Digital Signal Processors

Course title: Digital Signal Processors
Course code: EIFB632
Type of course: Lecture
Level of course: Bachelor
Degree Program: Communications Engineering and Information Technology
Year of study: Third year
ECTS Credits: 2
Semester: 6th semester
Name of the lecturer: Dr. Wolfgang Proß
Course contents: After a brief explanation of the architecture and characteristics of digital signal processors in general, the focus is on the TI TMS320C6713 DSP. Based on projects assigned to groups of up to 3 students, real-time applications and typical algorithms in digital signal processing (audio effects, modulations etc.) are implemented on the mentioned DSP. The students thereby learn basic principles about e.g. compiling & linking, memory types, interrupts, the EDMA, etc.

Prerequisites: Knowledge in Digital Signal Processing and basics in C and Matlab

Course objectives expressed in learning outcomes and competences:
After having successfully completed the course, the students should:
  x be able to evaluate different DSPs based on predefined requirements
  x be able to implement signal processing algorithms on a chosen DSP, to debug and calibrate them, to get them working as expected in real time.

Language of instruction: English

Teaching methods: Lecture supported by Power Point slides and practical signal processor programming exercises

Assessment methods:

| Written exam | X Presentation |
| Written assignment | X Project work |
| X Oral exam | Practical exercises |

Recommended reading:
Bateman, Andrew: The DSP handbook : algorithms, applications and design techniques, Prentice Hall, Harlow, 2002