

ASSIGNMENT COVER PAGE

Programme		Course Code and Title	
UCSEW - BACHELOR OF COMPUTER SCIENCE (HONS) / UCNT - BACHELOR OF COMPUTER SCIENCE (HONS) IN COMPUTER AND NETWORK TECHNOLOGY		CAT3053/N Distributed Computing	
Student's name / student's id		Lecturer's name	
		Dr. Wong Khang Siang	
Date issued	Submission Deadline	Indicative Weighting	
Week 3 – 13/02/2023	Week 7 – 17/03/2023	30%	
Assignment [1] title		Programming & Report Writing	

This assessment assesses the following course learning outcomes

# as in Course Guide	UOWM KDU Penang University College Learning Outcome
CLO1	Explain the concepts of foundations of distributed computing, distributed algorithms, middleware, infrastructure, and shared data. (C2, PLO1)

# as in Course Guide	University of Lincoln Learning Outcome
	N/A

Student's declaration

I certify that the work submitted for this assignment is my own and research sources are fully acknowledged.

Student's signature:

Submission Date:

Dates and Mechanisms for Assessment Submission and Feedback

Mechanism for handout to students	MS Teams
Mechanism for submission of work by student	<i>Softcopy online submission via MS Teams</i>
Date by which work, feedback and marks will be returned to students	31/03/2023
Mechanism for return of assignment work, feedback and marks to students	Feedback will be provided by a marking template. This will be available to students via MS Teams. The discussions at the walkthroughs will also provide informal feedback

COURSEWORK SUBMISSION GENERAL INFORMATION

Academic Integrity Statement

You must adhere to the university college regulations on academic conduct. Formal inquiry proceedings will be instigated if there is any suspicion of plagiarism or any other form of misconduct in your work. Students must **NOT** collude with other groups of students or plagiarize their work.

Nature of the submission required

A soft copy of your assignment in **PDF version** should be submitted to lecturer, no later than the date and time stipulated on the cover sheet. In addition, an electronic copy of your work must be submitted to Turnitin. The first page of your report, immediately after the cover page, must be a page from Turnitin clearly showing your name and your Originality Score (Please refer to [submission arrangement](#)). Re-submission must be committed, if the submitted report exceeded 20% of Turnitin originality, otherwise 10 marks will be deducted for plagiarism.

Diagrams may be used where they are helpful to support your arguments or description. If they are not your own work, the source must be referenced. Please help us to handle and mark your work efficiently.

Documentation guidelines

Student is required to submit a **SOFTCOPY** of the report and ensure that it uses the following formatted styles: 1) Font type: **ARIAL**, 2) Font size: **11 pt.**, 3) Line spacing: **Single spacing** and 4) Page layouts: **Justify**. Please make sure you have proper format alignment for all paragraphs, following standard writing style, and use **HARVARD CITATION STYLE** for citation. Please include a **HEADER** with the following information: **Student ID, Student name, Course code and Assignment type**. Please also include a proper cover page for your submission which contains information about the students, assignment, course, and department with UOWM KDU Penang University College and University of Lincoln (UoL) logos on top. Also include page number at the footer page and list of references, which is shown in the last page.

Penalties for Late Submission

For late submission of this Assignment, a penalty of a reduction by 10% of the maximum mark may be applicable for each Calendar Day or part thereof that the submission is late. An Assignment submitted more than **TEN** Calendar Days after the deadline will have a mark of zero recorded for this Assignment.

Submission arrangement

1. Cover page
2. Turnitin similarity report
3. Table of content
4. Main report
5. Reference list or bibliography list (whichever applicable)
6. Marking rubric (in landscape orientation)

File naming convention

Please make sure you save your filename with the following format:

- <Student Name>_coursecode_A1_Jan23.pdf

Assignment instructions/Background

General Instructions: Based on the following task, Students are required to review at least **FIVE academic articles** such as journal articles, conference proceedings, academic books, or blueprint reports to support the answers and **minimize** the use of online resources such as online magazines, newspaper, or personal blog to support the answers for assignment task. **The usage of Wikipedia and Technopedia as references is strictly prohibited.** You may use diagrams and tables to support and justify your answers. This individual assignment report must have a minimum of 800 words but less than 1200 words for the overall report.

Description

This assignment is an **individual assignment**.

