

Software Engineering courses at FINKI

Katerina Zdravkova, Boro Jakimovski
Faculty of Computer Science and
Engineering, Skopje, Macedonia



Software Engineering at FINKI



- Two separate courses were inherited from former studies
 - From Institute of Informatics (JCSE)
 - From Faculty of Electrical Engineering
- In the summer semester 2013/14, both courses had to join together
- Basic book: Pressman, 7th edition
- Additional book: Somerville, 9th edition in Macedonian

Unification of both courses

- Basic intention: to modify existing JCSE materials to be closer to Pressman's book
- We changed our course, colleagues decided to stick to their original one
- Consequence: two groups of students attending two different courses with the same name, and the same ECTS credits

Joint home page of both courses

The screenshot shows a web portal for the course 'Софтверско инженерство-2013/2014/L'. The page is titled 'Генерално за предметот' (General for the subject). The main content area contains several links and resources:

- News forum
- Известувања - Група ИНФО, КНИ (залишани 2011 и претходно) (INFO_KNI_2011)
- Консултативен Форум за домашните задачи кај проф. Здравкова (All)
- Избор на датум и време за презентација на задачи за студентите кај Проф. Здравкова (All)
- Пријавување за испит кај проф. Здравкова (All)
- Книги
- Pressman: Software engineering a practitioner's approach 7th Edition
- Книга: Софтверско инженерство - Сомервил 9та едисија
- Pressman: kniga
- Roger Pressman, Software Engineering: A practitioner's approach (Fifth Edition)
- Книга: UML Distilled 3rd ed.
- Писмен испит
- Устен испит
- Пример на колоквиум и испит
- Пример за втор колоквиум

At the bottom of the main content area, there is a notice: 'Термините за консултаци и запишување оценки кај проф. Здравкова се достапни на http://www.finki.ukim.mk/Content/contentFiles/studies_menustructure/Konsultaci/termini-konsultaci-leten-2013-14-juli.pdf. Термините за консултаци кај вон. проф. д-р Дејан Горевки (види овде)

The sidebar on the left contains a 'Navigation' menu with options like 'Home', 'My home', 'Site pages', 'My profile', and 'Current course'. The current course is 'СИ-2013/2014 /L-22_919', with a list of dates from February to May. The right sidebar includes a 'Search forums' section, a 'Latest news' section with several news items, and an 'Upcoming events' section.

JCSE at FINKI for students who enrolled the course with us



- Most topics were covered as they existed in the last version of JCSE
- Some topics, particularly those connected with structured paradigm were offered as optional
- The topics connected with object-oriented paradigm were either completely covered, or slightly extended

Completely same topics + one added topic



- Topic 1: What is software engineering? (slightly extended with local job offers)
- Topic 2: Quality criteria for software products
- Topic 3: Software process models (slightly extended with slides announcing agile development)
- Topic 3a: Agile development (taken from Pressman)
- Topic 4: Basic concepts for the description of software development

Completely same topics (2)



- Topic 5: Results of the Analysis and Definition+phase
- Topic 6: Cost estimation
- Topic 7: Modeling and product models
- Topic 8: Basic concepts / functional view
- Topic 12: Basic concepts of state oriented view
- Topic 12.5: Object oriented views (extended version)

Completely same topics (3)



- Topic 13: Basic concepts of scenario oriented view
- Topic 14a: Object-oriented analysis (a-f)
- Topic 14b: Object-oriented analysis (g-h)
- Topic 15: Formal specifications (presented at the end of the course)
- Topic 16: Overview of design phase
- Topic 18: Object-oriented design

Completely same topics (4)



- Topic 19: Implementation
- Topic 20: Introduction to testing
- Topic 21: Functional testing
- Topic 22: Structured testing
- Topic 23: Software maintenance
- Topic 24: Maintenance (intended, but not covered due to many holidays on Fridays)

Omitted topics (optional)



