University of Pisa
MSc in Computer Engineering

Systems for Strategic Management and Support

LECTURE 21

http://www.iet.unipi.it/m.cimino/ssms/

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IV) *TO-BE* PROCESS ASSESSMENT: characteristics and workflow

S596 • Example (REMEMBER THE LAYOUT ONLY)

Characteristic or improvement name
Forensic strategy ("applying science at the front end")
Description
A Senior Scientist, typically the Case Manager, will meet with the Submitting Officer and develop a case strategy specifying which avenues of investigation, which items, and which tests are most likely to yield the needed results in the least time, with the least effort. The goal is to do this for as high a percentage of cases as possible. This is the first decision point in another characteristic, *multiple decision points.* Visually, this is the first stage in a funnel, in which the work being performed on a case is continually reduced as new facts arise.
Issues addressed
There is a tendency for the Customer (the police) to submit all possible items, and request all possible tests, or at least submit more items for more tests than are necessary or justified. This is known as "forensicating" a case, and is ironically a primary cause of the delay and expense that the customer is unhappy with. Currently, Forensics accepts all items and performs all requested tests through to completion. In some cases, the suspect has become the accused and then the defendant, and has been convicted and incarcerated, yet testing continues.
Anticipated outcomes/benefits
For the Customer—deliver a positive result in less time, at less cost. For Forensics—free up resources by reducing submissions, and performing fewer tests on fewer items, thereby providing better throughput for all cases. In the future, Forensics will only perform those tests that will help, which will stand up in court because we can say "we chose these tests for these reasons." On an ongoing basis the customer will become more aware of the avenues that are most effective.

(a) Documentation format for selected process characteristics.

IV) *TO-BE* PROCESS ASSESSMENT: characteristics and workflow

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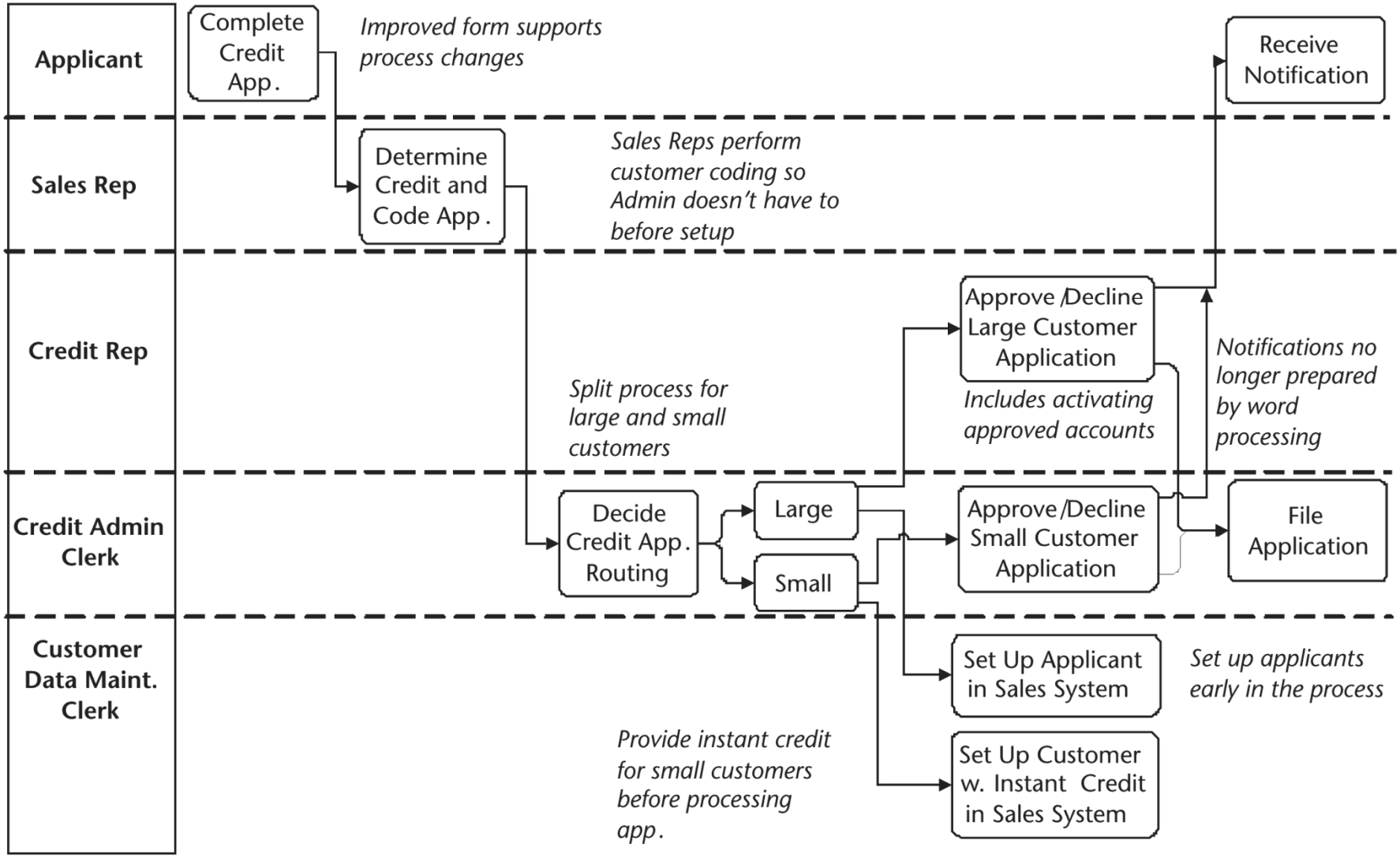
(REMEMBER THE LAYOUT ONLY)

