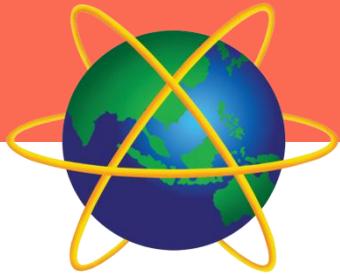


Object Oriented Methods with UML



A · P · U
ASIA PACIFIC UNIVERSITY
OF TECHNOLOGY & INNOVATION

Introduction to Object Oriented Methods

Lecture -1

Presented By
Dr.A.Bazila Banu
Lecturer/CSSE

Prerequisites



- CX006-3-3

- None

Learning Outcomes



A · P · U
ASIA PACIFIC UNIVERSITY
OF TECHNOLOGY & INNOVATION

- Employ An Object-oriented Approach To Design And Implement Efficient Algorithms That Use Appropriate Data Structures. (Application And Problem Solving)
- Evaluate The Effectiveness And Efficiency Of Various Algorithms And Data Structures. (Enquiry And Knowledge & Understanding)
- Employ A Suitable Notation To Model Solutions To Problems. (Analysis And Communication)

Learning Outcomes

- Select And Exploit Appropriate Features Of The C++ Programming Language To Implement Solutions. (Application And Knowledge & Understanding)
- Implement Object-oriented Models In C++. (Application)

What is Object Oriented Analysis and Design



- **Analysis** — understanding, finding and describing concepts in the problem domain.
- **Design** — understanding and defining software solution/objects that *represent* the analysis concepts to be implemented in code.
- **OOAD** — A software development approach that emphasizes a logical solution based on objects.

What is UML

- UML- “Unified Modeling Language”
- Unified :UML is a world standard object management group(OMG) www.omg.org
- Modeling :Describing a software system at a high level of abstraction.
- Language :Express Idea not methodology.

Challenges In Existing S/w Design



- How the customer explained it?



How the customer explained it



- What the customer really needed



What the customer really needed

Why Object Oriented

- Causes for the issues in s/w design
- **communication** difficulties
- management of **complexity**”

How to do OOAD?

- Use UML for OOAD Implementation
 - Use graphical notation: more clearly than natural language (imprecise) and code (too detailed).
 - Help acquire an overall view of a system.
 - UML is *not* dependent on any one language(C++/Java) or technology.

History of UML

■ Year	Version
2015	UML 2.5
2003	UML 2.0
2001	UML 1.4
1999	UML 1.3
1997	UML 1.0, 1.1
1996	UML 0.9 & 0.91
1995	Unified Method 0.8

Types of UML Diagrams



- Use Case Diagram – Analysis
- Class Diagram - Design
- Sequence Diagram - Implementation
- State/Activity Diagram - To understand the activities and system state.

References



■ Web sites

I. www.matincor.com/documents/intro_ooad.pdf

II. http://education.oracle.com/pls/web_prod-plq-dad/db_pages.getpage?page_id=609&get_params=dc:D61808,clang:EN

III. <https://www.utdallas.edu/~chung/SP/applying-uml-and-patterns.pdf>