

Use Case Diagram for Leave Management System (LMS)

Actors (Nouns) for Leave Management System

Company	Attendance	Leave	Employees
Contributors	Lead	Executive	Manager
Leave Rules	Days	Year	Name
Type of Leave	Period	Absence	Holiday
PL	CL	EL	DL
SL	ML	LWP	UL
Pre-approval	Month	Service	Quarter
Medical Certificate	Parenthood Certificate	Disciplinary Action	Administration Function
Daily Attendance	Personal Details	Calender Year	Batch Task
Account	Balance	Designation	SysAdmin
Parent	Salary	Week	List
Privilege	Right	Login ID	Leave Status
Employee Code			

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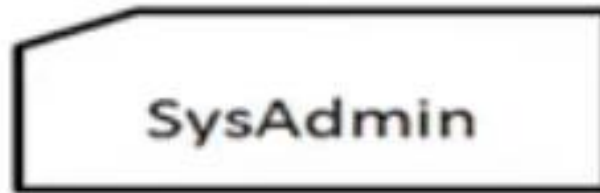
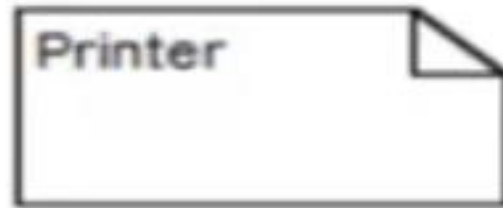
Actors (Nouns) for Leave Management System

- Reading through the specification of the Leave Management System, we identity the actors
- Actors are the nouns in the specifications
 - Executive
 - Lead
 - Manager
 - Printer
- Now based on people or things, we identify the human actors and non-human actors
 - Human
 - Executive
 - Lead
 - Manager
 - Non-Human
 - Printer
 - Secondary
 - SysAdmin

Primary



Actors (Nouns) for Leave Management System



Use Cases (Verbs) for Leave Management System

Identify Use-Cases for LMS

Wants	Manage	Work	Report
Approve	Regret	Credit	Join
Prorate	Cross	En-cash	Pay
Allow	Send	Need	Become
Enjoy	Avail	Proceed	Employ
Consider	Deduct	Provide	Request
Cancel	Check	Export	Revoke
Debit	Adjust	Perform	Hire
Fire	Generate	Club	Carry forward
Continue	Accumulate	Propose	Join Back
Draw			

Use Cases (Verbs) for Leave Management System

Identify Use-Cases for LMS

- Reading through the specification, we identify several verbs which are behaviors, that is, Use-Cases of the system
 - Daily Attendance
 - Request Leave
 - Cancel Leave
 - Avail Leave
 - Export Leave
 - Approve Leave
 - Revoke Leave
 - Export Exec Leave
 - Check Medical Report
 - Adjust
 - Debit
 - Credit

Use Case Relationships for Leave Management System << include >>

Identify Relationships for LMS

- Reading through the specification, we identify several verbs which are behaviors, that is, Use-Cases of the system

- Daily Attendance
- Request Leave
- Cancel Leave
- Avail Leave
- Export Leave
- Approve Leave
- Revoke Leave
- Export Exec Leave
- Check Medical Report
- Adjust
- Debit
- Credit

Validate Leave



Use Case Relationships for Leave Management System << include >>

Identify Relationships for LMS

- Some verbs will have auxiliaries, that is, related tasks, required to complete its action
- Like *Request Leave* will include the verb *Check Leave*. Hence an includes definition is identified



