MONASH University
Information Technology

GROUP ASSIGNMENT COVER SHEET

Student ID Number	Surname	Given Names
29486084	Chen	Sifan
26264838	Chen	Heming
30879582	Li	Bangyu
30202833	Li	Shengdao

***** Please include the names of all other group members.

Unit name and code	FIT5136 Software engineering	
Title of assignment	Software Design	
Lecturer/tutor	Ayesha Sadiq	
Tutorial day and time	Wednesday, 14:00-16:00	**Campus: Caulfiled**
Is this an authorised group assignment?	√ ☐ **Yes** ☐ **No**	
Has any part of this assignment been previously submitted as part of another unit/course?	☐ **Yes** √ ☐ **No**	
Due Date 2020.05.31		**Date submitted 2020.05.31**

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Extension granted until (date) ..... Signature of lecturer/tutor .....

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Signature .Sifan, Heming, Bangyu, Shengdao..... Date……

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Signature _Sifan Chen_____Date:__2020.05.31_____ Signature __Heming Chen___ _____Date:_2020.05.31__

Signature __Bnagyu Li_____Date:__2020.05.31_____ __ Signature ___Shengdao Li_____Date:_2020.05.31__
Signature _____Date:_____ Signature _____Date:_____

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Case Study # 2

Alex, Barry and Charlie were employed by Monash Pty Ltd as software engineers. The company had recently been given the contract to work on the Mission to Mars project. The company CEO decided to assign Alex, Barry and Charlie to work on the project. During requirements elicitation through client interview, the team found out that in order for Mission to Mars to be compatible with the client company's operating system, Mission to Mars must be implemented in Java, and not in any other programming languages. Alex and Barry had no problem with Java, but Charlie had never programmed in Java ever, even though he had experience in other object-oriented languages. Realising their team mate's lack of Java programming experience, Alex and Barry mentioned that they were quite happy to teach Charlie the Java syntax, and said to Charlie that as long as he understood the concepts of OOP, he should be able to learn a new object-oriented language syntax quite easily. However, Charlie insisted that he did not want to learn Java, stating that he can still work on the project without programming. He further stated that he will focus only on creating the UML diagrams and let Alex and Barry be the programmers for Mission to Mars.

Analysis of the case study 2

Ethical and Professional instances identified:

1. Instance 1: Alex and Barry had no problem with Java when the client insisted on implementing tasks only in Java.

2. Instance 2: Charlie had never programmed in Java ever, lack of Java programming experience.

3. Instance 3: Alex and Barry were happy to help Charlie learn a new programming language.

4. Instance 4: Even though the project required only Java, Charlie still insisted that he did not want to learn Java.

5. Instance 5: Instead of assuming programming responsibilities, Charlie further stated that he would focus solely on creating UML diagrams and having Alex and Barry as programmers on the Mars mission.

6. Instance 6: The company CEO decided to assign Alex, Barry and Charlie to work on the project, then the team found out that Mission to Mars must be implemented in Java.

Person A [Charlie]

Bad actions:

1. (Clauses 3.04 Ensure that they are qualified for any project on which they work or propose to work by an appropriate combination of education and training, and experience.)

Charlie violates the rule of ethics 3.04. As Charlie did not learn Java before, he can not ensure that his work can meet the mission to Mars project qualification standard.

2. (Clauses 7.05 Give a fair hearing to the opinions, concerns, or complaints of a colleague.)

Alex and Barry want to help Charlie in Java coding, in order to run the project coding fluently, however Charlie rejects his colleagues advice. Charlie does not listen to his colleagues fair opinions and this may increase his colleagues code working, which means Charlie violates the rule 7.05.

3. (Clauses 8.04 Improve their understanding of the software and related documents on which they work and of the environment in which they will be used)

Charlie violates the rule 8.04, because he ignores to learn Java language, which will be used widely in his project environment. He may not have enough preparation and understanding of his own job, which makes him break the ethical rule and may cause the project failure.

4. (Clauses 3.06 Work to follow professional standards, when available, that are most appropriate for the task at hand, departing from these only when ethically or technically justified.)

Charlie says he only focuses on UML graphing, which is not fair to Alex and Barry. Charlie should use the resources from Alex and Barry to make himself reach the professional standard of the project, rather than not doing Java coding. Charlie violates the rule 3.06.

Person B [Alex & Barry]

Good actions:

1. (Clauses 7.05 Give a fair hearing to the opinions, concerns, or complaints of a colleague)

Alex and Barry know that Charlie has no background of Java language, they want to give a hand to Charlie with his Java learning, in order to finish the code part with high quality. This action shows Alex and Barry give the support to their colleague, which satisfies the rule 7.05.

2. (Clauses 3.04 Ensure that they are qualified for any project on which they work or propose to work by an appropriate combination of education and training, and experience.)

(Clauses 3.06 Work to follow professional standards, when available, that are most appropriate for the task at hand, departing from these only when ethically or technically justified.)

