

SE464 Fall 2023 Introduction

Derek Rayside



Course Outline

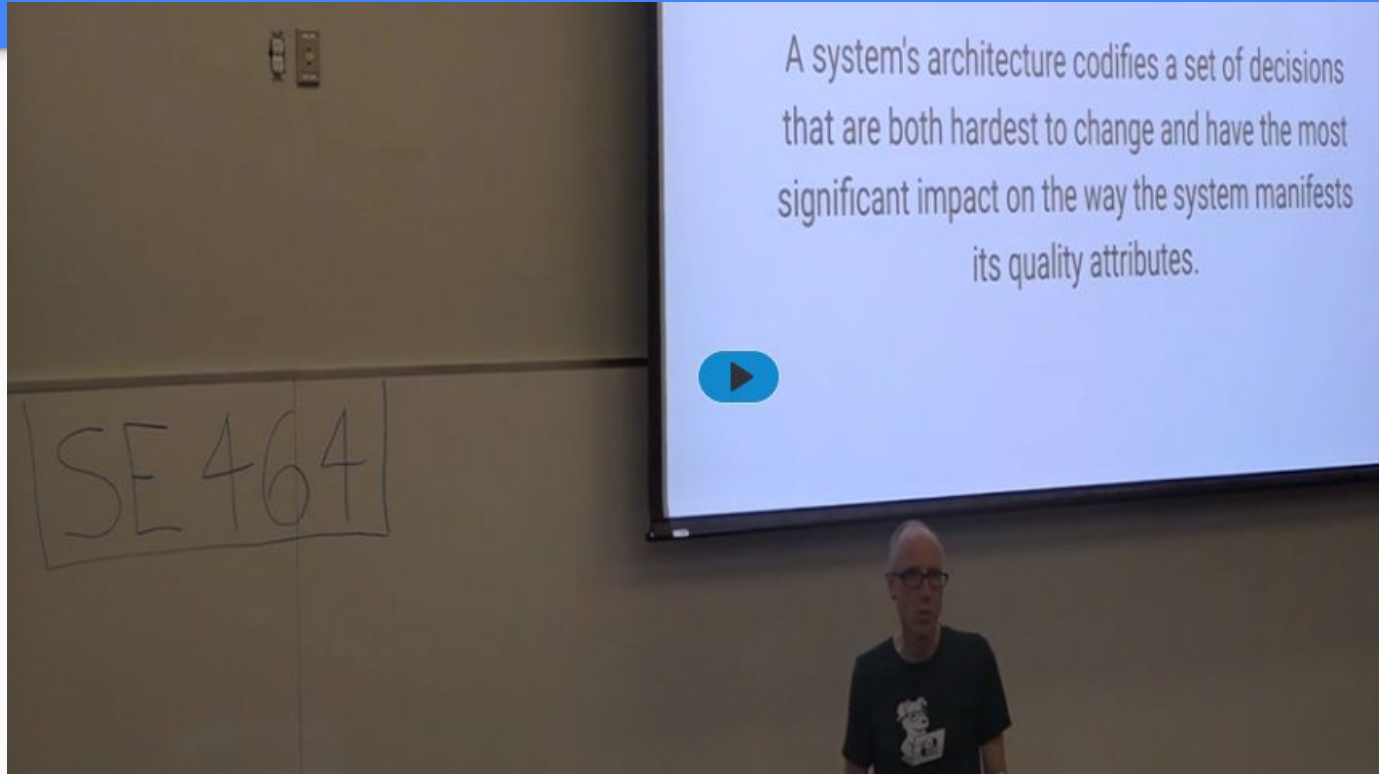
<https://outline.uwaterloo.ca/view/n9ta3z>

CLASS SCHEDULE

Section	Location	Time	Instructor(s)
SE 464 001 [LEC]	EV3 1408	Mondays & Wednesdays 10 a.m. - 11:20 a.m.	Derek Rayside drayside@uwaterloo.ca
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<https://vault.cs.uwaterloo.ca/s/NeNKZKGXA8t6TNy> [password: SE464-2023]

Opening Guest Lecture by Jeromy Carriere



2% of overall grade
Due September 20th

Study Activity #1: Notes on Jeromy's talk

- We will assign you to a *study group* of 3 students in LEARN
- Your group number times 2 is your group's video minute index
 - Plus or minus a minutes or two on either side
- **Write 3 footnotes or possible exam questions** from that video segment
 - e.g., what is sharding? what is a quorum-based system? Etc.
- Submit on LEARN
- TAs will compile all responses to a study guide document **for the class**
- Exam questions may come from here!

We will set this up in
LEARN after class today.

Charles Eames Definition [circa 1960]

“Design is a plan for **arranging elements** in such a way as best to accomplish a particular purpose.”

[Charles Eames designed buildings and chairs. He wasn't talking about software.]



IEEE 1471 Definition [circa 2000]

“The fundamental **organization** of a system embodied in its **components**, their **relationships** to each other, and to the **environment**, and the principles guiding its design and **evolution**.”

https://en.wikipedia.org/wiki/IEEE_1471

Perlis Epigram #16 [circa 1982]

“Every program has (at least) two purposes: the one for which it was written, and another for which it wasn't.”

https://en.wikipedia.org/wiki/Epigrams_on_Programming

https://amturing.acm.org/award_winners/perlis_0132439.cfm

ISO/IEC/IEEE 42010 Definition [circa 2010]

"Fundamental **concepts** or properties of a system in its environment embodied in its **elements, relationships**, and in the **principles** of its design and **evolution**."

<http://www.iso-architecture.org/42010/>

Jeromy Carriere's Definition

More abstract than components and relationships.

“A system's architecture codifies a set of **decisions** that are both **hardest to change** and have the most significant impact on the way the system manifests its **quality attributes**.”

Evolution

More general:
maintainability, testability,
durability, robustness,
scalability, performance, etc.