

Unified modeling language: USE cases

Analysis stage

- In analysis we determine the business and software functional and nonfunctional requirements by analyzing and understanding the problem to be solved by the system.
- It involves understanding the problem area or domain rather than the solution to be developed.

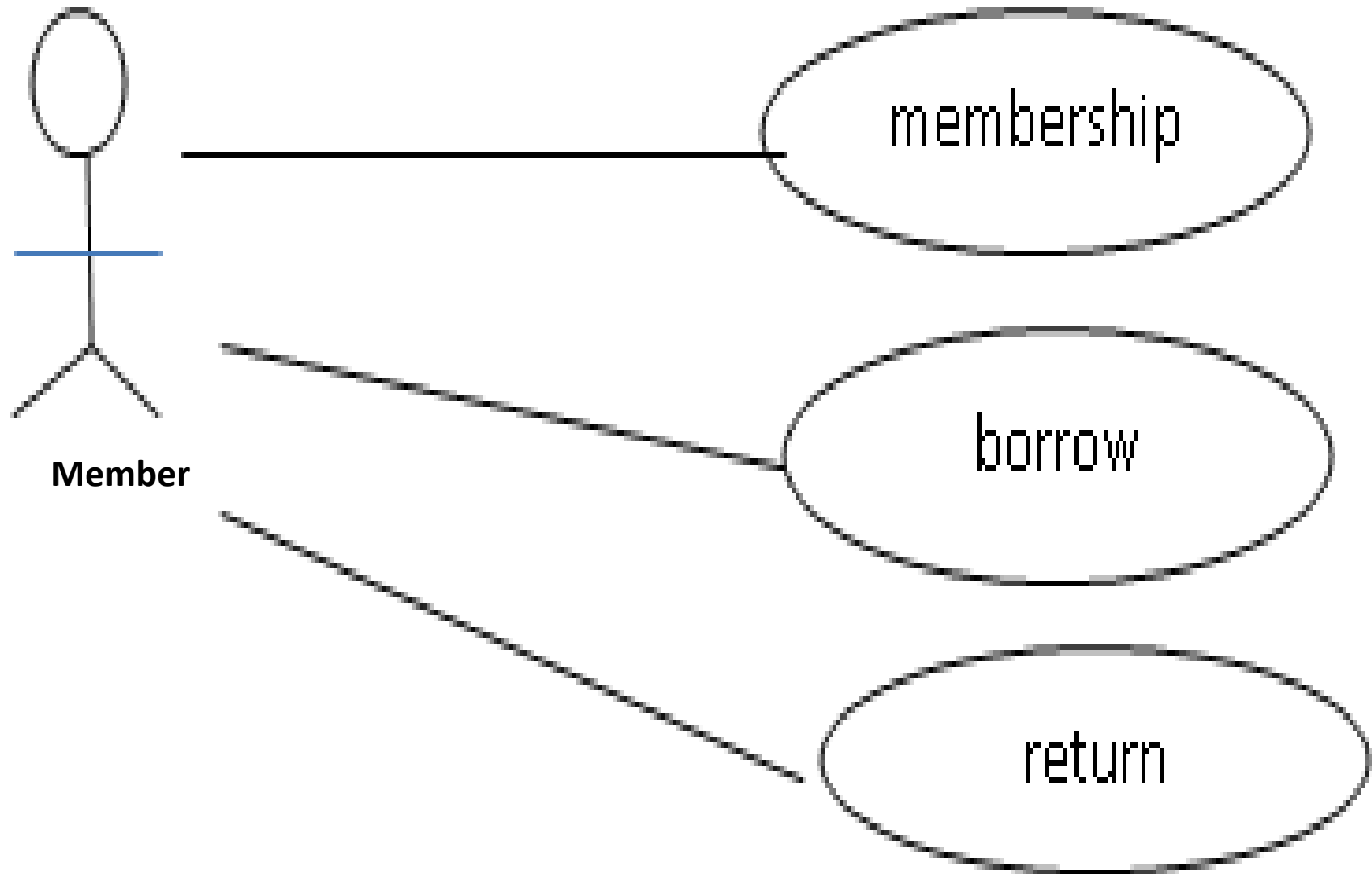
Analysis - Requirements determination

- To understand problem /problems the eventual software system will solve by prompting questions and providing basis for answering those questions and to provide basis for subsequent development of the system (system design).