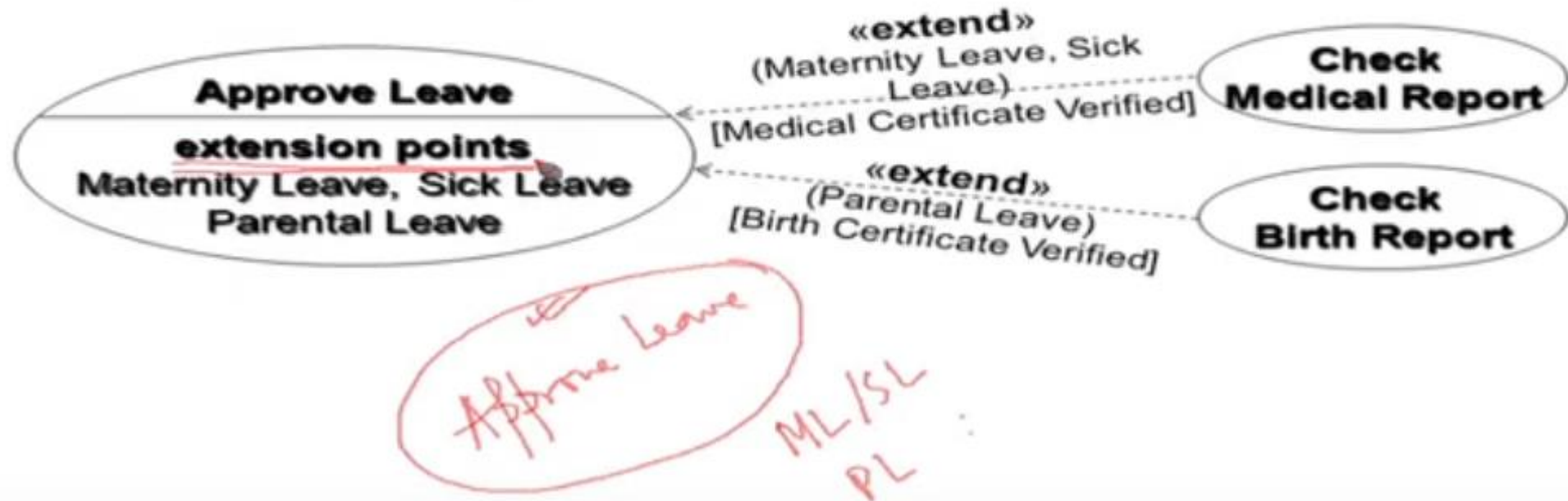
Re-use



Use Case Relationships for Leave Management System << extend >>

Identify Relationships for LMS

- Some verb will incorporate another verb at some conditions, that is, extension points
- In case of Medical or Maternity Leaves, the verb *Approve Leave* will be extended by the action *Check Medical Report*



Use Case Relationships for Leave Management System

Generalization among Use Cases

Identify Relationships for LMS

- There can be hierarchy among Use-Cases, that is, one of the Use-Cases inherits the behavior of another Use-Case, along with some extra behaviors
- We see *Export Exec Leave* has the same behavior like *Export Leave* (will be executed by all actors), along with some special actions for the Lead and Manager, as only they will be executing the Use-Case *Export Exec Leave*

