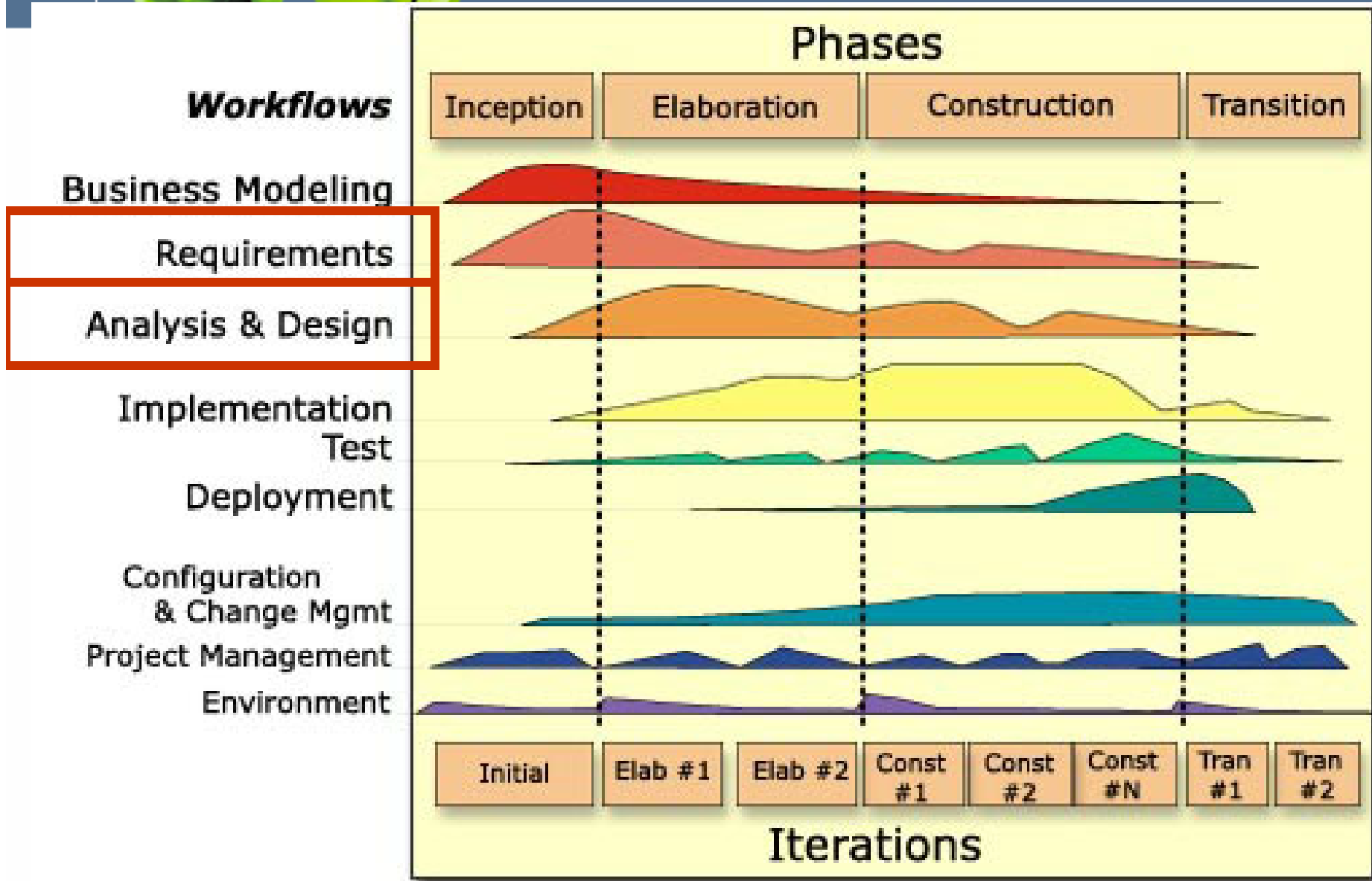


Product Life cycle (RUP)



Chapter 3 – The Analysis Workflow CSC532:

Original presentation by
Joshua Hughes
Zehra Raoshan
Kiran Balagani
Guang Li





Main Goal

Understand customers requirements to gain momentum towards design.