Enablers	
Workflow Design	Performers ("actors"), tasks, sequence, dependency · Senior scientist Senior scientist "meets with" appropriate scientist, not necessarily in person · Assessment and agreement and recording of *requirement* which is not contracted yet. · The requirement must be made available to the Process Manager, who will assess it with respect to current capacity. · The Case Manager and Process Manager will then negotiate and refine the requirement. They will then agree on "what and when"and commit capacity, which might involve another provider.
Information Technology	Systems, automated support, data and information, communications · Capture requirement · Real-time view into work-in-progress and committed capacity (Forensics and subcontractors)
Motivation and Measurement	Measurement, assessment, consequences · The Process Manager will be measured on accurately estimating capacity and throughput. · The Process Manager makes a commitment for Forensics, and will be measured on having done the least to get the necessary result ("lean consumption").
Human Resources	Recruitment, placement, education, roles, matching task to role · New front-end role for scientists · Process Manager role · Provide service 24x7 will impact some staff. · Recruitment, recognition, and reward are fundamental to making this work.
Policies and Rules	Internal: policies and guidelines. External: laws and regulations · The overall submissions policy must be revised to reflect forensic strategy vs. "take it all." · Investigate legal consequences of forensic strategy. · Mechanism to protect the individual scientist from pressure. ("Forensics, not the individual scientist"–this is a corporate decision, not a personal decision.) · Scientists can't make commitment without the Process Manager. · A 10 minute phone call and a 4 hour conference both constitute delivery of a service. A request to confer with a Case Manager constitutes contract initiation.
Facilities and Equipment	Physical accommodations, layout, equipment, furnishings · Some place to meet—in person, teleconference, …

(b) Documentation format for selected process characteristics.