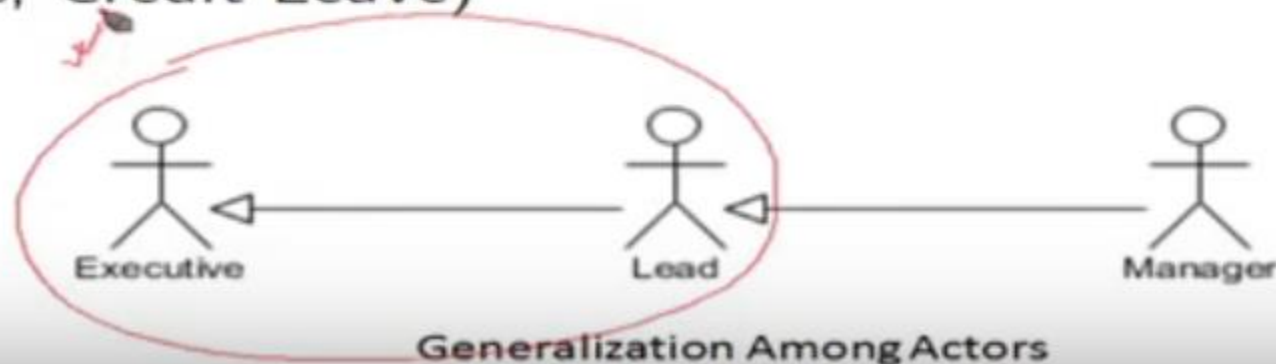


Use Case Relationships for Leave Management System

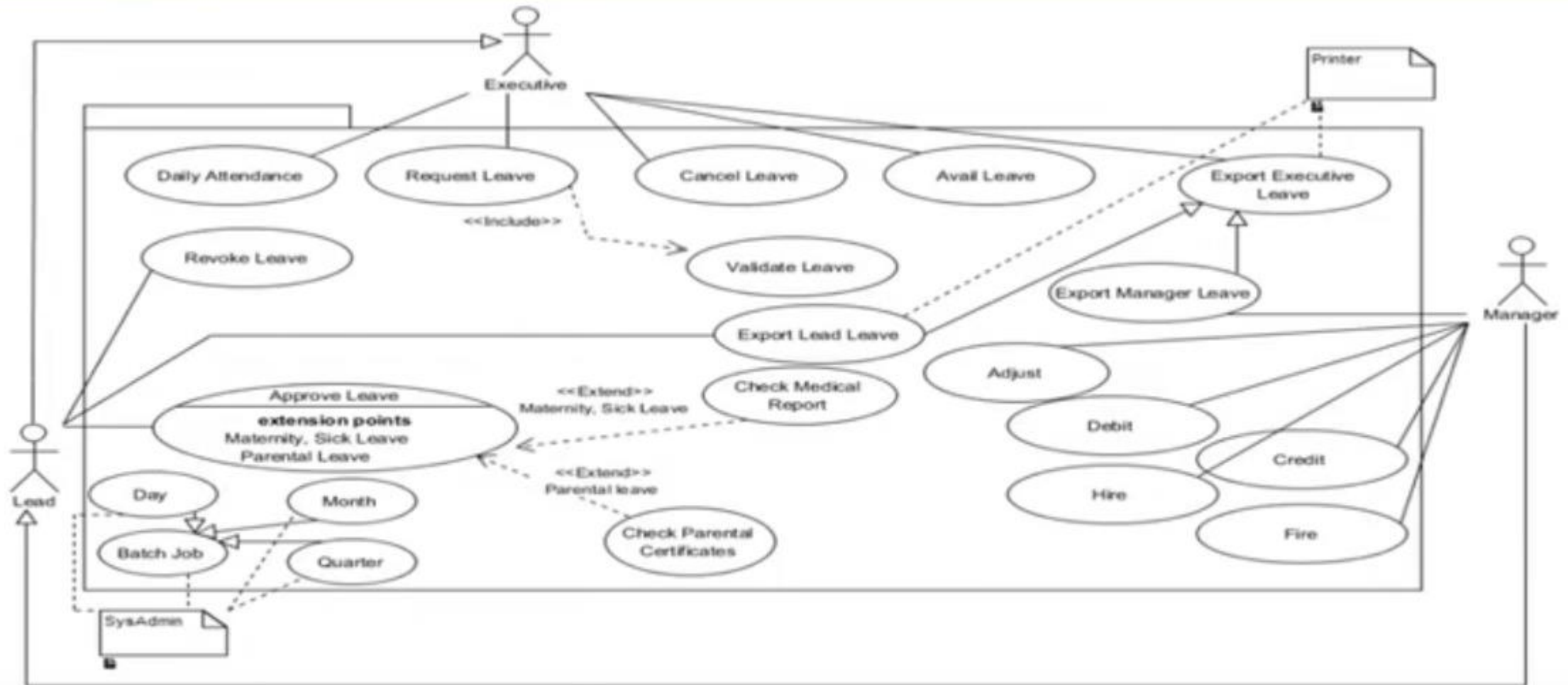
Generalization among Actors

Identify Relationships for LMS

- There can be hierarchy among the actors, that is, nouns.
- That is the base actor will execute some use cases, and the specialized actors, will execute extra Use-Cases
- Lead is an Executive, Manager is a Lead – means that
 - Lead executes all the use cases executed by an Executive along with some additional use cases (Revoke Leave, Approve Leave)
 - Similarly, Manager executes all the Use-Cases executed by a Lead along with some additional Use-Cases (Adjust Leave, Credit Leave)

