

National College of Ireland

Object Oriented Software Engineering
Project
Part C



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Ireland

Week 5

How can I relate what I have learned to my work on the team project?

On Week 5 of my Higher Diploma, our team initiated the project by identifying and describing actors within the "Newsagent" domain and constructing a use case diagram. The use case diagram, representing system functionalities, demonstrates the link between what we learned and project execution.

What difficulties have I encountered in applying my knowledge when contributing to the team project?

Despite the nature of the exercise, we had challenges during the construction of the use case diagram. Clarifying relationships and ensuring a comprehensive understanding between team members required open communication and patience. The complexities of the diagram demanded transparency and a complete common understanding of the domain, which proved challenging.

What would be the causes for those difficulties and how could I overcome them?

The difficulties arose from varying levels of familiarity with the diagram among team members. To overcome these challenges, setting an environment where doubts could be transparently addressed and shared was essential. Implementing targeted discussions, or sharing knowledge could help improve overall comprehension.

Are there issues in the way the team is working and how could they be addressed?

An issue identified is the varied levels of understanding of the diagram among team members. To address this, the team conducted sessions on diagram elements, encouraging open discussions and clarifications. Daily scrums or regular checks during collaborative tasks served to ensure a collective understanding and prevent potential misunderstandings.

Week 6

How can I relate what I have learned to my work on the team project?

In the second week, applying the concepts learned in our coursework helped detailing an alternate flow within the "accessing the app" use case. This exercise enforced the relevance of alternate and exceptional flows in UML diagrams, and how powerful they are in describing non-linear flows of a system.

What difficulties have I encountered in applying my knowledge when contributing to the team project?

While this week went down generally smooth, challenges surfaced in clarifying relationships and ensuring a shared understanding among team members during use case analysis. The particularities of alternate and exceptional flows required open communication and patience. Recognising that not everyone had the same level of familiarity with certain concepts.

What would be the causes for those difficulties and how could I overcome them?

The difficulties arose from varying levels of familiarity with certain UML concepts within the team. To overcome these challenges, enabling a transparent team environment where doubts can be openly addressed was necessary. Encouraging open discussions and offering additional explanations or resources helped bridge knowledge gaps and improve overall comprehension.

Are there issues in the way the team is working and how could they be addressed?

An issue observed is the differing levels of familiarity with certain concepts among team members. To address this, the team could implement knowledge-sharing sessions, sharing tutorials or explanations focused on the concepts. Additionally, periodic reviews could ensure a collective and accurate understanding of project tasks.

Week 7

How can I relate what I have learned to my work on the team project?

This week, my focus was on developing a contract for the “addToShoppingCart” operation. The knowledge gained in the course provided a structured approach to this task. Understanding the importance of clear preconditions and postconditions, as well as designing classes, was directly applicable from our learning modules.

What difficulties have I encountered in applying my knowledge when contributing to the team project?

While developing the contract, ensuring that each responsibility was precisely defined was definitely challenging. Translating conceptual knowledge into a detailed and comprehensive contract required attention. Potential misinterpretation necessitated a careful balance between clarity and conciseness.

What would be the causes for those difficulties and how could I overcome them?

The difficulties arose from the nature of the “addToShoppingCart” operation and the challenge of representing its responsibilities in a clear and concise manner. Overcoming this involved reviews and feedback from other team members.

Are there issues in the way the team is working and how could they be addressed?

An observed issue is the potential misinterpretation of the contract's details. To address this, the team could implement a practice of regular reviews and discussions during the contract development phase.

Week 8

How can I relate what I have learned to my work on the team project?

In Week 8, the focus on risk, quality, and communication management in our OOP project resonated with previous coursework. The understanding gained in risk assessment, quality frameworks, and effective communication strategies directly informed our project's approach.

What difficulties have I encountered in applying my knowledge when contributing to the team project?

While implementing risk management, foreseeing every potential challenge was a challenge in itself. The dynamic nature of project development required constant adaptability to emerging risks. Effective communication, though prioritised, was occasionally complicated when aligning diverse perspectives within the team.

What would be the causes for those difficulties and how could I overcome them?

The difficulties in risk management originated from the unpredictable nature of project development. Overcoming this involved maintaining a continuous adaptive mindset and regular reassessment. Quality challenges were due to the evolving complex nature of the project, emphasising the need for iterative reviews and feedback. Addressing communication problems required setting, and enforcing as much as possible, an environment where diverse perspectives are valued.

Are there issues in the way the team is working and how could they be addressed?

An observed issue was occasional unalignment of challenges in communication. To address this, the team implemented structured check-ins and feedback sessions to ensure a shared understanding of goals (during daily scrums). Encouraging open dialogue and emphasising the value of diverse perspectives would contribute to overcome communication problems. Regular retrospectives (also during the daily scrums) also served to identify and address any issues.