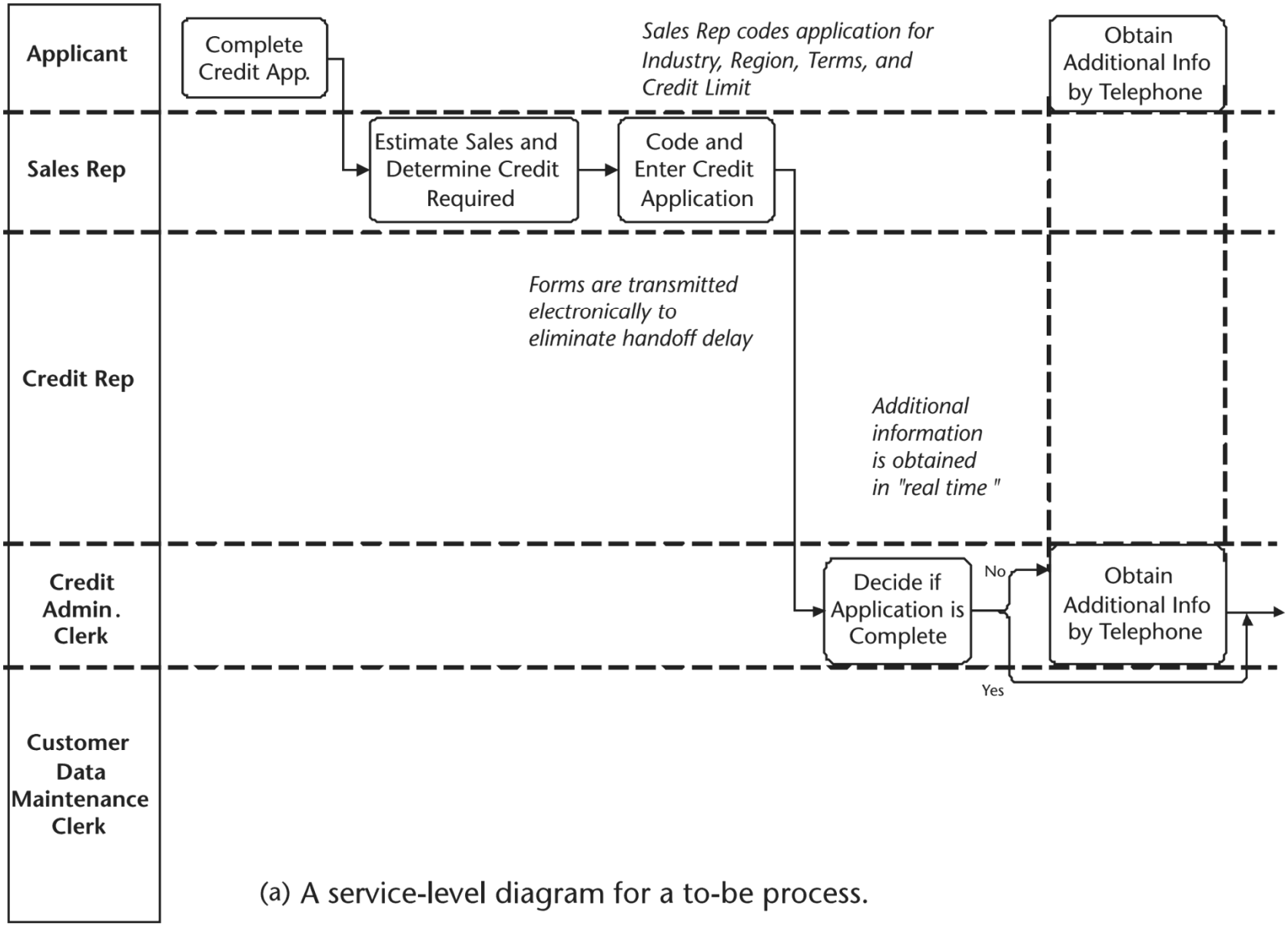
IV) *TO-BE* PROCESS ASSESSMENT: characteristics and workflow

