

Department of Computer Science
COS 731
Software Engineering II
Project phase II

Vreda Pieterse Copyright © UP 2017 – All rights reserved.

1 Deadline

You will be required to demo your implementation (which should be complete by then) on **18 October** in class. The final deadline for submission of artefacts is **24 October**. There are a series of interim submissions on a weekly basis. The final submission should consist of complexity report, project plan, retrospective and a README.txt that points to your updated documentation and source code.

2 Instruction

Implement the additional functionalities of the system of your choice from the previous phase of the project. The description of the required new functionality is specified in a separate PDF for each of the options.

3 Deliverables

The artefacts of your projects are

- Updated Requirements and design documentation
- Updated Implementation code and working prototype
- Project plan time tracking as per assignment 1 should be applied in this assignment and submitted on a weekly basis.
- Document containing the calculated complexities of your system.
- Retrospective report.

4 Complexities

Calculate the following complexity metrics for the application you have implemented in phase I. Please refer to the lecture on complexities and the additional reading material on the course website. The complexities should be calculated and recorded **twice**. Firstly, they should be calculated before implementation of the new features, and then again after implementing the new features. The following complexities should be reported:

- Structural Complexity
- Data Complexity
- System Complexity
- Cohesion
- Coupling
- Cyclomatic Complexity

You need only calculate the complexities for the back-end spring boot application. Once you have completed the calculations, tabulate the results in the following format:

Metric	Phase 1	Phase 2	Comments
Structural Complexity			
...

5 Retrospective Report

Answer the questions below in report form after having completed the additional requirements as specified for the second phase and motivate your answers:

1. Explain the process that you followed to add the feature to the existing application.
2. Describe the difficulties you faced when implementing the new features after the first phase was completed.
3. Describe the aspects of the new features that you found easy to implement.
4. Briefly describe the software architecture of your implemented system - if it has changed over time describe how it evolved.
5. In what way was the architecture you have used in the first phase accommodating / hindering the implementation of the additional features? Give specific details.
6. Regardless of what architecture you have actually used, indicate what architecture you deem to be the most appropriate for the system you have implemented. Take the original specification of the system as well as the required changes into consideration in your answer. Give justification for your opinion.

6 Submission

Submit interim reports for phase 2 according the following schedule.

Deliverable	Due Date
Complexity Report 1 and Project Plan	13 September
Project Plan	20 September
Project Plan	27 September
Project Plan	5 October
Project Plan	12 October
Demo 2	18 October
Final Submission	24 October

For the final submission you also have to submit your requirements and design documentation as well as the implementation code along with a final complexity report and retrospective report. You have to upload the complexity report, your project plan, a retrospective report and a README.txt that points to your updated documentation and source code. The README file must contain the link addresses where all the artefacts can be found on the web or in the cloud. All documents should be stored in PDF format.