

Just a reminder

- As a part of the project “Software Engineering: Computer Science Education and Research Cooperation” several common courses have been created, which are used at Universities, members of the project.
- The first, oldest, and the most developed is still the course on “Software Engineering”.

The course, with the more-or-less same content, is conducted in: Berlin, Novi Sad, Plovdiv, Skopje, Tirana, Opatija and Sarajevo.

The course is also partially conducted in: Beograd, Niš, Timisoara, Zagreb, Podgorica and Banja Luka.

Just a reminder

- In order to satisfy needs and teaching styles of different lecturers, teaching materials are created in a quantity much larger than necessary, and much more than can be conducted during a regular semester.
 - there exists a set of 38 presentations (+ lecture notes for the most of them), out of which lecturers choose those that satisfy mostly their curricula, preferences, available time ...

In practice, lecturers use from 18 up to 30 presentations for their classes.

Just a reminder

- There is a pool of 9 assignments, where again lecturers can choose those that best fit lectures presented, available time, or number of teams/students attending the course.
- There are 2 big, and several smaller case-studies, used to illustrate theoretical concepts presented during lectures.

In practice, courses use from 4 up to 8 assignments per course conduction.

While big case-studies are incorporated into lectures, they *can* be substituted with other ones.

Within assignments, this can be done easier.

FYI

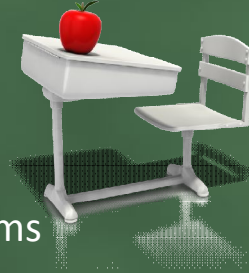
- For example, course in Novi Sad is using:
 - 24 presentations (ok, ok ... sometimes 23)
 - 6 assignments (but, sometimes even 7), and
 - 2 (big) case-studies

Nothing interesting to add here 😊

Nor here 😊

Agenda

1. Introduction
2. **Preliminaries**
3. Facts of the course
4. Some (usual) problems
5. Conclusion



Motivation

- High quality of teaching materials, excellent experiences with its' use, and good response from students noticed each year within a regular survey, opened the questions of usage of the rest of the materials.
- Even more than that – the only objections we receive are concerning the *quantity of presented material*. Perhaps some of the topics could be moved to some other course?

We assume that potential students already heard topics presented within the "Software Engineering" course.

And we're *not* talking about advanced course for master students, just some more SE topics, for those interested.

Realization

- Of course, there is always a question of “*how to do that in practice*”?
- Adding a new course into curriculum is a difficult undertaking – in the case of Serbia, requiring permissions from the whole chain of involved instances, even going up to Ministry of Education!
- That is – if you’re not lucky enough to have already prepared spot to put that course in!

Approval from several instances to introduce the new course, is *not* a specialty of Serbia, it happens all over the world.

Actually, it is *not* luck, it is good thinking in advance, thinking that created that spot!

Realization

- As already mentioned at these meetings once upon a time, there are 4 (four) courses – 2 at bachelor + 2 at master level – that have *generic name* and *changing contents*.
- For bachelors there are “Elective Seminar A” and “Elective Seminar B”, and you can guess the names for master level courses 😊
- Each year, all of the lecturers are invited to offer and teach (if there are interested students), courses on topic they select.

For the last 5 years, we offered course on “Advanced eBusiness”

This year, we decided to change that, in order to use additional teaching material from JCSE

Attendance

- It is a common thing that for each new course offered, couple of years are needed for students to enroll.
 - It's often 3-5 students on the first year, about 10 on the second turn, and then either 0, or 30.
- Is it because such nice guys are lecturers, or something else, but even on the first year, we had 22 applicants.
 - Now, we're waiting for the second turn, to see if we would drop down to 3-5 ...

Let's not forget, we limited attendance just to final year students.

Not just that, we limited it to students who attended "Software Engineering" course previously.

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Course contents

- For the course “Further Topics of Software Engineering”, we selected the following topics:
 - User Manuals
 - Software Maintenance
 - Introduction to Software Project Management
 - Configuration Management
 - Software Ergonomics
 - Service Oriented Architecture
 - Extreme Programming
 - Test Driven Development
 - Personal Software Process

The first 5 are listed within the “Software Engineering” course, Part V: “Advanced Problems”.