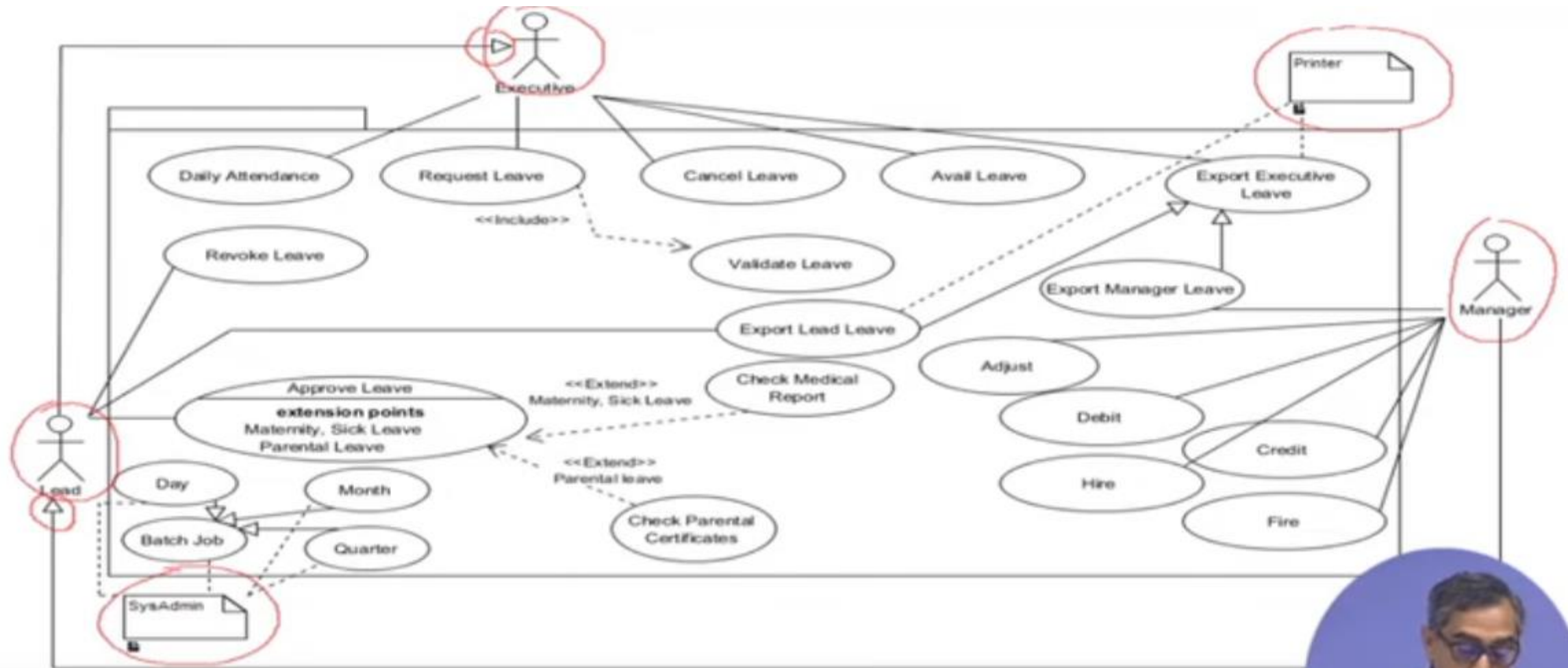


Use Case Diagram for Leave Management System



