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Graduation Project 1 Plan

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Graduation project plan

1. Research methods

2. Scientific writing

Research methods

- Before you start you project you need to know what you are going to make.
 - The current system and how it runs?
 - The problems of the current system.
 - The skill level of each user.
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- Requirements analysis is the process by which customer needs are understood and documented.

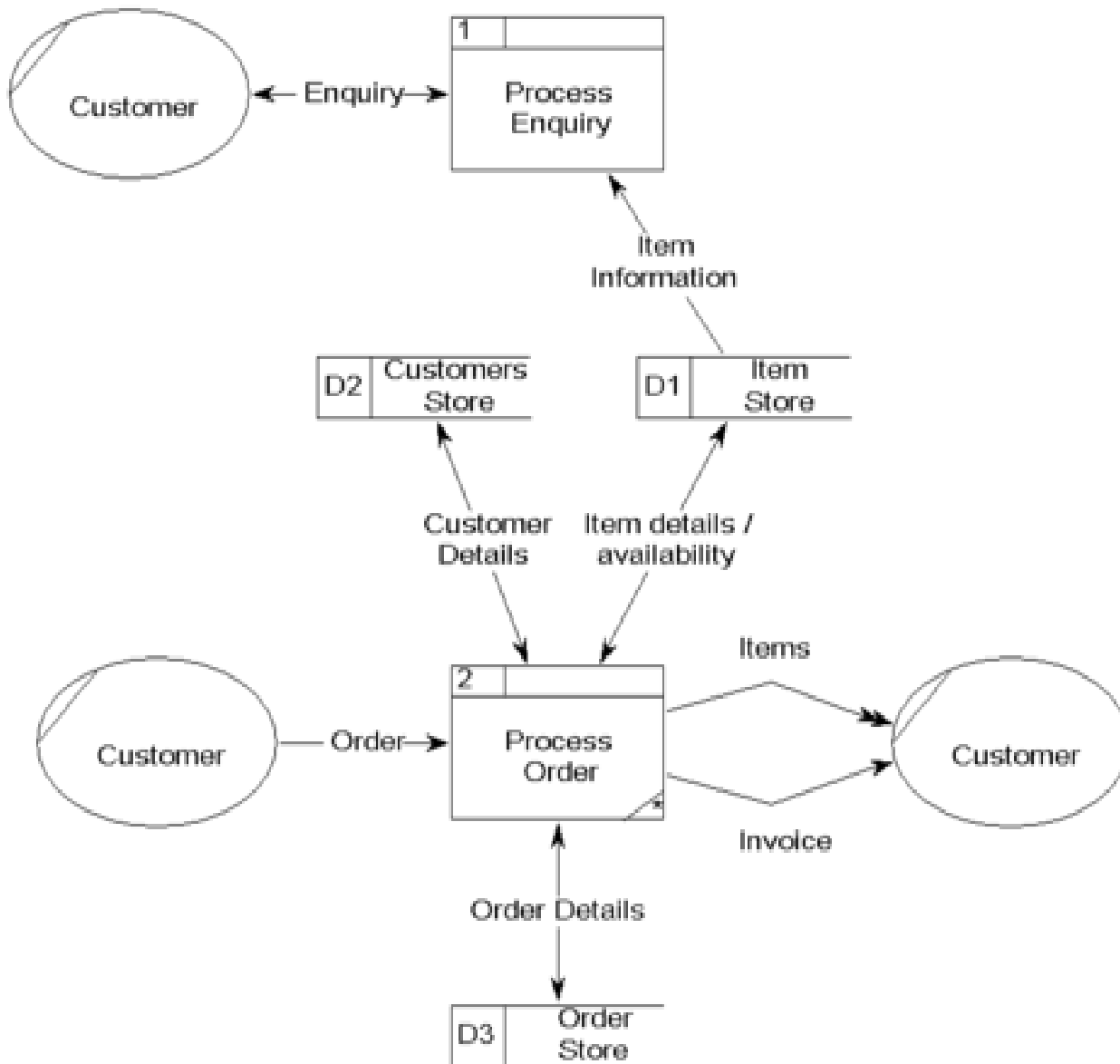
Research methods

- **Dataflow diagrams:**
- Show how data moves through the current system.
- Where it is stored?
- Where it will be processed?
- How you can plan it to move?

Four main components:

- ✓ Entity: all the people involved in the system. It may also indicate other external systems.
- ✓ Process: describes the processing that happens to the data.
- ✓ Store: indicating the different computational stores.
- ✓ Transfer: how data moves?