Week 9

How can I relate what I have learned to my work on the team project?

In Week 9, our focus was on describing our customised Agile/Scrum-inspired methodology, a concept deeply rooted in our course, fundamentals of a framework that we learned on week 7. The principles of Agile and Scrum learned during the course became the guiding framework for our team's approach. Recognising the adaptability of these methodologies allowed us to adapt it to the specific needs of our small team.

What difficulties have I encountered in applying my knowledge when contributing to the team project?

Applying Agile/Scrum principles to our unique team dynamics was challenging. The absence of traditional roles required a balance in task allocation and decision-making. Ensuring that the methodology remained agile while addressing the constraints of our team demanded ongoing adjustments.

What would be the causes for those difficulties and how could I overcome them?

The difficulties arose from reconciling the principles of Agile/Scrum with the reality of our team. To overcome this, maintaining open methods of communication and regular check-ins is essential, we done this during our “Daily Scrums”. These facilitated identifying areas that needed improvement and ensure continuous adaptation to emerging challenges.

Are there issues in the way the team is working and how could they be addressed?

An issue identified lies in the delicate balance required for task allocation and decision-making without traditional roles. To address this, the team could implement clearer guidelines for task ownership and decision authority, ensuring a collaborative yet structured approach. Regular check-ins during daily scrums and focused discussions during sprint planning sessions could contribute to improve the team's working dynamics.

Week 10

How can I relate what I have learned to my work on the team project?

During Week 10, our focus was using an object-oriented language, in our case Java, to fully develop classes for the "Access App" use case with the "authentication flow." This task closely aligned with the coursework since Java was the main programming language.

What difficulties have I encountered in applying my knowledge when contributing to the team project?

The only problem that arose this week was implementing the classes without real data or a database to store the data.

However, as confirmed with the lecturer, the classes did not have to work, they only needed correct syntax.

What would be the causes for those difficulties and how could I overcome them?

The causes were the lack of real data or a database system, or means to demonstrate and share them in this project.

To overcome this difficulties, we consciously decided to not use a DBMS, after our lecturer adverted us that the code did not have to run.

On a real-world scenario, we would implement a database.

Are there issues in the way the team is working and how could they be addressed?

There were no issues with the way the team worked this week.

Week 11

How can I relate what I have learned to my work on the team project?

In Week 11, our focus was to test the classes developed in the previous week. The Test-Driven Development (TDD) methodology was employed during the development of the classes. The knowledge gained in the course on testing methodologies and tools proved during last week (week 10) proved invaluable in ensuring the correctness of our code.

What difficulties have I encountered in applying my knowledge when contributing to the team project?

Applying TDD was challenging. Ensuring that tests were written before code implementation required tight synchronisation between team members. It emphasised the need for clear communication and a shared understanding of the testing strategy.

What would be the causes for those difficulties and how could I overcome them?

The difficulties arose from the problems of simultaneous development and testing by different team members. Improving coordination through regular check-ins, clear task assignments, and collaborative planning sessions would mitigate these challenges. Establishing a shared understanding of the testing framework and ensuring that all team members are familiar with the chosen tools and methodologies would contribute to a better collaboration.

Are there issues in the way the team is working and how could they be addressed?

The use of TDD and JUnit for testing showcased the importance of a well-defined and collaborative testing strategy. Addressing issues involves refining the coordination process, emphasising the value of TDD, and setting a culture of mutual understanding regarding testing practices within the team. Regular knowledge-sharing sessions on testing methodologies could contribute to a more cohesive approach.

Week 12

How can I relate what I have learned to my work on the team project?

Week 12 involved the documentation of artifacts related to the Agile methodology followed in our project. This task allowed us to translate theoretical knowledge into practical application. The concepts learned in the course helped in effectively managing our project.

What difficulties have I encountered in applying my knowledge when contributing to the team project?

Documenting user stories and maintaining backlogs required attention to detail. Ensuring that user stories were clear, comprehensive, and aligned with the project's goals presented a challenge. It underscored the importance of precise communication and understanding the end-users' perspective.

What would be the causes for those difficulties and how could I overcome them?

The difficulties arose from the need for a thorough understanding of user requirements and the particularities of Agile documentation. Regular communication and continuous improvement of user stories would improve clarity. Providing detailed acceptance criteria would contribute to overcoming these challenges.

Are there issues in the way the team is working and how could they be addressed?

Issues related to documentation precision and alignment with user expectations could be addressed through regular reviews and feedback sessions. Implementing a collective review process for user stories and backlog items, involving the entire team, would contribute to more robust and accurate artifacts. Additionally, organising periodic training sessions on Agile methodologies could improve the team's proficiency in utilizing these tools effectively.