- Example



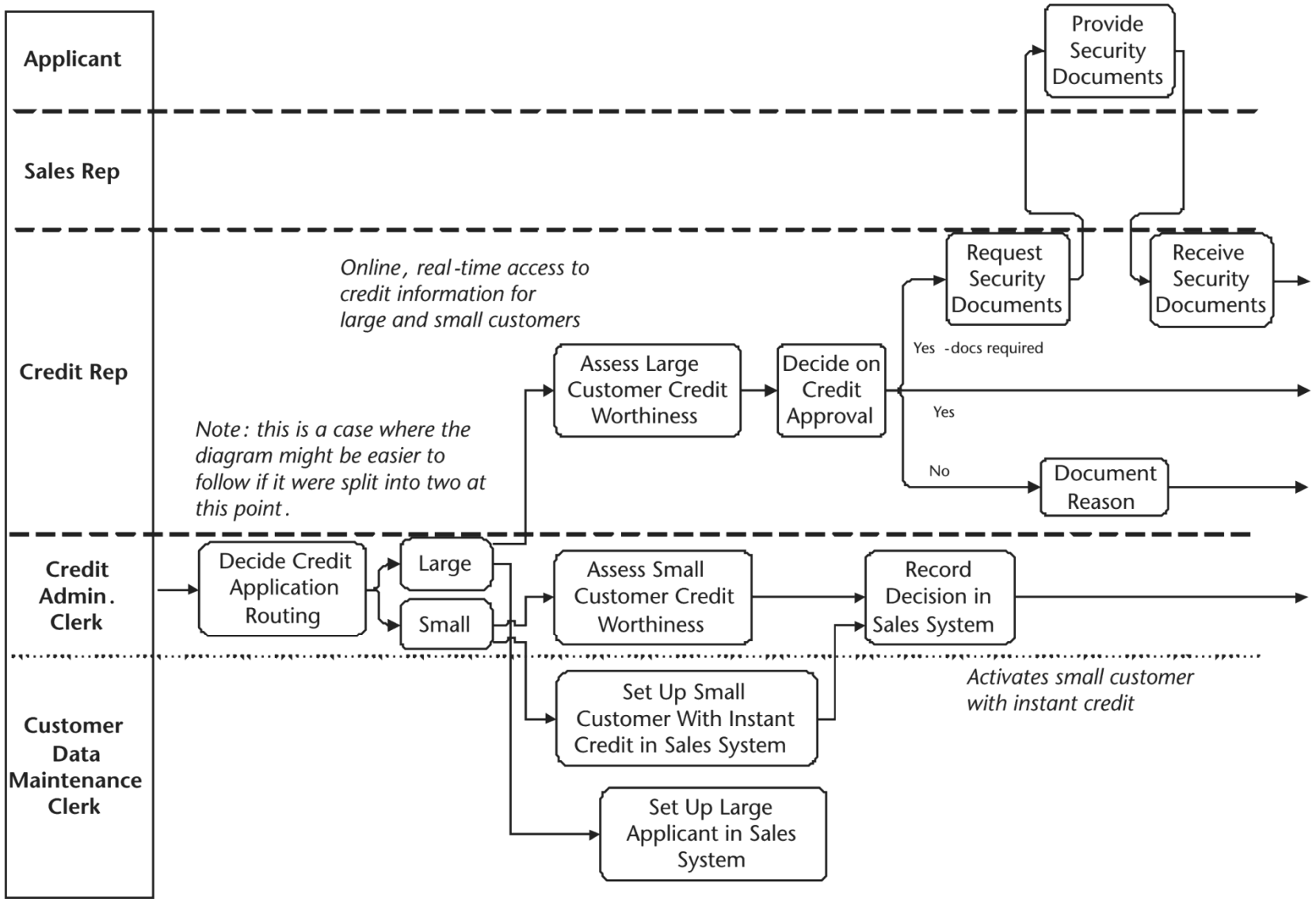
A handoff-level diagram for a to-be process.

IV) *TO-BE* PROCESS ASSESSMENT: characteristics and workflow



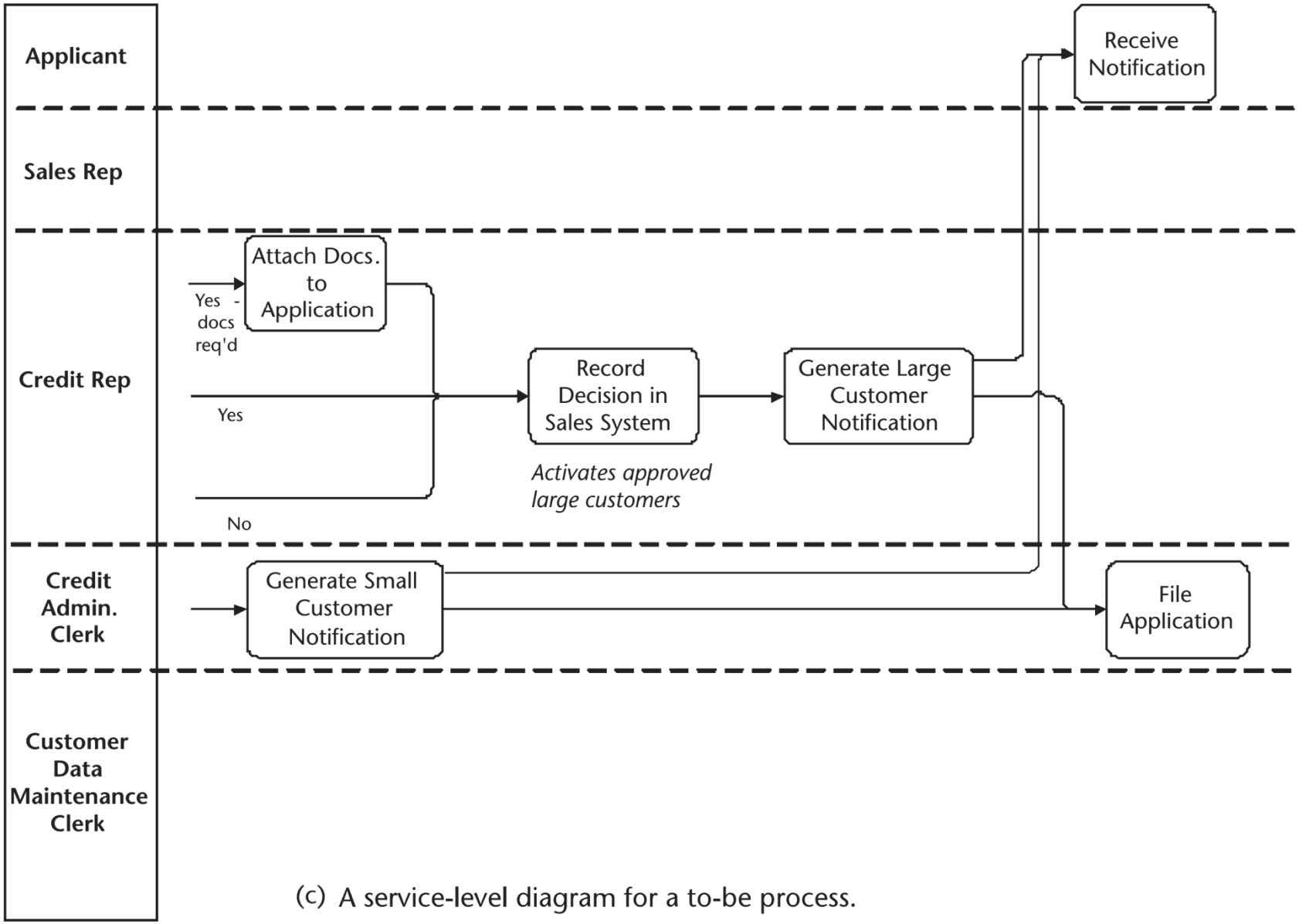
(a) A service-level diagram for a to-be process.

