



In Course Assessment

Module Title: Design Patterns in Java	Module Leader: Bohus Ziskal
	Module Code: PRA3016-N
Assignment Title: Food delivery solution - self evaluation	Deadline Date: 23 rd January 2026
	Deadline Time: 23:55
	Submission Method: Online (Blackboard)

Submission Notes:

- Please follow carefully the instructions given on the Assignment Specification
- When an extension has been granted, a fully completed and agreed Extenuating Circumstances form must be submitted

**FULL DETAILS OF THE ASSIGNMENT ARE ATTACHED
INCLUDING MARKING & GRADING CRITERIA**



Module Assessment Specification:

Module Learning Outcomes:

This assessment specification evaluates the following learning outcomes:

Personal and Transferable Skills

PTS1 - Work efficiently in a team and engage actively in negotiation of goals and methods. (PTS4)

PTS2 - Analyse and critically evaluate sources of information to achieve a comprehensive survey of a given area. (PTS8)

PTS3 - Solve a software development related problem while selecting the appropriate methods, techniques, and tools. (PTS5)

Research, Knowledge and Cognitive Skills

RKC1 - Show proficiency in using a set of advanced programming techniques and skills. (RKC1)

RKC2 - Analyse and select appropriate design patterns and techniques. (RKC2)

Professional Skills

PS1 - Evaluate critically your performance as a team member in software development related projects. (PS1, PS2)

Module Aims:

This module aims to develop and improve abilities and skills in the following aspects:

1. Be able to utilise and judge the significance of design patterns and principles for effective programming in Java and in general in other OO languages.
2. Learn to exploit the power of concurrent programming techniques in Java.
3. Obtain robust knowledge of enterprise-related solutions with Java, including technologies such as Java Beans, JDBC or JAXB.
4. To work efficiently and with minimal supervision in small-teams during the development of a software application.



Module Assessment Requirements:

Task:

Component 2 (20%) is an individual assignment which will require students to provide a well-structured and informative survey of an area related to the use and deployment of Java in enterprise-like solutions. A part of the ICA2 will be a reflection on the team work in ICA1. It assesses learning outcomes PTS2 and PS1.

Rationale

Design patterns are essential in software development because they provide proven, reusable solutions to common design problems, improving code quality and maintainability. In Java, design patterns help developers write flexible, scalable, and easier-to-understand programs by promoting best practices such as loose coupling, encapsulation, and modularity. For example, the Observer pattern is widely used in Java's event-driven programming model, such as in GUI frameworks, to decouple event publishers from subscribers. By applying design patterns, Java developers can reduce development time, minimize errors, and build software that is easier to extend and maintain.

Situation/Scenario

In the first assignment, you were required to address needs of your client and to demonstrate your ability to apply design principles together with design patterns on a real project. The company (your client) lacks IT specialists and their representatives ask you to evaluate the project results from the perspective of their business needs and potential solution deployment.

You are expected to critically assess project results considering your client situation and requirements. To learn from mistakes, the way how your team worked together should be also discussed. The design principles applied need to be critically reflected and some improvements suggested based on current trends in SW development.

Tasks

Task 1 - Evaluate benefits and limitations of your solution, critically discuss:

- In which extent your client requirements, especially non-functional ones, were met
- the advantages and disadvantages of design patterns application
- if the solution code should be extended/modified/deployed by other developers, how complicated this could be and why



- what other modern techniques could be applied in order to improve the implementation and to make solution more easily expandable

Task 2 - Evaluate the project realisation process

- Explain roles and responsibilities within the team
- Specify and assess your contribution to tasks and ability to work in team
- Identify if/how the incorporation of design patterns changed the division of work among team members
- Explain the communication strategy you applied, how information was shared and how it followed agreed principles.
- Suggest improvements in the way, how the project was managed (if you can find any).

Assessment Criteria	Indicative Weighting
Solution evaluation: The student is able to critically discuss the proposed solution with respect to requirements, shows a good understanding of design patterns and is aware of their impact on the project development. The student can research and identify current trends in SW developments, evaluate their benefits of their application to the given scenario.	50
Evaluation of the project realisation process: The student is able to critically assess the team work, his role and contribution to the project. The student shows a good understanding of communication processes and role of team management in an object-oriented project.	50

The total is **100** points accounting for **20%** of the final module grade.

Deliverables and Submission Details
<p>All content should be delivered in the form of technical report in pdf format.</p> <p>In your report, identify all team members and their roles.</p> <p>Report expected length - 2000-3000 words.</p> <p>The report can be written using any text editor that enables text formatting.</p> <p>The report is submitted in pdf format through BB LE and it is checked by Turnitin.</p>

Module Submission: Online



Module Marking Criteria:

Level 6 Grading Criteria

90-100%	Exceptional work. Presentation is logical, error-free and, where appropriate, creative. There is an in-depth understanding of issues/problems and excellent critical/deep engagement with the material and concepts involved. Very skilful interpretation of data. Arguments, ideas and, where appropriate, solutions are presented coherently and fully underpinned by thorough research and reading.
80-89%	Outstanding work with presentation of a very high standard. There is comprehensive understanding of key concepts and knowledge and clear evidence of critical analysis and insight. Accurate interpretation of data with arguments, ideas and solutions presented effectively and based on strong research and reading.
70-79%	Extremely good work with presentation of a high standard. Demonstrates an excellent knowledge base with a clear understanding of the issues and application to practice where appropriate. There is some effective critical and analytical application of relevant research and reading.
60-69%	The work is very good, logically structured and presented to a high standard. Demonstrates a strong knowledge base with a clear understanding of the issues and application to practice where appropriate. There is some critical and analytical application of relevant research.
50-59%	The work is clearly presented and logically structured. It shows evidence of a sound understanding of the topic and addresses major issues. The work contains some discussion and interpretation of relevant perspectives although further development of the arguments presented would be beneficial. There are examples of critical reflection and evidence of application of theory to practice.
40-49%	Adequate presentation. The work displays basic knowledge and understanding of the topic but is largely descriptive. There is an attempt to bring together different ideas and concepts although this would have been strengthened by the inclusion of further key issues. The structure of the work requires attention to its coherence and logical development of content. The link between theory and practice, where appropriate, is somewhat tenuous and its development would enhance the work considerably.
30-39% - Fail	The work is poorly presented and contains numerous errors, inconsistencies and omissions with limited use of source material. The work displays a weak knowledge base and a lack of sufficient understanding of the topic. There is limited evidence of the application of theory to practice where appropriate. It contains many unsupported statements with limited attempts to bring issues together and lacks critical analysis and reflection.
20-29% - Fail	The work is very poorly presented and contains numerous serious errors, inconsistencies and omissions with little use of source material. The work displays a very weak knowledge base and a lack of sufficient understanding of the topic. There is very little evidence of the application of theory to practice where appropriate. It contains many unsupported statements with very little attempt to bring issues together and there is a complete lack of critical analysis and reflection. To obtain a mark of 20% the work must show evidence of a genuine attempt to engage with the assessment requirements and with the subject matter.
0-19% - Fail	The work is extremely poorly structured and presented. It demonstrates no real knowledge or understanding of key concepts and principles. Much material is irrelevant, incorrect, inconsistent or omitted. No evidence of critical analysis and reflection. No effective use of supporting material. No application of theory to practice where appropriate. Not a genuine attempt to engage with the assessment requirements and/or subject matter.