Not all use cases are shown in details

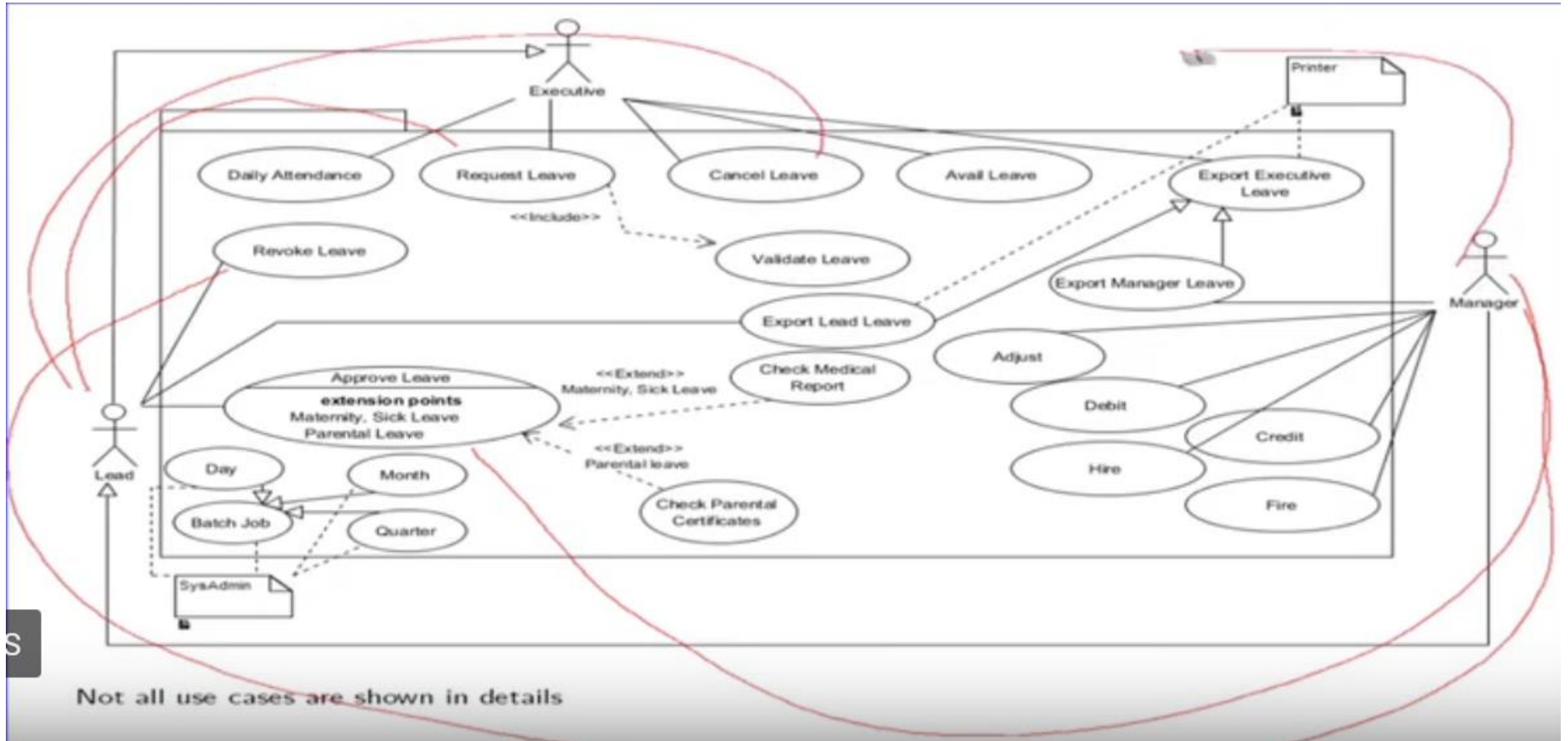
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