

# Embedded Software

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## Introduction to I4ISU

# Agenda

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- Overall perspective
- Schedule
- Resources
- Lab challenges & review
- Exam
- Practical stuff

# Overall perspective

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- I4ISU will teach you about...
  - ▶ Linux
  - ▶ OSs
  - ▶ Multithreaded (parallel) programs
  - ▶ Event driven programming
- The last C++ course you will have
  - ▶ All previous courses considered known and will be used
  - ▶ A large degree of self-support

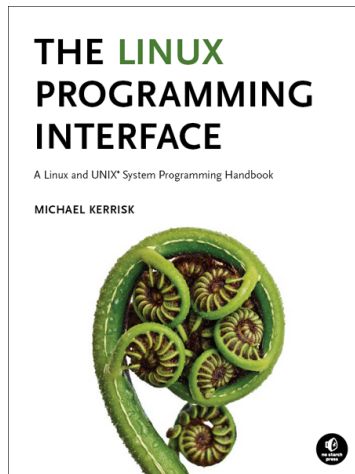
# Schedule

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- Course I4ISU
- Introduction to OS and Kernel
- Linux development & Cross compilation
- Processes & Threads
- Thread Synchronization I & II
- Thread Communication (x2)

# Resources

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Michael Kerrisk: “The Linux Programming Interface”



Notes, on-line articles, man/info pages... (GOOGLE)  
OLA - OnLine Articles  
TLDP - The Linux Documentation Project

