

Current Curriculum

SMS - Security in Mobile Systems

Goal of this module is to establish a deeper understanding about the core principles in computer security, especially cryptography, system security, security-related network protocols as well as security-related specifics towards mobile platforms.

MMS - Mobile Media Services

A deeper look into video and audio codecs/container formats like H.264,HLS,PAL, etc...

IOT - Internet of Things

Freely selectable Project in a team using 2 Arduino MKR1000 and 2 IOT Kits. Should communicate to a phone and connect to the cloud/a pc. Also has to use 3 sensors.

ALP - Alternative Programming Languages

We take a look at different programming languages, their concepts and paradigms, and their domain of application (scripting, data analysis, concurrency, ...).

The goals of this course are: Get an understanding of design concepts of different programming languages. Basic understanding of compilation and compiled languages. Basic understanding of interpretation and interpreted languages. Learn and apply concepts of different languages. Become open to learn new concepts and languages. Judgement when to use which type of language.

Among the languages we may take a look are:

- R: explorative data analysis and publication ready plots by using tidyverse and ggplot2
- Go: concurrency
- Python: scripting language intensively used in data science
- Scala: functional programming language

We take a closer look at the languages from the above list and every participant must study a language of her/his choice and present the main paradigms of the language including examples and domain of application.

There are a lot of different languages, e.g., Rust, Elixir, Scheme, Erlang, Julia, C#, F#, Ruby, Fortran, Perl, D, Prolog, TypeScript, Haskell, Elm, Lisp, Lua, Carbon, etc.