- Topic 9: Basic concepts of data oriented view
- Topic 10: Basic concepts of rule oriented view
- Topic 11: Structured analysis (during lecturing, Seminar organization example slides were presented)
- Topic 17: Structured design

Grading system



- Two midterm exams + four assignments
- Each midterm exam weighs 100 points
- Three assignments weigh 40 points each, the last weighs 80 points

- Midterm exam 1: Topic 1 - Topic 14b
- Midterm exam 2: Topic 15 - Topic 23

The project



- Real-life project (object-oriented) consisting of 37 use cases
- Technical documentation of system and user requirements (30 pages) of the project was offered to students
- Two parts were omitted:
 - use case diagrams
 - activity diagrams

Assignments

1. Selection of 10 use cases, and creation of their use case diagrams
2. Cost estimation of selected use cases
3. Activity diagrams for selected use cases
4. Selection of three functionalities, and their functional testing using CTM method + implementation of classification tree using CTE tool* and definition of minimum set of test cases**
 - <http://www.berner-mattner.com/en/berner-mattner-home/products/cte-xl/>
 - ** http://www.systematic-testing.com/functional_testing/cte_main.php?cte=1



Classification Tree Editor CTE XL

The screenshot displays the Berner & Mattner website. The main navigation bar includes links for Home, Sitemap, Imprint, Terms of use, General terms and conditions, Conditions of purchase, Webmaster, and Customer Login. The product page for CTE XL Professional is highlighted, featuring a search bar, a navigation menu, and a main content area with a banner image and descriptive text. The banner image shows a group of people working together, with text overlays: 'QUALITY', 'REDUCE COSTS', and 'INCREASE EFFICIENCY'. The main content area includes a search bar, a navigation menu, and a main content area with a banner image and descriptive text. The banner image shows a group of people working together, with text overlays: 'QUALITY', 'REDUCE COSTS', and 'INCREASE EFFICIENCY'. The main content area includes a search bar, a navigation menu, and a main content area with a banner image and descriptive text.

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Home > Berner & Mattner Home > Products > CTE

Classification Tree Editor CTE XL
Graphical Editor for Classification Trees

In the 1990s first the classification tree method and then, based on it, the classification tree editor were developed. The context-sensitive editor is a powerful tool for the systematic specification and implementation of test cases. CTE is not industry-specific and can be used in system as well as in software development.

The possible applications range from system requirements analysis to automated test case implementation. Test specifications are generated in higher quality and in shorter time. Outstanding features are the intuitive classification tree method, automated test case generation and open interfaces with numerous tools.

CTE XL Professional

The far more powerful version CTE XL Professional has been designed for demanding and complex usage. It has comprehensive features such as the prioritization of test cases, extended tool coupling with IBM Rational DOORS, HP QualityCenter and MESSINA as well as comprehensive support of requirements tracing. Berner & Mattner fully supports CTE XL Professional.

On our specific website for CTE XL Professional you will find full details on CTE XL Professional and be able to order it online in our webshop.

Specific Website CTE XL Professional

On our specific website for CTE XL Professional you will find full details on the Professional version such as **Application of CTE XL Professional, Features, Tutorials, Training, Tips and Tricks, FAQs**. Furthermore you will be able to purchase CTE XL Professional in our **webshop**.

► Website www.cte-xl-professional.com

1st Shortnewsletter Insight Light Systematic Testing - February 2013

Insight Content:

- Method with Great Impact
- Systematically Minimizing the Quantity of Test Cases
- Systematic Test Design at an Early Stage
- Efficient Test Methods for Structured Test Case Generation

Find in page: Highlight all Match Case



Conclusion



- We omitted structure programming topics, slightly changed the slides, and added one new topic
- We introduced a completely new case study given to students in a textual format
- Most students managed to successfully finish the course with midterm exams and with team projects, which were publicly defended
- We are happy with their results

Thank you for your attention



Questions ?