Analysis - Requirements determination

- Interviews for example involves designing relevant question necessary to understanding the problem so that your will elicit answers to those questions from the client/user.

Partial library use case diagram



- These diagrams are easily understood by the user and are used during analysis phase to give the user view of the systems to be developed.
- They are used for analysis and can be developed from the results of interviewing the user or during interview.
- A use case diagram for a person becoming member, borrowing books from the library is given in figure

- The actor is represented by the symbol of a stick person; use case by an ellipse and the association by the line joining the two.
- The use case above shows how a member of a library utilizes the library system.

- Determining actors we determine the people and/or external systems that provide or require information from the system. From the people and systems we determine the role they play that is input and output.
- The actors in a library are members, library staff. The actors normally represent the role people play in the system. An actors initiates the use case achieves some goal.

- Determining the use case. We determine the various sequences of actions required to provide functionality to the user.
- In other words we are looking for groups of actions that are meaningful to the business. Some groups of actions are borrowing and returning books.

1. A scenario shows how a user will utilize the target system.
2. It shows the different courses of action that different instances of the use case may take.
3. The various result of different combination of actions.
4. Both successful (user gets desired results) failed scenarios presented (user doesn't get desired results)

Scenario for purchasing products from a supermarket using credit card

1. Customer brings items to counter
2. Cashier scans items
3. Cashier requests total
4. Checkout system returns total
5. Cashier request payment
6. Customer give credit card

7. Cashier inserts credit card
8. verifier scans and verifies card.
Card accepted
9. Check system deducts total
10. Customer signs credit slip
11. Cashier gives customer credit card

Library book Borrowing Scenario.

1. A member goes to the library
2. Its working hours
3. Member is allowed into the library
4. Member consults the catalog for book
Member wants to borrow
5. Member finds the book
6. Member checks where it is located.
7. Member goes to the shelf where book
is located

8. Member finds the book
9. Member goes to borrowing counter
10. Member gives Membership card and borrowing card to librarian
11. The librarian checks if member has overdue book.
12. Member doesn't have an overdue book.
13. Librarian takes the book card and puts in borrowing card.

14. Librarian determines the number of days for lending book to member

15. The Librarian stamps the book.

16. The member takes the book and presents it to security officer

17. The security officer checks and confirms the book has been issued and gives it back to the member.

18. The member leaves the library.

Library Scenario – overdue /maximum number of book

1. A member goes to the library
2. Its working hours
3. Member is allowed into the library
4. He/she consults the catalog/search computer for book he/she wants to borrow
5. Member finds the book is library
6. Member checks where it is located.
7. Member goes to the shelf where book is located

overdue /maximum number of book Scenario ...

8. member picks book and goes to borrowing counter
9. Member gets a queues
10. Member gives librarian the book
11. Librarian scans book
12. Member has overdue book/maximum number of books
13. for overdue librarian prints fine slip
15. Member leaves library

Individual Lesson exercise 2

- a. Draw a use case diagram for banking systems
- b. Write a successful and unsuccessful scenarios for one of the use cases

Submit blackboard week linkname ?

Library Borrowing Scenario -all books borrowed

1. A member goes to the library
2. Its working hours
3. Member is allowed into the library
4. He/she consults the catalog/search computer for book he/she wants to borrow
5. Member finds book/s borrowed (computer)
6. Member checks where it is located. (catalog)
7. Member goes to the shelf where book is located
8. Member finds book/s borrowed
9. Member leaves library
10. Member goes to librarian at borrowing counter and reserves book