Task

Part 1 – Program and demonstrate distributed system

The student is required to build a distributed chat system using client-server computing and any type of communication such as socket programming, RMI, .NET, CORBA, or Web Service. The features of the chat system should include but are not limited to:

Server	Client
<ul style="list-style-type: none">• Accept connections from clients• Log join/leave of clients• Log all messages sent by clients• Send last five messages to newly join clients.	<ul style="list-style-type: none">• Connect to server• Display welcome message when connected• Indicate when other clients join/leave• A client can chat with another client, which both clients are connected to the server• Clients send election messages when they detect the server is not responding.

Students should submit source code and executables in a ZIP file with README and record a video of not more than 10 minutes to demonstrate the working of the distributed chat system with verbal explanations. The demonstration baseline should consist of at least **ONE** server and a minimum of **TWO** clients. The file system should be able to cater to synchronization and concurrency issues. This part should not exceed **500 words threshold**.

Part 2 – Elaboration on understanding the Concept of Distributed Computing.

The report should cover your distributed chat system's system design and implementation with network and system architecture diagrams. Explain how communication between processors occurs in your distributed chat system to complete a task given and discuss the steps involved with diagrams. This part should not exceed **500 words threshold**.

Part 3 – References, Sources & Citation

Deadline

The deadline for report submission of this assignment is on **17/03/2023 (Week 7)**

CAT3053/N Distributed Computing Marking Rubric
ASSIGNMENT [1] Programming & Report Writing (Weighted marks: 30%)

REPORT COMPONENT (100%)

LEARNING OUTCOME	MARKING CRITERIA	SCALE					
		Fail (0-49)	3 rd Class (50-59)	2 nd Lower Class (60-69)	2 nd Upper Class (70-79)	1 st Class (80-100)	YOUR MARKS/COMMENTS
CLO1: Explain the concepts of foundations of distributed computing, distributed algorithms, middleware, infrastructure, and shared data. (P6, PLO3)	1. Program and demonstrate distributed system. [CLO1] (60%)	Program did not fulfill any requirements. No program output. Students are not able to present the system.	Program fulfills less than half of the requirements. Program output convey minimal information. Students present the system in with vague and ambiguity.	Program fulfills more than half of the requirements. Program output convey suffice information. Students present the system in with slight vague and ambiguity.	Program fulfills all the requirements. Program output are well organized and convey suffice information. Students present the system clearly.	Program fulfills all the requirements with extra functionality. Program output are excellent and convey extra information. Students present the system in a clear and precise manner with creativity.	
	2. Elaboration on understanding regarding the Concept of Distributed Computing (30%)	No analysis or meaning making related to elaboration on understanding regarding the Concept of Distributed Computing	No analysis or meaning making. Shows some thinking and reasoning but most ideas are underdevelop and unoriginal related to elaboration on understanding regarding the Concept of Distributed Computing	Little or unclear analysis or meaning making. Analysis indicates thinking and reasoning applied with original thought on a few ideas related to elaboration on understanding regarding the Concept of Distributed Computing	Some analysis and meaning making. Critical thinking is weaved into points. Analysis indicates original thinking and develops ideas with sufficient and firm evidence related to elaboration on understanding regarding the Concept of Distributed Computing	Comprehensive analysis and meaning making. Reveals high degree of critical thinking. Analysis indicates synthesis of ideas, in-depth analysis and evidence original thought and support for the topic related to elaboration on understanding regarding the Concept of Distributed Computing	
	3. References, Sources & Citation (10%)	Some sources are not accurately documented. Diagrams and illustrations are not accurate OR do not add to the reader's understanding of the topic. Missing or no citation and major flaws on the format.	All sources (information and graphics) are accurately documented, but many are not in the desired format. Some diagrams and illustrations are not accurate OR do not add to the reader's understanding of the topic. Very minimal amount of cited works, with incorrect format.	All sources (information and graphics) are documented, but an adequate amount is not in desired format. Diagrams and illustrations are neat and accurate and sometimes add to the reader's understanding of the topic. Adequate amount cited works, both text and visual, are done in the correct format. Inconsistencies evident	All sources (information and graphics) are accurately documented, but a few are not in the desired format. Diagrams and illustrations are accurate and add to the reader's understanding of the topic. All, both text and visual, are done with minimal errors on the format.	All sources (information and graphics) are accurately documented in the desired format. Diagrams and illustrations are neat, accurate and add to the reader's understanding of the topic. All cited works, both text and visual, are done in the correct format with no errors.	
	Total (100%)						