

Software Factory Methodology

Overview

- Any software development process requires continuous quality control and performance measure. In order to provide a better service to our clientes **we have developed our own software methodology, based on real experience.**
- The key factor is an early minimization of **potential risks.**
- Our methodology allows flexibility, adapting the model as required by each project and client.
- It relies on widely proven **software metrics.**
- It implements document templates for every process and activity, with a detailed description on how to use them.
- It defines naming and programming standards, and coding patterns, for every language and platform.
- It includes detailed description of roles and tasks.



Documents involved

- Functional Specification (FS)
- Technical Specification (TS)
- Development Test (DT)
- Code Review (CR)
 - Performance – Improve / Reduce inefficient code
 - Programming standards compliance
 - Naming standards compliance
 - Security suggestions



Standards

- Naming Conventions
- Coding patterns
- Security Scheme
- Testing Scheme



Metrics

Development Estimation Metrics (expressed in hours)

Nature of Development	Very Simple	Simple	Average	Complex	Very Complex
Input Interface / Conversions	20	40	72	136	192
Output Interface	20	40	72	136	192
SAPScript / Smartform	24	48	64	96	152
Module Pool	32	56	72	128	208
Exits - Enhancements	12	32	56	80	128
Reports	12	28	40	80	128
Tables	2	8	12	16	24

Analysis Estimation Metrics

Type of Analysis	Very Simple	Simple	Average	Complex	Very Complex
Requirement Analysis	12	24	40	64	80



Development Follow-up

- Development follow-up is done through a set of tools which keeps record of each object “status”.
- The “status” for each object is updated by the Technical Analysts and Functional Consultants, but can be accessible in read-only mode by all the development team.



Team Members

- **Overall Project Leader** (external to the Factory)
- **Functional Consultant** (external to the Factory)
- Software Factory **Development Leader**
- Software Factory **Technical Analyst**
- Software Factory **Developers**



Main roles and tasks

Project Leader

- Provides the tools and resources needed to meet project requirements.
- Makes sure that Functional Specifications and Technical Specifications are properly and timely approved by the client.
- Assigns objects to be developed by the factory.
- Assigns the right priority for each object to be developed (High, Medium and Low).
- Controls “Status” log for development objects.
- Manages developments transport to the proper environment.



Main roles and tasks

Functional Consultant

- Prepares Functional Specification Document.
- Transfers business model knowledge to the Technical Analyst.
- Approves developments completed by the Software Factory.
- Makes the Knowledge-Transfer to the Technical Analyst



Main roles and tasks

Software Factory Development Leader

- Estimates development times for each requirement based on Factory software estimation metrics.
- Enforces and guarantees compliance with development methodology.
- Distributes the objects to be developed within Factory resources according to availability and capabilities.
- Redirects incomplete or inaccurate specifications back to Functional Consultants.
- Provides to the Project Leader for development monitoring and follow-up.



Main roles and tasks

Software Factory Technical Analyst

- Prepares Technical Specification Document.
- Sends required documentation to the Functional Consultant.
- Provides developers with necessary support on definitions and processes.
- Carries out **Code Review** Process.
- Analyses and suggests to the Development Leader any necessary improvements and/or changes in the development requirements.
- Monitors the progress of the requirements that were assigned
- Notifies the Software Factory Development Lider if there are any deviations from the scheduled dates.



Software Factory Developer

- Carries out development in the proper time, manner and schedule.
- Informs to the Technical Analyst the “status” of each requirement.
- Proposes changes, corrections or improvements to the Technical Analyst when necessary.
- Notifies the Technical Analyst if there are any deviations from the scheduled dates.
- Accepts changes in the definitions only from the Technical Analyst.



Conclusión

Our methodology is implemented with standards, development guidelines, follow-up tools, etc. in order to achieve software quality and programmer productivity, which means more service and profitability to our clients.