IV) *TO-BE* PROCESS ASSESSMENT: characteristics and workflow



(b) A service-level diagram for a to-be process.

IV) *TO-BE* PROCESS ASSESSMENT: characteristics and workflow



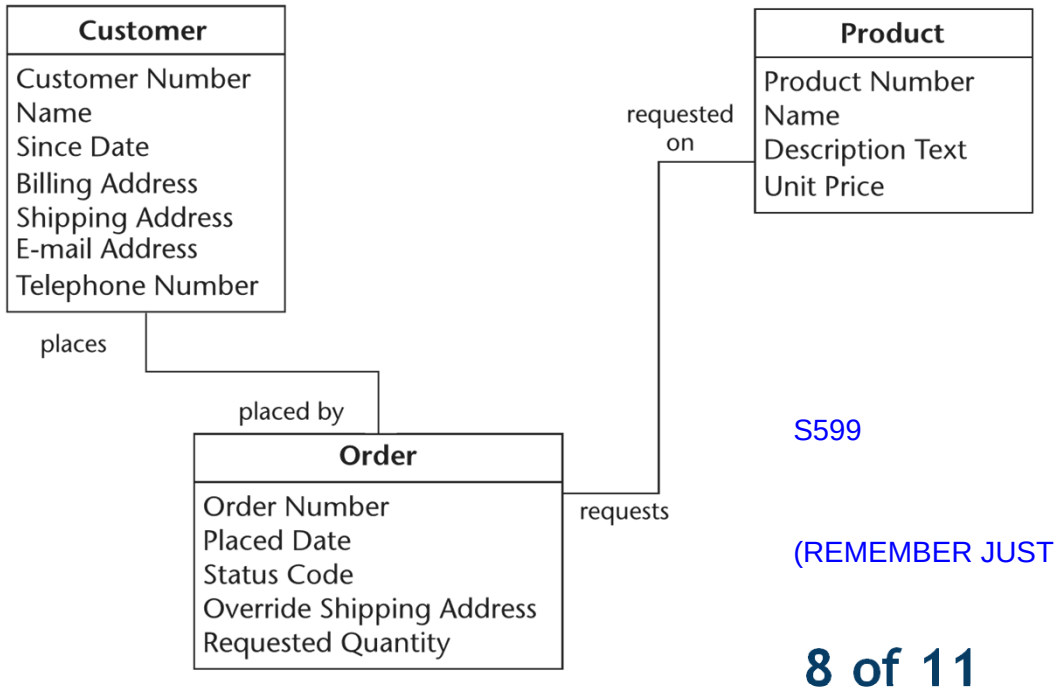
(c) A service-level diagram for a to-be process.

