IGATE
Speed.Agility.Imagination

Introduction to GoF Design Patterns (Ecomm Stream)

Mode Of Delivery

ILT □ **VC** □ **CBT** □ **RS** □ **WBT** □ **RWBT** □

(For abbreviations, please refer to Introduction).

Course Overview	This course is for the personnel responsible for all developers working on java/c++.
Target Audience	Programmers.
Hardware	Networked PCs with Minimum 1 GB RAM, 6 GB Hard Disk.
Software	JDK1.4 or later, Rational Software Architect 7.0.
At the end of the Training you will be able to	• Understand the significance of the most commonly used design patterns • Code as per the expectations with reference to the application design
Course Non Goals	• Ability to design for applications

Pre-requisites	**Required Proficiency Level**
JAVA/C++	Good
OOPS	Good

Delivery: Blended Learning

Duration	• This course is a RWBT for the duration of 4 Hrs.

Course Content	
❖ Introduction to Design Patterns o What is a design pattern? o Why design patterns? o History of design patterns o Classification of GoF Design Patterns o Categories of GoF design patterns	Refer to: 1. O'Reilly, Head First Design Patterns, Chapter 1: An introduction
❖ Fundamental Patterns o Delegation Pattern o Interface Pattern o Abstract Superclass o Interface and abstract class o Immutable Pattern o Marker Interface Pattern o EXERCISE	References 2 & 3 listed below.
❖ Creational Patterns o Introduction o Simple Factory(not a GoF pattern but to be covered as it is widely used) o Factory Method o Singleton o Equally important but less commonly used patterns(quick overview)- ▪ Abstract Factory ▪ Builder ▪ Prototype o EXERCISE	1. O'Reilly, Head First Design Patterns, Chapter 4: The simple factory, factory pattern, abstract factory Chapter 5: The singleton pattern Chapter 14: Builder, Prototype
❖ Structural Patterns o Adapter o Decorator o Composite o Façade o Equally important but less commonly used patterns(quick overview)- ▪ Bridge ▪ Flyweight ▪ Proxy • Remote Proxy • Virtual Proxy • Security Proxy	1. O'Reilly, Head First

o EXERCISE ❖ Behavioral Patterns o Chain of Responsibility o Command o Iterator o Observer o State o Strategy o Template Method o Equally important but less commonly used patterns(quick overview)- ▪ Interpreter ▪ Mediator ▪ Memento ▪ Visitor o EXERCISE ❖ EXERCISE – provide a design model that uses some of the patterns and ask the participants to code for it.	Design Patterns, Chapter 3: The decorator pattern Chapter 7: The adapter and facade patterns Chapter 9: Composite Pattern Chapter 11: The proxy pattern Chapter 14: Bridge, Flyweight 1. O'Reilly, Head First Design Patterns, Chapter 1, 8, 10: Strategy Chapter 2: The observer pattern Chapter 6: The command pattern Chapter 8: The template method pattern Chapter 9: Iterator Chapter 10: The state pattern Chapter 14: Interpreter, Mediator, Memento, Visitor

Proficiency Level	On successful completion of the course, the proficiency level is set to Good

References:

1. Head First Design Patterns, Erich Freeman and Elisabeth Freeman, O'Reilly
2. http://www.mindspring.com/~mgrand/pattern_synopses.htm
3. www.developer.com/java/other/article.php/617931
4. Chapter 5 (Design Patterns) of the Sun Certified J2EE Enterprise Architect Study material