Writing Formal Reports

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ICOM 5047

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Why?

- Flow of information.
  - Management is impossible without flow of information.
  - Make decisions.
    - Need relevant facts.
- Constructed in an useful way.

Report Components

- Abstract or Summary
    - Executive Summary
- Introduction
- Discussion or Body of the Report
- Conclusions
- Future Work or Recommendations
- Appendix
- References or Bibliography

Contents (More)

- Cover
- Title page
- Table of contents
- List of figures
- List of tables
- Glossary

Cover and Title page

- Cover
  - Nice
- Title page
  - Title of report
  - Name of organization
  - Name of people who wrote the report
  - Date
  - Report number
  - (Section, course)
  - Dignified

Example

University of PR, Mayaguez Campus
Electrical and Computer
Engineering Department

Title here
By
Nayda G. Santiago

Logo

For: Fernando Vega
Course: ICOM 5047, section 030 (031)
Date: Sept 20, 2008

Abstract or Summary

- Purpose – contain the substance of the report
  - Busy reader can grasp the contents
  - Author – grasp of central idea
- Summary of purpose, main results and findings
- Written at the end
- Types
  - Indicative
  - Informative
  - Indicative-informative

Types of abstracts

- **Indicative**
  - Main subject of the document
  - Qualitative description
  - Simple vocabulary
- **Informative**
  - Point out discoveries
  - Quantitative description
  - Technical
- **Informative-indicative**
  - Combination

Executive Summary

- Readers of the report are busy people.
  - Do not have time to go through the report page after page to find what is valuable for them.
- Purpose
  - Set out the substance of the report briefly in such way that busy readers can see at glance whether the report is relevant to them.
- Typically should not exceed one page.

Table of contents

- How to find information
- How material has been organized
- Important
  - Headings exactly as they appeared in text
  - Appendixes must be included
  - If too many headings
    - Include only main ones
- List of figures and List of Tables
  - If necessary

Introduction

- Prepares the reader
- Main components
  - Background
  - Purpose
  - Scope
- Other components
  - Problem Statement
 - Main contribution
  - Reference to technical contents

Body of the report

- Theoretical Background
- Discussion
- Detailed account of the work or research performed
- Organized
- Consider the audience for vocabulary
  - Over or under estimate reader
- Divided in sections
  - Appropriate title
    - No Discussion as title
- Include tables, charts, figures

System Description

- **Composition Structure and Block Diagram**
  - **In hardware: Block diagram**
    - Describe components and their interconnection
  - **In software: Structure diagram**
    - UML
      - Class diagram
      - Component
      - Object
      - Structure