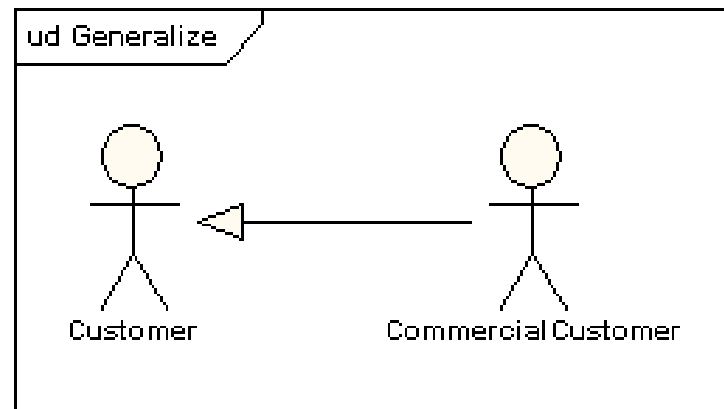
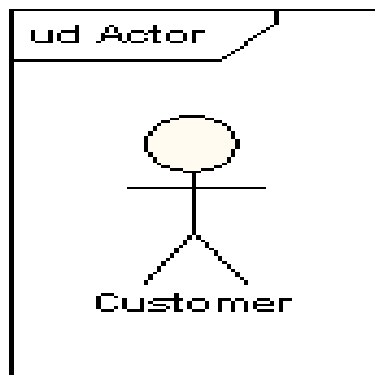
Research methods



Customer can order an item the system checks that the customer is real, checks the item is in stock, sends an order and finally sends the item and an invoice to the customer

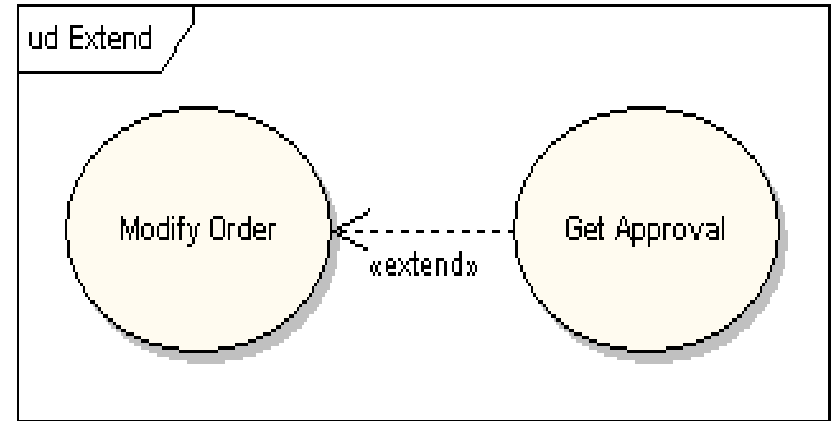
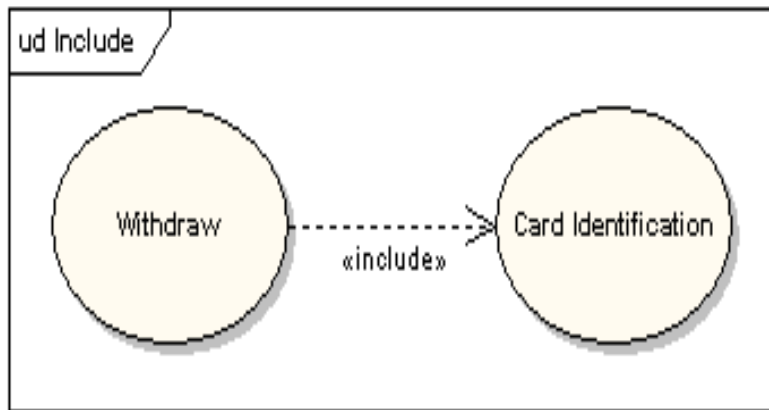
Research methods

- **Use case** diagram shows the interaction between the system and external entities (actors).
- Actors can generalize other customers.



- Use case: single unit of meaningful work (name, conditions, ...).

