**Analysis and Design using OO Technology**

PPT 3-1

The field of systems analysis and design nowadays incorporates object-oriented concepts and techniques, which where a system is viewed as a collection of self-contained objects that include both data and processes. Objects can be built as individual pieces and then put them together to form a system, leading to modular, reusable software components.

PPT 3-2

Object-oriented systems focus on capturing the structure and behavior of information systems in little modules that encompass both data and processes. These little modules are known as objects. The basic characteristics of object-oriented systems, are includes: Classes and Objects, Methods and Messages, Encapsulation and Information Hiding, Inheritance, and also Polymorphism and Dynamic Binding. According to the creators, any object-oriented approach in developing information must be employed the modeling that use Case Driven, Architecture Centric, Iterative, and Incremental. Each of them will be discussed in more detail later in our lecture.

PPT 4

The basic concepts of the object-oriented paradigmare relatively easy to understand and to apply. Objects are easier for people to understand: This is because the objects are derived from the business that we’re trying to automate, rather than being influenced too early by computer-based procedures or data storage requirements. For example, in a bank system, we program in terms of bank accounts, bank tellers and customers, instead of diving straight into account records, deposit and withdrawal procedures, and loan qualification algorithms

PPT 5-1

Unified Modeling Language (UML) was accepted as the standard language for object oriented software development. The UML as the industry standard for modeling object-oriented systems. The UML toolset includes diagrams that allow you to visualize the construction of an object-oriented system. Each design iteration takes a successively more detailed look at the design of the system until the things and relationships in the system are clearly and precisely defined in UML documents. UML is a powerful tool that can greatly improve the quality of your systems analysis and design, and thereby help create higher-quality information systems.

PPT 5-2

The UML approach is well worth investigating and understanding, due to its wide acceptance and usage. UML provides a standardized set of tools to document the analysis and design of a software system. The UML toolset includes diagrams that allow people to visualize the construction of an object-oriented system, similar to the way a set of blueprints allows people to visualize the construction of a building. Whether you are working independently or with a large systems development team, the documentation that you create with UML provides an effective means of communication between the development team and the business team on a project.

PPT 6

New software is usually object-oriented. That is, the software is written using an abstraction called an object. There is, naturally, much more to commercial software development than simply writing lines of code: there is investigation of the business requirements, analysis of the problem, design of the solution, and so on. Objects should be used at every stage of the development because they reduce the amount of information that has to be understood and improve the communication between members of the development team.

PPT 7

Object-oriented analysis and design can offer an approach that facilitates logical, rapid, and thorough methods for creating new systems responsive to a changing business landscape. Object-oriented techniques work well in situations in which complicated information systems are undergoing continuous maintenance, adaptation, and redesign.

PPT 8

As my Conclusion. We may wondering how these approach and techniques benefit to the software project teams. Techniques polymorphism, encapsulation, and inheritance taken together allow analyst to break complex system into smaller and more manageable components, to work on the components individually, and to more easily piece of components back together to form a system. This modularity makes system development easier to grasp, easier to share among members of a project team, and easier to communicate to users which were needed throughout the software development processes to provide requirements and confirm how well the systems meets the requirements.

References:

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