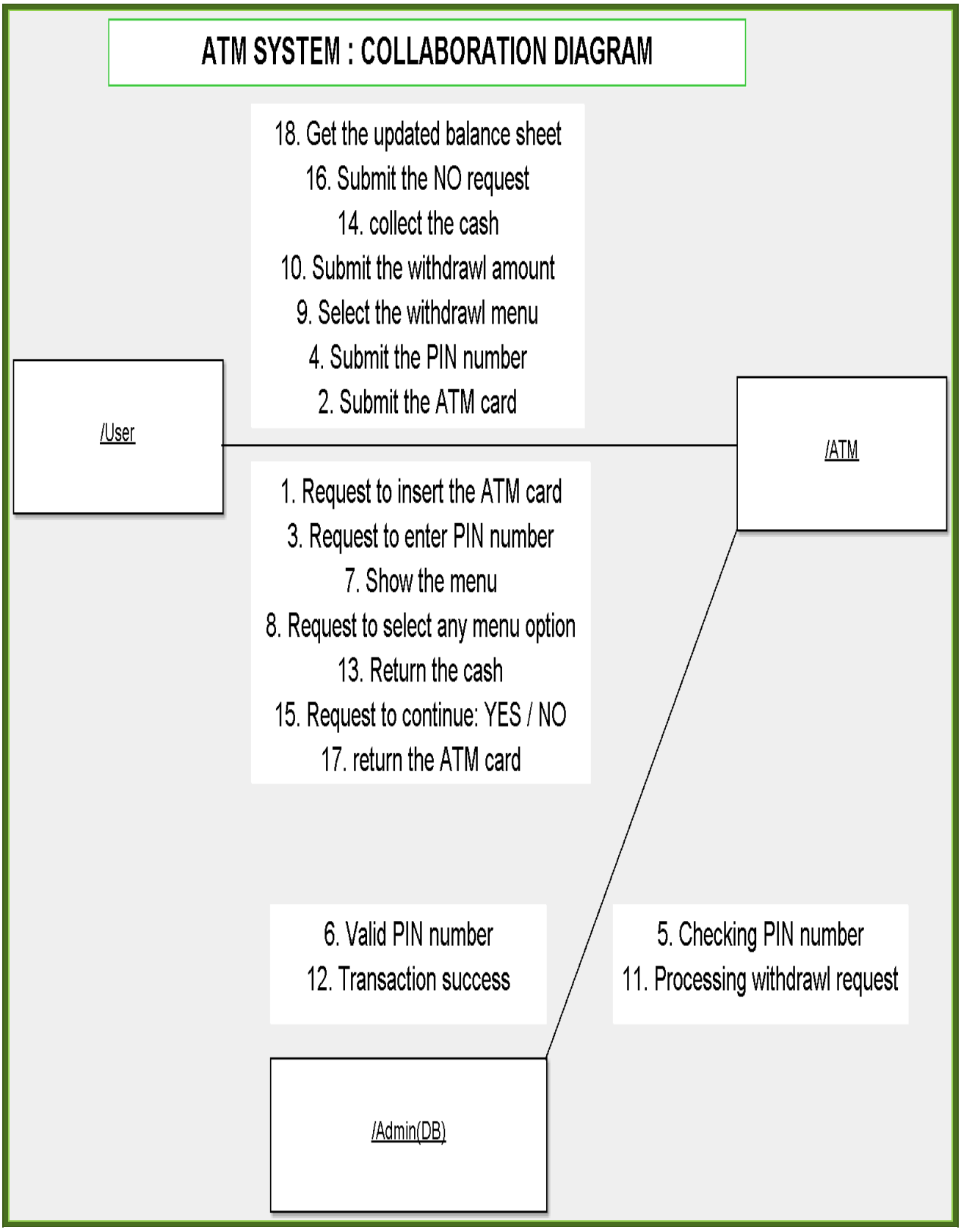
submit the user name & password ←Label

