## COMP1549 - Advanced Programming

| Student name, ID or Group ID: 11 | Marker:Muqaddas Naz |
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| **Implementation (70%)** | |

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|---|---|
| Group Formation, Connection, and Communication (10%) | Overall an excellent implementation of the group formation functionality, including group formation, connection, and public and private communication without any error. |
| | 8 |
| Group State Maintenance (10%) | Overall an excellent implementation of group state maintenance including recording the public and private messages among group memebers with timestamp. |
| | 7 |
| Coordinator selection (10%) | Excellent implementation of coordinator selection functionality, including the automatic and dynamic selection of coordinator without disrupting other memebrs to communicate including the new coordinator. |
| | 7 |
| Use of Design Patterns (10%) | Excellent and thorough understanding of the subject and underlying concepts and principles of design patterns. Excelelnt solutions demonstate the ability of the student to implement three different but relevant design patterns. |
| | 8 |
| Fault Tolerance (10%) | Basic knowledge and understanding of the underlying concepts and principles of fault tolerance requirements. Solutions demonstrate limited knowledge and /or understanding of fault tolerance requirements. |
| | 4 |

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| Junit Tesing (10%) | Excellent and thorough understanding of the subject and underlying concepts and principles of unit tests. Excelelnt solutions demonstate the ability of the student to implement three different but relevant unit tests for design patterns and fault tolerance each. | |
| | 8 | |
| AzureDevOps (10%) | Excellent use of AzureDevOps with many regular submissions, providing an excellent record of the evolution of the coursework application. | |
| | 8 | |
| **Implementation Total** | 50 | |
| **Video** | Did the group have a video demonstration submitted? | ☑ Checked if Yes |
| | | |
| **Report (30%)** | | |
| Introduction (4%) | Good introduction of the report covering organisation of the report | |
| | 2 | |
| Design and Implementation (10%) | Very good explanation of technical details of the implementation based on logical structure with justification of most of the implementation choices | |
| | 8 | |
| Analysis and Critical Discussion (8%) | Extensive evidence of analysis. Excellent critical discussion and limitations of the implementation choices. | |
| | 6 | |
| Conclusion (4%) | Very good conclusion of the report covering what has been achieved in terms of analysis and discussion in a professional way. | |
| | 3 | |
| Presentation (4%) | Excellent presentation, logically structured, well presented: minimal significant grammatical or spelling errors if any. Written in a logical style. Fairly consistent referencing and bibliographic formatting. | |
| | 3 | |
| **Other comments (if any)** | | |
| | | |

| Mark awarded by tutor (100%) | 72.0 |
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| Implementation | 0 | 1-3 | 4 |
|---|---|---|---|
| Group Formation, Comm | This feature has not been implemented. | Very weak implementation of the group formation functionality. This feature has not been implemented to a satisfactory standard. | Overall a weak implementation of the group formation functionality, but there are some weaknesses. Remember that all of the group members should be able to communicate without any error. |
| Group State Maintenanc | This feature has not been implemented. | Very weak implementation of group state maintenace. This feature has not been implemented to a satisfactory standard. | Overall a weak implementation of group state maintenace, but there are some weaknesses. Remember that it should be possible to record the public messages among grpup members. |
| Coordinator selection | This feature has not been implemented. | Very weak implementation of the coordinator selection functionality. This feature has not been implemented to a satisfactory standard. | Overall a weak implementation of coordinator selection functionality, but there are some weaknesses. Remember that coordinator selection should be automatic and dynamic. |

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| Use of design patterns | This feature has not been implemented. | Little evidence of Knowledge of underlying concepts and principles of design patterns. Solutions demonstrate insufficient knowledge and/ or understanding of design patterns. | Basic knowledge and understanding of the underlying concepts and principles of design patterns. Solutions demonstrate limited knowledge and /or understanding of design patterns. |
| fault tolerance | This feature has not been implemented. | Little evidence of Knowledge of underlying concepts and principles of fault tolerance requirements. Solutions demonstrate insufficient knowledge and/ or understanding of fault tolerance requirements. | Basic knowledge and understanding of the underlying concepts and principles of fault tolerance requirements. Solutions demonstrate limited knowledge and /or understanding of fault tolerance requirements. |
| Junit testing | This feature has not been implemented. | Little evidence of Knowledge of underlying concepts and principles of unit tests. Solutions demonstrate insufficient knowledge and/ or understanding of unit tests. | Basic knowledge and understanding of the underlying concepts and principles of unit tests. Solutions demonstrate limited knowledge and /or understanding of unit tests. |
| Azure DevOps | AzureDevOps has not been used. | Very weak attempt to use AzureDevOps, which does not meet the requirement to the standard expected. | Overall a weak attempt to use AzureDevOps, but there were a very limited number of submissions. |

## Group Report

| | 0 | 1-3 | 4-5 |
|---|---|---|---|
| Design and Implementat | Little or no explanation of technical details of the implementation | Inadequate explanation of technical details of the implementation | Good explanation of technical details of the implementation |
| Discussion and Critical Ar | Little to no evidence of analysis. No critical discussion or limitations of the implementation. | Little evidence of analysis. Hardly any critical discussion or limitations of the topic. | Evidence of some analysis. Demonstrated basic technical awareness in critical discussion or limitations of the implementation choices. |

