We start with an overview of software engineering following the progression of software abstraction from objects to software components to heterogeneous and distributed computing services ready to be recursively integrated, and the competing software development processes including the more traditional iterative and incremental development and the more recent agile development. A new software project model will be introduced to differentiate software projects by their critical attributes, and a new unified software development process framework will be introduced for which most of the current software development processes are its special cases. A mapping of the software project attributes to the configuration of the unified software development process framework will then be introduced to illustrate how each software project is better served by a customized software development process.

**Key words:** Software development methods, Software project modeling, Unified software development process framework