

Implementation plan Finished

Study unit	Service Oriented Architecture (SOA): Principles of Service Design (A0114), 10.0
Implementation	NIA1211: 1/2012-2013 (27.08.2012 - 21.12.2012)
Type	DEVELOPMENT OF CORE COMPETENCES IN THE FIELD (A030)
Groups	Primary: NIA11SN Others :
Involved in the project	
Lecturers	Rathod Paresch, De Arruda Camara Antonius
Number of participants	Minimum: Maximum:
Enrolment period	21.05.2012 08:00 - 03.06.2012
Main timing for implementation	
Applicability	For exchange students: Yes For elective studies: No Open UAS student: No Suitable for virtual UAS: No
Teachers	Rathod Paresch (Teacher in charge), De Arruda Camara Antonius (Other teacher)
Campus	Laurea Leppävaara
Main location for implementation	
Implementation method	Optima realization/student group, Other method of implementation, Project/venture/R&D Language: English Virtuality: 0 cr Integration of R&D: 4 cr
Implementation class	
Focus areas	
Evaluation at the latest	20.01.2013 Storing of graded material ends.: 20.12.2013
Exam days	Re-exams: 11.11.2010, 09.12.2010, 20.01.2011, 24.02.2011
Having completed the study unit the student is able to	• understand the key concept and principle of Service Oriented Architecture and service design • clearly establish the criteria for solution logic to be classified as service-oriented • analyze and explain – what is the service-orientation design paradigm • document specific design characteristics realized by the application of individual design principles • understand the link between the design characteristics realized by service-orientation and the strategic goals associated with SOA and service-oriented computing • demonstrate an understanding of the origins of service-orientation and identify – how this paradigm differs from other design approaches
Previous studies	Designing ICT Systems or equivalent knowledge.
Previous studies, more information	You need to pass following study unit successfully to participate in the course: 01120 - Designing ICT Systems: Relational database with object-oriented analysis and design
Learning objectives	The course introduces students to the principles and concepts of service-orientation in computing using service oriented architecture for service design. The main aim of the study unit is to learn - how and where design principles can and should be applied with the ultimate goal of producing high quality services. This course intends to provide practical, comprehensive, and in-depth coverage of the service-orientation design paradigm, which encompasses the official definition and detailed explanation of eight key principles.
Contents	Section-1: Fundamentals (5 CR) • introduction to Service-Oriented Computing and Service-Oriented Architecture • goals and benefits of SOA • challenges using Service-Orientation • effects of Service-Orientation on enterprises • SOA and web services • Business Process Management(BPM) • Enterprise Application Integration(EAI)

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	• aspect-Oriented programming • understanding Design Principles Section- 2 : Design Principles (5 CR) • standardization and Design - Service Contract • intra-service and consumer dependency – Service Coupling • service abstraction and reusability • service autonomy and statelessness • service discoverability and composition • service-Orientation and Object-Orientation: Comparison of concepts
Study material	Title:SOA : principles of service design / Thomas Erl. E-journals and other literature study.
Tutoring and communication	Week - 36 to 51 Tutoring - Check Learning Events Optima - Learning Management System is the main tool for communication Laurea e-mail
Evaluation criteria and methods	Details are given in course workspace (No Exam)
Project (name)	Case study on SOA Research (including MOBI case)
R&D methods	LbD - Action and Applied Research
Work strain	270 hours Week - 36 to 51 Regular classes/workshops - Tuesday full-day (Morning 09:30 - 11:30, Afternoon 12:30 - 16:00) Workshops (Student Centric) 80 hours Individual SOA Principles tasks 60 hours Group Project Work 60 hours Group Discussion 30 hours Self study, Guidance and Other 40 hours Total 270 hours
Other arrangements	Student centric workshops and classes

Learning events

Date	o'clock/at h	Subject	Content	Status	Teachers
04.09.2012	09:30-11:30	Introduction to the course	Introduction to the course	Room - 09	Paresh Rathod
11.09.2012	09.30-16.30	Seminar on Business Intelligence	Prof. Dr. Klaus Kruczynski(from Germany) offers seminar on <u>Business Intelligence - Data Warehousing & OLAP</u> Lunch Break - 11.30 - 12.30	Room - 09	Antonius De Arruda Camara, Paresh Rathod
18.09.2012	13.00-16.00	Workshop-01	Workshop-01 Introduction to service-oriented Computing and SOA	Normal Room - Group Activities	Paresh Rathod
25.09.2012	09.30-11.30	Workshop-02	Workshop-02 Understanding Design Principles	Normal Room - Group Activities	Paresh Rathod
25.09.2012	12:30-16:00	Project work		Group work	Antonius De Arruda

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						Camara, Paresh Rathod
02.10.2012	09:30-11:30	Workshop-03 - Student Group	Workshop-03 Service Contracts (Based on Thomas Erl Chapter - 06)	Normal Room - Group Activities		Paresh Rathod
02.10.2012	12:30-16:00	Project work		Group work		Antonius De Arruda Camara, Paresh Rathod
09.10.2012	09:30-11:30	Workshop-04 - Student Group	Workshop-04 Service Coupling (Based on Thomas Erl Chapter 07)	Normal Room - Group Activities		Paresh Rathod
23.10.2012	12:30-16:00	Project work		Group work		Antonius De Arruda Camara, Paresh Rathod
30.10.2012	09:30-11:30	Workshop-05 - Student Group	Workshop-05 Service Abstraction (Based on Thomas Erl Chapter 08)	Normal Room - Group Activities		Paresh Rathod
30.10.2012	12:30-16:00	Project work		Group work		Antonius De Arruda Camara, Paresh Rathod
06.11.2012	09:30-11:30	Workshop-06 - Student Group	Workshop-06 Service Reusability (Based on Thomas Erl Chapter 09)	Normal Room - Group Activities		Paresh Rathod
06.11.2012	12:30-16:00	Project work		Group work		Antonius De Arruda Camara, Paresh Rathod
13.11.2012	09:30-11:30	Workshop-07 - Student Group	Workshop-07 Service Autonomy (Based on Thomas Erl Chapter 10)	Normal Room - Group Activities		Paresh Rathod
13.11.2012	12:30-16:00	Project work		Group work		Antonius De Arruda Camara, Paresh Rathod
20.11.2012	09:30-11:30	Workshop-08 - Student Group	Workshop-08 Service Statelessness (Based on Thomas Erl Chapter 11)	Normal Room - Group Activities		Paresh Rathod
20.11.2012	12:30-16:00	Project work		Group work		Antonius De Arruda Camara, Paresh Rathod
27.11.2012	09:30-11:30	Workshop-09 - Student Group	Workshop-09 Service Discoverability (Based on Thomas Erl Chapter 12)	Normal Room - Group Activities		Paresh Rathod
27.11.2012	12:30-16:00	Project work		Group work		Antonius De Arruda Camara, Paresh Rathod

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04.12.2012	09.30-11.30	Workshop-10 - Student Group	Workshop-10 Service Composability (Based on Thomas Erl Chapter 13)	Normal Room - Group Activities	Paresh Rathod
04.12.2012	12:30-16:00	Project work		Group work	Antonius De Arruda Camara, Paresh Rathod
11.12.2012	12.30-16.00	Workshop	Workshop conducted by consultant	Normal Room	Paresh Rathod
18.12.2012	09.30-11.30	Workshop Conclusion	Concluding Workshops on SOA Principles of Service Design	Normal Room - Group Activities	Antonius De Arruda Camara, Paresh Rathod
18.12.2012	12:30-16:00	Project work		Group work	Antonius De Arruda Camara, Paresh Rathod