NEW CASE STUDY FOR JCSE

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INTRODUCTION

- The tile of the New Case Study for JCSE is "Bookstore Organization"
- The New Case Study for JCSE was given in parallel with Seminar Organization only for student homework
- Very similar to the Seminar Organization, but much simpler and focused only for the needed homework
- It is based on Structural Analysis approach
- Authors of the specification of the New Case Study were students from another course (homework)

CONTENT

- Software Requirements Specification
- Homework assignments
- Student results

SOFTWARE REQUIREMENTS SPECIFICATION

- Application for Bookstore organization
- 1. Goal
  - The product should allow management of books in a bookstore (most popular topics, sales, …)
  - 1.1 Compulsory goals
    - Selling available books in the bookstore
    - Adding new book topics
  - 1.2 Optional goals
    - Statistical information regarding most popular books
  - 1.3 Exclusion goals
    - Enable online purchase and delivery of books

SOFTWARE REQUIREMENTS SPECIFICATION

- 2. Product usage
  - The product will be used as a desktop application on bookstore computers by bookstore clerks for selling books and making purchases
  - 2.1 Target groups
    - Bookstore employees
- 3. Product functions
  - (There are 15 product functions defied – obviously very high level)
  - Eg.:
    - /F10/ Adding new books
    - /F70/ Searching of a book based on keywords
    - /F140/ Selling selected book

SOFTWARE REQUIREMENTS SPECIFICATION

- 4. Product Data
  - /D10/ Book data
    - Title, Author, Genre, ISBN, …
  - /D20/ Books on stock
    - Quantity, Price, …
  - /D30/ Sold books
    - Date, Quantity, Price,…
- 5. Product efficiency
- 6. User Interface
- 7. Quality requirements
- 8. Technical product environment

HOMEWORK ASSIGNMENTS

- Students received only the SRS and were asked to perform the following homework assignments
  - Review the SRS
  - Define complete Functional Tree of the product
  - Define Structure Analysis DFD hierarchy based on the Functional Tree, also give a complementary Data Dictionary
  - Define Class Diagram for the product (Object Oriented Analysis)
  - Define Classification Tree for a selected function defined in the SRS

STUDENT RESULTS

- Homework 1 – Review of the SRS
- The students found in average 10 remarks (they were not given a maximum, nor a minimum)
- Maximal number of remarks was 20
- We have not classified the remarks yet to count the total amount
- Average score was:45 (out of 100)

- Conclusion:
  - Students should have put more effort in finding more remarks, but without giving a threshold they seem not to look deeply in the document, but merely obvious remarks
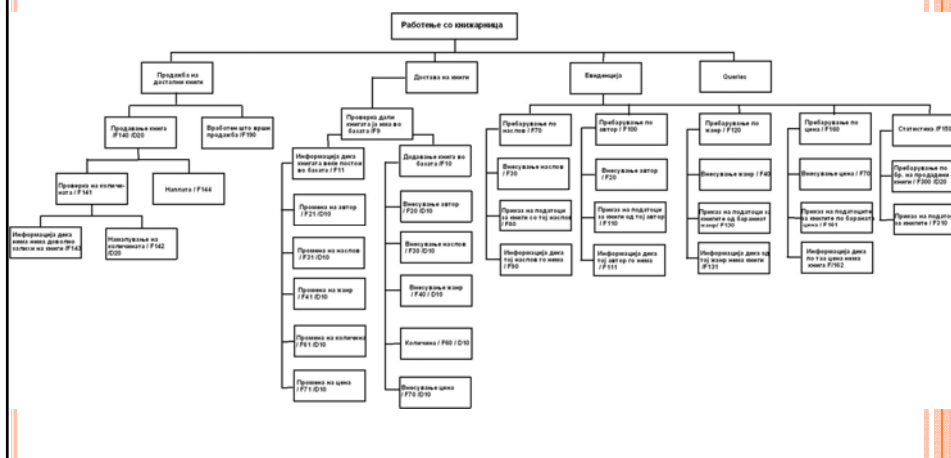
STUDENT RESULTS