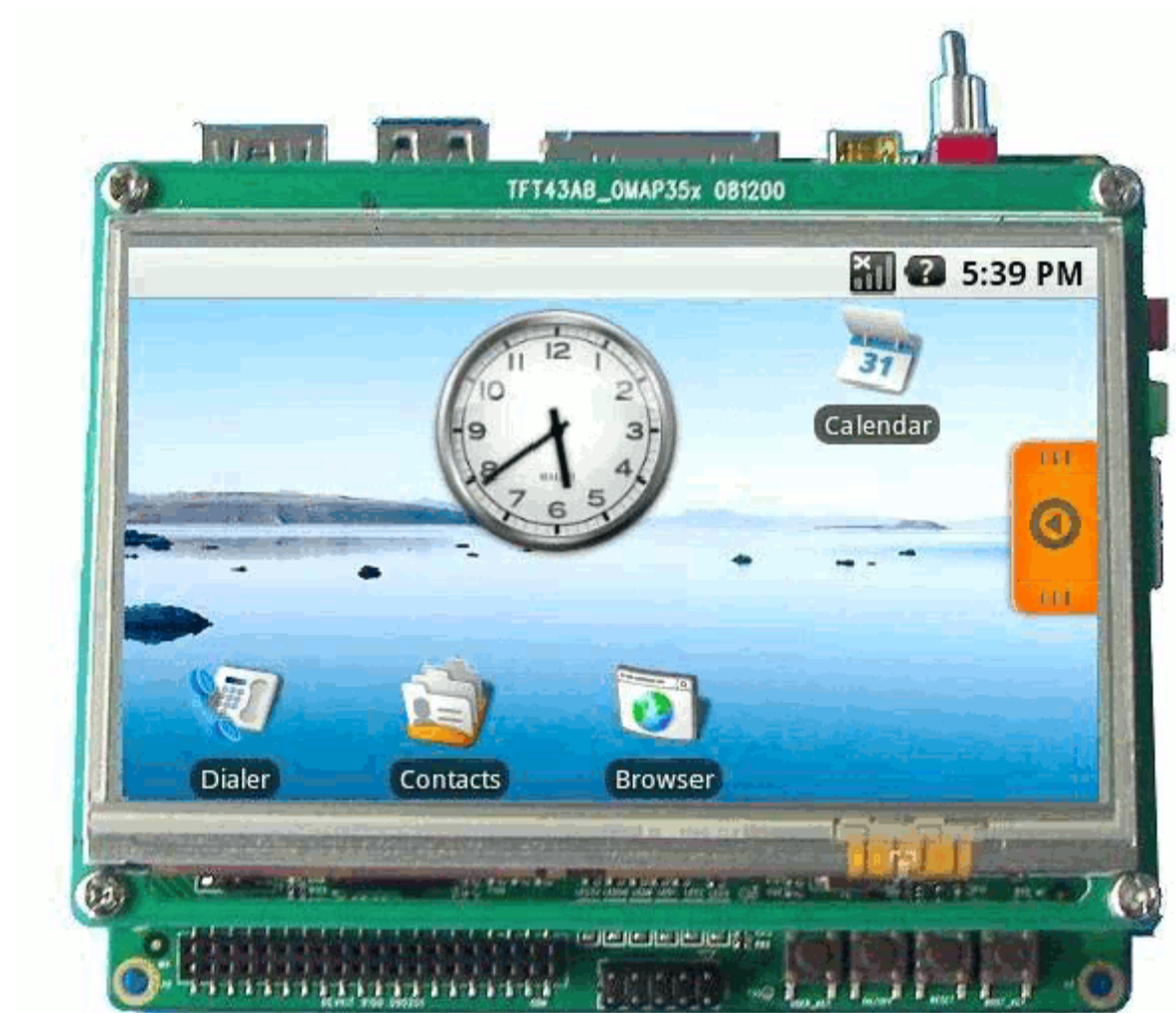
# Resources

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- Programming environment
  - ▶ Target OS: Poky Linux
    - ▶ Custom 4.1.1 linux kernel
    - ▶ Custom package selection
  - ▶ IDE: Qtcreator or Eclipse, whatever you want...
  - ▶ Host OS: LUbuntu 15.10
  - ▶ Platform: Embest DevKit8000

# Your new best friend

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# Resources

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- Redmine Wiki - [https://redmine.iha.dk/courses/projects/i4isu\\_f2016/wiki](https://redmine.iha.dk/courses/projects/i4isu_f2016/wiki) - Require VPN connection
  - ▶ Course schedule
  - ▶ Articles, notes, etc.
  - ▶ Repository - (Presentations & Exercises)
- Campusnet
  - ▶ “Course schedule” -> Redmine wiki
  - ▶ Messages
- IHA's DevKit8000 Wiki
  - ▶ <https://redmine.iha.dk/devs/projects/devkit8000>
- On-line documentation
- The web in general



# Lab challenges & review

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- Exercises in groups
  - ▶ Team up minimum 2 and max 3 in each
  - ▶ In the courses links section you will find a link to I4ISU googledoc spreadsheet (Exercise status)
  - ▶ A week's **exercise** consists of a *lab challenge* and *peer review* of one other hand in done by fellow students (Read and follow *Guide\_to\_the\_use\_of\_a\_wiki\_in\_I4ISU.pdf*)
    - ▶ Week 1 Exercise commenced
    - ▶ Week 2 Working on lab challenge
    - ▶ Week 2 Lab challenge completed midnight at latest (see googlespreadsheet)
    - ▶ Week 3 Review completed at midnight (see googlespreadsheet)
  - ▶ Deadlines not met equates **failure!!!**
    - ▶ Spreadsheet not updated equates failure regardless of whether the assignment is completed or not!
  - ▶ Load is approximately **9 hours** a week

# Course completion

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- Prerequisite for
  - ▶ Lab exercises on Wiki with reviews must be met with 100% approval
    - ▶ Groups of minimum 2 persons - maximum of 3.
- No exam - just complete all exercise!

# Practical stuff

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- DevKit8000 at Library
  - ▶ *IF you are not a “user” at the library - do register before going there*
  - ▶ <http://library.au.dk/>
- Course evaluation
  - ▶ Mid-semester -> talk
  - ▶ End-semester -> GoogleDoc questionnaire

# Practical stuff - part 2

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- Short demonstration/presentation of Redmine
- Short intro to the *Exercise status* googledoc spreadsheet