Primary Result – Analysis Model



- Artifacts
- Workers
- Activities





Artifacts

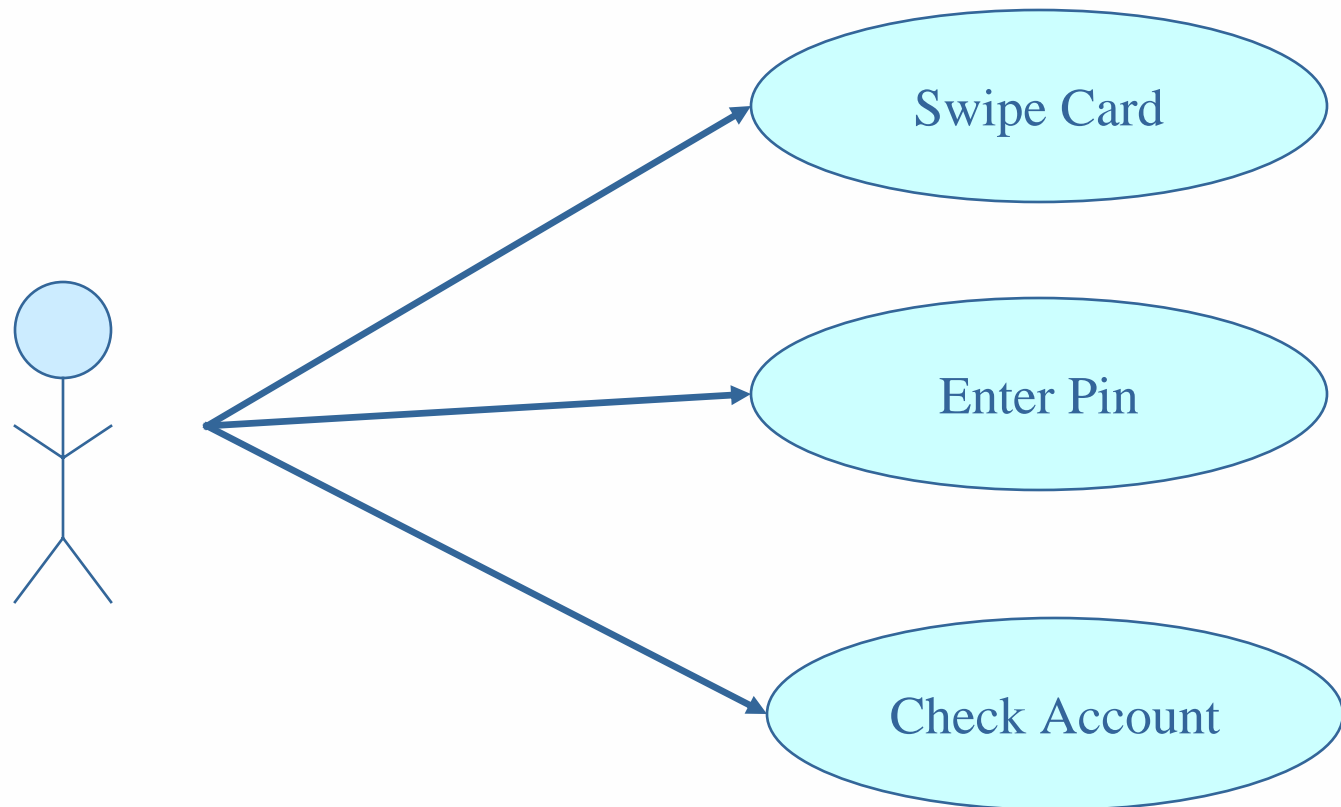
Usually contains attributes, not operations.

