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Defining Privacy Engineering

By the 2022-2023 IAPP Privacy Engineering Section Advisory Board

Privacy engineering is the act of applying systematic, scientific or methodological approaches to include requirements for privacy* in the design, development, and operations of systems and services through various domains, such as software development, system design, data science, physical architecture, process design, information technology infrastructure and human-computer interaction/user experience design.

DOMAIN	EXAMPLE
Software development	"I perform code audits to ensure our software meets the organization's privacy objectives, and evaluate and build tooling to support automation of privacy risk evaluation and privacy policy enforcement."
System design	"I maximize privacy, security, useability and other qualities while designing complex systems."
Data science	"I analyze data to achieve privacy-respecting outcomes, and apply anonymization or deidentification techniques to optimize privacy and utility."
Physical architecture	"I evaluate floor and building plans to protect employee and visitor privacy in areas such as focus rooms, patient rooms, restrooms and telephone booths."
Process design	"I use business process modeling and other techniques to ensure privacy and organizational goals are integrated into my company's business processes."
IT infrastructure	"I develop our IT infrastructure to ensure data flows between systems have controls in place to limit data use for specific purposes."
HCI/UX design	"I conduct user studies to ensure we do not use deceptive design and our customers understand what they consent to."

Note: Quotes are exemplary for work in each domain and are not representative definitions.

**Requirements for privacy can be found in laws, regulations, market demands, ethical considerations, social norms, contractual obligations, principles, unilateral statements, etc.*

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Published July 2023

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