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**BSc in Science in Computing & Multimedia**

**Year 2, Semester 2, 2024**

**DevOps**

**Continuous Assessment**

**Module Title:** DevOps

**Module Code:** BSC2

**Assessment Type**: Individual Project

**Weighting:** 60% (Part 1: 30% + Part 2: 30%)

**Maximal Possible Mark:** 100 marks

**Submission Date:** See Moodle

**Requirements:**

* Apply the principles of DevOps to a software development project.
* Appraise DevOps principles and practices including integration, delivery, and testing.
* Evaluate the DevOps relationship to Agile, Lean and ITSM.
* Apply DevOps skills and knowledge to solve a relevant computing challenge.

# For this module, your practical project will consist of two parts.

# In the first class, the students were introduced to the setup of a typical software/IT solution organization. The students then need to research what are the responsibilities of the following four functional departments in such organization/company:

* Business Analysis
* Development
* Quality Assurance (QA)
* IT Operations

For example, a good resource for researching this is the recruitment websites. Later, the students discuss their findings with the lecturer and finalize the responsibilities for each department.

# Based on the understanding of the responsibilities of the different departments, the students are assigned to one of the four department as a team member of that functional department. A team leader is elected for teach team, and she/he is in charge of collaborating the team members and report to the lecturer. From then on, a temporary company is formed. The lecturer is acting as the DevOps advisor and director of the company.

# In the second class, the software project is selected by the students and the lecturer. Once the project is kicked off, in the subsequent classes, the class is collaborating as a real-life company to deliver this project, and in the process, gradually implement DevOps practice into the daily work to transform the way development, operations and testers collaborate during the development and delivery processes.

# **PART 1: Work diary 30% (10 entries required, Approximate 150-200 words for EACH entry)**

***You are required to submit 10 pieces of work diaries, one from each of the class that you have attended. If you have more than 10 diaries, please select the best 10. You can NOT submit a diary entry on the day unless you have attended the class and contributed to the team. If you have not attended enough classes, you can submit an optional self-evaluation form as one of your diary entry.***

***Each diary is 3 marks out of the 60 (5% of the project), the 10 diaries is 30 marks out of the 60 (50%) (approximately 200 words for each entry).***

Name:

Role:

Date:

|  |  |
| --- | --- |
| Topic | Details |
| What is my team working on today? |  |
| What have I contributed to the team today? |  |
| What are the challenges (technical and non-technical) that my team is facing? |  |
| What challenge we have conquered, and how? |  |

[3 marks x 10]

***Sample Diary:***

Name: Joe Doe

Role: QA

Date: 27/02/2022

|  |  |
| --- | --- |
| Topic | Details |
| What is my team working on today? | *Today my team is working to learn the product features, and bases on the product features to create the test cases we need. We met the BA team and discussed the requirements specification, and we also decide to create a central test case repository so that all our team member can access.* |
| What have I contributed to the team today? | *I am working on creating the test case template, in this template we list the important* |
| What are the challenges (technical and non-technical) that my team is facing? | *We are waiting for the BA team to provide clear requirements document so that we can create accurate test cases. Right now, the requirement document is not very clear, and we need to spend more time to go back to BA team to confirm. We also need a better communication and collaborate platform for our team.* |
| What challenge we have conquered, and how? | *We discussed among our team, and my team has some good experience using Slack. It is allowing us to work in the same workspace, communicate without the use of email and it integrated with Dropbox and Google Drive. It has improved our team efficiency.* |

***Optional Performance Self-evaluation form:***

Role:

|  |  |
| --- | --- |
| Topic | Details |
| List the top three highest priorities of your position as you understand them. |  |
| List what you consider to be your greatest strengths or accomplishments in this class. |  |
| Identify factors that impacted your role – either positive or having challenges. |  |
| What were you most important effort in this class at collaboration with other people? |  |

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# PART 2: DevOps Design and Implementation Essay 30% (1200 — 1500 words)

Write an essay to discuss the application of best DevOps practices in our classroom case study above. Your essay should include:

1. Describe five problems and the impacts it causes in the company.

**[Mark 5%]**

1. For each problem described above, select a DevOps practice that can be used to address this problem, and discuss the reason why you have chosen the practice, what is the theory behind of using it.

**[Mark 10%]**

1. If a DevOps practice has been implemented in the class, discuss the implementation and the impact. If a practice has not been implemented in the class case study, describe how it should be implemented and the expected impact.

**[Mark 10%]**

1. Conclusion: discuss what you have learned from the DevOps module.

**[Mark 5%]**