UML (From Wikipedia)
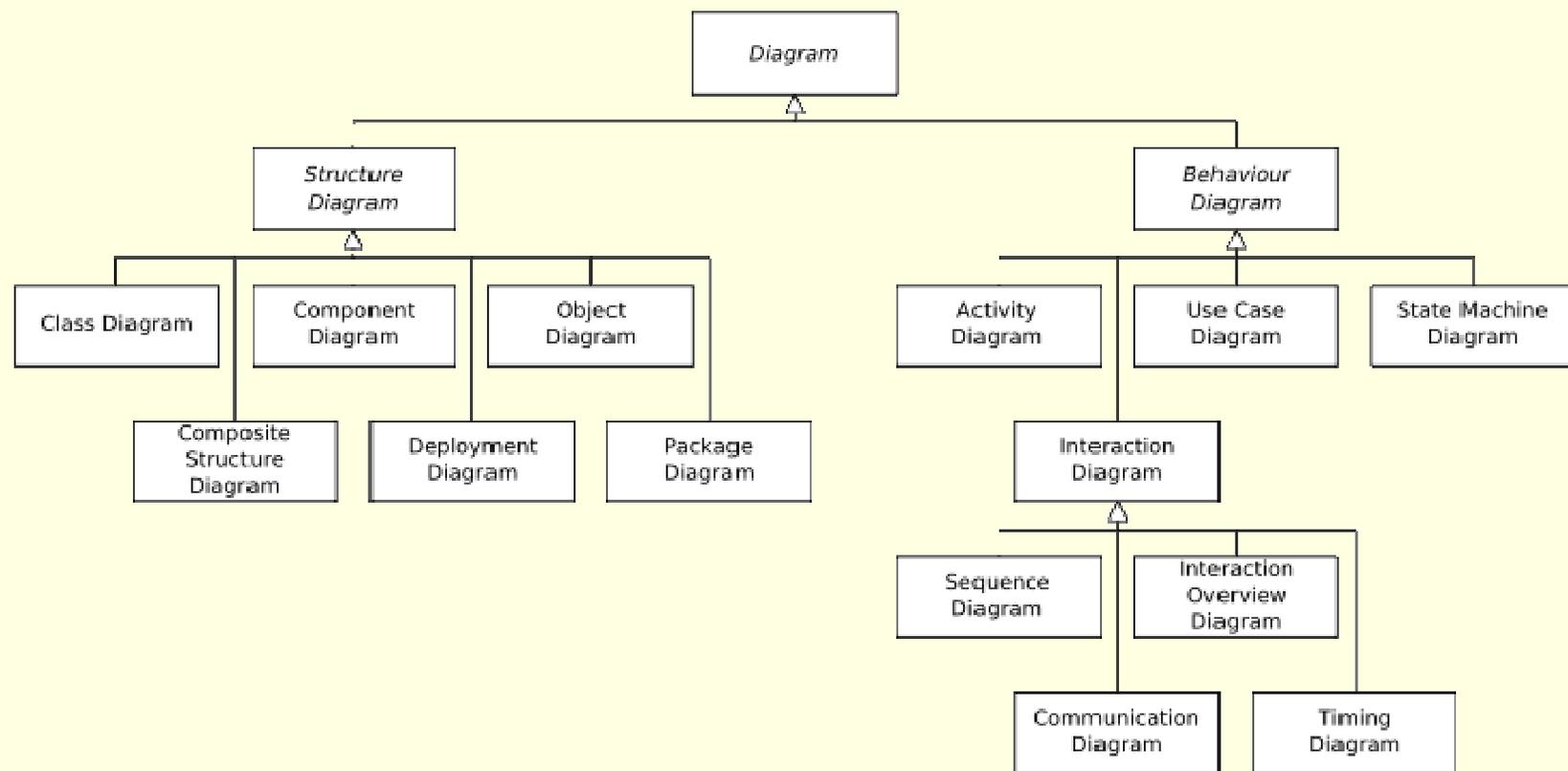
Tables and Figures

- Illustrations
  - Must serve a purpose
  - Supplement not duplicate information
  - Referred to in the text
  - Clear and simple to understand
  - Caption and figure or table number
  - Smaller than page
    - If full page, read from right
  - Don't scan tables or figures or copy from web page. Draw them.

Conclusions

- Analyze
- Provide suggestions
- Future work
- Summarize (don't overdo it)
- Reasoning

Appendix

- Detailed descriptions
- Derivations
- Lengthy tables
- Data
  - Manufacturer data
  - Data sheets
- Complex analysis
- Information that might interrupt the flow of the report.
- Must appear in the order cited in the document
- Assign a letter to appendix and a title

References or Bibliography

- **References**
  - Where did we get the information for the report
    - Please, no web pages if possible
- **Bibliography**
  - Reading material
    - Might not have been used to prepare the report

References

- Essential
  - Author
  - Title
  - Publisher, publication
  - Year, date, month
- Style
  - Use the same style as the people in your field
  - Read and you will learn the style

Plagiarism

- Written material must be original
  - Do NOT copy material (cut and paste) from any source
  - If so, use quotes and reference the material

PLAGIARISM!
Plagiarism is a form of academic dishonesty punishable by expulsion.

Hints

- Use diagrams
- Have one person read the report at the end and oversee the overall structure
- Enumerate pages and create table of contents
- Write when you have something to write
- Write body first, abstract last

References

- Blicq, Ron S., <u>Writing Reports to Get Results: Guideline for the Computer Age</u>, IEEE Press, 1987.

- Lloréns, Baldomero, <u>Class notes ELEG 4165</u>, Univ. of Puerto Rico at Mayagüez, 1991.

- Michaelson, Herbert B., <u>How to Write & Publish Engineering Papers and Reports</u>, 3rd Edition, Oryx Press, 1990.

- Pringle, Alan S., O'Keefe Sarah S., Burns, Bill, <u>Technical Writing 101 : A Real-World Guide to Planning and Writing Technical Documentation</u>, Scriptorium Press, 2000

Questions?

- ??????????????

- http://www.ece.uprm.edu/~nayda/Report_Format.pdf