Unified Modeling Language (UML)

Object Oriented Analysis and Design Team

What is UML?

The Unified Modeling Language (UML) is a standard language for specifying, visualizing, constructing, and documenting the artifacts of software systems, as well as for business modeling and other non-software systems. The UML represents a collection of best engineering practices that have proven successful in the modeling of large and complex systems.[1] The UML is a very important part of developing object oriented software and the software development process. The UML uses mostly graphical notations to express the design of software projects. Using the UML helps project teams communicate, explore potential designs, and validate the architectural design of the software.

Goals of UML

The primary goals in the design of the UML were:

1 Provide users with a ready-to-use, expressive visual modeling language so they can develop and exchange meaningful models.
2 Provide extensibility and specialization mechanisms to extend the core concepts.
3 Be independent of particular programming languages and development processes.
4 Provide a formal basis for understanding the modeling language.
5 Encourage the growth of the OO tools market.
6 Support higher-level development concepts such as collaborations, frameworks, patterns and components.
7 Integrate best practices.

History of UML

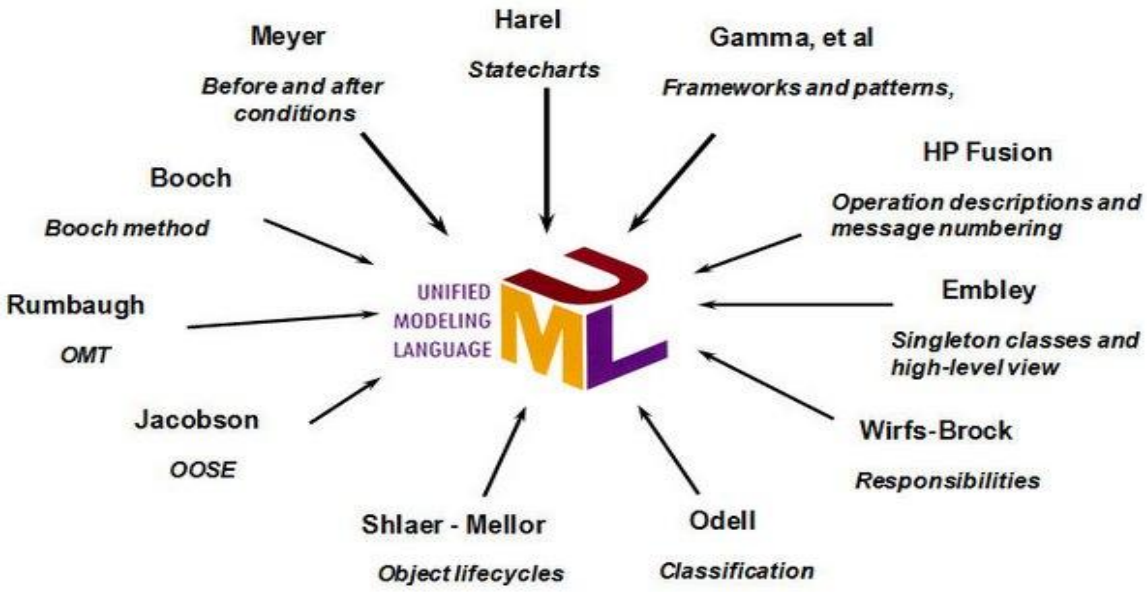
UML notation comes from a collaborative effort of Grady Booch, Dr. James Rumbaugh, Ivar Jacobson, Rebecca Wirfs-Brock, Peter Yourdon, and many others.

UML is:

- A language for **specifying**, **constructing**, **visualizing** and **documenting** the artifacts of a software-intensive system for Business Modeling and other non-software systems
- Authors :Grady Booch, Jim Rumbaugh and Ivar Jacobson (called three amigos)



Stems out from : Booch, OMT, OOSE (and others). Since its publication in 1991, the UML has been enhanced based on the work of many different authors.



OMG UML Specification

- The consolidation of methods that became UML started in 1993. Each of the three amigos of UML began to incorporate ideas from the other methodologies.
- Official unification of the methodologies continued until late 1995, when version 0.8 of the Unified Method was introduced.
- The Unified Method was refined and changed to the Unified Modeling Language in 1996.
- UML 1.0 was ratified and gven to the Object Technology Group in 1997, and many major software development companies began adopting it. In 1997,
- OMG released UML 1.1 as an industry standard. Over the past years, UML has evolved to incorporate new ideas such as web-based systems and data modeling, model driven architecture and SOA. The latest release is UML 2.2, which was ratified in 2009.