III(b). EXAMPLES OF COLLABOARTION

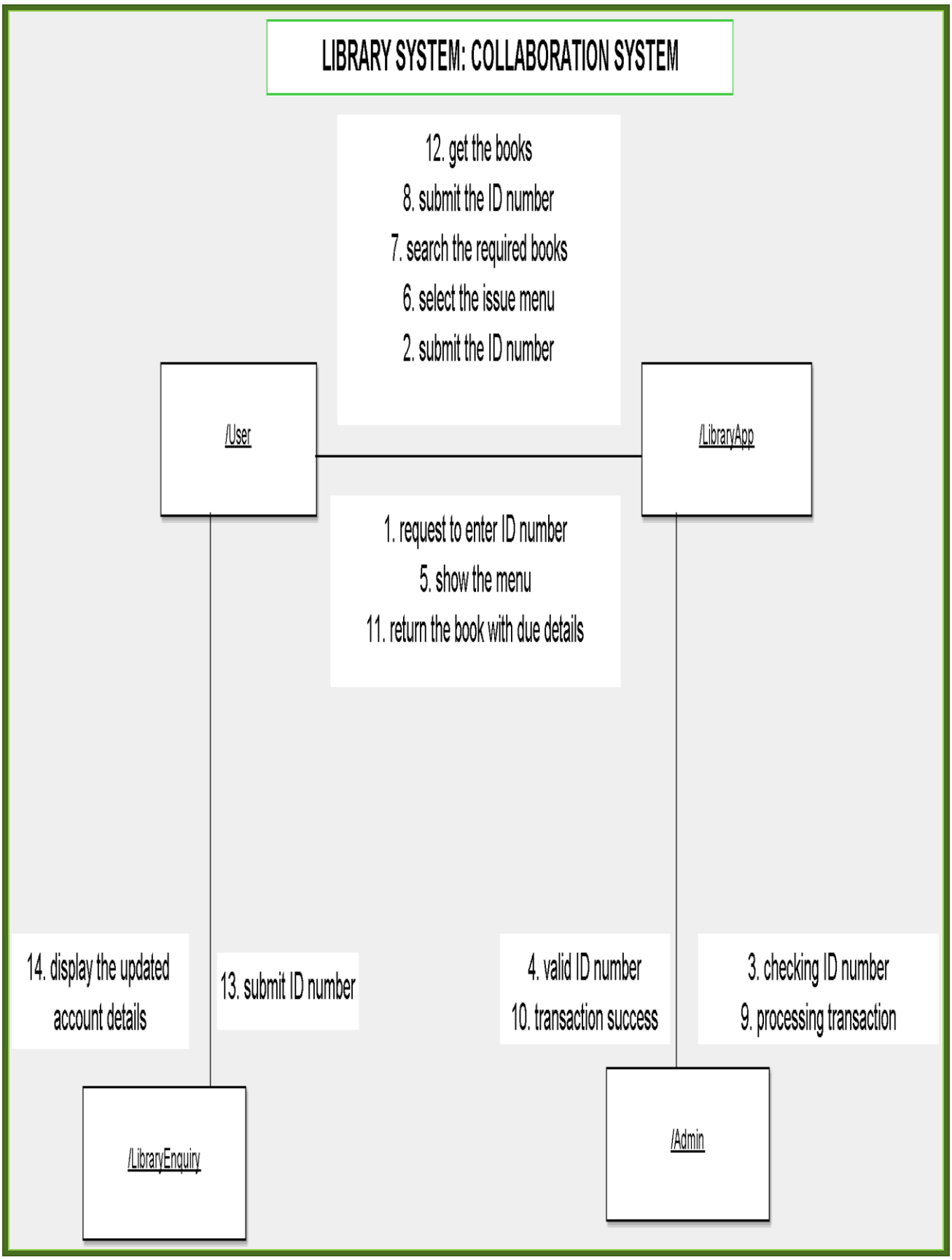
1.GOOGLE TRANSLATION:



