

Overview of methodologies for building ontologies



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1. Purposes

2. IEEE Standard 1074-1995

3. For each methodology:

3.1. Description

3.2. Methodology compliance with IEEE Standard 1074-1995

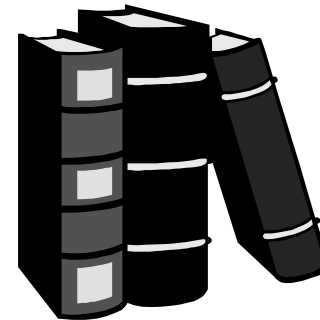
4. Summary table about maturity of methodologies

5. Conclusions

Purposes

1. Presenting the most representative methodologies

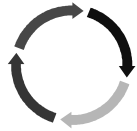
- **Uschold & King**
- **Grüninger & Fox**
- **Bernaras et alia**
- **Methontology**
- **Sensus**



2. Performing an analysis of such methodologies against the same framework of reference



IEEE Standard 1074-1995



1. **Software life cycle model process**

- Planning
- Control
- Quality management
-

2. **Project management processes**

- Environment study
- Feasibility study

3. **Development-oriented processes**



3.1. **Pre-development processes**

- Requirements
- Design
- Implementation

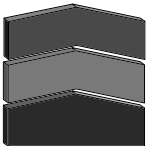
3.2. **Development processes**

- Installation
- Operation
- Support
- Maintenance
- Retirement

3.3. **Post-development processes**

- Evaluation
- Documentation
- Configuration management
- Training

4. **Integral processes**



Methodology compliance with IEEE Standard. Uschold & King

	Management processes	Development-oriented processes					Integral processes
		Pre-develop.	Development			Post-develop.	
			Requi- rements	Design	Imple- mentation		
Uschold & King	X	X	✓	X	✓	X	O

Methodology compliance with IEEE Standard. Grüninger & Fox

	Management processes	Development-oriented processes					Integral processes
		Pre-develop.	Development			Post-develop.	
			Requirements	Design	Implementation		
Uschold & King	X	X	✓	X	✓	X	○
Grüninger & Fox	X	X	✓	✓	✓	X	○

Methodology compliance with IEEE Standard. Bernaras et alia

	Management processes	Development-oriented processes					Integral processes
		Pre-develop.	Development			Post-develop.	
			Requi- rements	Design	Imple- mentation		
Uschold & King	X	X	✓	X	✓	X	○
Grüninger & Fox	X	X	✓	✓	✓	X	○
Bernaras et alia	X	X	✓	✓	✓	X	X

Methodology compliance with IEEE Standard. METHONTOLOGY

	Management processes	Development-oriented processes					Integral processes
		Pre-develop.	Development			Post-develop.	
			Requi- rements	Design	Imple- mentation		
Uschold & King	X	X	✓	X	✓	X	○
Grüninger & Fox	X	X	✓	✓	✓	X	○
Bernaras et alia	X	X	✓	✓	✓	X	X
Methontol.	○	X	✓	✓	✓	○	○

Methodology compliance with IEEE Standard. SENSUS

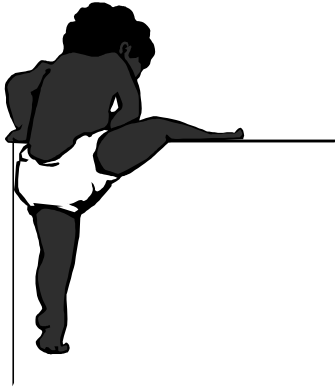
	Management processes	Development-oriented processes					Integral processes
		Pre-develop.	Development			Post-develop.	
			Requi- rements	Design	Imple- mentation		
Uschold & King	X	X	✓	X	✓	X	○
Grüninger & Fox	X	X	✓	✓	✓	X	○
Bernaras et alia	X	X	✓	✓	✓	X	X
Methontol.	○	X	✓	✓	✓	○	○
Sensus	X	X	✓	X	✓	X	X

Maturity of the methodologies

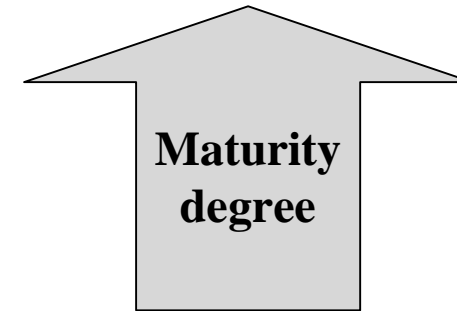
	Recomen- ded life cycle	Compliance with IEEE Std.	Recommen- ded techniques	Ontologies and applications	Detail of the methodology
Uschold & King	X	○	Not known	1 domain	Very little
Grüninger & Fox	○	○	Not known	1 domain	Little
Bernaras et alia	X	○	Not known	1 domain	Very little
Methontol.	✓	○	○	Several domains	A lot
Sensus	X	○	Not known	Several domains	Medium

Conclusions

1. None of the methodologies are fully mature if we compare them with the IEEE Standard



- METHONTOLOGY
- Grüninger & Fox
- Uschold & King
- SENSUS
- Bernaras et alia



2. The proposals are not unified

3. There is one approach that is completely different from the others: SENSUS

4. It is allowed interoperativity between systems

5. There is a starting point for solving the above problems