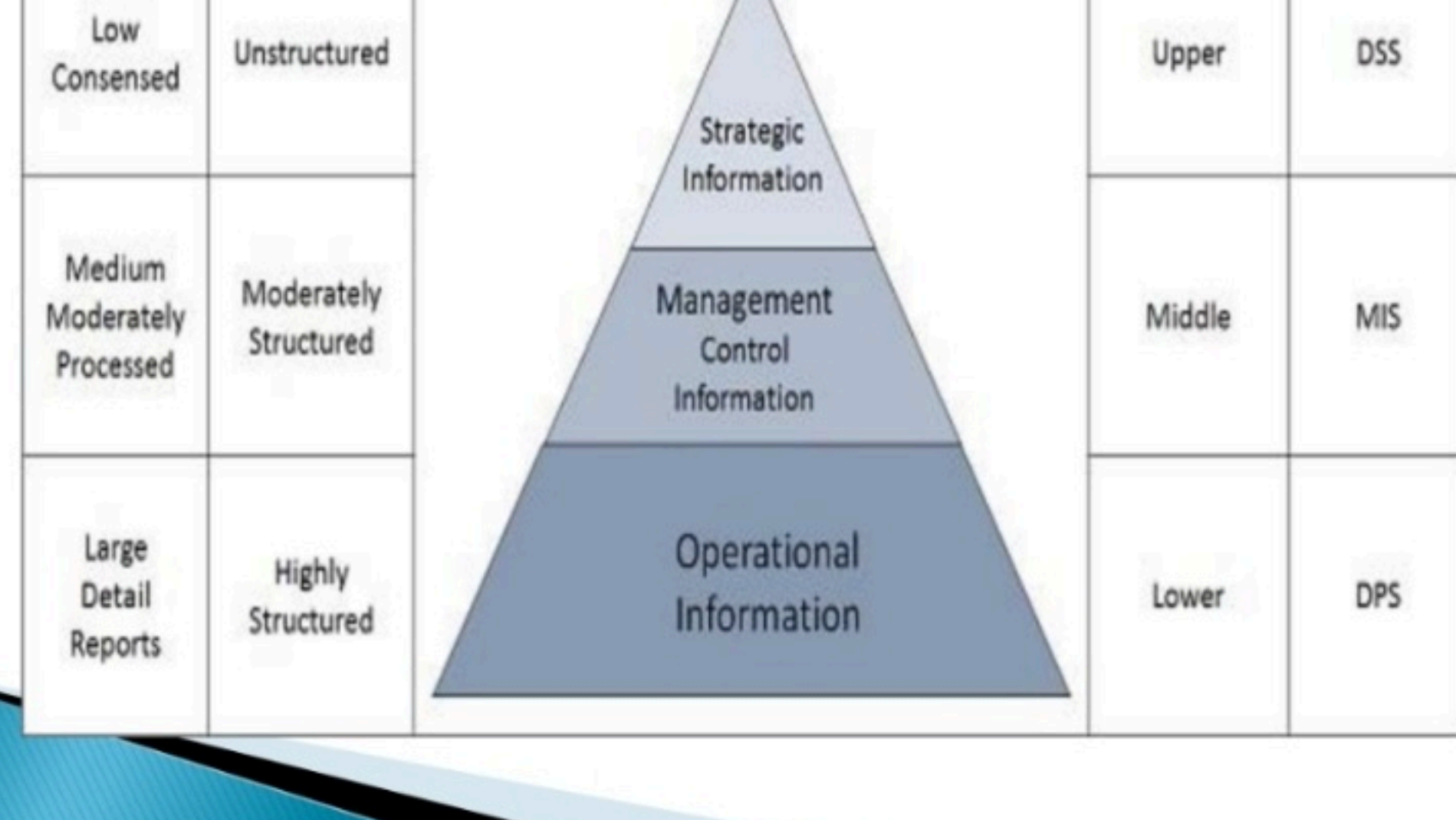


Analysis and Design Models

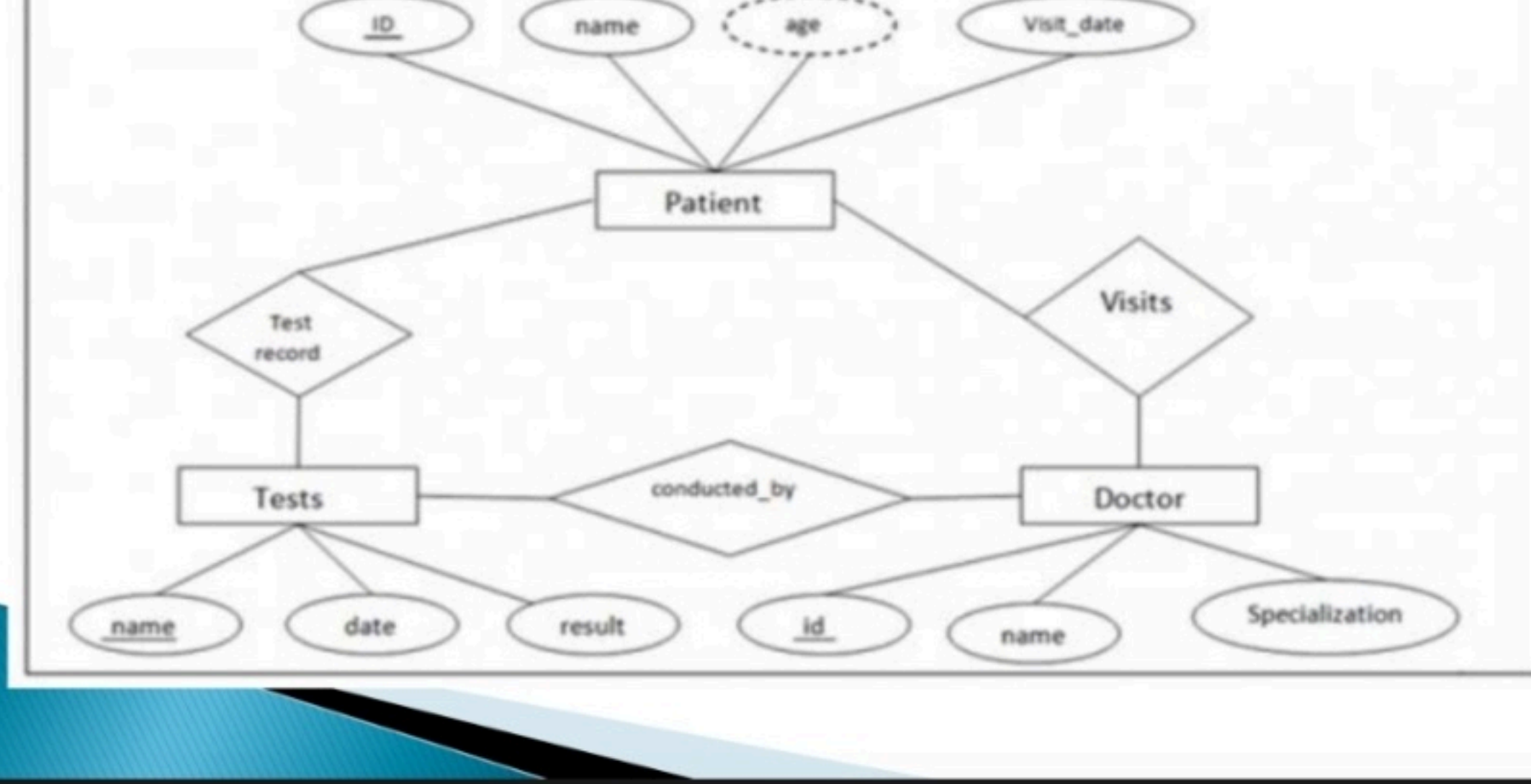
SSAD and OOAD

Structured System Analysis



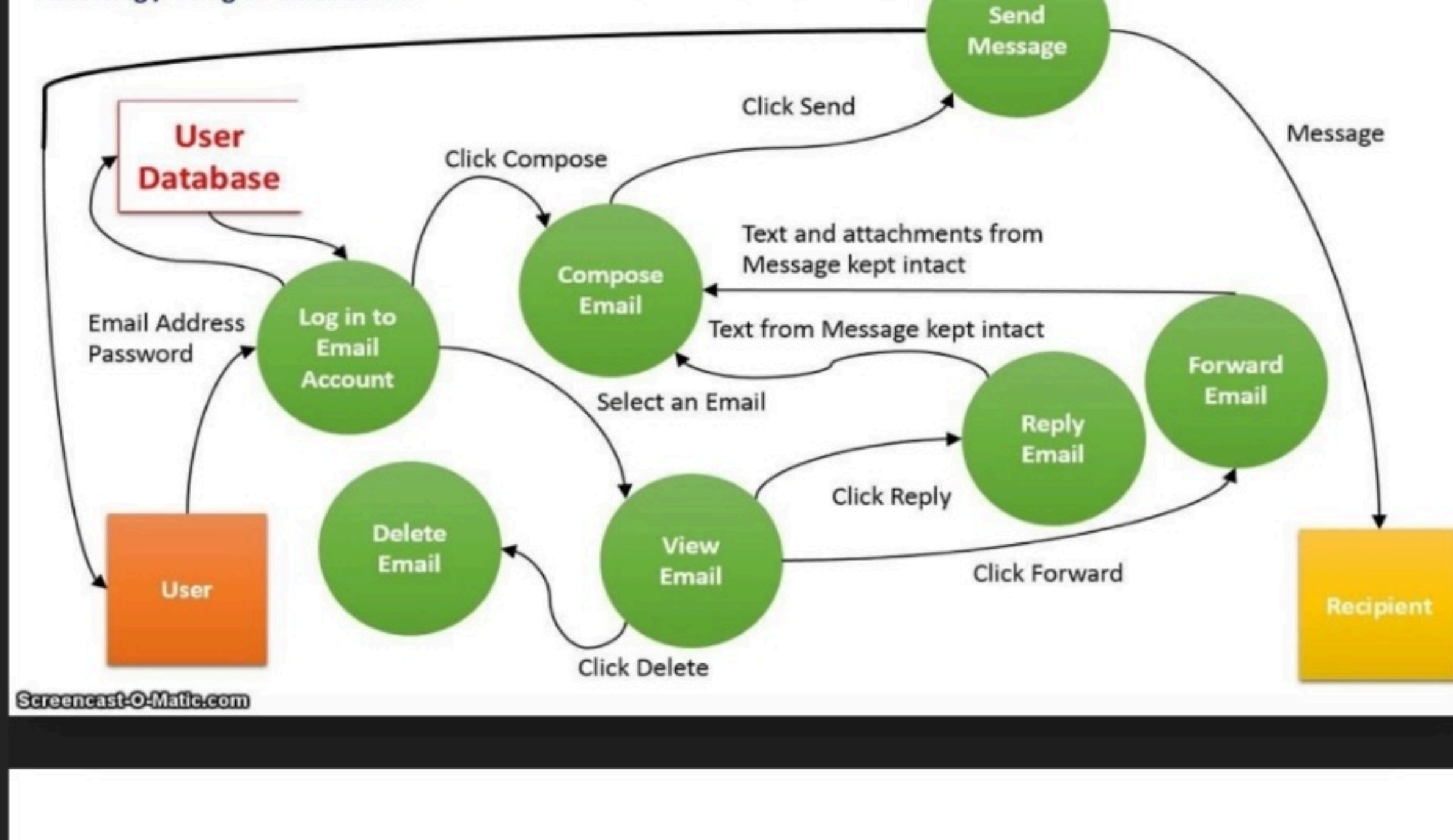
Tools used in SSAD

- Entity Relationship diagrams (ER Diagrams)



Tools used in SSAD – cont'd

- Data Flow Diagrams (DFD)



Database Management Systems

- Data Independence
- Data Integrity
- Data Dictionary
- Example: Select emp.name, emp.salary, emp.dept from EMP-Table where emp.salary > 100000
- This does not change even if some new fields are added in EMP-Table or order is changed

Object Oriented Analysis

- More connected to real world examples
 - Systems are thought about as Objects and their interactions.
 - Objects belong to Classes
 - For example – consider a Bank customer doing a transaction in a Bank branch
- Customer is an Object.
Teller is an Object.
Both of them can do some functions.
Each Object and the functions that it can do are considered together.

OOAD – cont'd

- Data and Operations are not separate in SSAD
- Customer Object contains what type of data is stored inside and what functions he can provide
- Teller Object also similarly contains data store and functions
- By proper interactions between these Objects, required functionality is achieved

OOAD – Cont'd

- Classes and Objects
 - Inheritance
 - Encapsulation
 - Data Hiding
 - Polymorphism – Operator Overloading
- Private and Public Data storage mechanism

Unified Modeling Language (UML)

- Standard way to represent the blue print of a software system under OOAD
- Diagrams used
 - Class diagram
 - Object diagram
 - Use Case diagram
 - Sequence diagram
 - Activity diagram
 - And so on.....

Sample Use Case diagram