- Homework 2 – Functional Tree
- No special remarks on the submitted trees, some were missing several functions
- Average score was: 71 (out of 100)

- Conclusion:
  - On average a good homework, some lacking more details, but also some students need to learn what is a TREE ☺

STUDENT RESULTS

- Submitted Functional Tree

STUDENT RESULTS

- Homework 3 – Data Flow Diagram and Data Dictionary
- In most of the student submissions the DFD was well organized, it followed the Functional Tree structure, syntactically correct
- Some students lacked the Data Dictionary, in some it was not consistent with the DFD
- Average score was: 77 (out of 100)

- Conclusion:
  - Generally clear concept, some students only submitted the DFD0 and did not have hierarchy

STUDENT RESULTS

- Submitted DFD
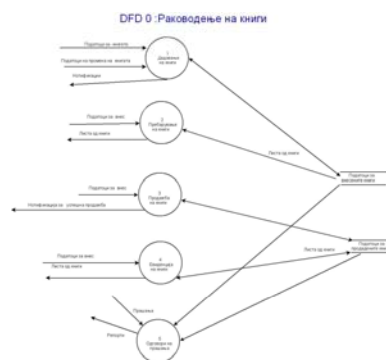
STUDENT RESULTS

- Homework 4 – Class Diagram
- The students gave good work on developing the class diagram
- A good portion was sanctioned due to plagiarism (obviously did not followed us well with the warnings and did not have enough knowledge from OO course)
- Average score was:70 (out of 100) not including 0 for plagiarism. Otherwise 40.

- Conclusion:
  - Good knowledge of OO design is needed from previous courses (OO way of thinking)

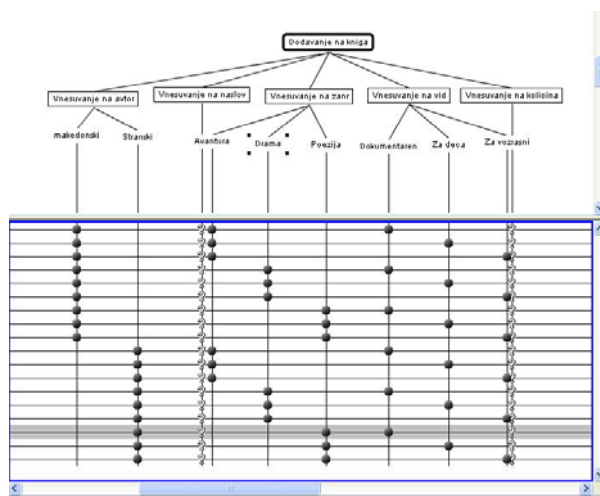## STUDENT RESULTS

- Submitted Class Diagram

STUDENT RESULTS

- Homework 5 – Classification Tree
- Students understand the concept, but find it difficult to locate proper classes of input
- Building test cases is easy for them afterwards
- Average score was: 75 (out of 100)

- Conclusion:
  - No specific comment

STUDENT RESULTS

- Submitted CT

FINAL STATISTICS

grade	number of students	percentage	cummulative
10	41	29,29%	0,00%
9	10	7,14%	29,29%
8	45	32,14%	36,43%
7	4	2,86%	68,57%
6	2	1,43%	71,43%
5	38	27,14%	72,86%
In total	140	100,00%	100,00%

CONCLUSION

- New case study has successfully been implemented in JCSE
- We are happy with the final results, although more than 25% of all students have to redo parts of the obligations
- Final grade isn't realistic because:
  - the grading scheme was presented too early
  - new, rather inexperienced assistants graded the assignments
- We intend to extend the case study for the next generation,
- and, of course, to share it with you all ☺

Thank you for your attention