- Boundary Classes
- Control Classes
- Entity Classes





Use Case Diagram



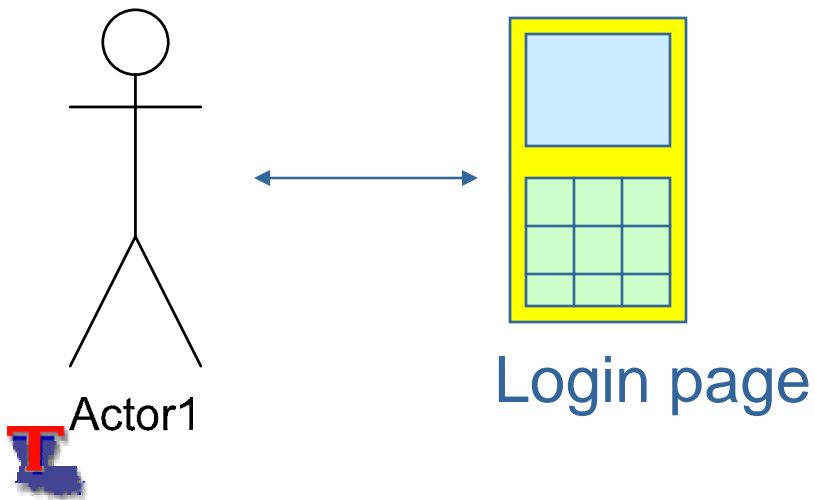


Boundary Object

An object with which an actor interacts.

Example: ATM keypad

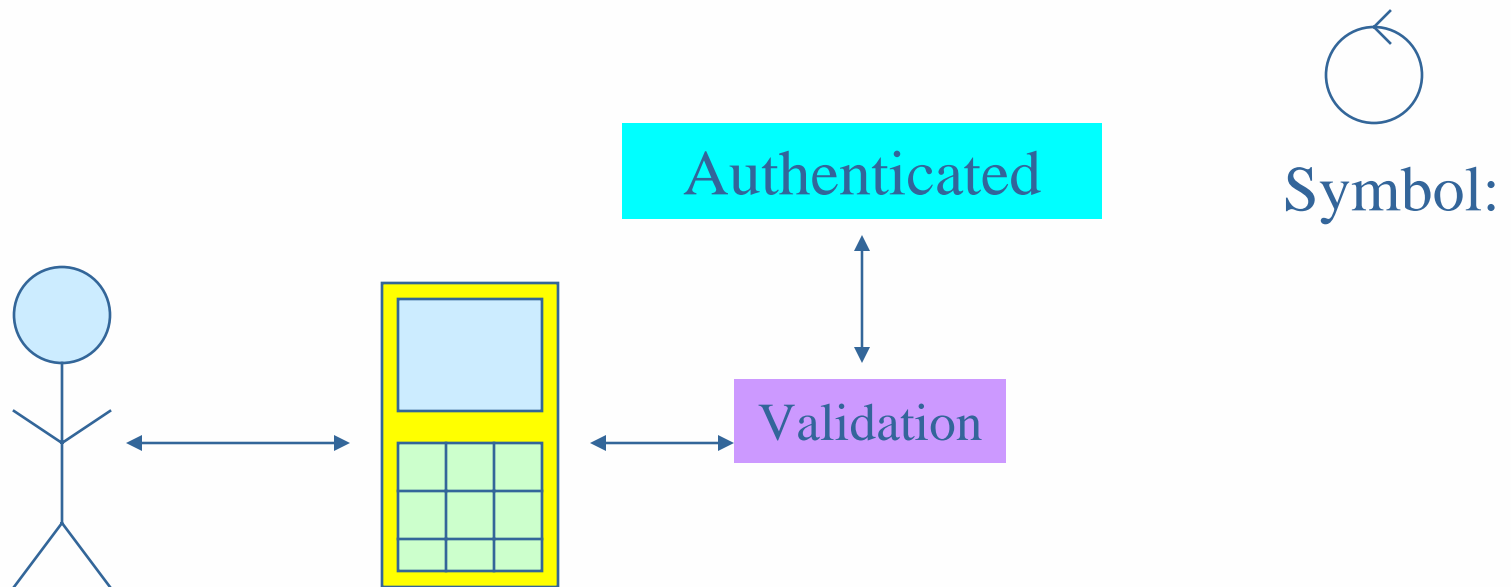
Symbol: 





