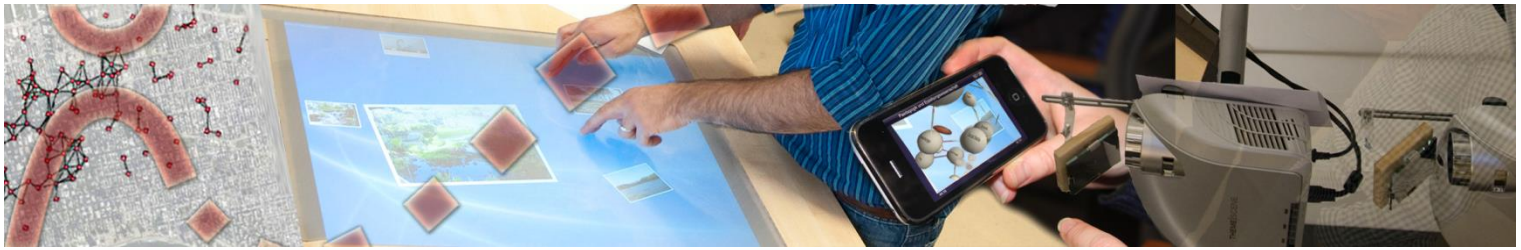
Telecooperation Lab
Prof. Dr. Max Mühlhäuser

Telekooperation 1: Exercise WS15/116

Michael Stein, MSc.
michael.stein@tk.informatik.tu-darmstadt.de
Jens Heuschkel, MSc.
jens.heuschkel@tk.informatik.tu-darmstadt.de



TK1 – EXERCISE

- Solution 11th Exercise
- Exam Questions

Task 1 a)

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The following voting sets are defined for 8 processes (voting set V_i is defined for process i):

V_1: (1,2,3,4,7) V_2: (1,2,3,5,8) V_3: (1,2,3,6) V_4: (1,4,5,6,7)	V_5: (2,4,5,6,8) V_6: (3,4,5,6) V_7: (2,4,7,8) V_8: (1,5,7,8)

a) Does the algorithm work correctly with these voting sets? Explain your statement, e.g., by performing the essential test steps.

Yes, since:

- Every voting set overlaps with every other
- Each process is contained within at least one voting set

Task 1 b)

b) What are the two specific fairness conditions of Maekawa's algorithm? Do they hold in this case? Explain your answer!

Task 1 b)

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No, since both properties do not hold (cf. Table):

- Equal effort (every set has the same size), as well as
- Equal responsibility (frequency the same for all process)

	1	2	3	4	5	6	7	8	Size
V1	X	X	X	X			X		5
V2	X	X	X		X			X	5
V3	X	X	X			X			4
V4	X			X	X	X	X		5
V5		X		X	X	X		X	5
V6			X	X	X	X			4
V7		X		X			X	X	4
V8	X				X		X	X	4
Frequency	5	5	4	5	5	4	4	4	

Task 1 c)

c) Is it possible to change the voting sets (e.g. by adding or deleting processes) such that both fairness conditions hold? If not, why? If yes, state the modified voting sets.

Task 1 c)

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	1	2	3	4	5	6	7	8	Size
V1	X	X	X	X			X		5
V2	X	X	X		X			X	5
V3	X	X	X			X		X	5
V4	X			X	X	X	X		5
V5		X		X	X	X		X	5
V6			X	X	X	X	X		5
V7		X	X	X			X	X	5
V8	X				X	X	X	X	5
Frequency	5	5	5	5	5	5	5	5	

Yes. 3, 6, 7, 8 need to be added to the smaller voting sets, e.g.

V1: (1,2,3,4,7), V2: (1,2,3,5,8), V3: (1,2,3,6,8), V4: (1,4,5,6,7),
V5: (2,4,5,6,8), V6: (3,4,5,6,7), V7: (2,3,4,7,8), V8: (1,5,6,7,8)

Exam

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Facts

- Written Exam
- 22.02.2016 16:00h
- Room assignment will be published in Moodle
- 90 Minutes Time
- You get paper there

Exam

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Content

- Content from the Lecture
- Content from the Exercises

- Do not learn by heart
  - For the hard facts you can use the cheat sheet
- Understand (!) the concepts

Exam

Aids

- One DIN A4 double-sided hand-written sheet (not printed, no copies)
- A (hardware) calculator, just basic arithmetic operations
- A dictionary
- NO mobile phone
- NO computer

Exam

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Tasks

- Tasks like in the TK1 exercise
- No multiple choice
- You do not have to program Java
  - BUT! You should be able to sketch an algorithm in pseudo code

Exam

FAQ
(last year's most frequent questions)

Exam

Are we allowed to bring any aids like a cheat sheet with us?

→ See above

Exam

it would be really helpful if you could inform us what is the examination pattern , are there going to multiple choice objective type questions or descriptive questions or a mixture of both . Also what is mor eimortant from the examination point of view , studying the slides and the excercise solutions or doing a more detailed research on the course topics . please reply soon

→ See above

Exam

would you please let me know if there are any sample questions from previous semesters or reference questions?

→No! But you can use the exercise questions as sample questions ;)

Exam

I am new this semester. Please let me know the exam format, specifically,

1. What will be the total number of questions? Will I be able to cherry pick yet answer for full marks, i.e., some optional questions?

→We don’t know the exact number of questions yet.

→You can select between two specific tasks (doing both tasks doesn’t give you extra points)

Exam

2. Will the questions be structured as they are in the exercises given so far? Will there be multiple choice questions?

→Yes.

→No.

3. Will the grading strategy be same as they are done for the exercises, i.e., full marks for correct answers even if short?

→Yes, if the answer is complete and correct.

Exam

4. Point division between programming and algorithms, 50/50 each?

→We have no real programming tasks in the exam

5. I don't have a hardware calculator. Will I be able to use the software calculator in my mobile phone?

→Of cause not!