SE457 – Service-Oriented Architecture

College of Computing and Digital Media
DePaul University

Term: Spring 2019
Classroom section: Tue 5:45PM – 9:00PM, LEWIS 01517 at Loop Campus
Course homepage: https://d2l.depaul.edu/d2l/home/681635
Drop date (no penalty): April 12, 2019

Instructor: Steven Engelhardt
Office hours: Tue 4:00PM – 5:30PM, CDM 428
Phone #: 312-362-8735 (only during office hours)
Email: sengelha@depaul.edu

Description

An in-depth study of service oriented architecture (SOA) from the business, architectural, and technology perspectives. The business perspective will explain the imperatives behind SOA and discuss the significance of SOA in industry. The architectural perspective will discuss the different architectural models of software development and contrast these with SOA. The technology perspective will provide students with the opportunity to gain the required hands-on experience to analyze, design, implement and deploy SOA solutions that will meet both functional and non-functional requirements. Major topics include software architectures in practice, SOA development lifecycle, Enterprise Service Bus, SOA analysis and design methods, Web Services, and governance.

Prerequisite(s)

SE 450 or CSC 435.

Contacting the Instructor

The best way to contact me is via email at sengelha@depaul.edu. Emails will be returned within 24 hours. If you need to meet with me please either come to regular office hours or email me to set up an alternate meeting time. I do not have access to voice mail on my office phone.

Readings

Required: Thomas Erl. *SOA: Principles of Service Design.* Prentice-Hall, 2008. ISBN: 0-13-234482-3.

Lecture notes and supplementary materials may be provided by the instructor.

Learning Objectives

Following this course all students should be able to:

- *Understand* the principles of service-oriented design
- *Explain* how the service-oriented design paradigm differs from other design approaches
- *Design* preliminary service-oriented architectures which take into consideration quality goals such as reliability, performance, and scalability

- *Implement* a web service using modern techniques
- *Evaluate* the coming attractions in service-oriented architecture research and practice

Course Outline

The below course outline is tentative and may be subject to change.

Wk	Date	Topics Covered	Reading(s) Covered	Assignments
1	Apr 2	Administrivia and Introduction to SOA	Erl Ch. 1-4	HW1 Assigned
2	Apr 9	Design Principles Part 1	Erl Ch. 5-9	HW1 Due
3	Apr 16	Design Principles Part 2	Erl Ch. 10-13	HW2 Assigned
4	Apr 23	Governance and Best Practices	Erl Ch. 14-16	HW2 Due
5	Apr 30	Mid-term		
6	May 7	Web Services Part 1	Supplemental	HW3 Assigned
7	May 14	Web Services Part 2, Student Research Presentations	Supplemental	HW3 Due, HW4 Assigned
8	May 21	Web Services Part 3, Student Research Presentations	Supplemental	
9	May 28	Advanced Topics, Student Research Presentations	Supplemental	HW4 Due
10	Jun 4	Student Research Presentations, Review for Final		All Research Presentations Due
11	Jun 11	Final Exam		

Grading

Grades in the course will be determined as follows:

Homework	**25%**
HW1	5%
HW2	5%
HW3	5%
HW4	10%
Research Presentation	**25%**
Midterm Exam	**25%**
Final Exam	**25%**
Total	**100%**

Course Policies

Changes to Syllabus

This syllabus is subject to change as necessary during the quarter. If a change occurs, it will be thoroughly addressed during class, posted under Announcements in D2L and sent via email.

Online Course Evaluations

Evaluations are a way for students to provide valuable feedback regarding their instructor and the course. Detailed feedback will enable the instructor to continuously tailor teaching methods and course content to meet the learning goals of the course and the academic needs of the students. They are a requirement of the course and are key to continue to provide you with the highest quality of teaching. The evaluations are anonymous; the instructor and administration do not track who entered what responses. A program

is used to check if the student completed the evaluations, but the evaluation is completely separate from the student's identity. Since 100% participation is our goal, students are sent periodic reminders over three weeks. Students do not receive reminders once they complete the evaluation. Students complete the evaluation online in CampusConnect.

Academic Integrity and Plagiarism

This course will be subject to the university's academic integrity policy. More information can be found at http://academicintegrity.depaul.edu/. If you have any questions be sure to consult with your professor.

Academic Policies

All students are required to manage their class schedules each term in accordance with the deadlines for enrolling and withdrawing as indicated in the University Academic Calendar. Information on enrollment, withdrawal, grading and incompletes can be found at: http://www.cdm.depaul.edu/Current%20Students/Pages/PoliciesandProcedures.aspx

Students with Disabilities

Students who feel they may need an accommodation based on the impact of a disability should contact the instructor privately to discuss their specific needs. All discussions will remain confidential. To ensure that you receive the most appropriate accommodation based on your needs, contact the instructor as early as possible in the quarter (preferably within the first week of class), and make sure that you have contacted the Center for Students with Disabilities (CSD) at:

Email: csd@depaul.edu
Lewis Center 1420
25 East Jackson Blvd.
Phone number: (312)362-8002
Fax: (312)362-6544
TTY: (773)325.7296