# Software Configuration Management
# Examination: 26th June 2009

This exam is for students of the SCM course 2009. The questions are valued according to the following scheme:
- Question 1-8:  Each question 7 points (total 56)
- Question 9-10:  Each question 22 points (total 44)

The end result of this examination is the number of points divided by 10. The final grade of this course is the average of the industrial report and this examination (under the condition that both parts are graded 6 or more).

Exam Rules:
- Answering time: 2 hours and 45 minutes
- No books or reference material
- No calculator or similar electronic devices
- No mobile phones

We wish you success!

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**1**  a. Give a definition for configuration management (tip: four pillars)..
   b. What is a configuration item?

**2**  a. What is a version?
   b. What is a baseline (provide a definition)?

**3**  a. What is system building?
   b. Describe the Daily Build and Smoke Test?

**4**  Sketch a situation where two developers create a deadlock for further development.

**5**  Which information can SCM provide ("*status accounting*") to support the work of a software developer? Provide 3 kind of numbers and shortly explain how it may help a software developer in his daily development work. Assume that the developer is only working on a single project.

**6**  During your practical work you used the version management tool Subversion.
   a. What is a (Subversion) *repository*?
   b. What is a *working copy*?
   c. Describe the *update* of Subversion?

7 You visited a company as part of the industrial assignment. Start answering with the name of the company.

a. What version management tool was used in this company?

b. What is your main advice for improving SCM? So, mention only the most important improvement for SCM and motivate the improvement.

8 During the last two lectures we discussed DCM.

a. What means DCM? Shortly explain.

b. Draw a picture with 6 development sites (only a picture required).

# The TJDJ Company

A small sized company (8 persons), named TJDJ, develops a software application for customer relation management (CRM) for bakery. The market share of the product is rapidly growing. The director of TJDJ started development of this product five years ago and hired a marketing manager last year to increase market share. Five software developers and a project leader take care of the implementation of the CRM-Bread product. The director is still involved, as a software architect, taking the main technical decisions. You, as a SCM consultant, has been asked to advice on SCM.

The DJTJ company has currently no Change Control Board.

9 Define the CCB of this company.

⊛ Who is participating in the CCB and what is his/her role?

⊛ Describe the flow of a Change Request during its lifecycle?
   o Provide a diagram with states and transitions
   o Describe all states (use at least 5)
   o Describe all possible transitions

Defects in the CRM-Bread application are frequently resolved. Every month a minor release is distributed to all customers. Twice a year a major release is announced (and distributed) with new features as agreed upon in the CCB. In case of emergency, a blocking situation for a customer, an extra release (patch) is created to that customer. All customers get all features in a new release.

10 Describe this situation in a branching diagram for the period between 1$^{st}$ September 2008 and 31 August 2009 (it is now 26 June)

⊛ Provide a branching diagram for this period of time (including 9 months actual situation, 3 months planned). You may make some assumptions, but clarify them.

⊛ Describe which development activity is performed on each branch (give branch a name and clarify what may be developed in a branch).

⊛ Show (with labels in the diagram) the releases.