Alex and Barry have enough abilities and experience in Java programming, and their language programming skill satisfies the Mission to Mars implementation requirements. Then Alex and Barry satisfy the ethical rule 3.04 and 3.06, as their abilities and experience can support them to reach the project professional standard

Person C [Monash Pty Ltd Company CEO]

Bad actions:

1. (Clauses 5.04 Assign work only after taking into account appropriate contributions of education and experience tempered with a desire to further that education and experience.)

A CEO should know the employee’s skill and abilities before assigning any further working. The Monash CEO assigned a project only using Java language to an employee without any Java programming background, which means the CEO is lacking concern on this project. This action will easily cause conflict among colleagues and it can easily lead to a project failure. Therefore, the Monash CEO violates the rule 5.04.

Case Study # 5

Alex, Barry and Charlie were recently new software engineers employed by the CEO of Monash Pty Ltd. Alex was trained formally as system analyst while Barry and Charlie trained formally as computer programmers. None of them were trained formally as software engineers. The CEO realised their unique backgrounds and decided to ask them to form a team to complement each other in software engineering projects. Their first project assigned to them was one of the modules of the Mission to Mars project. Barry and Charlie knew a bit about software engineering, and therefore knew that the first task of any software project is requirements elicitation and analysis. They suggested that since Alex was trained as system analysts, Alex should be involved in the first stage, while Barry and Charlie can work on another project. After the Mission to Mars' modules' requirements were analysed and modelled, Barry and Charlie promised that they would return to program the system during the implementation stage. Alex was happy to oblige because he planned to take some annual leave when Barry and Charlie were implementing the system. The team informed their CEO who promptly endorsed their plan.

Analysis of the case study 5

Ethical and Professional instances identified:

1. Instance 1: Alex was trained formally as system analyst while Barry and Charlie trained formally as computer programmers.

2. Instance 2: Both Alex, Barry and Charlie weren't trained formally as software engineers.

3. Instance 3: The CEO realised the unique backgrounds of Alex, Barry and Charlie, and decided to ask them to form a team to complement each other in software engineering projects.

4. Instance 4: Barry and Charlie knew a bit about software engineering.

5. Instance 5: Barry and Charlie suggested that since Alex was trained as a systems analyst, Alex should be involved in the first phase, while they could work on another project.

6. Instance 6: Barry and Charlie promised that they would return to program the system during the implementation stage

7. Instance 7: Alex was happy to do the first phase on his own, because he planned to take his annual leave while Barry and Charlie implemented the system.

8. Instance 8: The team informed their CEO and their CEO promptly endorsed their plan.

Person A [Alex]

Good actions:

1. (Clauses 7.05 - Give a fair hearing to the opinions, concerns, or complaints of a colleague)

Alex heard about Barry and Charlie's advice that he should be involved in the first stage since he was trained as system analysts while Barry & Charlie were trained as programmers. And Alex was happy to oblige, which satisfies the rule 7.05.

Bad actions:

1. (Clauses 3.04 - Ensure that they are qualified for any project on which they work or propose to work by an appropriate combination of education and training, and experience)

Alex planned to take some annual leave when Barry and Charlie were implementing the system. His annual leave is a kind of escaping responsibility. In this scenario, he gave no contribution to the programming stage, which did not ensure himself to be qualified for this project. so it violates the rule 3.04.

2. (Clauses 8.01 - Further their knowledge of developments in the analysis, specification, design, development, maintenance and testing of software and related documents, together with the management of the development process)

Alex planned to take some annual leave when Barry and Charlie were implementing the system. He did not want to train himself and do more practices when they were implementing the system. Thus, it does not obey the rule 8.01.

Person B [Barry and Charlie]

Bad actions:

1. (Clauses 3.04 - Ensure that they are qualified for any project on which they work or propose to work by an appropriate combination of education and training, and experience)

Barry and Charlie want to work on another project before the Mission to Mars' modules' requirements were analysed and modelled by Alex. They choose to work on another project and leave Alex himself alone. In this scenario, they gave no contribution to the work on the requirements analysis and modelling stage, which did not ensure themselves to be qualified for this project. so it violates the rule 3.04.

2. (Clauses 7.02 - Assist colleagues in professional development)

Barry and Charlie want to work on another project before the Mission to Mars' modules' requirements were analysed and modelled by Alex. They did not want to assist Alex to finish requirements analysis and system modelling. Thus, it does not obey the rule 7.02.

Person C [CEO]

Bad actions:

1. (Clauses 5.04 - Assign work only after taking into account appropriate contributions of education and experience tempered with a desire to further that education and experience)

The CEO still asked them to form a team even though he knew that none of them were trained formally as software engineers. As a senior manager, a CEO should know the employee's skill and abilities before assigning any further working. the CEO ignores that none of them were trained formally as software engineers but still asks them to form a team. Eventually, no professionals are in this team. Their education and experience is inadequate for the job. , the CEO violates the rule 5.04.

2. (Clauses 5.01 - Ensure good management for any project on which they work, including effective procedures for promotion of quality and reduction of risk.)

The CEO promptly endorsed their plan. Based on the analysis above, their plan is a bad plan and they do not form an effective teamwork. Nevertheless, the CEO approved the plan without any quality and risk management approach, which violates the rule 5.01.