

Towards the integration of the GDPR in the Unified Software Development Process: Proof of Concept

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Keywords—data protection regulation; unified software development process; personal data; privacy requirements.

Abstract—The General Data Protection Regulation (GDPR) is the core of digital privacy legislation across Europe (EU), and it applies to processing carried out by organisations operating within and outside the EU that offer goods or services to individuals in the EU, including software products. Nevertheless, software teams are generally unaware of the legal requirements for personal data protection and its application throughout the software life cycle. In this paper, we propose a comprehensive guidance to integrate compliance with GDPR requirements within the Unified Software Development Process (UP) across the entire lifetime.

Keywords—data protection regulation; unified software development process; personal data; privacy requirements.

I. MAPPING ACTIVITIES PER ARTICLE

The following table shows each of the articles that have been considered to have a place within the unified software development process, indicating which activity or activities each belongs to.

Article	Elicitation requirements and analysis	Design	Implementation and testing	Maintenance
Art. 3	X			X
Art. 4	X	X		X
Art. 5		X		
Art. 6			X	
Art. 7			X	
Art. 8	X			
Art. 9	X	X		
Art. 10	X	X		
Art. 11	X	X	X	

Article	Elicitation requirements and analysis	Design	Implementation and testing	Maintenance
Art. 12	X		X	
Art. 13	X		X	
Art. 14	X		X	
Art. 15	X		X	
Art. 16	X		X	
Art. 17	X		X	
Art. 18	X		X	
Art. 19	X			
Art. 20	X			
Art. 21	X			
Art. 22	X			
Art. 23	X			
Art. 25	X			
Art. 28	X			
Art. 29	X			
Art. 30	X			
Art. 31	X			X
Art. 32	X			X
Art. 33	X			

Article	Elicitation requirements and analysis	Design	Implement- ation and testing	Mainte- nance
Art. 34	X			
Art. 35	X			
Art. 36	X			
Art. 37	X			
Art. 39				X
Art. 40		X		
Art. 41		X		
Art. 42		X		
Art. 43		X		
Art. 80	X		X	
Art. 82	X	X	X	
Art. 84	X		X	
Art. 85	X		X	
Art. 87	X		X	
Art. 88	X		X	
Art. 89	X		X	
Art. 90	X		X	
Art. 92	X		X	
Art. 93	X		X	
Art. 94	X		X	
Art. 95	X		X	
Art. 96	X		X	