Control Object

An object that embodies application logic.
Example: Validation



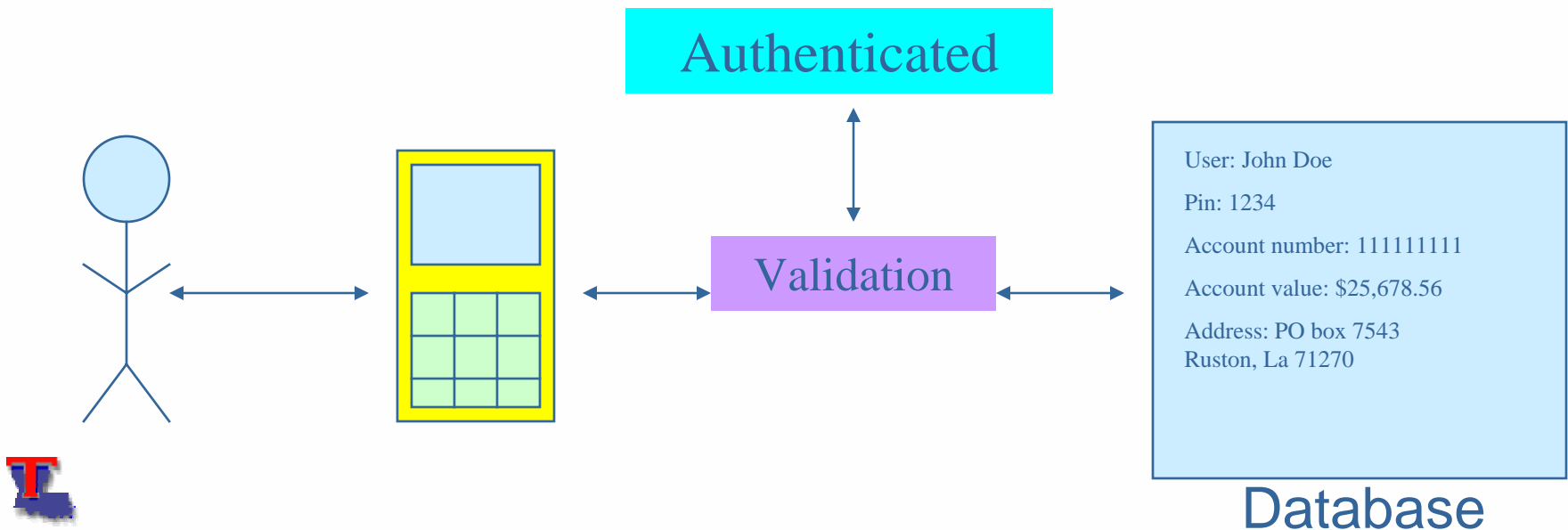


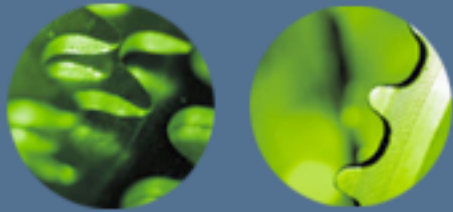
Entity Object

An object that contains long-lived information.

Example: Database

Symbol: 





Use Case Realization-Analysis

Use Case – A sequence of actions that actors and system perform to produce results of value.

Collaboration – A collection of classes and other elements that work together to provide some behavior.

Use Case Realization-Analysis – A collaboration that describes how actors perform given a use case.

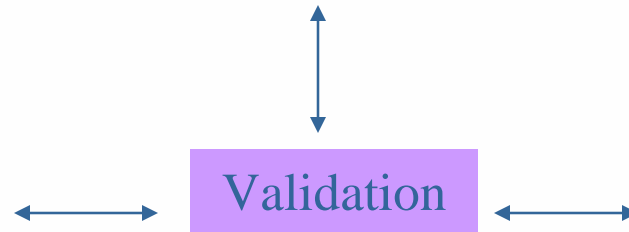
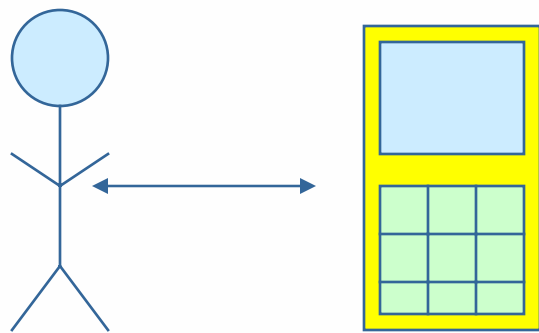
Robustness Analysis – Looking at each sentence of the use case.