The last 4 are listed within the “Software Engineering” course, Part VI: “Additional Problems”.

Course contents

- Presentations for all of the topics already existed – we could just use them, right?
- We wish, but of course:
 - some of the material was outdated;
 - some of the material was not enough;
 - some of the material was too much;
 - some of the material we didn’t quite like ...
- Yet, we had a solid basis for developing teaching resources, we didn’t have to start from scratch!

Exam

- Through lectures, students hear the most of the necessary things about topics.
 - some introduction,
 - some definitions,
 - some characteristics,
 - some classifications ...
- Than they pick the one they like the best, and research about it by themselves.
 - they can get all of the books from our library, but of course, they prefer to ask Mr. Google about everything instead.

As the name "Elective Seminar" suggests, exam is conducted by writing a seminar paper.

Just to make sure *they* actually wrote it, students are required to defend it in front of the audience.

Exam

- Writing seminar paper should encourage individual research, starting from the beginning:
 - student choose the topic (with consultation of course, but alone, by herself),
 - student finds learning resources of appropriate type and quality,
 - student writes the seminar paper alone (again, usually with several consultations and checks by the lecturer), and finally
 - student defends hers work in front of the other colleagues.

As might be expected, the most often used source of material is Wikipedia ...

Still, we try to convince them that for each claim, they should give at least one additional source!

Rules for the Exam

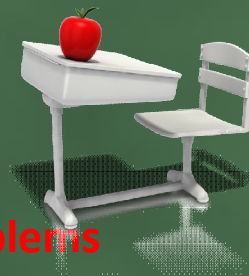
- Experience shows that students tend to find and literally copy someone else's seminar paper.
 - It's *not* just our experience ... I read some papers about the problem ☺ It's a usual thing all around the world ☺ But, why am I telling you that, you all know that, of course.
- How to solve this problem? Well, one nice suggestion I found is to give a "normal" assignment for the exam, and then add some *twist* to it!

In the beginning, student would find a paper, engage Google Translate, and submit it with some or none corrections.

Not too difficult to recognize, you just look for phrases and facts you *know* students don't know.

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Rules for the Exam

- What was the twist?
- Since one of the topics was “User Manuals” – how and why to write those, what do they contain, and similar – they should know how to do it.
- So, we ask them to write their seminar paper in the form of *user manual*.

Over the years, seems that students became lazy! Today, they simply find some paper in some of CBS languages, and use it!

“Locals” will understand – as I said last year: **When a Hungarian guy starts talking Bosnian *ijekavica*, you know something’s fishy!**

Problems with the Exam

- Form of *user manual*?
- It must contain:
 - Cover Page,
 - Hazard Alerts,
 - Table of Contents,
 - Introduction,
 - Definition of Terminologies,
 - Technical Descriptions,
 - Warranties,
 - Accessories,
 - FAQ, and
 - Corporate Contact Information

What do we get by that?
Well, even if they find and “steal” a paper, they must read it and rearrange it!

Some comfort, eh?

Results?

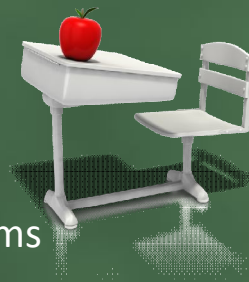
- So far, we had 5 papers submitted for evaluation.
- 3 were perfect, one was excellent, and one was copied ...
- This is still the beginning, the first exam period, when the best students did their work. We do not expect such nice results and so useful user manuals.

The copied one ...
yeah, sure, it was
changed and adjusted
to the required form,
but it *was* copied.

When faced with the
original, girl confessed,
apologized, promised
never to do it again,
yadda, yadda, yadda ...
Usual stuff.

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Resume

- What more can you ask?
 - You're teaching things you like,
 - You have material already prepared that needs just some polishing,
 - You found a way to make students write original seminar papers, help you improve presentations, sometimes even teach *you* something new 😊

Thanks for the attention

*Any questions,
suggestions, or
offers?*

