Concept

Operating-System Engineering

Educational Objectives

- an excursus on modern operating-system design and implementation
  - focusing on system-software flexibility, portability, and scalability

- the use of software-engineering techniques in system-software design
  - feature modeling [3]
  - program families [5]
  - object orientation [8]
  - aspect-oriented programming [4]

- an inauguration into the secrets and a rationale of PURE [1]
Subject Matter

introduction .................................. a first problem analysis
fundamentals ................. domain analysis, program families, and object orientation
case study ............... design and development of TAL, a threads abstraction layer
discussion ...................... things nice to have and not to have
revision ............................ aspect orientation
conclusion ....................... lessons learned

Prerequisites

• structured computer organization, operating systems
• C/C++, assembler
• enjoy system-level programming
• no fear of stuff hard to digest
• some sort of staying power
Syllabus

- one lecture per week, two hours each ................................. 2 SWS
  - subject presentation
- one seminar per week, two hours each ................................. 2 SWS
  - subject consolidation
  - practice discussion
- computer practice $N$ hours per week, $0 < N \leq 164$ ..................... 0 SWS

Achievement Control

- practice  
  - pass  ......................... in case of successful elaboration of all exercises
  - consultation .............. in case of unsuccessful elaboration of one exercise
  - fail  ................................ otherwise, or enjoy ...

- examination on lecture and seminar stuff
Academic Staff

- Wolfgang Schröder-Preikschat
  - http://www4.informatik.uni-erlangen.de/~wosch

Suggested Reading