

IL2206 EMBEDDED SYSTEMS

## Reflection Assignment 2

### Step 1: Reflection Assignment

(Expected workload: 4 hours)

*The reflection assignment shall train the students for the 'open' questions, but also improve the writing skills of the students. The participation in the reflection exercises is **mandatory**. Answer the questions **individually** and **with your own words** in electronic form (about 3 pages, 10pt, single-line-spaced). Be also very careful about the quality of your writing.*

**NOTE:** There is not a single correct answer, in fact for many of these question there exist even multiple different opinions in industry and the research community. It is important that you start to think about the problems in order get a better understanding of the problems related to area of embedded software development.

**Deadline:** See the Canvas page for the deadline for submission of answers.

### Step 2: Feedback Assignment

(Expected workload: 1 hour)

*Each student shall give constructive anonymous feedback on the reflection assignment of another student. The Canvas system will automatically do the assignments. Please provide relevant feedback of about one A4 page, where you concentrate on a few interesting aspects and discuss them in a constructive way. Please avoid too negative statements, but instead give suggestions for improvements.*

**Deadline:** See the Canvas page for the deadline for submission of feedback.

### Step 3: Reflecting on the Feedback

*Carefully read through the feedback on your assignment and try to use the feedback for a better understanding of the problems, but also to improve future reflection assignments and other writing task.*

**Deadline:** This task should be completed before your seminar session.

## **1 Reflection Assignments for Seminar 2**

- 1.1 What do you view as the largest benefits of the classic real-time theory? Are there some important limitations?**
- 1.2 The real-time theory assumes that the period and execution times for each tasks are well-known. How can you determine period and execution time in practice? How accurately can you determine these parameters (period and execution time)?**
- 1.3 What is the main difference between semaphores, protected objects and rendezvous? Which of these communication mechanisms seems to be most suitable for a safety-critical real-time system?**
- 1.4 How can the real-time theory be used in an industrial design process for safety-critical real-time systems? Is the support from programming languages like Ada or real-time operating systems like MicroC/OS-II sufficient?**