| | 0 | 1-2 | 3-4 |
|---|---|---|---|
| Conclusion | Poor or missing conclusion of the report. | Good conclusion of the report showing what has been achieved in terms of analysis and discussion. | Very good conclusion of the report covering what has been achieved in terms of analysis and discussion in a professional way. |
| Presentation | Poor presentation and structure. Unsatisfactory presentation: significant grammatical or spelling errors. Writing style lacking any coherence. Missing references. | Orderly presentation and structure. Adequately presented: some grammatical and spelling errors. Writing style sometimes awkward. Inconsistent referencing and bibliographic formatting. | Excellent presentation, logically structured, well presented: minimal significant grammatical or spelling errors if any. Written in a logical style. Fairly consistent referencing and bibliographic formatting. |
| Introduction | Poor or missing introduction of the report. | Good introduction of the report covering organisation of the report | Very good introduction of the report covering organisation of the report, and what has been designed and implemented in a professional way. |

| 5 | 6 | 7-8 |
|---|---|---|
| Overall a good implementation of the group formation functionality. Remember that for higher grades all of the following have to be included: group members connection and formation without any error. | Overall a very good implementation of the group formation functionality. Remember that for very high grades all of the following have to be included: group members connection and formation, and public communication without any error.. | Overall an excellent implementation of the group formation functionality, including group formation, connection, and public and private communication without any error. |
| Overall a good implementation of group state maintenance. Remember that for higher grades all of the following have to be included: record all the public and private messages among group members. | Overall a very good implementation of group state maintenance. Remember that for very high grades all of the following have to be included and implemented to a high standard: record all the public and private messages among group members with timestamp. | Overall an excellent implementation of group state maintenance including recording the public and private messages among group memebers with timestamp. |
| Overall a good implementation of coordinator selection functionality. Remember that for higher grades all of the following have to be included: dynamic and automatic selection of coordinator without disrupting other members to communicate. | Overall a very good implementation of coordinator selection functionality. Remember that for very high grades all of the following have to be included and implemented to a high standard: dynamic and automatic selection of the coordinator without disrupting the communication among other members, and the new coordinator continues communication the same way. | Excellent implementation of coordinator selection functionality, including the automatic and dynamic selection of coordinator without disrupting other memebrs to communicate including the new coordinator. |

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| A sound understanding of the subject and underlying concepts and principle of design patterns. Good solutions demonstrate the ability of the student to implement a relevant and adequate design pattern. | A clear understanding of the subject and underlying concepts and principles of design patterns. Very good solutions demonstrate the ability of the student to implement two different but relevant design patterns. | Excellent and thorough understanding of the subject and underlying concepts and principles of design patterns. Excelelnt solutions demonstate the ability of the student to implement three different but relevant design patterns. |
| A sound understanding of the subject and underlying concepts and principle of fault tolerance. Good solutions demonstrate the ability of the student to implement only one of the two fault tolerance requirements, i.e., when a moderator leaves the chat and when another memeber leaves the chat. | A clear understanding of the subject and underlying concepts and principles of fault tolerance. Very good solutions demonstrate the ability of the student to partially implement one the fault tolerance requirements and fully implement the other requirement. | Excellent and thorough understanding of the subject and underlying concepts and principles of fault tolerance. Excelelnt solutions demonstate the ability of the student to implement both of the given fault tolerance requirements. |
| A sound understanding of the subject and underlying concepts and principle of unit tests. Good solutions demonstrate the ability of the student to implement at least one relevant and adequate unit test for design patterns and fault tolerance each. | A clear understanding of the subject and underlying concepts and principles of unit tests. Very good solutions demonstrate the ability of the student to implement two different but relevant unit tests for design patterns and fault tolerance each. | Excellent and thorough understanding of the subject and underlying concepts and principles of unit tests. Excelelnt solutions demonstate the ability of the student to implement three different but relevant unit tests for design patterns and fault tolerance each. |
| Overall good use of AzureDevOps, but there it would have been good to see more regular submissions. | Overall very good use of AzureDevOps with regular submissions. | Excellent use of AzureDevOps with many regular submissions, providing an excellent record of the evolution of the coursework application. |

| 6 | 7-8 | 9-10 |
|---|---|---|
| Good explanation of technical details of the implementation based on logical structure with justification of some implementation choices | Very good explanation of technical details of the implementation based on logical structure with justification of most of the implementation choices | Outstanding explanation of technical details of the implementation based on logical structure with justification of all of the implementation choices Extensive evidence of analysis. Excellent critical discussion and limitations of the implementation choices. Demonstrated innovation in design and implementation choices. |
| Good evidence of analysis. Satisfactory critical discussion and limitations of the implementation choices. | Extensive evidence of analysis. Excellent critical discussion and limitations of the implementation choices. | |

**9-10**

Exemplary implementation of the group formation functionality, including group formation, connection, and public and private communication without any error and in a very professional way.

Exemplary implementation of group state maintenance including the including recording the public and private messages among group memebers with timestamp in a very high quality code.

Exemplary implementation of coordinator selection functionality, including the automatic and dynamic selection of coordinator without disrupting other memebrs to communicate including the new coordinator. Very professional implementation of the coordinator selection.

Demonstrates exceptional knowledge and critical understanding of the underlying concepts and principles of design patterns. Complete, optimised, and effective solution which is consistent throughout. The solutions demonstrate implementation of at least three different, relevant but complex design pattern.

Demonstrates exceptional knowledge and critical understanding of the underlying concepts and principles of fault tolerance. Complete, optimised, and effective solution which is consistent throughout. The solutions demonstrate implementation of the fault tolerance requirements beyond the given two requirements.

Demonstrates exceptional knowledge and critical understanding of the underlying concepts and principles of unit tests. Complete, optimised, and effective solution which is consistent throughout. The solutions demonstrate implementation of at least three different, relevant but complex unit tests for design patterns and fault tolerance each.

Exemplary use of AzureDevOps with many regular submissions, providing a very detailed record of the evolution of coursework application.