VI) BUSINESS-ORIENTED DATA MODELING

S598

- A data model connected to a workflow model is a important aspect of the description of a business. It is not database design.

	WORKFLOW MODEL	DATA MODEL
LEVELS OF DETAIL	Identification (overall process map) and framing	Contextual data model (scope and glossary of core terms)
	Business-oriented workflow diagrams	Conceptual data model (overview)
	Specification-oriented workflow diagrams (eg. Using BPMN)	Logical data model (the details)



- A conceptual data model

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(REMEMBER JUST SOME BASIC ELEMENTS)

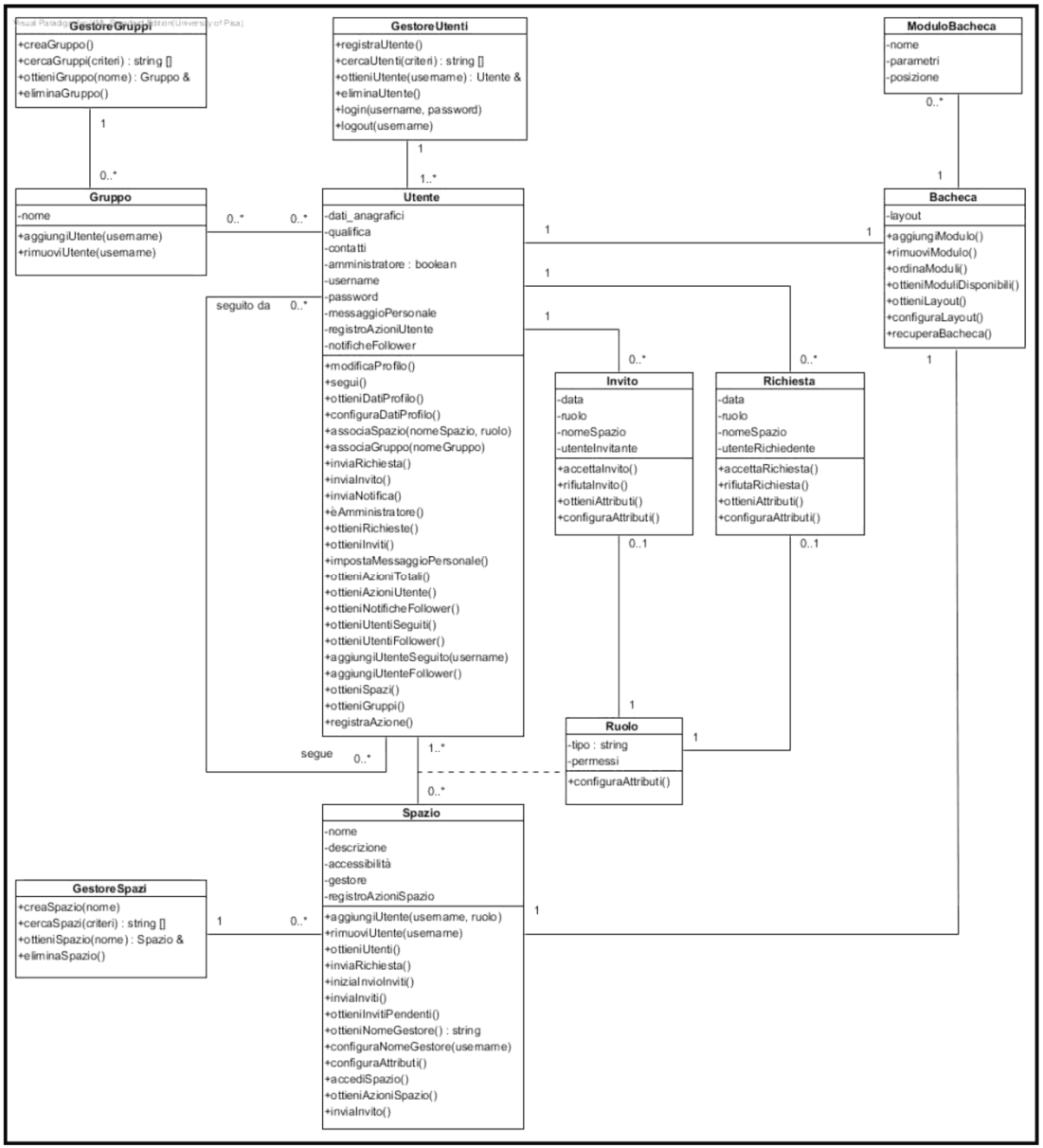
VI) BUSINESS-ORIENTED DATA MODELING

- Example:

  a detailed data perspective

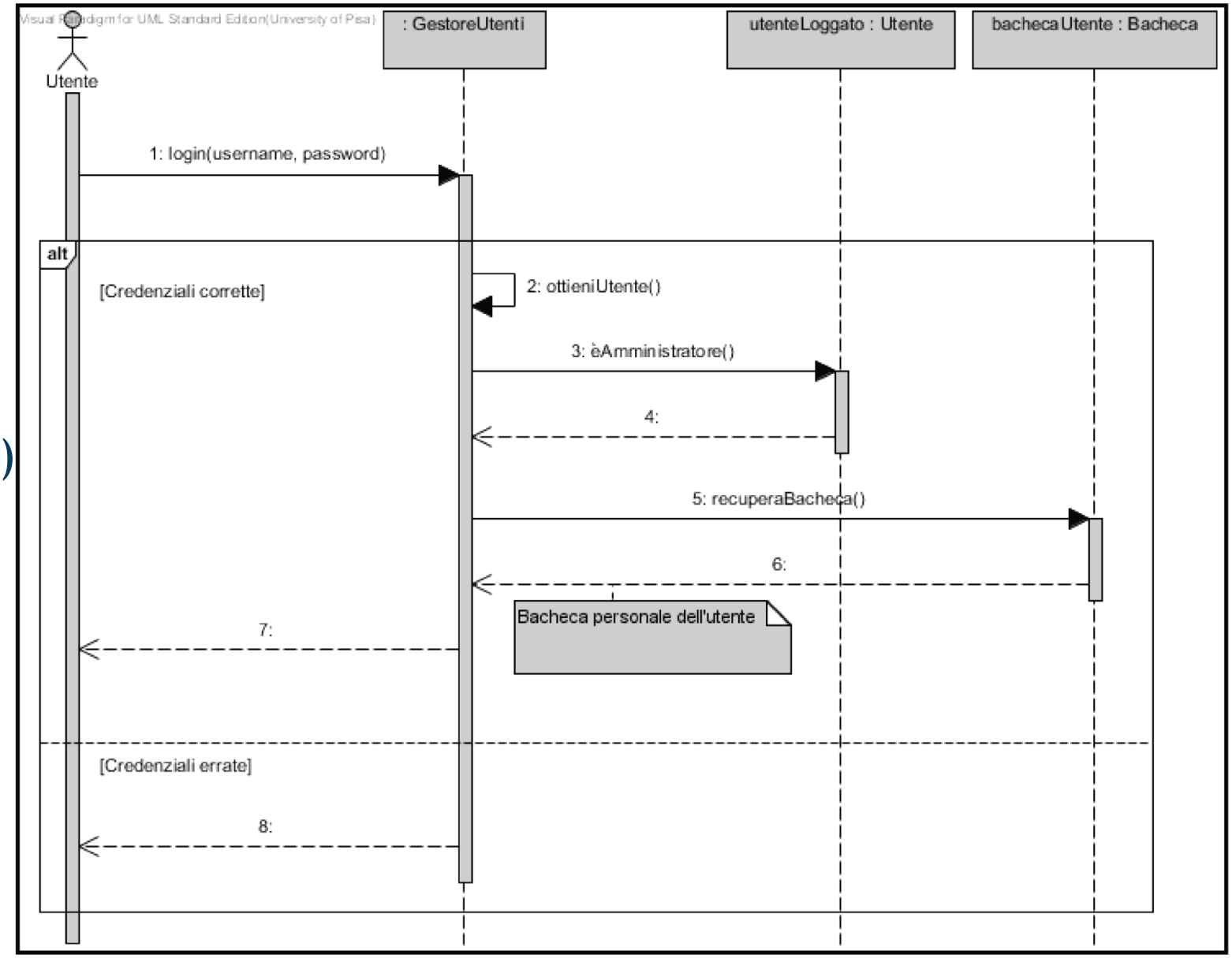
S600

(REMEMBER JUST SOME BASIC ELEMENTS IN CONNECTION WITH THE SQUENCE DIAGRAM)