Robustness Diagram – a special form of UML collaboration diagram.

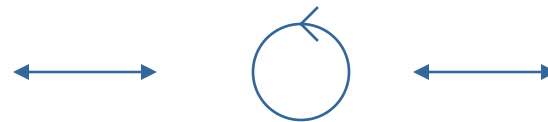
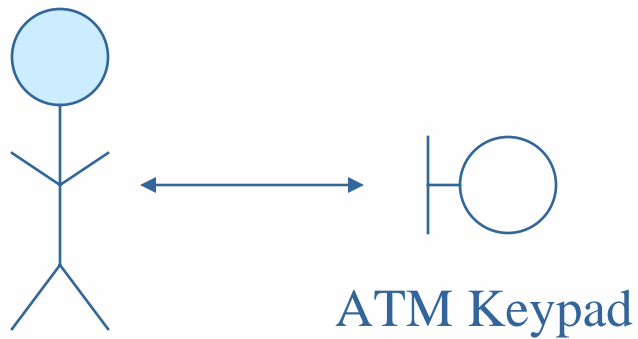


Example of Robustness Diagram: Login usecase

Authenticated



User: John Doe
Pin: 1234
Account number: 11111111
Account value: \$25,678.56
Address: PO box 7543
Ruston, La 71270



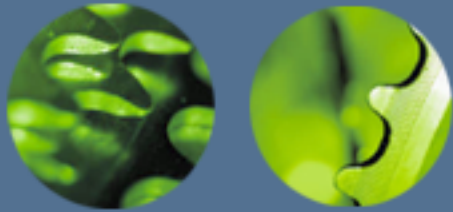
Actor

ATM Keypad

Validation

Account





Analysis Package and Analysis Model:-

- Analysis Package – UML package that contains analysis classes and use case realization-analysis.
- Analysis Model –
 - Architecture Description – View of analysis model.
 - Analysis packages and relationships
 - Use case realization-analysis
 - Analysis classes participating in the use case realization-analysis





Workers

- ARCHITECT:-

Within the analysis workflow, the architect is responsible for

- outlining the analysis model





Workers

USE CASE ENGINEER:-

- Builds use case realizations-analysis.