Research methods

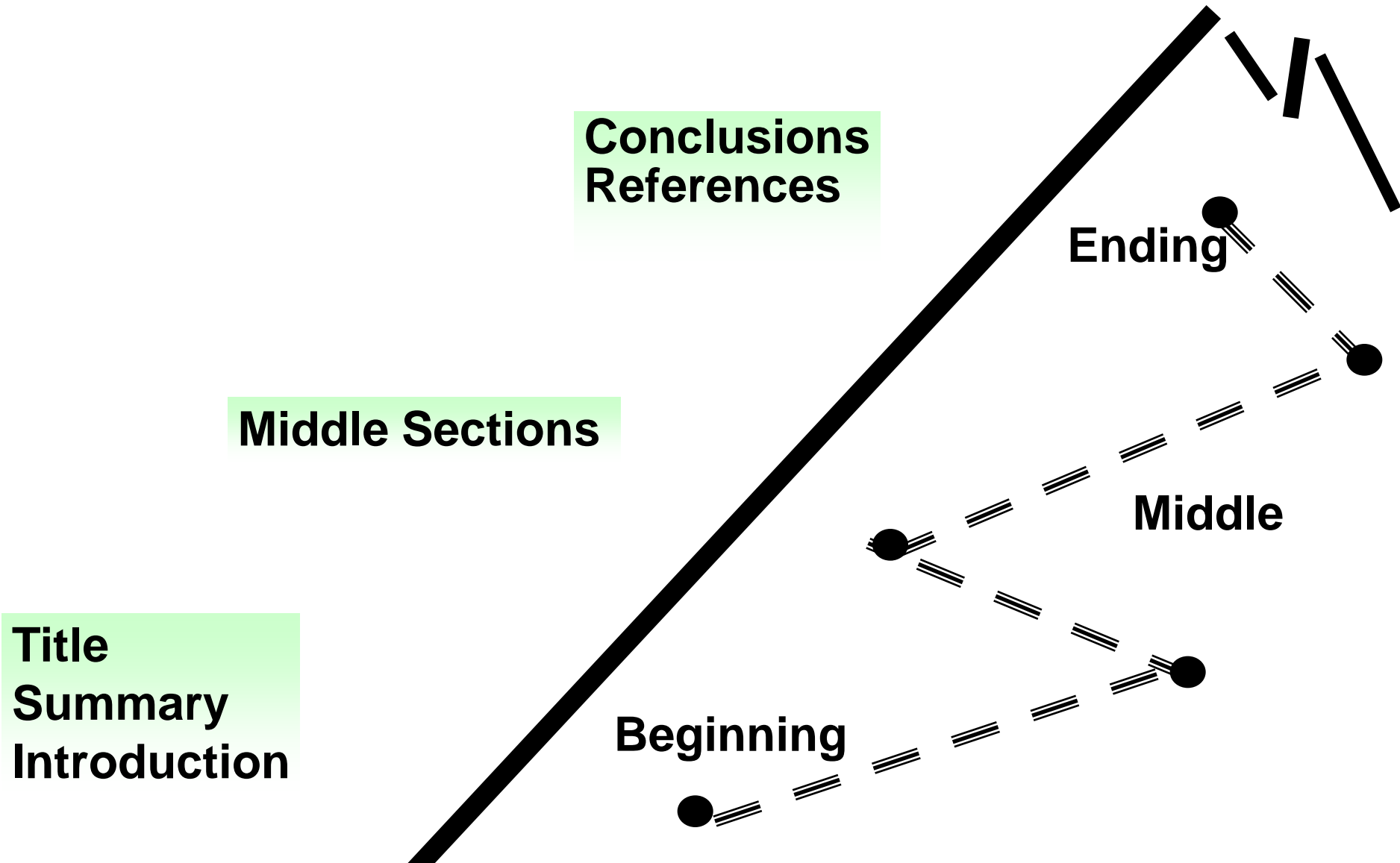


- Use cases may contain the functionality of another use case as part of their normal processing.
- One use case may be used to extend the behavior of another (exception).

Scientific writing

- A scientific report should describe original research results.
- **Rules for scientific writing:**
 - ✓ Write for your reader and write clearly.
 - ✓ Eliminate unnecessary redundancy.
 - ✓ Use consistent tenses.
 - ✓ Simpler words are preferred over complex ones.
 - ✓ Use concrete examples.
 - ✓ Make sure the subject and the verb agree.
 - ✓ Cite sources in the body of your report.

Scientific writing



Scientific writing

- **Title:**
 - ✓ Should be the fewest possible words that accurately describe the content of the report.
 - ✓ A strong title orients readers to your area of work.
 - ✓ A strong title separates your work from everyone else's work.
 - ✓ Example 'A Network routing protocol'
 - ✓ 'A reactive routing protocol for ad hoc networks'.

Scientific writing

- **Abstract:**

- ✓ A well prepared abstract should enable the reader to identify the basic content of a document quickly, and accurately to decide whether to read the document in its entirety.
- ✓ Abstract should concisely summarize the results and principal conclusions.

- **Introduction:**

- ✓ An important function of the introduction is to establish the significance of the current work(why was there a need to conduct the study?)

Scientific writing

Questions to address	How to address them?
<ul style="list-style-type: none">•What is the problem?•Why your topic is important?•What solution (or step towards a solution) do you propose?	<ul style="list-style-type: none">•Describe the investigated problem (use keywords so your reader can understand your topic).•Review relevant works.•Hypothesis, research questions, methods, results.

Scientific writing

- **Middle sections:**

- ✓ Provide enough detail for a competent (student, worker) to repeat your study and reproduce your results.
- ✓ Explain the steps you took in your design and development.

Scientific writing

- **References:**

- ✓ The information you write in any piece of scientific report could come from any source.
- ✓ If you use the work of another person without citation you are guilty of **plagiarism**.

- ✓ Author's name is
- ✓ In case of two authors, write both names separated by **and** or **&**.

Scientific writing

- ✓ In case of three or more authors, write the first name followed by et al. (and others).

Type of publication	Reference
Journal paper	Authors' names Full title Name of the journal and page numbers Year of publication

Scientific writing

Type of publication	Reference
Book	Authors' names Full title ISBN Number of edition Year of publication
Thesis	Authors' names Degree for which the thesis was submitted and university Year

Thank you for your attention