VII) REQUIREMENTS MODELING WITH USE CASE AND SERVICE

- Example from data to sequence diagram (lifeline, operations)



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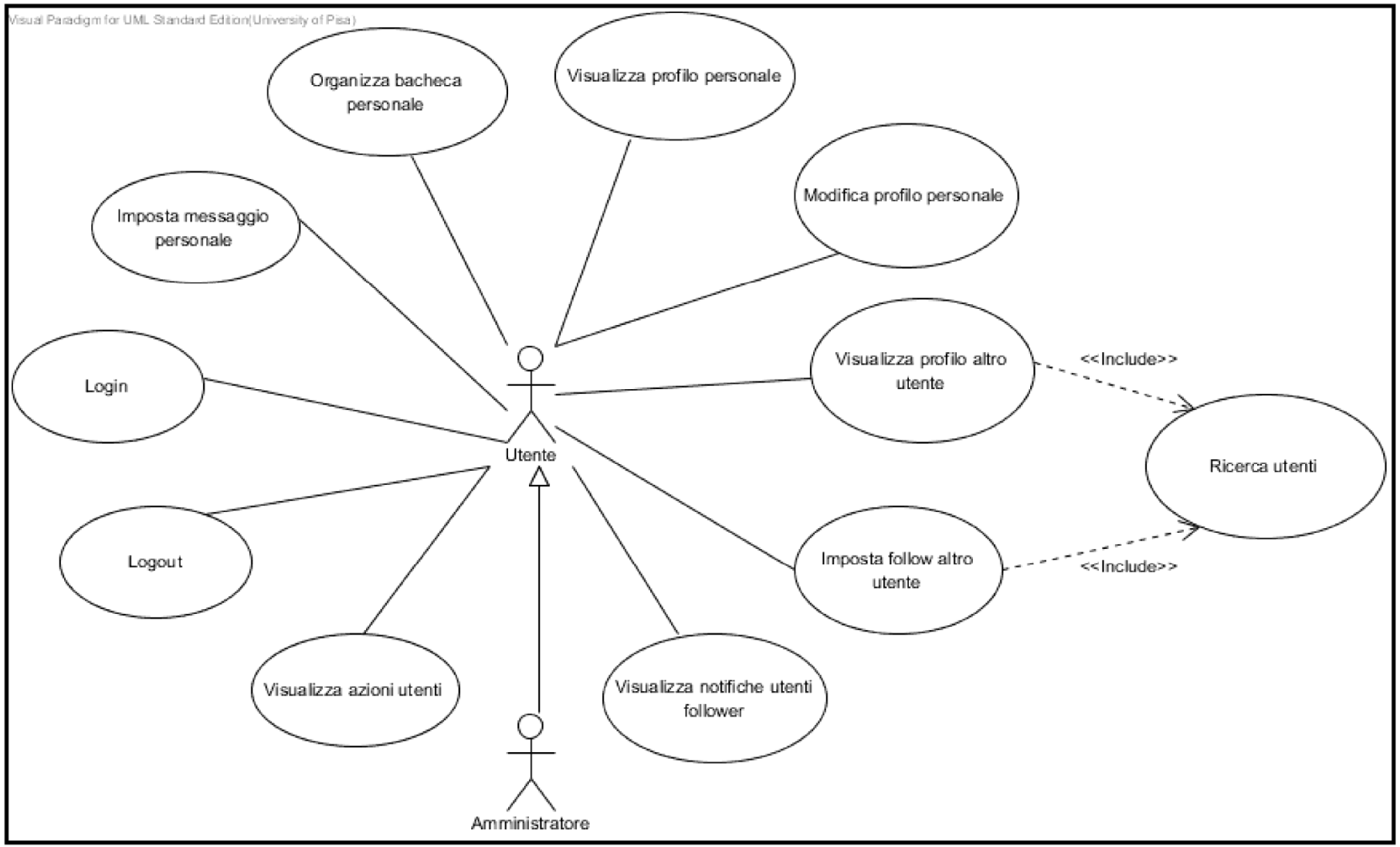
(REMEMBER JUST SOME BASIC ELEMENTS IN CONNECTION WITH THE USE CASE)

VII) REQUIREMENTS MODELING WITH USE CASE AND SERVICE

- Example: from sequence diagram to use case

S602



(REMEMBER JUST SOME BASIC ELEMENTS
IN CONNECTION WITH THE DETAILED USE CASE)