

Unified Modelling Language

A visual modelling language for software systems is the unified modelling language (UML). A notation created by Rational Corporation, which is now a division of IBM, for modeling object-oriented systems. It offers a visual method for describing, building, and documenting object-oriented systems. It also makes it easier to comprehend the system's architecture and control the complexity of a big system." Overview of UML, A UML specification consists of precise, complete and unambiguous models. The models may be employed to generate code in programming language such as java or C++." The opposite is also feasible, allowing one to work with either the textual notation of a programming language or the graphical notation of UML. Understanding UML's fundamental building elements, the rules for mixing those building block, and the universal procedures that apply across the language are prerequisites for using it. Three different categories of construction blocks are used: things, relationships and diagrams. Things: The UML's object-oriented building pieces are called things. They consist of structural, behavioral, grouping, and annotational things. The verbs in UML models are called structural things; the nouns in UML are called behavioral things; the dynamic elements of UML are called grouping things; and the explanatory sections are called annotation things. Relationship: UML recognizes four different types of relationships: Dependency, Association, Generalization, Extensibility. Dependency is a term used to describe a relationship between two system components where a modification to one component has an impact on the other component (dependent thing). Association represents a set of relationships between components in a system and how elements in a UML diagram are related. A structural link between a whole and its pieces is represented by an aggregate. In a parent/child connection, a generalization occurs when the objects of the specialized element (child) are used in place of the objects of the generalized element (the parent). Extensibility is a term used to describe a process that allow a language to convey additional system behavior. UML diagrams: The many UML diagrams offer a graphic representation of the system from various angles. Classes are the most crucial component of any object-oriented system, and they are both concepts borrowed from object-oriented design. A class is a collection of objects that have similar meanings, relationships, method, and characteristics. Classes: Classes can represent both physical and software items. For

instance, individual doors and windows are objects, but walls, doors, and windows are all classes. Instead than representing a single item, a class does so. Customers and accounts are the two main kinds of automated bank teller machines (ATMs). Both the customer and account data structures and the operations on them are described in the class specification. These are the actual bank clients and their accounts, and there are numerous instances of both.