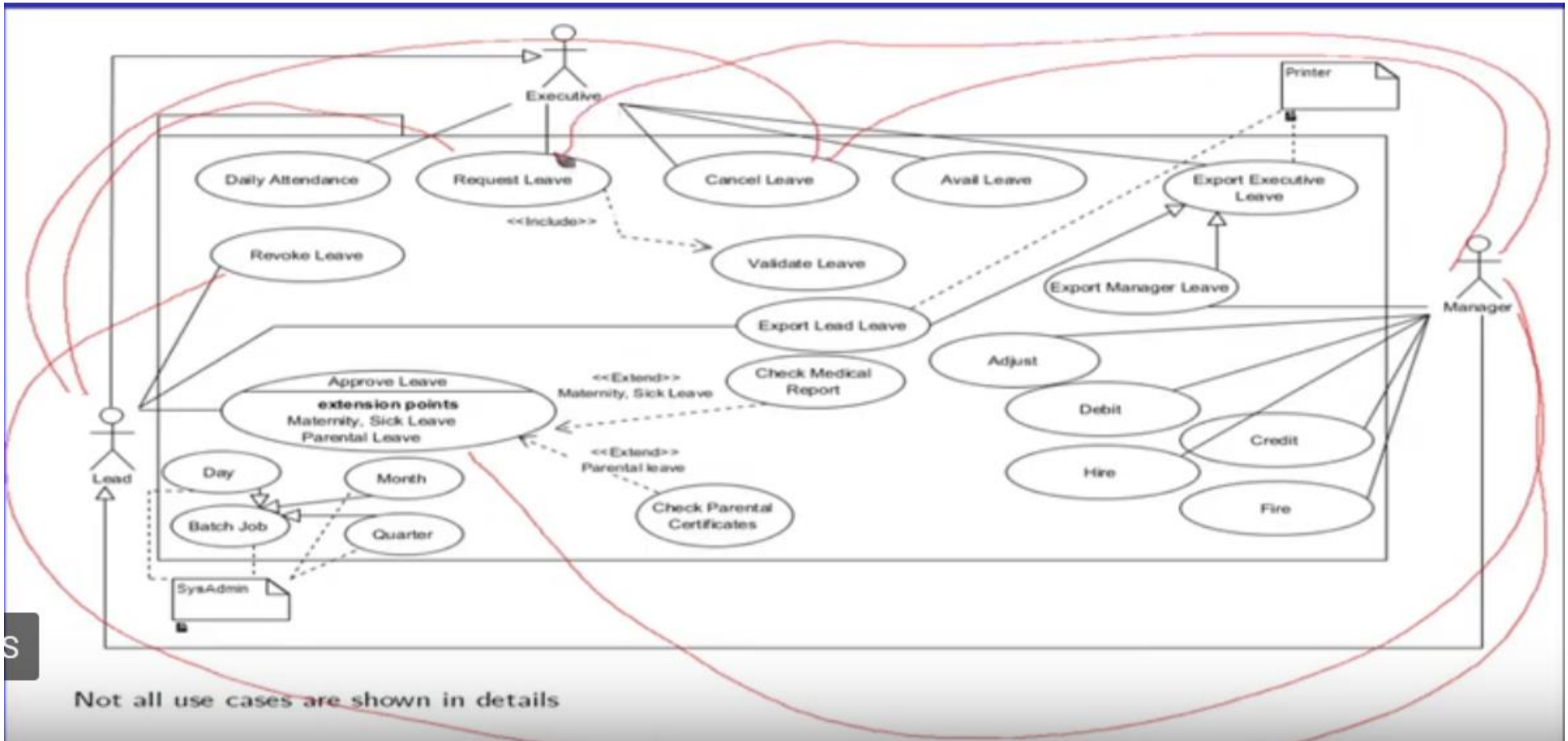
Not all use cases are shown in details