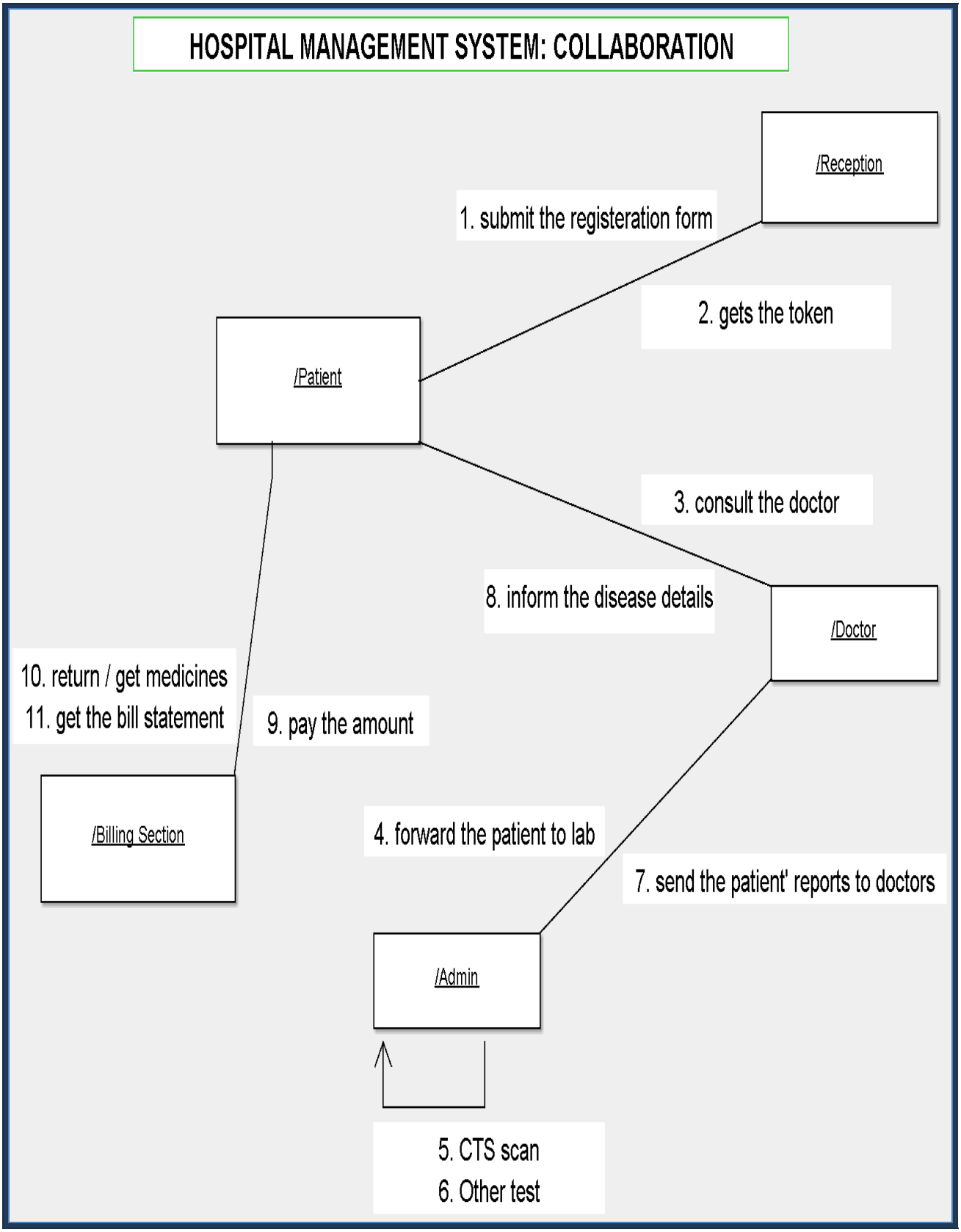
2. ATM SYSTEM:


ATM SYSTEM : COLLABORATION DIAGRAM
18. Get the updated balance sheet
16. Submit the NO request
14. collect the cash
10. Submit the withdrawl amount
9. Select the withdrawl menu
4. Submit the PIN number
2. Submit the ATM card
/User
/ATM
1. Request to insert the ATM card
3. Request to enter PIN number
7. Show the menu
8. Request to select any menu option
13. Return the cash
15. Request to continue: YES / NO
17. return the ATM card
6. Valid PIN number
12. Transaction success
5. Checking PIN number
11. Processing withdrawl request
/Admin(DB)

3. LIBRARY SYSTEM:



4. HOSPITAL MANAGEMENT SYSTEM:



5. DICTIONARY SYSTEM: