Service Engineering

Summer

(engl. Service Engineering)

Modulnummer: FIN-INF-120530

Kürzel	CP	Semester	Fachsem.	Dauer	Sprache	Niveau
	6	Summer	starting at 1.	1 Semester	deutsch	Master

Link zum LSF:	LSF
Zugang beschränkt:	
Verantwortung:	Prof. Dr. Frank Ortmeier
Dozent:in:	Prof. Dr. Andreas Schmietendorf (HWR Berlin)
Lehrveranstaltungen:	• Vorlesung *Service Engineering* • Übung *Service Engineering*
Verwendbarkeit:	- M.Sc. INF: Informatik - M.Sc. INGINF: Informatik - M.Sc. WIF: Wirtschaftsinformatik - M.Sc. WIF: Informatik - M.Sc. DKE: Applied Data Science

Angestrebte Lernergebnisse:
The students ...

- know the effects of service-oriented architecture approaches on the entire life cycle of such implemented solutions,
- know the challenges (technology, processes, organization, ...) of service-oriented integration solutions and the associated solution alternatives,
- can derive and create required services model-driven or evaluate them based on criteria (make or buy),
- know current technology approaches for implementing required services and can apply selected representatives prototypically,
- can create service compositions from the perspective of modeling and implementation (low and high code) or apply the required management.

Inhalt:
Overview

- The lecture starts with the business, organizational and process-related causes of API-based integration solutions. In this context, domain-specific (reference) model approaches from the industrial environment (telecommunications, banking, insurance, ...) are discussed.
- Building on this, students learn about the functions of integration platforms (including API management), which support and manage API compositions throughout their entire life cycle.
- With the help of the first complex exercise, a quantitative evaluation of public and open APIs offered on the Internet is then carried out.
- Another alternative complex exercise deals with the specification, modeling, development and integration of web-based APIs in (possibly mobile) application scenarios.
- The final complex exercise focuses on the composition of APIs, whereby students can again choose their own focus (model view, implementation, management).

Topics:
- Integration solutions as drivers of digitalization
- Integrating instead of implementing
- Basic technologies for web APIs (public and open APIs)
- Specification, development and management of web APIs
- Process modelling and implementation (API composition)

Arbeitsaufwand:
56 h attendance + 124 h independent work

Prüfungsvorleistungen:	**Studien-/Prüfungsleistungen:**	**Lehrform / SWS:**
	Oral examination	• 2 SWS Lecture • 2 SWS Exercise

Voraussetzungen nach Prüfungsordnung:	**Empfohlene Voraussetzungen:**
none	Software Engineering

Medienformen:	**Literatur:**

	• Hartenstein, S.; Nadobny, K.; Schmidt, S.; Schmietendorf, A.: Sicherheits- und Compliance-Management im Lebenszyklus von Web APIs, Logos-Verlag, Berlin, März 2020, • Nitze, A.; Schmietendorf, A.: Bewertungsaspekte bei der agilen SW-Entwicklung ..., Logos Verlag, Berlin 2014 • Schmietendorf, A.; Knuth, M.: Aspekte des Software Engineerings im Diskurs einer Low-Code orientierten Softwareentwicklung, Logos Verlag, Berlin 2024 • Sneed, H.; Sneed, S.: Web-basierte Systemintegration, Vieweg-Verlag, Braunschweig/Wiesbaden 2003 • Spichale, K.: API-Design, Praxishandbuch für Java-und Webservice-Entwickler, dpunkt.verlag, 2017 • Tilkov, S. et al.: REST und HTTP, dpunkt.verlag, Heidelberg 2015

Hinweise:

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