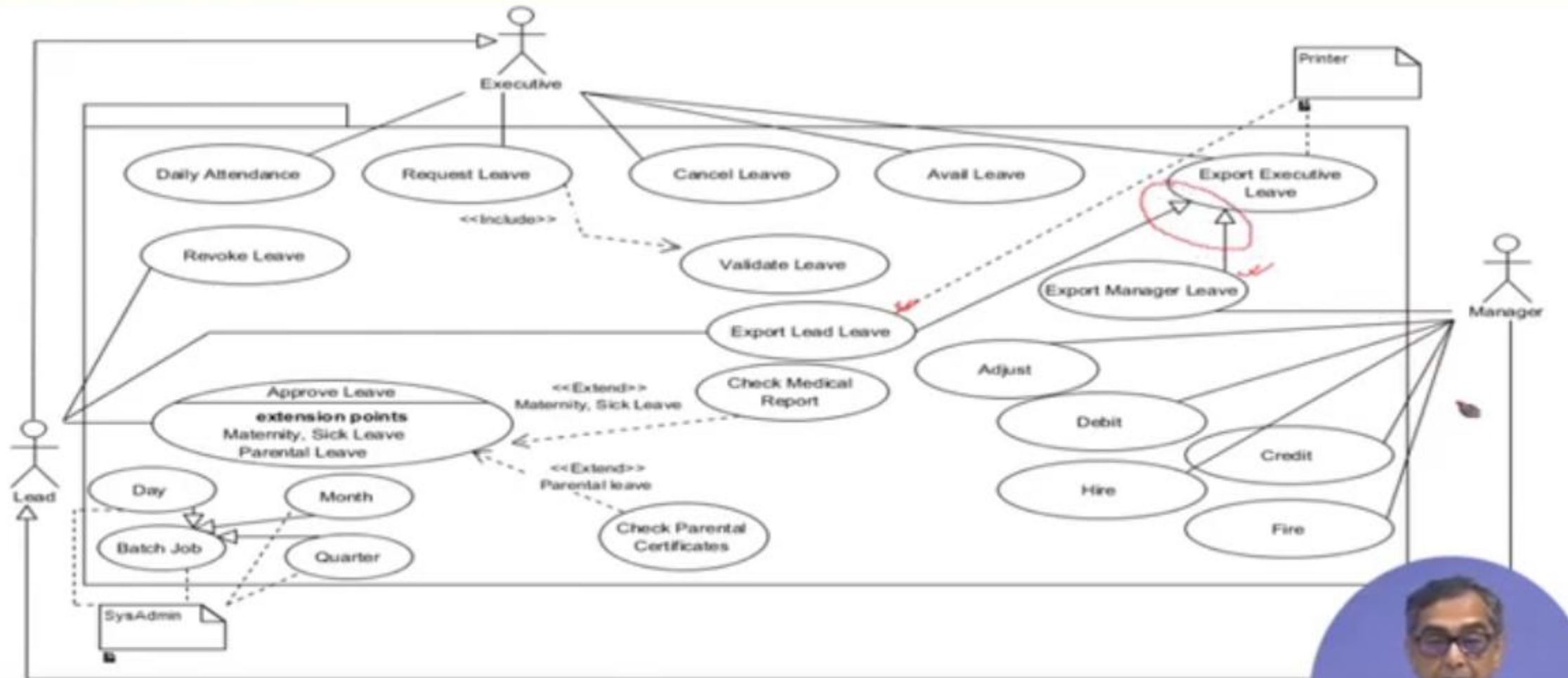
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References

- Source: NPTEL **Object-Oriented Analysis and Design, IIT Kharagpur**
- Prof. Partha Pratim Das Prof. Samiran Chattopadhyay Prof. Kausik Datta
- <https://nptel.ac.in/courses/106105153>