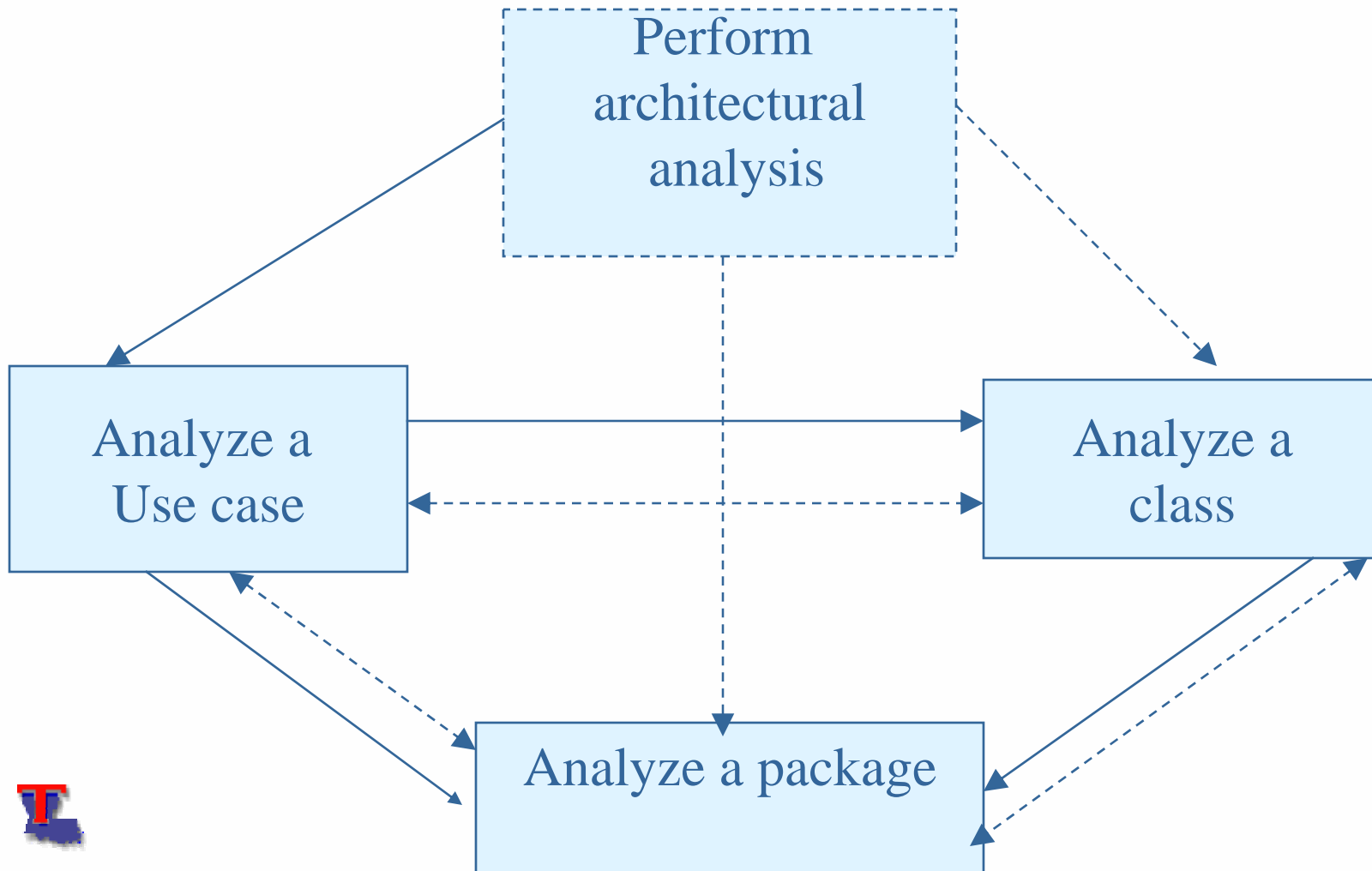
COMPONENT ENGINEER:-architect and developers

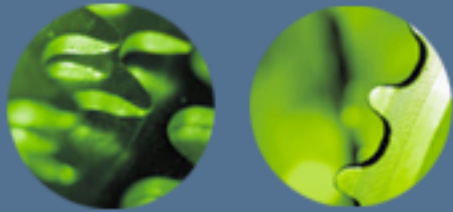
- o Ensuring that the analysis classes and use case realizations defined by the use case engineer (s) work well together.
- o Getting the contents of one or more analysis packages.





Activities





Perform Architectural Analysis:-

- Creating outlines of the analysis model and the architecture as a whole
- Identifying the first cut of packages that the development team will define while performing the following activities—

Analyze a Use Case and Analyze a Class

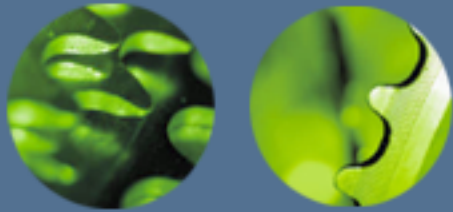




Analyze a Use Case

- Building a use case realization-analysis for a use case.

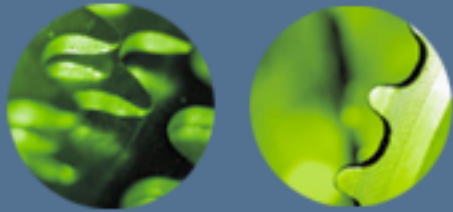




Analyze a Class:-

- Expanding the definition of analysis class
- A component engineer is responsible for this activity
- Refining and expanding the various kinds of relationships that each analysis class is involved in.
- Highly cohesive and loosely coupled components are desirable.





Analyze a Package:-

- Building an analysis package that was defined during architectural analysis.
- Component engineer plays a vital role.
- Traceability between the packages should be high.
- Architect captures the changes to the analysis packages and ensures that the changes don't threaten the integrity of the architecture.

